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Note for Contributors

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Once more on the language of the documents from Niya (East Turkestan) and its genetic position

The language of the documents found in the Southeast of present day Xinjiang, mainly in the Niya oasis, is usually reckoned among the Middle Indo-Aryan languages. Some scholars, however, believe it to be a possible ancestor of certain Dardic dialects. In the present article an attempt is made to resolve this controversy, and to establish the exact position of the Niya Prakrit in the Indo-Iranian group. The author concludes that the language in question can by no means be classified as Dardic, though in the past its speakers may have been neighbors of the Dards.

Keywords: Indo-Aryan languages, Dardic languages, language classification, historical phonology, Northwestern Prakrit, Niya Prakrit, East Turkestan, Kroraina kingdom

The language of the administrative documents discovered in East Turkestan, on the territory of the erstwhile kingdom of Kroraina, chiefly in the Niya oasis¹, is usually considered a Middle Indo-Aryan language². At the same time, some scholars hypothesize that it may be ancestral to certain Dardic dialects. In the past, when the Dardic group was mostly regarded as a subbranch (or several subbranches) of Indo-Aryan, these two viewpoints did not seem to be in conflict. Recent research has, however, shown that the Dardic languages cannot be classified as Indo-Aryan but should rather be regarded as a separate branch of the Indo-Iranian group (Kogan 2005). In the light of this fact, it must be recognized that the two above-cited hypotheses concerning the genetic affiliation of the Niya Prakrit are mutually exclusive, and the issue still remains unsolved. In the present article I shall make an attempt to establish, at least in a first approximation, the position of the Niya Prakrit in the genealogical classification of the Indo-Iranian languages. This task can hardly be carried out without a thorough analysis of arguments adduced in favor of each of the two competing theories.

Soon after the discovery of the Niya documents their language was recognized by Stein as Middle Indo-Aryan (“Prakrit”)³. Detailed research on the subject was initiated later by the British Indologist and Dravidologist Thomas Burrow. In a special paper dedicated to this problem (Burrow 1936), he managed to show that the Niya Prakrit shares a number of common phonological and morphological isoglosses with three Indo-Aryan forms of speech, namely, the language of the Kharoṣṭhi manuscript of the Buddhist poetic text Dhammapada⁴,

¹ The kingdom of Kroraina was known as Shanshan to the Chinese. Its territory covered the chain of oases located on the southeastern rim of the Taklamakan Desert (now in the Xinjiang Uyghur Autonomous Region of China). Niya was the westernmost oasis, bordering upon Khotan, another powerful kingdom of the area. Documents representing the official language of Kroraina were discovered in the early 20th century by the renowned British archaeologist, historian and traveler Sir Aurel Stein. All of them were written in the Kharoṣṭhi script and date back to the 3rd century AD.

² For this reason, it is often called the Niya Prakrit.

³ See, e.g. Stein 1904.

⁴ This language is usually called the Gandhari Prakrit. The manuscript of Dhammapada was discovered near Khotan at the close of the 19th century by an expedition led by the French geographer Dutreuil de Rhins. Until recently this text had been the only available specimen of Gandhari, but since the 1990s multiple new manuscripts were found in Pakistan and Afghanistan. For their overview, see Salomon 2006.

the language of king Aśoka's edicts found at Mansehra and Shahbazgarhi (now in northwestern Pakistan), and the language of later Kharoṣṭhi inscriptions discovered in the northern part of the Indus valley as well as in the areas west of the Indus, including the present-day Afghanistan. The last of these languages shows the greatest resemblance to the Niya Prakrit, and is, possibly, most closely related to it. The reason for such a conclusion is the presence of a significant number of shared innovations, both in phonology (the development of certain old consonant clusters, e.g. $\tilde{n}j > \tilde{n}$, $\mathring{s}t > \mathring{t}h$, $-m\mathring{s}- > -m\mathring{t}s-$, $\acute{s}r > \acute{s}$, $-tv- > -p-$, $\acute{s}v > \acute{s}p$, $-sm- > m$, and the lenition of intervocalic single consonants⁵) and morphology (the nominative singular in $-e$ ⁶).

The language of Aśoka's inscriptions, too, possesses certain features, common with the Niya Prakrit⁷, but some of them are shared retentions, and thus cannot be relevant for genealogical classification. Common phonological and morphological innovations also exist (e.g. $r > ri$, ru ; $\mathring{s}y > \acute{s}$; infinitive in $-anaye$; indeclinable participle in $-ti$) but are relatively few in number. Moreover, the Niya documents, being 600 years younger than Aśoka's edicts, reflect in some cases a more archaic linguistic state in comparison with the latter⁸. It means that the language of these documents can in no way be the descendant of the northwestern inscriptional Aśokan Prakrit.

As for the Gandhari Prakrit, the situation there seems to be far from clear. In this language, there are many instances of irregularity in phonological development, the same Old Indian phoneme or phonemic sequence often displaying different reflexes in the same position⁹. Burrow (1936) attributed this fact to the influence of the Indo-Aryan dialect in which Dhammapada was originally composed. Since this dialect remains unknown to us, Burrow's conjecture can be neither proved nor disproved. One should also bear in mind that the Gandhari Prakrit, like some other Middle Indo-Aryan literary languages, can to a great extent be an artificial construct, obtained from Sanskrit by applying certain historical phonological rules, which, in practice, were not always strictly observed¹⁰.

On the basis of the above-mentioned phonological and morphological isoglosses, Burrow concluded that the area where the language of the Niya documents had originally been spoken was situated west of the Indus, presumably in the area of Peshawar. The spread of this language as official in East Turkestan must, in his opinion, have taken place in the 1st-3rd centuries AD under the Kushan Empire, of which the Kroraina kingdom was a remnant¹¹. This conclusion seems to be the most plausible one at the current state of our knowledge.

However, it was Burrow who had created some confusion in the historical study of the Niya Prakrit. In the above-cited article he argued that "most of the phonetic peculiarities of this dialect reappear in the modern Dardic languages", and "a few of the phonetic developments are particular to Torwali" (Burrow 1936: 434). The first of these two statements is simply wrong and misleading. Modern Dardic languages differ considerably from each other as re-

⁵ For further details and examples, see Burrow 1936.

⁶ In the Niya Prakrit there are clear historical traces of this nominative ending, though in most cases it was replaced by the accusative marker $-a$ (Burrow 1936).

⁷ For a complete list and analysis, see Burrow 1936.

⁸ Cf. the preservation of the clusters $-rt-$, $-rth-$, $-rdh-$, $-r\mathring{s}-$, $-lp-$, $-ly-$, $-ts-$ in Niya vs. their simplification in Aśokan.

⁹ For examples, see Burrow 1936.

¹⁰ It should be noted that in modern literature Gandhari and Niya are often considered as two varieties of the same Prakrit (see e.g. Hock, Bashir 2016). Historical phonological facts, however, clearly show that this view is wrong, and the frequent use of the umbrella term "Northwestern Prakrit" for both languages is hardly warranted.

¹¹ On Kushan influence in East Turkestan see e.g. Millward 2013. It is believed by some scholars that the Kushans did not rule the region directly, and their overlordship lasted for only a few decades in the 1st-2nd centuries A.D. (Hitch 1988). Their impact on the local culture was, however, very great.

gards historical phonology, and the whole set of sound changes, listed by Burrow, is by no means peculiar to all of them. As for the “phonetic developments”, common for Niya and Torwali¹², the scholar specifies only three of them, namely:

- 1) *sv* > *śv* (cf. Niya *śvasu*, Torwali *šū* ‘sister’, OIA *svasr-* id.);
- 2) *śv* > *śp* (cf. Niya *aśpa*, OIA *aśva-* ‘horse’; Niya *śpeta*, OIA *śveta-* ‘white’; Torwali *paiṣ* (< **śpaṣū*), OIA *śvaśrū-* ‘mother-in-law’);
- 3) *sm* > *m* (cf. Niya *amahu* ‘our’, Torwali *mō* ‘we’, OIA *asmabhyaṃ* pers. pron. 1 Pl Dat).

It is worth noting that changes 2 and 3 on this list show exact or approximate parallels in many languages of the area. The development of OIA *śv* to *śp* (< PII **śu*) is typologically similar to the process that affected the same Proto-Indo-Iranian consonant cluster in Iranian, where it has changed to *sp* in most languages, including Avestan¹³. The reflex of OIA intervocalic *-sm-*, identical to that in Niya, is not infrequently found in New Indo-Aryan (cf. Hindi *ham*, Gujarati, Romany *ame*, Bengali *amra*, Assamese *ami*, Oriya *āme*, Nepali *hāmī* ‘we’, Hindi *hamārā*, Gujarati *amārū*, Romany *amaro*, Nepali *hāmro* ‘our’). Both these historical phonological phenomena, being geographically widespread, can hardly be diagnostic for genealogical classification.

There is, however, a more important reason to consider the close affinity of Torwali to Niya improbable. The Torwali language belongs to the Kohistani subbranch of the East Dardic branch of the Dardic group. Glottochronological calculations, recently performed for this group¹⁴, indicate that the split of Proto-Kohistani dates back to the 3rd century A.D., i.e. to the very period of time in which the extant texts from Kroraina were written. It means that the Niya Prakrit may theoretically belong to the Kohistani subbranch, if at all, only as its proto-language. But there is strong evidence against such an assumption. None of the three above-mentioned phonological changes can be postulated for the Proto-Kohistani state, since certain Kohistani languages show a totally different development for all the three old clusters just discussed. Cf., e.g., their reflexes in Indus Kohistani: **sv* > *s* (*sazū* ‘nephew, sister’s sun’ < **svāsrka-*); **śv* > *š* (*šūr* ‘father-in-law’ < **śvaśura-*), *-*sm-* > *-*s-* > *z* (*zā* pers. pron. 1 Pl Obl < **asmad-*).

It should thus be recognized that no true historical phonological isogloss, which could give us a reason to classify the language of the Niya documents as Dardic, has been found so far. Nevertheless, the problem of genetic relations between the Niya Prakrit and the Dardic group is far from being solved. The most proper way to clarify this issue is, no doubt, to analyze the behavior of the language under study in those cases where Indo-Aryan and Dardic show divergent development. The extant material allows us to detect three such cases, i.e. the reflexes of the Proto-Indo-Iranian syllabic **ṛ*, voiced aspirates, and certain Proto-Indo-European consonant clusters with initial velars. Each of these phonological processes will be discussed at some length below.

* * *

The usual Niya reflex of the Proto-Indo-Iranian syllabic **ṛ*, and the usual correspondence to the same phoneme in Old Indo-Aryan, is *ri*: *grihasta* ‘householder’ (cf. OIA *gr̥hastha-*), *ghrida* ‘clarified butter, ghee’ (cf. OIA *ghṛta-*), *driṭha* ‘seen’ (cf. OIA *dṛṣṭa-*), *prithivi* ‘earth’ (cf. OIA *pr̥th(i)vī-*), *prichati* ‘asks’ (cf. OIA *pr̥cchati*), *krita* ‘done’ (cf. OIA *kṛta-*). Isolated cases of the change **ṛ* > *ru* have also been noted (cf. *pruch-* ‘to ask’). Not infrequently the old syllabic **ṛ* is

¹² Torwali is a Dardic language spoken in the upper reaches of the Swat valley in Northwestern Pakistan.

¹³ Cf. also the change *ś* > *s* in most Iranian languages.

¹⁴ See Kogan, Vasilyev 2013; Kogan 2016.

written unchanged: *ṛṇa* ‘debt’ (cf. OIA *ṛṇa-*), *kr̥ta* ‘done’ (cf. OIA *kr̥ta-*), *gr̥ha* ‘house’ (cf. OIA *gr̥ha-*), *mṛda* ‘dead’ (cf. OIA *mṛta-*), *pr̥chati* ‘asks’ (cf. OIA *pr̥cchati*)¹⁵. Burrow (1937: 2) has reasonably assumed that the preservation of **ṛ* in the latter series of examples is a purely orthographical phenomenon, and that the respective Kharoṣṭhi character, in reality, conveys the sequence *ri* or *ru*. This hypothesis is strongly supported by the fact that the same words may have two different spellings (cf. *kṛita* and *kr̥ta*; *pr̥ichati* and *pr̥chati*).

In a number of cases the syllabic *ṛ* is vocalized: *kiṣamṇae* ‘to plough’ (cf. OIA *kr̥ṣati* ‘ploughs’), *kiḍa* ‘done’ (cf. OIA *kr̥ta-*), *prahuda* ‘gift’ (cf. OIA *prābhṛta-*). The retroflexization of dentals after the resonant seems to be a regular process in such examples, which is most likely connected with another one, namely the change of an intervocalic dental into retroflex accompanying the loss of *r* in the initial consonant cluster (cf. Niya *paḍi* = OIA *prati* ‘towards, against’). It means that the vocalic reflex of the syllabic *ṛ* can in certain instances be the result of some specific development of an earlier *ri-* or *ru-* like reflex¹⁶. E.g. *prahuda* ‘gift’ could have evolved from *prābhṛta-* through the intermediate stages **prābhruda* and **prābhuda*, the cluster *bhr* being simplified to *bh* due to dissimilation.

No unquestionable instances of syllabic *ṛ* vocalized in word-initial position have been found in the Niya documents thus far. The only form where this sound change can be supposed to have taken place is *anahetu* ‘because of the debt’, but this example is very doubtful. As Burrow (1937: 74) has pointed out, the initial element *ana-* should not necessarily reflect the older *ṛṇa-* ‘debt’, but could be the extended form of the negative prefix *an-*¹⁷. In the latter case the meaning should be ‘without cause’ (cf. *hetu* ‘cause’). Such an interpretation is by no means excluded by the context¹⁸ and, at the same time, seems to be preferable from the viewpoint of historical phonology, because, as has already been noted, the continuant of *ṛṇa-* is attested in the Niya Prakrit as *ṛṇa*.

In the light of all these facts, the phonemic sequence “r+vowel” should be considered as the most probable reflex of Proto-Indo-Iranian syllabic **ṛ* in the language of the Niya documents. Such a development is very frequent in Indo-Aryan and, as stated above, characteristic of Northwestern inscripational Aśokan Prakrit. In Old Indian the syllabic **ṛ* had, in all probability, already been pronounced with postvocalization. This fact follows not only from the traditional pronunciation of the corresponding written character as *ri* or *ru* in the modern declamation of Sanskrit texts but also from interchangeability of *ṛ* and *ri* in certain lexemes (cf., e.g. *kr̥mi-* and *krimi-* ‘worm’). In New Indo-Aryan languages *rī* is the usual reflex of OIA *ṛ* in the initial position: Sindhi *richu*, Punjabi *ricch*, Hindi *rīch*, Gujarati *rīch*, Marathi *rīs*, Garhwali, Kumauni *rīkh*, Romany *rĭč* ‘bear’ < OIA *ṛkṣa-*; Lahnda *riṇṇ*, Punjabi, Hindi, Nepali *rin*, Oriya *riṇa*, Marathi, Garhwali *rīṇ*, Konkani *rīṇa* ‘debt’ < OIA *ṛṇa-*; Lahnda *rijh-* ‘to be allured, to be amused’, Nepali, Oriya *rijh-* ‘to rejoice’, Hindi *rījh-* ‘to be enchanted’, Gujarati, Marathi *rijh-* ‘to be pleased’ < OIA *ṛdhyati* ‘prosper’¹⁹).

In Dardic the development of Proto-Indo-Iranian **ṛ* is different. Although there are several examples of *ri-* and *ru-* type reflexes (cf. Kalasha *krizṇa*, Kashmiri *kruhun* ‘black’, OIA *kr̥ṣṇa-* id.; Kashmiri *prich-*, *prīch-* ‘to ask’, OIA *pr̥cchati* ‘asks’; Phalura *drhiṣṭu* (< **driṣṭu*) ‘seen’,

¹⁵ For more examples see Burrow 1937.

¹⁶ Naturally, it cannot be ruled out that a number of Niya words with vocalization are borrowed from some other Indo-Aryan dialect, as per Burrow 1937: 2.

¹⁷ This secondary (“extended”) negative prefix *ana-* is attested in Prakrit.

¹⁸ The respective document reports that a woman, perhaps a female slave, was carried off *anahetu*, which can be understood both as ‘because of the debt (of the woman’s owner)’ and as ‘without (apparent) cause’. It is remarkable that Burrow himself ultimately preferred the translation “without just cause” (Burrow 1940: 143–144).

¹⁹ Cf. *ṛdhati* ‘increases, prospers, succeeds’. The form *ṛdhyati* is attested in Panini’s Dhātupāṭha (Turner 1966: 117).

OIA *dr̥ṣṭa-* id.), they may well reflect a relatively recent phonological process, known as “Dardic metathesis”. This process consists of the transposition of *r* from non-initial consonant clusters to the position after the initial consonant, leading to the formation of a new cluster²⁰: Kalasha *krum*, Tirahi, Phalura *kram*, Shina *krom*, Bashkarik *lām* ($\lambda < *kr$) ‘work’, OIA *karman-* id.; Pashai *drāet*, Kashmiri *drōt* ‘sickle’, OIA *dātra-* id.; Kashmiri *trām* ‘copper’, OIA *tāmra-* id. As for those lexemes where the “Dardic metathesis” has not taken place²¹ and those positions where it was impossible (particularly, word-initially), we find clear traces of the change $*r̥ > *ir, *ur$: Pashai *ēč*, Shumashti, Gawar-Bati, Sawi, Shina *īčh*, Kalasha *ič*, Phalura *ič*, Bashkarik *ičh*, Torwali *iš*, Indus Kohistani *īch* ‘bear’ $< *ir̥cha-$, cf. OIA *ṛkṣa-*, Av. *arəša-*, Persian *χirs* id.; Tirahi *wurə*, Kalasha *hīra*, Gawar-Bati *hiṛa*, Phalura, Sawi *hiṛo*, Shina *hiṛu* ‘heart’²², cf. OIA *hr̥daya-*, Av. *zərəḍaya-* id.; Bashkarik *mur*, Katarqalai *muṛ*, Phalura *muṛo* ‘died’ $< *mr̥ta-$ ²³. It is quite reasonable to consider this development as an original Proto-Dardic phenomenon. It separates the Dardic languages from the Indo-Aryan family and makes them similar to the Iranian, Nuristani, and most non-Aryan Indo-European languages, where old syllabic *r̥* also yields phonemic sequences with an initial vowel (Edelman 1986: 33–34; Kogan 2005: 22–25).

* * *

Proto-Indo-Iranian and Proto-Indo-European voiced aspirated stops are usually preserved in Indo-Aryan, but they lose aspiration and merge with their voiced unaspirated counterparts in Dardic, Iranian and Nuristani. The situation in the Niya Prakrit is in certain respects unclear, because the original picture was obscured to a great extent by extensive contact effects. The language under study, being official in the kingdom of Kroraina, was most probably not native to the great majority of its people. Their mother tongue, as Burrow has demonstrated, may well have been some local form of Tocharian²⁴, which did not distinguish between aspirated and unaspirated, or between voiced and voiceless consonants (Burrow 1935). The influence of this vernacular resulted not only in the adoption of loanwords but also in frequent scribal errors reflecting phonological interference. One of them was the confusion of aspirates and nonaspirates (cf., e.g. *śavata* and *śavatha* ‘oath’, *ciṃṃnita* and *chiṃṃnida* ‘cut’, *gaṣa* and *ghaṣa* ‘fodder’, *grida* and *ghrida* ‘clarified butter, ghee’, *divaṣa* and *dhivaṣa* ‘day’, *dita* and *dhida* ‘given’, *baḡa* and *bhaḡa* ‘share’, *buma* and *bhuma* ‘land’, *biti* and *bhiti* ‘second’²⁵).

It should be noted, however, that in the intervocalic position reflexes are much more regular than word-initially. In particular, the old voiced aspirates almost always change to *h* between vowels: *laham̐ti* ‘(they) receive’ (cf. OIA *labhante*), *parihaṣa* ‘claim’ (cf. OIA *paribhāṣa-*), *prahuḍa* ‘gift’ (cf. OIA *prābhṛta-*), *gohomi* ‘wheat’ (cf. OIA *godhūma-*), *ahuno* ‘now’ (cf. OIA *adhunā*),

²⁰ For more details see Morgenstierne 1947. Besides Dardic, this phenomenon is also attested in some Indo-Aryan languages, e.g. in Northwestern Aśokan and Gandhari Prakrits, and in the dialects of Lahnda and Hindko. Crucially, it is not characteristic of the Niya Prakrit.

²¹ One of the reasons why this sound change did not occur in a number of lexemes may be the fact that it could have yielded certain consonantal groups, such as *hr* or *mr*, which are quite uncommon in a number of Dardic languages.

²² Tirahi, Gawar-Bati, Phalura, Sawi, Shina *r̥*, Kalasha *ṛ* $< *rd$.

²³ Bashkarik $r < *r̥ < *rt$, Katarqalai, Phalura $r < *rt$.

²⁴ Since it is certainly not identical to any of the two known Tocharian languages (Tocharian A and Tocharian B), it is often called Tocharian C.

²⁵ For more examples, see Burrow 1937: 9–10. The above-cited forms *dhivaṣa* (cf. OIA *divaṣa-* ‘day’), *dhida* (cf. OIA *datta-* ‘given’) and *bhiti* (cf. OIA *dvitīya-* ‘second’) clearly show that the confusion of the two series in the Niya orthography could manifest itself not only in the irregular absence of historical aspiration, but also in graphic aspirates in lieu of etymological non-aspirates.

lahu ‘light (adj.)’ (cf. OIA *laghu-*). On the contrary, the old voiced unaspirated stops never undergo this change. In most cases they are either preserved or develop into fricatives: *agachati* ‘comes’ (cf. OIA *agacchati*), *nagara* ‘town’ (cf. OIA *nagara-*), *bhaḡa*²⁶ ‘share’ (cf. OIA *bhāga-*), *pada* ‘foot’ (cf. OIA *pāda-*), *udaḡa* ‘water’ (cf. OIA *udaka-*), *paribujisatu* ‘you will understand’ (< **paribudhya-*, cf. OIA *paribodha-* ‘reason’). Isolated cases of devoicing are also attested: *utarā* ‘belly’ (cf. OIA *udara-*).

The evident distinction between the intervocalic reflexes of aspirates and non-aspirates does not allow us to include the Niya Prakrit into the Dardic branch, where the merger of the two series seems to have taken place already in the protolanguage²⁷. Of special interest in this respect is the behavior of the Proto-Indo-Iranian bifocal voiced aspirated affricate **jh* (< PIE **gh*, **g^wh* in the palatalizing position). It changes to *h* in both Old Indic and in the language of the Niya documents, whereas in Dardic it loses aspiration: Niya *dahita* ‘burnt’, OIA *dahati* ‘burns’, Torwali *daž-*, Indus Kohistani *daz-*, Katarqalai *dazā-* ‘to burn (tr.)’, Kashmiri *daz-*, Phalura, Sawi *daj-*, Shina *daž-* ‘to burn (intr.)’ < PII **dajh-* < PIE **dheg^wh-*; Niya *nihanṛitavo* ‘should be killed, should be stricken?’²⁸, OIA *hanti*, *nihanti* ‘strikes, kills’, *nihata-* ‘slain’, Prakrit *ṇihaṇai* ‘strikes, throws’, Hindi *nihan-* ‘to strike, kill’, Kashmiri *bizan-* ‘to thrust something down (e.g. a pole into a hole)’²⁹ < PII **jhan-* ‘to strike, kill’ < PIE **g^when-*.

* * *

The Proto-Indo-European consonant clusters **ks* and **k’s* behave differently in different branches of Indo-Iranian. In Old Indian they have merged into *kṣ*, whereas in Iranian the distinction between them is preserved, and their reflexes are **χš* and **š* respectively. In Proto-Dardic the situation is somewhat similar to the Iranian one: no merger of the two consonantal groups has taken place, the development being **ks* > **čh*³⁰, **k’s* > **čh* (Kogan 2005). The same historical phonological processes affected the PIE clusters **tk* and **tk’*, in which the voiceless Brugmann spirant **p* was reconstructed in the past³¹. The former cluster reflects in Iranian and Dardic exactly like **ks* and the latter exactly like **k’s*. In the Niya Prakrit, on the other hand, there seems to be only one correspondence to OIA *kṣ* irrespective of its origin: *čhetra* ‘field’ (cf. OIA *kṣetra-* ‘field, land, region’, *kṣayati* ‘lives, resides’, Av. *šōiθra-* ‘region, district’, *šāēiti* ‘resides’ < PIE **tk’ei-* (**k’pei*)³² ‘to settle’), *-čhira* ‘milk’ (cf. OIA *kṣīra-*, Av. *χšīra-*³³ id.), *dačhina* ‘right’ (cf. OIA *dakṣiṇa-*, Av. *dašina-* id. < PIE **dek’s-*³⁴), *račhiṣyati* ‘(he) will guard’ (cf. OIA *raḡṣati* ‘guards, protects’, Khotanese *pārṣṣa* ‘antidote’ < **pati-raχša-* (Bailey 1979: 233-234) < PIE **alek-s-*), *śičhatu* ‘learn! (Imp)’ (cf. OIA *śikṣate*, *śikṣati* ‘learns, studies’, Av. *a-siχšan̄t* ‘not learning’), *vṛčha* ‘tree’ (cf. OIA *vṛkṣa-*, Av. *varəša-* < PIE **uḷk’s-o-*³⁵).

²⁶ Following Burrow, I employ the letter *ḡ* to transcribe the voiced velar fricative.

²⁷ In several Dardic languages, e.g. in Torwali and Indus Kohistani, there are voiced aspirates of secondary origin. Their appearance is most probably a result of Indo-Aryan influence (Kogan 2008).

²⁸ If < **ni-han-*, and not < **ni-khan-* (Burrow 1935: 671).

²⁹ Kashmiri *bizan-* < PII **abhi-jhan-* (Kogan 2005: 35).

³⁰ Possibly at the earliest stage of Proto-Dardic the reflex was **kš* or **kṣ*, but later this cluster changed to the voiceless retroflex aspirated affricate **čh*, regular continuants of which are found in all the Dardic languages.

³¹ In Pokorny’s dictionary (Pokorny 1959) they appear as **kp* and **k’p* respectively.

³² Pokorny 1959: 626.

³³ Although the PIE prototype of this word is still unclear, the cluster *χš* in Iranian points to a plain velar **k* in the proto-form.

³⁴ Pokorny 1959: 191.

³⁵ Mayrhofer 1996: 572.

The actual pronunciation of the Kharoṣṭhi letter that is traditionally transliterated as $\bar{c}h$ ³⁶ remains a controversial issue. Sten Konow (1936: 610) was of the opinion that it conveyed the retroflex affricate $\check{c}h$. If this hypothesis is true, it will mean that in many cases the Niya Prakrit is remarkably alike to Dardic as regards the behavior of the above-mentioned Proto-Indo-European clusters. The greatest similarity is to the languages of the East Dardic subbranch, where Proto-Dardic $*\check{c}h$ (< PIE $*k's$, $*tk'$) acquires postalveolar articulation in most positions. Being similar, these two phonological changes are, nevertheless, not identical. As I have demonstrated in my recent book (Kogan 2016), retroflexization of the original palatal $*\check{c}h$ in East Dardic has failed to take place before the historical short vowel of the final syllable. The language of the Niya documents, however, does not show any deviation from the general pattern in this position (cf. $vṛ\bar{c}hā$ 'tree' < PIE $*u\bar{l}k's-o$ -³⁷).

Another hypothesis concerning the phonological nature of the Kharoṣṭhi $\bar{c}h$ affirms that this character might have represented the unchanged cluster $kṣ$ (Burrow 1937: 18). If Burrow's interpretation holds water, then the Niya development of PIE $*ks$, $*k's$, $*tk$, $*tk'$ should be considered as identical to the Old Indian one.

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The facts analyzed above suggest the conclusion that no historical phonological features that are peculiar to Dardic as opposed to Indic can be found in attested Niya material. In those cases when the development in the two branches differs, the Niya Prakrit always follows Indo-Aryan, which means that there is no reason to classify this language as belonging to the Dardic group. Nevertheless, it shares a few apparent lexical isoglosses with Dardic, which deserve a special discussion. These are Niya *patama* 'back' (cf. Kashmiri *pot* 'hinder, subsequent', *pati* 'after', Shina *phatu*, Indus Kohistani *patō*, Torwali *pat* 'behind', Bashkarik, Pashai *pat* 'after', Gawar-Bati *pata* 'behind') and Niya *jaṃdu-* 'snake'³⁸ (cf. Shina *jon*, Phalura *jhandura*, Indus Kohistani *zan*, Torwali *jān*, Gawar-Bati *ziant*, Shumashti *zāt* 'snake', OIA *jantu-* 'offspring, creature; insect, worm').

The first of these two etyma is also present in Nuristani (cf. Ashkun *patēi*, Waigali *patai* 'after') and probably in Iranian³⁹. As for the New Indo-Aryan languages, it is found only in a few of them, namely in certain Pahari dialects (cf. Bhalesi *patte* 'behind', Bhidlai *pettiō* 'hinder')⁴⁰. Both Bhalesi and Bhidlai are in contact with Kashmiri, a language of the Dardic group. This implies a high probability of borrowing from Dardic into Indo-Aryan, and it can be assumed without additional complications that a similar process might have taken place in the Middle Indian period and affected some early form of the Niya Prakrit.

The second of the above-mentioned isoglosses seems to be disputable. The actual meaning of the Niya word *jaṃdu-* is not firmly established. Harold Walter Bailey (1948: 332) translated it as 'snake', pointing out that it corresponds to Khotanese *śaysdi* with the same meaning in a text dealing with the 12-year animal cycle. On the other hand, Burrow (1937: 92) preferred to

³⁶ This letter is similar to the letter for *ch*, differing from it only by the presence of a cross-bar above. This cross-bar usually functions in the Kharoṣṭhi script as the sign of gemination.

³⁷ Secondary cerebralization in the Niya word is highly improbable because, as has already been shown, this process was always accompanied by vocalization of the syllabic *r*.

³⁸ The word is attested in the genitive plural form *jaṃdunaṃca*.

³⁹ Turner (1966: 436) compares all the above-cited Dardic and Nuristani words with Av. *paiti* 'towards; against; back; with' (< Proto-Iranian $*pati$).

⁴⁰ The etymology of Kumauni *patīr* 'after, beyond' remains unclear, and this word can thus hardly be considered a secure cognate of the Dardic forms listed above.

translate *jaṃdunaṃca* as ‘worms’. If Bailey’s interpretation is the correct one, we can postulate a Niya-Dardic semantic parallel. It may, however, represent a result of either language contact or homoplasy, because the semantic change ‘worm’ > ‘snake’⁴¹ is typologically quite frequent (cf., e.g. in New Indo-Aryan: Dogri *kīṛā*, Kului *kīḍā* ‘snake’ < OIA *kīṭa*- ‘insect, worm’).

The two isoglosses just analyzed show that although the Niya Prakrit does not belong to the Dardic group, its speakers during a certain period of time may have been neighbors of the Dards. This conjecture agrees well with Burrow’s conclusion that the region where the language under study was originally spoken included the Valley of Peshawar, which is located immediately to the south of the Dardic-speaking area.

* * *

Another important issue arising in connection with the language of the Niya documents is its relation to the modern languages of South Asia. Given that its phonology and morphology do not display any features that cannot be derived from Old Indian, it can hardly be doubted that the Niya Prakrit should be classified together with the Indo-Aryan branch. Its exact position within this branch is, however, far from being clear. Certain historical phonological isoglosses bring it closer to the languages of the North-West, i.e. to Sindhi, Lahnda, Punjabi and West Pahari dialects. Cf., e.g. the development of old consonant clusters with initial nasals: Niya *ñj* > *ṃñ* (*gaṃñavara* ‘treasurer’ < OIA *gañjavara*-⁴²), Sindhi *ñj* > *ñ* (*piñaro* ‘cage; ribs’ < OIA *pañjara*-, *piñjara*- ‘cage; skeleton’); Niya *nd*, *ndh* > *ṃn* (*bhiṃnati* ‘splits’ < OIA *bhindati*, *baṃnanae* ‘to bind’ < OIA *bandhati* ‘binds’), Punjabi, Lahnda, West Pahari *nd*, *ndh* > *nn*, *nnh* (Punjabi *cannan* ‘sandalwood’ < OIA *candana*-, Lahnda, Punjabi, Chameali *bannh*- ‘to bind’ < OIA *bandhati* ‘binds’). The data, however, are too scanty to be conclusive.

The scarceness of material is also a major obstacle to lexicostatistical analysis. The Swadesh list for Niya contains more than 40 lacunae, which renders any calculations inexpedient, because the resulting tree, in all likelihood, will not always properly reflect the real picture of genetic relations. The most conspicuous peculiarity of this incomplete list is the large proportion of archaisms unknown in later Indo-Aryan. They include such lexical items as *utarā* ‘belly’ (< OIA *udara*-), *mahaṃta* ‘big’ (< OIA *mahant*-), *kriṣāga* ‘black’ (< OIA *kṛṣṇa*-), *śune* ‘dog’ (< OIA *śvan*-/*śun*-), *asiya* ‘mouth’ (< OIA *āśya*-), *paṃtha* ‘road’ (< OIA *panthā*-), *siḡata* ‘sand’ (< OIA *sikatā*-), *udaḡa* ‘water’ (< OIA *udaka*-), *veyam* ‘we’ (< OIA *vayam*), *śpeta*, *śpedaḡa* ‘white’ (< OIA *śveta*-). All these words were used in “Swadesh meanings” in Old Indic, but none of them is preserved, at least with the original semantics, in New Indo-Aryan languages⁴³. The only probable classifying lexical isogloss detected in the Swadesh list is Niya *rataḡa* ‘red’ (cf. Punjabi, Lahnda, Hindko *rattā*, Sindhi *rato*, Marwari *rātau*, Gujarati *rātū*, West Pahari (Kotgarhi) *rattō* ‘red’ < OIA *rakta*(*ka*)- ‘colored, dyed’). As should be evident from the examples cited, this isogloss brings the Niya Prakrit closer to the languages spoken in the west and northwest of the Indo-Gangetic Plain as well as in the adjoining Himalayan areas.

Thus, both phonological and lexical facts suggest that the region from which the Niya Prakrit was brought to East Turkestan was situated somewhere in the Northwestern part of the Indian subcontinent, in the basin of the Indus River. The phonological and morphological isoglosses analyzed by Burrow, as well as possible loanwords from Dardic, point to areas im-

⁴¹ As noted above, the meaning ‘worm’ is attested in Old Indian.

⁴² In Sanskrit this word represents an Iranian borrowing (Burrow 1934).

⁴³ The only exception is the word for ‘water’, preserved in Sinhalese (*diya* < OIA *udaka*) but completely lost in continental Indo-Aryan.

mediately west of the Indus as the most likely original homeland of the Niya speakers. Nevertheless, given the natural limitations of our corpus, this last hypothesis should be considered as the likeliest option among several possible alternatives.

Abbreviations for language names

Av – Avestan; OIA – Old Indo-Aryan; PIE – Proto-Indo-European; PII – Proto-Indo-Iranian

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А. И. Коган. Еще раз о языке документов из Ния (Восточный Туркестан) и его генетическом положении

Язык документов, обнаруженных на юго-востоке нынешнего Синьцзян-Уйгурского автономного района Китая, главным образом, в оазисе Ния, обычно рассматривается как среднеиндийский. В то же время ряд исследователей считает его возможным предком некоторых дардских языков. В настоящей статье делается попытка разрешить это противоречие и установить точное положение пракрита из Ния внутри индоиранской языковой общности. Автор приходит к выводу, что данный язык никоим образом не может быть отнесен к дардской группе, хотя в прошлом его носители могли являться соседями дардов.

Ключевые слова: индоарийские языки, дардские языки, классификация языков, историческая фонетика, северо-западный пракрит, пракрит из Ния, Восточный Туркестан, государство Крорайна.

Heterograms in Hittite, Palaic, and Luwian context

The cuneiform, as the primary means of written communication in the kingdom of Hattusa, was used to record texts in Hittite and other languages functioning within its borders. The peculiarity of the Anatolian cuneiform was the written use of the Sumerian and Akkadian lexemes alongside phonetic spellings. Such written units usually, but not always, corresponded to the specific lexemes of the matrix language of the text, and we will refer to them as *heterograms*. This paper presents a comparison of cuneiform texts in Hittite, Palaic, and Luwian with the focus on the frequency and function of heterograms.

Keywords: cuneiform writing, Hittite language, Luwian language, Palaic language, heterograms

1. Sociolinguistic setting

The cuneiform first made its way into Anatolia early in the second millennium BC along with textiles, tin, and other exportable goods brought to the peninsula by the Assyrians who expanded there a large network of merchant colonies. In order to keep track of their trading operations and maintain contact with the homeland, Assyrian merchants could not dispense with using writing (Bryce 2005: 21). Archeological excavations performed at the sites of the ancient trade activity unveiled a substantial number of clay tablets inscribed with Old Assyrian cuneiform, which have preserved for us the oldest examples of Anatolian personal names and toponyms. Surprisingly enough, Anatolians themselves were reluctant to borrow and use for their own purposes the writing system to which they were exposed on the regular basis; this is why the start of literacy among the indigenous population dates back no earlier than to the reign of the Hittite king Hattusili I or some time shortly before it (Weeden 2011: 382). The Hittites adopted the Mesopotamian cuneiform script in its Old Babylonian form and, as is agreed among most of the scholars nowadays, at first only used it for writing Akkadian, the language of scribal culture and international communication. The earliest attempts of transmitting the Hittite language in writing, as is believed by some, could have been made even centuries later (van den Hout 2009: 95, but see also Archi 2010). Writing in Hittite did not cease until the collapse of the kingdom of Hattusa and the abandonment of its capital (modern Bogazköy), where the bulk of the Hittite corpus comprising thousands of cuneiform documents had been kept.

Despite its prestigious status of the main chancellery language in the kingdom of Hattusa, Hittite was by no means the only language spoken within its borders. The territory of the Hittite heartland including Hattusa was previously occupied by the speakers of Hattic, a language isolate that remained in limited use as ritual language after most of the Hattic population was assimilated by the Indo-Europeans. Although there is evidence that small Hattic-speaking groups still existed even in the New-Hittite period, these were Indo-European languages pertaining to the Anatolian group that shaped the linguistic landscape of Late Bronze Age Anatolia; apart from best attested Hittite this group also included Palaic and Luwian.

The former is currently believed to have been spoken in the north of Anatolia on the territory of the region of Pala mentioned in the Hittite laws. The significance of Pala as well as that of its language was evidently in decline throughout the course of the second millennium. It is assumed that the primary use of Palaic in Hattusa pertained to spiritual practices since all at-

tested text fragments in that language are found in Hittite ritual descriptions. The question whether Palaic remained a living language during the last centuries of Hittite kingdom is still open for discussion (Kassian, Shatskov 2013: 98). Palaic was written in the same form of cuneiform script as Hittite.

Luwian, on the contrary, being spoken in the center and south of the peninsula at the dawn of Hittite kingdom was expanding its territory into the regions of Kizzuwatna (south-western Anatolia) and north-western Syria. The growth of Luwian-speaking population in Hattusa during the second half of the second millennium BC led to the state of Hittite-Luwian bilingualism in the capital and, subsequently, to the predominance of Luwian in everyday communication while Hittite maintained its positions in bureaucratic milieu (Yakubovich 2013: 107). Luwian fragments mostly consisting of transcriptions of magic incantations are found in cuneiform transmission in Hattusa archives and they are much more numerous than Palaic fragments. During the last centuries of the Hattusa kingdom Luwian texts were also recorded in the indigenous Anatolian hieroglyphic script. The preserved Luwian hieroglyphic texts of this period consist of monumental inscriptions honoring the Hattusa rulers and their achievements.

This paper is primarily devoted to the studying the adaptation of the Mesopotamian cuneiform script for writing in Hittite, Palaic, and Luwian, with the focus on the frequency and function of heterograms. After introducing the notion of heterogram (Section 2) I turn to their use in Hittite, Palaic, and Luwian texts (Section 3, 4, and 5 respectively). The discussion of the generalizations that follow from the preceding survey is provided in Section 6.

2. Notion of Heterogram

The history of Mesopotamian cuneiform presents in itself an interesting case of interrelation between the spoken and written forms of language. The cuneiform script was most likely invented for writing Sumerian, the dominant cultural language of the southern part of Mesopotamia in the second part of the third millennium BC. In the course of subsequent several centuries, the script was slowly developing into a complex system involving the use of logograms (literally, ‘word-signs’) and phonetic graphemes, each standing for a certain syllable. The use of logograms in the Sumerian writing was twofold: on the one hand, they could be deployed as signs for lexemes of the spoken language, on the other hand, they could function as determinatives pointing to the semantic category of a lexeme they accompanied in the text. The pictographic character of cuneiform signs gradually wore off and their shapes became more abstract (Gelb 1963: 69).

In the middle of the second millennium BC the cuneiform script was adapted for writing the Akkadian language, which gradually took over the status of *lingua franca* in the region from Sumerian. The speakers of Akkadian borrowed the bulk of Sumerian logograms along with the phonetic syllabary and employed them for writing corresponding Akkadian lexemes. There is limited evidence for the occasional pronunciation of logograms in Akkadian context with their Sumerian values (Weeden 2011: 5-7). This suggests that the script and the language for which it had originally been designed could not always be differentiated in the minds of the literate people at the time.

Some logograms were borrowed into the Akkadian writing with their Sumerian phonetic complements. In addition, certain grammatical morphemes of Sumerian, e.g., the plural markers HI.A and MEŠ, could attach to logograms and stand for Akkadian functional categories. As a result, Akkadian texts abounded in Sumerian word-forms, which were frequently ex-

tended by syllabically written Akkadian complements. Formally, it would not be completely correct to proceed with referring to Sumerian word-signs in the Akkadian context as logograms. Instead of postulating a simple bipartite relation between *signifiant* and *signifié* for word-signs and the corresponding Akkadian lexemes, as would be appropriate for the use of logograms in Sumerian texts, in this case one should also not forget the role of the Sumerian language as the probable mediator. Following the terminology of Igor Diakonoff (see e.g. Diakonoff 1967: 69), I will refer to cases such as Sumerian logograms in Akkadian context as *heterograms*. A heterogram can be defined “as a sign or combination of signs that reproduce in writing a segment of A as a part of a text composed in B where A and B are two distinct languages and one can reasonably assume that the segment in question did not exist in the spoken language B” (Kudrinski, Yakubovich 2016: 55).

As a result of adapting the Akkadian cuneiform for writing Hittite, yet another system came into being, which made use not only of syllabograms and Sumerograms but also of Akkadian word-forms written syllabically, that is to say Akkadograms. For example, the Hittite noun *išhaš* ‘master’ could be written either syllabically or using the Sumerogram EN (Sum. ‘master’) or using the Akkadogram *BELU* (Akk. ‘master’). The Sumerograms are traditionally rendered with capitals in the Roman transliteration of Hittite texts, while Akkadograms are indicated with italic capitals. One also encounters mixed writings such as *BELU^{HIA}-uš* ‘master.PL-ACC.PL’, which is the Akkadographic rendering of the stem with Sumerographic plural marker and Hittite inflectional ending. Similarly to the case of Sumerograms employed in Akkadian writing, there is evidence pointing to the occasional pronunciation of Sumerian and Akkadian elements in Hittite writing in their source languages. As a result, the use of the Mesopotamian cuneiform deployed by the Hattusa scribes for writing Hittite presents even a more complicated picture from the semiotic viewpoint than the Akkadian cuneiform.

