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NEWSLETTER OF THE
ASSOCIATION FOR THE
STUDY OF LANGUAGE
IN PREHISTORY

NOVEMBER/DECEMBER 1989

ALLAN R. BOMHARD

86 WALTHAM STREET • BOSTON, MASSACHUSETTS 02118-2115

December, 1989

Hal Fleming has been in Ethiopia several months already, and this is the first issue of *Mother Tongue* being edited by guest editors in his absence. Contents include:

1. Letter from Vitalij Shevoroshkin entitled "On Some Recent Events"
2. Book notice: *Indo-Europeans and Pre-Indo-Europeans: What Evidence Do We Have?*
3. Letter from Grover Hudson on Murtonen's earlier comments on Kaiser's translations of Illič-Svityč's Nostratic reconstructions
4. Letter from John D. Bengtson responding to Hal Fleming's editorial essay in *Mother Tongue* 7
5. "Comments on the Nostratic reconstructions of Illič-Svityč (revised edition)" by A. Murtonen.

Also enclosed as a Supplement is a preprint of an article by Allan R. Bomhard entitled "Lexical Parallels between Proto-Indo-European and Other Languages" to appear in the *Gedenkschrift for A. J. Van Windeken*. This article is included as part of the continuing debate raised by Murtonen's comments on the work of Illič-Svityč and presents an alternative theory from that proposed by Illič-Svityč. The article contains 477 Nostratic etymologies. However, only reconstructed forms are given. The full lexical data backing up the reconstructions (currently running to well over 10,000 cited forms from the individual Nostratic daughter languages) will appear in a forthcoming book co-authored by Allan R. Bomhard and John C. Kerns and tentatively entitled *The Nostratic Macrofamily*.

ON SOME RECENT EVENTS

A book which appeared in Bochum last August (RECONSTRUCTING LANGUAGES AND CULTURES, ed. V.S., 176 pp.) is the first out of five: it contains materials from our Ann Arbor symposium on Language and Prehistory (Nov. 1988): 2 intro articles, a biographical sketch on Illich-Svitych by R. Bulatova, 17 abstracts of symposium reports, 3 preliminary reports (Dolgopolsky on Nostratic phonology; Dolg. on Lateral Obstruents in Hamito-Sem. [= AfAs.], Manaster-Ramer on Language, History and Computation), as well as M. Kaiser's translation of Illich-Svitych's Early Reconstructions of Nostratic, i.e., of the list which appeared in Etimologija 1965: this list contains almost twice as many entries as the known list: the known list represents I-S's dictionary which is not finished yet (1st and 2nd issue of this dict. contain full versions of I-S's sets [Kaiser provides only entry heads]; 3rd [and forthcoming] issue[s] represent[s] entries written by I-S's followers). The list of sets is re-arranged (like the known one); at the end, K. provides a list of sound correspondences. The reverse list (english to Nostratic) will appear in the 3rd Bochum book.

The 2nd Bochum book (Explorations in Language Macrofamilies) will appear in Oct. (or early Nov.); it contains an intro article, two preliminary reports on Nostr. methodology (by V. Dybo and by I. Hegedüs), Starostin's complete paper on Nostratic and Sino-Caucasian, Mudrak-Nikolaev's paper on Gilyak, Chuk.-Kamch. and Almosan Keresiouan, as well as 3 full entries from I-S's dict. (vol. 1), I-S's short intro note, and phonetic tables from vol. 1 (they were compiled by V. Dybo according to I-S's notes). It also contains an alphabetic list of I-S's reconstructions (Nostr. roots only) as presented in the above I-S's Etimologija paper and in all 3 issues of the Nostr. dict. Exact data are given as to the location of the reconstructions. The list was compiled by Jim Parkinson, a space engineer and our benefactor.

The 3rd Bochum book (Proto-Languages and Proto-Cultures) will appear in Nov. (or early Dec.) 1986.

2 more symposium books, as well as other books, will appear in 1990. One of them is: Advances in Glottochronology.*)

Each Bochum book costs approximately DM 40; any book can be ordered from the publisher: Studienverlag Dr. N. Brockmeyer, Querenburger Höhe 281, D-4630 Bochum--Querenburg, FRG (West Germany). Please inform your libraries!

* * *

70 entries from I-S's Nostratic dictionary have been translated by now. Muscovites have offered help: some of them will participate in the translation. We have a few able students who also could translate a part of the dictionary - but they need financial support. We have spent all our resources on Bochum books; so if anybody could help - or tell us where we could apply for funding - it would be very important. The Russians propose to comment on those entries of the dictionary which became obsolete (or to replace them; I think it is better to present I-S's dictionary in the way it was written - and add commentary notes where required; this will go faster).

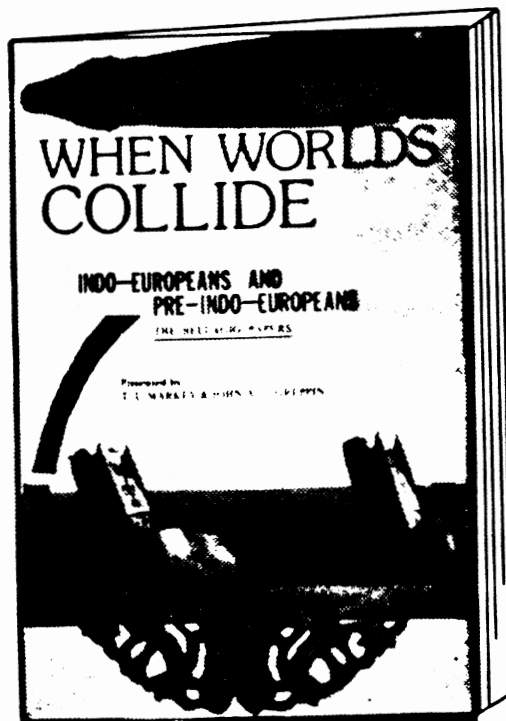
In connection with I-S's Nostratic reconstructions - brilliantly performed a quarter century ago and totally ignored by Western scholars - I would like to add the following: In the MT discussion (Aug. 1989) my colleagues have not even a slightest idea what they are talking about. They would ask why asterisks are lacking, or why the supporting material is lacking - instead of getting at least the 1st volume of I-S's dictionary from the library and see for themselves. And don't ascribe to I-S blunders he never committed.

*) The core is Starostin's study (profoundly misunderstood and misrepresented by L. Bender)

V. Shevoroshkin, U. of Mich., Slavic Dept.

INDO-EUROPEANS & PRE-INDO-EUROPEANS

WHAT EVIDENCE DO WE HAVE?



DID THE INDO-EUROPEANS COME BY INVASION, DIFFUSION, OR IMMIGRATION? WERE THEY A MAJORITY OR AN ELITIST MINORITY? DOES THE WAVE OF ADVANCE MODEL REALLY YIELD AN ADEQUATE EXPLANATION? WHAT LINGUISTIC AND ARTEFACTUAL EVIDENCE IS THERE FOR NON-INDO-EUROPEANS IN ATLANTIC EUROPE?

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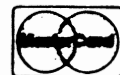
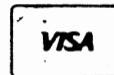
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14 Aug. 1989

Dear Hal,

Thanks for sending me Murtonen's comments on Kaiser's translations of Illich-Svitych's Nostratic reconstructions. Perhaps you misunderstand my competence. I have no broad or fluent knowledge of any language family which contributes to Nostratic. But I suspect that so few persons could flash on those two lists and get useful ideas and opinions that the exercise is not very useful.

Why doesn't Murtonen give the data to back up his opinions? (If Kaiser's translation is evidence, neither does Illich-Svitych.) How are people like me, or others who would like to know and whom he presumably would like to convince, supposed to judge claims presented in this *ex cathedra* manner? ...

In short, my response, along the lines you suggest is: "all in all, from a general linguist / general historical linguist / Ethiopianist / semi-Semitic point of view, the article is very bad" -- as an article. As scholarship, it might be brilliant. Who's to know?

Generally, I fear that Murtonen is only somewhat more guilty than others doing that work. They seem entirely to fail to realize the pedagogical difficulty of their task. Long-range etymologies have to be organized very very carefully, and the data to back them up presented very very extensively and very very systematically. Maybe only computers can assemble it all, and set it out for publication, and it appears that these folks lack either the computers or the patience to use them properly. At the level of primary data the comparisons need to be stacked, item after item AFTER ITEM ETC. (not just two or three as, it appears, in Illich-Svitych), so that the claimed correspondences are immediately apparent and obviously numerous. At the level of comparisons based already on reconstructions, again many comparisons are needed, and, ideally, the strength of each reconstruction would have some indication or index of reliability since (1) persons who can judge them without this are likely to be (or can be assumed, anyway, to be) biased, (2) many of the reconstructions are sure to be controversial, and (3) the reconstructions probably do greatly vary in reliability.

I'm sorry I'm unable to give a response based on knowledge of the data itself.

Good luck in Ethiopia. I hope it goes well for you.

Cordially,

Grover

743 Madison Street NE
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26 August 1989

Allan R. Bomhard
Editor of Mother Tongue
86 Waltham Street
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Dear Allan,

I did not get in on the first volley of responses to Hal Fleming's editorial essay (MT 7, responses in MT 8), so the following is prompted by the essay and responses:

Fleming presents a number of (hypothetical) extreme positions in regard to reconstruction and remote comparison, which I would like to treat as extremes to be mediated, so as to arrive at a sensible middle ground. He first mentions the perceived opposition of the 'Dolgopolsky School' ("proto-languages must be available before interphyletic connections can be sought") and the 'Greenberg School' (paraphrased: "languages can be classified, using multilateral comparison, even when materials are very poor and very little"). Note that the brief mottoes typify the forte of each school ('reconstruction' and 'classification', resp.), and, of course, such bywords do not always apply to the members of each school. For example, Starostin gives an Old Chinese reconstruction when a Sino-Tibetan one is not available, and Greenberg uses reconstructions when they are available, and, contrary to what some may think, Greenberg cares about phonetic correspondences (in proper sequence and perspective). I think most of us are somewhere between the two 'straw man' positions. For example, I prefer to cite attested forms along with reconstructions. There is much truth in Saul Levin's caveat (MT 8: 23) about being grounded in actual forms. So I think the sensible middle ground is to use reconstructions, whenever available, but keep them grounded by citing attested forms as well. For the many languages without reconstructed prototypes (such as Khoisan, Indo-Pacific, Amerind) we can make do with provisional reconstructions until better ones are available, as suggested by Vitaly Shevoroshkin (1989: by the way, this fine article should be looked up by all long-rangers.)

Question (7a) was effectively answered by Shevoroshkin (MT 8: 16, in response to Murtonen) and by Diakonoff (ibid., p. 28). We must dispute the common notion that newly-coined 'onomatopoeic' words can account for widespread global etymologies such as **Sun- 'nose'. It is far more likely that they are phonosymbolic terms of great antiquity, and their phonosymbolic structure has worked, in some cases, to allow 'exceptions' to the usual phonetic developments. One of my favorite examples is:

Indo-European: *pāpVl- ~ *pīpVl- : Latin pāpili-on-;
OHG fīfal-tra, OS vīvol-dara, OE
fīfeal-de 'butterfly'

Dravidian: *papVlV-: Kurukh paplā, Kodagu pa.pīli
'butterfly, moth'

Amerind: **papVlV-: Tequistlatec pápalo, Nahuatl
papalo-tl, Hopi pó·voli 'butterfly'

It seems highly unlikely that all these forms are independent onomatopoeic developments in IE, Drav, and Amerind. Rather, I think we are looking at reflexes of an ancient phonosymbolic root, and the striking similarity of the attested forms is due, in part, to the preservative effect of phonosymbolism. A documented case is that of the French developments of Latin pāpillion:- in the derivative meaning 'tent', the regular change of -p->-v- has taken place (pavillon), while the doublet with the older meaning (papillon 'butterfly') has resisted the shift.