Alongside Akkadian nouns and verbs, Akkadian prepositions also made their way into Hittite writing and were employed to mark the syntactic role of heterographically written nouns. Thus, the preposition *ŠA* signifies that the following heterographic noun is a genitive modifier or a free-standing genitive, *ANA* stands before a dative or allative argument, etc. Determinatives kept being employed in Hittite texts in order to indicate the semantic class of the adjacent nouns they. Thus, the determinative D (DINGIR) accompanied deity names, e.g., *DIŠTAR* ‘(goddess) Ištar’, while URU stood before city names as in *URUHATTI* ‘Hattusa’.

Mark Weeden in his influential study of heterograms in Hittite texts came to the conclusion that the Akkadian language played a crucial role in Hittite scribal culture. According to Weeden, in the situation of dictating or writing a cuneiform text in Hittite, Hattusa scribes used a special form of professional jargon heavily impacted by Akkadian. Sumerian, on the other hand, was not as important as Akkadian and Sumerograms were either used as logograms to write Hittite lexemes or read in Akkadian (Weeden 2011: 359). Furthermore, Weeden argued that the Hattusa scribes were conscious of the fact that the primary function of their script had been writing in Akkadian and it influenced the way the Hittite texts were written (Weeden 2011: 382).

It is interesting that cuneiform text fragments from Hattusa in Palaic and Luwian also contain some, albeit few, heterographic writings. Unlike Hittite texts, cuneiform renderings of Palaic and Luwian were not shaped by strict orthographic conventions and, therefore, the use of heterographic writings in Palaic and Luwian context depended more on the decision of a particular scribe. Its comparison with the situation in Hittite could yield insights on the role that the heterograms played in Hittite scribal culture and their specific functions. Ultimately, this can shed light on the differences in how Hittite, Palaic, and Luwian were presented in writing.

3. Heterograms in Hittite context

The heterograms in Hittite texts were traditionally thought to have been always pronounced in Hittite. Thus, for example, in the earliest account on the script and grammar of the freshly deciphered Hittite language, Hrozný (1917: vi) claimed that both Sumerograms and Akkado-grams were normally read by the Hittites in their own tongue. Although later Friedrich (1940: 2) in his influential *Hethitisches Elementarbuch* did not exclude the possibility that Akadograms could be pronounced in Akkadian, the idea that the heterograms mainly served as labels for Hittite lexemes dominated the field for a long time. The scholars drew upon the fact that many of them carried Hittite phonetic complements, which clearly pointed out to the underlying Hittite forms. Nevertheless, certain inconsistencies in the phonetic complementation of Sumerian and Akkadian forms made their way to Hittitological literature (see, e.g., Hoffner and Melchert 2008: 22). Thus, the complemented heterographic writing *A-BU=YA-an-na-aš-za* in the example below is presumed to correspond to the Hittite form *attaš=miš=naš=za* (or simply *at-taš=naš=za* if one presumes the Hittite enclitic possessives to be extinct by the New Hittite period) while the phonetic complements indicate otherwise:

- (1) *A-BU=YA-a=n-na-aš=za* ^m*Mur-ši-li-iš* 4 DUMU.HI.A
 father=POSS.1SG=1PL.ACC=PTCL Mursili.NOM.SG 4 child.PL
^m*Hal-pa-šu-lu-pi-in* ^m*NIR.GÁL-in* ^m*Ha-at-tu-ši-li-in*
 Halpasulupi.ACC.SG Muwatalli.ACC.SG Hattusili.ACC.SG
^f*DINGIR.MEŠ-IR-in=na* DUMU[(,SAL-an)] *ha-aš-ta*
 Massanauzzi.ACC.SG=& daughter.ACC.SG generate.PST.3SG
 ‘My father Mursili raised us, 4 children: Halpasilipi, Muwatalli, Hattusili, and Massanauzzi the daughter.’ (KUB 1.1 obv. i 9-11, see Otten 1981: 4)

The complementation *-an-na-aš-za* on the Akkadographic form suggests that the scribe dictated it in Akkadian, not in Hittite. In a similar fashion, the phonetic complements on *BE-LU-uš-ša-an* in (2) preclude the pronunciation of this string as Hitt. *išhaš=šan* and suggests that the Akkadogram was pronounced in Akkadian.

- (2) *BE-LU-uš-ša-an* *BE-LÍ=YA* *am-me-el* *A-NA* *É=YA*
 lord=PTCL lord=POSS.1SG 1SG.GEN ALL house=POSS.1SG
IGI.HI.A-wa *har-ak*
 eye.NOM.-ACC.PL hold.IMP.2SG

‘O lord, my lord, keep your eyes on my house.’ (HKM 52 25-26, see Hoffner 2009: 195)

Occasional erroneous writings indicate that the Hattusa scribes could sometimes use the Sumerian readings of Sumerograms in dictation; such are, e.g., the forms *BA.UŠ* instead of *BA.ÚŠ* ‘he died’ or ^{GIŠ}*GÚ.ZA* instead of ^{GIŠ}*GU.ZA* ‘chair’.

Weeden (2011) showed that the evidence for the ambiguous nature of Sumerograms and Akkadograms in Hittite texts was not limited to the examples of inconsistent phonetic complementation or scribal errors. In addition, the influence of Akkadian on the use of heterograms was apparent in those cases where the Akkadographically written verbs in Hittite context featured Akkadian argument structure or semantics nuances that make them distinct from the corresponding Hittite verbs (see Weeden 2011: 356). The Hittite language, in turn, also influenced the Akkadian writing, which could lead, among other things, to the inconsistent use of feminine gender (Hittite lacked the opposition of masculine and feminine genders featuring only common/neuter gender distinction) or to the occasional Hittite word order in heterographic phrases.

The Sumerian and Akkadian languages mostly featured right-branching syntactic constructions, where the dependents (e.g., attributive adjectives or possessor nouns within a noun phrase) normally followed their heads. Thus, in the example below, the nominal modifier KUR^{URU}HA-AT-TI ‘of the land of Hattusa’ is placed after its head noun LUGAL ‘king’:

- (4) LUGAL KUR^{URU}HA-AT-TI
king land Hattusa
‘The king of the land of Hattusa.’

Hittite, on the other hand, features, as a rule, the inverse left-branching word order. Thus, in (4) the modifiers *kāš* and *tantukešnaš* precede its head noun DUMU-*aš*.

- (3) *ka-a-aš* *ta-an-tu-ke-eš-na-aš* DUMU-*aš*
DEM.NOM.SG.C mortality.GEN.SG child.NOM.SG
‘This mortal (lit. ‘this child of mortality’).’ (KUB 7.5 obv. i 8, see Hoffner 1987: 272)

It was traditionally assumed that all the deviations from the Hittite left-branching pattern in heterographic writings should be regarded as reflecting the result of graphic inversions aimed at replicating the word order of Sumerian and Akkadian documents (see Hoffner and Melchert 2008: 273). Nevertheless, one can show that at least in some cases the word order in heterographic phrases reflected the word order in underlying spoken utterances.

Hittite syntax featured a number of elements that always take the same syntactic position. Such are, e.g., sentential clitics, which always follow the first word-form in a clause, as in (5). The clitics in question are the quotative particle =*war*, unaccented pronominal forms =*aš* and =*mu*, and the locative particle =*kan*, which all follow the connective =*nu* functioning as the first element of the clause and support for the clitic chain.

- (5) *nu=wa-r=a-aš=mu=kán* BA.ÚŠ
PTCL=QUOT=3SG.NOM=1SG.DAT=PTCL die.PST.3SG
‘And he (my husband) died on me.’ (KBo 5.6 rev. iv 5, see Güterbock 1956: 96)

Some non-sentential clitics also adhere to certain syntactic positions. For example, as the intraclausal connective enclitic particle =(y)*a* (assimilating to the preceding consonant and doubling it) normally occupies the position after the first element in the coordinated syntactic constituent. Thus, in the following example =(y)*a* > =*la* is placed after the dependent genitive noun within a noun phrase:

- (6) *nam-ma=za zi-ik* ^m*Tar-ga-aš-ša-na-al-li-iš tu-el* ZI-[*an t*]u-el É=KA
then=PTCL 2SG.NOM Targassanali.NOM.SG 2SG.GEN soul-ACC.SG 2SG.GEN house=POSS.2SG
tu-el=la ^{LÚ}AMA.A.AT=*kán ma-ah-ha-an uš-ke-ši*
2SG.GEN=& housemate=PTCL when regard.PRS.2SG
‘You, Targassanali, when you have regard for yourself, your house and your loved one(s)...’ (KBo 5.4 obv. 24-25)

If the hypothesis that the underlying word order in heterographic writings does not differ from the typical Hittite word order, then the clitic placement in combinations with heterograms should not differ from the ordinary patterns of clitic placement. Nevertheless, in some cases the combinations of sentential and non-sentential clitics and heterographic writings trigger the unusual positions of clitics. Thus, sentential clitics can be hosted by the clause-initial head noun of a complex noun phrase:

- (7) ANŠE.KUR.RA=*wa* ŠA LÚUŠ.BAR *tu-u-ri-an h[ar-ta?]*
 horse=QUOT GEN weaver harness.PRF.3SG
 ‘He had harnessed the horse of the weaver.’ (KUB 28.88 (=Bo 778) + Bo 6910 rev. 17, Werner 1967: 70)

In the example above, the noun phrase ANŠE.KUR.RA ŠA LÚUŠ.BAR occupies the first position within a clause. If the underlying word order in this noun phrase followed the Hittite left-branching pattern, i.e., with the dependent element preceding its head, then the sentential clitics would have attached to the noun modifier, which would have been the first wordform in a clause, rather than to the head noun, which should have taken the position after its dependent. The position of the quotative clitic =*wa* shows that the head noun is indeed the first wordform within a clause: this leads one to conclude that the underlying word order in this case follows the Sumerian/Akkadian syntactic pattern rather than the Hittite one.

Similar examples are found with non-sentential clitics. Thus, in the example below the particle =(y)*a* attaches to the head noun within the noun phrase, which means that this head noun should be the first element within the noun phrase and that its dependent noun follows the head:

- (8) *ma-a-an=za* A.ŠÀ.HI.A-*n=a* *k[(a-ru-ú-i-li-in)] šar-ra-an-zi*
 if=PTCL field.PL-ACC.SG=& old.ACC.SG divide.PRS.3PL
 ‘And if they divide old land...’ (KBo 6.2 rev. iii 10-11 + dupl. KBo 6.3 rev. iii 12-13, see Hoffner 1997: 64)

Such placement of =(y)*a* points to the underlying Sumerian/Akkadian word order and speaks against the hypothesis that right-branching syntax in writing in this case can be explained as the result of a graphic inversion. These facts lead one to conclude that the jargon of Hattusa scribes was heavily influenced by the Sumerian or Akkadian syntax. Neither should one exclude the possibility of occasional code-switching (see Kudrinski 2016 for other examples and detailed analysis).

Normally it is assumed that the main function of heterograms in Hittite context was abbreviation. At least in the case of the Sumerograms it is true that most of them would take less space on a tablet than the corresponding Hittite lexemes (see Marquardt 2011: 116-117). It is not, however, clear if the same also applies to the Akkadograms, most of them, just as the Hittite forms, were written with multiple syllabograms.

On the other hand, one can show that in some cases the heterograms did not merely represent the corresponding Hittite forms but were employed to convey some additional layer meaning, which otherwise would have been left unmarked in written transmission, or for the purpose of morphological disambiguation. Thus, the Akkadographic prepositions, which were normally used to mark the syntactic function of heterograms, could occasionally be employed to disambiguate the homonymic forms of Hittite inflected nouns. Thus, in the example below, the Akkadographic preposition ANA indicates that the Hittite noun *halpūti* of unknown meaning is employed as the indirect object rather than subject (the nominative and dative form of this noun are homophonous).

- (9) A-NA [*hal-*]pu-u-ti *ma-a-an(-)ha-an-d[a]* *ma-a-al-di*
 DAT ?.DAT.SG as chant.PRS.3SG
 ‘As he chants before(?) *halputi*...’ (KBo 25.112 obv. ii 14’-15’, Neu 1980: 191)

In the next example, the Akkadogram ANA helps to determine the case and number of the syllabographically written Hittite noun LÚ.MEŠ*ašušālaš*. The Hittite case ending -*aš* could denote

nominative/genitive singular and every oblique case in plural. The Akkadogram ANA makes it possible for a reader to parse the word-form in the example above quickly and unequivocally.

- (10) ANA LÚ.MEŠ^{a-šu-ša-a-la-aš}
 DAT cult functionary.DAT.PL

‘For the *ašušala*-functionaries...’ (KBo 17.36 rev. iii 4’, see Neu 1980: 123)

In a similar way, heterographic plural markers could sometimes be employed to disambiguate the syllabically written Hittite wordforms for number. One frequently encounters such writings with Hittite neuter nouns exhibiting homonymy in singular and plural nominative forms, e.g. *waštu*^{HIA} ‘sins’.

In certain cases, the heterograms were employed for the disambiguation of semantic rather than morphological oppositions. Thus, the writing ^É*arzana-* ‘inn, brothel’ in some cases apparently corresponded in speech to the free-standing genitive noun phrase *arzanaš*, which was derived via head noun ellipsis from the noun phrase *arzanaš pēr* ‘inn, brothel’, lit. ‘house of porridge’ (Yakubovich 2006: 44-45). It means that in the writing ^É*arzana-* the Sumerogram É ‘house’ was employed to specify the meaning of the noun *arzana-*, which otherwise would simply mean ‘porridge’. Unlike other determinatives, which normally classify the lexemes according to their meanings but do not resolve any ambiguity, the Sumerogram É in this case disambiguates the homophones and thus enhances the transparency of written communication.

4. Heterograms in Palaic context

Heterograms are only used in a small number of Palaic text fragments. There were no orthographic conventions regulating the written transmission of Palaic, and therefore the use of heterograms in Palaic context essentially depended on the will of a particular scribe.

The restricted inventory of heterograms used for writing Palaic clearly distinguishes the text fragments in that language from the cuneiform documents in Hittite. Both the number of different heterograms standing for spoken Palaic wordforms and that of different determinatives are reduced; only the determinatives LÚ, MUNUS, URU, and DINGIR are found. This fact should be of no surprise since the Hattusa scribes likely possessed very limited competence in Palaic, which would not allow them to understand the semantics of most lexemes that they encountered in the dictated Palaic texts. Furthermore, it is indicative that all the occurrences of determinatives are attested with either proper nouns (e.g. ^{URU}*Li-ih-zi-i-na*, KBo 32.18 obv. i 14’) or lexemes that have direct correspondences in Hittite, which are written with the same determinatives (e.g. ^{LÚ}*mayan* ‘senior’, KBo 32.18 rev. iv 10’ or ^{MUNUS}*tawananna* ‘(royal title)’, KBo 19.152 obv. i 17’ among other occurrences). Both Palaic and Luwian cuneiform texts lack verbs in heterographic transmission.

In a stark contrast with Hittite texts, the Palaic lexemes are never recorded Akkadographically. The number of Sumerograms standing for Palaic forms is also small. Let us take a quick look at each of them.

The Sumerogram A.A could be employed in Hittite context for writing the noun *muwa-* ‘power’, as well as in rebus writings of proper names with the same phonetic value, e.g. ^m*MIZRA-A.A* for *Mizramuwa* (KBo 4.12 obv. 6). In KUB 35.165, the only Palaic fragment where we encounter A.A, it also has the phonetic value [muwa], being employed in the form *A.A-ntan* standing for *muwantan* ‘powerful (acc.)’. It is, therefore possible to conclude that direct phonetic correspondence between the Hittite and Palaic morphemes provided motivation

for the heterographic writing in this case. The scribe could have employed the Sumerogram simply for its phonetic value; it is important that such use of heterograms did not require much knowledge of Palaic.

The use of the Sumerogram ÍD ‘river’ in Palaic context could also be due to an etymological match between Palaic and Hittite. In Hittite texts, ÍD was also in use with the meaning ‘river’, while the simplest Hittite word for ‘river’ was *hapa-*. There are, however, additional Sumerographic writings such as ÍD-*ni* (KUB 17.8 iv 23) and ÍD-*anna* (KUB 53.14 iii 14), where the phonetic complements are rather pointing to something like *hapana-*. There also exist complete phonetic spellings of the latter lexeme, namely *hāppana* KUB 58.50 iii 2, and *hapana* Bo 6980 7 (Kloekhorst 2008: 295). This is reasonably close to the Palaic word *hāpna-* ‘river’ (ÍD-*an-aš* KBo 19.153 rev.? iii 18’, ÍD-*aš* KBo 19.154 10’). Again, the use of the heterogram is mediated by the formal similarity between the Hittite and Palaic lexemes.

The use of the Sumerogram GÍR for Palaic *hašīra-* ‘dagger’ is more difficult to account for, since there is no known Hittite phonetic reading for this lexeme. Nothing precludes us, however, from advancing a hypothesis that, as in the other two cases, the Luwian and Hittite lexemes for ‘dagger’ were similar.

In all the attested instances, the Sumerograms employed in Palaic context are supplied with Palaic phonetic complements. In the absence of Akkadian prepositions, which served as grammatical markers attached to heterographic forms in Hittite texts, scribes had no other option than to explicitly mark the endings of Sumerograms.

The Palaic fragment in KBo 19.152 obv. i is duplicated by KBo 19.153 rev.? iii. The former tablet is a Middle Hittite composition while the latter one dates back to the New Hittite period and constitutes the text where the most of the heterograms attested in Palaic context are found. This leads one to the conclusion that the use of heterograms in the New Hittite tablet likely reflects the intention of its scribe to spare time while copying the older manuscript. It is also possible that the scribes who wrote down Palaic did not consciously decide to use heterograms but employed them automatically when copying phonetic combinations for which were accustomed to use Sumerograms in Hittite context.

A doubtless example of using a heterogram for abbreviation is Palaic KI.MIN ‘ditto’ (see, e.g., KUB 35.165 rev. 11’- 13’). This Sumerogram is functionally identical to the repetition symbols in modern stenographic records.

5. Heterograms in Luwian context

Heterograms in Luwian context are much more frequent than in Palaic; most of the longer cuneiform Luwian passages contain at least some heterograms. The inventory of heterograms employed for writing Luwian is also considerably larger, for both determinatives and logograms, and comprises more than a hundred different items. The use of determinatives in cuneiform Luwian appears to be no less frequent than in Hittite written records; this is undoubtedly due to the fact that the Hattusa scribes must have had high proficiency in Luwian, some of them even being native speakers of this language, which enabled them to categorize Luwian lexemes according to their semantic values.

Given the increased frequency of heterographic writings in cuneiform Luwian fragments compared to that in Palaic written records, it appears to be even more significant that the free-standing Akkadograms are fairly rare. Occurrences of Akkadian elements in Luwian context are mostly restricted to mixed writings (DINGIR-LIM-*aš* KUB 35.54 obv. ii, UD-MI.HI.A-*ti* KUB 35.45 obv. ii 9). Akkadian prepositions are never used except for the context below:

- (11) *a=ta* *a-[ap-p]a* DINGIR.MEŠ-*an-za* ŠA
 PTCL=3SG.NOM.N back god.PL-DAT.PL GEN
 EN SÍSKUR *pár-ra-an* *ni-[iš]* *a-ú-i-ti*
 lord ritual before PROHIB come.PRS.3SG

‘Let it not come again before the gods of the ritual patron’ (KUB 35.54 obv. ii 39’-41’, Starke 1985: 67)

In this case the Akkadographic preposition ŠA was used in order to point to the syntactic relation within the noun phrase DINGIR.MEŠ-*anza* ŠA EN SÍSKUR ‘gods of the ritual patron’. This noun phrase is quite frequent in Luwian fragments, but the possessive relation between the head and dependent is otherwise marked with Luwian phonetic complements or using the Akkadian possessive constructions with the head noun in the *status constructus* form (see, e.g., KUB 35.54 obv. ii 13). The exceptional writing with the preposition ŠA in KUB 35.54 can be due to the end of the line after DINGIR.MEŠ-*anza*, which prompted the scribe to underscore the unity of the noun phrase.

As a consequence of the nearly absent Akkadographic prepositions, most of the Sumerograms employed as logograms in Luwian context bear Luwian phonetic complements, which explicate the endings of the underlying Luwian forms and, thus, to their grammatical properties. Nevertheless, in some cases the phonetic complements could be dropped. This could happen, for example, when a heterogram was written next to a noun modifier endowed with a Luwian phonetic complement:

- (12) *a=wa=ti* *zi-in-za* ÍD.TUR.MEŠ=KU-NU *a-ah-ha* *t[i-...]*
 PTCL=QUOT=3SG.DAT.RFL DEM.ACC.PL.C river.little.PL=POSS.2PL away

‘And away from these little rivers...’ (KUB 35.89 17’, Starke 1985: 228)

- (13) *a=ku-wa* *a-pí-in-za* LÚ.MEŠNAGAR *ú-w[a-ta-an-du]*
 PTCL=QUOT DEM.ACC.PL.C carpenter.PL bring.IMP.3PL

‘And let them bring those carpenters...’ (KBo 29.25 rev. iii? 12’, Starke 1985: 226)

Occasional refraining from double case marking within noun phrases was probably a conscientious strategy aimed at writing Luwian in an efficient way and saving time and space on a tablet. One can find similar examples in Old Hittite ritual texts, where phonetic complements could sometimes be omitted on the second coordinated noun within a sequence. These examples above date back to the Old Hittite period when the orthographic conventions for writing Hittite were only developing. It may be not accidental that a similar technique was used for writing Luwian, the language that had no orthographic norm in cuneiform transmission.

- (14) ^DUTU-*i* ^DIŠKUR=*ya* *me-e-mi-iš-ki*
 Sun-god-DAT.SG Storm-god=& speak.IMP.2SG

‘Speak to Sun-god and Storm-god...’ (KBo 17.3 rev. iii 5, Neu 1980: 15)

- (15) *ta* LUGAL-*i* MUNUS.LUGAL=*ya* *ta-ru-e-ni*
 PTCL king-DAT.SG queen=& tell.PRS.1PL

‘And we tell the king and the queen...’ (KBo 34.121 5’, Neu 1980: 10)

Phonetic complements on heterograms could also be omitted if the respective wordform was a part of a right-branching possessive construction. The use of such constructions in Luwian text fragments was limited to few combinations (EN SÍSKUR ‘ritual patron’, LUGAL KUR ^{URU}HATTI ‘king of Hattusa’, ^DU AN ‘Storm-god of heaven’).

Occasionally heterographic writings could be used to disambiguate the semantics of the underlying Luwian lexemes. Thus, e.g., the possessive adjective *lūlahi(ya)-* ‘of mountain-dwellers’ in most cases is written with the determinative LÚ ‘man’. In one context, however, this adjective is accompanied by the determinative DINGIR ‘deity’. The determinative here plays a crucial role in conveying the meaning of utterances disambiguating the reference of possessive adjectives. This is similar to the way heterograms could sometimes be employed for semantic disambiguation in Hittite texts (see Section 3).

- (16) ^D*Lu-u-la-hi-in-za-aš=tar hu-u-up-pa-ra-za ku-in-zi hi-iš-hi-ya-an-ti*
of.Lulahi.ACC.PL=PTCL belt.ACC.PL REL.NOM.PL bind.PRS.3PL

‘Those who tie the belts of Lulahi(-gods)...’ (KUB 9.31 obv. ii 24, see Starke 1985: 53)

Another instance of semantic disambiguation in Luwian fragments concerns the use of Sumerian plural markers with heterographically written possessive adjectives. In some case forms of Luwian possessive adjectives, the number of possessor could not be expressed phonetically, in which case the Sumerian plural markers could be deployed for grammatical disambiguation (see, e.g. KUB 35.48 obv. ii 15 SISKUR.HI.A-*šī-in* EN-*an* ‘patron of the rituals’). In other cases, the disambiguation may be lexical (see, e.g. KUB 35.88 rev. iii 15 IGI.HI.A-*za* GIG-*z[(a)]* ‘eye disease’). In the last case, the Sumerian plural marker serves to stress the lexical meaning of the noun ‘eye(s)’, since IGI could also denote certain other lexemes in the Anatolian cuneiform, e.g., the Hittite adverb *menahhanda* ‘opposite’ (written IGI-*anda*). When IGI conveyed the meaning ‘eye’, however, it was always written with HI.A in Hittite and Luwian texts.

As in Palaic, the Sumerogram KI.MIN ‘ditto’ is also found in Luwian passages, which indicates that abbreviation was an important function of heterographic writings in Luwian context.

6. Discussion

Palaic and Luwian cuneiform text fragments feature major differences in the use of heterograms in comparison to Hittite texts. Thus, Sumerograms are employed less frequently in Luwian and even more rarely in Palaic contexts, while Akkadograms are rare in Luwian and completely absent in Palaic.

The restricted use of heterograms in Luwian and Palaic texts could be due to the genre peculiarities of the respective fragments. These are mostly the transcriptions of magical incantations or ritual invocations, which remained untranslated in Hittite texts, because it was crucial for these utterances to preserve their original spoken form in order to exhibit power. The excessive use of heterograms was likely to introduce ambiguity and obscure the original form of the text, which was unacceptable when it concerned magic and ritual practices.

It is the (near-)absence of Akkadograms in non-Hittite cuneiform texts that appears to provide us with the most indicative insight on the differences between heterograms of Sumerian and Akkadian origin. Sumerograms must have been perceived by the Hattusa scribes as belonging to the core inventory of the Mesopotamian cuneiform script and, unlike Akkadograms, being neutral with respect to the language of writing. As argued by Mark Weeden, the Hattusa scribes did not exhibit such proficiency in Sumerian as they did in Akkadian. Therefore, their overall awareness of the connection between Sumerian and Sumerograms must have been significantly lower in Hattusa than the awareness of the connection between Akkadian and Akkadograms, most of which were likely pronounced in Akkadian in the scribal jargon.

Hittite was virtually never written without the use of Akkadograms, because the Hittite writing was the direct descendant of Akkadian scribal culture and developed as a result of the

adaptation of Akkadian orthographic conventions to the need of recording Hittite utterances. It is likely that the process of dictating and especially reading Hittite texts usually involved some traits of Hittite-Akkadian code-switching. Palaic and Luwian, on the other hand, were not connected to the Akkadian scribal culture to the same degree, as they were not literary languages in the context of cuneiform literacy and did not develop stable orthographic conventions. This could be the reason why Palaic and Luwian text fragments, unlike Hittite texts, feature predominantly Sumerograms. Another reason for this could again be the intention to introduce as little ambiguity in the texts as possible. If the use of Akkadograms was in fact connected to the code-switching in scribal jargon, the Hattusa scribes could consciously dispense with this practice when writing magical incantations out of the fear that they would lose their power.

The different frequency of heterograms in Palaic vs. Luwian fragments was likely due to the fact that Hattusa scribes possessed different competence in Palaic vs. Luwian. Palaic was obviously less known if at all understandable to the scribes, while Luwian must have been a native language for many of them. The use of heterograms in Palaic texts was essentially limited to the cases when the meaning of Palaic forms could be extrapolated from Hittite.

Finally, the analysis of heterograms in Palaic and Luwian context gives us some insights regarding the general functions attached to heterographic writings in the scriptoria of Hattusa. Sumerograms in Palaic and Luwian text fragments appear to be used mostly for abbreviation purposes. Nevertheless, a limited number of examples show that they could also serve for grammatical or lexical disambiguation and thus make it easier for a potential reader to process cuneiform writing. More examples of the same kind can be found for heterograms in Hittite context.

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Максим Кудринский. Гетерограммы в хеттских, палайских и лувийских текстах

Клинопись была основным средством письменной коммуникации в царстве Хаттусы и использовалась для записи текстов на хеттском и других языках, которые функционировали в его пределах. Особенностью данного письма являлось то, что, помимо фонетических написаний, в тексте использовались также шумерские и аккадские лексемы, которые обычно (хотя и не всегда) обозначали соответствующие по смыслу лексемы языка текста. Такие единицы письма мы будем называть гетерограммами. Данная статья посвящена сравнению клинописных текстов на хеттском, лувийском и палайском языках; главным образом, нас будет интересовать частота употребления и функции гетерографических написаний.

Ключевые слова: клинопись, хеттский язык, лувийский язык, палайский язык, гетерограммы

Toward the reconstruction of Proto-Algonquian-Wakashan. Part 3: The Algonquian-Wakashan 110-item wordlist

In the third part of my complex study of the historical relations between several language families of North America and the Nivkh language in the Far East, I present an annotated demonstration of the comparative data that was used in the lexicostatistical calculations to determine the branching and approximate glottochronological dating of Proto-Algonquian-Wakashan and its offspring; because of volume considerations, this data could not be included in the previous two parts of the present work and has to be presented autonomously. Additionally, several new Proto-Algonquian-Wakashan and Proto-Nivkh-Algonquian roots have been set up in this part of study. Lexicostatistical calculations have been conducted for the following languages: the reconstructed Proto-North Wakashan (approximately dated to ca. 800 AD) and modern or historically attested variants of Nootka (Nuuchahnulth), Amur Nivkh, Sakhalin Nivkh, Western Abenaki, Miami-Peoria, Fort Severn Cree, Wiyot, and Yurok.

Keywords: Algonquian-Wakashan languages, Nivkh-Algonquian languages, Almic languages, Wakashan languages, Chimakuan-Wakashan languages, Nivkh language, historical phonology, comparative dictionary, lexicostatistics.

The classification and preliminary glottochronological dating of Algonquian-Wakashan currently remain the same as presented in Nikolaev 2015a, Fig. 1¹. That scheme was generated based on the lexicostatistical analysis of 110-item basic word lists² for one reconstructed (Proto-Northern Wakashan, ca. 800 A.D.) and several modern Algonquian-Wakashan languages, performed with the aid of StarLing software³. Etymologies for the overwhelming majority of the 110-item wordlist entries have been established based on the list of regular sound correspondences as suggested in Nikolaev 2015a, §3; whenever those correspondences are generally satisfied, we surmise that the respective items represent results of genetic divergence, rather than diffusion and borrowing occurring already after the disintegration of the original Proto-Algonquian-Wakashan.

The third publication in this ongoing series is presented in the form of an annotated demonstration of the comparative data that was used in lexicostatistical calculations; since this presentation sometimes demands detailed comments on various aspects of historical phonology that take up too much space, it could not have been included in the previous two publications on the subject.

Certain improvements to the ongoing work on PAW and PNA reconstruction have been produced during the preparation of the present work; consequently, a few differences from Nikolaev 2015b are to be encountered. These are consistently marked in the main body of the

¹ None of these glottochronological dates should be accepted as incontestable facts; undoubtedly, certain details will be liable to change as the material of all the other Algonquian-Wakashan subgroups (primarily Quileute and perhaps also Kutenai) is added to the comparison. Current datings should be understood as reflecting a highly approximate temporal scale for language divergence.

² The standard 100-item Swadesh wordlist with 10 additional words for the purpose of more accurate classification and dating of the cognate languages.

³ StarLing for Windows v. 2.5.3 (computerized system for multilingual database processing; copyright 1985-2005 by Sergei Starostin; <http://starling.rinet.ru>).

work with the abbreviation “cf.”, e. g.: PAW **m'a:whV* ≈ **ham'wV* ‘to eat, bite’ (cf. Nikolaev 2015b, #234), reflecting the fact that in Nikolaev 2015b this root was reconstructed as **m'a:hV* ≈ **ham'V*.

The following new PAW and PNA roots have been added: PAW **k'ə:ɔ:ɔkV* (~ *k'*, *g*) ‘all, every’; PAW **w'adVχE* ‘sky, cloud’; PAW **mi:-* ‘food, fish; to eat’; PAW **q'w:KtV* ‘full’; PAW **ηə:kV* (~ *g*) ‘mountain’; PAW **c'ik'wV* (~ *ä*) ‘neck’; PAW **tokV* ≈ **?otkV* (~ *k'*) ‘skin, hide’; PAW **?V-* ‘demonstrative stem’; PAW **qV* (~ *ɔ*) ‘interrogative stem’; PAW **?Aη* ‘interrogative stem’; PAW **hVɔV* ≈ **?VhɔV* ‘tail (of quadruped)’; PNA **tu(:)kwV* (~ *o*) ‘to burn (tr.)’. Conversely, the roots PNA **x'w'a* ≈ **hax'wV* ‘name’ (Nikolaev 2015b, #389), PAW **pE:šV* ≈ **?E:pšV* ‘one’ (Nikolaev 2015b, #281) and PNA **tOyV?wV* ‘to burn (tr.)’ (Nikolaev 2015b, #345) have been eliminated as non-existent.

In the main body of the wordlists, language forms and their meanings that are relevant for lexicostatistical calculations, are given in bold print. They include: (a) reconstructed forms for Proto-North Wakashan (glottochronologically dated to ca. 800 AD)⁴; (b) Southern Wakashan — Nootka (Nuuchahnulth); (c) Nivkh — Amur and Sakhalin; (d) Algonquian — Western Abenaki, Miami-Peoria, Fort Severn Cree; (e) other Algonquian languages — Wiyot and Yurok. All data on languages from groups (b-e) have been taken from sources recorded over the 19th and 20th centuries.

All the data are given in etymological order: etymologically different roots are listed under separate numbers in round brackets — (1), (2), etc. The symbol • is used to separate language families, whereas ▲ is used to mark different root variants within the same family. The equation symbol (=) indicates that the root allomorph is used exclusively with possessive prefixes; the hyphen (-) is used to separate any other morphemes (regardless of their degree of productivity in the given language).

In protoforms the tilde symbol (~) denotes alternately possible variants of reconstruction, rather than an actual alternation in the protolanguage. If reconstruction of two (rarely three or more) protophonemes in the same position is possible, alternate variants are given in round brackets. Many PAW roots are represented by “inversed” allomorphs **CVCV* and **?VCCV* (more rarely, **hVCCV*). Where present, reconstructed allomorphs of this type are divided by double tilde (≈).

Latest results of lexicostatistical calculations between all these languages, reflecting percentages of lexical cognacy, are adduced below in Table 1 (for the revised 110-item wordlist) and in Table 2 (for the revised 50-item wordlist).

Table 1. Percentage of lexical cognacy between Algonquian-Wakashan languages (110-item wordlist)

	Nootka	Amur Nivkh	Sakhalin Nivkh	Western Abenaki	Miami	Cree	Wiyot	Yurok
North Wakashan	33%	15%	16%	9%	12%	11%	19%	17%
Nootka		12%	13%	10%	12%	12%	9%	15%
Amur Nivkh			89%	19%	18%	12%	14%	23%
Sakhalin Nivkh				18%	17%	15%	16%	22%
Western Abenaki					56%	61%	27%	27%
Miami-Peoria						67%	35%	30%
Cree (Fort Severn)							34%	25%
Wiyot								36%

⁴ Since Proto-North Wakashan is considerably younger than Proto-South Wakashan, composition of a 110-item proto-wordlist for this branch is justified and not very difficult. In the case of Nivkh, since there are only two recorded dialects of this language, their binary comparison will not lead to plausible reconstruction of a separate Proto-Nivkh wordlist. Procedures for reconstructing the Swadesh wordlist for Proto-Algonquian, Proto-Algonquian, and Proto-Wakashan involve too many difficulties; at present, only data from separate attested languages may be considered satisfactory.

Table 2. Percentage of lexical cognacy between Algonquian-Wakashan languages (50-item wordlist)

	Nootka	Amur Nivkh	Sakhalin Nivkh	Western Abenaki	Miami	Cree	Wiyot	Yurok
North Wakashan	37%	21%	19%	11%	14%	9%	20%	18%
Nootka		10%	11%	10%	10%	9%	9%	12%
Amur Nivkh			90%	27%	23%	17%	12%	20%
Sakhalin Nivkh				25%	21%	19%	14%	19%
Western Abenaki					66%	67%	36%	36%
Miami-Peoria						67%	46%	36%
Cree (Fort Severn)							47%	37%
Wiyot								55%

ETYMOLOGIZED 110-ITEM WORDLISTS FOR ALGONQUIAN-WAKASHAN LANGUAGES

1. ALL⁵

(1) PAW **k'ə:ɬkV* (~ *k'*, *g*) 'all, every' > PW **k'u:ɬk-* > PWS **č'u:čk-* > **Noo.** *č'u:čk* 'all, everything' • PA **kahk-el-aw-* > **FScR.** *kahk-iń-aw* 'all, every'.

(2) PNA **čək'E* (~ **č'*, *g*, *q'*) 'all, whole' (Nikolaev 2015b, #83) > PN **chik-* > **NiA.** *sik(-m)*, **NiS.** *sik(-m)* 'all' • PAlg **č-ey-ak-* (~ *kh*, *k'*) > PA **čya:k-* 'all, completely' > **MiPe.** *če:k-i* 'all'.

(3) PA **mes-* 'all, whole' > **WAb.** *mes-i* 'all'.

(4) **Wi.** *ɬər-əw-* 'all'.

(5) **Yu.** *ɬik-i* 'subsequent occurrence, all' (cf. *ɬik-o?ł* 'always').

2. ASHES

(1) PNA **pVl-əŋV-k'^wE* 'ashes' (Nikolaev 2015b #300) • PNi **phliŋg* (~ **p*) > **NiA.**, **NiS.** *phliŋg*, *pliŋg* 'ashes' • PAlg **p(ɛl)enekw-* (~ *ph*, *kh*) 'ashes, dust, powder' > PA **penkw-* > **WAb.** *sskkwetai-pekwi* (lit. "fire dust"); **MiP.** *pinkw-i*; **FScR.** *pihk-ot-e:w* 'ashes'. See EARTH, SAND.

(2) PAW **mE:* 'flame, fire' (Nikolaev 2015b, #220) > PAlg **me-hs-* 'fire, firewood' > **Wi.** *bəc-əw-itk* 'ashes'. See FIRE.

(3) **PWN** **G^wən-* 'ashes (of a fire)' > **Kw.** *G^wn-i?*, **Oo.** *G^wŋ-i*, **Hei.** *G^wŋ-ái*, **Hai.** *G^wn-ε?*.

(4) PWS **λ'int-* > **Noo.** *λ'int-mis* 'ashes' (also **Dit.** *λ'idt-ibs* 'ashes, dust').

(5) **Yu.** *pont-et* 'ashes' (cf. *pənc-əc* 'dust', *pənc-əh* 'be gray (deer)', *pənc-ec* 'gray deer, white deerskin').

3. BARK (OF TREE)⁶

(1) PAW **χe:rg^wA* ~ **ge:rx^wA* 'bark (of tree)' (Nikolaev 2015b, #397) > **PWN** **χa:k^w-* 'bark of tree' > **Kw.**, **Oo.**, **Hai.** *χk^w-m*, **Hei.** *χk^w-ń*.

(2) PWS **c'aq-* > **Noo.** *c'aq-mis* 'bark of tree' (also **Dit.** *c'aq-abs* 'bark of tree; scab').

(3) PNi **oym* ~ **ovm* > **NiA.** *oym*, *o:m*, **NiS.** *oəm* 'bark of tree'.

(4) PAlg *=*lakw-*, *=*lek^w-* 'tree bark' > **Yu.** =*ark^w-ec*, *w-erk^w-ec*; PA **wa=lak-* > **WAb.** *wa-lak-a*; **MiPe.** *a-lak-i:hk-w-i*; **FScR.** *wa-ńak-e:sk* 'bark of tree'.

⁵ No data for PNW.

⁶ No data for Wiyot.

4. BELLY

(1) PAW *ʔVta:gA ‘belly, abdomen’ (cf. Nikolaev 2015b, #40) > PW *ta:k- > PWN *tak- ‘belly’ > Kw. Oo. tk-’i, Hei. tk-’i ‘belly’, Hai. tk-’i ‘belly, abdomen’ • PWS *ta(:)č- > Noo. ta:č-a ‘belly’ (also Dit. tač-’ ‘belly, stomach’, Mak. hi-tak-’itqi ‘belly’) • PAlg *ʔata:γ-, *ʔetaγ- ‘belly, stomach’ > Wi. tay-əd-aʔl ‘one’s belly’.

(2) PNi *ɲ(=)im > NiA., NiS. ɲim ‘belly’.

(3) PAlg *=o:d-, *=ad-, =ed- ‘belly, body’ > Yu. =ey-ah ‘belly, stomach; PA *=o:t-ay- ‘belly’ > MiPe. m-u:t-ay-i ‘stomach, belly; pouch’ and PA *=at-ay-, *-ač-y-, *-eč-y- ‘belly; whole body’ > FSCr. mi=st-at-ay ‘(big) belly, stomach’.

(4) PA *-lakeš-y- ‘guts, intestine’ > WAb. =lakes-i ‘belly’.

5. BIG

(1) PNA *p’i:lV (~ e:) ‘big’ (Nikolaev 2015b, #305) > PNi *pil- ‘big’ > NiA. pil-a-, NiS. pil-d, pil-a ‘big; grown up’ • PAlg *pel- > Yu. pel-, pl-, popol- ‘big’.

(2) PWN *-ka:s ‘big, mighty, holy’ > Oo. -kas, Hei. -kas, Hai. -kas id., Kw. -kas ‘really’.

(3) PWS *ʔi:χ^w > Noo. ʔi:h ‘big’ (also Mak. ʔi:χ^w-, Dit. ʔi:χ).

(4) PAlg *keyt-, *keyč- ‘big, much’ > PA *keʔt-, *keʔč- ‘big’ > FSCr. kihč-i- ‘big’.

(5) PA *meʔt- ‘big’ > WAb. mss-i; MiPe. mehš-i- ‘big’.

(6) Wi. dat- ‘to be big, large’.

6. BIRD (SMALL, SINGING)

(1) PAW *c’ä:q^wA, *c’V:cq^wA ‘bird (small)’ (Nikolaev 2015b, #77) > PWN *c’asq^w- (~ c) ‘any small songbird’ > Kw. c’asq^w-ána, Hei. c’sq^w-, csq^w- • PAlg *cuck- > Wi. cúck-iš, Yu. c’uc’-iš ‘bird (small, generic)’

(2) PAW *ʔi:pV ~ *ʔi:pV ‘bird (small)’ (Nikolaev 2015b, #417) > PNi *cev-rq > NiA. cev-rq, NiS. tev-rq ‘bird (small)’ • PAlg *c-ey-ep- (~ ch, ph) > PA *si:p-e:hs-y- ‘bird (generic)’ > WAb. ssip-ess ‘bird (generic)’.

(3) PAW *po:lV ≈ *ʔo:lpV ‘large bird’ (Nikolaev 2015b, #290) > PAlg *pel-e:γw- > PA *pel-e:hš- ‘bird (small?)’ > FSCr. piñ-e:š-i:š (with two diminutive suffixes) ‘bird (generic)’.

(4) PW *ma:t- ‘to fly’ > Noo. ma:ma:t-i ; ma:t-iq ‘bird (small, generic)’. See FLY.

(5) PA *pi:nč-iʔl- ‘to fly into’ > MiPe. pihč-it-a ‘small bird (sparrow size)’.

7. BITE⁷

(1) PAW *m’a:whV ≈ *ham’wV ‘to eat, bite’ (cf. Nikolaev 2015b, #234) > PW *m’a:- > Noo. m’a ‘to bite’ (cf. the same root in PWS *ma:k^w- ‘to close teeth’) • PA *ma:-kw- > FSCr. ma:-kw-am-e:-w TA, ma:-kw-aht-am TI ‘to bite’. See EAT.

(2) PAW *q’anʒV ~ *ganʒV (~ c, s) ‘to eat, bite’ (Nikolaev 2015b, #315) > PNi *haz- > NiA. jaz- (haz- ~ az-), NiS. jaz-d ‘to bite, to dig one’s teeth’.

(3) PAlg *-(ʔ)ap-, *-(ʔ)ep- ‘by tooth, to bite, eat’ > Wi. -əp- ‘to bite’, see EAT.

(4) PA *sak- ‘to hold fast’ > WAb. sak-a- ‘to bite’.

(5) MiPe. si:hs- ‘to bite, pinch’.

(6) Yu. teykel-ew- ‘to bite’.