One may guess that to keep the 'same' bases from spreading apart phonologically (as speakers spread apart geographically) to the point where all plausible or obvious similarity is lost, there must be some restraining forces at work - and one of these would be phonosymbolism. . . . So, phonosymbolism would perhaps exert a centripetal force holding basic forms together despite their having lost geographic contact.
(Cassidy 1985)

Question 13 (Segmentation): What constitutes a segment at one historical stage may be quite different at another. So while sn- may be a segment in modern English, it derives from Germanic *snu- or *snū- (Eng snot < *snuta-), which is in turn from earlier **Sun-. Here an independent root has 'degenerated' almost to the state of a prefix, and it is just this process that prompts some of us to analyze some Sino-Tibetan prefixes as possibly having origins as initial root consonants. (See Benedict, MT 8: 30-31) In a multilateral Sino-Caucasian context (Basque sun-~su-; North Caucasian **Sun-; Burushaski šun: Bengtson 1989: no. 21) it seems plausible to me that Sino-Tibetan *s-na was originally *sna, and the analysis as *s- + -na may be secondary, i.e., an initial root consonant has merged phonetically with a prefix of distinct origin. (For a simple example from the history of English, pea is a back-formation from earlier pease, where a root consonant -s- was interpreted as the plural ending -s.) Another ST example is *mlaj 'tongue' (cf. NC *mēlc'c'i, Basque mihi, Sumerian me~e-me 'tongue', Burushaski -melč 'jaw': Starostin 1984: 25, no. 61; Bengtson 1989: no. 1), where Starostin's reconstruction assumes that the division *m-laj = *m-lay is secondary, and restricted to Sino-Tibetan. So we are not saying that Benedict's analysis is 'all wrong' - at the Sino-Tibetan level - but we, as paleolinguists, must recognize that forces such as analogy and contamination have sometimes obscured segmentation.

(Benedict (MT 8: 31) wants to 'test' the Sino-Caucasian hypothesis. This should properly be done with all known members of the phylum: Basque, Burushaski, Yeniseian, and Na-Dene, as well as Sino-Tibetan and North Caucasian.)

IN DEFENSE OF GLOBAL ETYMOLOGIES: Lionel Bender (MT 8: 32-33) has again claimed that global etymologies are a 'waste of time'. In view of our goals, as long-rangers and paleolinguists, to arrive at a comprehensive classification of the world's languages, how can this be done without a comprehensive synopsis of all known vocabularies? How are we ever going to sort out your "mixed bag of chance, diffusion, universals, and even some genetic relationships", without

taking a broad synoptic look at the whole human lexicon? Greenberg, Ruhlen, and I have repeatedly maintained that the notion of 'building only from the ground up' is not only absurd and unscientific, but completely at variance with established linguistic practice. For example, Indo-European was firmly established long before any reconstruction had been attempted. Dolgopolsky based his original Nostratic (Sibero-European) hypothesis on gross resemblances of stable vocabulary. Nilo-Saharan was set up by Greenberg in much the same way; and so on. In our work with global etymologies, we are following the same methods in quest of a broad, synoptic, and multi-lateral view of the human lexicon. This kind of perspective is absolutely essential to the eventual solution of linguistic remote relationships and classification.

We (Bengtson and Ruhlen) are not presenting our etymologies as finished products. We acknowledge that a certain number of the entries will eventually prove to be 'noise', as Bender likes to put it. We have invited experts to examine the entries, to trim away wrong forms and add right forms. If even 10% turns out to be true genetic material, that will be an accomplishment. (Thank you, Mary Ritchie Key!) So we do not think the abandonment of global etymologies, as Bender proposes, is any solution. Rather, let us tighten our evidence, seek out better reconstructions, attempt provisional reconstructions when necessary, and begin to outline regular correspondences. As Shevoroshkin (1989: 23) urges:

. . . use as many languages as possible - not only Amerind or Nostratic, but also Dene-Caucasian, Indo-Pacific and Australian. This will help, among other things, to establish lexical isoglosses between the most ancient reconstructed languages: sooner or later we should also be able to identify the most ancient dialectal groupings.

GLOBAL ETYMOLOGY UPDATE: We have recently seen the publication of (quasi-) global etymologies by members of the 'Dolgopolsky School'. Shevoroshkin (1989) presents 50 wide-ranging etymologies (involving Nostratic, Sino-Caucasian, Amerind, Khoisan, Austric, Indo-Pacific, and Australian), as well as 25 unnumbered sets comparing Nostratic, Austric, and Amerind. For this purpose, the author has formulated provisional reconstructions of Amerind and Khoisan. Peyros (1989; just received by way of Václav Blažek) has published 114 comparisons involving Nostratic, Sino-Caucasian, and Austric (mainly Austronesian and Mon-Khmer). The entries are very terse: just reconstructions and glosses (in a few cases, Peyros cites local languages such as Malay and Khmer).

In several cases, the etymologies coincide:

(Shevoroshkin 1989: no. 107) Nostratic *mona/*m[a]no 'man'
(also 'husband', 'master' in different languages)
: Dene-Caucasian: North Caucasian *mVnXV 'man, male'
: Amerind *mano 'husband'.

(Peyros 1989: no. 63) Nostratic *mānV 'man, male' : Sino-Caucasian *mVn-xV id. : Mon-Khmer *mVn 'man'

(cf. Bengtson and Ruhlen **mano 'man')

The problem with these 'Dolgopolsky School' etymologies is (a) the value of actual attested forms is minimized, or they are simply left out, in favor of reconstructions, and (b) languages lacking reconstructions are not considered at all, thus excluding a great deal of evidence. Ruhlen and I have attempted to prevent this kind of exclusion by giving attested forms from all possible languages. While we recognize that our approach also has its hazards, we do not consider them insurmountable, and controls can be introduced as they become available. (This is not to minimize the importance of these articles. Vitaly and Ilya are leaders in our science, and I think these articles are great steps forward. I just hope we can come to a consensus on methods for global lexical studies.)

Let's keep learning from one another!

Sincerely yours,

John D. Bengtson



REFERENCES

- Bengtson, John D. 1989. "Notes on Sino-Caucasian." Manuscript.
- Cassidy, Frederic G. 1985. Letter to John D. Bengtson.
- Peyros, Ilya. 1989. "Dopolnenie k gipoteze S.A. Starostina o rodstve nostratičeskix i sinokavkazskix jazykov." Lingvističeskaja rekonstrukcija i drevnejšaja istorija vostoka. Tezisy dokladov Meždunarodnoj konferencii. Čast' 3: 125-130. Moscow: Akademija Nauk SSSR: Inst. Vostokovedenija.
- Shevoroshkin, Vitaly V. 1989. "Methods in Interphyletic Comparisons." Ural-Altische Jahrbücher 61: 1-26.
- Starostin, Sergei A. 1984. "Gipoteza o genetičeskix sv'az'ax sinotibetskix jazykov s enisejskimi i severnokavkazskimi jazykami." Lingvističeskaja rekonstrukcija i drevnejšaja istorija vostoka. Tezisy i doklady konferencii. Čast' 4: 19-38. Moscow: Akademija Nauk SSSR: Institut Vostokovedenija.

Comments on the Nostratic reconstructions of Illic^V-Svityč^V
(revised edition)¹
by A. Murtonen

¹This revision was prompted by Professor Shevoroshkin's criticism of the original version of my comments, both published in the August 1989 issue of Mother Tongue. Incredible as it may sound to Sh., I was not previously familiar with the work of I.-S., and assumed that Mark Kaiser's translation more or less accurately reproduced a paper actually written by I.-S. in that form which I therefore could only understand as an interim discussion paper of an uncompleted study, to be commented on in a similar fashion. The field is not well represented in our university library, as even Semitics was introduced here only in the post-war period and was initially confined to Hebrew, with Arabic and Aramaic added in the '60s, but little else; and as university funds began to be curtailed in the '70s, this affected library purchases particularly in subjects not actually taught. Our bibliographical information on the work done in the U.S.S.R. also has been mostly second-hand and therefore patchy. Checking on the availability of the literature quoted by Sh., I found just one item, to wit, the 1st vol. (1971) of V.M. Illic^V-Svityč^V, Opyt sravneniya nostraticheskikh yazykov; why the subsequent volumes have not been purchased I can only guess. In any case, the volume enables me to discuss the items up to no. 245 on a firmer basis and therefore in greater detail and indirectly sheds some light on the remaining ones too, so I, although still hard pressed for time too, prefer to do the revision now rather than postpone it perhaps indefinitely. The ~~xxx~~ comments still refer primarily to the Semito-Hamitic entries, and as my sources on the non-Sem branches of that phylum too are defective, I cannot claim completeness for them either; therefore, the comment, 'unknown to me' means just that and nothing more.

3. I am happy to see that my guess based on Kaiser's rendering was correct; I.-S. gives exactly the same roots, albeit in slightly different transcription; my transcriptions are based on the Hebrew form of the roots, as given in the transliteration key in my Hebrew in its West Semitic setting Part I Section A (1986). Accordingly, the Nostratic root is based on the first two radicals of the triradical Semito-Hamitic roots, although - as generally agreed among Semitists - there is no positive evidence of root final sibilants or /r/ (or practically any consonant in that position, for that matter) being a secondary augment; root final vowel does appear sometimes to be secondary, but there is no indication of this being the case in /bqV/. Moreover, the postulated Nostratic meaning, 'to look', is compatible with /bqʃ/ only at best, /bqV/ means primarily, 'to stay', and /bqr/, 'to split'; and as /bqʃ/ is attested in North-West Semitic only, there is not much chance of it being based on a pre-Semitic biconsonantal root, cf. n. 70 to the introduction of HIWSS Part I Section Bb (to appear by the end of 1989) and in greater detail in the forthcoming Part III §35 (with a large footnote). Furthermore, the reconstruction is in discrepancy with the table III b) (Opyt p. 153) according to which additional elements may occur in Semito-Hamitic roots only if the Nostratic stem vowel is other than /a/.

4. I.-S.'s 'rule' of Alt. /-Sg-/ corresponding to S-H /-S-ǵ-/ appears based on this single instance, and as otherwise, S-H /ǵ/ has zero correspondence in Alt., that one instance may be deemed irregular.

5. Appears tenable.

6. (Marked uncertain by I.-S.) According to Vycichl, Dictionnaire etymologique de la langue copte (1984) p. 27, Cpt /b(e)lle/ is based on the word for 'eye' which can hardly be the case for the Cush entries, cf. e.g., H.-J. Sasse, An etymological dictionary of Burjiṣ (1982) p. 33 with p. 105.

8. The Akk entry comes from the root /b'r/, attested in the Bab dialect only, the original identity of /'/ uncertain; in the Sar ones, /ǵ/ also appears; in the Cush entries, there is no indication of an additional radical between /b/ and /r/; Tu /aber/ has root initial vowel.