8. BLACK⁸

(1) PWN *c’u:t- ‘black’ > Kw., Oo. c’ut-a, Hei. c’út-a, Hai. c’út-la.

(2) PNi *piw- > NiA. piu-la-, NiS. piw-d, piw-la ‘black’.

⁷ No data for PWN.

⁸ No data for Wiyot.

(3) PA **-hkat-*, **-htk-* ‘charcoal; black’ in PA **ma=(h)tk-anšye:w-* ‘charcoal; black’ > **WAb.** *m-kk-as-aw-i* ‘black’; **ma=hkat-* ‘black’ > **MiPe.** *ma-hk-at-e:-(w)-* ‘black’, **FScR.** *ma-hkat-e:w-is-iw* ‘to be black’; PA **(h)kat-k-* ‘charcoal; black’ > **FScR.** *kahk-it-e:w-a:-w* ‘black’.

(4) PAlg **wenliʔa:ɣw-* ‘coals, charcoal’ > **Yu.** *ləʔəɣ-*, *loʔoɣ-* ‘embers, coals; black’.

(5) **Noo.** *tupkuk* ‘black’.

9. BLOOD

(1) PAW **ʔarV* (~ *ä*) ‘blood’ (Nikolaev 2015b, #2) > **PWN** **ʔəl-kʷ-* ‘blood; to bleed’ > **Kw.**, **Oo.**, **Hai.** *ʔl-kʷ-a*, **Hei.** *ʔl-kʷ-a* • **PNi** **η=ar* > **NiA.** *η-ar* ‘blood’.

(2) PAW **cʷü:xA* ≈ **ʔü:cʷxA* ‘sap, blood’ (Nikolaev 2015b, #81) > **PNi** **choχ* ‘sap, tar, blood’ > **NiS.** *choχ* ‘blood’ • PAlg **=ck-oʔw-*, **=tk-oʔw-* ‘blood’ > **Wi.** *k-əʔw-ik*, *=atk-əʔw-ik* ‘blood’; PA **me=sk-w-* > **FScR.** *mi=hk-o* ‘blood’. See RED.

(3) PAW **pʷakV* (~ *ä*) ‘red; blood’ (Nikolaev 2015b, #302) > PAlg **pak-*, **pek-* ‘to be bloody, red’ > **Yu.** *pek-oy(e)k* ‘blood’; PA **pak-at-kan-* > **WAb.** *pak-ak-kan* ‘blood’, PA **ni:-pek-* > **MiPe.** *ni:-hpik-* ‘red; blood’. See RED.

(4) **PWS** **χis-* > **Noo.** *his-mis* ‘blood’.

10. BONE

(1) PAW **χo:ckʷE* (~ *č*, *s*, *š*) ‘bone’ (Nikolaev 2015b, #398) > **PW** **χa:xq-* > **PWN** **χa:xq-* ‘bone’ > **Kw.** *χaq*, **Oo.** *χa:q*, *χa:χ*, **Hei.** *χáχ*, **Hai.** *χa:χ*.

(2) PAW **ʔVqʷ(ʷ)E* ≈ **ʔVlqʷ(ʷ)E* ‘bone, gristle’ (Nikolaev 2015b, #213) > PAlg *=tk-* > **Wi.** *=atk-əd-át*, **Yu.** *=ətk-əʔ* ‘bone’; PA **we=tk-an-* ‘bone; pit’ > **WAb.** *o=sskk-an*, **MiPe.** *=hk-an-i*, **FScR.** *o-sk-an* ‘bone’.

(3) **PWS** **hamu:t* > **Noo.** *hamu:t* ‘bone’ (also **Dit.** *habu:t* id.).

(4) **PNi** **η(=)ənyʔif* > **NiA.** *η-ínf*, **NiS.** *η-ányʔif* ‘bone’.

11. BREAST (FEMALE)

(1) PAW **nowV* ≈ **ʔonwV* ‘to suck; breast’ (Nikolaev 2015b, #246) > **PWS** **ʔanma* ‘breast; to suckle’ > **Noo.** *ʔinma* ‘breast, milk, sucking milk’ (also **Mak.** *ʔada:b(a)* ‘breast, milk, sucking breast’, **Dit.** *ʔama-š* ‘breast, milk, breastfeed’) • **PNi** **mo-c* (cf. **mo-mo-* ‘to suck’) > **NiA.** *mo-c* ‘female breast’ • PAlg **new-* ‘breast milk’, **new-on-* ‘to suck (milk)’ > **Yu.** *new-on* ‘breast, nipple, tit, breast milk’; PA **no:-n-*, **no:-n-šy-*, **-[n]o:-n-* ‘to suck’ > **WAb.** *no-s-ow-ō-kan* ‘female breast’, **MiPe.** *nu:-n-a:-kan-i* ‘female breast, udder’.

(2) PAlg **(e)s-en-* ‘breast, nipple’ > **Wi.** *=əs-əd* ‘breast, nipple’.

(3) **PWN** **ʒa:mʷ-* ‘breast; to suck at the breast’ > **Kw.**, **Oo.** *zamʷ-a*, **Hei.** *zámʷ-a*, **Hai.** *zàmʷ-a*.

(4) **NiS.** *mínk* ‘female breast’ – if not from **ním-k* with metathesis, see (2).

(5) **FScR.** *či:či:s* ‘breast; baby bottle’.

12. BURN TR.⁹

(1) **PNA** **tu(:)kwV* (~ *o*) ‘to burn (tr.)’ (cf. Nikolaev 2015b, #345)¹⁰ > **PNi** **thuv-* > **NiA.** *řuv-* (*th-*), **NiS.** *řuv-nt* ‘to burn (tr.)’ • PAlg **tuw-* ‘to burn (tr.)’ > **Wi.** *tu(w)-* ‘to burn’ (e. g., *kita ta tuw-án-iʔl* ‘perhaps it is burned out’, referring to a canoe). See FIRE, SMOKE.

(2) **Yu.** *tyeʔw-* ‘to burn’ (e. g., *tyeʔw=ol=ok* ‘I burn (trash, brush, etc.)’).

(3) PA **ša:kw-* ≈ **eškw-* > **MiPe.** *ša:kw-* ‘to burn (tr.)’; **FScR.** *iskw-a:s-am* TI ‘to burn sth.’.

(4) **WAb.** *ccek(a)-*, *cek(a)-* ‘to burn (tr.)’.

(5) **Noo.** *mʷu* ‘to burn (tr.)’.

⁹ No data for PWN.

¹⁰ **Yu.** *tyeʔw-* ‘to burn’ has been excluded from this comparison.

13. CLAW, NAIL

(1) PAW **t'ik*^{wE} ~ **k'it*^V 'nail, claw; peg' (Nikolaev 2015b, #354) > PNA **t'ik*^w-*Eń*- 'nail, claw' > *PNi **tək*-(*a*)*ń* > NiA. *tik-ń*, NiS. *tak*-(*a*)*ń* 'claw, fingernail' • PAlg **-tk-an*-(*č-ey-*), **čk-an*-(*č-ey-*) 'claw, finger-, toenail, hoof' > Wi. *w=atk=ən-*, *w=atk=ən-əy-* 'nail', Yu. =*alk-e-t-ey* 'nail, fingernail, toenail, claw'; PA **=tk-an-š-y-*, **=šk-an-š-y-* > WAb. =*kk-a-s* 'claw, nail, hoof', MiPe. =*i-k-a-š-i:* 'fingernail (of animal or human)', FSCr. *mi=sk-a-š-iy* 'finger-, toenail, claw, hoof'.

(2) PWN **c'am-c'am-* 'fingernails' (cf. **c'am-* 'finger(s)') > Kw. *c'ṃc'ṃ-xc'ani?*, Oo. *c'ṃc'ṃ-xsk'ana*, Hei. *c'ṃc'ṃ-Gṃi*.

(3) PW **k'at-* > PWS **č'at-ač'a* 'finger-, toenail' > Noo. *č'at-č'a* 'finger-, toenails' (also Mak. *č'at-a:č'(a)*, Dit. *č'at-ač'*).

14. CLOUD

(1) PAW **w'adVχE* 'sky, cloud' (cf. Nikolaev 2015b: #11) > PA **watk-w-iw-* 'cloud', **-[w]atk-w-* 'sky' > FSCr. *wask-o* 'cloud' ▲ PAW **ä:IV-w'adVχE* 'cloud, cloudy' (Nikolaev 2015b: #11) > PWS **ti:-w'aχ-* 'to get cloudy' > Noo. *ti-w'aḥ-mis* 'cloud' (also Mak. *ti:-waχ-* 'to get cloudy', Dit. *ti:-waχ(-k)-*, Noo. *ti-w'aḥ-* 'cloudy') • PNi **l-ax* > NiA., NiS. *l-ax* 'cloud' • PAlg **a:l-adek-w-*, **a:l-edewk-*, **al-edwk-w-* 'cloud; shadow' > PA **al-etk-w-* 'cloud' > WAb. *ass-okk-w* 'cloud; the sky', *men-ass-okk-w* 'isolated cloud'; MiPe. *a:t-k-w-atw-i* 'cloud'.

(2) PAW **?VwO:nV* (~ *η*) 'cloud, fog' (Nikolaev 2015b, #54) > PWN **?ən-* 'cloud' > Kw. *?ṅ-w-i*, Hei. *?ṅ-ú-i*, Hai. *?ṅ-u-è* 'cloud'.

(3) PAlg. **lop-t-*, **lop-č-*, **lep-t-* (cf. Yu. *loh-p-i?l* 'clouds gather, it is cloudy') > Wi. *ləpt-a?w-*, *ləpč-a?y-*, Yu. *lept-en-ok* 'cloud'.

15. COLD¹¹

(1) PAW **χ'i:rqE* 'cold' (Nikolaev 2015b, #208) > PA **tahk-*, **tehk-* 'cold, cool' > WAb. *ttekk-*, MiPe. *tahk-* 'cold', FSCr. *tahk-is-iw* AI 'to be cold, cool, to cool off'.

(2) PWS **m'at-* 'cold' > Noo. *m'at-uk* 'cold' (also Mak. *bat-*, Dit. *bat-a:t*).

(3) PNi **civ-* (~ **t-*) > NiA. *tiv-la*, NiS. *tiv-d*, *tiv-la* 'cold'.

(4) Yu. *sa:w-* 'cold' (e. g., *sa:w-el-ek* 'I'm cold', *sa:w-onc-ek* 'I cool sth. off', etc.)

16. COME

(1) PW **Gi:-* 'to move; come' > PWN **Gi:-* 'to come' > Kw. *Gi-la*, Oo. *Gi-na*, *Gi-ana*, Hei. *Gí-na* 'come!', Hai. *G-an'a-k^w* 'to come'.

(2) PA **py-a:-/py-e:-* (**py-* 'hither' + zero-root 'to go') > WAb. *pa-iy-ō* AI 'he comes'; MiPe. *pya:-*; FSCr. *pe:-či:-t-oht-e:w* AI 'to come'.

(3) PNi **phrə-* > NiA. *phrə-*, *prə-*, NiS. *phřə-d* 'to come, arrive, come near'.

(4) Noo. *hin-* 'to come'.

(5) Wi. *?uw-* 'to come'.

(6) Yu. *nes* (*nesk^w*) 'to come, arrive, return'.

17. DIE¹²

(1) PAW **ń'AbV* (~ *p'*) 'to die' (Nikolaev 2015b, #255) > PA **nep-* 'to die; sleep' > MiPe. *nep-e-* 'to die, be dead', FSCr. *nip-iw* 'to die'.

(2) PNA **mo:ryV* (~ *m'*) (Nikolaev 2015b, #227) > PNi **mu-*, **muj-* > NiA. *mu-*, NiS. *mu-d* 'to die, perish, disappear' (cf. NiA. *muj-i-*, NiS. *muj-vu-d* 'sick, to become sick') • PAlg **ma:hy-*

¹¹ No data for PWN and Wiyot.

¹² No data for PWN.

‘to die’, ‘to kill’ > Yu. *moy-k-* ‘to die’; PAlg caus. **mah[y]-t-* > WAb. *mac-c-in-a, mac-c-ihl-a* ‘he dies’ (secondary medio-passive).

(3) PWS *qaχ-* ‘to die; dead’ > Noo. *qah-* ‘to die’ (also Mak. *qaχ-* ‘to die, become numb’, Dit. *qaχ-šiλ-* ‘to die’, Noo. *qash-* ‘dead, broken down, beaten, kill’).

(5) Wi. *d-ak*^w ‘is so, looks so, seems so, happens so, dies’ (tabooing).

18. DOG

(1) PAW **q’änV* ‘dog’ (Nikolaev 2015b, #316) > PWS **q’in-iλ(-č)* > Noo. *fi-t-č-, fin-i:λ* ‘dog’ (also Mak. *q’i-λč-, q’id-i:λ* ‘dogwood’) • PNi **qan-ŋ* > NiA. *qan* (β-, G-), NiS. *qan-ŋ* ‘dog’.

(2) PAW **w’a:yV* ‘to bark (dog); dog’ (Nikolaev 2015b, #383) > PWN **w’a:-c-* ‘dog’ > Kw. *w’a-s-a*, He. *w’a-c-* id., Hai. *w’a-c-* ‘dog or any other quadruped’ • PAlg **way*¹³ > Wi. *wáy-ic* ‘dog’.

(3) PNA **?aLVmV* (~ ä, m’) ‘dog’ (Nikolaev 2015b, #1) > PA **atem-w-* ‘dog’ > WAb. *alem-oss*, MiPe. *alem-w-a*, FScR. *atim* ‘dog’.

(4) Yu. *c’iš-ah* ‘dog’.

19. DRINK

(1) PW **n’a:q-* > PWN **na:q-* ‘to drink’ > Kw., Oo., Hai. *naq-a*, Hei. *náq-a* ‘to drink, to swallow a liquid’; PWS **naq-* > Noo. *naq-aλ* ‘to drink’ (also Dit. *daq-šiλ* id.).

(2) PAlg, PA **men-*, *-[m]en-* ‘to drink’ > Wi. *w-əd-ač-it* ‘3 Sg. drinks sth.’ (cf. *ta?mäd-ač-i?* ‘water’, Yu. *men-ok^w-olum-ek* ‘I swallow, gulp down’); PA > MiPe. *men-* ‘to drink sth.’, FScR. *min-ihkw-e:-w* ‘to drink’.

(3) PNi **ta-* > NiA. *ra-* (t-, d-), NiS. *ra-(n)d* ‘to drink’.

(4) WAb. *kōkatossmo* AI ‘he drinks’.

(5) Yu. *ʔahsp-* ‘to drink’.

20. DRY (ADJ.)

(1) PNA **Ci(:)* (~ e[:]) ‘to dry’ (Nikolaev 2015b, #82) > PNi **che-* ‘dry, to dry’ > NiA. *che* ‘dry’ • PAlg **ce(:)-* (~ ch, č, čh) > Yu. *ce-ʔl-* ‘dry’.

(2) PA **pa:nkw-* ‘dry’ > WAb. *pakkw-s-* ‘dry’, FScR. *pa:hkw-a:-w* II ‘to be dry, be dry land’.

(3) PAlg **ba:ʔt-*, **ba:ʔc-*, **beʔc-* ‘dry’ > Wi. *bəc-* ‘dry’ (e. g., *bəc-əd* ‘3 Sg is dry’, etc.); PA **pa:ʔt-*, **pa:ʔs-* > MiPe. *pa:hs-i-* ‘be dry (as by heat or the sun)’.

(4) PWN **ləmx^w-* ‘dry’ > Kw. *lṃx^w-a* ‘to be dry, to dry; thirsty’, Oo. *lṃx^w-a* ‘dry (enough to be ironed)’.

(5) PW **χams-* ‘dry’ > Noo. *həpəc* ‘dry, free of wetness’.

(6) PNi **qhaw-* ‘dry, to dry’ > NiS. *qhaw* ‘dry’.

21. EAR

(1) PAW **hA:t’V* ≈ **?AhdV* ‘ear’ (cf. Nikolaev 2015b, #142) > PAlg =*ehd-(l-)*, *=*ahž-(r-)* ‘ear’ Wi. =*ətb-ə-l-úk*, Yu. *cp(ey)-aʔ-r* ‘ear’; PA *=*ht-aw-ak-* ‘ear’ (cf. suff. **-eht-* ‘by ear’) > WAb. =*tt-aw-ak-w*, MiPe. =*ht-aw-ak-i* ‘ear’, FScR. *o=ht-aw-ak-ay* ‘her/his ear’.

(2) PAW **no:* ‘to hear’ (Nikolaev 2015b, #244) > PNi **no-s* > NiA. *no-s* ‘ear’.

(3) PAW **ʔəmE-IV* ‘ear’ (Nikolaev 2015b, #221) > PNi **m-la* > NiS. *m-la* ‘ear’.

(4) PW **p’asp’ay-* ‘ear’ > PWN **p’əsp’əy-* ‘ear’ > Kw. *p’spy-’u*, Oo. *p’sp’i-ʔu*, Hei. *p’sp’i-ʔú*, Hai. *p’sp’i-u*; PWS **p’ap’i-ʔi:-* > Noo. *p’ap’i:-* ‘ear’ (also Mak. *p’ip’i-ʔi:*, Dit. *p’ip’i-ʔ(i:)*).

¹³ Cf. PA **[w]ay-*, =*ay-* ‘dog’.

22. EARTH

(1) PAW *č'ak^wV ≈ *hAč'k^wV 'earth' (Nikolaev 2015b, #92) > PW *c'aq^w- > PWN *caq^w-, *caq-, *ʒəq^w-, *c'əq^w- 'earth, soil' > Kw. zq^w-a 'earth, soil, etc.', Oo. cq^w-m̥s 'soil', Hei. c'q^w-m̥s 'soil', Hai. cq^w-al's 'muddy road' • PWS *c'ak^w- > Noo. c'ak'-umc 'earth, dirt, dust' • PAlg *he:čk-, *hatk-, *hečk- 'earth, land' > Yu. *lk-el* 'land, ground, clay, dirt' (cf. *hetk-* 'on land, in the mountains'); PA *atk- 'earth, land' > MiPe. *ahk-ihk-iw-i* 'earth, soil, ground, land'; FSCr. *ask-iy* 'land, earth, country'.

(2) PAW *m'e: ≈ *ʔe:m^wV 'earth, land' (Nikolaev 2015b, #238) > PNi *mi-f > NiA., NiS. *mi-f* 'earth, soil, place'.

(3) PNA *pVl-əŋV-k^wE 'ashes' (Nikolaev 2015b, #300) > PAlg *p(ɛl)enekw- (~ *ph, kh*) 'ashes, dust, powder' > PA *penkw- > WAb. *pek-w-i* 'earth, soil, sand, dust'. See ASHES.

23. EAT

(1) PAW *m'awhV ≈ *ham^wV (cf. PA *amw- 'to eat'; cf. Nikolaev 2015b, #234) > PW *ham^w- > PWN *həm'- 'to eat' > Kw. *hm̥-sa*, Oo. *həm-xʔid*, Hei. *hm̥-sa* id.; PWS *haw^w- > Noo. *haw'-a* 'to eat' (also Mak. *haʔ-uk^w* id.) • PA *mo:h- > WAb. *moh-a* TA 'to eat'. See FISH.

(2) PAW *mi:- 'food, fish; to eat'¹⁴ > PAlg *mi:- > Wi. *bi-w-* 'to eat; food, fish'; PA *mi:- 'to eat, food' > WAb. *mi-c-c-i* AI, *mi-c-i* TI, MiPe. *mi-l-č-i* 'to eat', FSCr. *mi:-č-iw* AI+o 'to eat (sth.)'. See FISH, MEAT.

(3) PNA *ní: (~ *ní*) 'to eat' (Nikolaev 2015b, #253) > PA *ní- > NiA. *ín-* (*ní-*), NiS. *ín-d* 'to eat'.

(4) PAlg *(?)ap-, *(?)ep- 'by tooth, to bite, eat' > Yu. *n-ep-* 'to eat' (cf. *k^woy-p-ey-ok* 'I eat slowly', *teʔnp-ey-ok* [*teʔnp-* < **ten-ʔp-*] 'I eat too much', etc.). See BITE, TOOTH.

24. EGG

(1) PAW *qalV ≈ *ʔaqV 'egg, fish egg' (Nikolaev 2015b, #308) > PWN *qəlχ- 'egg' > Kw. *qłχ-m'in*, Oo. *qłχ-m̥'i*, Hei. *qłχ-m̥'in̥*, Hai. *qłχ-m̥*.

(2) PAW *ŋ'ü:yV 'egg' (Nikolaev 2015b, #274) > PNi *ŋoj-əq > NiA. *ŋoj-(e)q*, NiS. *ŋoj-q* 'egg'.

(3) PNA *ʔa:wV (~ *w*) 'egg, brood' (Nikolaev 2015b #21) > PAlg and PA *w-a:w-, *-a:w- 'egg; round' > WAb. *w-ōw-an* 'egg'; MiPe. *w-a:w-i* 'egg (of bird or turtle)'; FSCr. *w-a:w* 'egg'. See ROUND.

(4) Noo. *n'uč'-ak* 'egg' (also Mak. *duč'-ak^w*, Dit. *duč-ak* id.).

(5) Wi. *wəsəd-əʔl* Pl. 'her/his eggs'.

(6) Yu. *ʔwəyʔ* 'egg (of bird)'.

25. EYE

(1) PAW *ʔA:sV 'face' (Nikolaev 2015b, #4) > PWN *G-əs- 'eye' > Kw. *Gy'aGas*, Oo. *GiGiqs*, Hei. *qqs*, Hai. *GGs*; PWS *qas- > Noo. *qas-i*: 'eye' (also Mak. *qaš-*, Dit. arch. *qas-iʔ*).

(2) PAW *n'e:(wV) 'to see, look' (Nikolaev 2015b, #256) > PNi *ná-χ > NiA., NiS. *úa-χ*¹⁵ 'eye'. See SEE.

(3) PAlg *=li:n- 'eye' > Wi. =*alid*, Yu. =*elin* 'eye'; PA *=šk-[l]i:n-šekw- 'face, eye(s)' > WAb. =*ss-i-sekw* 'eye, face; mask', MiPe. =*hk-i:n-šikw-i*, FSCr. *mi-sk-i:-šik* 'eye'.

26. FAT (N.)

(1) PNA *ŋOk^wA (~ *ŋ*, *q^w*, X) 'fat, grease' (Nikolaev 2015b, #265) > PNi *ŋoχ > NiA., NiS. *ŋoχ* 'fat, lard'.

¹⁴ This new root has been separated from PAW *m'awhV ≈ *ham^wV (Nikolaev 2015b, #234).

¹⁵ Cf. similar suffixal derivative in PWS *n'a-č-* 'to look' < PW *n'a-k-.

(2) PAlg **w(-ey)-el-* ‘fat’ > **Wi.** *du=wəl-ákh^w-əʔl-əw* ‘my (animal’s) fat’, **Yu.** *wel* ‘fat’; PA **wi:l-en-w-* > **MiPe.** *wi:l-in-w-i* ‘fat’.

(3) PAlg **pem-ey-* ‘grease, oil’¹⁶ > PA **pem-y-* > **WAb.** *-pem-i* ‘fat’; **FScR.** *pim-iy* ‘grease, fat, oil’.

(4) PWN **ʔa:-s* ‘fat, grease, oil, blubber’ > **Oo.** *ʔa-ʔs* ‘animal fat, etc.’, **Hei.** *ʔá-s(-)* ‘oil, grease, fat’, **Hai.** *ʔa:-s* ‘animal fat, etc.’.

(5) **Noo.** *ʔaq-mis* ‘fat, grease, oil’.

27. FEATHER

(1) PAW **miχE* ≈ **ʔimχE* ‘hair, feather’ (Nikolaev 2015b, #226) > PAlg **m(-ey)ek-w-* > PA **mi:k-w-an-* > **WAb.** *mik-w-en* ‘feather, quill, pen’, **FScR.** *mi:k-w-an* ‘feather’.

(2) PAW **ʔü:qV* ~ **ʔü:gV* (~ *q*) ‘skin, fur’ (cf. Nikolaev 2015b, #203) > PAlg **lo:g-*, **ro:g-*, **reg-* ‘skin, feather’ > **Yu.** *reʔ-n-oh* ‘feather’.

(3) PWN **c’alk-* ‘feather(s)’ > **Kw.** *c’lc’lk* ‘feathers’, **Oo.** *c’ac’lk-’a* ‘to get feathers’, **Hei.** *c’ǰg-m* ‘long feather’, **Hai.** *c’ǰc’lk* ‘feathers’.

(4) PNi **tup-r* > **NiA.** *tup-r*, **NiS.** *tup-ř* ‘feather(s), down’.

(5) **Noo.** *ʔiya:t* ‘feather’.

(6) **MiPe.** *ahsawa:nkatia* ‘(large) feather’.

(7) **Wi.** *wəl-*, *-əwal-* ‘feather’ (in *wət-wəl-at* ‘(swallowing) feather’, *ʔal-əwal-əp-tiʔ* ‘what kind of feathers’).

28. FIRE¹⁷

(1) PAW **ʔəŋV(-k^wE)* (Nikolaev 2015b, #19) > PW **ʔan-* ‘fire’ > PWS **ʔan-a(:)k^w* > **Noo.** *ʔin-k^w* ‘fire, burning’ (also **Mak.** *ʔad-a:k^w*, **Dit.** *ʔad-ak* ‘fire’).

(2) PAW **mE:* ‘to flame, fire’ (Nikolaev 2015b, #220) > PAlg **me-hs-* ‘fire, firewood’¹⁸ > **Wi.** *bə-s;* **Yu.** *me-c* ‘fire’. See **ASHES**.

(3) PNA **tu(:)kwV* (~ *o*) ‘to burn (tr.)’ (cf. Nikolaev 2015b, #345) > PNi **thuy-r* > **NiA.** *thuy-r*, *thu:-r*, **NiS.** *thuy-ř* ‘fire’. See **BURN, SMOKE**.

(3) PA **eškw-et-* ‘fire’ (cf. PA **ša:kw-* ≈ **eškw-* ‘to burn’) > **WAb.** *sskkw-et-a*, **MiPe.** *kot-e:w-i*, **FScR.** *išk-ot-e:w* ‘fire’. See **BURN**.

29. FISH

(1) PAW **ʒu:* ‘fish, salmon’ (Nikolaev 2015b, #420) > PNi **cho* > **NiA.** *cho* (s-), **NiS.** *cho* ‘fish’.

(2) PAW **mi:-* ‘food, fish; to eat’ > PW **m’i:-* > PWN **mi:-* ‘fish (esp. salmon)’ > **Kw.** *mε*, **Hei.** *mi-z*, **Hei.** *mi-á*, **Hai.** *màmi-a* • PAlg **mi:-* ‘to eat, food’ > **Wi.** *bi-w-iʔ* ‘food, fish’. See **EAT**.

(3) PAW **m’a:whV* ≈ **ham’wV* ‘to eat’ (Nikolaev 2015b, #234) > PW **ham’w-* ‘to eat’ > PWS **haw’-* > **Noo.** *haʔ-um* ‘fish, food’ (cf. *haʔ-uk* ‘to eat’). See **EAT**.

(4) PNA **lOímV* (~ *l*, *n*, *m*) ‘salmon, trout’ (Nikolaev 2015b, #194) > PAlg **nam-*, **nem-* ‘trout, sturgeon; fish’ > **Yu.** *nep-eʔw-iš* ‘fish (generic)’¹⁹; PAlg **nam-* > **WAb.** *nam-as* ‘fish’.

(5) PNA **ga:ŋV* ‘salmon, trout’ (Nikolaev 2015b, #109) > PA **ken-*, **kiko:n-* > **MiPe.** *ki:hkon-e:hs-a;* **FScR.** *kin-oš-e:-w* ‘fish (generic)’.

¹⁶ Cf. **Yu.** *pem-ek* ‘I cook’.

¹⁷ No data for PWN.

¹⁸ Cf. PA **me-hł-* ‘firewood’.

¹⁹ **Yu.** *-p-* by analogy with **nep-* ‘water’, **n-ep-* ‘to eat’.

30. FLY (VB.)

(1) PAW **n'o:lV* 'to fly' (Nikolaev 2015b, #249) > PAlg *-*[n]a:l* > **Yu.** *-ol-* 'to fly' (e. g., *s-ol-ek'*, *wen-o?om-ol-ek'* 'I fly', etc.); **Wi.** *-al-*, *-ar-* 'to fly' (e. g., *təl-al-ál-it* 'she is flying around (there)', *kaw-ər-ar-áš-it* 'they start flying around in a flock', etc.); PA **pem-i?l-* 'to fly along' > **WAb.** *pem-it-ō-k II* 'it flies'; **FScR.** *pim-in-a:-* 'to fly'.

(2) PW **ma:t-* > **PWN** **ma:t-* 'to fly' > Kw. *mat-*, Oo. *mat-la*, Hei *mát-lá*; **PWS** **mat-* > **Noo.** *mat-* 'to fly'.

(3) PNi **píj-* > **NiA.** *píj-*, **NiS.** *puj-d* 'to fly'.

(4) **MiPe.** *ampahwi-* 'to fly'.

31. FOOT

(1) PAW **g^{wi}:g^{wV}* foot' (Nikolaev 2015b, #117) > PW **g^{wi}:g^{wi}*: 'foot, leg, flipper' > **PWN** **gu:g^{wi}:-* 'foot, leg' > Kw. *gug^wy-'u*, Oo. *g^wug^{wi}*, Hei. *g^wúg^{wi}*, Hai. *g^wúg^{wi}*.

(2) PAW **či:t'V(-lV)* 'foot, leg, flipper' (Nikolaev 2015b, #86) > PAlg *-*cit(-t-)* 'foot'²⁰ > **Wi.** *huw=elił-a?l* 'her/his foot'; PA **=sit-* 'foot' > **WAb.** *=sit* 'foot (body part)'; **FScR.** *mi-sit* 'foot, paw'. See TAIL.

(3) PNA **?Vč'kE* (~ *q*, X) 'foot, leg' (Nikolaev 2015b, #39) > PNi **η=acx* > **NiA.** *η-icx*, **NiS.** *η-acx* 'foot, leg' • PAlg *-*tk-a:t-*, *-*čk-a:č-* 'foot, leg' > **Yu.** *=ack-ah* 'foot'; PA **=tk-a:t-*²¹ > **MiPe.** *=hk-a:t-i* 'foot'

(4) **PWS** **łišł-* 'foot, leg, flipper' > **Noo.** *łišł-iq-*, *łišł-in* 'foot, flipper, paw' (also Mak. *łi?išč-aq-*, *łi?išč-id(-a)* 'foot, feet, leg, fish tail, whale fluke').

32. FULL

(1) PAW **ηü:šV* 'full' (Nikolaev 2015b, #267) > PA **mo:š-k-en-*, *-*[m]aš-k-en-* 'full' > **MiPe.** *mo:h-k-in-eč-i:- AI* 'to be full', **FScR.** *sa:k-ašk-in-e:p-e:w* 'to be full (of liquid)'.
(2) PAW **q^wo:KtV* 'full' > **PWN** **q^wu:t'-* 'full' > Kw. *qut'-a*, Oo. *q^wut'-a*, Hei. *q^wút'-a*, Hai. *q^wút'-a* • PAlg [**koht-*], **kohc-* > **Yu.** *kohc-* 'full' (in *kohc=εw=et* 'to be full', etc.)

(3) PNi **char-* 'full, to fill' > **NiA.** *char-* 'full'.

(4) PNi **ta-ta-* 'whole, entire, to care' > **NiS.** *ta-ta-d* 'full'.

(5) **Noo.** *cuma:* 'full'.

(6) **WAb.** *pessan-* 'full'.

(7) **Wi.** *-esw-* 'to be full'.

33. GIVE

(1) PAW **c'O:γ^{wV}* ≈ **?O:γ^{w3V}* (~ *ɛ^w*) 'to give' (cf. Nikolaev 2015b, #95) > PW **c'u:-* 'to give' **PWN** **c'u:-* 'to give' > Kw. *c'ɔ*, Oo. *c'u-a*, Hei. *c'u-á* • PA **?o(:)3-* > **Yu.** *?o?* 'to give'.

(2) PNA **me:* ≈ **?e:mV* (~ *m'*) 'to give' (cf. Nikolaev 2015b, #225) > PNi **kh-im-*, **im-kh-* > **NiA** *im-y-*, *imə-*, *im-* (*kh-im-*, *x-im-*), **NiS.** *im-y-d* 'to give' • PAlg **mi:-* ≈ **-a:m-*, *-am-* > **Wi.** *-əb-*, *-ab-* 'to give' (e. g. *?əc-əb-* 'to give it to', *yəc-əb-um* 'I give to sbd.', etc.); PA **mi:-l-* (cf. **Wi.** *bi-l-* 'to divide and distribute') > **WAb.** *mi-l-* 'to give (sth.)'; **MiPe.** *mi:-l-* 'to give (to him)'; **FScR.** *mi:-ń-e:-w TA* 'to give (sth. to so.)'.

(3) **PWS** **-ay-i:* 'to give' > **Noo.** *hin-i:* 'to give' (also Mak., Dit. *hid-i:*).

34. GOOD

(1) PW **?i:k-* 'good, fine' > **PWN** **?i:k-* 'good, nice, well, fine, causing satisfaction' > Kw., Oo., Hei, Hai. *?ik*.

²⁰ PA **-sit-* and secondary **-łišł-* in **Wi.** *-elił* 'foot'.

²¹ Cf. suff. **-ešk-*, **-ehk-* 'by foot or body'.

(2) PW **λu:t-* ‘good, even’ > **Noo.** *λuł* ‘good, pretty’ (also Mak. *λuł-(u:)* ‘clean, good’, Dit. *λuł* ‘good, pretty’).

(3) PNi **nama-* > **NiA** *nama-*, **NiS.** *nama-d* ‘good, perfect, industrious’.

(4) PAlg **ko:c-*, **keč-*²² > **Wi.** *kuc* ‘good, well’.

(5) PA **wal-*, **wel-*²³ > **WAb.** *wal-i, ol-i-* ‘good’.

(6) PA **melw-* ‘good, fine, beautiful’ > **FScR.** *minw-* ‘good’.

(7) **MiPe.** *nah(i)-* ‘good’.

(8) **Yu.** *skew-, sku-* ‘good, well’.

35. GREEN²⁴

(1) PAW **q^wä:lV* ~ **G^wä:lV* (~ *ł*) ‘blue, green’ (Nikolaev 2015b, #325) > PNi **qala-* > **NiA** *qala-* ‘green, unripe’.

(2) PAW **q^womV* (~ *q^w*) ‘green’ (Nikolaev 2015b, #319) > PNi **qoŋ(G)-r* ‘green’ > **NiS.** *qoŋG-r vala-d* ‘green’ (with PNi **val* ‘colour’).

(3) PAlg **wark-*, **werk-* ‘green, verdure’²⁵ > PA **wašk-*, **wešk-* ‘green, raw’ > **WAb.** *asskk-asskk-w-i* ‘green’; **MiPe.** *ihk-ip-an-* II ‘to be blue/green’; **FScR.** *oša:-wašk-os-iw AI, oša:-wašk-w-a:w II* ‘to be blue-green’.

(4) PW **ti:χ^w-*, **tu:χ^w-* ‘evergreen; bile’ > **PWN** **ti:χ-* ‘green’ > Kw. *tiχ-a* ‘hemlock leaves, leaves of evergreen’, Oo. *tiχ-sm* ‘green rock’, Hai. *tiχ-sdu* ‘green, yellow’.

(5) **Noo.** *kist-aq* ‘green, pale’.

36. HAIR (HEAD-)

(1) PAW **hapV(-lV)* ‘hair (body, facial)’ (Nikolaev 2015b, #145) > PW **hap-* ‘hair (body, facial)’ > **Noo.** *hap, hap-sy’up* ‘hair’ (also Mak. *hap-* ‘hair, fur’, Dit. *hap-a:b-?ub* ‘hair’) • PAlg *(*ey-*)*ep-l-* ‘hair’ > Wi. =*ip-t*; Yu. *?lep-* (a metathesis) ‘hair’; PA **=i:ł-* > **MiPe.** =*i:l-ihs-i* ‘hair’.

(2) PAW **miχE* ≈ **?imχE* ‘hair, feather’ (Nikolaev 2015b, #226) > PNi **η=amx* > **NiA** *η-ijg*, **NiS.** *η-amx* ‘head hair, animal hair’. See FEATHER.

(3) PNA **?O:čk'E* ‘head, face’ (Nikolaev 2015b, #36) > PAlg **=a:tkw-*, **=etkw-* ‘head, hair’ > **WAb.** =*tep-kkw-an* ‘head hair’.

(4) PW **-qi:* ‘head’ > **PWN** **-qi:* ‘head, top of head, hair of head’ > Oo. -(*:*)-*qi(-a)*, Hei. -(*:*)-*qi(-a)*, Hai. -(*:*)-*qi(-a)*.

(5) PA **=pi:w-* ‘plume, down, short feather’ > **FScR.** *mi-pi:w-ay* ‘hair’.

37. HAND

(1) PAW **dī:mVG^wE* (~ *q^w*) ‘arm, hand’ (cf. Nikolaev 2015b, #103) > PNi **tamk* > **NiA** *timk*, **NiS.** *tamk* ‘hand, arm’.

(2) PAW **n'OLK^(w)V* (~ *n'*) ‘arm, hand’ (Nikolaev 2015b, #250) > PA **=netk-* ‘arm’ > **MiPe.** =*nehk-i* ‘hand; fingers’.

(3) PAlg **=(e)łs-* ‘hand’ > **Wi.** =*éłs*; **Yu.** *cew-es* ‘hand’; PA =*ł-en-ty-* > **WAb.** =*el-t, =el-c-i* ‘hand’; **FScR.** *mi-č-ih-č-iy* ‘hand, foreleg of animal’.

(4) **PWN** **ha:y'a:-su:* ‘hand’ > Kw. *hay'asú*, Hei. *háy'ásu*, Hai. *hay'asu, ha?isu*.

(5) **Noo.** *k^wik^wink-su* ‘hand’.

²² Also PA **keš-y-* ‘good’.

²³ PA **wel-* > Mic. *wel-apit-ay* ‘I have good theeth’, etc.

²⁴ No data for Wiyot and Yurok.

²⁵ Also Yu. *?wesk-(k)a:p* ‘crab grass, green’, *?wesk-em* ‘crab grass, cut and dried’.

38. HEAD

(1) PAW **hü:xE* ‘head, nape’ (Nikolaev 2015b, #155) > PWN **hi:x-* ‘head’ > Oo. *hix-t’i*, Hei. *hix-t’í*, Hai. *hix-t’i* id., Kw. *hix.-t’i* ‘fishhead’.

(2) PAW **t’iq^wE* ~ **t’iq^wE* ‘head’ (Nikolaev 2015b, #353) > PW **t’uχ^{w-}*, **t’uq-* ‘head, forehead’ > Noo. *t’uh-c’iti* (also Mak. *t’uχ-u:c’id(a)*, Dit. *t’uχ^{w-}* ‘head’).

(3) PAW **č’i:η’k’E* ≈ **?i:η’č’k’E* ‘(fish, animal) head’ (cf. Nikolaev 2015b, #94) > PNi **coηG-r* > NiA *coηr* (z-, ʒ-); NiS. *coη-r*, *coηy-ř*, *coηq-r* ‘head’²⁶.

(4) PNA **?O:čk’E* ‘head, face’ (Nikolaev 2015b, #36) > PAlG **=o:čk-* > Yu. *m-olk^w-oh* ‘head’.

(5) PAlG **=temp-* ‘head, brain’ > Wi. *w-atb-ə(?)t* ‘head’; PA **=temp-* ‘head, brain’ > WAb. *=tep* ‘head; bowl of a pipe’; MiPe. *=ntep-ik-an-i* ‘head’.

(6) PAlG **we=?t-ekw-a:n-*, **-št-ekw-a:n-* ‘(fish) head’ (cf. Yu. *tə:k-un* ‘fish, salmon head’) > FSCr. *mi-st-ikw-a:n* ‘head’.

39. HEAR²⁷

(1) PAW **məʔV* ≈ **?əmʔV* ‘to hear’ (Nikolaev 2015b, #221) > PNi **mí-* > NiA *mí-*, NiS. *mí-d* ‘to hear, listen’ • PAlG **-o(:)ʔm-*, **-oʔm-*, **-eʔm-* ‘to hear, understand’ > Wi. *k-ən-iʔm-it* ‘to hear’; Yu. *k-o(?)m-* ‘to hear; understand, feel’; PA **ne-o:m-t-*, **pe-em-t-* > WAb. *n-o-t-a-* ‘to hear’; MiPe. *n-o:n-t-am-* TI ‘to hear, understand’; FSCr. *p-e:h-t-* ‘to hear’. See EAR.

(2) PAW **no:* ‘to hear’ (Nikolaev 2015b, #244) > PW **na:-* > Noo. *na-ʔa(:)* ‘to hear; feel, perceive’ (also Dit. *da-ʔa:* ‘to hear, understand’, Mak. *da-ʔa:* ‘to hear, perceive, sense’). See EAR.

40. HEART²⁸

(1) PAW **ʔepV* ‘heart’ (Nikolaev 2015b, #13) > PNi **η=if* > NiA., NiS. *η-if* ‘heart’.

(2) PAlG **=tek^wl-*, **cek^wr-* ‘heart’ > Wi. *w-atw-ihl* ‘her/his heart’; Yu. *cek^ws* ‘heart’ (cf. *tek^ws-aʔr* ‘heart of salmon, uvula’); PA **=te:h-* > MiPe. *=te:h-i* ‘heart’; FSCr. *o=te:h-iy* ‘her/his heart’.

(3) Noo. *lim’aqsti* ‘heart; mind; brain; spinal cord; pithy core of any tree’.

(4) WAb. *=lawōkan* ‘heart’.

41. HORN

(1) PAW **wi:LV* ‘horn’ (Nikolaev 2015b, #377) > PWN **wəʔ-* ‘antler, horn’ > Kw. *wəʔ-ŋ*, *wəʔ-aq*, Oo. *wəʔ-ŋ*, Hei. *wəʔ-ŋ*, Hai. *wəʔ-aq* • PA **wi:t-*, **wiwi:t-* ‘horn’ > MiPe. *=wi:wi:la* ‘horn, antler’.

(2) PAlG **=a:n-*, **=en-* ‘head hair, horn(s)’²⁹ > Wi. *=əd-ad* ‘horn’.

(3) PNi **murk-i* > NiA *murk-i*, NiS. *muřk-i* ‘horn’.

(4) PA **e:šk-an-* ‘horn’ > WAb. *asskk-an* ‘horn, antler’; FSCr. *e:šk-an* ‘antler’.

(5) Noo. *ma:t* ‘horns’.

(6) Yu. *sʔec-oh* ‘horn(s); wedge’.

42. I

(1) PAW **ńV* ‘I; we (excl.)’ (Nikolaev 2015b, #254) > PW **nu:-* ‘I, we’ > PWN **nu:-g^wa:* ‘I’ > Kw., Oo. *nu-g^wa*, Hei. *nú-g^wa*, Hai. *nù-g^wa* • PNi **ńi* > NiA., NiS. *ńi* ‘I’ • PAlG **neʔ-* (pref.) ‘I, me, my’, **ne-ʔil-a* ‘I’ > Wi. *yi(-l)* ‘I’ (cf. *du-* ‘1 Sg possessive prefix’); Yu. *ne-k(iʔ)*; PA **n-i:l-a* > WAb. *n-i-a* ‘I, me, mine’, MiPe. *n-i:l-a* ‘I, me’, FSCr. *n-i:ń-a* ‘I’. See WE.

(2) PWS **si-y’a:* ‘I’ > Noo. *si-y’a* ‘I’ (also Mak. *si-ya:*, Dit. *si-y’a*).

²⁶ In Nikolaev 2015b, #94 PAlG **-a:čk-w-*, **-ečk-*, **-etk-* (~ *čh*, *kh*) ‘head’ [PA **-etkw-*, **-ešky-* (suff.) ‘head’, Yu. *m-olk^w* ‘head’] were erroneously grouped together with PAW **č’i:η’k’E* ≈ **?i:η’č’k’E* ‘head’; I now think that they should instead be grouped with PNA **?O:čk’E* ‘head, face’ (Nikolaev 2015b, #36).

²⁷ No data for PWN.

²⁸ No data for PWN.

²⁹ Also PA **=a:n-* ‘head hair’.

43. KILL

(1) PAW * χ VIV \approx * $\text{?VI}\chi$ V ‘to kill’ (Nikolaev 2015b, #400a) > PWN * $\text{?al}\chi$ - ‘to kill, murder, beat up’ > Kw., Hai. $\text{?}\chi$ -a, Hei. $\text{?}\chi$ -a • PNi **kh-u-* > NiA *iy-* (*kh-u-*, *x-u-*), NiS. *iwy-d* ‘to kill’.

(2) PAW **n’AbV* (~ *p*) ‘to die’ (Nikolaev 2015b, #255) > PAlg **nep-* ‘to die’, caus. **nep-l-* ‘to kill’ > PA **ne?-l-* > WAb. *nih-l-a* TA ‘to kill (so.)’ ▲ **nep-* ‘to die’ > caus. FSCr. *nip-ah-e:w* TA ‘to kill so.’. See Die.

(3) PWS **qa* χ - ‘to die; dead’ > Noo. *qah-* ‘to die; kill, cause to die’ (also Mak. *qa* χ - ‘to die, become numb’, Dit. *qa* χ -*ši* λ - ‘to die’, *qa* χ -*sas?**p* ‘to kill, beat up’).

(4) MiPe. *ankih-* ‘to kill (him)’.

(5) Wi. *diy-əb-* ‘to kill’.

(6) Yu. caus. *səm-ət-* ‘to beat, kill’.

44. KNEE

(1) PAW * χ VtV (Nikolaev 2015b, #401a) > PWN * χ t-a:m’u: ‘knee’ > Kw., Hei., Hai. -(:) χ t-am’u • PA *=*ket-ekw-* ‘knee’ > WAb. =*k-ket=ekw*; MiPe. =*h-kit-ikw-i-a* ‘knee’; FSCr. *o=kit-ik* ‘her/his knee, knee joint’.

(2) PAW **p’iqE* ‘knee’ (Nikolaev 2015b, #304) > PWS * -p’iq-a > Noo. *pa?ap-p’iq-a* ‘knee’ (also Dit. -p’iq id.) • **pix-* > NiA. *pix* (*v-*, *b-*), NiS. *pix-t-i* ‘knee’.

(3) Wi. =*a?l-əw-əl* ‘knee’.

(4) Yu. *pa:k-əl* ‘knee’.

45. KNOW³⁰

(1) PAW **k^we:mV* ‘to know, understand’ (Nikolaev 2015b, #177) > PW * χ am-³¹ > PWS * χ am-up- ‘to know’ > Noo. *ham-up* ‘to know, recognize’ (also Noo Ky. *ham-i:p* id., Noo. caus. *him-* ‘to show’, Mak. *χab-up* ‘to know, recognize (a person)’, Dit. *χab-up* ‘to know, recognize’) • PNi **him-*, **khim-* > NiA *jəjm-* (*him-*), *jim-* (*khim-*, *xim-*), NiS. *jajm-(n)d* ‘to know, understand’ • PAlg **ko(:)m-* (~ *kh*) > Yu. *kom-* ‘to know, feel’ (e. g., *kom-c-um-ek* ‘I know’, etc.).

(2) PAW **hO* χ V-tA:k^wV ‘to know how’ (cf. Nikolaev 2015b, #35) > PAlg **ka:tkw-*, **ketk(w)-* > Wi. *kak^w-* ‘to know’; PA **ketk-* ‘know, recognize’ > MiPe. *kihk-eli-*, FSCr. *kisk-e:ńim-e:w* TA ‘to know’.

(3) PA **wa:w-*, **waw-* ‘to know’ > WAb. *waw-* ‘to know, learn’ (e. g., *waw-alt-a* ‘to know (in general), be knowing’, *waw-k-a* ‘to know how to dance’, etc.).

46. LEAF

(1) PAW **pVlanq’A* ‘leaf, flower’ (Nikolaev 2015b, #299) > PNi **phlanjk* > NiA. *phlanq* ‘leaf’ • PAlg **P(el)aK-w-* ‘leaf’ > PA**-pak-w-* > WAb. *wani-pakw*, MiPe. *mihši-pakwa* (Mi.), *ka:ki-pakwa* (Pe., Wea.) ‘leaf’.

(2) PAW **mi:* (~ *ä:*, *ü:*) ‘leaf, berry’ (Nikolaev 2015b, #224) > PWN **mi:-* ‘leaf, blossom’ > Kw. *mame-m’a* ‘leaves, blossoms’, Hei. *mím-iaχ**λa**wa* ‘leaves (of any plant)’.

(3) PNA **?Eni:pV* (~ *η’*) ‘leaf, flower’ (Nikolaev 2015b, #16) > PA **ani:p-y-* > FSCr. *ani:p-i:y* ‘leaf’.

(4) PWS * λ ’aq- ‘to grow; to sprout’ > Noo. λ ’aq-apt ‘leaf; bush; branch; plant’.

(5) PNi **com-r* > NiS. *com-ř* ‘leaf, flower’.

(6) Wi. *pa>wiyadək* ‘plant, grass, weed, leaf’.

(7) Yu. *ka:p’-* ‘leaf, leaves, greenery, brush, grass, the wild; to gather greenery’.

³⁰ No data for PWN.

³¹ Cf. Quil. *χab-* ‘to know how’.

47. LIE (ANIMATE OBJECTS)³²

(1) PAW **ti:hV* ≈ **ʔi:htV* (~ *e:*) ‘to lie’ (Nikolaev 2015b, #210) > PAlg **-eht-* > Wi. *ta-tík^w-l-il* ‘I’m lying down’, caus. *kawə-tu-šap-l-is* ‘I’m laying them straight’, etc. (*tik^w*- ‘down’; *šap-* ‘in the same way’); PA **-eht-*, **-ehš-* ‘to lie, fall’ > WAb. *pap-is-ew-ōč-em-o* AI ‘he lies’; FSCr. *pim-iš-in* AI ‘to lie, recline’.

(2) PWN **k^wəl-* ‘to lie somewhere, lie down (said of animate beings)’ > Kw. *k^wl-a*, Oo. *k^wl-a*, Hei. *k^wl-á* id., Hai. *k^wl-zuèt* ‘mattress’.

(3) PNi **poř-* > NiA. *por-* (*b-*), NiS. *poz-d* ‘to lie, lie down’.

(4) Yu. *ʔoytkes-ek* ‘I lie (down)’.

48. LIVER

(1) PAW **q^woŋwV* ~ **q^woŋwV* ‘liver, bowels’ (Nikolaev 2015b, #334) > PWN **q^wəm(-s)-* ‘liver’ > Oo. *q^wŋms*, Hei. *q^wŋs*.

(2) PAW **tiy^(w)V* ‘liver, gall’ (cf. Nikolaev 2015b, #341) > PNi **thi-w-s* > NiA. *thiu-s*, NiS. *thiw-s* ‘liver’.

(3) PAW **r^wa:q^wA* ≈ **ʔa:r^wq^wA* (~ *a:*) ‘liver’ (Nikolaev 2015b, #338) > PAlg **=tkw-en-*, **=tkw-an-* > Wi. *=ə́tw-əd*, Yu. *=ə́tk-un* ‘liver’; PA WAb. *=skw-en*, MiPe. *=hk-on-i*, FSCr. *o-sk-on* ‘liver’.

(4) Noo. *ʔim’a(:)q* ‘liver’.

49. LONG

(1) PAW **gíl^wV* (~ *a*) (cf. Nikolaev 2015b, #113) > PWN **gəl^w-t-* ‘long’³³ > Kw. *gl-t-’a*, Oo. *gl-t*, Hai., Hei. *gíl-t* • PNi **kíl-* > NiA. *kíl-a-*, NiS. *kíl-d* ‘long’.

(2) PAlg **ken-ew-* ‘long’ > Yu. *kn-ew-* ‘long, tall’; PA **ken-w-*, **kaka:n-w-* ‘long’ > WAb. *kwen-i* id., MiPe. *kin-w-a:-* II, FSCr. *kin-os-iw* AI, *kin-w-a:w* II ‘to be long’.

(3) Noo. *y’a(:)q* ‘long, high’.

(3) Wi. *dan-at-aʔw* ‘3Sg is long’ (cf. *dan-at-əd* ‘3Sg is large’).

50. LOUSE (HEAD-)³⁴

(1) PAW **hi:rxk^wE* ‘louse’ (Nikolaev 2015b, #149) > PW **G=i:xk-* ‘louse’ > PWN **G-i:x-* ‘louse’ > Kw., Hai. *G-i-n*, Oo. *G-i-ŋ-*, Hei. *G-i-na* (cf. **G-ix-* ‘to have lice, lousy’); PWS **q-ič-* > Noo. *q-ič-in* ‘louse’ (also Mak. *q-ič-*, *q-ič-id(a)*, Dit. *q-ič-id*) • PAlg **ihkw-* ‘louse’ > Wi. *ík^w* ‘louse’, Yu. *m-ohk-oh* ‘head louse’; PA **ehkw-* > WAb. *akk-em-ō*; MiPe. *at-ehk-am-a* ‘louse’, *wa:p-ihkw-a* ‘louse, lice’; FSCr. *ihkw-a* ‘louse’.

(2) PNi **amrak* > NiA. *amrak* ‘head louse’.

51. MAN³⁵

(1) PAW **ʔü:tOq^wE* (Nikolaev 2015b, #38) > PNi **utk-* > NiA. *utk-u* ‘man, husband’.

(2) PAW **be:k^wE* ~ **pe:g^wE* ‘person’ (Nikolaev 2015b, #62) > PAlg **na:-pe:γw-*, **ne-pe:γw-* > Yu. *pey-ək* ‘man, mal, all-grown-up person’ (cf. *pey-it* ‘male’); PA **na:-pe:w-* ‘man, male’ > FSCr. *na:-pe:w* ‘man’. See PERSON.

(3) PW **kap-* ‘man, husband’ > PWS **čap-k^w-*, **čakup-* (metath.) > Noo. *čakup* ‘male, husband, man’ (also Mak. *čap-x^w-*, *čakup*, Dit. *čap-χ^w-*, *čak^wup* ‘male, husband’).

³² No data for MiPe. or Noo.

³³ Cf. PWN **gəl-* in Kw. *gl-iʔstnd* ‘to turn over lengthwise (said of salmon, small animal)’.

³⁴ No data for NiS.

³⁵ NiS. *azməc* ‘man’ is borrowed from TM **āsimač-* ‘to have an affair with somebody else’s wife’, **āsimaču* ‘womanizer’.

(4) PA **elenyiw-* > **MiPe.** *aleni-a* ‘man’. See PERSON.

(5) **PWN** **wi:s-* ‘man, male’ > Kw. *wis-ŋ* ‘male’, *wis-a* ‘small boy’, Hei. *wis-ŋ* ‘male’, Hai. *wis-ŋ* ‘man, male’.

(6) **WAb.** *sanōpa* ‘adult male, man, husband’.

(7) **Wi.** *kuʔw-il* ‘man, Indian, person, human, creature, people’ (cf. *kuʔw-* ‘to live’). See PERSON.

52. MANY

(1) **PWN** **q'i:-* ‘much, many’ > Kw., Oo. *q'i-nŋ*, Hei. *q'i-nŋ*, Hai. *q'i-nŋ*.

(2) **PWS** **ʔay-* > **Noo.** *ʔay-a* ‘many’ (also Mak. *ʔay-*, *ʔay-a* ‘many, much’, Dit. *ʔay-*, *ʔay-i:q* ‘a lot’).

(3) **PNi** **les* > **NiA.**, **NiS.** *les* ‘many; enough’.

(4) PA **meʔt-* ‘big’ > **WAb.** *mss-al-i* ‘many, much’.

(5) **Wi.** *kəc-* ‘many, much, a lot’.

(6) **Yu.** *ten-* ‘many, much, a lot’.

(7) **MiPe.** *wi:hsa* ‘much, a lot, great amount’.

(8) **FSCr.** *mihče:t*, *misče:t* ‘many, a lot, a good number’.

53. MEAT

(1) **PAW** **di:ɸ^wV ~ *di:G^wV (~ ä:)* ‘meat, flesh’ (Nikolaev 2015b, #101) > **PNi** **tju-ř* > **NiA.** *cu-s* (ʒ-), **NiS.** *tu-ř* ‘meat’.

(2) **PAW** **mi:-* ‘food, fish; to eat’ > **PW** **mi:-* ‘fish, fish meat’ > **Noo.** *bi:-c* ‘meat’ (also Mak. *bi:-c-i* ‘meat’, Dit. *bi:-c* ‘meat, flesh’). See EAT, FISH.

(3) **PNA** **yiwV (~ y', ə, w)* ‘body, intestines; flesh’ (Nikolaev 2015b, #404) > PA **=i:-yaw-* ‘meat; body’ > **WAb.** *w-i-o-ss*, **MiPe.** *w-i:-yo:-hs-i* ‘meat’, **FSCr.** *w-i-ya:-s* ‘meat, flesh’.

(4) **PWN** **ʔalʒ-* ‘meat, flesh’ > Kw. *ʔlʒ-i*, Hai. *ʔlʒ*.

(5) **Yu.** *nəpəw* ‘meat’.

(6) **Wi.** *čěčáč* ‘meat’.

54. MOON

(1) **PAW** **l'u:ŋʒV* (Nikolaev 2015b, #197) > **PWN** **n'u:ʔs-i:* ‘moon, month’ > Oo. *n'uʔs-i*, Hei. *n'us-i* • **PNi** **loŋ* (< **loŋʒ-*) > **NiA.**, **NiS.** *loŋ* ‘moon’.

(2) **PNA** **kiŋʒV (~ q, X)* ‘sun, moon’ (Nikolaev 2015b, #161) > **PAlg** **k(-ey)-ečh-* > PA **ki:š-* ‘sun, moon, month; day, sky’ > **WAb.** *kis-oss* ‘moon, sun, luminary’; **MiPe.** *ki:ts-w-a* ‘sun, moon; month’. See SUN.

(3) **Noo.** *hupał* ‘sun, moon, month’. See SUN.

(4) **Wi.** *dacəw-əlayələk^wi* ‘moon’ (*dacəw-* ‘night’). See NIGHT.

(5) **Yu.** *won=ewsley* ‘moon, sun’ (*won-* ‘up’). See SUN.

(6) **FSCr.** *tipisk(a:w)i-pi:sim* ‘moon’ (litt. “night sun”). See SUN.

55. MOUNTAIN

(1) **PAW** **ŋə:kV (~ g)* ‘mountain’ > **PW** **nuk-* > **PWN** **nək-* ‘mountain’ > Kw. *ng-i*; **PWS** **nuč-* > **Noo.** *nuč-i:* ‘mountain’ (also Mak. *dič-iʔi:*, Dit. *duč-iʔ* id.) • **PAlg** **ma:kw-* (~ *kh*) > **Yu.** *mək-^w-ət* ‘mountain, peak, hill’, *mək-^w-əm-ək^w* ‘mountain’.

(2) **PNi** **chir* > **NiA.**, **NiS.** *chir* ‘mountain’.

(3) PA **wat-y-* > **WAb.** *wac-o* ‘mountain, hill’, **MiPe.** *ač-iw-i* ‘hill, ridge, mountain’, **FSCr.** *wač-iy* ‘hill, mountain’.

(4) **Wi.** *k^wəs* ‘hill’.

56. MOUTH³⁶

(1) PAW **m'a:whV* ≈ **ham'wV* 'to eat' (cf. Nikolaev 2015b, #234) > PNi **əm-k*, -*x*³⁷ > NiA. *iy-g* 'mouth, beak', NiS. *am-x* 'mouth'. See EAT.

(2) PWN **səms-* 'mouth' > Kw., Hai. *sms*, Oo. *sms*, Hei. *sms*.

(3) PAlG **=tl-* 'mouth' > Wi. =*əl-ùl*, Yu. =*əl-ul* 'mouth'; PA **=t-o:n-* > WAb. =*t-o-n* 'mouth', MiPe. =*t-u:-n-i* 'mouth, beak', FSCr. *o=t-o:-n* 'her/his mouth'.

57. NAME

(1) PAW **?VklV* 'to name' (Nikolaev 2015b, #42) > PW **-kł-* ~ **-kλ-* 'name(d)' > PWN **-(x)λ-a:* 'named, called' > Kw. *-(x)λ(-a)*, Oo. *-λ(-a)*, Hei. *-(x)λ(-a)*, Hai. *-λ(-a)*; PWS **-qł-* > Noo. =*qł(-a)* 'call, name(d)' (also Mak. *-(k)ł-a(:)* 'having as name', *łuqu-qł(-a)* 'one's name is ...', Dit. *-k^wa-qł* 'call, name(d)') • PNi **qha* > NiA., NiS. *qha* 'name'.

(2) PAlG **w-*, **=ew*, **w(-ey-)-en-* 'to name', **=w-* 'name'³⁸ > Wi. *w-ən-* 'to mention by name', Yu. *w-ey-en-ek'* 'I call, name' ▲ Yu. =*ew* 'name (n.)'; PA **wi:-n-* 'to name' > WAb. *wi-s-w-ō-kan*, MiPe. =*wi:-n-s-o:-n-i* 'name'. FSCr. *wi:-n-e:w* TA 'to name so.'

58. NECK³⁹

(1) PAW **q^wi:yV* 'neck' (Nikolaev 2015b, #333) > PWN **q^wu:-* 'neck' > Kw. *q^wuq^wu-n'i*, Oo. *q^wuq^w-n'i*, Hei. *q^wuq^w-ún'i*, Hai. *q^wùq^w-n'i* • PA **=kwe:y-aw-* > FSCr. *mi-kway-aw* 'neck'.

(2) PAW **c'ik^wV* (~ *ä*) 'neck' > PWS **c'ik^w-am(a)c* > Noo. *c'ik'-umc* 'neck' (also Mak. *c'ik^w-a:bas*, Dit. *c'ik^w-a:bx*) • PAlG **=skw-* 'neck' > Wi. (*łu*)*w-ásw-itk-əd-əł* 'her neck'; PA **-łkw-e:-kan-* > MiPe. =*hk-w-e:-kan-i* 'neck'.

(3) PAW **k^wonsV* 'neck' (cf. Nikolaev 2015b, #187)⁴⁰ > PNi **qhos* > NiA. *qhos* (*χ-*), NiS. *qhos* 'neck'.

(4) Yu. *pah, paht-un* 'neck'.

59. NEW⁴¹

(1) PAW **c'i:wV* (~ *č'*) 'new' (Nikolaev 2015b, #79) > PW **c'u:-* 'new, fresh' > PWN **c'u:-*, **c'ə-* 'new' > Kw. *cx-as* 'new (mat or blanket)'; Oo. *c'u-ta*, Hai. *c'ù-ta* 'fresh (said of food)'; PWS **c'u-š-* > Noo. *c'u-š-uk* 'new' (also Mak. *c'u-s-tk-*, Dit. *c'u-s-tuk* id.) • PNi **chju-ř-* > NiA. *chu-z-*, NiS. *chi-r-d* 'new' • PAlG **ci:-*, **ci-* (~ *ch*, *č*, *čh*) > Yu. *ci-łn, ca-łan* 'new'.

(2) PAlG **we:žg-*, **wežg-* 'new, young'⁴² > PA **we:šk-*, **wešk-* > WAb. *wsskk-i* 'new, young, raw, fresh'; MiPe. *we:hk-i-* 'new, young'; FSCr. *ošk-i* 'new'.

60. NIGHT

(1) PAW **taχA* ≈ **?atχA* (Nikolaev 2015b, #339) > PWS **?atχ-* 'evening, night' > Noo. *łath-i:* 'night' (also Mak. *łatχi:-yu?u:*, Dit. *łatχ-iy* id.) • PA **-etk-* 'evening, night' > WAb. *tep-okk-w* 'dark time of the night (later than evening)'; MiPe. *tip-ehk-i* 'night'; FSCr. *tip-isk-a:w* II 'to be night, be dark' (**tep-* 'dark').

³⁶ The Noo. data are lacking.

³⁷ A deverbative with the agentive suffix *-k/-x*, cf. PNi **hil-k*, -*x* 'tongue' from **hel-[h]el-* 'to lick'.

³⁸ The PAW root PNA **x^wa* ≈ **hax^wV* 'name' (Nikolaev 2015b, #389) does not really exist.

³⁹ No data for WAb.

⁴⁰ Some of the reflexes of the newly reconstructed PAW root **c'ik^wV* (~ *ä*) 'neck' were previously mixed with reflexes of the PAW root **k^wonsV* 'neck' (the second form **?onsk^wA* is erroneous).

⁴¹ No data for Wiyot.

⁴² Also Yu. *wəł-əy-əy-* 'young'.

(2) PAW **n̄ä:g^{wE}* ~ **n̄ä:g^{wTV}* night' (Nikolaev 2015b, #251) > PAlg **neyt-*, *neyc-* 'night; dark'⁴³ > **Wi.** *dəc-əw-*; **Yu.** *nahsc-ew-en* 'night'.

(3) PWN **Ga:n-u:λ* 'night'⁴⁴ > Kw., Oo. *Gan-uλ*, Hei. *Gán-úλ*, Hai. *Gàn-uλ*.

(4) PNi **wirk* > NiA. *urk*, NiS. *ĩrk* 'night'.

61. NOSE

(1) PAW **we:q^{wE}* (~*q^w*) 'nose, cape' (Nikolaev 2015b, #373) > PNi **wix* > NiA. *vix*, NiS. *ux* 'nose'.

(2) PAW **q^{wes}V* ≈ **heq^{ws}V* 'mouth, nose, throat' (Nikolaev 2015b, #326) > PA **=kwet-* 'nose' > FSCr. *o=kot* 'his/her nose, its beak'.

(3) PWN **x^{wəm-}* 'nose' > Oo. *x^{wm-aq}*, Hei. *x^{wm-áq}*, Hai. *xum-àq*.

(4) PWS **nic-* > Noo. *nic-'a* 'nose' (also Dit. *dic-* id.).

(5) PA **=čya:t-* 'nose' > WAb. *=cōl* 'nose, nostril'.

(6) PA **=łki:w-an-* > MiPe. *=hkiw-an-i* 'nose, bill (of a bird)'.

(7) **Wi.** *təth-əd* 'nose'.

(8) **Yu.** *=əp'-əʔn* 'nose'.

62. NOT⁴⁵

(1) PAW **k'ä:* 'negative stem' (Nikolaev 2015b, #168) > PW **k^(w)i-*, **-ik^(w)* 'not' > PWN **k'-i:-*, **k'-u:-* 'no, not' > Kw. *k'-i* 'no', *k'-i-w-* 'no, not, none, nil, non-existent'; Oo. *k'-i:* 'no', *k'-i-w-* 'not'; Hei. *k'-i-á* 'no', *k'-u-w-* 'not', Hai. *k'-u* 'no', *k'-u-s* 'not the case, non-existent'; PWS **k^w* > Noo. *hi-k*, *wi-k* 'not' • PAlg **ka-*, **ke-* 'no, not (negative stem)' > **Wi.** *kə-*, *ka-* 'no, not (negative preverb)'; **Yu.** *ke-*, *ki-*, *ko-* 'no, not (negative stem)'.

(2) PA **mo:-* 'negative stem' > MiPe. *mu:-hčī* 'no, not'; FSCr. *mo-wa:č* 'no, not', *mo:-ńa* 'no, not (negative marker for independent verbs)'.

(3) WAb. *ōta* 'no, not'.

63. ONE

(1) PAW **n'ə* 'one' (Nikolaev 2015b, #257) > PW **n'a-m* > PWN **n'ə-m-*, **m'ə-n-* 'one; alone' > Kw. *n'-m-*, Oo., Hei., Hai. *m'-n-* • PNi **n(i)-* > NiA., NiS. *n(i)-* 'one' • PAlg **ne-kwet-*, **ne-kwec-* 'one'⁴⁶ > **Wi.** *ku(?)c*, **Yu.** *koht/c-* 'one'; PA **ne-kwetw-* > WAb. *ne-kwec-i*; MiPe. *n-kot-i* 'one'.

(2) PWS **c'a-* 'one' > Noo. *c'a-w-a:(k)* 'one' (also Mak. *c'a-w-a:-*, *c'a-w-i:-*, *c'a-w-u:-*, *c'a-k-w-a:ʔak^w*, Dit. *c'a-w-a:ʔk* id.).

(3) PAlg **pe:r-*, **pe:l-* > PA **pe:š-*⁴⁷, **pe:l-* > FSCr. *pe:y-ak* 'one'.

64. PERSON

(1) PAW **be:k^{wE}* ~ **pe:g^{wE}* (Nikolaev 2015b, #62) > PNA **n'a:-be:k^{wE}* ~ **n'a:-pe:g^{wE}* 'person' (Nikolaev 2015b, #62) > PNi **n̄i-vγ-η* > NiA. *ni-vx*, NiS. *ni-vγ-η* 'person; Nivkh' • PAlg **na:-pe:γw-*, **ne-pe:γw-* > **Yu.** *peγ-ək* 'man, mal, all-grown-up person'⁴⁸. See MAN.

(2) PW **-a:s-* 'person' > PWN **-q-a:s*, **-G-a:s* 'person' > Kw. *-Gas*, Oo., Hei., Hai. *-q-as* 'person; fellow; PWS **qu:ʔ-as* > Noo. *qu:ʔ-as* 'person, Indian, adult, man of worth' (also Mak. *quʔ-ac-*, *quʔ-as-*, *qu:ʔ-as* 'husky person, man of worth', Dit. *qu:ʔ-as* 'man, Indian').

(3) PA **elen-y-iw-* > FSCr. *ínin-iw* 'person, Cree person, aboriginal person'. See MAN.

⁴³ Also PAlg **n-ey-eyt-* > PA **ni:ʔt-* > Men. *na-ni:ʔt-ak-en-a:k-w-at* 'night is falling'.

⁴⁴ Cf. Oo. *Gan-ıla*, Hei. *Gán-ıla*, Hai. *Gan-èla* 'to have supper'.

⁴⁵ No data for Nivkh.

⁴⁶ A compound, cf. PA **kwet-ak-* 'other' and PA **na-w-at-* 'first'.

⁴⁷ The root PAW **pe:šV* ≈ **ʔE:pšV* 'one' (Nikolaev 2015, #281) does not really exist.

⁴⁸ Cf. *peγ-it* 'male'.

(4) **Wi.** *kuʔw-il* ‘man, Indian, person, human, creature, people’ (cf. *kuʔw-* ‘to live’).

See MAN.

(5) **WAb.** *pemōwsowinno* ‘a living person, a person’.

(6) **MiPe.** *mihtohse:nia* ‘human, person, Indian’.

65. RAIN

(1) PWN **y'u:gʷ-* ‘rain; to rain’ > Kw. *y'úgʷ-a*, Hai. *y'ugʷ-à* ‘rain’.

(2) PWS **m'iλ-* > **Noo.** *m'îl-* ‘rain’ (also Mak. *biλ-*, Dit. *biλ-a:*).

(3) PNi **lix* > **NiA.** *lix* ‘rain; weather’, **NiS.** *lix* ‘rain’.

(4) PALg **-phe:ʔw* > **Wi.** *phaʔw-* ‘to rain’; **Yu.** *ten-pew-eʔl* ‘it is raining, rain, storm’.

(5) PA **so:k-* ‘to pour, soak’ > **WAb.** *sok-el-ōn* II ‘it rains’.

(6) PA **kem-iw-an-* ‘to rain’ > **FSCr.** *kim-iw-an* II ‘to rain’.

(7) PA **pe:t-*, **pe:s-* ‘slowly’ > **MiPe.** *pi:t-il-a:n-* II ‘it rains’.

66. RED

(1) PAW **p'akV* (~ *ä*) ‘red; blood’ (Nikolaev 2015b, #302) > PNi **paκ-* > **NiA.** *paκ-la-*, **NiS.** *paκ-d* ‘red’ • PALg **pak-*, **pek-* ‘to be bloody, red’ > **Yu.** *pek-oy-*, *pək-əy-* ‘red’. See BLOOD.

(2) PAW **c'ü:cxA* ≈ **?ü:c'xA* ‘sap, blood’ (Nikolaev 2015b, #81) PALg **=ck-oʔw-*, **=tk-oʔw-* ‘blood’ > PA **me-sk-w-* ‘red’ > **WAb.** *me-kk-w-i*; **MiPe.** *me-hk-w-* ‘red’; **FSCr.** *mi-hk-w-a:w* II ‘to be red’. See BLOOD.

(3) PW **λ'iχ-* ‘rusty, red, buff colour’ > **Noo.** *λ'ih* ‘red’ (also Mak. *λ'iχ-*, Dit. *λ'iχ-uk* id.).

(4) PWN **λ'a:q-* ‘red’ > Kw., Oo. *λ'aqʷ-a*, Hei. *λ'aqʷ-a*, Hais. *λ'aq-*.

(5) **Wi.** *say-aʔw* ‘it is red’.

67. ROAD

(1) PNA **ηOlyV* (~ *η*) ‘path, road’ (Nikolaev 2015b, #266) > PALg **mey-e:-* > PA **my-e:-* > **MiPe.** *mi:-w-i* ‘road, trail’; PA **mye:-hkanaw-* > **FSCr.** *me:-skanaw* ‘road, path’.

(2) PW **t'ax-* ‘path, trail, way’ > PWN **t'ax-* ‘pathway, trail, way’ > Kw. *t'x-la*, Oo., Hei. *t'x*, Hai. *t'x-ls*; PWS **t'aš-* > **Noo.** *t'aš-i:* ‘road, trail, doorway’ (also Mak. *t'aš-(i:)* ‘trail, road, doorway’, Dit. *t'aš-i:* ‘trail’).

(3) PNi **ci-f* > **NiA.** *ti-f* (*z-*, *d-*), **NiS.** *ti-f* ‘road, path, way, trail’.

(4) **Wi.** *watəl* ‘road, trail’.

(5) **Yu.** *la:* ‘road, way’.

(6) **WAb.** *ōwti* ‘path, trail, road, street’.

68. ROOT

(1) PAW **č'VIVyip'V*, **č'VIVyip'(-a:tKE)* (cf. Nikolaev 2015b, #97) > PW **λ'u:p'-ak(w)* ‘root’ > PWN **λ'u:p'-kʷ-* ‘root’ > Kw. *λ'up'-k*, Oo. *λ'ukʷp*, Hei. *λ'úkʷp*, Hai. *λ'up'-k*; PWS **λ'up'-ač* > **Noo.** *λ'up'-ač* ‘root’ (also Mak. *λ'up'-ač* id., Dit. *λ'u:ʔb-ač* ‘roots for basket making’) • PNi **vizl-ix* (metathesis of **zilv-ix*) > **NiA.**, **NiS.** *vizl-ix* ‘root’ • PALg **=dlayep-*, **=dlayep-i:t(a)k-* (~ *th*, *kh*) ‘root’ > **Wi.** *ʔu-wə-láp-itk-əʔl*, *ʔu-láp-itk-əʔl* ‘roots’; **Yu.** *ʔwə-ʔłp-* ‘root(s)’ (also *ʔwo-ʔłp-'eʔy* ‘angelica root’, *ʔwə-ʔłp-itak* ‘root, willow root’); PA **wa=t(y)ap-* > **FSCr.** *wa-tap-iy* ‘root’ ▲ PA **we=tye:p-itk-*, **we=tye:p-isk-*, **we=tye:p-išk-* ‘root’ > **WAb.** *wa-capp-kk-w* ‘plant root’; **MiPe.** *a-čip-ihk-a* ‘root (of a plant)’.

69. ROUND

(1) PAW **kOlxV* ~ **k'Olk'V* ~ **k'wi:lk'V* ‘round, roundish’ (Nikolaev 2015b, #162) > PWN **kəlx-* ‘round, circular’ > Kw. *kłx-a* ‘round, circular, wheel, round thing, etc.’, Oo. *kłx-a* ‘circular (an opening)’.

(2) PNA *ʔa:wV (~ w') 'egg, brood' (Nikolaev 2015b #21) > PA *w=a:w- 'egg; round' > **MiPe.** *w-a:w-i-* 'round'; **FSCr.** *w-a:w-iy-* 'to be round, circular, disk-like'. See EGG.

(3) PNi *pulk- > **NiA.** *pulk-u-*, **NiS.** *pulk-u-d* 'round'.

(4) PA *pet-ek- 'behind; around' > **WAb.** *pet-ek-w-* 'round'.

(5) **Noo.** *cax* 'round'.

(6) **Wi.** *ʔiw-* 'to be round'.

(7) **Yu.** *yəhp-əh* 'to be round' (cf. **Yu.** *yohp-* 'in a circle').

70. SAND

(1) PAW *q'OmbV (Nikolaev 2015b, #320) > PW *q'up- 'sand' > **PWN** *q'əp- 'sand' > **Kw.** *q'b-g^wis* 'sandy beach', *q'b-ilis* 'broken shells', **Hai.** *q'p:q'b-is* 'sand'; **PWS** *q'up- > **Noo.** *ʃup-x-imec*, *ʃup-x-aq^w* 'sand' (cf. *ʃup-x-aqak* 'sandy') • PNi *qom-r > **NiS.** *qom-ř* 'sand'.

(2) PNA *pVl-əŋV-k^wE 'ashes' (Nikolaev 2015b, #300) > PA *penkw- 'ashes, dust, powder' > **WAb.** *pek-w-i* 'sand, dust, soil, earth'. See ASHES, EARTH.

(3) PAlg *le:k-, *lek- 'sand' > **Wi.** *lətkək* 'sand' (perhaps < *lək-ətk 'sandy place', cf. **Yu.** *ri:k-ew* 'shore, sandbar'); PA *le:k-aw- > **MiPe.** *ne:k-aw-i* 'sand'; **FSCr.** *ńe:k-aw* 'sand, fine gravel'.

(4) PNi *maχ (~ ə) > **NiA.** *maχ* 'sand'.

(5) **Yu.** *ca-:l* (*caʔ-ałk-*, *ca-:łk-*) 'sand, beach'.

71. SAY

(1) PNA *di ≈ *ʔidV 'to say, tell' (Nikolaev 2015b, #100) > PNi *it- > **NiA.** *it-*, **NiS.** *it-t* 'to say, say, tell, speak'.

(2) PW *wa:- 'to say' > **Noo.** *wa:(-ł)-*, *wa-wa:* 'to say, speak' (also **Mak.** *wa:(-ł)-*, **Dit.** *wa:-* 'to say').

(3) PAlg. *he-, *h- 'to say' > **Wi.** *ʔ-*, **Yu.** *h-* 'to say'; PA *Ø- > **WAb.** *it-Ø-a* TI 'to say', **FSCr.** *it-Ø-e:w* TA 'to say to so.', *it-Ø-w-e:w* AI 'to say', **MiPe.** *i-Ø-* 'to say'.

(4) **PWN** *n'i:k- 'to say, tell' > **Kw.**, **Oo.**, **Hai.** *n'ik* id., **Hei.** *n'x:n'-ká* 'to say repeatedly'.

72. SEE

(1) PAW *n'e:(wV) 'to see, look' (Nikolaev 2015b, #256) > PW *na:- 'to see, look' > **Noo.** *n'a:-csa-* 'to see' (also **Mak.**, **Dit.** *da-č-*, **Noo.** *n'a-č-* 'to look') • PNi *n-dī- > **NiA.** *i(ń)-dī-* (*ń-ři-*), **NiS.** *i(n)-dī-d* (*n-ři-d*) 'to see; find'⁴⁹ • PAlg *ne:(w)- 'to see' > **Yu.** *ne-w-* 'to see'; PA *ne:- > **MiPe.** *ne:-* TA 'to see'. See EYE.

(2) PAlg *wel- 'to see, choose'⁵⁰ > **Yu.** *wəl-* 'to see'.

(3) **PWN** *du:q^w- 'to see, look' > **Kw.** *duq^w-la*, **Oo.** *duq^w-la*, **Hei.** *dúq^w-lá*, **Hai.** *dùq^w-la*.

(4) PA *wa:p-, [-w]a:p- 'white, light; eye, look; to look, see' > **WAb.** *pas-ōp-i* 'to see, be able to see'; **FSCr.** *wa:p-* 'to see'. See WHITE.

73. SEED⁵¹

(1) PAW *łVq^(w)E ≈ *ʔłq^(w)E 'bone, gristle' (Nikolaev 2015b, #213) > PA *we=łk-an- 'bone; pit' and PAW *mi: (~ ä:, ü:) 'leaf, berry' 224 > PAlg *m(-ey-)en- > PA *men-, *mi:n- 'berry' > PA *wełkan-i-men- 'seed, pit' > **WAb.** *sskkan-i-men* 'seed'; **MiPe.** *ahkan-i-min-i* 'seed (of a fruit, in the middle)'; **FSCr.** *ohka-ta:-min* 'seed, nut, pit'. See BONE.

(2) PNi *xem > **NiA.**, **NiS.** *xem* 'seed, grain'.

⁴⁹ Cf. the suffixed forms PNi *ń-u- 'to look, watch', *ńa-χ 'eye'; PA *na-t- 'to seek, hunt'.

⁵⁰ PA *wel- 'to choose'.

⁵¹ No data for PWN, Noo., Wi., or Yu.

74. SIT

(1) PAW *t'i:q^wV ~ *ti:q^wV 'to sit' (Nikolaev 2015b, #350) > PNi *thiv- > NiA. *ir̥p-* (*thiv-*, *řiv-*), NiS. *ir̥p-t* (*thiv-*) 'to sit; sit down'.

(2) PW *k^wa:-, *k^wa:- > PWN *k^wa:- 'to sit' > Kw. *k^wa-la* 'sitting, to be seated, meeting', Oo. *k^wa:-la* 'sitting, a marriage ceremony', Hei. *k^wá-la* 'sitting, a marriage ceremony', Hai. *k^wà:-la* 'sitting'; PWS *k^wa- > Noo. *k^wa-* 'to sit' (also Mak. *k^wa-* id., Dit. *k^wa-* 'to sit down').

(3) PAlg *-ap̥? 'to sit', *-i:p̥? 'to put'⁵² > PA *-ap-, *-ep- > WAb. *l-ap-i* 'to sit'; MiPe. *ap-i*- AI 'to be located, sit'; FSCr. *ap-i-* 'to sit, stay in a place'.

(4) Wi. *təm-* 'to sit'.

(5) Yu. *rek'i:n* 'to sit'.

75. SKIN⁵³

(1) PAW *tokV ≈ *ʔotkV (~ k') 'skin, hide' > PW *tuk- (~ d-) > PWS *tuk^w- > Noo. *tuk^w-aq* 'skin, hide' (also Mak. *tuk^w-aq* id.) • PAlg *=tak-, =atk-, =ack- 'skin' > Wi. *w-ətk-ay* 'skin'; Yu. *ʔw-əs, ʔw-əsk-un* 'skin'; PA *=tak- > WAb. *ma-tak-en* 'hide, skin'.

(2) PAW *l̥ü:q^vV ~ *l̥ü:q^vV (~ q') 'skin, fur' (cf. Nikolaev 2015b, #203) > PAlg *lo:g-, *l(-ey-)eg- 'skin, feather'⁵⁴ > PA *-lo:k- (~ t) 'hide, skin' > MiPe. =*lu:k-ay-i* 'skin'. See FEATHER.

(3) PNA *ʔV̥y̥rV 'skin (of animals), scale' (Nikolaev 2015b, #41) > PAlg *=ayl-ak-, *=eyl-ek-, *=ayr-ak- 'skin, shell'⁵⁵; PA *-aʔl-ak-, *-eʔš-ak- 'skin, scale' > FSCr. *m=iš-ak-ay* 'skin (animal, person, tree)'.

(4) PW *l̥'i:- 'skin (of fish, animal, human)' > PWN *l̥'i:-s- 'skin (of fish, animal, human, fruit)' > Kw. , Hei *l̥'i-s*, Oo. *l̥'i:-s, l̥'is*, Hai. *l̥'i:-s*.

(5) PNi *hal (~ ə)⁵⁶ > NiA. *hal* 'skin (of human); body'.

76. SLEEP

(1) PAW *k^wo:itV ≈ *ʔo:tk^wA (cf. Nikolaev 2015b, 188) > PWN *k^wa:t- 'to sleep' > Kw. *k^wat-a*, Hei. *k^wát-a*, Hai. *k^wàt-a* • PNi *qho- > NiA. *qho-*, NiS. *qho-d* 'to sleep' • PAlg *-i:tkw- 'to sleep, dream' > Wi. *n-itw-* 'to sleep'⁵⁷.

(2) PAW *n̥'AbV (~ p') 'to die' (Nikolaev 2015b, #255) > PA *nep- 'to die; sleep' > MiPe. *nep-a-* AI 'to sleep'; FSCr. *nip-a:w* AI 'to sleep, be asleep'.

(3) PWS *waʔiç- > Noo. *weʔiç* 'to sleep' (also Mak., Dit. *weʔiç*).

(4) PA *kaw- 'to prostrate' > WAb. *kaw-i* AI 'to sleep'.

(5) Yu. *ckey-ek'* 'I sleep, I am asleep'.

77. SMALL

(1) PW *ʔam- > PWN *ʔəm- 'small' > Kw. *ʔm-ε?*, Oo. *ʔm-i*, , Hai. *ʔm-ε* id., Hei. *ʔám-áy'ŋxi* 'youngest child in the family'; PWS *ʔap-a:s- > Noo. *ʔap-a:s-* 'small' (also Mak. *ʔap-a:s* 'nice, cute', Dit. *ʔap-a:s* 'nice').

(2) PNi *m̥ac-ki- > NiA. *mac-ki-*, NiS. *m̥ic-ki-d* 'small' (cf. **mac-u-* 'to diminish').

(3) PA *pi:w- 'small piece' > WAb. *piw-i* 'small, fine, thin'. See THIN.

⁵² Also Yu. *-ip-* in *skew-ip'-ak'* 'I put in order', etc.

⁵³ No data for NiS.

⁵⁴ Also Yu. *reʔ-n-oh* 'feather', *r-ey-oʔ* 'feather, feather for display (as in headband), morning feathers (in brush dance)'.

⁵⁵ Also Yu. *sl-ek^w* 'clothes [a single set]', etc.

⁵⁶ PNi *h- < *qh-, cf. the Yukaghir borrowing **qhal-* 'bark, scales'.

⁵⁷ Also Yu. *-it* 'sleep, dream'.

- (4) PA **apeHt-*, **apeHš-* > **MiPe.** *apihš-* ‘narrow, small’; **FScR.** *apihč-i* ‘small, little, midget’.
 (5) **Wi.** *bəkt* ‘small’.
 (6) **Yu.** *ceyk-* ‘small; narrow (flat things)’.

78. SMOKE⁵⁸

- (1) PNA **tu(:)kwV* (~ *o*) ‘to burn (tr.)’ (cf. Nikolaev 2015b, #345) > PNi **thu-f* > **NiA.** *thu-f* (ř-), **NiS.** *thu-f* ‘smoke’. See BURN, FIRE.
 (2) PW **q^wa:yx-* ‘smoke, to smoke’ > **PWN** **k^wa:x-* ‘to smoke (said of fire or chimney)’ > Kw. *k^wax-a*, Hai. *k^wax-*; PWS **q^wiš* > **Noo.** *q^wiš* ‘smoke’ (also Mak. *q^wiš-* id., *q^wiš-ac* ‘stove pipe’, Dit. *q^wiš-a:* ‘smoke’).
 (3) **WAb.** *peketa* ‘smoke’.
 (4) **MiPe.** *ahkoli* ‘smoke’ (cf. PA **či:p-a:hkw-* ‘to cook’).
 (5) **Wi.** *biʔwəd* ‘smoke’.
 (6) **Yu** *mera:* ‘smoke’.