9. The basic meaning of /brg/ appears to be an elevated landmark, such as a hill or cliff, then also of objects partly covered by ground; the adjectival meaning 'high' is abstracted from a larger number of elevated or tall entities, as adjectives generally - any adjective presupposes a number of concrete entities with the relevant property common to all of them, hence abstracted from them, and so an adjectival meaning can never be the primary meaning of any root, and so it is not surprising that, e.g., no biblical Hbr adjective can be traced back to pre-Sem times.
10. (? I.-S.) Attested in Chad only, hence hardly dating from common S-H, cf. the references in 3 above.
11. Onomatopoeic (or 'descriptive', I.-S.). Onomatopoeic words are imitative of natural sounds or characteristics related to such sounds and could therefore have originated independently in more than one environment in identical or closely similar form. Of course, at some stage of phonetic development they become subject to the same rules as the rest of the vocabulary - the sheep did not say /vi: vi:/ in Aristophanes' days any more than nowadays -, but particularly in prehistoric times that stage is hardly determinable, and so the possibility of more than one independent origin is better left open for all such words. Similarly nos. 14.17.35.41.46 etc.
12. Based on the first two radicals of /bc&/, /bcr/; again, no tangible evidence for final /&/ or /r/ being a secondary augment in these or other roots (cf. 3 above). For his Tu entry, I.-S. himself postulates both different root, */wbc/ and different meaning, 'to crush'; while in Chadic, the initial /b/ is glottalized and sibilants could allow almost any etymology.
13. Eg /'/ for S.-H. /l/ is at best highly irregular, probably unparallelled, cf. even I.-S.'s own table (Opyt p. 154, although that too is erroneous, as the most common Eg representative is /r/, while /y/ (I.-S.'s /j/) is quite exceptional.
16. Sem /'bl/ refers collectively to fresh pasturage and is based on a biradical */bl/, with cognate /wbl/ = /ybl/, /nbl/, /tbl/, /blV/ and perhaps /bwl/, all concerned with vegetation or growth in general, whether in a positive or negative (= withering, aging etc.) sense, analogously to alternately growing and withering vegetation. The Cushitic (and Omotic) entries may be related.
20. The S-H root is /bl(1)/, meaning basically mixture of dry and moist substances; on Eg /b'y/ cf. 13 above.
21. Sem Cush /bwr/, /b'r/ appear compatible with the other phyla, but Arab /brV/ is semantically closer to /br'/ meaning basically to put in order (from human point of view); there is no evidence for final /-z/ or (Tu) /-k/ being a secondary augment; and that Eg /'/ stands for /r/ in the Eg entries (for /wbr/ read /wb'/) is also highly doubtful.
22. Arab /barr/ means basically landscape or region and can hardly be connected with /bara^{yn}/ whose meaning may be connected with 'rubbish', or with /bwr/ which refers to uncultivated soil; the usual Sem root for 'loose soil, dust' is /&pr/. The Berb entries have but one sound in common with Sem, the Cush ones vary between themselves too, as also the Chad ones, with those phonetically closer deviating semantically.
23. (? I.-S.) Arab /bārix/ comes from the root /brx/ and means basically 'sweeping' when applied to wind; the semivowel /-w-/ in the pl. form is result of a phonetic development, see my Broken plurals (1964) p. 38ff; while the Berb entries derive from the root /br(r)/ and refer to hail.
24. (? I.-S.; onomatopoeic) The Eg attestation is late; on /'/ for /r/ cf. 21 above.
27. (? I.-S.) All the S-H entries are wandering words, apparently borrowed from the language(s) of the more original inhabitants of the relevant region(s); hence the irregularities which, moreover, affect the inside radicals rather than the final one in /z'b/, /'rnb/; there is no evidence for a nominal affirmative /-b/ in original Sem roots either.

28. The basic meaning of the S-H root 𐤀(Arab /byw/ rather than /byy/) is a diseased growth or secretion, hence hardly comparable to sufficiency in the positive sense. Moreover, as I demonstrate briefly in HIWSS Part I Section Bb p. 20f and conclusively in the forthcoming Part II §§7,20, there is no evidence for the existence of /y/ as a phoneme separate from /ē/ in pre-Sem times.

30. Eg /bnd/ is so rarely attested that its primary meaning and hence, relevance here is hardly determinable; in the Chad attestations quoted, again, the oral nasal and stop never occur in the same word, thus appearing to be alternants rather than separate radicals, if indeed combinable at all - in Jungraithmayr & Shimizu, Chadic lexical roots II 𐤀(1981) p. 269 only the nasal alternative appears, even that marked uncertain.

31. Belongs together with no. 374; the primary meaning of the verb, fertilization, was discussed by me in an article in Vetus Testamentum IX (1959) p. 158ff. The connection with knee is illustrated, e.g., by Mehri meaning, 'to kneel, be mounted (female camel by the male)', cf. also the practice of an adoptive ^{mother} ~~parent~~ taking the child on her ~~xxx~~ 'knees' (probably in the more comprehensive sense of 'lap') originally no doubt pretending to have produced the child herself (cf. Gn 30:3; in 48:12 the gesture applied to an adoptive father).

32. The Sem root is originally no doubt /bn/, /r/ occurring in relatively late to quite modern attestations only, even in them usually as a positional variant, and in equally secondary (denominative) verbs derived from such variants. /br'/ has nothing to do with this noun, its primary meaning being 'to put in order (from the human point of view)'.

33. The original reference of Sem /slē/ seems to be to a rock or cliff as a whole; in Arab, shifted to refer to splits and cracks frequent in rock surfaces, then also to analogous phenomena elsewhere; /-ē/ again not attested as a root final augment anywhere. On the other hand, recognition of /s-/ as a secondary sound is on the right track.

36. (? I.-S.) Again, no evidence for final /-r/ being a secondary augment. The variant hardly exists (phonetic identity of the SAR sibilant uncertain, no evidence for G&z /\$/ , the Ug meaning uncertain, the Akk entry loan from Sumerian).

37. The primary Sem root is /cx(x)/, although the extended var. /cxV/, /-w/ may be old; /cyx/ is a local development in Soq, the Arab /cayx/ meaning primarily a loud cry, ^(cf. 38 below) then more specifically cock's crow from which the meaning, 'dawn' is generalized. The modern SAR /\$iwōt/ (not /c-/!) etc. means 'fire' and has no connection with this root.

38. (? I.-S.) The Sem root is onomatopoeic, with some evidence for two or three independent origins, although not cogent: for NWSem Eth /w/, Akk Arab Mhr have /-y-/ which could be a secondary development, as also NEth /-ē/ Wol /-h/ for the Asiatic /-x/; Sem /cwV/ would better agree with the Kartvelian entry both phonetically and semantically.

40. (? I.-S.) According to Belot and Hava, Arab /cuwār/, /ciyār/ means 'herd of oxen' in general, not specifically wild ones; Mand /sara/, /sira/ 'flock of birds' has not much in common with it phonetically ~~sikhar~~ nor structurally either; de Foucauld derives Tu /asera/ from a root meaning 'to split' hardly combinable with either.

41. Onomatopoeic again, with variation between /c-/ and /s-/ in the sibilant and between /-q/, /-d/ and /-ē/ in the root final, without supportive evidence for a secondary origin of these.

42. /s(w)n/ (with varr. /wsn/, /ysn/; hardly /syn/, cf. Jungraithmayr & Shimizu p. 158) appears common to Eg Berb Chad, but here, /s/ is probably original, hence the Kartvelian connection hardly valid.

44. (? I.-S.) Arab /cwl/ means primarily 'to assault' rather than just 'jump'; the roots for the Hbr and Hausa entries are different, maybe onomatopoeic.

50. Why /θry/ 'be moistened* (by rain)', /miʃrā/ '(grape) juice' should be cognate with /ʕilō/, /ʃiyā/, /ʃiʃē/ 'excrements' I fail to see; even if the latter were in fact of common origin, the postulated original root *θyr/ still involves transposition and former existence and subsequent total disappearance of θ/ in Cush; as well as semantically, that ancient Cushitic people were constantly plagued by diarrhoea!

51. Again, I fail to see why dry herbage should be characteristically aromatic; Aram /twn/ means 'smoke', probably cognate with the root /ʕsn/ but become kind of *Kulturwort* at an early period, smoke being a common indicator of human habitation or camping place for hunters and nomads all over the world, whence double representation of this root in Eth. Eg /ʕsn/ (= /sn/) also means 'to smell' in the active sense, cf. the parallel meanings, 'to breathe', 'to kiss'; and the Chad attestations quoted have so multiple and varied phonetic variation that all of them can hardly be cognate either. The Uralic varr. too seem hard to reconcile even with each other at times (cf., e.g., Neneč. vs. Finnish).

53. (Erroneous transcription of the initial cons. by Kaiser, as also in nos. 56, 57) ~~Arab /cry/ hardly cognate with /ncr/ (Hbr /ncr/), its primary meaning being rather more active, 'to avert evil', besides the structural difference; Arab/ESA /ncr/ is more probable. The Kartvelian and Indo-European central meanings, 'to worry' and 'to love' seem more remote.~~ Could be valid.

54. (? I.-S.) While it is true that some substances may taste both sour and bitter and the two concepts thus be mixed, usually they are kept apart in language anyway; the word for 'poison' could have common origin with 'bitter', many ancient poisons tasting bitter, but it has become a *Kulturwort*, borrowed from language to language along with the spread of the use of the substance, as *Kulturwörter* generally which rarely fails to influence their phonetic shape in unusual ways; usually their late origin is betrayed by their meaning too, presupposing as it does a relatively well developed stage of material culture and/or communal organization etc.

56. Arab /cry/ hardly cognate with /ncr/ (Hbr /ncr/), its primary meaning being rather more active, 'to avert evil', besides the structural difference; Arab/ESA /ncr/ is more probable. The Kartvelian and Indo-European central meanings, 'to worry' and 'to love' seem more remote.

57. Chad reconstructed /ʕəm/ hardly tenable, cf. Jungraithmayr & Shimizu p. 92; Eg /səm/ appears to be secondary (causative of /ʕm/ 'swallow'); while common Sem /ʕəm/ can hardly derive from a pre-Sem /ʕəm/.

59. Berb Cush /d(d)/ (etc.) may indeed be primarily locative; but its rather limited and patchy occurrence makes connection with the other phyla problematic, as there are semantic and structural differences too.

60. Berb Cush /da/ may belong together, basically meaning 'together with'; the case for the solitary Chad attestation of /da/ 'also' is less clear, though still possible; connection with the other phyla involving phonetic variation ~~and~~ and geographical distances too must be deemed hardly likely, as chances of accidental similarity increase in inverse proportion to the number of phonemes involved.

61. Again, clear difference in meaning and geographical distance probably ruling out contact in remote past too make connection between the Cush-Chadic and Uralic entries hardly possible; with Altaic, phonetic differences increase hazards.

62. Tigrinya /dlxq/ 'confuse, mix things' is secondary expansion of /dxq/ 'thrust' by means of infixed /-l-/ -augment, ~~not~~ common besides /-r-/ in the creation of 4-rad. roots out of triradicals; whereas /-q/ as a final augment is not attested anywhere in Sem to my knowledge; cf. Leslau, Ethiopic and South Arabic contributions to the Hebrew lexicon (1958) p. 17. Berb ~~xxxxx~~ /γ/ corresponding to Sem /χ/ is nowhere demonstrable either; and the Sem root nowhere refers to waves or sea.

63. Arab /dml/, /-n/ means 'to manure (field)', implying mixing the manure with the soil rather than 'covering' either one; /-n/, /-l/ and also (Berb) /-d/ are hardly demonstrable as secondary final augments in verbal roots either. The I-E Ural velar nasal does not tally well with the S-H labial one either.

66. (? I.-S.) Jungraithmayr & Shimizu p. 40 do not list /dīde/ even as a secondary

variant; Gidar is listed under /md(m)/ along with Gude, Gɛisiga, Daba, Bade-Ngizim and Kwang-Kera.

67. Could be valid, although again, I am not sure of phonetic correspondence with the other phyla, and the Sem root refers also to other entities reproducing in large quantities, such as grain (which, if primary, relegates the root to the period of systematic agriculture).

73. Arab /dwm/ means 'to last, continue, stand still', hardly the same as 'be peaceful, silent'; Sem /dm(m)/ rarely means complete silence either, rather making faint noises, with subdued activity. Velar nasal again in Alt (I-E) vs. Sem labial.

74. (? I.-S.) Phonetic difficulties between different phyla, as recognized by I.-S. himself; geographical distance also a major one between Berb-Cush(-?Chad) and the others.

75. Arab /wd&/ means basically 'to put in storage, deposit'; and with only one cons. at best in common between forms from different phyla, hardly valid (cf. 60 above).

76. Meaning 'to die' not demonstrable for Sem /dwV/; Jungraithmayr & Shimizu (p. 154) do not list any */dw(y)/ 'kill' either; so connection with I-E stands or falls with Oromo /du'/ which again has just one cons. in common.

81. (? I.-S.) No evidence for interchange of /g/ with /q/ in NWSem, apart from the final /-l/ unparalleled as a secondary augment; and the Cush entries referring to anus or backside generally, reference to the nape of neck is indeed problematic.

82. The primary meaning of /ghr/, referring to burning wood turning into coal which certainly involves heat is preserved in Tigre; shiny jewels look like burning coals too, and Arab /ghr/ likewise primarily refers to outward appearance; reference to sun- or daylight is thus incidental and hence, secondary. The Eg Cush Chad entries are thus hardly connectable not only for phonetic and/or structural, but also ~~phn~~ semantic reasons, the Ix-E Alt ones all the more so.