79. STAND

- (1) PAW **λa:-* ‘to stand’ (Nikolaev 2015b, #199) > PW **λa:-* > **PWN** **λa:-* ‘to stand’ > Kw. *λa-ła* ‘standing, to be upright’, *λa-χ^w-* ‘to stand (largely, but not entirely, limited to humans), upright’, Hei. *lá-χ^w-lil* ‘to get up, get out of bed, to volunteer’, Hai. *là-χ^w-lil* ‘to get up, get out of bed’; PWS **λa-* > **Noo.** *λa-ki:š* ‘to stand’ (also Mak. *λa-* ‘pole-like object is erect’, **λa-ki(:)š-* ‘to stand (human)’, Dit. *λa-* ‘stick-like object stands up’, *λa-kiš(šλ)-* to stand’).
 (2) PNA **gə:pV* ‘to stand’ (Nikolaev 2015b, #111) > PNi **kəp-r-* > **NiA.** *kəp-r-*, **NiS.** *kap-r-d* ‘to stand; stand up’ • PAlg **ga:p-* (~ *ph*) ‘to stand’ > **Yu.** *-o-ʔop* ‘to stand’; PA **ka:p-*, **kap-* > **WAb.** *kōp-o* **AI** ‘he stands’.
 (3) PA **ni:p-* ‘to stand’ > **MiPe.** *ni:p-aw-*, **FScR.** *ni:p-aw-* ‘to stand’.
 (4) **Wi.** *-aʔ-w-*, *-aʔ-y-* ‘to stand’.

80. STAR⁵⁹

- (1) PNA **ʔo:ńk^wE* (~ *q^w*, *X^w*) (Nikolaev 2015b, #33) > PNi **uńγ-(i)r* > **NiA.** *uńγ-r*, **NiS.** *uńγ-ir* ‘star’ • PA **-a:nkw-* ‘star’ > **WAb.** *al-akkw-ss*; **MiPe.** *al-a:nkw-a*; **FScR.** *wač-ahk-oš* ‘star’.
 (2) PW **t’a:w-* > **PWN** **t’u:-* ‘star’ > Kw. *t’ut’u*, Oo. *t’ut’u-a*, Hei. *t’út’u-ʔa* id.r’, Hai. *t’ut’u-ʔa* ‘North Star’; PWS **t’a:w-* > **Noo.** *t’at’u(:)-s* ‘star’ (also Dit. *t’a:t’aw-aʔsi?* id., Mak. *t’a:w-isa:bac* ‘stars’).
 (3) **Yu.** *ho:y-ec* ‘star’.

81. STONE

- (1) PNA **pɪLV-IVk^(w)E* (~ *ə*) ‘stone suitable for making tools’ (Nikolaev 2015b, #287) > PAlg **peletk-*⁶⁰ > **Wi.** *plətk* ‘rock, stone’.
 (2) PW **t’i:-* ‘stone weight’ > **PWN** **t’i:-s-* ‘stone’⁶¹ > Kw. *t’i-s-ṃ* ‘stone, rock, ore’, Oo. *t’i-s-a* ‘to weight with a stone’, Hei. *t’i-s-ṃ*, Hai. *t’i-s-ṃ* ‘stone, rock, ore’; PWS **t’i-* > **Noo.** *t’i* ‘(big) stone’ (also Mak. *t’i-di:č* ‘rock’⁶², Dit. *t’i-dič^w* ‘stone, rock’).
 (3) PNi **paχ* > **NiA.** *paχ* (*v-*, *b-*), **NiS.** *paχ* ‘stone’.

⁵⁸ No data for FScR.⁵⁹ No data for Wiyot.⁶⁰ Also Yu. *petk-ol* ‘pebbles, gravel’; PA **-a:-petkw-*, **-petkw-* ‘stone; metal’.⁶¹ Cf. PWN **t’i:-* ‘dead weight, ballast’.⁶² Cf. Mak. *t’i-χʔčašil* ‘weight’.

(4) PA **aʔs-en-* ‘stone, rock’ > **WAb.** *ass-en* ‘stone’; **MiPe.** *ahs-en-i* ‘rock, stone’; **FScR.** *as-in-iy* ‘stone, rock’.

(5) **Yu.** *haʔa:y* ‘rock’.

82. SUN⁶³

(1) PNA **kiŋʒV* (~ *q*, *X*) ‘sun, moon’ (Nikolaev 2015b, #161) > PNi **kheŋ(ʒ)* > **NiA.** *kheŋ* (*x-*), **NiS.** *kheŋ* ‘sun’ • PAlg **k-eŋ-ečh-* ‘sun, moon’ > PA **ki:š-* ‘sun, moon, month; day, sky’ > **WAb.** *kis-oss* ‘sun, moon, luminary’; **MiPe.** *ki:t-s-w-a* ‘sun, moon; month’. See MOON.

(4) **FScR.** *pi:sim* ‘sun; month’. See MOON.

(2) **Noo.** *hupał* ‘soon, moon, month’. See MOON.

(3) **Yu.** *won=ewsley* ‘moon, sun’ (*won-* ‘up’). See MOON.

83. SWIM

(1) PAW **m̄a:rV* (Nikolaev 2015b, #222) > **PWN** **ma:t-* ‘to swim’ > **Oo.** *mat-la*, **Hei.** *mát-*, **Hai.** *màt-la* • PNi **mr̄a-* > **NiA.** *mri-*, **NiS.** *mra-d* ‘to swim (human, animal), bathe’ • PAlg **-[m]o:l-* > **Wi.** *-ul-*; **Yu.** *-ur-* ‘to swim’.

(2) **PWS** **sus-* > **Noo.** *sus* ‘to swim’ (also **Mak.** *sus-*, **Dit.** *sus-a-*).

(3) PA **-a:tak-* ‘swim’ > **FScR.** *pim-a:tak-a:w* **AI** ‘to swim; to wade’.

(4) **WAb.** *takkassmi* **AI** ‘to swim’.

(5) **MiPe.** *-i:čime:* **AI** ‘to swim’.

84. TAIL

(1) PAW **hVʒV* ≈ **ʔVhʒV* ‘tail (of quadruped)’ > **PWN** **həs-* (~ *c*) ‘tail (of animal)’ > **Oo.**, **Hei.** *hc-ʔχdí* id., **Kw.** *hc-ʔχsdiʔ* ‘tail of an animal or fish’ • PAlg **=ech-*, **=eth-* ‘tail of quadruped’ > **Wi.** *w-ath-* ‘tail’; PAl **=s-o:w-*, *=s-w-* ‘tail (of quadruped)’ > **MiPe.** *=n-su:-y-i* ‘animal’s tail (not a bird’s tail)’; **FScR.** *o=sw-ay* ‘tail’.

(2) PAW **ŋʔa:ɡE* (~ *kʔ*) ‘tail’ (Nikolaev 2015b, #270) > PNi **ŋək-i* > **NiA.** *ŋək-i*, **NiS.** *ŋak-i* ‘tail’.

(3) PAW **čʔəkʔE* ≈ **ʔəčʔkʔE* ‘tail of fish’ (Nikolaev 2015b, #93) > PA **we=šek-w-an-* id. > **WAb.** *o-sok-en-a* ‘tail’.

(4) PAW **či:tʔV(-IV)* ‘foot, leg, flipper’ (Nikolaev 2015b, #86) > **PWS** **sit-* > **Noo.** *sit-ʔa* ‘tail’. See Foot.

(5) PAlg **=at-* ‘bird’s tail’⁶⁴ > **Yu.** *=əł-əy* ‘tail’.

85. THAT⁶⁵

(1) PAW **yV-* ‘demonstrative stem’ (Nikolaev 2015b, #412) > **PWN** **ya-* ‘that’ > **Kw** *y-χ-(a)* ‘that’, **Hei.** *yá* ‘that over there’, **Hei.** *ya-χ-t* ‘thus’; **PWS** **ya-* > **Noo.** *ya:* ‘that, there’ (also **Dit.** *ya:* ‘that’, **Mak.** *ya:t*, *ya(:)-t* ‘there’).

(2) PAW **ʔV-* ‘demonstrative stem’ > PNi **a-* > **NiA.** *a-ʒ*, **NiS.** *a-u-d*, *á-hu-d* ‘that (distant, but visible)’.

(3) PAW **gV* ~ **g^wV* ‘demonstrative stem’ (Nikolaev 2015b, #108) > PAlg **kV-* > **Wi.** *k-u-*; **Yu.** *k-u-* ‘that’. See THIS.

(4) PA **an-*, **-en-* > **WAb.** *n-a* (anim.), *n-i* (inanim.); **MiPe.** *i:n-a:n-a* (anim.), *i:n-i:n-i* (inanim.); **FScR.** *an-a* (anim.), *an-i-ma* (inanim.) ‘that’⁶⁶.

⁶³ No data for PWN and Wiyot.

⁶⁴ PA **w=at-an-y-* ‘bird’s tail’.

⁶⁵ No data for PWN.

⁶⁶ This form also contains the PA morpheme **mV-*, see THIS.

86. THIS

(1) PAW *gV ~ *g^wV ‘demonstrative stem’ (Nikolaev 2015b, #108) > PWN *ga:- ‘this (near speaker)’ > Kw., Hai. *ga*, Oo. *ga, ga:*, Hei. *gá* • PAlg *kV- > Yu. *k-i-* ‘this’. See THAT.

(2) PAW *dV ‘demonstrative stem’ (Nikolaev 2015b, #107) > PNi *t-wi- > NiA. *tí-ʒ*, NiS. *tu-d* ‘this’.

(3) PAW *y’V ‘demonstrative stem’ (Nikolaev 2015b, #412) > PA *yV- > WAb. *yo* ‘this (inanim.)’. See THAT.

(4) PAW *w’V ‘demonstrative stem’ (Nikolaev 2015b, #386) > PAlg *wV- > Wi. *w-u-* ‘this’; PA *wV- > WAb. *w-a* ‘this (anim.)’; FScR. *a-w-a* (anim.) ‘this’.

(5) PW *χ^(w)V-, *-χ^(w)- (cf. PNW *χ^wa- ‘this [near you]’) > PWS *ʔa-χ > Noo. *ʔa-h* ‘this’.

(6) PA *an-, *-en- > MiPe. *o:n-a:n-a* (anim.), *o:n-i:n-i* (inanim.) ‘this’. See THAT.

(7) PA *-mV > FScR. *o:-ma* (inanim.) ‘this’. See THAT.

87. THOU

(1) PAW *kV ‘you (sg.), thou’ (Nikolaev 2015b, #164) > PNi *chi > NiA., NiS. *chi* ‘you sg.’ • PAlg *ke?- (pref.) ‘thou, thee, thy’, *ke-ʔil-a ‘thou’ > Wi. *k-hil*; Yu. *k-el* ‘you sg.’; PA *k-i:l-a > WAb. *k-i-a*; MiPe. *k-i:l-a*; FScR. *k-i:ń-a* ‘you sg.’.

(2) PW *su:-, *-u:s- > PWN *su:-, suff. *-u:s ‘you sg.’ > Kw. suff. -(u)s ‘you’, *sù-ʔm* ‘you indeed’, Oo. *q-su-ʔm* id., Hei. suff. -su, -cu, -ús ‘you’, *q-su-ʔám* ‘you indeed’, Ha. *yχ^w-su*, suff. -su, -s ‘you’; PWS *su(:)-, *-us- > Noo. *su-w’a* ‘you sg.’ (also Mak. *su-wa:*, pref. *sut-*, suff. -su:, Dit. *su-w’a* (indep.), suff. -su-k^w, -ʔas, -cu-χ ‘you sg.’).

88. TONGUE

(1) PAW *hi:ʔV (~ e:) ‘tongue; to lick’ (Nikolaev 2015b, #148) > PNi *hil-k, -x > NiA. *hil-x*, NiS. *hil-k* ‘tongue’ (cf. *hel-[h]el- ‘to lick’) • PA *=e:t-al- > WAb. =*il-al-o* ‘tongue’, FScR. *ot-e:ń-ań-iy* ‘her/his tongue’.

(2) PNA *ʔi:ptV ‘lip, tip of tongue’ (Nikolaev 2015b, #31) > PAlg *=i:pt- > Wi. =*it*, Yu. =*ipt* ‘tongue’; PA *=i:t-an- > MiPe. =*i:l-an-i* ‘tongue’.

(3) PW *k’ul-m- > PWN *k’al-m- tongue⁶⁷ > Kw., Oo., Hai. *k’l-m*, Hei. *k’l-ń*; PWS *č’u-p- > Noo. *č’u-p* ‘tongue’.

89. TOOTH

(1) PAW *gi:ge ‘tooth, fang’ (Nikolaev 2015b, #123) > PW *gi:k- > PWN *gi:k- ‘tooth, teeth’ > Kw. *gigi*, Oo., Hei. *gik*, Hai. *gig*; PWS *kik- > Noo. *čičič-i* ‘tooth’ (also Mak. *čič-*, Dit. *čič-i?*(i:)).

(2) PAW *xEcV ≈ *?ExcV (~ s) ‘tooth’ (Nikolaev 2015b, #388) > PNi *η=əys > NiA. *η-ıys*, NiS. *η-ays, η-ayz-ıř* ‘tooth’.

(3) PAlg *=(eγ-)ep-et-⁶⁸ > Wi. =*əp-t* ‘tooth’; PA *=i:p-et- > WAb. =*ip-it*, MiPe. =*i:p-it-i*, FScR. *w-i:p-it* ‘tooth’. See BITE, EAT.

(4) Yu. =*arpet* ‘tooth, teeth’.

90. TREE⁶⁹

(1) PAW *ʒig^wE (~ k^w) ‘tree’ (cf. Nikolaev 2015b, #416) > PW *suk- > PWS *suč- > Noo. *suč-as* ‘tree’ (also Mak. *šuč-, šuč-as*, Dit. *šuč-as*) • PNi *ciy-r, *cxa-r > NiA. *tiy-r* (z-, d-), NiS. *chxa-ř* ‘tree’.

(2) PAlg *-a:ʔ-, -i:ʔ- > Wi. =*át-i?* ‘wood, stick, tree’; Yu. *tep-o:* ‘tree’ (with suff. -o? ‘tree, stem’).

⁶⁷ PWN *k’al- ‘to lick’, cf. PWN *k’al-q- ‘to lick’.

⁶⁸ Cf. PAlg *-(?)ep- ‘by tooth, to bite, eat’.

⁶⁹ No data for PWN.

(3) PA **(e)ʔt-ekw-* > FSCr. *mi-st-ik* ‘tree’.

(4) PA **apanš-* ‘tent-pole; squared timber, rafter’ > WAb. *apas-i* ‘tree, a woody plant large enough to contain firewood’.

(5) PA **aht-* ‘tree?’⁷⁰ > MiPe. *aht-aw-a:n-i* ‘tree, wood; stick’.

91. TWO

(1) PAW **me-* ‘two’ (Nikolaev 2015b, #219) > PW **ma:-*⁷¹ > PWN **ma:-ʔt* ‘two’ > Kw., Oo., Hei. *ma-ʔt-*, Hai. *ma-t-* • PNi **mi, *me* > NiA., NiS. *mi-, me-* ‘two’.

(2) PAW **n’i-* ‘two’ (cf. Nikolaev 2015b, #408) > PAlg **ni-š-, *ni-d-, *n-ey-i-š-* > Wi. *di-t*, Yu. *ni-ʔ-* (also *no-ʔ-, nə-ʔ-*) ‘two’; PA **nyi:-š-* > WAb. *ni-s*; MiPe. *ni:-š-w-i*; FSCr. *ni:-š-o* ‘two’.

(3) PWS **ʔaʎa* > Noo. *ʔaʎa* ‘two’ (also Mak. *ʔaʎ(a)*, Dit. *ʔaʎa*).

92. WALK (GO)⁷²

(1) PAW **wi* (~ *e*) ‘to walk, go’ (Nikolaev 2015b, #375) > PNi **vi-* > NiA. *vi-*, NiS. *vi-d* ‘to walk, go’; PA **we-ht-* > WAb. *-o-ss-a, -ō-ss-a, -a-ss-a*, MiPe. *-ohs-e-* ‘to walk’.

(2) PW **ya:-*⁷³ ‘to move, step’ > Noo. *ya:-c-uk* ‘to walk, go, proceed’ (also Dit. *ya-c-* ‘to walk on, go (on), nudge with foot’;).

(3) PWN **tu:-* ‘to walk’ > Oo., Hai. *tu-a*, Hei. *tu-á*.

(4) Wi. *ʔal-* ‘to go, walk’.

(5) Yu. *hey-* ‘to go, walk, travel, dance’.

93. WARM

(1) PAW **k^wü:x^wV* ‘warm, hot’ (Nikolaev 2015b, #176) > PWN **k^wu:x^w-* ‘warm, hot’ > Oo. *k^wux^w-a*, Hei. *k^wúx^w-a*, Hai. *k^wx^w-la* id., Kw. *kux^w-la* ‘mild weather’.

(2) PW **ʎ’u:p-* ‘to heat up’ > PWN **ʎ’u:p-* > Noo. *ʎ’up-a-* ‘warm, hot’ (also Mak. *ʎ’up-*, *ʎ’ub-*, Dit. *ʎ’up-*).

(3) PNi **tək-* > NiA. *tik-la-*, NiS. *tak-t* ‘warm’.

(4) PAlg **k(-ey-)et-* ‘hot’ > PA **keš-y-, *ki:š-y-* ‘hot, warm’ > WAb. *kes-ap-es-o* AI ‘he is warm’, *kis-op-att-a* II ‘the water is already warm’, etc.; MiPe. *kiš-a:p-ihk-* ‘hot, warm’; FSCr. *kis-is-ow-* ‘to be warm’.

(5) Wi. *wəs-* ‘warm; to heat’.

(6) Yu. *hewom-* ‘warm’.

94. WATER

(1) PAW **w’e:pV* ‘water, liquid’⁷⁴ (cf. Nikolaev 2015b, #384⁷⁵) > PWN **w’a:p-* ‘water’ > Kw., Hai. *w’ap* ‘water’, Kw., Oo. *w’ap-a*, Hei. *w’áp-a*, Hai. *w’áp-la* ‘to dilute, to water down’.

(2) PAW **hək^wE ~ *k^wəhE ≈ *ʔəhk^wE* ‘to drink; water’ (Nikolaev 2015b, #144) > PW **k^wa-*, **k’a-* > PWS **č’a-*⁷⁶ > Noo. *č’a-ʔak* ‘water’ (also Mak. *ča-ʔak^w*, Dit. *č’a-ʔak* ‘water’).

(3) PNi **chaχ* > NiA., NiS. *chaχ* ‘water’.

⁷⁰ Cf. **aht-a:py-* ‘bow’, “tree?+string”.

⁷¹ Cf. PWN **mə-t-* ‘twin(s)’.

⁷² No data for FSCr.

⁷³ Also PWN **ya:-* > Kw. *ya-la* ‘keep on going’.

⁷⁴ The same root in PAlg **-[w]a:p-* (~ *ph*) > Yu. suff. *-op-* ‘water, liquid’; PA **-[w]a:p-* ‘liquid, water’.

⁷⁵ Pace Nikolaev 2015b, #384, Yu. *paʔ-ah* actually belongs to a different root — PAlg **nepiʔ-* ‘water’; consequently, the root variant PAW **pe:w’V* has to be eliminated.

⁷⁶ Cf. Dit. *č’a-y’awa:* ‘always get water’.

(4) PAlG **nepiʔ-* > Yu. *paʔ-ah* ‘water’; PA **nepy-* > WAb. *nepi* ‘water, liquid, sap’; MiPe. *nipi*, FScR. *nipiy* ‘water’.

(5) Wi. *ʔuʔl* ‘water’.

95. WE (EXCLUSIVE)

(1) PAW **ńV-* ‘I; we (excl.)’ (cf. Nikolaev 2015b, #254) > PW **nu:-* ‘I, we’ > PWN **nu:-ʔk^w* ‘we (excl.)’ > Kw. *-nu-ʔx^w*, Oo. *-nu-k^w*, Hei. *-n-tk^w*, Hai. *-nu-k^w*; PWS **nu:-, *ni:-* > Noo. *ni:-w’a* ‘we’ (also Mak. *du-wa:-du:*, Dit. *du-w’a*) • PNi **ńi-ŋ* > NiA. *ńi-ŋ*, NiS. *ńi-n* ‘we (excl.)’ • PAlG **ne-* ‘we (excl.)’ > Wi. *ʔi-nà-d*, Yu. *ne-k-ah* ‘we’; PAlG **n-i:l-* > WAb. *ni-on-a*, MiPe. *n-i:l-u:n-a*, FScR. *n-i:ń-an-a:n* ‘we (excl.)’. See I.

96. WHAT

(1) PAW **qV* (~ ɠ) ‘interrogative stem’ > PW **qV-* (~ ɠ) > Noo. *ʔa-q-i-*, *ʔa-q-aq* ‘what’ • PAlG **ke:-* > PA **ke:-kw-* > WAb. *ka-kw-i*, *ka-kw-ess-a* MiPe. *ke:-tw-i*; FScR. *ke:-kw-a:n* ‘what?’.

(2) PAW **g^wV* ‘interrogative stem’ (Nikolaev 2015b, #118) > PAlG **kw-* > Wi. *k^w-á-t-wa* ‘what?’; PA **ke:-kw-* > WAb. *ka-kw-i*, *ka-kw-ess-a* MiPe. *ke:-tw-i*; FScR. *ke:-kw-a:n* ‘what?’.
See WHO.

(3) PNA **tV* ‘interrogative stem’ (Nikolaev 2015b, #346) > PNi **thi-*, **thu-* > NiA. *si-ʒ*, NiS. *řu-d* ‘what?’ • PAlG **ti:-* > Yu. *ti(?)*- ‘what?’.

(4) PW **m’a:-* ‘interrogative stem’ > PWN **m’a:-* ‘what?’ > Kw. *m’a*, *m’a-s*, Oo. *m’a*, *m’a:-s*, Hei. *m’á*, *m’á-s*, Hai. *m’a-s*.

97. WHITE⁷⁷

(1) PW **ʔ’i:s-* > ‘white, white hot’ > Noo. *ʔ’ic* ‘white’ (also Mak., Dit. *ʔ’is-*).

(2) PWN **m’u:q^w-* ‘white, discoloured, bland, stale’ > Oo. *m’uq^w-a*, Hei. *m’úq^w-a*, Hai. *m’ùq^w-a* id., Kw. *m’uχ^w-sm* ‘grey-haired’.

(3) PNi **qhon-u-* > NiA. *qhon-u-*, NiS. *qhon-u-d* ‘white’.

(4) PA **wa:p-* ‘white, light; eye, look; to look, see’ > WAb. *wōp-i*, MiPe. *wa:p-* ‘white’, FScR. *wa:p-a:w* II ‘to be white’. See SEE.

(5) Yu. *munc-* ‘white’.

98. WHO

(1) PAW **g^wV* ‘interrogative stem’ (Nikolaev 2015b, #118) > PW **ʔa(n)-g^(w)-* > PWN **ʔə(n)-g^wa:* ‘who?’ > Kw. *ʔŋ-g^wa*, Oo. *ʔa-g^wa*, Hei. *ʔá-g^wa*, Hai. *ʔŋ-g^wà* ‘who?’; PWS **ʔa-č-* > Noo. *ʔa-č-a(q)* ‘who?’ (also Mak. *ʔač-aq*, Dit. *ʔač-(aq)*) • PAlG **kw-* > Wi. *k^w-í-twa*, Yu. *k-’i*, *k-u* ‘who’. See WHAT.

(2) PAW **ʔAŋ* ‘interrogative stem’ > PWN **ʔəŋ-g^wa:* ‘who?’ > Kw. *ʔŋ-g^wa*, Hai. *ʔŋ-g^wà* ‘who?’ • PNi **aŋ* > NiA. *aŋ* ‘who, where’.

(3) PAW **na ≈ *ʔanV* ‘interrogative stem’ (Nikolaev 2015b, #241) > PNi **na-* (~ ə) > NiS. *na-r* ‘who’ • PA **-e:n-*, *-an-* > WAb. *aw-an-i* ‘someone; who?’, MiPe. *aw-e:n-a*, FScR. *aw-e:n-a* ‘who’

(4) PAW **wV ≈ ʔVwV* (~ w’) ‘interrogative stem’ (cf. Nikolaev 2015b, #381) > PA **aw-* > WAb. *aw-an-i* ‘someone; who?’, MiPe. *aw-e:n-a*, FScR. *aw-e:n-a* ‘who’.

99. WOMAN

(1) PAW **tāŋV-k^(w)V ≈ *ʔāŋV-k^(w)V* (Nikolaev 2015b, #209a) > PW **tuk-* > PWS **tuč-sma⁷⁸* > Noo. *tu:c-sma* ‘female, woman’ (also Mak. *tu:c-sm(a)*, Dit. *tu:c-sma*) • PNi **řaŋq* > NiS. *řaŋq* ‘woman’ • PAlG **ʔatkw-*, **ʔetkw-* (~ kh) ‘woman, female’ > FScR. *iskw-e:w* ‘woman’.

⁷⁷ No data for Wiyot.

(2) PWN **Gən-* ‘female, woman, wife, daughter, girl’ > Oo. *G_n-m̄*, Hei. *G_n-m̄́*, Hai. *G_n-m̄* id., Kw. *G_n-m̄* ‘wife’.

(3) PNi **umg-u* > NiA. *umg-u* ‘woman’.

(4) WAb. *pehanem* ‘woman, wife’.

(5) MiPe. *mitemohsa* ‘woman’.

(6) Wi. *kəbuč* ‘woman, women’.

(7) Yu. *wencok*⁷⁹ ‘woman’.

100. YELLOW⁸⁰

(1) PNi **evrq-* > NiA. *evrq-*, NiS. *evřq vala-d* ‘yellow’.

(2) PA **wes-* ‘yellow, brown’ > WAb. *wis-ōw-ik-*, FSCr. *os-a:w-* ‘yellow’.

(3) MiPe. *u:ns-a:w-* ‘yellow’.

(4) Noo. *hicip’iqak* ‘yellow’ (litt. ‘like excrements’).

(5) Yu. *ta:nep, ti?np-* ‘to be yellow’.

101. FAR

(1) PWN **χ^{wi}:ss-*, **q^{wi}:ss-* ‘that direction, far, on the far side, far away (in time or space)’ > Kw. *q^{wi}is-ala*, Oo. *χ^{wi}is-ala*, Hei. *χ^{wi}is-álá*, Hai. *χ^{wi}is-ala*.

(2) PWS **su-*⁸¹ > Noo. *-su(:)* ‘far’.

(3) PNi **thi-* > NiA. *thi-la-*, NiS. *thi-d* ‘far’.

(6) PAlg **wa:yl-aw-*, **weyl-aw-* ‘far away’ > Wi. *t-áw-ik* ‘it’s far away’; PA **wa:ʔl-aw-* > FSCr. *wa:ń-aw* ‘far, distant’.

(7) PAlg **no:ʔ-aw-* > Yu. *nu:ʔ-w* ‘far away’; PA **na:-w-* > WAb. *nō-w-i* ‘far, long’.

(8) PA **pel-aw-* ‘far’ > MiPe. *pil-w-i* ‘far away, far off’.

102. HEAVY

(1) PWN **G^{wi}:-* ‘weighing heavy’ > Oo. *G^{wi}-uk^w*, Hei. *G^{wi}-úk^w* id., Hai. *G^{wi}-ug^was* ‘weight (of a person, etc.)’.

(2) PNi **per-* > NiA. *per-la-*, NiS. *per-d* ‘heavy’.

(3) PA **kwes-ekw-* > FSCr. *kos-ikw-* ‘to be heavy’.

(4) Noo. *k^watyik* ‘heavy’.

(5) WAb. *ttekkw-ikw-* ‘heavy’.

(6) MiPe. *kahč-ok(w)-* ‘heavy’.

(7) Wi. *ləy-* ‘heavy’.

(8) Yu. *pke?y-* ‘heavy’.

103. NEAR⁸²

(1) PAW **ma-* ‘near’ (Nikolaev 2015b, #215) > PNi **ma-* > NiA. *ma-*, NiS. *ma-d* ‘near’.

(2) PW **n’a-* ‘near’ > PWN **n’ə-x^wa:-* ‘near, close’ > Kw., Oo. *n’-x^wa-la*, Hei. *n’-x^wá-lá*, Hai. *n’-x^w-à:-la*; PWS **n’a-* > Noo. *na-t* ‘near’.

(3) PAlg **ček-*, **t-ey-ek-* ‘close, near’ > Yu. *ck-^waʔ-ək’* ‘near’; PA **či:k-* > MiPe. *či:k-a* ‘near; almost’.

(4) PA **peHš-* ‘to touch; near’ > WAb. *pass-ot-a* ‘near’, FSCr. *peš-oč* ‘close by, near’.

⁷⁸ Cf. Quil. *-siba* ‘wife’.

⁷⁹ Cf. Yu. *wentok*^w ‘female (animal or bird)’.

⁸⁰ No data for PWN and Wiyot.

⁸¹ Cf. Quil. *sawa* ‘to go far’.

⁸² No data for Wiyot.

104. SALT(Y)

- (1) PW **dum-* ‘salt water’ > PWN **dəm-* ‘saltwater, sea’ > Kw. *dṃ-xs*, Oo. *dṃ-ʔxs*, Hei. *dm-xs*, Hai. *dm-ks*; **Noo** *tup-’at* ‘saltwater’ (also Mak., Dit. *tup-’at*).
- (2) PNi **hap-* > NiA. *hap-la-*, NiS. *hap-t* ‘salty’.
- (3) PA **ši:w-* ‘strong taste (sour/salty)’ > **WAb.** *siw-an*, **FScR.** *ši:w-ah-am* ‘salt’.
- (4) PA **wi:nk-* ‘sweet, tasty’ > **MiPe.** *wi:hk-ap-a:k-an-i* ‘salt’.
- (5) Wi. *phákəl-* ‘salty (water)’.
- (6) Yu. *ʔewp-oh* ‘salt water, Pacific Ocean’.

105. SHORT⁸³

- (1) PAW **č’VkwV* (~ *k’w*) (Nikolaev 2015b, #96) > PWN **c’əkw-* ‘short’ > Kw. *c’k^w-a*, Oo., Hei., Hai. *c’k^w* • PAlg **tatkw-*, **čačkw-*, **tetkw-* ‘short’ > **Yu.** *tk^w-* ‘to be short’; PA **tatk-*, **tahk-*, **čahk-* > **WAb.** *takkw-*; **FScR.** *čahkw-* ‘short’.
- (2) PWS **n’i:c-* > **Noo.** *n’i:c* ‘short’ (also Mak. *di:c’-a(q)*).
- (3) PNi **phχ-aq-* > NiA. *p(h)χ-aq-*, NiS. *phχ-aq-t* ‘short’.
- (4) **MiPe.** *ehkw-* ‘short’.

106. SNAKE

- (1) PAW **q’wijV* ‘snake, snail’ (Nikolaev 2015b, #332) > PA **ken-e:p-ikw-*⁸⁴ > **MiPe.** *kin-e:p-ikw-a*, **FScR.** *kin-ep-ik* ‘snake’.
- (2) PWN **si:t-* ‘snake’ > Kw., Oo. *sit-ṃ*, Hei. *sit-ṃ*.
- (3) PW **χi:-* ‘to crawl’ > **Noo.** *hi:-yi* ‘snake’.
- (4) PNi **uml-* > NiA. *uml-ak*, NiS. *uml-ay(a)* ‘snake’.
- (5) PA **alko:k-* ‘snake’ > **WAb.** *sskkok* ‘snake, worm’. See WORM.
- (6) **Wi.** *ʔaʔrəč* ‘snake’.
- (7) **Yu.** *leʔy-es*, *ley-es* ‘snake’.

107. THIN⁸⁵

- (1) PNi **nok-* > NiA., NiS. *nok-la-* ‘thin, narrow’.
- (2) PA **pi:w-* ‘small piece’ > **WAb.** *piw-i* ‘small, fine, thin’. See SMALL.
- (3) PA **mya:l-* ‘bad’ > **MiPe.** *mya:l-* ‘thin’.
- (4) PA **pap-ak-*, **pep-ak-* ‘thin, lean’ > **FScR.** *papak-* ‘thin’.
- (5) **Noo.** *ʔanik-it* ‘thin’ (cf. *ʔanik-s* ‘in length’).
- (6) **Yu.** *mes-* ‘thin, narrow, slim’.

108. WIND⁸⁶

- (1) PAW **layVwV* ‘wind; to blow (wind)’ (cf. Nikolaev 2015b, #192) > **PW** **yu:-* ‘wind’ > PWN **yu:-* ‘wind, draft’ > Kw. *yɔ-la*, Oo. *yu-ala*, Hei. *yu-ála*, Hai. *yu-ala*; PWS **yu(:)-* > **Noo.** *yu-ʔi* ‘wind blowing’ (also Dit. *yu-* id., Mak. *yuyu:-qsi:s* ‘North Wind’) • PNi **la* > NiA., NiS. *la* ‘wind’ • PAlg **lo(:)yew-*, **ro(:)yew-* ‘wind, to blow’⁸⁷ > **Yu.** *ro:-k^w* ‘wind’.
- (2) PA **ata:m-*, **atam-* ‘breath’ > **WAb.** *alōm-ss-ekk* ‘wind’, **MiPe.** *ala:m-ihs-en-* II ‘it is windy’.

⁸³ No data for Wiyot.

⁸⁴ PA **kenw-e:p-ikw-* ‘snake’ has *-w-* by analogy with **kenw-* ‘long’.

⁸⁵ No data for PWN and Wiyot.

⁸⁶ No data for FScR. and Wiyot.

⁸⁷ Also PA **lo:w-* ‘to blow (wind)’.

109. WORM⁸⁸

(1) PAW **x^wO:ηV ~ *ηO:x^wV* ‘bee’ (Nikolaev 2015b, #393a) > PA **(a:)mo:-hs-* > **MiPe.** *mu:-hs-i-a* ‘insect, worm, bug’.

(2) PAW **k^wilVηV (~ ə)* ‘worm’ (Nikolaev 2015b, #185) > **Yu.** *ʔyek^wł* ‘maggot, worm’.

(3) PNi **chxev-r* > **NiA.** *chxev-r*, **NiS.** *chxev-ř* ‘worm’.

(4) PA **atko:k-* ‘snake’ > **WAb.** *sskkok* ‘snake, worm’. See SNAKE.

(3) **Noo.** *łitk-’umc* ‘any worm, including the mussel worm (*Nereis vexillosa*)’ (cf. *łitk* ‘to jerk, pull fast’).

110. YEAR⁸⁹

(1) PAW **ʔänV* ‘year, season’ (Nikolaev 2015b, #10) > PNi **ań* > **NiA.**, **NiS.** *ań* ‘year’.

(2) PA **li:k-* ‘to grow; give birth; loosen’ > **WAb.** *lik-at-en* ‘it is a year’.

(3) **Noo.** *-qʔičh* ‘year’.

(4) **Yu.** *lok (loks-)* ‘to be a year’.

(5) **MiPe.** *kihkatwi* ‘year’.

Language abbreviations and sources

Dit. – Ditidaht (Nitinaht), acc. to Fortescue 2007.

FSCr. – Fort Severn Cree, acc. to MacKenzie 2005.

Hai. – Haisla, acc. to Linkoln, Rath 1980 and Fortescue 2007..

Hei. – Heiltsuk, acc. to Linkoln, Rath 1980.

Kw. – Kwak’wala (Kwakiutl), acc. to Linkoln, Rath 1980.

Mak. – Makah, acc. to Fortescue 2007.

Men. – Menominee, acc. to Hewson 1993 and Oleg Mudrak’s comparative Proto-Algonquian database (ms.).

MiPe. – Miami-Peoria, acc. to Baldwin, Costa 2005.

Mic. – Micmac (Mi’kmaq), acc. to Oleg Mudrak’s comparative Proto-Algonquian database (ms.).

NiA. – Amur Nivkh, acc. to materials in Oleg Mudrak’s comparative Nivkh database *nivget.dbf* (ms.).

NiS. – Sakhalin Nivkh, acc. to materials in O. Mudrak’s comparative Nivkh database *nivget.dbf* (ms.).

Noo. – Nootka (Nuuchahnulth), acc. to Stonham 2005.

Oo. – Oowekyala, acc. to Linkoln, Rath 1980.

PA – Proto-Algonquian, acc. to Aubin 1975; Goddard 1974, 1979, 1982; Hewson 1993; Proulx 1984a, b, 1989, 1991, 1992, 1994⁹⁰.

PAIg – Proto-Algic, acc. to Proulx 1984a, b, 1991, 1992, 1994⁹¹.

PAW – Proto-Algonquian-Wakashan, acc. to S. Nikolaev’s reconstruction.

PNA – Proto-Nivkh-Algic, acc. to S. Nikolaev’s reconstruction.

PNi – Proto-Nivkh, acc. to S. Nikolaev’s reconstruction and based on materials in Oleg Mudrak’s comparative Nivkh database *nivget. dbf* (ms.).

PW – Proto-Wakashan, acc. to Fortescue 2007⁹².

PWN – Proto-Southern Wakashan, acc. to Fortescue 2007.

PWS – Proto-Northern Wakashan, acc. to Fortescue 2007 and Linkoln, Rath 1980.

⁸⁸ No data for PWN, FSCr., or Wiyot.

⁸⁹ No data for PWN, FSCr., or Wiyot.

⁹⁰ With the following elements of transliteration: *ʔ ⇒ *ł; *xk, *xp ⇒ *tk, *tp; *çk, *çp > *sk, *sp.

⁹¹ Several PAIg roots have also been added by myself in accordance with Paul Proulx’s rules of reconstruction. I interpret the PAIg phonemes that Proulx denotes as *T, *K, *L, *C, *Ĉ as voiced consonants (*d, *g, *L, *ʒ, *ʃ). Proulx’s *s which only occurs in clusters is reinterpreted by myself as the voiced fricative *ɣ; it is reflected as PA *ʔ, Wi. Ø and Yu. s (< *r < *ɣ). This PAIg phoneme corresponds to velars in other Algonquian-Wakashan languages. The “normal” PAIg velar glide *ɣ does not occur in consonantal clusters.

⁹² I have added several PW roots according to M. Fortescue’s rules of reconstruction. The same applies to PWN and PWS.

- Quil. – Quileute, acc. to Powell, Woodruff 1976.
 WAb. – Western Abenaki, acc. to Day 1995.
 Wi. – Wiyot, acc. to Teeter, Nichols 1993 and Proulx 1984a, b, 1989, 1991, 1992, 1994.
 Yu. – Yurok, acc. to Robins 1958 and Proulx 1985.

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С. Л. Николаев. К реконструкции алгонкино-вакашского праязыка. Ч. 3: Алгонкино-вакашский 110-словный список.

Третья часть комплексного исследования, посвященного обоснованию алгонкино-вакашской семьи языков, в которую, помимо нескольких языковых групп Северной Америки, также включается нивхский язык, представляет собой аннотированную демонстрацию сравнительно-исторических данных, использованных при лексикостатистических подсчетах между языками этой гипотетической семьи. Поскольку лексикостатистический материал нуждается в подробном историческом комментарии, из соображений объема он не мог быть включен в предыдущие две части исследования. Помимо этого, в данной части исследования также приведены реконструкции для ряда новых праалгонкино-вакашских и пранивхско-алгонкинских корней. В лексикостатистических подсчетах задействованы следующие языки: прасеверновакашский (примерная глоттохронологическая дата распада — ок. 800 г. н. э.) и записанные в XIX–XX вв. языки нутка (нучахнулт), нивхский (амурский и сахалинский диалекты), западный абенаки, майами-пеория, кри из Форт Северна, вийот и юрок.

Ключевые слова: алгонкино-вакашские языки, нивхско-алгонкинские языки, алгические языки, вакашские языки, чимакум-вакашские языки, нивхский язык, историческая фонетика, сравнительный словарь, лексикостатистика.

Лексикостатистика новоиндоарийских языков: взгляд полевого лингвиста¹

Данная публикация представляет собой некоторые соображения о статье А. И. Когана «Genealogical classification of New Indo-Aryan languages and lexicostatistics» в №14 «Вопросов языкового родства». Автор высказывает ряд предложений по исправлению списков Сводеша, представленных А. И. Коганом, на основании данных исторической фонетики и семантики индоарийских языков в целом, а также анализирует списки языков хинди, бенгали, ория и куллуи, сопоставляя их со своими полевыми данными и сведениями из словарей и корпусов. После внесения предложенных исправлений автор сопоставляет деревья, построенные программой Starling на основании первоначальных и исправленных списков. Изменения не очень значительны, однако повышают достоверность результатов, а кроме того, показывают, что дальнейшее исправление списков может сделать дерево значительно более точным.

Ключевые слова: лексикостатистика, индоарийские языки, классификация языков, глоттохронология, полевая лингвистика, корпусная лингвистика, историческая фонетика

В 2016 году в №14 «Вопросов языкового родства» вышла статья А. И. Когана «Genealogical classification of New Indo-Aryan languages and lexicostatistics». Автор строит генеалогическое древо индоарийских языков на основании лексикостатистики по стословным спискам Сводеша. Основные теоретические положения статьи были давно мне знакомы из докладов автора, однако замечательной особенностью данной публикации является весьма обширное приложение, содержащее сами стословные списки по 35 языкам, включая проставленные для каждого слова индексы этимологической когнации. Масштаб постановки задачи впечатляет — фактически речь идет о попытке окинуть индоарийские языки взглядом с высоты птичьего полёта, и, конечно, при реализации такой глобальной задачи неизбежны отдельные недочёты и неточности. Именно поэтому я считаю необходимым дополнить масштабную панораму А. И. Когана результатами, полученными на уровне полевой работы. Хочу выразить благодарность А. И. Когану за предоставление мне файла для программы Starling, в котором он составлял свои списки, Е. В. Коровиной за помощь в построении деревьев и работе с программой Starling, Ю. В. Мазуровой, Е. А. Ренковской и А. В. Дыбо за ценные редакторские замечания.

Задача, за которую взялся А. И. Коган, мне, как полемому лингвисту, представляется неохватной в рамках одной статьи. Поэтому данная статья задумана как начало серии статей о стословных списках индоарийских языков. Сразу отмечу, что мои представления о методике научного исследования не предполагают ни возможности получить «правильный» стословный список, пользуясь только словарём, ни возможности получить его от какого-то одного, пусть идеального, информанта. Любой список, полученный из единственного источника, требует дальнейшей обязательной обработки и проверки — на других носителях, на корпусе текстов, на других словарях и пр. Таким образом, тща-

¹ Работа выполнена частично при поддержке РФФИ, проект 16-34-01040 «Грамматическое описание и словарь индоарийского языка куллуи», 2016–2018 гг.

тельный анализ всех тридцати пяти списков А. И. Когана — задача на много лет, в данной же статье основное внимание будет направлено на следующие списки:

- 1) хинди — язык, изучавшийся мной в университете в течение шести лет, а ныне основной язык-посредник для полевых исследований нашей группы в Индии. Хотя у меня нет стословного списка, записанного непосредственно от информанта, я считаю возможным проверить список А. И. Когана на основании статистики корпуса *Hindi Web 2013 (hiTenTen13)*, содержащего около 351 млн слов;
- 2) бенгали — язык, стословный список которого с учётом контекстов и стимулов на хинди и английском был записан мной от одного информанта в 2016 году. При проверке стословника бенгали был использован корпус *Bengali Web (BengaliWaC)*, содержащий более 11 млн слов. Кроме того, понадобилась проверка по ряду толково-двуязычных словарей (<http://www.english-bangla.com/>, Лоскутов 1974, Ghosh 2011);
- 3) ория — язык, стословный список которого также был записан мной в 2016 году. Расхождения в списках проверены с помощью толково-двуязычных словарей (Tripathy 2015, Biswal 2015), по толково-четырёхязычному словарю (Praharaaj 1931–1940), а также по корпусу Goldhahn 2012 из 30 тысяч предложений; однако ряд слов из списка А. И. Когана в корпусе просто отсутствовал, и их изучение потребовало дополнительной проверки. Отсутствие общедоступного обширного корпуса ория компенсируется тем, что этот язык обладает уникальной письменностью; это дало мне возможность дополнительно использовать статистику Google²;
- 4) куллуи — стословные списки собраны Е. М. Шуванниковой в 2013 году в Кулу от пяти информантов. В дальнейшем большая часть лексики была проверена нами в ходе полевой работы 2014, 2016 и 2017 гг.

Помимо этих списков, в рамках статьи хотелось бы обсудить некоторые моменты, общие для индоарийских языков в целом — степень их исследованности, особенности семантики и исторической фонетики.

Общие спорные моменты

Основной вопрос, по которому я не согласна с автором статьи, — это степень исследованности индоарийских языков в настоящий момент. Действительно, для «больших» статусных языков (хинди, бенгали, непали и т. п.) уже созданы обширные словари и

² Разумеется, возможности для использования интернет-поисковиков очень ограничены, подробнее об этом см., например, Беликов 2016. Однако приводимые в настоящей статье примеры из Google связаны с попытками получить гораздо более точную информацию, чем отличие в употребительности двух синонимичных слов одного и того же языка на порядок или несколько порядков. Причина, по которой Google не загружает все результаты поиска, как и тот факт, что число результатов поиска является лишь приблизительной оценкой, неоднократно обсуждалась в различных публикациях в сети. Что касается эксперимента с Yandex, показывающего абсурдные результаты для запросов «в Украину», «на Украину» и «Украину», то при повторении эксперимента в Google результаты оказались непротиворечивыми. Первоначальная проверка стословных списков хинди, бенгали и ория проводилась нами на основании статистики Google, но его перепроверка на корпусах практически не изменила результат (наиболее значительные изменения претерпел результат проверки списка ория, что, вероятно, объясняется недостаточным объёмом корпуса). Это свидетельствует о том, что числа статистики Google всё же не полностью случайны, а отражают некоторую реальность. Поэтому, признавая аргументы В. И. Беликова о невозможности использовать поисковики в качестве тонкого инструментария, мы всё же считаем возможным в некоторых пределах опираться на них для получения данных о языках, имеющих характерную письменность, но не имеющих подготовленного лингвистами корпуса достаточного объёма.

грамматики, изучена историческая фонология. Однако автор распространяет это положение на все 35 языков, которые входят в его базу, что в корне неверно (Kogan 2016: 233). По большинству малых индоарийских языков в лучшем случае доступен небольшой очерк, и адекватность этого очерка часто сомнительна. Кроме того, даже качественное описание, если в задачу автора не входил сбор стословника, может невольно ввести в заблуждение тех исследователей, которые пользуются им как источником. Так, Б. П. Махапатра в предисловии к очерку куллуи М. Р. Ранганатхи говорит о том, что информация получена от единственного носителя, чьё место жительства не указано (Ranganatha 1980: 16). При сопоставлении с полевыми данными нашей исследовательской группы в этом очерке (помимо множества ошибок и упрощений) очевидно сильное влияние лексики и грамматики хинди. Это может объясняться особенностями носителя или же специфической направленностью исследования, связанного с переписью населения, с языковой политикой Индии в целом и с задачей укрепления престижа хинди в частности (упомянутое предисловие в значительной степени посвящено возрастающему влиянию хинди как фактора объединения нации). Гораздо более подробно и точно грамматика М. Р. Тхакура, носителя куллуи и выдающегося лингвиста, написанная на хинди (Thakur 1975). Но, во-первых, она гораздо менее доступна, во-вторых, не содержит словаря, поэтому извлечение базовой лексики из неё потребовало бы полной росписи её текста. Однако и в этой книге можно найти множество неточностей. Так, в индологической традиции к говорам куллуи относят внешний и внутренний сираджи, и эта же информация упоминается в книге Тхакура (Тхакур 1975: 129). Наше поверхностное полевое знакомство с этими идиомами говорит о достаточно сильном их отличии от куллуи по существенным старым изоглоссам. Так, например, информанты сираджи давали личное и притяжательное местоимения первого лица единственного числа *ham-*, *mhar-* (а не *as-*, *asər-*), 'поле' *khech* вм. *chet*, 'муха' *takh-* вм. *tach-*.³ В грамматике также обнаруживаются существенные расхождения, так что не совсем ясно, насколько правомерно считать их диалектами куллуи. По всей видимости, первоначальная таксономия давалась в значительной степени по административным границам, и к куллуи были отнесены все говоры княжества Куллу.

Та же проблема связана и с идиомом химачали, стословный список которого входит в базу А. И. Когана. Название «химачали» относится к различным индоарийским идиомам, распространённым в штате Химачал-Прадеш. Х. Хендриксен, книгой которого А. И. Коган пользовался для создания списков, характеризует химачали следующим образом: «Himachali embraces the following dialects counting from the south and the west: Sirmauri, Jaunsari, Baghatī, Kyoṅṭhli, Koṭgarhi, Koci, Maṇdealī and Kuḷui» (Hendriksen 1986: 3). М. Р. Тхакур включает в этот список также чамбеали и бхадравахи (Тхакур 2012: 12–20). Всё это — достаточно сильно отличающиеся друг от друга идиомы. В статье А. И. Когана в качестве источника стословника химачали указываются носители языка (Kogan 2016: 239), однако не дано социолингвистических сведений об этих носителях — мы не знаем, в каких населённых пунктах они родились и выросли, насколько хорошо знают язык, на каких языках преимущественно общаются в последние годы и т. п. Таким образом, мы не можем быть уверены даже в том, о каком идиоме или идиомах идёт речь.

Поскольку описания малых новоиндийских языков оставляют желать лучшего, говорить о точности их исторической фонетики также не приходится. Например, в этимологическом словаре Тёрнера (Turner 1969–1985) содержится 8 (восемь!) примеров из куллуи. Главное, что хотелось бы сказать в разделе «Замечания общего характера»: прежде чем подсчитывать лексикостатистику, надо понять, лексикостатистику чего

³ Подробнее о значении этих отличий см. Hendriksen 1986: 192.

мы подсчитываем, оценить достоверность источника. В случае малых индоарийских языков эта задача требует прежде всего полевых исследований и заполнения лакун в описательной лингвистике.

Замечания к семантике

В данном разделе собраны замечания, относящиеся к особенностям семантики индоарийских языков. Лексикостатистика предполагает сопоставление слов с одинаковыми значениями, однако на практике в стословные списки зачастую попадают слова с разными значениями, сопоставлять которые неправомерно. На некоторые из таких «опасных мест», характерных для индоарийских языков, хотелось бы обратить внимание.

1. *Sab, sāre* и их параллели в других языках возводятся к одному корню, этимология обозначена одним и тем же №1 (Kogan 2016: 239). В словаре Тёрнера это две разные этимологии *sārva* и *sāra*, которые отличаются и на праиндоевропейском уровне. В языке хинди (и во многих других языках) в действительности представлены и широко употребляются оба эти корня, с сохранением семантического различия *sab* ‘omnis’ и *sārā* ‘totus’. Но в каждый из списков А. И. Когана попал лишь один из корней. Поправка:⁴ добавляем в стословный список хинди слово *sārā*, присваиваем №581 ему и его параллелям в других языках (PTH *sāre*, HNK *sāre*, GJR *sārā*, LHD *sārā*, KOT *sarə*, HIM *sāre*, PRY *sare*, BNJ *sāri*). Вообще говоря, правильно было бы присвоить отдельным значениям ‘omnis’ и ‘totus’ разные номера; последнее, однако, фактически предполагает расширение 100-словного списка, что выходит за рамки задач настоящей статьи.
2. В индоарийских языках обычно представлено два переходных глагола, соответствующих английскому *burn* (например, куллуи *dza:lŋa* и *p^hikiŋa*). Один из них обозначает действие, целью которого является выделение света или тепла, другой — уничтожение объекта. В некоторых языках в списках А. И. Когана представлены оба эти глагола, в других — только один (Kogan 2016: 241). Как и в предыдущем случае, имело бы смысл учитывать оба значения под разными номерами, но расширение списка — отдельная задача.
3. Этимоны ‘heart’ и ‘liver’ в индоарийских языках довольно неустойчивы. В Индии распространено вегетарианство, поэтому названия внутренних органов знакомы почти исключительно врачам и, как правило, являются санскритскими заимствованиями. При попытке исключить заимствования велика вероятность получить слово, означающее сердце не как анатомический орган, а какместилище жизни или чувств.
4. ‘All’ vs ‘full’. В большом количестве языков значение ‘full’ представлено двумя словами с этимологиями №31 и №32 (Kogan 2016: 244). Это связано с наличием двух не всегда хорошо различимых значений ‘наполненный чем-либо (о сосуде, контейнере)’ и ‘целый, завершённый’, второе из которых сближается скорее с *all* ‘totus’, и не должно присутствовать в списке в значении ‘full’. Первое связано с корнем *bhar-*, второе — с корнем *pūr-*. Поправка: для всех списков, в которых представлены оба корня, удаляем слово, восходящее к др.-инд. *pūra* (PTH *pūrā*, HNK *pūrā*, GJR *pūro*, DGR *pūrā*, RAJ *pūr*, GUJ *pūrū*, ASS *pur*, AWD *purhar*, KUM *purro*, HND *pūrā*, DKH *pūrā*, PNJ *pūrā*, LHD *pūrā*, SND *pūro*, MAR *purā*, BNG *pura*, KOT *purə*, HIM *pūrā*, MND *pūra*, GRH *pūru*).

⁴ Здесь и далее поправки относятся к стословным спискам, приводимым в статье А. И. Когана.

5. В индоарийских языках, как правило, различаются слова для обозначения шеи и горла. При этом нередко на слово *neck* (шея) информант может дать слово, обозначающее горло. То, что в списке Сводеша содержится только слово *neck*, — случайность, но поскольку формула подсчёта разрабатывалась именно для этого списка, следует его придерживаться. Между тем в списке хинди для значения ‘neck’ дано *galā* ‘горло’, а не *gardan* ‘шея’, в то время как для бенгали ситуация обратная (Kogan 2016: 249). О большинстве языков, сведения по которым не так легко проверить, мы не можем с уверенностью сказать, какое из двух значений попало в список.

В разделе «Замечания к семантике», таким образом, мы вносим в списки 29 изменений, влияющих на подсчёты.

Замечания к этимологиям

Данный раздел содержит замечания, связанные с нашими текущими знаниями и представлениями об истории индоарийских языков в целом.

1. ‘Red’ *lāl* в хинди и его параллели в других языках в списках считается исконным словом и имеет этимологию №63 (Kogan 2016: 250). Подробнее об этой гипотезе происхождения *lāl* из др.-инд. **lohila* см. (Kogan 2005: 156). Однако ни **lohila*, ни его производные не зафиксированы в древнеиндийских и среднеиндийских текстах. В статье Тёрнера (Turner 1969–1985: № 11168 **lōhila*) перечисляются примеры только из дардских и нуристанских языков и одна (с вопросительным знаком) параллель из сингальского. При этом ни в одном из перечисленных языков корневого гласного *ā* нет. Слово *lāl* в индоарийских языках появляется только в средневековых новоиндийских текстах в тех же нескольких значениях, в которых оно употребляется в современном хинди: ‘рубин’, ‘красный’ и ‘любимый, дитя’ (Callewaert 2009: 1836). Следует отметить, что в средневековых новоиндийских диалектах уже распалась древнеиндийская падежная система, но в то же время ещё не была сформирована система послелогов, поэтому существительное в роли определения зачастую соединяется с определяемым существительным путём простого соположения. Ср., например, ранние рукописи Кабира:

rāma rasāina rasanā cāṣū (1)

Рама амрита вкус пробовать-1SgPrae
‘пробую вкус амриты Рамы’

ita mana mādira rahau nita coṣaī (2)

здесь разум храм жить-Imprv всегда хороший-Adv
‘здесь в храме разума живи всегда хорошо’

ṣaṭa dala kāvala nivāsiyā (3)

шесть лепесток лотос обитающий
‘обитающий в лотосе с шестью лепестками’

aṣṭa kavala dala bhītarā (4)

восемь лотос лепесток промежуток
‘между восемью лотосовыми лепестками’

kadalī kusama dala bhītarā (5)

лотос цветок лепесток промежуток
‘между лепестков цветка лотоса’

В этой ситуации затруднительно отличить существительное 'рубин' от прилагательного 'рубиновый, красный', и даже словосочетание от композита типа *tatpurusha*. По всей видимости, именно в этот период персизм *lāl* (из перс. *la'l* 'рубин') и получил распространение в индоарийских языках. Так как гортанная смычка не является характерной для них фонемой, она была утрачена. Можно заметить, что основные исконные цветообозначения хинди, как и большинство исконных базовых прилагательных, являются изменяемыми и заканчиваются в исходной форме на *ā*: ср. *kālā* 'чёрный', *pīlā* 'жёлтый', *harā* 'зелёный', *nīlā* 'синий', *baṛā* 'большой', *choṭā* 'маленький', *ṭhaṇḍā* 'холодный', *sukhā* 'сухой', *bharā* 'полный', *pūrā* 'полный, целый', *acchā* 'хороший', *naṇyā* 'новый', *kharā* 'стоящий', *patlā* 'тонкий', но ср. *safed* 'белый' < перс., *garām* 'тёплый' < перс.⁵ Также существенным аргументом в пользу персидского происхождения *lāl* и его параллелей в других языках является то, что ни в одном из языков, в которых прошёл переход *-l > -l̥*, не зафиксирована форма с *-l̥*, однако встречаются формы с *-l*: ср. куллиуи *lāl* 'красный', но *phāl̥* 'плод', *gol̥* 'круглый'; ория *lāla* 'красный', но *phāla* 'плод', *golā* 'мяч' (*gol/gol̥* 'круглый', будучи абстрактным геометрическим понятием, видимо, имеет дублет-санскритизм). Вероятно, переход *-l > -l̥* прошёл до распространения персизма *lāl* в индоарийских языках. Форму *loyā* в думаки, вероятно, следует считать исконной и связывать с др.-инд. *lohita* (Turner 1969–1985: №11165 *lōhita*). Поправка: присваиваем *lāl* и его параллелям (HND *lāl*, DKH *lāl*, PNJ *lāl*, DGR *lāl*, SND *lālu*, GUJ *lāl*, BNG *lal*, HIM *lāl*, KUL *lāl*, MND *lāl*, ORY *lāl*, AWD *lāl*, KUM *lāl*, ROM *lolo*, BRJ *lāl*, GRH *lāl*, PRY *lal*, MAI *lāl*, MEW *lāl*, WGD *lāl*, HNK *lāl*, GJR *lāl*, LHD *lāl*, RAJ *lāl*, ASS *lal*, KOT *lāl*) отрицательные номера.

2. 'Nail' GUJ *nakh*, MAR *nakh*, BNG *nokh*, ASS *nokh*, HIN *nokh*, ORY *nakha*, а возможно, и ряд их параллелей в менее изученных языках, которым присвоен №14 (Kogan 2016: 241), следует признать санскритизмами, а не потомками др.-инд. *nakhá*. Интервокальное *kh* вместе с рядом других взрывных согласных в среднеиндийский период ослабляется в *h*, затем вовсе исчезая в части языков, таких как бенгали и гуджарати (Masica 1991: 180–181, 204). Хотя такое развитие взрывных согласных характерно не для всех слов, для *nakhá* оно хорошо зафиксировано (см., например, его рефлекс в стословных списках пенджаби, дакхини, браджа, а также хинди форму *nah* 'ноготь'). Сохранение интервокального *kh* возможно в качестве результата геминации, но в этом случае новоиндийский рефлекс должен содержать либо геминату, либо её следы в виде заместительного удлинения гласного (Masica 1991: 181, 187): *nakha > **nakkha > **nākha*. Ср. также рефлекс *múkha* 'лицо, рот' (этимология № 54). Поправка: для всех параллелей с *kh* (GUJ *nakh*, MAR *nakh*, BNG *nakh*, ASS *nakh*, HIM *nakh*, ORY *nakha*, WGD *nakh*, BNJ *nakh*) заменим №14 на №-14.

3. 'Mouth' WGD *muṇḍo* BNJ *muṇḍo* (Kogan 2016: 249) присвоен №54 (др.-инд. *múkha*). О фонетике вагди и банджари мы знаем мало, однако более вероятной представляется связь этих слов с *mūrdhán* 'голова' (Turner 1969–1985: №10247 *mūrdhán*)⁶. Ср. также кумаони *muṇḍo*, пенджаби *muṇḍ* 'голова'. Поправка: присваиваем словам вагди и банджари №554.

4. 'Mouth' BNG *mukh*, ASS *mukh* NEP *mukh*, KUM *mukh* (Kogan 2016: 249) следует признать санскритизмами по причине, изложенной в п. 2 для *nakh*. Поправка: для всех параллелей с *kh* заменим №54 на №-54.

⁵ Возможными исключениями являются *bhārī* 'тяжёлый' и *gol* 'круглый'. Однако фонетический облик обоих этих слов позволяет трактовать их как санскритские заимствования. Заметим, что второе из них неотличимо от существительного *gol* 'круг', от которого и произведено. Вероятно, таким же способом произведено *lāl* 'красный' от *lāl* 'рубин'.

⁶ Здесь и далее отсылки к Turner 1969–1985 даются по номерам словарных статей онлайн-версии, а не страниц книги).

5. Новоиндоарийские слова, восходящие к др.-инд. *bīja* 'seed' (Turner 1969–1985: №9250 *bīja*) утратили *j* в интервокальной позиции. Слова из списков А. И. Когана, сохранившие *j* (Kogan 2016: 252), следует признать санскритизмами. Поправка: присваиваем словам с сохранением *j* (HND *bīj*, DKH *bīj*, GJR *bīj*, LHD *bīj*, SND *b'iju*, RAJ *bīj*, BNG *bij*, ASS *biz*, KOT *bīdz*, HIM *bīj*, KUL *bejja*, ORY *bīja*, BRJ *bīj*, GRH *bīj*, MAI *bīj*, KCH *bījj*, BNJ *bījā*) отрицательный номер.

6. Новоиндоарийские слова, восходящие к др.-инд. *sūrya/sūriya* утратили в первом случае *r*, во втором *y* (Turner 1969–1985: № 13574 *sūra*, Masica 1991: 169). Следовательно, все слова, сохранившие и *r* и *y* (как правило, перешедшее в *j*), следует признать частично адаптированными санскритизмами (Kogan 2016: 253). Поправка: присваиваем HND *sūraj*, DKH *sūrīj*, PNJ *sūraj*, DGR *sūraj*, RAJ *sūraj*, GUJ *sūraj*, HIM *sūraj*, KUL *surjā*, MND *sūraj*, AWD *suruj*, KUM *sūraj*, BRJ *sūraj*, MAI *surūj*, KCH *sūraj*, MEW *sūraj*, ASS *xuruz*, GRH *sūraj*, BNJ *surjyā* отрицательные номера.

Итого в данном разделе вносится 75 влияющих на подсчёты изменений в списки.

Поправки к списку хинди

Хинди — официальный язык Республики Индия в целом, а также многих штатов, входящих в её состав. Так называемая «зона хинди» в действительности представляет собой огромный континуум различных идиомов, каждый из которых следовало бы вносить в «идеальную лексикостатистическую базу» отдельно. Лишь немногие из них уже внесены в базу А. И. Когана благодаря их сравнительно высокому статусу и хорошей изученности. Прочие имеют статус местных диалектов хинди. Однако первоначальная диалектная база хинди — это околodelийские диалекты хариани и кхари боли. При этом как в двуязычные словари (Platts 1884, Бархударов 1972), так и в толковые или синонимические (Kumar 1997, ряд интернет-словарей) входит лексика самых разных диалектов, зачастую без поясняющих помет. Почти каждое слово стословника имеет 5-10 синонимов. В силу низкой нормированности хинди, такие слова могут легко встретиться в песнях и кинофильмах, художественной литературе и публицистике. В этой ситуации тактика А. И. Когана избегать включения в список заимствований при наличии любого синонима, не противоречащего исторической фонетике, может привести к включению в стословный список слов, принадлежащих другим идиомам, расположенным в зоне хинди, и употребляющимся только на ограниченной территории. Самым простым способом отсеять такие диалектизмы будет приблизительный подсчёт сравнительной употребительности синонимов в корпусе текстов. Запросы вводились письмом деванагари. Опытным путём установлено, что более частотны написания без диакритики «нукта» и с заменой диакритики «чандрабинду» на диакритику «анусвара», поэтому в этих пунктах мы отходим от словарной орфографии. В случае большого количества синонимов, как правило, можно выделить один или несколько наиболее употребительных, тогда как у остальных частотность ниже в 10-20 и более раз. Среди этих наиболее употребительных слов можно выбрать исконные, если они представлены. Таким образом нами были проверены несколько вызвавших у нас сомнение пунктов из списка А. И. Когана.

1. 'Blood' *lahū* (Kogan 2016: 240) даёт 3105 вхождений в Hindi Web 2013. Основное бытовое слово — персизм *khūn* (31537 вхождений), основное медицинское — санскритизм *rakt* (16461 вхождение). Исконных слов сопоставимой частотности нет. Поправка: вычёркиваем *lahū*, добавляем два заимствования.

2. ‘Earth’, как правило, имеет много переводов и семантических тонкостей. Не совсем понятно, почему из списка хинди исключено слово *miṭṭī*, параллели которого представлены в других языках (Kogan 2016: 243). Hindi Web 2013 для *dhartī* и *miṭṭī* даёт сопоставимое число вхождений (33698 и 24256 соответственно). При этом семантика этих корней существенно различается (не только в хинди, но и в других языках) Если обратиться к такому источнику языковой информации, как Википедия на языке хинди⁷, то мы видим, что запрос *dhartī* переадресует нас на статью «планета Земля», а запрос *miṭṭī* — на статью «почва» (обе статьи озаглавлены санскритскими заимствованиями, за которыми идут перечисления синонимов). Действительно, семантика этих слов несколько отличается, и адекватное решение этой проблемы требует расширения списка, что не входит в наши задачи (см. раздел «Замечания к семантике»). Поправка: включаем *miṭṭī* в список хинди.

3. ‘Man’ в списке хинди (Kogan 2016: 248) представлено словом *mard* (8398 вхождений в Hindi Web 2013). Более последовательным было бы включение прежде всего эквивалента *ādmī* (125042 вхождения). Результаты подсчёта это не изменит, так как оба эти слова являются заимствованиями. Поправка: заменяем *mard* на *ādmī*.

4. ‘Meat’ представлено только словом *gošt* (Kogan 2016: 248). Однако запрос *mās* даёт 8614 вхождений в Hindi Web 2013, *gošt* — 1127. *gošt* — несомненное заимствование; *mās* может быть как санскритским заимствованием, так и исконным словом. В других языках его параллели широко представлены и отмечены как исконные (№124). Поправка: заменяем *gošt* на *mās* №124 в списке хинди.

5. ‘Rain’ в списке хинди — *mēh* (Kogan 2016: 250). Это слово малоизвестное, в словарях встречается, но, вероятно, попало туда из какого-то диалекта (например, раджастан). Hindi Web 2013 даёт для *mēh* 73 вхождения, что для слова из стословника хинди удивительно мало. Самым распространённым словом для обозначения дождя можно считать персизм *bāriṣ* (30702 вхождения); конкурентов он, вероятно, не имеет. Статья в словаре-тезаурусе (Kumar 1997) озаглавлена санскритизмом *varṣā* (14739 вхождений); среди перечисленных в статье синонимов из исконных слов самыми употребительными следует считать *jal* (63936 вхождений, основное значение ‘вода’), *pānī* (166879, основное значение ‘вода’) и *barsāt* (11389, основное значение ‘сезон дождей’), однако в этом случае отсеять другие значения слов мы не можем. Поправка: убираем *mēh*, вписываем *bāriṣ* и *varṣā* с отрицательными номерами.

6. ‘White’ в списке хинди *ujlā*, *ciṭṭā* (Kogan 2016: 256). Запрос в Hindi Web 2013 даёт на них 495 и 148 вхождений соответственно. Кроме того, *ujlā* имеет основное значение ‘ясный, сияющий, чистый’. Наиболее употребительным и семантически точным из слов, означающих ‘белый’, является персизм *safed* (15588 вхождений). Сопоставимых по употребительности с *safed* слов нет. Поправка: убираем *ujlā*, *ciṭṭā*, вписываем *safed* с отрицательным номером.

7. ‘Woman’ в списке хинди *aurat* (Kogan 2016: 256) — 27553 вхождения. Логично было бы добавить также санскритизмы *mahilā* (106114 вхождений) и *strī* (56179 вхождений). Из нашего полевого опыта скорее следует, что *aurat* более частотно, чем *strī*, в устном употреблении, поэтому можно предположить, что *strī* несколько чаще встречается в Hindi Web 2013 за счёт возможного преобладания в корпусе официального стиля. Поправка: добавляем *mahilā*, что не влияет на результаты подсчётов, так как все перечисленные слова являются заимствованиями.

Таким образом, в разделе «Поправки к списку хинди» мы постулируем 8 изменений, влияющих на подсчёты.

⁷ Разумеется, речь идёт не об источнике научной информации, а о Википедии на языке хинди как о ресурсе, который редактируется преимущественно носителями языка хинди.

Поправки к списку бенгали

Список бенгали был получен мной в 2016 году от одной информантки. Параллельно фиксировались слова разговорного бенгали и «шадху бхаша», санскритизированного литературного языка, что позволило отсеять часть синонимов. Расхождения нашего списка со списком А. И. Когана потребовали более тщательного изучения по словарям, корпусу Bengali Web и ряду источников в сети Интернет. Предлагаются следующие поправки к списку А. И. Когана.

1. 'All'. Помимо *śob* 'omnis' (Kogan 2016: 239) в нашем списке представлены два синонима для 'totus' — *śara* и *puro*. Первый, по словам информантки, употребляется в основном с временными периодами. Оба достаточно хорошо представлены в Bengali Web (3317 и 2680 вхождений соответственно). Поправка: включаем *śara* №581 и *puro* №32 в список.

2. 'Cloud' BNG *barid* №-2 (Kogan 2016: 241) при поиске в Bengali Web дал 0 вхождений⁸. В то же время *megh*, полученное от информантки, дало 372. Поправка: заменяем *barid* на *megh* (№-1). В подсчётах эта замена роли не играет, так как *megh* — санскритизм (см. п. 2, 4 раздела «Замечания к этимологиям»).

3. 'Fire' BNG *agun* №-4, в списке А. И. Когана обозначенное как заимствование (Kogan 2016: 244), вслед за Тёрнером считаем исконным словом (Turner 1969–1985: №14198 *agni*). Санскритизмы в бенгальском языке обычно сохраняют санскритскую орфографию, но произносятся по бенгальским правилам. Так, в качестве слова «шадху бхаша» наша информантка дала *agni*. Форма *agun* не вполне ясна, но качество гласного говорит о его удлинении, что не позволяет считать слово санскритизмом. Поправка: присваиваем *agun* №27.

4. 'Full' BNG *bhōra* №31 (Kogan 2016: 244) является словарной формой глагола 'наполнять', заменим его на полученное нами прилагательное *bhōrti*, что, впрочем, не должно отразиться на подсчётах.

5. 'Hair' BNG *keś* №185 (Kogan 2016: 245) даёт 25 вхождений в Bengali Web. Моя информантка вместо этого слова выдала синоним *chul* (551 вхождение). Поправка: удаляем *keś*, заменяем на *chul* №308 (Turner 1969–1985: № 4883 *cūḍa*).

6. 'Liver' BNG *ḷkṛit* (Kogan 2016: 247) информанткой было маркировано как «шадху бхаша», бытовое наименование — англицизм *libhar* (преимущественно в кулинарии). В Bengali Web *ḷkṛit* и *libhar* дают 22 и 40 вхождений, в Google 53700 и 556000 соответственно. Поправка: добавляем *libhar* с отрицательным номером в список. На подсчёты это изменение не влияет, оба слова являются заимствованиями.

7. 'Many' BNG *bōhi* №51 (Kogan 2016: 248). Наша информантка дала бытовое *mek*, «шадху бхаша» — *procur*. *bōhi* даёт 3560 вхождений в Bengali Web, *mek* — 23201 вхождение. *bōhi* присутствует в бенгальском языке в том числе как первая часть санскритских композитов-санскритизмов, однако различить санскритизм и исконное слово по фонетическому облику в этом случае не представляется возможным, поэтому *bōhi* как самостоятельное слово следует считать исконным. Форма *mek*, напротив, — очевидный санскритизм. В связи с высокой встречаемостью мы всё же включим его в список с присвоением №-1, хотя на подсчёты это не влияет.

8. 'New' BNG *nōbō* №57 (Kogan 2016: 249) было маркировано информанткой как «шадху бхаша», и это не случайно. Фонетический облик этого слова не даёт оснований считать его исконным. Форма *nōbō*, несомненно, происходит из др.-инд. *nāva*, однако по-

⁸ Хотя словари и подтверждают слово *barid* в этом значении, при поиске в Google соотношение между *barid* и *megh* составило 98 к 2130000.

томком др.-инд. *nāva*, удовлетворяющим требованиям исторической фонетики, в действительности является бенгальское *nɔ* ‘младший, четвёртый (о ребёнке в семье)’ (Turner 1969–1985: №6983 *nāva*, Ghosh 2011, Лоскутов 1974). Ср. аналогичный пример: Turner 1969–1985: №10431 *yāva* ‘barley’ = бенгальское *ja* (в современных словарях литературного бенгальского языка это слово представлено в форме *ji* ‘овёс’, см. Ghosh 2011, Лоскутов 1974). Исходя из этих соображений, следовало бы приписать *nɔbɔ* отрицательный номер; но в силу его низкой частотности (241 вхождение в Bengali Web) мы предлагаем просто не включать его в список. В качестве разговорного синонима *nɔbɔ* наша информантка дала *notun* (13913 вхождений в Bengali Web) — слово, по всей видимости, связанное с др.-инд. *nūtana*⁹, прошедшее не вполне понятные фонетические изменения; вероятно, его следует считать частично адаптированным санскритизмом¹⁰. Поправка: приписываем *nɔbɔ* №-57, добавляем *notun* с №-1.

9. ‘Rain’ BNG *badɔl* №127 (Kogan 2016: 250). В нашем списке в качестве бытовых слов даны *badɔl* (101 вхождение в Bengali Web) и *ɟɔl* (893 вхождения). Основное значение *ɟɔl* — ‘вода’, поэтому проверить частоту его употребления в значении ‘дождь’ затруднительно, однако это значение присутствует в большинстве словарей. В связи с малой частотностью *badɔl* вероятно, следует добавить *ɟɔl* в список в качестве второго слова с №319.

10. Вместо ‘road’ BNG *pɔth* №-8 (Kogan 2016: 251) в нашем списке значится персизм *rasta*. Для *pɔth* обнаружено 8008 вхождений в Bengali Web, для *rasta* — 2390 вхождений. Разница незначительна, и мы можем добавить *rasta* в качестве второго слова с отрицательным номером, что, впрочем, не должно повлиять на подсчёты.

11. ‘Root’ BNG *ʃikɔɾ* №313 (Kogan 2016: 251) даёт 12 вхождений в Bengali Web. В нашем списке его место занимает *mul* (6143 вхождения). Поправка: заменяем *ʃikɔɾ* на *mul* №259.

12. ‘Tail’ BNG *langul* №317 (Kogan 2016: 254) даёт 0 вхождений в Bengali Web, а в Google — около 2000. В нашем списке значится *lej* (141 вхождение в Bengali Web, около 536000 в Google). Малая встречаемость *langul* позволяет его исключить, однако в онлайн-словаре мы находим форму *lengur*, которая также приводится в Turner 1969–1985: №11009 *lāṅgūlá*. Эта форма не встречается в Bengali Web, но в Google имеет около 50-80 тысяч вхождений. Форма *lej* возводится к Turner 1969–1985: №10915 *lañja*. По всей видимости, *lañja* и *lāṅgūlá* связаны на праиндоевропейском уровне с глаголом *leṅg* ‘качаться’, который приведён в статье Тёрнера. Поправка: заменяем *langul* на *lengur* №317, добавляем синоним *lej* №317.

13. ‘White’ BNG *dhɔbɔl* №267 (Kogan 2016: 256) в нашем списке отсутствует. Следует отметить, что *dhɔbɔl* по своему фонетическому облику — санскритизм. Действительным фонетическим соответствием др.-инд. *dhavala* ‘белый, чистый’ является бенгальское *dhɔla* ‘белой масти, светлокожий’ (см. Turner 1969–1985: №6767 *dhavalá*, а также пункт 8 данного раздела о ‘new’ BNG *nɔbɔ*). Учитывая это, *dhɔbɔl* справедливо было бы присвоить отрицательный номер. Однако то, что в Bengali Web это слово встречается 1 раз, в то время как *śada* из нашего списка (*śada* также является заголовком статьи в бенгальской Википедии о белом цвете) встречается 869 раз, позволяет его вовсе исключить, заменив на персизм *śada* с отрицательным номером.

14. ‘Woman’ BNG *meɟe* №321 (Kogan 2016: 256): действительно, довольно распространённое слово (4302 вхождения в Bengali Web), но основное его значение — ‘girl’, что подтверждает, например, статья в бенгальской Википедии. Наша информантка в качестве основного бытового слова дала *mɔhila* (2248 вхождений в Bengali Web), статья в бенгаль-

⁹ См. Turner 1931: <http://dsal.srv02.uchicago.edu/cgi-bin/philologic/getobject.pl?c.1:1:5036.turner.1329326>.

¹⁰ Закономерный рефлекс др.-инд. *nūtana* должен был бы выглядеть как ***nūan*.

ской Википедии о человеке женского пола озаглавлена словом *nari* (8533 вхождения в Bengali Web), однако оба этих слова следует считать заимствованиями. Таким образом, исконного слова для понятия 'woman' в бенгали нет. Поправка: заменяем *meye* на *mohila* и *nari* с отрицательными номерами.

15. 'Yellow' BNG *hɔɫde* (Kogan 2016: 257): присутствует в нашем списке в форме *hɔɫud*, это слово является и заголовком статьи о жёлтом цвете в бенгальской Википедии. Количество вхождений *hɔɫde* в Bengali Web — 12, в Google — около 167 тысяч, *hɔɫud* в Bengali Web — 263, в Google — около 1 миллиона 830 тысяч. Однако *hɔɫud* обозначает также куркуму, распространённую индийскую пряность. Поэтому выяснить относительную употребительность этих двух форм затруднительно. Возможная поправка: заменяем *hɔɫde* на *hɔɫud* без замены номера.

Итого в разделе «Поправки к списку бенгали» насчитываем 9 изменений, влияющих на подсчёты.

Поправки к списку ория

Слословный список языка ория был получен мной в 2016 году от одного информанта. К сожалению, объём корпуса ория из Leipzig Corpora Collection, который мне удалось найти, составляет всего 30 тысяч предложений, и многие слова из списка А. И. Когана в нём не представлены, а слова из моего списка представлены слабо. Но благодаря тому, что язык ория обладает уникальной письменностью, результаты запросов в Google с очень высокой вероятностью будут относиться именно к языку ория (в отличие от хинди, в котором базовая лексика может графически совпадать с лексикой непали, маратхи или санскрита, а также бенгальского, базовая лексика которого может графически совпасть с ассамской). В силу этих обстоятельств мы приводим статистику и по Leipzig Corpora Collection, и по Google для тех пунктов списков, в которых имеются существенные расхождения. В списке А. И. Когана слова ория приводятся в системе транслитерации. Я даю слова в транскрипции, так же, как это сделано в его списке бенгали. Таким образом, то, что А. И. Коган передаёт как *a* и *ā*, я передаю как *ɔ* и *a* соответственно.

1. 'Ashes' ORY *chāra* №140 (Kogan 2016: 239): словарями не подтверждается, как и нашим списком (в отличие от *pāuñśa* №567). В корпусе слово не представлено. В Google слово представлено слабо (около 900 ссылок), вероятно, в основном, как вариант написания *chār* 'ничтожный'. Приписывание ему значения 'пепел', по-видимому, связано с каким-то из сочетаний, обозначающих уничтожение, в том числе сожжение до состояния пепла. Поправка: убираем *chāra* из списка.

2. 'Bark' ORY *bakkala* №328 (Kogan 2016: 239): согласно словарям, следует транслитерировать как *bakala*.

3. 'Breast' ORY *buku* №297 (Kogan 2016: 241): по словам нашего информанта, относится к классическому ория, в отличие от *chāti* №12, которое подтверждается нашим списком. В корпусе *buku* не представлено, тогда как полученное нами от информанта *chāti* имеет 40 вхождений в корпус. В Google *buku* встречается около 600 раз, *chāti* — около 19 тысяч раз. Поправка: убираем *buku* из списка.

4. 'Cold' ORY *thanda* №458 (Kogan 2016: 242): в наш список не попало. Информант дал санскритизм *fitɔ*. По количеству вхождений в корпус они вполне сопоставимы (39 и 94), поправки в список А. И. Когана не требуются.

5. 'Come' ORY *ail-* №181 (Kogan 2016: 242): перфектная основа, в которую входит стандартный перфектный суффикс *-il-*. Для выяснения вопроса о происхождении основ

ās- и *a-* требуется отдельное исследование, выходящее за рамки целей данной статьи. Полной парадигмы от основы *a-* не образуется. В словаре Прахараджа лишь упоминается о возможности употребления форм типа *āila* или *aila* (и прочих) вместо *āsila* (и прочих) в прошедшем времени (Praharaj 1931–1940: <http://dsalsrv02.uchicago.edu/cgi-bin/philologic/getobject.pl?c.0:110.praharaj>)¹¹. Однако очевидно, что перфектный суффикс следует исключить. Поправка: заменяем *ail-* на *a-*. На подсчёт эта замена не влияет.

6) ‘feather’ ORY *pālak* №306 (Kogan 2016: 244): согласно словарю Biswal 2015: 870, значит ‘nourishing, rearing up’. Указание на значение ‘перо’ находим в словаре Прахараджа, однако здесь говорится лишь о диалектном слове, распространённом в сообществах ория в Миднапуре в Западной Бенгалии, в окружении бенгалоязычного населения. В той же словарной статье Прахарадж толкует эту форму через слово *pṛṛṛ* (Praharaj 1931–1940: <http://dsalsrv02.uchicago.edu/cgi-bin/philologic/getobject.pl?c.28:5159.praharaj.3504923>). Очевидно, речь о заимствовании бенгальского *pālṅk* ‘перо’. Слово из нашего списка, персизм *pṛṛṛ*, подтверждается словарями ория (Biswal 2015: 818, Tripathy 2015: 326). Распространённость его оценить затруднительно, так как оно имеет (вероятно, более распространённый) омоним — местоимение ‘другой’. В словаре Прахараджа оно присутствует только в толкованиях, но не в заголовке словарной статьи, из чего можно предположить, что это слово является самым общеизвестным в данном значении. Поправка: заменяем *pālak* на *pṛṛṛ* (в транслитерации А. И. Когана — *para*) №-1.

7. ‘Foot’ ORY *pā* №30 (Kogan 2016: 244): подтверждается словарём Прахараджа, но не встречается в корпусе, а в Google находится только 121 вхождение. *pādṅ* из нашего списка даёт 121 вхождение в корпус и 35 тысяч — в Google. *pādṅ* — санскритское заимствование, но исконные слова сопоставимой частотности отсутствуют. Поправка: заменяем *pā* на *pādṅ* №-1.

8. ‘Full’ ORY *bhari* №31 (Kogan 2016: 244): согласно словарям ория (Biswal 2015: 1204, Tripathy 2015: 372, 437), имеет значение ‘heavy’, но не ‘full’. Представленное в нашем списке *pūrā* подтверждается словарями и встречается в корпусе 18 раз. Поправка: убираем *bhari* из списка.

9. ‘Hair’ ORY *cuṭi* №308 (Kogan 2016: 245): согласно словарю (Biswal 2015: 448), обозначает исключительно вершину горы. На той же странице см статью о *cuṭṅ* ‘hair of the head’, имеющее также значения ‘crest of cock’, ‘top of a temple’, ‘hump of a bull’. В корпусе *cuṭṅ* встречается 2 раза. В нашем списке представлены два слова: *bāl* и *cuṭi*, при этом второе отмечено информантом как слово прибрежного (околостолычного) диалекта, а первое — как слово западное или племенное. Однако словарь (Biswal 2015: 445) переводит *cuṭi* как ‘a tuft of hair’ (пучок волос, причёска), а словарь (Tripathy 2015: 422) толкует *hair* в основном через слово *bāl*, вовсе не упоминая *cuṭi*. В корпусе *cuṭi* также встречается 2 раза, по сравнению со 119 для *bāl*. Поправка: заменяем *cuṭi* на *bāl* №36.

10. ‘Heart’ ORY *hrudaya* №-5 (Kogan 2016: 246): слово, согласно словарям и свидетельству информанта связанное скорее с духовным понятием. Сердце в анатомическом смысле — *hrutpiṅḍṅ*. Оба они являются санскритизмами. Поправка: заменяем *hrudaya* на *hrutpiṅḍṅ* без замены номера.

11. ‘Meat’ ORY *māṅsa* №124 (Kogan 2016: 248): вероятно, опечатка. По словарям и свидетельству информанта — *māṅsṅ*. Поправка: заменяем *māṅsa* на *māṅsṅ*, на подсчёт замена не влияет.

12. ‘Moon’ ORY *candramā* №-8 (Kogan 2016: 248): малоупотребительный санскритизм (2 вхождения в корпусе). В нашем списке значится *jṅhṅ*, которое также является заго-

¹¹ Здесь и далее отсылки к Praharaj 1931–1940 даются гиперссылками на онлайн-версию.

ловком статьи о Луне в Википедии на ория и даёт 14 вхождений в корпусе. Это слово отсутствует в статье (Turner 1969–1985: №5301 *ḷyótsnā*), но очевидно, что это этимологическая параллель к *ḷyótsnā*. Поправка: заменяем *candramā* на *ḷḷḷḷ* №340.

13. ‘Round’ ORY *gola* №66 (Kogan 2016: 251): вероятно, опечатка. Прилагательное ‘круглый’ в словаре (Biswal 2015: 370) приводится в двух вариантах написаний: *gol/gol*, то есть существует и в форме санскритизма, и в форме исконного слова. Поправка: заменяем *gola* на *gol* без замены номера.

14. ‘Say’ ORY *bol-* №70 (Kogan 2016: 251): при поиске в словарной форме *bolibā* даёт 1 вхождение в корпус и около 300 в Google, что несопоставимо с 30 вхождениями в корпус и 42 тысячами в Google для представленного в нашем списке *kḷh-* № 69 в той же форме. Поправка: убираем *bol-* из списка.

15. ‘Seed’ ORY *bija* №72 (Kogan 2016: 252): по его фонетическому облику следует считать санскритизмом (см. Masica 1991: 180–181, также пункт 5 из раздела данной статьи «Замечания к этимологиям»). В корпусе это слово даёт 7 вхождений. В нашем списке значится *māji* (52 вхождения), заимствование из дравидийских языков (Burrow 1984: #4639 Ga. (Oll.) *mājik*). Поправка: помимо замены номера *bija* на отрицательный, добавляем *māji* с отрицательным номером.