84. The meaning, 'to shave' is the earliest attested one for WSem /glx/; reference to baldness appears later, and being usually partial only (in Arab, limited to temples) could even then hardly ^{have} created the impression of being 'smooth and shiny' on which the other phyla concentrate.

87. /gwp/ is phonetically conceivable as the result of devoicing of the 2nd rad. of /gw/ (whence also /gwV/) with concomitant closure of the labial aperture; the var. /gp(p)/ reflects an accelerated version of the process. Both refer primarily to the interior of the body from which the adjectival meaning, 'hollow' (rather than 'empty') is a further abstraction.

88. (? I.-S.) ~~z~~ /g(w)&r/ is an artificial combination of Eg /d&r/ with Cush /gwr/ which could be cognate assuming secondary loss of the pharyngāl in Cush; in Berb Chad, however, the short stem vowel makes such an assumption hardly feasible; in Berb, the assumption of the transposition and subsequent assimilation of /w/ to /g/ is also fortuitous, as secondary geminations are frequent in Berb particularly in that position.

90. Cush */g^wrH/ 'antelope' appears based on Iraqw /gwara'ai/; other Cush attestations are hardly phonetically fully compatible, the Chad ones less still. The phonetic irregularity is characteristic of wandering words, such as well known animals' designations often are, borrowed from language to language on nomadic wanderings and migrations, with semantic shifts prompted by outward or other resemblance, particularly if the earlier so designated animal was not found in the new place of habitation. Therefore, the Dravidian and Altaic attestations too could derive from the same prototype, although geographical distances are rather formidable even for the hunting and gathering communities; in any case, wandering words are no evidence for genetic relationships of the languages in which they occur.

91. Onomatopoeic (I.-S.; cf. 11 above.) The relevant Sem root is /gr(r)/ rather than /gwr/; /gr&/ deviates semantically also - even in Arab, the emphasis is on the greedy or forced gulping down rather than on the consumption or throat itself - apart from the /-&/ unparalleled as a secondary augment, as also the Cush /-m/ found also in Chad besides other variation.
92. The proper Sem root for 'to bend' is /kp(p)/ (var. /kwp/), but /gb(b)/ may indeed be an old root var. from the period when voiced and voiceless consonants were not yet consistently differentiated; this may be early enough to make connection with I-E Alt entries feasible.
94. Again, the proper Sem - and originally probably common S-H - root is /gl(l)/, but /gw1/, /gyl/ may have originated as root varr., and /kl(l)/, /kr(r)/ may ultimately be cognates too; which again makes connection with Kartvelian (and I-E, Alt?) entries feasible, although the root family could be of onomatopoeic origin.
95. /gwr/ is a root var. of /ghr/, cf. 82 above, but here, the Cush Chad entries appear compatible with Eg; which then may again make connection with I-E (and Alt?) entries feasible.
98. The S-H root refers to water seeping through the soil which does not tally very well with pouring, melting or flowing; moreover, /γ/ as a phoneme distinct from /&/ is restricted to some WSem languages (the Berb ~~ɣ~~ /γ/ is a spirant of /q/) and even as an allophone can hardly be traced back to pre-Sem stage.
99. /&m(m)/, /γm/ has no reference to night; /&md/ has again a 3rd rad. unparalleled as a later augment; on /γ/ cf. 98 above.
100. The Sem (Cush) root is originally a var. of /'wV/, apparently going back to the time when /h/ was not phonologically distinct from /'/; Eg /hy/ Bed /hiyo/ 'spouse' may represent a phonetically and semantically differentiated root var. and the whole complex could be early enough to make connection with I-E (and Dravidian?) feasible. However, onomatopoeic origin (from heavy breathing) ~~ix~~ and with it, more than one independent provenance cannot be ruled out either.
101. The root var. /xwV/ could be more original, cf. /hyV/ as a root var. of /hwV/ 'to be'; the S-H attestation is again widespread enough to make connection with I-E (and Alt?) a possibility, but with hardly one firm rad. in S-H and considerable variation elsewhere, hardly certain.
111. Differentiation of tenses in the S-H verb is secondary, as illustrated by the different means and structures in different stocks and even single languages as well as practically complete absence still in biblical Hbr etc.; connection with other phyla is accordingly hardly thinkable.
121. To call Aram /-ā/ Hbr /ha-/ a pronoun is misleading, as it does not stand *pro nomine*; it is simply a determinative particle, an essentially deictic function and evidently distinct from the ~~hakar~~ demonstrative pronoun for the farther object whose /h-/ is corresponded by a sibilant in an evidently more original allomorph in some cognate languages; the present particle was originally probably purely vocalic, the Hbr (etc.) /h-/ representing consonantalization of the onset in word initial. Vowels being easily susceptible to phonetic variation and functional variation too being involved, it seems to me too hazardous to speculate on etymological connection or otherwise with the Berb Cush examples, let alone those from the other phyla.
122. The glottal stop in both verbal and nominal forms (imperative, relative, broken plurals) is of purely phonetic origin, to wit, consonantalization of the beginning of a prothetic vowel originated to compensate for the loss of the vowel of the 1st rad. because of changes in accentuation; in forms like /adannu/ added in analogy with /aqtalu/ after the element acquired morphological status. Cf. my Broken plurals (1964) p. 19f.
123. Sem /'el/, /'il/ means primarily uncanny power or strength manifesting itself in nature, then personified as the appellative for divinity, used also for an individual (usually supreme) god; has nothing to do with /'alya(t)/ which means the fat-

ty tail of a kind of sheep; Akk /alilu/, /allallu/ is uncertain of etymology and indeed meaning - could derive from the root /hl(1)/ (cf. v. Soden, AHwb sub /alālu/ III) which may originally derive from the new moon festival. None of these elements have specific reference to 'food' anyway, although the fatty tail was often regarded as a special delicacy and therefore given to the guest of honour (so originally in 1S 9:24) or used as sacrifice.

124. (? I.-S.) Sem /'mr/ has no specific reference to morning or daylight; the basic meaning may be 'to see, encounter, experience' best preserved in Akk, then also referring to the reactions to the experience, 'to learn, suffer etc.' and more actively, 'to ~~xxx~~ show, indicate, say, command' as more commonly in WSem Berb; could be ultimately related to /ml(1)/ 'to speak'.

125. Onomatopoeic (I.-S.; cf. 11 above). Has other similar roots alongside (/nq/, /n'q/, /nhq/) but none has reference to breathing (sighing of course presupposes breathing, but pays no conscious attention to it), hence connection with the I-E ~~■~~ (Kartvelian) entries hardly exists, less still with Eg.

126. The meaning of Arab /'rb/ primary stem is a late generalization from a more specific and concrete one, cf. Hbr-Aram 'to lie in ambush' and also Arab 3rd and 4th stems; /&rb/, /&rm/, /&rp/ would have been semantically closer, but even they have no reference to witchcraft.

127. Sem /'is/ 'fire' could also be onomatopoeic in origin; connection with the Cush entry is phonetically hazardous; for Chad, Jungraithmayr & Shimizu posit *X/wt/ as a prototype, possibly borrowed from Bantu; with I-E, semantic difference is considerable; with Alt, geographical distance too.

128. With only one relatively firm cons. in common, functional and also structural differences make inter-phyla comparisons too hazardous.

129. Likewise, with greater reason still, the elements being originally apparently purely vocalic.

130. Again, the root is phonetically easily changeable, and with opposite meaning in I-E without apparent motivating factor (such as taboo or euphemistic usage)X, inter-phyla comparisons are hazardous.

131. The Sem root probably originally ~~xxx~~ /'l/, /'hl/ presupposing phonological differentiation of the glottals; Eth /hlw/ etc. seems phonetically and structurally hazardous and semantically distinctly different, as also the Berb Cush Chad and (still more so) Uralic entries; and while Drav Alt entries seem partly closer, geographical distance is a negative counterbalancing factor.

132. There is no Sem root /'ys/, /-θ/ in the sense quoted; the expression, 'there is' is based on a particle which has nothing to do with /'tV/ 'to come, arrive'; the modern SAR expression for 'to have' is combination of the preposition /s-/ 'with' with the relevant suffixed pronoun (see Thomas op.cit. p. 25 (not 251)); the Akk existential verb is combination of the particle with prep. /b-/, the Arab negative one with the negation /la-/, the positive one is an artificial back formation from it by a mediaeval grammarian; none of these elements has particular reference to 'place'.

133. Berb /'mi/ 'contain' is used of a vessel - hardly synonymous with 'to seize'; Cush Chad entries again have additional radicals hardly conceivable as augments.

134. The verbal preformative /yV-/ again can hardly be called pronoun, as it normally does not stand *pro* *nomine*, but in addition to it (implicitly at least); it is a deictic element, probably cognate with the Arab vocative /yā/.

135. A wandering word; cf. 90 above.

136. Apparently reflexive formation based on the root /'wV/ (used mostly with reference to eating), cf. also 100 above.

137. Belongs together with no. ~~■~~ 140; basic meaning 'to ascend'; reference to mountain secondary, where attested.

138. The S-H quotations have just one cons. in common, /b/; Syr /xubō/ 'bosom, pleat of dress' I am unable to verify - if genuine, it may be a *Kulturwort* borrowed through some unusual channel; Jungtraithmayr & Shimizu list no */w'b/, only */wḅ/, */ḅḅ/ (/ḅ/ glottalized) as secondary and tertiary varr. of */wḁ/ 'breast' (p. 53); as I.-S. himself terms the entry 'descriptive' (=onomatopoeic), cf. 11 above.

139. Arab /ḡq/ means 'to rend, split'; that it - among numerous other objects - has also been applied to a cloud apparently conceived as a huge waterskin to provide folk-etymology for a sudden downpour has nothing to do with water as such. Again, the Cush entries show too much phonetic variation for me to trust all of them to be cognate ~~xxxxxxx~~ with each other, let alone with the I-E entries. (Incidentally, to Prof. Shevoroshkin: a well is usually sunk to obtain water, or at least was ~~xx~~ before the oil drilling era.)

140. See 137 above; a burnt offering naturally goes up in smoke, /reY(a)x niYxo(a)x lyhwh/l

141. Shevoroshkin agrees that /ḡc/ is irrelevant here, but substitutes (after Dolgopolsky) Sem */xass-/ 'leafed branch'. Unfortunately, D.'s work is not available to me, but assuming that the transcription is accurate and /x/ stands for my /χ/ (=the 7th letter of the Arabic alphabet), it is most probably related to Arab root /χs/ 'to be vile, lowly', unless /χass/ 'lettuce' be meant or the reconstructed form based on a historical root of more than two radicals. None of the alternatives, however, sounds convincing; on the last one, cf. 3.8.12 etc. above; the word for 'lettuce' is evidently a *Kulturwort*, presupposing rather far developed horticulture and hardly derivable semantically from 'leafed branch'; and if the word is related to a root meaning 'to be vile, lowly', it again presupposes rather exceptional twisting of the original meaning, one way or the other. In any case, the difficulty in identifying the actually attested form suggests that it is not widely attested. Now it is true that in some cases, ancient words survive in some outlying dialects or languages only, having been superseded by others gaining popularity for some reason in the central parts of the relevant speech community; but to be recognized as truly ancient, such a 'laterally' preserved word should at least be supported by an unequivocal, well attested equivalent in the other language units under comparison. This is not the case here: counterexamples are given only from three branches of the I-E phylum with /-st-/, /-sd-/ corresponding to the reconstructed Sem /-ss-/ and no evidence for an initial pharyngeal, as the /o/-vowel by no means requires the presence of it, cf. I.-S.'s own I-E reconstructions in nos. 142, 150, 162.

142. Seems possible both functionally and phonetically, although structurally, /ya/ is hardly original in ~~xxxx~~ Sem (Cush?) and /y/ hardly was phonologically independent in pre-Sem times.

144. ^{(?) I.-S.} Basically monoradical, /m/, with pre- and/or postthetic vowels and occasional semivowel initials varyingly in different languages and branches of the phylum. Scanty attestations in other phyla at considerable distances make common origins unlikely.

146. The Eg /yn/ is a petrified formula in which /y-/ may not be part of the root; however, this does agree with Bed /an/, while Berb /īni/ is equivocal (Cohen, Essai comparatif no. 83 connects it with Hbr (etc.) /ḡnV/ 'sing, chant'). In any case, scanty attestation makes common origin doubtful even between the branches of the phylum; with Dravidian, there is additionally the long distance.