16. ‘Sun’ ORY *surya* №-11 (Kogan 2016: 253): вероятно, результат ошибочной транслитерации. В действительности варианты произношения, приведённые в словаре Прахараджа — *sūrja, sūruj, suraj, sūrjya*. В нашем списке также значится *surjḷ*. Поправка: заменяем *surya* на *surjḷ* без замены номера — всё это следует считать различным образом адаптированными санскритизмами (см. пункт 6 раздела «Замечания к этимологиям»).

17. ‘Tail’ ORY *languḷa* №317 (Kogan 2016: 254): и в словарях, и в корпусе, и в Google находится только в форме *lānguḷa* (12 вхождений в корпус, около 100 вхождений в Google). В нашем списке значится *lanjḷ* (25 вхождений в корпус, около 1000 вхождений в Google). Поправка: заменяем *languḷa* на *lānguḷa*, добавляем *lanjḷ* №317.

18. ‘Walk (go)’ ORY *gal-* №93 (Kogan 2016: 255): отсутствует в словарях и, по видимому, является результатом ошибочной транслитерации специфического редкого начертания слога *cā* (𑂓) в письменности ория. Обычное его написание — 𑂓, но в этом редком начертании он сходен со слогом *ga* (𑂓). В действительности речь о глаголе *cāl-*, зафиксированном и в нашем списке. Заметим, что этот глагольный корень представлен, например, и в хинди. Но употребление корней *ja-* и *cal-* в хинди (как и, судя по словарным толкованиям, *ji-* и *cāl-* в ория) сильно различаются. Если первый скорее можно соотнести с английским *go* (‘идти, уходить’), то второй — с английским *walk* (‘ходить, передвигаться пешком’). Поэтому сопоставлять их между собой было бы неправомерно. Поскольку семантические соответствия *cāl-* отсутствуют в списках А. И. Когана, не стоит включать этот глагол в список ория, а значение ‘walk (go)’ следует уточнить. Поправка: удаляем *gal-* из списка, меняем значение ‘walk’ на ‘go’ для всех языков.

Таким образом, в разделе «Поправки к списку ория» 9 изменений, влияющих на подсчёты.

Поправки к списку куллуи

Список языка куллуи составлен А. И. Коганом с помощью грамматического очерка М. Р. Ранганатхи, содержащего наиболее полный словник куллуи на момент написания статьи. Гораздо более подробная и достоверная грамматика М. Р. Тхакура содержит значительное количество лексики, но эта лексика не объединена в словарь, а разбросана по

разным разделам грамматики, часто без перевода на хинди. В настоящее время более полный, периодически обновляемый словарь куллуи можно найти на сайте www.pahari-languages.ru. Он включает данные из словаря Ранганатхи и постоянно пополняется лексикой из грамматики Тхакура и нашими полевыми данными. Согласно сложившейся в нашей научно-исследовательской группе традиции, транскрипция слов куллуи даётся не в индологической транскрипции, а в МФА. Стословный список языка куллуи был собран в 2013 году Е. Князевой (Шуванниковой) от пяти информантов из деревни Наггар; позже семантика многих из этих слов была уточнена нами в ходе работ по сбору словаря и корпуса устных текстов. Разберём те случаи, где встречаются расхождения со списком А. И. Когана.

1. 'Ashes' в списке А. И. Когана не представлено. В нашем списке значится $b^h\text{ɔ}:\text{s}$. Поправка: добавляем $b^h\text{ɔ}:\text{s}$ №489.

2. 'Bark' KUL *khol* №552 (Kogan 2016: 239): в нашем списке отсутствует. Трое из пяти информантов назвали слово *lepəɾa*. Возможная его этимология связана с (Turner 1969–1985: 11114 *lēpya* 'plaster'). Поправка: заменяем *khol* на *lepəɾa* №490.

3. 'Bite' KUL *kāṭ-* №8 (Kogan 2016: 240): представлено в наших списках от двух информантов. Также двое информантов представили корень $k^h\bar{a}$ -, один — *ʈok-* и один — *tse|a-*. Вносим корень $k^h\bar{a}$ - №490, значение которого было позже подтверждено информантами в ходе дальнейшей работы.

4. Помимо 'black' KUL *kāla* №9 (Kogan 2016: 240), двое информантов также дали прилагательное *ʈitta*. Поправка: добавляем *ʈitta* №450.

5. 'Dry' в списке куллуи А. И. Когана не представлено. В нашем списке значится *fukka*. Поправка: добавляем *fukka* №20.

6. Кроме 'egg' KUL *aṇḍa* №24 (Kogan 2016: 243), двое из наших информантов дали также эквивалент *ḍanna* — слово с не вполне ясной этимологией; видимо, следует считать, что оно относится к тому же корню, но с метатезой. В этом случае его внесение в список не повлечёт за собой изменений при подсчётах, а при дальнейшей работе со списками, возможно, будет найдена более удовлетворительная этимология. Поправка: вносим *ḍanna* №24.

7. 'Eye' KUL *hək^{hi}* №25 (Kogan 2016: 243): в нашем списке не представлено. Вместо него все информанты выдавали *ɕt^{hi}*. Поправка: заменяем *hək^{hi}* на *ɕt^{hi}* без замены номера.

8. 'Fat' в списке куллуи А. И. Когана отсутствует. В нашем списке персизм *tsərvɪ*. Поправка: вносим *tsərvɪ* с отрицательным номером.

9. 'Fish' KUL *machli* №28 (Kogan 2016: 244): в нашем списке не представлено. Все информанты дали *mɔtsi*. Это же слово находим и у М. Р. Тхакура. Поправка: заменяем *machli* на *mɔtsi* без замены номера.

10. 'Foot' KUL *pɛr* (Kogan 2016: 244): в нашем списке не представлено. Три информанта дали *ɖɔ̃:ng* (Тёрнер 5082 *jānḡhā*) и три — *ʈā:ŋ* (Turner 1969–1985: №5428 *ṭaṅka*). Поправка: заменяем *pɛr* на *ɖɔ̃:ng* №130 и *ʈā:ŋ* №131.

11. 'Good' KUL *bhala* №184 и *khəra* №554 (Kogan 2016: 245): в нашем списке не представлены. Четыре информанта дали *ʃob^hla* (вероятно, Turner 1969–1985: №12532 *śubha*) и два — *bā:ka* (допустимы несколько гипотез, Turner 1969–1985: 11345 *varṇya*, 9145 *bandhura* и 11191 *vaṅka*). Однако в ходе полевой работы последующих лет стало ясно, что *bā:ka* можно скорее перевести как 'beautiful'. Поправка: заменяем *bhala* и *khəra* на *ʃob^hla* №588.

12. 'Head' KUL *sir* №38 (Kogan 2016: 245): в наших списках не представлено. Следует заметить, что если бы такое слово действительно входило в стословник куллуи, его следовало бы считать заимствованием из хинди, так как правильным соответствием др.-инд.

ś- в куллуи является *f*. Следовательно, у слова *sir* (Turner 1969–1985: №12452 *śiras*) должен был бы быть отрицательный номер. Однако четверо информантов дали *munḍi*. Поправка: заменяем *sir* на *munḍi* №338.

13. ‘Heart’ KUL *dil* №4 (Kogan 2016: 246) в наших списках не представлено. Трое информантов дали *kokṛi* (этимология неясна). Поправка: заменяем *dil* на *kokṛi* №666.

14. ‘Horn’ KUL *sīng* №40 (Kogan 2016: 246): в наших списках не представлено. Если бы оно входило в стословный список куллуи, ему следовало бы присвоить отрицательный номер (см. пункт 12 ‘head’ KUL *sir*). Однако все наши информанты дали *fi:ng*. Поправка: заменяем *sīng* на *fi:ng* без замены номера.

15. ‘Kill’ KUL *mār*- №42 (Kogan 2016: 246) дал один из наших информантов. Четыре человека дали эквивалент *māka:-* (по-видимому, Turner 1969–1985: №10263 **mṛkṣa* ‘damaged’). Поправка: добавляем *māka:* №444.

17. ‘Leaf’ KUL *patṭrā* №45 (Kogan 2016: 247): в наших списках отсутствует. Все информанты выдали форму *patṭa*. Поправка: заменяем *patṭrā* на *patṭa* без замены номера.

18. ‘Meat’ KUL *mās* №124 (Kogan 2016: 248): дано одним из информантов. Четыре информанта дали форму *fik^ha*. По всей видимости, это персизм (из перс. *sekār* ‘охота, дичь’), но фонетические изменения не совсем понятны. Поэтому лучше внести его в список на случай дальнейшей работы с ним, если всё же будет найдена исконная этимология. Поправка: добавляем *fik^ha* №-1.

19. ‘Moon’ KUL *joth* №340 (Kogan 2016: 248): слово, полученное от двух информантов. Однако от двух других получено *ʃa:nd* (Turner 1969–1985: №4661 *candrā*). Кроме того, согласно описанию М. Р. Тхакура и нашим полевым данным, в языке куллуи наблюдается противопоставление двух рядов аффрикат, и слово из списка А. И. Когана точнее было бы передавать как *dzot^h*. Дальнейшее изучение вопроса о происхождении двух рядов аффрикат в куллуи, возможно, приведёт к тому, что слово *ʃa:nd* мы сочтём заимствованием из хинди, но на данный момент мы не можем с уверенностью это утверждать. Поправка: заменяем *joth* на *dzot^h*, добавляем *ʃa:nd* №52.

20. ‘Mountain’ KUL *pahād* №53 (Kogan 2016: 248): в нашем списке отсутствует. От трёх информантов было получено слово *d^ho:g* (Turner 1969–1985: №5603 **dhōkka*). Однако в качестве стимула выступало не *mountain*, а *hill*. По нашим данным, для понятия ‘mountain’ чаще используется слово *dzot* (Turner 1969–1985: №5362 *jhāṭa* ‘forest’). Поправка: заменяем *pahād* на *dzot* №632.

21. ‘Neck’ KUL *kyāḍi* №228 (Kogan 2016: 249): не подтверждается нашими списками. Все информанты дали слово *mut^hu*, этимология которого неясна. *gāl* неоднократно встречается в форме *gāl*, значит в том числе и ‘горло’ (см. пункт 4 из раздела «Замечания к семантике»); но чтобы исключить значение ‘шея’, требуется более подробное исследование семантики. Поправка: заменяем *kyāḍi* на *mut^hu* №777.

22. ‘Sand’ KUL *ret* №67 (Kogan 2016: 251): действительно, было подтверждено несколькими информантами. Однако у двоих также встретилось *ballu*. Поправка: вносим *ballu* №68.

23. ‘Small’ KUL *choṭṭa* №77 (Kogan 2016: 252): не подтверждается нашими списками. Все информанты дали *ots^ha* (Turner 1969–1985: №2540 **ōccha*). Поправка: заменяем *choṭṭa* на *ots^ha* №888.

24. ‘Tail’ KUL *phunjiṭ* №84 (Kogan 2016: 254): не подтверждается нашими списками. Все информанты дали *li:ngḍa* или *li:ngḍi* (Turner 1969–1985: №11009 *lāṅgūlā*). Поправка: заменяем *phunjiṭ* на *li:ngḍa* №317.

Итого в разделе «Поправки к списку куллуи» 19 изменений, влияющих на подсчёты.

Выводы

Данные, представленные в статье А. И. Когана, безусловно, являются важнейшей базой для построения новой классификации индоарийских языков. Недочеты, перечисленные нами, лишь указывают, в каком направлении её следует продолжать. Это, прежде всего, уточнение семантики и исторической фонетики (главным образом, с целью выявления санскритизмов), что актуально для всех языков. Для больших языков также необходима проверка лексики по корпусам и словарям, а для малых — сбор достоверных полевых данных. В следующей статье мы надеемся сопоставить списки А. И. Когана с полевыми списками кумаони, марвари и чхаттисгархи, собранными Е. А. Ренковской, а также проанализировать список непали. Легко заметить, что количество влияющих на подсчёты изменений, полученных методом анализа по корпусам хорошо изученных языков, не очень велико — в каждом списке около восьми. Однако для малоизученного куллуи эта цифра достигла 19; и наиболее массовыми оказались изменения, связанные с общим соответствием базисной лексики тому, что мы знаем об исторической фонетике индоарийских языков. Общее число значимых для подсчёта изменений — 149. Посмотрим, какой эффект они дали.

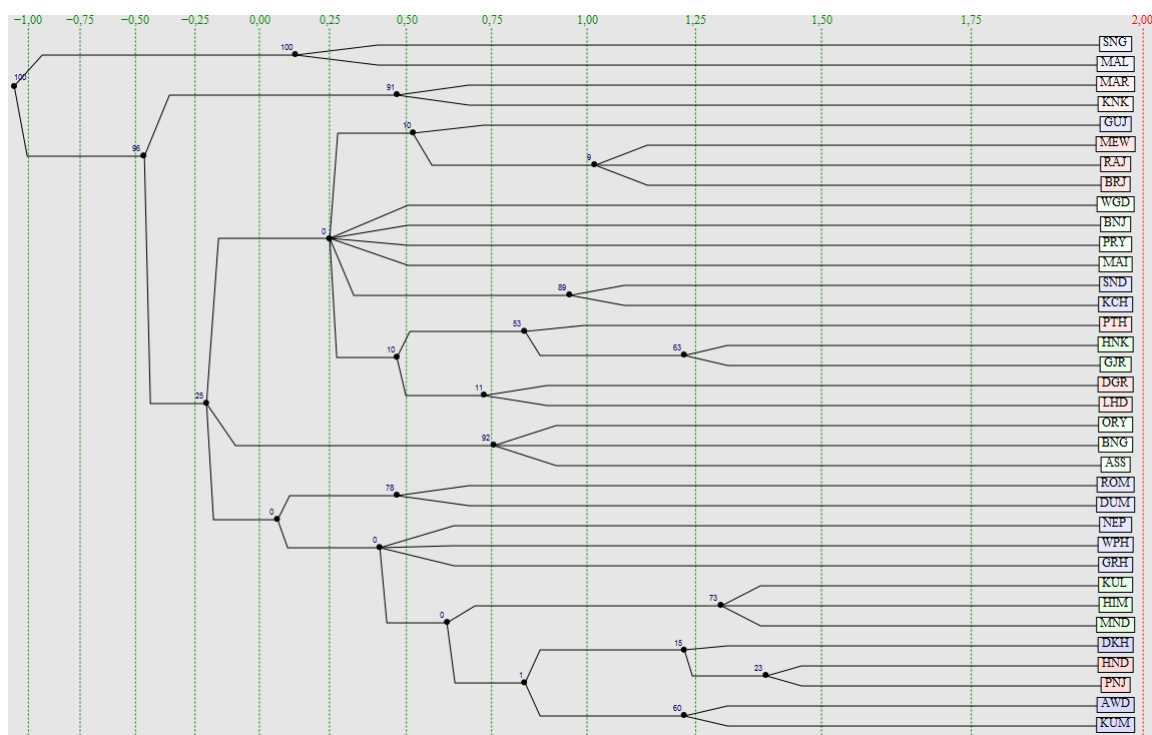


Рис. 1. Дерево, построенное по спискам А. И. Когана в Starling (бутстреп 200 раз)¹².

¹² WPH здесь и далее обозначает то же, что в статье А. И. Когана — КОТ, отличие связано с более старой версией базы.

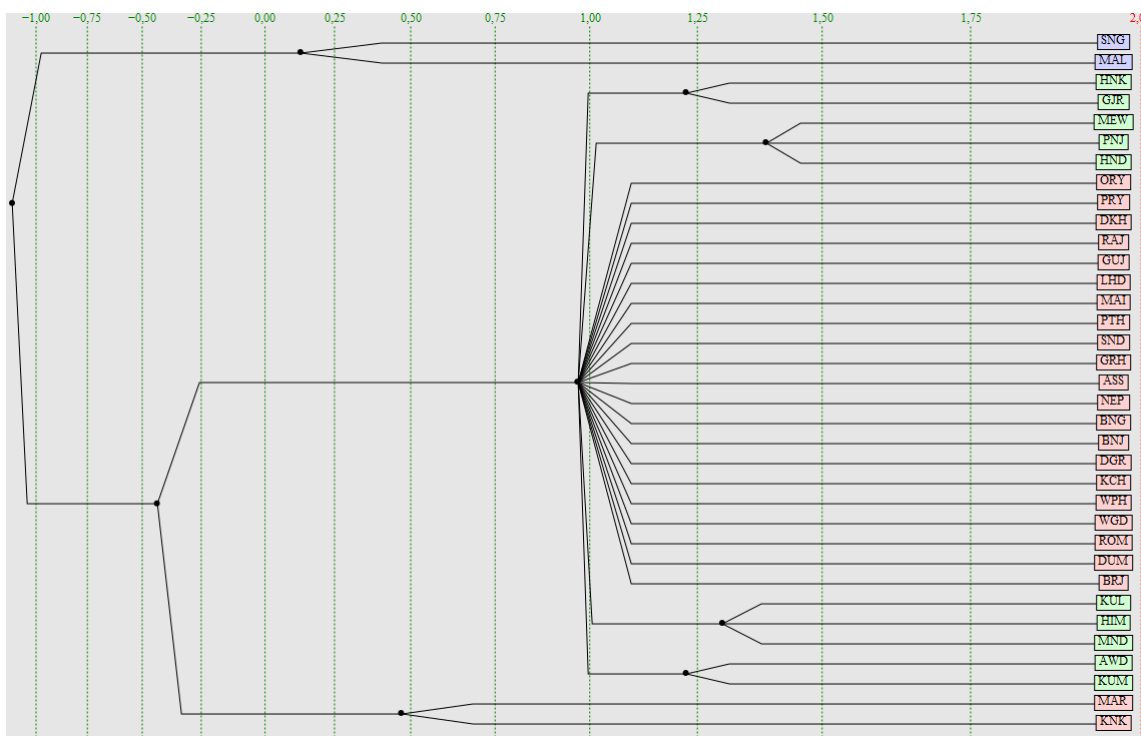


Рис. 2. Дерево, построенное по спискам А.И. Когана при сведении узлов, разница между которыми составляет менее 200 лет (при настройках по умолчанию сводятся узлы, разница между которыми составляет менее 150 лет).

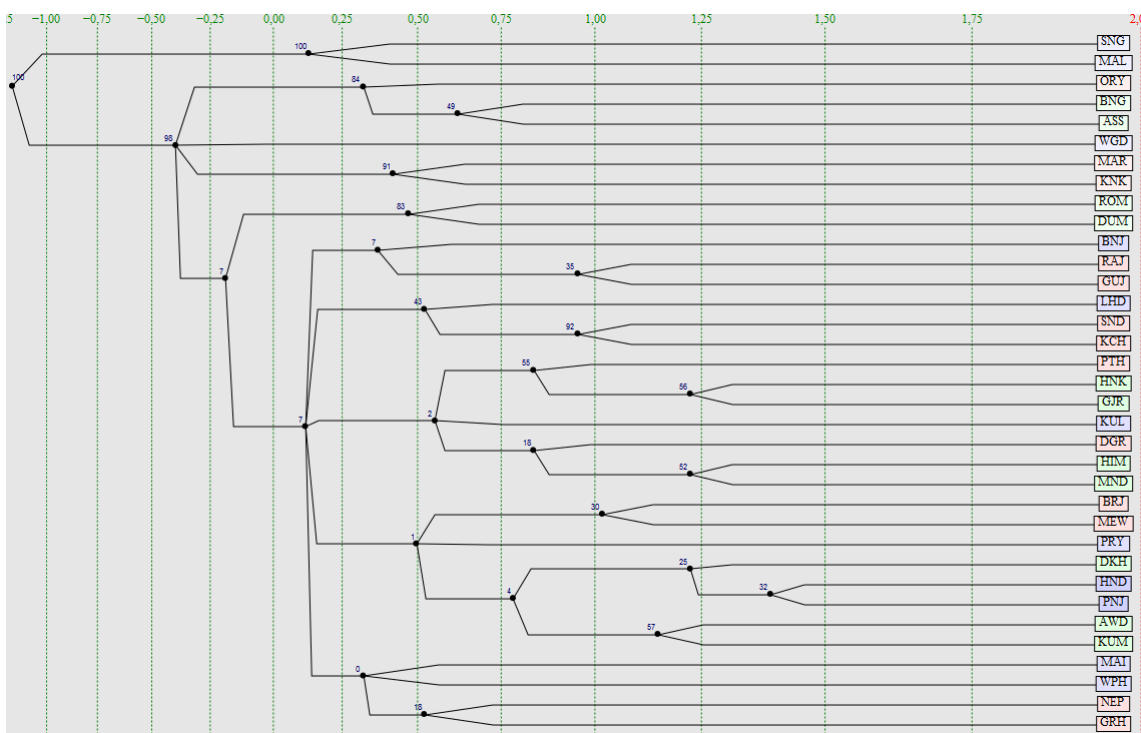


Рис. 3. Дерево, построенное по исправленным спискам (бутстреп 200 раз).

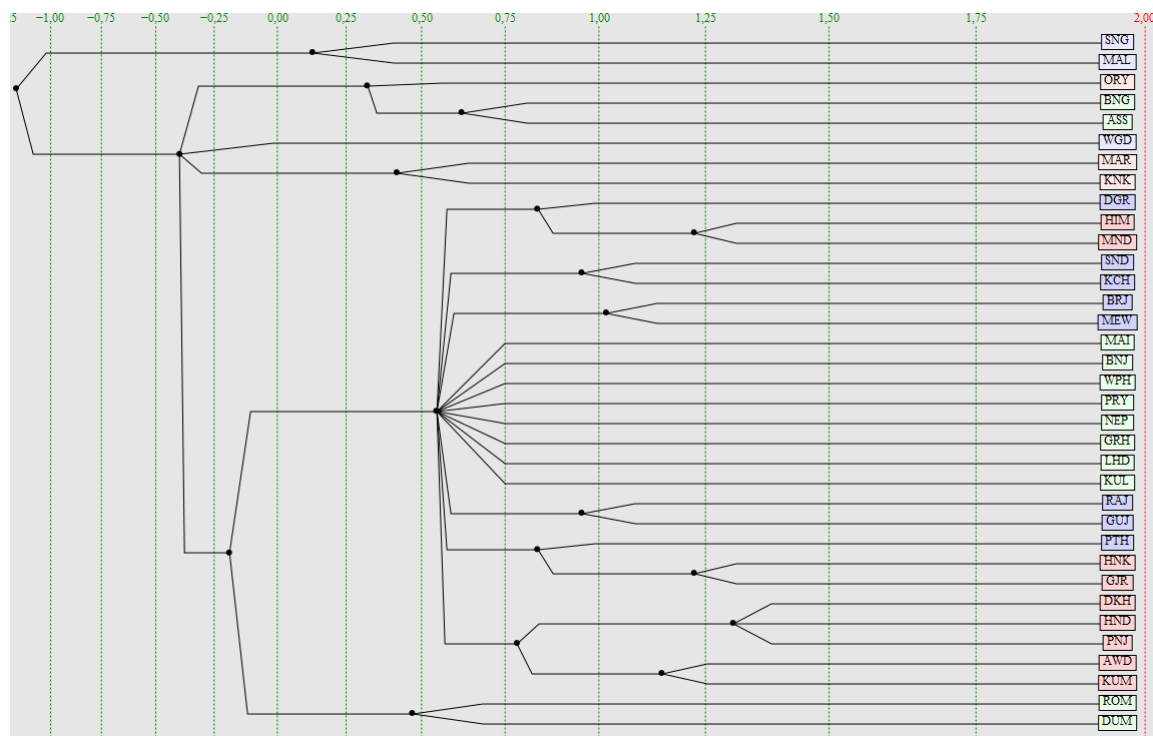


Рис. 4. Дерево, построенное по исправленным спискам при сведении узлов, разница между которыми составляет менее 200 лет.

Мы видим, что дерево стало более склонным к бинарному ветвлению; увеличилось расстояние между узлами, почти не осталось узлов с оценкой менее 1. В целом дерево стало больше соответствовать географическому разделению. Первый распад и в первоначальном, и в исправленном дереве делит языки на островную и континентальную ветви. В дереве А. И. Когана (Рис. 1) второй уровень — отделение южной группы маратхи и конкани, а затем следует распад на три ветви, из которых одна — восточная группа (ассамский, бенгальский, ория), а две других географически друг от друга неотделимы. При слиянии близко расположенных узлов (Рис. 2) этот последний узел, однако, сливается с более поздними, образуя нераздельный континуум из центральных и восточных языков. В обновлённом дереве (Рис. 3) на втором уровне разделяются южная, восточная и центральная группы. Раннее отделение вагди на том же уровне, видимо, связано с недостаточной изученностью этого идиома. На следующем уровне отделяются языки диаспор — цыганский и думаки, а затем уже следует недифференцированная географически центральная группа. Очевидно положительным изменением выглядит распад восточной ветви на ория и ассамско-бенгальскую. При слиянии близко расположенных узлов (Рис. 4) сохраняются не только восточная и южная ветви, но и ветвь «цыганский-думаки».

Следует понимать, что предложенное дерево ни в коем случае не может считаться окончательным результатом, так как проверка списков далека от завершения. Это лишь иллюстрация тех изменений, которые может повлечь за собой такая проверка.

Очень важно, что А. И. Коган впервые предложил лексикостатистическую основу для классификации индоарийских языков, внося свежую струю в индологическую традицию. Вероятно, при дальнейшем уточнении списков, более точным будет становиться и дерево, и однажды, благодаря лексикостатистическому подходу, дополненному полевыми и корпусными исследованиями, а также уточнением исторической фонетики, в давнем споре о генеалогической классификации индоарийских языков будет наконец поставлена точка.

Сокращения

ASS — ассамский; AWD — авадхи; BNG — бенгали; BNJ — банджари; BRJ — брадж; DGR — догри; DKN — дакхини; DUM — думаки; GJR — годжри; GRH — гархвали; GUJ — гуджарати; HIM — химачали; HND — хинди/урду; HNK — хиндко; KCH — кутчи; KNK — конкани; KUL — куллуи; KUM — кумаони; LHD — лахнда (мультиани); MAI — майтхили; MAL — мальдивский (дживехи); MAR — маратхи; MEW — мевати; MND — мандеали; NEP — непали; ORY — ория; PNJ — пенджаби; PTH — поттохари; PRY — парья; RAJ — раджа-стави (марвари); ROM — романи; SND — синдхи; SNG — сингальский; WGD — вагди; WPH — котгархи; др.-инд. — древнеиндийский

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Anastasiya Krylova. Lexicostatistics and the New Indo-Aryan languages: a field linguist's perspective

In this paper, I present certain comments, objections, and addenda to Anton Kogan's article «Genealogical classification of New Indo-Aryan languages and lexicostatistics», published last year in the *Journal of Language Relationship* (14/4: 227–258). In particular, I introduce several tentative corrections to the Swadesh lists that were compiled by Kogan, based on the data of historical phonetics and semantics of the Indo-Aryan languages in general. I also analyze in detail the lists for four languages (Hindi, Odia, Bengali, and Kullui), comparing them with my own fieldwork data as well as data from other dictionaries and text corpora. Upon correcting the lists, I compare the resulting genealogical trees (generated by StarLing software) based on original and corrected lexicostatistical matrices. Although the differences are not highly significant, they nevertheless improve upon the validity of the results and demonstrate that further correction of the lists can increase the resulting tree's degree of accuracy.

Keywords: lexicostatistics, Indo-Aryan languages, language classification, glottochronology, field linguistics, corpus linguistics, historical phonetics

М. В. Ослон / Mikhail Oslon

Jay H. Jasanoff.

Prehistory of Balto-Slavic Accent.

Brill's Studies in Indo-European Languages & Linguistics. Leiden/Boston: Brill, 2017. X + 268 pp.

Prof. Jasanoff's new book constitutes a landmark in accentological thought. It contains the first analysis of Balto-Slavic accentual mobility, completely outside the realm of and in opposition to the "Moscow Accentological School," that, unlike other comparable theories, pays special attention to the verb, not limiting itself to the noun. Given the unusual elaborateness and complexity of the theory offered in the work under review, it will probably be of use to reproduce here, briefly but thoroughly (with extensive citations), some of the ideas expressed in it. In order to avoid confusion, I will break this review into two parts, keeping the synopsis apart from my own comments, which are referred to in the text by numbers in square brackets.

The question the book aims to answer is formulated as follows: "how did the synchronic system(s) we see in the attested B[alto]-Sl[avic] languages come about?" (p. XI). According to the author, "the historical problems that engage the attention of professional BSl. accentologists [...] mostly center on relatively late phenomena in the individual languages, or in Baltic or Slavic alone" and that is why "the historically aware non-specialist who wants to learn in detail how Balto-Slavic differs from the rest of the IE family, and how it got that way, has few places to turn." This lamentable state of affairs is seen as a consequence of the fact that "the hopelessly inadequate Neogrammarian approach to BSl. accentuation was swept away over a half century ago by Stang," whereas the "major discoveries of the Moscow Accentological School [...] have yet to be incorporated into an acceptable historical synthesis." As to Kortlandt's "detailed IE-based narrative," it is based on assumptions "that most Indo-Europeanists find untenable," while the "best recent book on the prehistory of BSl. accentuation," by Olander, albeit "stimulating and immensely useful" is "not in the end convincing." It is precisely this "gap" that the book sets out to fill (p. XI). More specifically, the main point at issue is, as expected, the origin of Balto-Slavic paradigmatic mobility. Before proceeding to the main exposition, Jasanoff sets up a theoretical framework to lean on in the further discussion. I will now outline some of these preliminary points.

Vedic and Greek with "their stable, columnarly accented paradigms" differ drastically from the Balto-Slavic languages with "a restlessly mobile accent unlike anything elsewhere in the IE family." The "marked but not in principle unthinkable" idea of Baltic and Slavic accent being old (first expressed by Meillet) was "never attractive," moreover, it "has lost such appeal as it may once have had." In fact, by now, there are no "obstacles to an explanation of BSl. accentuation on the basis of the traditional Vedic and Greek-like system. Elaborating a theory along these lines will be the goal of the present work" (p. 2). The informed reader will note that this approach matches the one taken by Kortlandt and Olander and is quite unlike that of the "Moscow Accentological School" (Dybo, Nikolaev et al. and now also e.g. Kapović).

The latter approach is unhesitatingly dismissed as containing a "fundamental error" (the Tonological Hypothesis, see below) "that eventually undercut some of the group's most impressive achievements" (p. 111, fn. 14). According to the author, the "modern-day survival" of the theory tracing BSl. mobility back to PIE is in part explained by what is known as "Teeter's Law" ("specialists in one or another branch of a language family tend to overrate the archaism of that branch's most characteristic features"). Yet he dedicates a paragraph to the actual disproof of this theory: "it is scarcely possible, taking a larger view of the IE family, to accept the idea that the ubiquitous mobile *i*- and *u*-stems of Balto-Slavic could all have independently lost their mobility in Vedic, Greek, and Hittite (!), while root nouns and a limited number of obviously archaic suffixed consonant stems agreed in remaining mobile in these languages. It is even more difficult to believe that thematic (*o*-) stems, or the \bar{a} -stems [...] were mobile in the parent language," since their accent curve in Balto-Slavic does not match that of the "real" (i.e. consonant) stems in PIE (p. 112). [1]

The accentual system of PIE is presented as a fairly well understood entity, easily deducible from Vedic and Greek: among other things, "PIE had a mobile word accent," "made no distinction between contrasting accent types" (so no phonological tones), distin-

guished long and short vowels and could have but one accent per word “the position of which was regulated by a combination of lexical and morphological factors.” Zero grade was formed by the loss of a “de-accented” vowel. As to mobility, athematic nominal stems displayed several accentual patterns intertwined with PIE ablaut (“acrostatic A”, “acrostatic B”, “pro-terokinetic”, “hysterokinetic”, “amphikinetic”, p. 5). This system “ceased to be fully operational by the end of the IE period” having given up most vowel alternations in the root (cf. a stressed zero-grade syllable in *septm̃́ ‘7’, p. 5, fn. 13). Some athematic verbs were mobile, including the copula.

An outline of the main attested accentual systems is given. For instance, in Vedic mobility is confined to “uncompounded root-nouns” (acc. *pādám*, gen. *padáh* ‘foot’) and “original acrostatic stems” (*yákr̥t*, gen. *yaknáh* ‘liver’, p. 9), in Greek the situation is “much the same” (p. 14), Hittite has some mobility “occasionally observable in consonant stems” (p. 16), and Germanic may in fact display traces of Balto-Slavic-like mobility in all nominal stems, but this is purely putative (p. 20).

In Greek and Vedic, thematic stems are always immobile, thus displaying no paradigmatic mobility, although “there is clear evidence of *derivational* mobility,” cf. Gk. *tómos* ‘a slice’ (an action noun) vs. *tomós* ‘sharp, cutting’ (possessive adjective or agent noun). As to the accentuation of suffixal derivatives in these languages, Jasanoff remarks that it is “not a realistic goal—and certainly not a necessary or desirable one in the present context—to look for a complete, suffix-by-suffix account of the accentuation of secondary (and tertiary) derivatives in the protolanguage” (p. 22). In Vedic, for instance, some suffixes appear to be “dominant” (always stressed) and some “recessive” (stressed like the derivational base), and others “observe no consistent rules at all” (p. 23). Summing up his take on PIE accent, Jasanoff terms his book’s theoretical orientation “generative Neogrammarianism,” according to which phonological (“Neogrammarian”) rules produce outcomes that are constantly adjusted due to speakers’ “re- and misanalysis of the relations among surface forms” (p. 29). Thus, analogy is a fully systematic factor in the phonological evolution of language.

A separate chapter is dedicated to a synchronic description of the Balto-Slavic situation. In the discussion on the various phonological tones, their distribution in accentual paradigms (AP), de Saussure’s Law in Baltic, Dybo’s Law in Slavic, etc., it is noted that in Proto-Slavic (but not in Lithuanian) a form “could also have no underlyingly marked accent, in which case it received a surface falling accent on its first syllable

(**gōlvy*, **vēdō*, etc.)”; such forms “‘donate’ their accent to an adjacent enclitic or proclitic” (p. 45). The (absence of an) accent in such enclitomena (i.e. some forms in the mobile AP *c*) is marked in the book with the new symbol /˘/: **vōdō*, **zīmō*, **gōlvō*, and is referred to as “left-marginal accent,” as opposed to “lexical accent” in non-enclitomena (the rest of AP *c* forms and all of AP *a* and *b*, marked with a vertical accent mark: PSI. “Pre-Dybo’s Law” **žēnō* (p. 55). This will be a crucial distinction for the author’s theory (yet to be presented). Some attention is given to Latvian as well, where a phenomenon analogous to Slavic “left-marginal accent” is observed only on acute syllables (whereas in Slavic acuteness in such cases is eliminated by Meillet’s Law). It surfaces as Latvian “broken tone” and is taken by Jasanoff to be the outcome of a late accent retraction from a non-initial syllable (p. 65). Old Prussian, although not playing “a major role in accentological discussions,” nevertheless displays some paradigmatic mobility in verbs (p. 67). An important point concerning Balto-Slavic phonology is that acuteness is a purely Balto-Slavic feature associated with “a *stød*-like interruption of normal voicing” (a view promoted by Kortlandt, p. 71). The entire Balto-Slavic accentual system is characterized as “a far cry from the late PIE system, where there was no acuteness feature, no mobility in *ā*- and *o*-stems (and little or none in *i*- and *u*-stems), and no mobility-linked distinction between separate lexical and left-marginal accent types” (p. 73).

The next important preliminary issue is the origin of the acute intonation in Balto-Slavic. For Jasanoff, acuteness appears on (1) “long vowels by post-IE tautosyllabic laryngeal lengthening”; (2) “inherent long vowels [...]: a) apophonic long vowels, as in Narten ablaut [...] and *vṛddhi* derivation [...], b) long vowels by word-final compensatory lengthening before a lost *-s or *-H (Szemerényi’s Law) [...], c) long vowels by inner-IE contraction at morpheme boundaries (e.g., *o*-stem nom. pl. *-ōs < *-o-es)”; (3) lengthening by Winter’s Law. On the other hand, “long vowels by post-IE contraction across a laryngeal hiatus” yield extra-long segments and hence circumflex (p. 74). Contrary to the mainstream tradition, Jasanoff marks acuteness with an underscore (e.g. BSL. acc.sg. **gāl̄vān*). The derivation of the acute from apophonic long vowels is in sharp contrast with the theory, ardently defended by Kortlandt, that acuteness is yielded solely by vowel + laryngeal combinations and Winter’s Law. It is further observed that acute (long, i.e. bimoraic) vs. circumflex (extra-long, i.e. trimoraic) in final syllables in Balto-Slavic is paralleled in Germanic, e.g. PIE *ā*-stem nom.sg. *-eh₂ > BSL. **ā* (in Jasanoff’s notation) ~

Go. *-a* < **-ō*, but PIE *ā*-stem nom.pl. **-eh₂es* > BSl. **-ās* ~ Go. *-os* < **-ōz* (p. 77).

Also important is Hirt's Law, whose "effect was to draw a non-initial accent onto an immediately preceding syllable containing a monophthong (including a syllabic liquid or nasal) followed by a tautosyllabic laryngeal": **...CVHC₀V̄ ...* ⇒ **...CVHC₀V ...* (p. 106), with examples such as PIE **g^uriH-ueh₂* > BSl. **grīvā* > PSl. **grīva* 'mane' (cf. Ved. *grīvā* 'neck') and PIE **d^huH-mó-* > BSl. **dūma-* > Lith. *dūmai* 'smoke', PSl. **dŷmъ* (cf. Ved. *dhūmā-*). In some cases, though, the effect of Hirt's Law was leveled out, so **g^uiHuós* > **gⁱHuós* → *giHuós* 'alive'. This happened because Hirt's Law had regularly produced an impermissible combination of forms, e.g. nom.sg. **gⁱHuós* (with "lexical accent") but acc.sg. *giHuon* (with "left-marginal" accent). It was this difference alone that caused **gⁱHuós* to revert back to **giHuós* to make the paradigm fit the normal mobile pattern. In other cases this reversion did not take place. It was a matter of unpredictable lexical choice (p. 107).

Next, two existing "theories of mobility" are reviewed and assessed. The first one belongs to de Saussure who assigned "a pivotal role to what we would now call hysterokinetic consonant stems" and, by "positing a retraction from medial syllable," derived e.g. Lith. acc.sg. *dūkterī* from a protoform **duktērīn*, thus explaining bilateral mobility, which would then be "analogically transferred to oxytone vocalic stems" (p. 108). "This theory amounts to three investigable claims: (1) consonant-stem forms like Lith. *dūkterī* arose by retraction from **duktērīn*; and (2) mobile vowel stems correspond to historically oxytone stems which (3) joined the type of *duktē*, *dūkterī* analogically. In the long century since Saussure wrote, (2) has effectively been settled in Saussure's favor, while (1) and especially (3) remain live issues" (p. 109). De Saussure's theory was further elaborated by Pedersen, who attempted to make it more regular, converting it to a "morphological sound law" feeding the massive analogy that brought about mobility in the other stem types. Then "Meillet and Stang de-emphasized both sound change and analogy [...] and saw mobility, at least in *i-*, *u-* and *ā-*stems, as a retention from PIE" (p. 110). Oxytonicity was the source of mobility for Illič-Svityč, as well as for early Dybo and his colleagues (who then "developed a very particular doctrine on mobility, identifying the BSl. descriptive contrast between 'dominant' and 'recessive' morphemes with a hypothetical tonal contrast that they then projected back to PIE," p. 111, fn. 14, a "fundamental error" in Jasanoff's view, see above). Be that as it may, the link between oxytonicity and mobility is not an issue for Jasanoff: "[i]n the highly contentious discourse

surrounding the origin of mobility, the etymological identity of mobility and oxytonicity in nouns became a sort of 'fundamental theorem' of BSl. mobility. We will **take it for granted** in what follows" (p. 111, emphasis added).

The other theory is Olander's, whose book "marks a milestone in the discussion of the problem." He "takes the creation of BSl. mobility to have been a process by which some forms in oxytone paradigms, but not others, lost their inherited accent and literally became accentless" and claims that "a high pitch (= accent) that stood on the last mora of a phonological word was deleted" (p. 113). To achieve this, Olander lays down some costly stipulations which still fail to save the theory from some "embarrassing failures of fit." Besides, "Olander's proposals have nothing convincing to say about the neglected 'other' theater of accentual activity in Balto-Slavic—the verb" (p. 115).

Now the actual presentation of Jasanoff's own theory of Balto-Slavic mobility begins. As he has pointed out earlier, the existing theories are weak in what concerns verbal paradigmatic mobility. It has been lost in finite forms in Lithuanian, except a trace in the nom.pl.masc. form of the present participle, cf. *vedā* 'leading', which not only preserves the accent of, but actually continues the lost 3 pl. **vedantī* (p. 127, fn. 45). Another indirect trace of mobility in Lithuanian is the retraction (in some verbs) "from the left-marginally accented 1 sg. onto a particle (*iš-*, *nèvedu*, *nèveda*, etc.). "[T]he traditional lack of attention to verbs in the accentological literature" is understandable, since "[t]he data are less abundant and less transparent than in nouns," moreover, "East Baltic has no mobile finite paradigm at all, and the Slavic facts were a hopeless jumble until the work of Stang" (p. 116). It is now apparent that "the locus of mobility in verbs in BSl. was precisely in stems like **vede/o-* (< **uéd^h-e/o-*), i.e., full-grade simple thematic presents with stable accent on the root, the so-called PIE **b^héreti*-type'. The final accent in oxytone verbal forms like PSl. **vedetō* / Proto-BSl. **vedetī*, unlike the final accent in mobile nominal forms like **galvā* or **sūnūs*, could not have been original. The genesis of the overall phenomenon of mobility, therefore, was not simply a matter of retracting or deleting the accent in some ending-accented forms and leaving it intact in others; there must also have been some BSl. process that displaced the inherited root accent rightwards" (p. 116).

This is the gist of Jasanoff's theory. He elaborates it as follows: "[f]rom a purely mechanical point of view, a theory of mobility will have to contain two parts, a 'retraction module' and an 'advancement module.' In nouns, the chief function of the retraction module

will be to replace, in some forms only, a lexical accent at or near the right edge of a word by a left-marginal accent (e.g., nom. pl. **golHu₂éh₂es* > **gǎlvās*). In verbs, the retraction module will replace an inherited initial lexical accent—again, in some forms only—by a left-marginal accent on a preceding particle (e.g., 1 sg. **ne uéd^hoh₂* > **nè vedō*)” (p. 117). Thus, two phonological (“Neogrammarian”) rules are formulated:

1. “Saussure-Pedersen’s Law” (“SPL”): “The PIE/pre-BSl. accent was retracted one syllable to the left from a word-internal short open syllable (#x₁ ... x_n – ẋ_{n+1} ... > #x₁ ... ẋ_n – x_{n+1} ...). In the special case where the syllable that received the accent was word-initial it received a contrastive left-marginal contour (#x₁ – ẋ₂ ... > #ẋ₁ – x₂ ...)” (p. 122).
2. “Proto-Vasiliev-Dolobko’s Law” (“Proto-VLD”) “In phonological words of four or more syllables headed by a left-marginal accent, the final syllable acquired a lexical accent and the left-marginal accent was lost (#ẋ₁ – x₂ – x₃ ... x_n# > #x₁ – x₂ – x₃ ... ẋ_n#)” (p. 128).

As to the chronology, “[b]oth the retraction and advancement modules had to apply very early, since full

mobility was already in place at the time of Hirt’s Law, which was earlier than the loss of laryngeals and the rise of the acute : non-acute contrast” (p. 118).