150. /-iy/ apparently belongs together with the genitive case vowel which was the last to be systematically differentiated, hardly started until towards the end of the pre-Sem period; therefore hardly connected with the quotations from the other phyla which also show structural and/or functional variation.

151. The origins of the hypocoristic /-ay/ are obscure, but in Hbr it appears only towards the end of the biblical period and is not demonstrable much earlier in other branches of the phylum either; the semantically related nominal type */qutayl/ suggests psychological influence. As the pattern differs in the other phyla, con-

nection with them seems highly improbable.

152. Originally probably collective rather than pluralistic; regular plural formation hardly started long before the end of pre-Sem period; the elements being again highly susceptible to phonetic change, inter-phyla comparison is hazardous.

154. (? I.-S.) *Kulturwort*; cf. 54 above.

155. The SAR attestations, recorded by Thomas only, mean 'whale' rather than 'fish' (in general, even if whales were regarded as fish); and being absent from Johnstone's lexica are hardly in common use. The Cush prototype, if correctly reconstructed by I.-S., would agree with Alt phonetically, but again not semantically, and geographical distance is considerable; for Chad, Jungraithmayr & Shimizu reconstruct /kɾp/ - phonetically not incompatible, and semantically too in agreement with Cush; but not with Alt, and Ural is structurally different, apart from the geographical distance.

157. 'To take' is hardly the same as 'to squeeze', although the intermediary meaning, 'to seize', may sometimes help unite them in unitary expression; phonetic and structural variation in S-H is not reassuring either, cf. 141 etc. above; the Cush examples I.-S. himself considers doubtful, and in Chad, Jungraithmayr & Shimizu (p. 261) accepts only */gm/ in Gidar under 'take', reconstructing */ks/ for Hausa and */ɬ-/ for Masa; this does not inspire trust in inter-phyla comparisons either.

158. Lip as an essential part of the body can hardly have been commonly regarded as a 'soft outgrowth', although particularly protruding lips may jokingly have been called that often enough to make it stick; with phonetic and structural variation too, inter-phyla comparisons hardly tenable.

159. (? I.-S.) Being onomatopoeic too, semantic shift on borrowing the Sumerian word into Akk (v. Soden) is understandable; and as a wandering word, conceivably more widely borrowed between other languages too; cf. 27 above.

161. (? I.-S.) Arab /kɪ/ (D-stem) 'to bring (a ship) ashore' can hardly have any connection with 'to wander, step', the basic meaning of the root being 'to keep safe, guard'; /hlk/ 'to walk, go' (with metathesis) would have been closer, cf. also the Finnish /kulke-/ (for Uralic) 'wander, journey'.

162. The basic Sem meaning is 'bride', derived from the root /kɪ(ɪ)/ 'to be complete(d)' in the specific sense of being fully prepared for marriage (or wedding, probably the most important event in ancient Semitic woman's life), often compared with coronation). The Arab /kanna(t)/ comes from a different root, /kn/ 'to veil', although ultimately probably cognate, /n/ and /l/ interchanging between different languages in the phylum and still being in allophonic relationship in central Gurage; and meanings being rather close. Examples from the other phyla have different semantic basis.

163. The Sem root (? I.-S.) /knV/ means basically, 'to call by an alias, an honorific name', the active counterpart to 'to know, recognize'; as the stem usually employed generally has intensive or factitive connotation, and as the Eg attestation too appears to be valid and the Cush ones do not necessarily presuppose /-y-/ in the middle, connection with Kartv I-E (?Alt) too is thinkable.

166. (? I.-S.) The S-H attestations are from Chad only, and as Jungraithmayr & Shimizu (p. 254) ~~re~~ reconstruct */gʷyk/ (, /k-/) as the prototype for most of them, comparisons with the other phyla appear hazardous indeed.

172. Akk /kūr/ 'depression' may be related to Syr /kwr/ 'to be narrow, strait, in distress', hardly cognate with Arab /krh/ 'dislike' or Syr /krV/ 'be/grow short; mourn'; as onomatopoeic effect too is possible, comparisons with geographically rather distant phyla are hazardous.

173. (? I.-S.) The word is a *Kulturwort*, presupposing the period of animal husbandry and etymologically probably the nomadic practice of transhumance (/kr(r)/ 'go round, circulate'), hence cannot possibly derive from the common Nostratic period - if there ever was one.

177. Appears phonetically and semantically possible, although in Cush and possibly Chad, 'river' seems to be the more original meaning which may involve onomatopoeic influence; and the geographical distance to Ural Drav weakens the possibility of connection.

178. Akk /kinīt/ is a hapax which *perhaps* means a concubine; Aram /kn(w)t(-)/ means 'colleague(s), mate(s)' and is never used of women; Berb /knw/ refers primarily to twins and is only secondarily applied to a concubine or co-wife; Chad entries I.-S. himself considers uncertain, and Jungraithmayr & Shimizu do not list any */kn/ or */gn/ under 'woman' (p. 286); the nearest is */gr-/ (-k, -t) for the central Daba group and Gidar, even that considered secondary var. of */grm/ (central Kotoko and Eastern Kera); Cush remains, but even there, considerable phonetic variation makes prototype uncertain; geographical distance to I-E Alt is also considerable, in Alt the meaning deviant too.

179. Again, only Chad attestations for S-H, and structural variety with occasional extra consonants makes prototype(s) uncertain; Jungraithmayr & Shimizu list under 'snake' (p. 242ff) 13 main types with 9 secondary subvarieties; closest to I.-S.'s entries is */k^w(m)l/ for the Eastern Kabalai(?), Lele and Sumray languages. Geographical distance to other phyla is again considerable, as I-E is lacking and Kartv considered doubtful by I.-S. himself; Ural deviates also semantically.

180. (? I.-S.) Wandering word, as illustrated by the variation /q-/~/k-/ never encountered in original Sem roots in early times without specific as- or dissimilatory reasons.

190. Onomatopoeic, cf. 11 etc. above; also unmotivated structural and phonetic variation, cf. 141 etc. above. Biconsonantal forms, however, are present to some extent in all the branches quoted, particularly in Berb Cush as well as in the other phyla and appear more stable, and as very early origin is semantically possible, common origin cannot be ruled out.

192. *Kulturwort*, cf. 54 above; however, /qidr/ etc. may be originally different from /kad/ etc.

193. (? I.-S.); onomatopoeic.) Scantly attested, with prototypes uncertain; Jungraithmayr & Shimizu do not list */gp/ under 'cut' (p. 81f) either; ~~xxxxxxx~~ the nearest is */gb/ for the Western languages Kofyar and Tangale, a secondary variant of */grb/ considerably more widespread, also in some central and Eastern ones.

195. The primary meaning of Arab /qfw/ is 'to follow (in the footsteps)', then often in a hostile sense, whence also 'to strike on the neck' and the noun /qafaⁿ/ (in Aram Syr too). The Berb entries mean 'head, spirit, memory; chief' etc., hardly cognate even if the noun were primary in Sem; and the solitary Cush Chad quotations I.-S. himself considers doubtful. The question is whether Berb is connectable with I-E in the first place; Kartv differs semantically, but may not be quite incompatible either; Ural is deemed doubtful again by I.-S. himself.

196. Could be onomatopoeic, and the multitude of phonetic variants, including interchange of /q-/ with /k-/, as well as structural ones, including several supposedly secondary additional consonants suggests indeed more than one independent origin.

197. (? I.-S.) Arab /kr/ means basically cyclical process, returning again and again; as this is comparable to twining threads or fibers together in making a rope, a designation for rope based on this root is natural has no reference to occasional use of rope for tying or binding other things. Again, the Berb prototype has been extracted from three triradical roots with semantic differences too, cf. 141 above.

199. Onomatopoeic (I.-S.), so closely following the natural sound that patchy occurrence and structural variation no doubt implies several independent origins; for Ural, cf. also ~~f~~Finnish /kirku-/ 'to scream'.

201. ■ NSem /kV/ 'thus, so' is a simple modal adverb without any intensifying or conjoining connotation; in Akk /kīam/ it is combined with the deictic /-am/; I.-S. too considers the connection doubtful. The Cush Chad entries again are conceivable as simple coordinative conjunctions (in Cush postpositive) without any intensifying function.

202. In the Ssem root /qlb/ 'to reverse, turn upside down' nothing suggests secondary origin of the final /-b/; /ql(l)/ means basically 'to be light', and the reduplicated forms too describe movements and qualities suggestive of lightness. In the Berb attestations too, roundness is at best an incidental connotation; the Cush entries agree phonetically better with /kr(r)/, /gl(l)/ except for the Som one whose meaning, 'neighbourhood' does not necessarily imply roundness either; in Hausa, again, large size seems to be the more primary meaning, and the Buduma entry is again combinable with /kr(r)/.

204. Again, all ~~SX~~ S-H attestations are from Chad, where Jungraithmayr & Shimizu reconstruct (among others) */kr/ rather than */k(w)l/ as a prototype under 'steal' (p. 252).

205. The Sem root is /qtn/, again without any indication of /-n/ being of secondary origin; /qṭ(ṭ)/ means primarily 'to cut into pieces' and may be related to /qc(c)/, with smallness an incidental connotation; in the meaning, 'to beat thin/even', onomatopoeic influence is discernible. Eg /k/, again, does not normally correspond to Sem /q/, nor the Tu one which entry differs in other respects too; in Cush, not all the examples seem derivable from the same prototype, nor in Chad where Jungraithmayr & Shimizu (p. 238ff) reconstruct 13 different prototypes for 'small', with 16 additional sub-varieties; but no */k(w)d/, */q(w)ṭ/ or /k(w)ṭ/ among them.

208. The Sem root is /qlV/, meaning primarily 'to roast, fry (grain, meat)'; 'to burn' is secondary generalization; there is no evidence for an original /-y-/ in the middle, the Mehri form quoted is a secondary development, not unusual in modern SAR.

210. Sem /ql(l)/ basically 'be light'; that it is easy to lift up is a secondary consequence; the Berb meaning, 'to rise' may also be secondary generalization from such more concrete meanings as 'to boil' or 'sunrise'; the solitary Cush entry is marked doubtful by I.-S. himself; in Chad, one of the three likewise, while the other two seem phonetically rather ambiguous.

211. The meaning of the S-H root /qnV/ is primarily 'to ^cacquire', then also 'to create' (in a relative sense, 'to fashion', not *ex nihilo*); there is no suggestion of connection with procreation except for Gn 4:1 where, however, the root is used to create a pun; accordingly, semantic connection with I-E Drav is lacking.

212. The Sem root is /kpr/, var. /kpn/, without cogent evidence for secondary origin of the 3rd rad. (/r/ and /n/ interchange in other Sem roots and are in allophonic relationship in central Gurage, cf. Eg too); ~~✕~~ Eg /k'p/ ^{could} ~~may~~ indeed be its var. with metathesis, but Arab /kahf/ 'cavern, grotto' is also semantically and phonetically compatible and needs no assumption of metathesis (cf. Vycichl, Cpt p. 84). /qpl/ 'to shut, lock up' is also semantically deviant apart from the unparalleled /q-/ for /k-/ (cf. 180 above). The solitary Berb Chad attestations thus remain for possible connection with Drav Alt at a far geographical distance.

214. Could be valid, although the unity of the S-H root is not certain.

215. Akk /qarūr/, /qirīr/ occur once or twice each; the former may mean flowing water, the latter, ~~x~~ a candlewick; the basic meaning of the root is, 'to twist and turn'; Eg /qrr/ 'burnt offering' is a loan from the Canaanite /klyl/; Tu /iyar/ means 'to be dry, dry up' - all ^{only} ~~may~~ peripherally connected with fire and burning at the very best.