The scope of these rules is threefold: non-derived *-o*, *-ā*, *-i*, and *-u* stems, derived nominal stems, and verbs (as well as, additionally, some pronouns). As follows from the formulations, both rules heavily depend on syllable-count. The first one applies only in forms with three or more syllables, and the second, with four or more. Where the above (“Neogrammarian”) sound laws fail to apply, analogical explanations (apparently, “generative”) are resorted to, based on parallel forms with more (or fewer) syllables. The operation of the rules is exemplified on a number of case forms of various stem types (Jasanoff gives *-ā*, *-i*, and *-u* stems together, while *-o* stems, for which the example PIE **uornōs* ‘crow’ is used, are treated separately later) where the input is the end-stressed forms (more precisely, forms stressed on the last syllable of the stem). He begins with nom.sg. forms (“>” means “became by sound change” and “→” means “became by non-phonological process”, p. 133):

PIE		post-SPL		Proto-BSl.		Lith.		Proto-Sl.
<i>*golHu₂éh₂</i>	>	<i>*golHu₂áH</i>	>	<i>*gǎlvā</i>	>	<i>galvā</i>	>	<i>*golvá</i>
<i>*m̃t̃is</i>	>	<i>*m̃t̃is</i>	>	<i>*mintis</i>	>	<i>mintis</i>	→	<i>*kōstv</i>
<i>*suHnúš</i>	>	<i>*suHnúš</i>	>	<i>*sūnúš</i>	>	<i>sūnúš</i>	→	<i>*sýnv</i>

Here neither the “SPL” nor the “Proto-VLD” rules apply, since there are no internal-word accents here. Everything works out fine, despite the apparently divergent Slavic forms, but “[t]he actual forms **kōstv*,

**sýnv* are the segmentally identical historical accusatives—a substitution also found in the *o*-stems” (p. 133). Let’s now turn to gen.sg.:

PIE		post-SPL		Proto-BSl.		Lith.		Proto-Sl.
<i>*golHu₂éh₂es</i>	>	<i>*gōlHu₂áHas</i>	→	<i>*gǎlvās</i>	>	<i>galvōš</i>	>	<i>*golvoj</i>
<i>*m̃t̃éis</i>	>	<i>*m̃t̃éis</i>	>	<i>*mintéis</i>	>	<i>mintiēs</i>	>	<i>*kostí</i>
<i>*suHnúš</i>	>	<i>*suHnúš</i>	>	<i>*sūnúš</i>	>	<i>sūnaūs</i>	>	<i>*synú</i> (?)

Here the *ā*-stem gen.sg. form poses a problem: “PIE **-éh₂es* would have been subject to SPL, yielding a left-marginal accent in Balto-Slavic” (p. 133). In any case, “the normal *ā*-stem forms, both in Lithuanian and

Slavic, have final accent, presumably under the influence of the *i*-, *u*-, and consonant stems (cf. Lith. *dukteřs* < **-rēs*)” [...]. The acc.sg. forms are tougher:

PIE		post-SPL		Proto-BSl.		Lith.		Proto-Sl.
<i>*golHu₂ám¹</i>	>	<i>*golHu₂ān</i>	→	<i>*gǎlvān</i>	→	<i>galvā²</i>	>	<i>*gōlvō</i>
<i>*m̃t̃im</i>	>	<i>*m̃t̃in</i>	→	<i>*m̃ntin</i>	>	<i>miñt̃i</i>	>	<i>*kōstv</i>
<i>*suHnúm</i>	>	<i>*suHnúm</i>	→	<i>*sūnun</i>	>	<i>súnū</i>	>	<i>*sýnv</i>

¹ “< **-éh₂m* by Stang’s Law.”

² “With analogical non-acute *-ā*.”

“Here for the first time, none of the three forms is correctly generated by SPL, and the *o*-stem form (Lith. *vařna*, PSI. **vōrn̥b* < **vārn̥an*) is “wrong” as well” (p. 135). To remedy this problem a third rule is posited: 3. “Final **-VN(C)* retraction”: **...CoVCōVN(C)#* ⇒ **...CoVCoVN(C)#* — “[t]he retraction of the accent from final **-VN* sequences was phonologically regular” (but notice the new “⇒” symbol).

“The effect of final **-VN(C)* retraction would have been to take quasi-PIE **m̥ntim̥*, **suHnúm*, and **uornóm* to **m̥ntin̥*, **sūnun̥*, and **vārn̥an*, respectively. A seemingly ad hoc rule of this type would ordinarily be a costly expedient, especially since the facts to be ac-

counted for are deeply embedded morphologically and thus potentially explainable by analogy. In the present case, however, a phonological retraction from final **-VN(C)* is independently motivated by the left-marginal accent of the acc. pl. [...] and the nom.-acc. sg. of neuter *o*-stems” (p. 136). So this third rule is applicable to some more cases.

Let us skip the rest of the shorter case forms and proceed directly to the longer ones, e.g. dat.pl.; here the “Proto-VDL” comes into play, hence, along with the above examples, a longer (derived) stem is given (**golHūinós*, as in Rus. *golovnoj* ‘of the head’), and, instead of a *u*-stem, an *o*-stem (**uornós* ‘crow’)³:

PIE	post-SPL+anal.	post-Proto-VDL/anal.	Proto-BSL.	Lith.	Proto-Sl.
<i>*golHuéh₂mos</i>	→ <i>*gōlHuāHmos</i>	→ <i>*golHuāHmós</i>	> <i>*gālvāmas</i>	> <i>-óm(u)s</i>	> <i>*-ām̥b</i>
<i>*m̥ntimos</i>	> <i>*m̥ntimos</i>	→ <i>*m̥ntimós</i>	> <i>*mintimás</i>	→ <i>-im(u)s</i>	> <i>*-bm̥b</i>
<i>*uornómos</i>	> <i>*uōrnómos</i>	→ <i>*uornamós</i>	> <i>*varnamás</i>	→ <i>-ām(u)s</i>	> <i>*-om̥b</i>
<i>*golHūinómos</i>	→ <i>*gōlHūinomos</i>	> <i>*golHūinamós</i>	> <i>*-amás</i>	→ <i>-ām(u)s</i>	> <i>*-om̥b</i>

The analogies in this table are numerous (e.g. **golHuéh₂mos* should not undergo “SPL” since its stressed syllable is closed). In fact, none of the three-syllable forms obtain their stress phonologically (cf. PSI. **vornom̥b* instead of the expected **vōrnóm̥b*). So they must be analogical to the longer forms (such as Slav. **golvbnom̥b*). This is the only mechanism whereby one obtains the end-stressed longer case forms in non-derived nominals: all of them must have been influenced by longer derived formations (p. 150). [2]

We will now stop taking up Jasanoff’s derivation of nominal case forms, but one final remark is in order. One will have noticed that the table entry **golHūinómos* → **gōlHūinomos* is analogical, not phonological. This outcome is predicted by Jasanoff: it is an analogy to the non-derived items, so instead of **golHūinomos* predicted by “SPL” (shift one syllable left from a word-internal syllable) we get the “left-marginal accent” like in e.g. *uōrnómos* (a three-syllable form) (p. 152). This analogical form influences the non-derived items (as apparent from the table), so that the very form thanks to which another form has emerged is now itself analogically changed by it. [3]

This brings us to Jasanoff’s treatment of nominal suffixal derivatives. Given the fact that non-derived nouns were in Proto-BSL. either stem-stressed or end-stressed, their derivatives somehow inherited this accentual property (this accentual derivation mechanism was an analogical BSL. innovation, p. 177), hence all derivatives of end-stressed nouns must have been

end-stressed. Derived nouns would mostly have contained at least four syllables in some of their case forms, so that, for example, from the nom.sg. forms **golHūinós* (adjective), derived from **golHuéh₂* ‘head’, and **suHnúkós* (diminutive), from **suHnús* ‘son’, we would get the following longer forms, subject to “SPL”, e.g. gen.sg. **golHūinoHat* < **-inóh₂ed* and **suHnúkoHat* < **-ukóh₂ed*. However, in reality we have PSI. **gōlvbn̥b*, fem. **golvbnā* vs. **synrk̥b̥*, gen. **synrkā*, evidently behaving differently accentually (AP c vs. AP b). Jasanoff explains this difference on the ground of an arbitrary choice by the speakers: “SPL” had produced an impermissible pattern of “internal mobility” that had to be resolved, so speakers “took a different tack” in **golHūinoHat* as opposed to **suHnúkoHat*: the original **-inós* was perceived as producing mobile derivatives (by borrowing the “left-marginal” accent from non-derived items), while **-ukós* was arbitrarily decided upon by the speakers as an end-stressed suffix (by the way, Lith. pl.nom. *sunūkai* is again analogical in lieu of **sūnukāi*). This is how some suffixes became “dominant” and some “recessive” (p. 123). [4]

We now come to the verb, the centerpiece of Jasanoff’s theory. As with nouns, the accentuation of the PIE verb is given as known a priori. Thematic “**b^héreti-*type” verbs were always root-stressed. Such forms became mobile in Balto-Slavic, and here is how: first, mobility emerged only “in an initially-accented verbal form with a preverb or preverbal particle, e.g., 1 sg. **dā-vedō* < **do-ud^hoh₂*, 3 sg. **nē vežeti* < **ne uēg^heti*, 3 sg. impf. **pā-dege* < **po-d^heg^het*” (“conjunct forms”, p. 185) and then spread analogically to “absolute” forms ousting their regular immobile accent. The derivation is as follows (inferred from pp. 129, 185):

³ Jasanoff gives these forms in two tables; we will skip his “post-SPL” column (in favor of his “post-SPL + analogy”) and “Proto-VDL” (in favor of “Proto-VDL/anal.”).

	PIE		PSl. “conjunct”		“absolute”
1.sg.	* <i>(ne) uéd^hoH</i>	>	* <i>ně vedq</i>	→	* <i>vèdq</i>
2.sg.	* <i>(ne) uéd^hesei</i>	>	* <i>ne vedeš^í</i>	→	* <i>vedeš^í</i>
3.sg.	* <i>(ne) uéd^heti</i>	>	* <i>ne vedetb</i>	→	* <i>vedetb</i>
1.pl.	* <i>(ne) uéd^hemos</i>	>	* <i>ne vedem^b</i>	→	* <i>vedem^b</i>
2.pl.	* <i>(ne) uéd^hete</i>	>	* <i>ne vedet^e</i>	→	* <i>vedet^e</i>
3.pl.	* <i>(ne) uéd^honti</i>	>	* <i>ne vedqt^b</i>	→	* <i>vedqt^b</i>

But some verbs with obstruent-final stems are immobile, e.g. **lězq, pádq* (AP a); the long acuted vowel in their roots precludes “SPL”, so immobility is predicted correctly, and the non-acuted immobiles *mog^o* and *jd^o* are “not historically thematic” (p. 189). Presents of the “*tudáti*-type” were suffix-stressed in PIE, so the outcome of the combination of “SPL”, “Proto-VDL” and analogy does not yield the desired outcome (mobility). Thus, for example, 1 sg. *sup^o*, **grH^o* remain end-stressed, and 3 pl. **sup^onti*, **grH^onti* do not undergo “SPL” because their stressed syllable is closed. To explain mobility in this type Jasanoff proposes “thematic barytonization”: “Prior to the operation of SPL and Proto-VDL, Pre-BSl. **grHé/ó-* was remade to **gfHe/ó-*” (p. 191) and then underwent all the expected changes just like the “**b^héreti*-type”. On the other hand, nasal presents, such as **b^hund^héti*, come out immobile in Balto-Slavic. This, too, is explained by “thematic barytonization”, so that **b^hund^hé/ó-* → **b^húnd^he/ó-*, the latter form not undergoing “SPL” since its stressed syllable is closed. Similar logic is applied to other types of verbs with obstruent-final roots.

A potential challenge for the theory is constituted by verbs with vowel- and sonorant-final roots, which can be either mobile or immobile. To these belong (1) thematic (**b^héreti*-type) presents (cf. mobile PSl. **b^herq* ‘take’ vs. immobile **žen^o* ‘chase’), (2) *tudáti*-presents (cf. mobile **p^odnq* ‘stretch’ vs. immobile **m^obn^o* ‘trample’), (3) *n(C)elo*-presents (cf. mobile *v^otnq* ‘twist’ vs. immobile **d^oúnq* ‘blow’), (4) *ielo*-presents (cf. mobile **drj^o* ‘plow’, **d^oâj^o* ‘give’ vs. immobile **žbrj^o* ‘sacrifice’). However, Jasanoff says, the problem is only apparent, since most of these immobile verbs are not inherited from PIE, but are in fact recent Balto-Slavic creations. Some are secondarily thematized, e.g. **žen^o*, which corresponds to Ved. *hánti* and Hitt. *kuenzi*. So, “[w]hat is clear is that the stronger the comparative evidence for the thematic inflection of a given stem in PIE, the likelier it is to be mobile in Slavic” (p. 189); in some cases, mobility vs. immobility is unpredictable, but this is “hardly surprising” (p. 194) because cases “where Slavic fails to show mobility are unoriginal or secondary,” although the analysis of some such cases “must remain a task for the future” (p. 197).

Another challenge is Slavic verbs in **-i-*, inf. *-iti*, which can be mobile or immobile. To boot, the immo-

mobile ones have two kinds of AP *b*. Jasanoff’s sound laws and analogies predict immobility, e.g. **ne prokéjeti* > **ne pròsit^b* (AP *b₁*, p. 209), where the “conjunct” form was generalized (as in thematic verbs). As to AP *b₂*, the explanation given by Dybo et al. (different *-i-* morphemes had different valencies, and hence tones) “is no explanation at all” (p. 211). Jasanoff’s explanation is that AP *b₂* analogically spread from denominatives formed from oxytone nouns, such as AP *b* **sel^o*. The accent **sel^eje/ó-* > PSl. **selit^b* ‘settles’ (AP *b₂*) is apparently analogical, since in other cases a “barytonization” is expected (like in **genH-eje/ó-* > *ženiti*, AP *b₁*, p. 216). To Jasanoff, AP *b₂* is, in fact, the same as AP *c*, which, in turn, is the result of the analogical generalization of the “absolute form” (and not the “conjunct” one, as expected). Sometimes, though, the generalization of either the “absolute” or the “conjunct” form was incomplete, which explains *poluotmetnost’* (cf. in some Old Štokavian dialects of BCS *ložī*, but *pol^ožī*). Similar explanations are proffered for some other parts of the verbal system. [5]

After this lengthy summary, which in fact only covers a small subset of the numerous ideas laid out in the book, I will now comment on some of them. First, a few general remarks on the genre of Prof. Jasanoff’s work. It does not aim to reconstruct any unknown linguistic entity. The proto-language in question (PIE) is perceived in this work as already reconstructed, hence known. The task set out for the study would be properly called “derivation”, viz. of the more complex attested Lithuanian and the “quasi-attested” Proto-Slavic accentual systems from the simpler one postulated for PIE.

[1] Under this approach, Balto-Slavic accentuation, which is deemed a recent complication of the older system, must be fully deducible from it. This view is somewhat of an axiom for most Indo-Europeanists, but it seems to be based on the idea that Balto-Slavic mobility cannot be inherited because it is utterly different from “PIE mobility,” which is taken to be directly reflected in Vedic and Greek consonant noun stems. Jasanoff mentions “gross differences” and “endless disagreements of detail” between the two types of mobility, including: (1) “the exclusive ‘bilateral’ of BSl. mobility,” (2) the fact that “[i]n PIE declension the nom. sg. and acc. sg. are strong cases [i.e.

root-stressed], opposed to the gen. sg., dat. sg., and instr. sg. (*inter alia*), which are weak [i.e. ending-stressed],” whereas “in Balto-Slavic, the nom. sg. and acc. sg. of non-neuters never agree except secondarily (cf. Lith. *galvà, gálvą; sunùs, súnų; duktė, dükteri*; etc.),

and the gen. sg. and dat. sg. disagree everywhere except in *o*-stems (cf. *galvòs, gálvai; sunaùs, súnui*; OLith. *dukterès, dükteri*)” (p. 112). Indeed, these differences become apparent if one compares the accentual curve of, say, Ved. *pitá* ‘father’ with that of Lith. *galvà* ‘head’:

		Lith.		Vedic
Sg.	nom.	<i>galvà</i>	=	<i>pitá</i>
	gen.(-abl.)	<i>galvòs</i>	=	<i>pitúh</i>
	dat.	<i>gálvai</i>	≠	<i>pitré</i>
	acc.	<i>gálvą</i>	≠	<i>pitáram</i>
	instr.	<i>gálva</i>	≠	<i>pitrá</i>
	loc.	<i>galvái[p]</i>	?	<i>pitári</i>
Pl.	nom.	<i>gálvos</i>	≠	<i>pitáraḥ</i>
	gen.	<i>galvū</i>	≈	<i>pitṛṇám</i>
	dat.(-abl.)	<i>galvóms</i>	≠	<i>pitṛbhyas</i>
	acc.	<i>gálvas</i>	≠	<i>pitṛṇ</i>
	instr.	<i>galvomìs</i>	≠	<i>pitṛbhis</i>
	loc.	<i>galvosù</i>	≠	<i>pitṛṣu</i>
Du.	nom.-acc.	<i>gálvi</i>	≠	<i>pitārā</i>
	gen.-loc.			<i>pit(a)rós</i>
	dat.-abl.-instr.	<i>galvóm</i>	≠	<i>pitṛbhyām</i>

It is clear (1) that the Vedic curve is not “bilateral,” but as to (2), the “endless disagreements” are a little less obvious: for example, Ved. acc.sg. *pitáram* superficially seems different from Lith. *gálvą*, but the accentual status of the ending is clearly the same (it is unstressed). Moreover, the alleged contrast in nom.sg. is fictitious: in *galvà* the last syllable of the stem (**-éh₂*) bears the stress, exactly as in *pitá* (**pHtér* maybe < **pHtér-s*). A more conspicuous difference in endings’ accentual status is dat.sg. (stressed ending in Ved. *pitré*

vs. unstressed in Lith. *gálvai*). Indeed, there is no denying that the curves do look different. But is this sufficient grounds to deem them completely unrelated? Note that the very comparison in question is flawed, since the confronted stems differ in number of syllables. If we compare one-syllable consonant stems, such as Ved. *pád* ‘foot’, Gk. πούς ‘id.’ to Lith. *šuo* ‘dog’ (~ Gk. κύων ‘id.’) and then again to Lith. *galvà*, we will see that their accentual curves are almost identical (at least in the forms with etymologically cognate endings):

		(O) Lith.		Lith.		Vedic		Greek
Sg.	nom.	<i>šuo</i>	=	<i>galvà</i>	=	<i>pád</i>		πούς
	gen.(-abl.)	<i>*šunès (šuñs)</i>	=	<i>galvòs</i>	=	<i>padás</i>		ποδός
	dat.	<i>šùni</i>	=	<i>gálvai</i>	≠	<i>padé</i>		ποδί ←
	acc.	<i>šunĩ</i>	=	<i>gálvą</i>	=	<i>pádam</i>		πόδα
	instr.	<i>šuniù < *šùn(i)ò</i>	=	<i>gálva</i>	≠	<i>padá</i>		
	loc.	<i>šuny[jè]</i>	=	<i>galvái[p]</i>	≈	<i>padí</i>		[*ποδί]
Pl.	nom.	<i>šunes</i>	=	<i>gálvos</i>	=	<i>pádas</i>		πόδες
	gen.	<i>šunū</i>	=	<i>galvū</i>	=	<i>padám</i>		ποδῶν
	dat.(-abl.)	<i>šunim̃us</i>	=	<i>galvóms</i>	≈	<i>padbhyás</i>		πο(σ)σί ←
	acc.	<i>šunìs < *šùñins</i>	=	<i>gálvas</i>	=	[<i>padás</i>] <i>púras</i>		πόδας
	instr.	<i>šunimìs</i>	=	<i>galvomìs</i>	≈	<i>padbhís</i>		
	loc.	<i>*šunisù</i>	=	<i>galvosù</i>	≈	<i>patsú</i>		[*πο(σ)σί]
Du.	nom.-acc.	<i>šuni < šunî</i>	=	<i>gálvi</i>	≈	<i>pádā, pádau</i>		πόδε
	gen.-loc.					<i>padós</i>		ποδοῖν
	dat.-abl.-instr.	<i>šunim</i>	=	<i>galvóm</i>	≈	<i>padbhyám</i>		ποδοῖν

There are only two clear discrepancies between the Lithuanian and Vedic paradigms: dat.sg. and instr.sg., but what is important is that in Lithuanian consonant stems and *ā*-stems have exactly **the same accentual curve**. Given that, even in Jasanoff’s framework, BSl. consonant stems and their accentual curves are traced

back to PIE and are hence cognate with those in Vedic and Greek, it would be plain out illogical to deny the identity of the accentual curves of, say, Lith. *galvā* and Ved. *pād*.

Now let us compare the endings in **golH₂eh₂* > *galvā* and a consonant stem, say, **pōds* ‘foot’:

		PIE		PIE
Sg.	nom.	<i>*pōd-s</i>	=	<i>*golH₂eh₂-Ø (?)</i>
	gen.	<i>*ped-es/os</i>	=	<i>*golH₂eh₂-es</i>
	dat.	<i>*ped-ei</i>	=	<i>*golH₂eh₂-ei</i>
	acc.	<i>*pod-m̄</i>	=	<i>*golH₂eh₂-m</i>
	instr.	<i>*ped-eh₁</i>		?
	loc.	<i>*ped-i</i>	=	<i>*golH₂eh₂-i</i>
Pl.	nom.	<i>*pod-es</i>	=	<i>*golH₂eh₂-es</i>
	gen.	<i>*ped-om</i> (Jasanoff: <i>*-oHom</i>)	=	<i>*golH₂eh₂-oHom</i>
	dat.	<i>*ped-b^hos</i> (→ <i>*-mos?</i>)	=	<i>*golH₂eh₂-mos</i>
	acc.	<i>*pod-ŋs</i>	=	<i>*golH₂eh₂-ŋs (?)</i>
	instr.	<i>*ped-b^hi(s)</i> (→ <i>*-mīs?</i>)	=	<i>*golH₂eh₂-mīs</i>
	loc.	<i>*ped-su</i>	=	<i>*golH₂eh₂-su</i>
Du.	nom.-acc.	<i>*ped-ih₁</i>	=	<i>*golH₂eh₂-ih₁</i>
	instr.	?		?

In the above table we just reproduced Jasanoff’s reconstruction from his PIE “preforms” for *galvā* and used the standard PIE reconstructions from Kapović 2017: 71 for consonant stems⁴. In **golH₂eh₂* the endings follow *-eh₂-* of the stem and contract with it. As can be seen, the endings themselves (perhaps, save nom.sg.) are exactly the same. This must mean that the accentual curves of consonant stems (be it in Vedic, Greek, or BSl) and *ā*-stems (in BSl) **do not warrant two different explanations**⁵. What Jasanoff does (following Kortlandt and Olander) is devise an extremely complex and highly irregular set of rules to explain a trivial identity of two paradigms.

That said, it should now be clearly seen that, given the segmental identity of the endings in question, the

only real mismatch is found in the accentual behavior of dat.sg. **-ei*. Therefore, “gross differences” and “endless disagreements of detail” in the accentuation of mobile consonantal vs. *ā*-stems are definitely an overstatement. If they are the only foundation for Jasanoff’s refusal to consider them together, the foundation is a shaky one.

De Saussure’s original idea was that mobility in vocalic and *ā*-stems has emerged in analogy to mobile consonantal stems, such as Lith. *duktė* ‘daughter’⁶. According to his theory, the stress pattern was copied from the mobile consonantal paradigm to the corresponding case forms in originally immobile paradigms of the other types. This scenario is, in and of itself,

⁴ Some of Jasanoff’s endings require commentary: (1) *ā*-stem gen.sg.: “the theoretically expected PIE ending would have been **-eh₂s*, but both Greek (*agathēs*) and Lithuanian point to a laryngeal hiatus, suggesting that **-eh₂s* was replaced by **-eh₂es* in the protolanguage” (p. 133); (2) *ā*-stem instr.sg. *-ā* (acute) is to him an irregular (?) apocope from *-eh₂mi*: “Given the general parallelism of *i-*, *u-*, and *ā*-stems and the fact that *i-* and *u-* stems have instr. sg.’s in **-imi* and **-umi*, it is hard to believe that Proto-BSl. **gālvān* could be anything but an apocopated form of **gālvāmi* < **gōlH₂uaHmi*” (p. 156); (3) gen.pl.: he insists on **-oHom* and not **-om* for all stem types (p. 151).

⁵ For more details see Дыбо 2003: 146; Дыбо 2014: 36; Kapović 2016: 200.

⁶ But first, de Saussure needed to account for lateral mobility in these consonantal stems, cf. gen.sg. (OLith.) *duktėrės*, acc.sg. *duktėrį*. To do that, he posited a retraction from the medial syllable, since he thought that the original accent was **duktėrin* on the basis of Ved. *duhitāram*, Gk. *θυγατέρα*. This retraction rule was later elaborated by Pedersen and is referred to as “Pedersen’s Law.” The secondary lateral mobility of *duktė* was supposed to have served as the source of analogy for other stem types. As Dybo points out, had de Saussure looked for a source of analogy in one-syllable consonantal stems, such as *šūō* ‘dog’, he would not have been led astray by the imperfect correspondences between the accent curves of Lith. *duktė* and Ved. *duhitā* Дыбо 2003: 152 and the entire problem could have been solved right away.

somewhat credible, when only consonantal and \bar{a} -stems are compared: the curves are the same. Of course, such a massive analogy would hardly be conceivable, but let's assume it is and take this reasoning a step further. If it were a matter of just matching up the slots in two paradigms and copying the stress case

form by case form, the material shape of the endings would be of little importance. Thus, we would expect all target paradigms, e.g. those of o -stems and \bar{a} -stems, to behave in the same manner, just copying the accentual curve from the source (consonantal stems). But this is obviously not so. Let us compare the two curves:

		Lith. o -stems		Lith. a -stems
Sg.	nom.	<i>vaĩnas</i>	≠	<i>galvà</i>
	gen.	<i>vaĩno</i>	≠	<i>galvòs</i>
	dat.	<i>vaĩnui</i>	=	<i>gálvai</i>
	acc.	<i>vaĩnà</i>	=	<i>gálva</i>
	instr.	<i>varnù < *vaĩnô</i>	=	<i>gálva</i>
	loc.	<i>vaĩnie</i>	≠	<i>galvái[p]</i>
Pl.	nom.	<i>varnaĩ</i>	≠	<i>gálvos</i>
	gen.	<i>varnũ</i>	=	<i>galvũ</i>
	dat.	<i>varnáms</i>	=	<i>galvóms</i>
	acc.	<i>varnùs < *vaĩnôs</i>	=	<i>gálvas</i>
	instr.	<i>varnaĩs</i>	≈	<i>galvomìs</i>
	loc.	<i>varn[uo]sù</i>	=	<i>galvosù</i>

These curves are clearly not identical. However, they only differ in cases where the endings are different. Analogy cannot explain this. Jasanoff's theory ignores the well-observable fact that the same endings tend to behave accentologically in the same way in different stem types: e.g. all acc.sg. forms are enclitics, having the same ending $*-m$ ($*-m$); on the other hand, gen.sg. *galvòs* and *vaĩno* have different endings (cf. gen.sg. $*-ed$ vs. $*-es$ in $*uornoh_2-ed$ and $*golHueh_2-es$, etc.), hence in no way should their accentuation be expected to match (only loc.sg. may be somewhat problematic).

Another important point deserves mention. In his treatment of the accentuation of Vedic consonantal stems, Jasanoff seems to ignore the existence of a paradigmatic distribution among them. Unlike Greek, Vedic has several immobile non-derived consonantal nouns, e.g. *śvā*, gen. *śúnas* 'dog', $*nā$, gen. *náras* 'man', *gáuh*, dat. *gáve* 'cow' and some more Дыбо 2003: 138, Kapović 2015: 212. In Greek all cognate nouns are mobile, but in Lithuanian there is at least one immobile one: nom.pl. *dùrys* (AP 2), gen. *dùrų* 'door' ~ PSl. *dǔrbǔ* (AP b), corresponding to Ved. *dvār-* (which may be mobile or immobile). Analogy could hardly adequately explain this. However, immobile Ved. *śvā*, in fact, corresponds to mobile Lith. *šuo* 'dog', so one of them may be secondary⁷. The fact remains, though,

that mobility is not an immanent property of consonant stems, and that definitely undermines the assumption of a one-to-one link between stress and stem type.

[2] Jasanoff (like Olander, but unlike earlier Kortlandt) rejects the analogical scenario triggered by Pedersen's Law (but not Pedersen's Law itself). He wants to produce a theory whereby mobility is explained phonologically, at least in part, unaided by implausible wholesale paradigmatic analogies.

The predictive power of Jasanoff's theory can be evaluated by comparing the outcomes of his three phonological rules with the corresponding attested forms (for Lithuanian) or "quasi-attested" (for Proto-Slavic). We give all same-paradigm forms (as predicted by the laws; "+" means that the law applies) arranged in a single table; correct vs. incorrect outcomes are given in different columns. We only give \bar{a} - and masculine o -stems⁸:

forms (such as nom.pl. *šùnes*). Even if mobility is secondary in this noun, it makes no difference for the curve, since we could have used e.g. *dantis* 'tooth' (corresponding exactly to Ved. *dan*, gen. *datás*).

⁸ Refraining from taking up Jasanoff's derivations for the other base types and genders, I will just note that some of his insights (not directly relevant to the main issue) are very enlightening, e.g. the "chain shift" whereby PSl. AP b neuters became masculine, while AP b masculines acquired mobility (p. 165).

⁷ We used *šuo* in our tables above to show the mobile accentual curve, because it has more attested segmentally archaic case

	PIE	SPL	PVDL	-ŪN(C)	Lithuanian		Proto-Slavic	
					correct	incorrect	correct	incorrect
nom.	*golH _u éh ₂				> galvà		*golvá	
gen.	*golH _u éh ₂ es	+			>	**gálvos		**gòlvŷ
dat.	*golH _u éh ₂ ei	+			> gálvai		*gòlvě	
acc.	*golH _u ám				>	**galvà		**golvò
instr.	? (see below)				—		—	
loc.	*golH _u éh ₂ i				> galvá[i]p		*golvė	
nom.	*golH _u éh ₂ es	+			> gálvos		*gòlvŷ	
gen.	*golH _u éh ₂ oHom	+	+		> galvū		*golvŷ	
dat.	*golH _u éh ₂ mos	(?) ⁹			> galvóms		*golvámŷ	
acc.	*golH _u ás				>	**galvàs		**golvŷ
instr.	*golH _u éh ₂ mīs	(?)			>	**galvómīs		*golvámī
loc.	*golH _u éh ₂ su	(?)			>	**galvósu		*golvámŷ
nom.	*uornós				>	**varnàs		**vornŷ
gen.	*uornóh ₂ ed	+			> vaĩno		*vòrna	
dat.	*uornóĩ				>	**varnuĩ		**vornŷ
acc.	*uornóm			+	> vaĩnŷ		*vòrnŷ	
instr.	*uornoh ₁				>	**varnŷ ¹⁰		—
loc.	*uornóĩ	+			> vaĩnie		*vòrně	
nom.	*uornéĩ				> varnaĩ		**varnŷ	
gen.	*uornóHom	+			>	**varnŷ		**vòrnŷ
dat.	*uornómos	+			>	**varnams		**vòrnŷ
acc.	*uornóns			+	> varnŷ		*vòrnŷ	
instr.	*uornóĩs				> varnaĩs		*vornŷ	
loc.	*uornóĩsu	+			>	**varn[uo]su		**vòrněŷ

As we can see, the error rate is fairly high: about half the forms are predicted incorrectly. In fact, the predicted accentual curves do not even resemble the attested ones. But these sound laws are not designed to act flawlessly in all forms. Rather, they are meant to have deformed the once-columnar stress and triggered a large-scale restructuring of it. Where they do apply and produce the “wrong” form, it is corrected by a set of analogies. Conversely, in many instances where they do not apply, the forms are altered by “Systemzwang” (e.g. p. 157).

As an aside, one is tempted to ask: why does Jasanoff formulate two separate phonological rules (retrac-

tion: “SPL” and advancement: “Proto-VDL”) instead of just one? Why not just say something like: “a word-internal short open syllable loses its stress in words with three syllables and is transferred to the last syllable otherwise”? It turns out that the number of syllables can change between the retraction and the advancement. This is how Lith. instr.sg. *gálva* is explained: the inherited form *golH_uéh₂-h₁ was replaced by *golH_uéh₂-mi, underwent analogical (!) “SPL”, then (irregular?) apocope to *gòlH_uaHm, and that’s why it “resisted analogical Proto-VDL and remained barytone” (p. 156). Needless to say, this sort of reasoning raises numerous questions of methodological nature.¹²

⁹ Despite the correct outcome, Jasanoff treats this and some other developments as analogical (p. 152), to justify the massive workings of analogy in other parts of the system.

¹⁰ This outcome superficially matches the correct form (with de Saussure’s Law), but the laws also predict **kèlmŷ (instead of kèlmŷ).

¹¹ With de Saussure’s Law (regularly from *varnŷs)

¹² Jasanoff’s two-layered sound law is in striking parallel to Olander’s formulation: “...words originally accented on a final short or hiatal structure became unaccented. Assuming that short vowels had a high tone (accent) on the only mora, and hiatal structures had a high tone on the last mora, we may say that a high tone became low in the last mora of the phonological word” (Olander 2009: 3). This lengthy “rule” is reducible to

[3] Two kinds of analogies are at play in Jasanoff's derivations: one may be termed "systematic" (affecting sizable groups of forms and treated as part of the reconstruction "modules"), and the other, "individual" (repairing the wrong outcomes on a case-by-case basis). The first one can be exemplified by the derivation of dat.pl. forms (see above for full derivations): **golH₂u₂amōs*, **m₂ntimōs*, **u₂ornamōs* instead of the regular **gōlH₂u₂amos*, etc. by analogy to a longer **golH₂uinamōs* (a derived stem). Without attempting to evaluate such cases statistically (they are much too numerous), suffice it to say that this method has no obvious advantages over de Saussure's, Pedersen's (and others') massive analogies.

Analogies of the second kind are even more abundant, e.g. gen.sg. **galvās* > Lith. *galvōs* is said to have replaced the regular **gōlH₂u₂Has* by analogy to other stem types. Interestingly enough, this is not the case in gen.sg. **u₂ōrnoHat* > *varno*, which therefore (!) "must be original" (p. 143). Obviously, most, if not all, such arbitrary explanations could apply virtually anywhere and are of little value. A logical consequence of this approach is the fact that no two segmentally identical endings can, in this theory, yield different regular reflexes, hence one of the two forms, e.g. gen.sg. *galvōs* and nom.pl. *gālvos* must inevitably be declared analogical. Such and similar "bifurcations" should be postulated with caution, but here they are part of the theoretical apparatus.

It is also worth noting that, for many case forms, in order to obtain the right outcome by sound change, bold assumptions are made. For example, PIE loc.sg. **golH₂u₂eh₂i* is said to be disyllabic and escape retraction because "syllable-final sequences of the form *-VHi/u- were realized as *-VHi/u- in Balto-Slavic, thus blocking SPL" (p. 137), yet loc.sg. **u₂ornōi* is considered trisyllabic (p. 143) in view of Gk. nom.pl. *oīkoi* vs. adverb (loc.sg.) *oīkoi* 'at home' (p. 13). Without such ad hoc adjustments, the sound laws would produce much less than half of the desired outcome.

[4] Jasanoff's treatment of nominal derivation is based on two system-wide mutually independent non-phonological changes. First, the PIE system got completely rebuilt: all suffixes became recessive (in the BSl. sense), i.e. all derivatives of stem-stressed bases were now stem-stressed, and those of end-stressed bases were end-stressed (analogically?). Then the en-

tire set of suffixes got unpredictably split into recessive and dominant ones. Just how is a mystery to Jasanoff, but not quite: "It is unclear what made a given suffix 'op' to be dominant or recessive. In Slavic, at least, there is a discernible tendency for noun-forming suffixes (e.g., post-Dybo's Law **-ina*, **-ica*, **-bnikb*, **-bstvō*, **-otā*) to be dominant and for adjectival suffixes (e.g., **-b₂skv* : **-b₂skā*, **-b₂nv* : **-b₂nā*, **-₂enb* : **-₂enā*, **-₂ovb* : **-₂ovā*) to be recessive. But there are exceptions in both directions" (p. 176, fn. 121). In reality, there is no such discernible tendency. Here is the quantitative distribution of the main reconstructed PSl. suffixes: out of about 20 (both one-morpheme and two-morpheme) noun-forming suffixes 12 or so are dominant, and out of about 10 adjectival ones 5 are dominant (Дыбо 1981: 199). Some suffixes oscillate, so there may be a tilt in one or the other direction, but "exceptions" is clearly not what we are dealing with here. Hence, Jasanoff's theory fails to account for the most conspicuous trait of BSl. accentuation, the dichotomy in the properties of derivational morphemes¹³.

To Jasanoff, "*métatonie douce*" (i.e. cases where circumflex appears "instead" of the expected acute) is again mostly a matter of analogy: it "spread as a derivational marker to related nominal and verbal categories where it had no phonological basis" (p. 83), e.g. *stōtas* 'stature' : *stōti* 'to step up'. The chaos and overwhelming lack of motivation in derivatives brought about by this conception of metatony is probably, among other things, what prevents Jasanoff from attempting to delve into the system of BSl. (or PIE) morphological derivation (see e.g. Николаев 1989 for material and explanations, as well as Дыбо 2014 for metatony in Vedic and Greek).

[5] As we saw above, Jasanoff's "Proto-Vasilev-Dolobko's Law" figures only once in the table for nouns, since it applies only when four or more syllables are present (the only such form is **golH₂u₂eh₂oHom*), though it is used extensively in verbal paradigms. Hence, nouns and verbs are treated by Jasanoff in two fundamentally different ways. It is easy to see why. In Jasanoff's conception of PIE, nominal stems could be either root-stressed or end-stressed. An example of the former, **u₂ōrneh₂* 'crow' > Lith. *varna*, PSl. **vōrna* requires no special treatment, since its stress remains intact. Only end-stressed stems come out mobile, so, logically, the needed phonological mechanism is mostly provided by retractions. But the very dichotomy of

a much simpler one: namely, that the last mora in a word-form just loses its stress (Jasanoff notices this too, p. 113), but Olander needs it in order to incorporate in it his ad hoc assumption on the accentuation of hiatal structures in PIE endings, without which his theory would fall apart.

¹³ A similar theory of BSl. derivation is proposed by Kortlandt, who explains dominance by a complex set of very specific retractions and Hirt's Law (Kortlandt 2009: 118). For criticism, see Ослон, Ринкявичюс 2011: 118.

immobile (i.e. “barytone”) vs. mobile (i.e. “oxytone”) nouns is not a problem for Jasanoff, since it is present in Vedic and Greek and therefore must be assumed for PIE. In the verb, however, no such dichotomy is at hand in either Vedic or Greek. This makes Jasanoff’s task trickier: he needs to derive two accentual paradigms from one.

To him, PIE verbal accent depended solely on segmental structure, cf. **uéd^heti* vs. **supéti*. Since mobility is the desired outcome, the stressed syllable must be medial, so, for “SPL” to work in the case of **uéd^heti*, another syllable (a particle or prefix) needs to be added before the stressed one, which will also provide the context needed for “Proto-VDL”. So far so good, but not for **supéti*, where Jasanoff has to arbitrarily move the stress to the first syllable (“thematic barytonization”). This yields mobility for most verbs of these types, but not for all. Some immobile cases are predicted correctly, e.g. *pádo*, inf. *pásti* ‘fall’ (AP a), where the stressed syllable is long (or closed by a laryngeal), but a host of others remain completely unaccounted for, to name a few: **páso*, *pásti* ‘graze’, **prêdo*, *prêsti* ‘spin’, **grýzo*, *grýzti* ‘gnaw’, etc. These verbs are declared to be analogical: “it is clear that morphology has, so to speak, trumped phonology” (p. 188). It gets even worse with sonorant-final stems, where mobility and immobility are represented more or less equally. To explain away the divergent cases, he usually declares them “unoriginal” (and hence uninteresting to the Indo-Europeanist). But here Jasanoff acknowledges his theory’s weakness more explicitly: “A full account of the circumstances that determined whether a present of the form **CVR-elo-* would come out mobile or immobile in Slavic has yet to be written” (p. 189).

Jasanoff’s treatment of Slavic verbs in **-i-*, inf. *-iti* goes along the same lines. The distribution of AP *b* and AP *c* is not explained but said to be the outcome of some unpredictable split, even though accentual inheritance is an obvious and fundamental property of these verbs, which can in no way be due to analogies (see Лашин 2016 for material and issues). We should note, though, that Jasanoff’s explanation of *poluotmetnost’* (p. 214) is quite ingenious. All in all, it is evident that Jasanoff’s theory does not really tackle the issue of paradigmatic accentual distribution in the Balto-Slavic verb (i.e. different accentual types within the same morphological type), which he considers secondary and unimportant.

In conclusion, I would like to remark that, despite its imperfections, the theory laid out in the book under review is highly interesting in many respects. Building on an overtly “Indocentric” premise, shared

by some other eminent scholars, it goes much further than its recent predecessors. Kortlandt’s very intricate theories, recently collected in Kortlandt 2009, while offering astute solutions to some particular problems, mostly fail to show the big picture. Olander’s theory (Olander 2009) (termed “quite inadequate” by Kortlandt 2007: 233), generally approved of but not accepted by Jasanoff, is not free from internal inconsistencies (e.g. in that it rules out circumflex case endings and has to use analogy to derive them, see Ослон 2010: 145). Neither of these theories, as Jasanoff points out, has much to say about the verb. He himself attempts to solve the same basic problem (i.e. that of derivation and not of reconstruction), but, for him, the verb is no less important than the noun. In fact, Jasanoff’s approach to the noun is not too different from Olander’s and comparable to it in predictive power. However, Jasanoff meticulously and exhaustively explores the possibilities of accounting for the variegated Balto-Slavic verbal stress based on the postulated non-paradigmatic columnar stress assumed for the PIE verb, setting up a valuable thought experiment which yields, as should be apparent from the above assessment, an unmistakably negative result. It is simply unable to explain most of what goes on in the Balto-Slavic system. Now we can clearly see that Balto-Slavic stress cannot be traced back to the widely accepted simplistic accentual reconstruction of PIE. There are simply too many oppositions on the “receiving end,” so additional variables must be brought into the picture. A complex interplay of some sort of accentual properties of individual morphemes must have been in place to give birth to the attested systems (including Vedic and Greek). It is this realization that underlies the “Tonological Hypothesis,” so rashly rejected by Indocentric accentologists¹⁴.

This notwithstanding, Prof. Jasanoff’s work is admirable in that it covers an astonishingly vast range of issues, while faithfully adhering to a rigorous theoretical framework. Arguable as that framework may be, the book will definitely prove of immense use to

¹⁴ It may be that part of the problem lies in a somewhat supercilious attitude of many “Western” scholars towards accentological literature published in languages other than English, German or French, particularly in (and not just on) Balto-Slavic languages. Most of the copious accentological work published in Russian is completely ignored by Jasanoff (e.g. the comprehensive volume Дыбо 2000), not to mention the recent voluminous ground-breaking study Kapović 2016 written in “BCS”, which, by the way, contains a section (ibid.: 195) on BSl. mobility with much the same observations as presented in this review (but with more detail). Note, however, that the English-language article Dybo, Nikolayev, Starostin 1978 on the “Tonological Hypothesis” is not mentioned either.

its supporters and opponents alike. After all, it will probably help clarify just how much of the debate around the moot issues of Balto-Slavic and Indo-European accentology really boils down to the operation of “Teeter’s Law.”

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