216. Arab /qāra(t)/ 'isolated hill; black hillock or ground covered with black stones' comes from the root /qwr/ ~~x~~ which is mostly used of cutting (holes in cloth, slices off melon etc.), also of catching game by guile; connection with

'cliff, steep elevation' is hardly evident. The Eg /q'y/ does not mean '(to be) high' only, but also 'long', 'loud'; and the heights referred to are not necessarily steep either, as a somewhat elevated field and ~~the~~ (in Cpt) the shore of Nile may be meant; the Berb Cush examples are few and semantics varied, and for Chad, Jungraithmayr & Shimizu again have no */kr/ or the like for 'mountain' (p. 2186). Nevertheless, similarity remains to the extent that connection with I-E Drav (?Alt) cannot be ruled out altogether.

217. The meaning of /qrm/ in NSem is 'to form a crust or skin' on a wound or the like; in Arab extended to refer to tree bark, kind of curtain or other coverlet and the meaning of the verb turned privative: 'to bark (a tree)', 'to cut skin (off a camel's nose)'. For Tu, I cannot verify /ayrum/ 'bread crust', but Alojaly does have the dim. /təyərəmit/ in the same sense; however, they can hardly be frequently used, as de Foucauld has neither; and compared with Sem, the meaning is marginal, as also in Chad, where /kurōro/ 'egg shell' is reported from Mubi; in Cush, Bed /engili/ and compatible forms in Afar Saho have been reported with the meaning, '(tree) bark'; meanings in I-E Ural Alt Kartv are compatible, but there is frequent phonetic and structural variation, including various additional consonants.

218. Apart from a remotely related noun in Hbr, root /q\$(\$)/ is attested in Arab only; and while it is possible to relate /q\$r/, /q\$t/ semantically to it - /q\$r/ as a special case, /q\$t/ as a vague generalization; I do not find anything like a meaning 'to skin, flay' or even 'to rub' confirmed for it -, there is no positive proof for it, any more than for /-r/ or /-t/ as root final augments elsewhere either; G&z /ge\$ar/ is manifestly a loan word. For /q\$(\$)/ too, the meaning, 'to rub' is so weakly attested besides others that inter-phyla comparisons are hazardous.

219. Arab /qacc/ (not /g-/) '(middle of the) breast' apparently originally referred to the breastbone and ribs collectively, the latter being describable as 'cuttings' which the word also means, the basic meaning of the root being, 'to cut off'; there is then no need to assume secondary dorsalization of the sibilant or connection with the root /q/V/ '(to be) hard' (incidentally, of course I do not think the adjectival meaning to be ^{the} original ^{one} for that root either; I believed colleagues to understand that without my stating it explicitly again and again); whether the Eg Berb (Cush?) Chad */qs/ 'bone' is cognate with the Old Slav /kost/ =, Lat *costa* 'rib, side' I am not sure, but hesitate to rule it out either.

222. Sem /kapp/ 'palm (of the hand)', secondarily applied also to the sole of the foot, is certainly connected with the verbal root /kp(p)/ 'to bend', this action being the salient characteristic of the palm (inside of fingers included); again, I am not saying anything about the primacy of the verbal vs. nominal meaning, either way. Anyway, as there is also phonetic and structural difference with Eg /kbw/ (~~kw~~bw/) 'sole (of the foot), sandal', I do not think it connected with the Sem root; likewise, with Som and (on I.-S.'s reconstruction anyway) Chad words for 'hoof' there is the difficulty of /q-/ for /k-/ , as I do not find evidence for their interchangeability even in pre-Sem times, apart from the meaning again. In the case of hoof, onomatopoeic origin is also a strong possibility; this weakens the case for cognation with I-E too; the fact that in Ural too, the entries refer to animal paws, likewise with that phylum.

224. Appears possible phonetically and structurally; but geographically remote.

227. The Sem root is /qrn/, the simplification of the cluster variously in SEth being evidently secondary; the Eg entry I am unable to verify for now, but the lack of the nasal may be significant; in Cush, however, the word appears basically biradical, with the labial nasal as an occasional third one; and as in I-E, forms with and without a final nasal are likewise attested, both forms seem to be ancient, the close phonetic (in early times mostly probably allophonic) relationship of /r/ and /n/ presumably responsible, and cognation with I-E (?Kartv) feasible.

229. Again phonetically possible, Sem /qn'/ being originally presumably biradical; secondary origin of root final /'/ is conceivable as a hiatus-filler between two vowels on the attachment of an affix or in sandhi; Eg /qnd/, however, rather belongs together with late Hbr JAram /qnt'/ 'loathe', (+H-stem) 'insult', Eg /d/ being the regular equivalent to Sem /t/ and meaning being closer than 'jealousy'. The geographical distance to Drav Alt, however, is again lengthy.

230. Appears valid; Eg entry, however, being phonetically irregular and semantically marginal, is evidently unconnected; but the Berb entries may be acceptable, as interchange between pharyngals and sibilants occurs elsewhere, including this very root within Sem too.

231. Onomatopoeic (I.-S.), cf. 11 etc. above; in addition, the final /-x/, /-d/ again unprovable as later augments (cf. 3 etc. above); semantics largely vague too.

232. Sem /k(V)-/ is a deictic particle without any interrogative connotation; this comes from the elements /ma/, /'ay/ in those compounds only in which they occur; and analogously in Cush; Berb Chad entries are hard to analyse to original components.

233. /qwV/ means basically 'to expect, hope (for), persevere in efforts'; also the Cush Chad basic meaning 'to stay' is clearly distinct from 'to rest' central in the other phyla.

238. May be a wandering word (cf. 90 above).

239. Based on the root /qwl/ (var. /qhl/) 'to call' (viz., an assembly, whether for cultic, military or other administrative purposes; originally designation of such an assembly); Arab /qulla/ 'crowd' is Cohen's conjecture, not an actually attested meaning, and I.-S.'s 'tribe' further "improvement" on it.

241. *Kulturwort* (cf. 54 above); I.-S. doubtful too).

242. In Arab /qm(m)/, /qm'/ the main attention is on the size of the mouthfuls and generally on the plenty of nourishment; whereas /qmx/ concentrates on the production of dry foodstuffs, particularly grain, from which /qamx/ 'flour'; the verbal meaning, 'to eat', as far as attested, is denominative from this, spread to Cush too; for Chad, Jungraithmayr & Shimizu reconstruct */km/(?) in Kera, Sumray and Mokilko, also */'m/ in Sumray and ?Mokilko under 'eat' (p. 92), hardly connectible with the Sem roots or with the I-E entries either.

244. Akk /karū/ 'be/grow short' (used mostly figuratively), usually combined with WSem /krV/ with similar meaning and usage, but by v. Soden with /krh/ 'to be ill' (Aram), 'to dislike' (Arab, cf. Gġz). Where I.-S. got his Akk /krr/ 'be short' I do not know, if it is not the hapax in broken context quoted by v. Soden under /karāru/ II and termed unclear; the derivatives do not seem to support such an interpretation. Hausa /Rūr-Rūr/ 'shortness' also seems to stand alone in that language without supportive concrete concepts; whether Sokoro /korti/ is indeed related seems accordingly doubtful. Drav Alt are also geographically remote.

245. SSem /k(V)-/ hardly detachable from NSem /k-/ , /kī/, all used mostly as prepositions and conjunctions, ultimately of deictic origin; but with only one consonant and differences in functions and syntactical positions, comparisons are hazardous.

With this, my authentic information on the work of Illic^V-Svityč^V ends, and as comparison with my earlier comments shows how hazardous it is to rely on Kaiser's paper alone, I prefer to suspend the revision of the remaining items for the time being. As for Professor Shevoroshkin's criticism in general, I am sorry to see that my brief wording has frequently led him to misunderstand my statements. E.g., on no. 74, I did not mean to derive the meaning, 'deaf', from 'circular movement'; my point was that the two meanings were probably incompatible and the underlying roots therefore not identifiable; similarly in nos. 8, 33, 61, 63, 73 etc. On no. 40 I said that /cwr/ *mostly* refers to a herd of *domesticated* animals (implying that the rare exception may be secondary); on 81 on the contrary that it was (in my opinion) found in Sem only, and on 98 that it was differentiated in WSem only

- so I wonder how Sh. can construe this as meaning that they are 'unknown' to me?! Where Sem - and many other - roots have remained unrecognized by me, it is due to the arbitrarily abbreviated form in which alone they appear in Kaiser's paper; I do admit that my information on the non-Sem branches of the phylum is more or less defective. In the comments not revised here, nos. 284, 290 and 368 were again misunderstood by Sh.; on 374 cf. 31 above; in 375, the connecting link is the cloven hoof; cf. the Finnish term, *sorkkaeläin* 'animal with cloven hooves'; in 348, the moon as the nightly wanderer was certainly conceived as being awake while most humans and animals sleep. And of course I know that words for parts of the human body are amongst the most 'hardy perennials', but that does not mean that all of them are equally faithfully preserved; e.g., the Hbr word for head is not traceable beyond Sem, that for hand not with certainty either, and that for arm, to WSem only, etc. It should then be clear that I - unlike Rössler, for instance - emphasize phonetic similarity on the cost of meaning; rather, I consider both equally important; and on *Kulturwörter*, it is Sh. himself who insists on the importance of 'regular phonetic rules', whereas for me, meaning is here more important whenever it presupposes relatively far developed stage of material culture or communal structure. Incidentally, if the I-E homeland was in Anatolia and the S-H one in East Africa, not very much contact was likely between them in prehistoric times.

I also think I am not alone in considering attempts at reconstructing remote 'proto-proto-languages' reminiscent of the 19th rather than 20th century linguistics. Of course, I do not mean that work on language in prehistory is useless, but it should be clear that the farther back we attempt to penetrate, the less reliable the results are; and it seems to me that there^{are} several important factors I.-S. should have taken into account, but failed to do so. Admittedly, it is no easy task, given the scanty or utter lack of factual information; all I can do here is to show that the need does exist and therefore I.-S.'s results have to be treated with greater caution than Sh. seems to think.

One is the geographical distribution and probable demographic density of the speech communities and, as a consequence of this, nature and frequency of contacts between different communities. Everybody may agree that, if a 'Nostratic' speech community really did exist, it must have been during the Palaeolithic period, when people lived essentially by hunting and gathering; as this required rather large areas even for single families to support themselves, population density was low and communities accordingly small. How small, is suggested by analogous conditions among people who until very recently lived essentially in palaeolithic conditions, such as the Australian aborigines or Papua-New Guinea natives. It has been reliably calculated that even at the time of the beginning of white settlement two centuries ago, the entire population may not have exceeded 300,000, and to be on the safe side, half a million may be accepted as the absolute maximum. As in Australia, some three hundred different languages have been^{recorded} - albeit many rather defectively, but sufficiently to establish their probable separate nature -, and even if some of these should rather be regarded as dialects in more or less mutually intelligible clusters, the size of distinct speech communities hardly exceeded 2,000 on the average. Again, the desert conditions prevailing in large areas of Australia may be partly responsible for such a low average; but in New Guinea too, with some 1,000 different languages, the size of a speech community rarely exceeds a few thousand, and the desert formation in the Middle East and North Africa was well under way long before the end of palaeolithic times. It is then hardly possible that there ever was a single 'Nostratic' community speaking a single language from which the several different phyla included in I.-S.'s study would have descended. The similarities in vocabulary that do exist may have originated in a different way, again suggested by conditions among Australian aborigines. Contrary to the assumption of many theoreticians in the past and many educationists still during this century, the aborigines appear to be exceptionally gifted linguistically - most of them in fact speak at least two languages. This is connected with their frequent movements in search of better hunting grounds which brings them into contact with different tribes speaking different languages, from time to time. Each language contains rather large amounts of synonymous expressions most of which

which remain dormant for most of the time; but when the tribe comes into contact with another one in which such dormant items are in everyday use, they are 'resuscitated' and soon^{be}/come the normal ones in use in the other community too. A good example of this was provided for me in connection with my study of the Western Desert language Pintupi back in the '60s; my two main informants were brothers, but they frequently disagreed not only on vocabulary items, but syntactical elements too. The younger brother had come from the the Pintupi traditional territory in Western Australia into preponderantly Pitjantjatjara-speaking territory a few years earlier and married a Walpiri woman; forms used by him were frequently termed Pitjantjatjara (rarely Walpiri) by the elder brother, whose deviant terms were called 'Warburton Ranges dialect' by the younger one. In brief, it appears to me that much of what is regarded as cognate material in different languages derives from such wholesale exchanges of vocabulary during the contacts between hunting and gathering communities and the later nomadic ~~practise~~ practice of transhumance; the spread of *Kulturnwörter* in connection with intertribal and -national trade and other cultural contacts is more limited continuation of it.

Another important issue is the question of phonological status or otherwise of the reconstructed sounds. As far as I can see (due to my rather limited familiarity with Russian, I did not read the introductory sections of the volume accurately), I.-S. nowhere discusses it. It is then not clear whether he assumes the ~~16~~ consonants and ~~18~~ vowels he reconstructs for Nostratic to have been distinct phonemes in that hypothetical language (perhaps with the exception of the two laterals enclosed in round brackets?) or whether some of them are considered to have been allophonic only; the question is not insignificant, as allophones are conceivably more prone to phonetic variation than distinctive phonemes, the latter usually consisting of several allophones some which may be in free variation. In any event, I do not find any attempt at the application of the test of minimal pairs or anything comparable to the material presented; as a matter of fact, the material, even if all of it were deemed valid, is insufficient for validation of fifty distinct phonemes. On the other hand, in my study of *Hebrew in its West Semitic setting*, I found valid evidence for the existence of only 13 distinct phonemes in the pre-Sem parental of Hebrew, only one of them purely vocalic, another one having two vocalic and two consonantal allophones in complementary distribution (u, w, i, y in order of frequency); as is known, the I-E *Laryngaltheorie* which I.-S. too usually accepts in his I-E reconstructions likewise posits only one purely vocalic phoneme; how this could be direct continuation of the 8-vowel 'Nostratic' system is beyond my comprehension. In their reconstructions of proto-Australian phonological system, A. Capell and R.M.W. Dixon find evidence for at most three vowels and eleven consonantal phonemes for the earliest stage; Meinhof reconstructed 8 or 9 primary plus 4 palatalized consonants for his proto-Bantu; languages spoken by smallish communities often have comparable numbers ~~in~~ still today; e. g., Tahitian only 8 consonants, Samoan 9 and other Polynesian languages not many more. In his reconstruction of 'Nostratic' sounds, I.-S. has paid no attention to the possibility of ~~phonotactic~~ phonological change; every distinction made in any of the phyla included in the comparisons has~~be~~ been projected back into 'Nostratic'. Moreover, as shown e.g. by Khoisan (or Bushman-Hottentot) languages, the possibility of certain sounds being restricted to certain environments only, so that they can be regarded as semi-phonemes only at best should also be taken into account; in other languages too, what is called 'archephoneme' but usually defined as neutralization of opposition in certain positions may in fact be survival of a more comprehensive phoneme from an earlier stage of the development of the language, differentiated in other positions.

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"LEXICAL PARALLELS BETWEEN PROTO-INDO-EUROPEAN AND OTHER LANGUAGES"

Allan R. Bomhard

TO APPEAR IN THE *GEDENKSCHRIFT FOR A. J. VAN WINDEKENS*

LEXICAL PARALLELS BETWEEN
PROTO - INDO - EUROPEAN AND
OTHER LANGUAGES

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Boston, Massachusetts

1. INTRODUCTION*

In this paper, I would like to discuss the large body of lexical material from Proto-Indo-European that can be shown to have parallels in several other language phyla. These language families, including Indo-European, have often been considered, by various scholars, to be members of the so-called "Nostratic" macrofamily.

This paper is based upon the analysis of lexical material I have been gathering for a projected dictionary of the so-called "Nostratic" languages. The main body of this proposed work will be based upon a revised and greatly expanded version of the cognate sets proposed in my 1984 book *Toward Proto-Nostratic*. The scope of that book was confined to a comparison of the Indo-European languages with the Afroasiatic languages. New material has now been added from Kartvelian, Uralic-Yukaghir, Elamo-Dravidian, Altaic, and Sumerian. Addition of this new material has an important advantage in that it greatly strengthens many of the etymologies that I previously proposed on the basis of a comparison of Indo-European and Afroasiatic alone.

On the basis of the lexical parallels I have uncovered so far, especially the parallels in core vocabulary items, as well as upon the important work of other scholars, most notably Vladislav M. Illič-Svityč, Aharon Dolgopolsky, and Joseph H. Greenberg (though I do not necessarily agree with all of their proposals [see below, section 3]), I believe that there is sufficient evidence, both in quantity and quality, to conclude that the Indo-European, Kartvelian, Afroasiatic, Uralic-Yukaghir, Elamo-Dravidian, and Altaic language families and possibly Sumerian as well are genetically related.

It is probable that several other language phyla also have genetic links to the above languages; these include, in particular, Chukchi-Kamchatkan, Eskimo-Aleut, and Gilyak (Nivkh). These languages are not investigated in this paper.

Since conceptions of what Proto-Indo-European may

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have been like have undergone radical revisions in recent years, I will begin, after touching upon methodology and Soviet concepts about Nostratic, by outlining current views on Proto-Indo-European. Then, before proceeding with the actual presentation of the lexical data, I will discuss, in turn, the phonology, morphology, and syntax of each of the proto-languages with which Proto-Indo-European is being compared in this paper.

2. METHODOLOGY

The approach to language comparison that I have followed in attempting to establish linguistic parallels among the various Nostratic languages is derived, in part, from that advocated by Joseph H. Greenberg in the chapter entitled "Genetic Relationship among Languages" in his 1957 book *Essays in Linguistics* and, in part, from traditional methods of comparison and internal reconstruction. In my opinion, the combination of Greenberg's methodology and more traditional methods of comparison can inform and further one another. The principles established by Greenberg bear repeating.

Greenberg notes that the only way to establish hypotheses about genetic relationship is by comparing languages. However, the problem is in knowing which languages to compare and in knowing what to compare since not all aspects of language are equally relevant to comparison. To be meaningful, comparison must strive to eliminate chance resemblances and to separate borrowings from native elements. This is often easier said than done; however, Greenberg lays out two main techniques for detecting borrowed lexical items. First, he notes that borrowing is commonly confined to certain semantic spheres (for example, cultural items) and certain grammatic categories (nouns far more often than verbs). Second, borrowed words can be distinguished from native vocabulary by expanding the range of comparison to include additional languages.

The simplest way to establish genetic relationship is by identifying a large number of similar morphs (or allomorphs) -- especially irregularities -- in similar environments in the languages being considered. Another significant indicator of probable genetic relationship is the presence of similar rules of combinability. Unfortunately, historical processes over the passage of time bring about the gradual transformation and eventual elimination of such similarities. The longer the period of separation, the lesser the chances will be that similarities of morphological forms and rules of combinability will be found.

Fortunately, there remain other factors that can be helpful in determining possible genetic relationship. One significant factor is the semantic resemblance of lexical forms. Here, it is important to be able to establish recurrent sound-meaning correspondences for a reasonably large sample of lexical material. Lexical forms with identical or similar meanings have the greatest value. Next in value come forms that, though divergent in meaning, can convincingly be derived, through widely-attested semantic shifts, from earlier forms of identical or similar meaning. The chances that lexical resemblances indicate genetic relationship increase dramatically when additional languages are brought into the comparison and when these new languages also exhibit a very large number of recurrent sound-meaning correspondences. Greenberg has termed this method "mass comparison". He considers the comparison of basic vocabulary from a large number of languages from a specific, wide geographic area to be the quickest and the most certain method to determine possible genetic relationship. To Greenberg, lexical data are of paramount importance in attempting to establish genetic relationship among languages, especially in the initial stages of comparison. An excellent summary of Greenberg's methodology is also contained in Merritt Ruhlen's (1987: 9-14) recent book on language classification and again by Greenberg in his new book *Language in the Americas*.

To summarize: The first step involves data gathering. Once a large amount of lexical material has been gathered, it must be carefully analyzed to try to separate what is ancient from what is an innovation and from what is a borrowing. Once the native lexical elements have been identified in each phyla, the material can be compared across phyla to determine sound correspondences. Not only must the regular sound correspondences (that is, those that occur consistently and systematically) be defined, exceptions must also be explained. Here, widely-attested sound changes (palatalization, metathesis, assimilation, dissimilation, syncope, etc.) provide the key to understanding the origin of most exceptions. In other cases, analysis of the influence that morphology has exerted will provide an understanding of how particular exceptions came into being. Some exceptions, however, though clearly related, simply defy explanation. All of these must be noted. The final step involves the reconstruction of the ancestral forms and the formulation of the sound laws leading to the forms in the descendant languages, identifying the laws that have produced the regular sound correspondences as well as the exceptions.

In attempting to determine whether or not particular lexical items from the various languages families might be

related, I have made extensive use of Carl Darling Buck's *A Dictionary of Selected Synonyms in the Principal Indo-European Languages* as a control for the semantic development of the proposed lexical parallels. It may be noted that, in examining the lexicons of Kartvelian, Afroasiatic, Uralic-Yukaghir, Elamo-Dravidian, Altaic, and Sumerian, I have observed that semantic shifts similar to those described by Buck for the Indo-European languages are found over and over again in these other language families as well.

3. CRITIQUE OF SOVIET VIEWS ON NOSTRATIC

Let me begin by stating unequivocally that I have the highest admiration for what Soviet scholarship (especially V. M. Illič-Svityč and A. B. Dolgopol'skij) on Nostratic has achieved. Their research has opened up new and exciting possibilities and given Nostratic studies new respectability. However, this does not mean that I agree with everything they say. I regard their work as a pioneering effort and, as such, subject to modification in light of advances in linguistic theory, in light of new data from the Nostratic daughter languages, and in light of findings from typological studies that give us a better understanding of the kind of patterning that is found in natural languages as well as a better understanding of what is characteristic of language in general, including language change. I agree with Illič-Svityč that, at a minimum, the following language families are likely to belong to Nostratic: Kartvelian, Afroasiatic, Indo-European, Uralic-Yukaghir, Elamo-Dravidian, and Altaic.

Let us look at phonology. In 1972 and 1973, the Soviet scholars T. V. Gamkrelidze and V. V. Ivanov proposed a radical reinterpretation of the Proto-Indo-European stop system. According to their reinterpretation, the Proto-Indo-European stop system was characterized by the three-way contrast glottalized - voiceless (aspirated) - voiced (aspirated). In this revised interpretation, aspiration is viewed as a redundant feature, and the phonemes in question could also be realized as allophonic variants without aspiration. A similar proposal was made by Paul Hopper at about the same time.

This new interpretation opens new possibilities for comparing Proto-Indo-European with the other Nostratic daughter languages, especially Proto-Kartvelian and Proto-Afroasiatic, each of which had a similar three-way contrast. The most natural assumption would be that the glottalized stops posited by Gamkrelidze and Ivanov for Proto-Indo-European would correspond to glottalized stops in Proto-Kartvelian and Proto-Afroasiatic, while the

voiceless stops would correspond to voiceless stops and voiced stops to voiced stops. This, however, is quite different from the correspondences proposed by Illič-Svityč. He sees the glottalized stops of Proto-Kartvelian and Proto-Afroasiatic as corresponding to the traditional plain voiceless stops of Proto-Indo-European, while the voiceless stops in the former two branches are seen as corresponding to the traditional plain voiced stops of Proto-Indo-European, and, finally, the voiced stops to the traditional voiced aspirates of Proto-Indo-European. Illič-Svityč then reconstructs Proto-Nostratic on the model of Kartvelian and Afroasiatic with the three-way contrast glottalized - voiceless - voiced.

The mistake that Illič-Svityč made was in trying to equate the glottalized stops of Proto-Kartvelian and Proto-Afroasiatic with the traditional plain voiceless stops of Proto-Indo-European. His reconstruction would make the glottalized stops the LEAST marked members of the Proto-Nostratic stop system. Illič-Svityč's reconstruction is thus in contradiction to typological evidence, according to which glottalized stops are uniformly the MOST highly marked members of a hierarchy. The reason that Illič-Svityč's reconstruction would make the glottalized stops the least marked members is as follows: Illič-Svityč posits glottalics for Proto-Nostratic on the basis on one or two seemingly solid examples in which glottalics in Proto-Afroasiatic (and, by implication, Proto-Kartvelian) correspond to traditional plain voiceless stops in Proto-Indo-European. On the basis of these examples, he assumes that, whenever there is a voiceless stop in the Proto-Indo-European examples he cites, a glottalic is to be reconstructed for Proto-Nostratic, even when there are no glottalics in the corresponding Kartvelian and Afroasiatic forms! This means that the Proto-Nostratic glottalics have the same frequency distribution as the Proto-Indo-European plain voiceless stops. Clearly, this cannot be correct. The main consequence of Illič-Svityč's mistaken equation of the glottalized stops of Proto-Kartvelian and Proto-Afroasiatic with the traditional plain voiceless stops of Proto-Indo-European is that he is led to posit forms for Proto-Nostratic on the basis of theoretical considerations but for which there is absolutely no evidence in the Nostratic daughter languages.

What about those examples adduced by Illič-Svityč which appear to support his proposed correspondences? Some of these examples admit to alternative explanations, while others are questionable from a semantic point of view and should be abandoned. Once these examples are removed, there is an extremely small number (no more than

a handful) left over that appear to support his position. However, compared to the MASSIVE counter-evidence (see section 13 for examples) in which glottalized stops in Kartvelian and Afroasiatic correspond to similar sounds (the traditional plain voiced stops) in Indo-European, even these residual examples become suspect.

4. INDO-EUROPEAN

The Neogrammarian reconstruction of the Proto-Indo-European phonological system, which was arrived at through strict adherence to the doctrine that sound laws admit no exceptions, was notable for its large inventory of stops and its extremely small inventory of fricatives. The stop system was based upon the example of Old Indo-Aryan and consisted on a four-way contrast of (1) plain voiceless stops, (2) voiceless aspirates, (3) plain voiced stops, and (4) voiced aspirates (cf. Brugmann 1904:52), thus:

	1	2	3	4
Labial:	p	ph	b	bh
Dental:	t	th	d	dh
Palatal:	k̑	k̑h	ǵ	ǵh
Velar:	q	qh	g	gh
Labiovelar:	q̑	q̑h	g̑	g̑h

The Neogrammarians also reconstructed five short vowels and five long vowels plus a reduced vowel, the so-called "schwa primum", which alternated with so-called "original" long vowels. A full set of diphthongs was posited as well. Finally, the system contained the semivowels *y and *w, a series of nasals, and the liquids *l and *r. The nasals and liquids could function as syllabics as well as non-syllabics, depending upon their environment.

The Proto-Indo-European vowels were subject to various alternations that were partially correlated with the positioning of the accent within a word. These vowel alternations served to indicate different types of grammatical formations. The most common alternation was the interchange between the vowels *e and *o in a given syllable. There was also an alternation among lengthened-grade vowels, normal-grade vowels, and reduced-and/or zero-grade vowels.

The Neogrammarians posited voiceless aspirates for

Proto-Indo-European on the basis of an extremely small, and somewhat controversial, set of correspondences from Indo-Iranian, Armenian, and Greek. In the other daughter languages, the voiceless aspirates and plain voiceless stops have the same treatment, except that *kh became x in Slavic. In this century, a great many linguists have concluded that the traditional voiceless aspirates should not be reconstructed for the Indo-European parent language but rather should be considered as secondary formations in the daughter languages where distinct reflexes are found. In particular, it has been shown that many of the examples of voiceless aspirates in the daughter languages can be convincingly derived from earlier clusters of plain voiceless stop plus a following laryngeal. The removal of the traditional voiceless aspirates from the Proto-Indo-European phonological system results in a stop system with a three-way contrast of (1) plain voiceless stops, (2) plain voiced stops, and (3) voiced aspirates. Such a reconstruction creates a problem from a typological point of view, since data collected from the study of a great number of the world's languages have failed to turn up any systems in which voiced aspirates are added to the pair "plain voiceless stop" / "plain voiced stop" unless there are also corresponding voiceless aspirates in the system. That is to say, such a reconstruction violates certain markedness principles.

There are a number of other disturbing problems with the traditional reconstruction: First, most of the standard handbooks comment on the fact there are extremely few, if any, unambiguous examples of the voiced bilabial stop *b that can be reconstructed for Proto-Indo-European. The statistically low frequency of occurrence (perhaps even total absence) of this sound cannot be satisfactorily explained within the traditional framework. Another problem concerns the fact that the traditional plain voiced stops are rarely found in inflectional affixes or in pronouns. The final problem concerns the unexplained constraint against the cooccurrence of two plain voiced stops in a root.

It was in trying to find a solution for these problems in particular that Thomas V. Gamkrelidze, Paul J. Hopper, and Vjačeslav V. Ivanov were led in the early 1970's to consider the possibility that the traditional plain voiced stops might have been glottalics. Basing their arguments on typological considerations, they observed that the patterning of the plain voiced stops exhibited many of the typological characteristics of glottalics.

In addition, Gamkrelidze and Ivanov suggested that

the traditional plain voiceless stops be reinterpreted as voiceless aspirates. They made no changes to the traditional voiced aspirates, however. In this revised interpretation, aspiration is viewed as a redundant feature, and the phonemes in question could also be realized as allophonic variants without aspiration. These revisions provide typologically natural explanations for the problems mentioned above, specifically: (A) by reinterpreting the traditional plain voiceless stops as voiceless aspirates, there is no longer a problem, from a typological point of view, with positing a series of voiced aspirates, since the imbalance caused by the removal of the traditional voiceless aspirates is eliminated; (B) reinterpretation of the traditional plain voiced stops as glottalics easily accounts for the statistically low frequency of occurrence of the traditional plain voiced bilabial stop (which becomes a bilabial ejective in the revised system) since the bilabial member is always characterized by a low frequency of occurrence (there quite often being a total absence at this point of articulation) in attested languages having ejectives; (C) in such languages, it is common for ejectives to be excluded from inflectional affixes and pronouns; and (D) many languages with ejectives have a constraint against the cooccurrence of two ejectives in a root. Moreover, the revisions proposed by Gamkrelidze, Hopper, and Ivanov provide new insights into the underlying principles governing Grassmann's Law and Bartholomae's Law. Finally, it may be noted that strong support for the changes proposed by Gamkrelidze, Hopper, and Ivanov is to be found in Germanic, Armenian, and (the poorly-attested) Thracian and Phrygian. According to the traditional interpretation, these languages had been thought to have undergone "sound shifts" (Lautverschiebungen). Under the revised interpretation, however, they are rightly seen as relic areas.

In 1878, the young Ferdinand de Saussure attempted to show that so-called "original" long vowels were to be derived from earlier sequences of short vowel plus a following "coefficient sonantique". In 1927, Jerzy Kurylowicz demonstrated that reflexes of de Saussure's "coefficients sonantiques" were preserved in Hittite. On this basis, a series of consonantal phonemes, commonly called "laryngeals", was then posited for Proto-Indo-European. Kurylowicz, in particular, set up four laryngeals, and it is his version of the "Laryngeal Theory" that is followed in this paper. Other scholars operate with as few as one or as many as twelve laryngeals. The laryngeals may be assigned the following phonetic values (cf. Bomhard 1984:10-18 for details):

- H₁ = Glottal stop
- H₂ = Voiceless and voiced multiply-articulated pharyngeal/laryngeal fricatives
- H₃ = Voiceless and voiced velar fricatives
- H₄ = Voiceless glottal fricative

The Proto-Indo-European phonological system may be reconstructed as follows:

OBSTRUENTS:

p[h]	t[h]	k[h]	kw[h]
b[h]	d[h]	g[h]	gw[h]
(p')	t'	k'	k'w
	s		

LARYNGEALS:

H ₁	H ₂	H ₃	H ₄
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NASALS AND LIQUIDS:

m/m̥	n/n̥	l/l̥	r/r̥
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GLIDES:

y	w
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VOWELS:

e	o	a	i	u	ē
ē	ō	ā	ī	ū	

Morphologically, Proto-Indo-European was a highly inflected language. For nouns and adjectives, three genders, three numbers, and as many as eight cases have been reconstructed, though it is doubtful that all of these features were ancient; it is indeed possible to discern several chronological layers of development. The traditional reconstruction of the Proto-Indo-European verbal system sets up two voices, four moods, and as many as six tenses. Syntactically, Proto-Indo-European seems to have had many of the characteristics of an SOV language, though there must, no doubt, have been a great deal of flexibility in basic word order patterning. Finally, it may be noted that root structure patterning is virtually identical to what is posited for Proto-Kartvelian.

5. KARTVELIAN (SOUTH CAUCASIAN)

Proto-Kartvelian had a rich system of stops, affricates, and fricatives. Each stop and affricate series was characterized by the three-way contrast (1) voiceless (aspirated), (2) voiced, and (3) glottalized. Thomas Gamkrelidze and Givi Mačavariani reconstruct three separate series of affricates and fricatives, namely, a front series, a mid series, and a back series, but Karl Horst Schmidt reconstructs only two. It is Gamkrelidze and Mačavariani's views that are followed in this paper. Klimov (1964) also follows Gamkrelidze and Mačavariani.

Proto-Kartvelian also had a series of resonants, which could function as syllabics as well as non-syllabics, depending upon their environment. The patterning is strikingly similar to what is assumed to have existed in Proto-Indo-European.

Three short and three long vowels are usually reconstructed for Proto-Kartvelian. As in Proto-Indo-European, the vowels underwent various ablaut changes. These alternations served to indicate different types of grammatical formations. The most common alternation was the interchange between the vowels *e and *a in a given syllable. There was also an alternation among lengthened-grade vowels, normal-grade vowels, and reduced-and/or zero-grade vowels.

The Proto-Kartvelian phonological system may be reconstructed as follows:

OBSTRUENTS:

p[h]	t[h]	c[h]	c[h]₁	č[h]	k[h]	q[h]
b	d	ɟ	ɟ₁	č̣	g	g̣
p'	t'	c'	c'₁	č'	k'	q'
		s	s₁	š	x	
		z	z₁	(ž)	ɣ	

RESONANTS:

m/ṁ	n/ṇ	l/l̥	r/r̥	y/i	w/u
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VOWELS:

e, ē o, ō a, ā

The Kartvelian languages are all highly inflected; Georgian, for example, has six basic grammatical cases as well as eleven secondary cases. A notable characteristic of noun declension is the distinction of ergative and absolutive cases; the ergative case is used to mark the subject of transitive verbs, while the absolutive case is used to mark direct objects and the subject of intransitive verbs. It is the dative case, however, that is used to mark the subject of so-called "inverted verbs". There are several other departures from canonical ergative-type constructions, so much so in Mingrelian, for instance, that this language no longer possesses any true ergative features. Adjectives normally precede the nouns they modify. Postpositions are the rule. Verb morphology is particularly complicated -- for example, Deeters lists eleven distinctive functional elements that may be arrayed around a given verb root, though they may not all appear simultaneously; the overall scheme is as follows:

1. Preverb(s)
 2. Personal prefix(es) (subjective or objective)
 3. Character or version vowel
- ROOT
4. Passive suffix
 5. Causative suffix(es)
 6. Plural suffix (for nominative-absolutive noun)
 7. Present stem formant
 8. Imperfect suffix
 9. Mood vowel
 10. Personal ending
 11. Subjective plural suffix

Syntactically, the predominant word order is SOV, though SVO is not uncommon.

6. AFROASIATIC

The Afroasiatic family consists of six separate branches: Semitic, Berber, Egyptian (now extinct), Cushitic, Omotic, and Chadic. Some languages (Akkadian and Egyptian, for example) have literary traditions going back many millennia, while some contemporary languages (especially Chadic languages) are barely known, let alone documented.

There are still many uncertainties regarding the reconstruction of the Proto-Afroasiatic phonological system, the sibilants being particularly troublesome. In general, I have followed the views of Martinet (1975[1953]:248-61), Cohen (1968:1299-1306), and Diakonoff

(1984:1-10), though I have made minor adjustments to their proposals on the basis of my own research.

One of the most notable characteristics of Afro-asiatic consonantism is the system of triads found in the stops and affricates -- each series (except the lateralized affricates) is composed of three contrasting members: (1) voiceless (aspirated), (2) voiced, and (3) glottalized (that is, ejective) (these are the so-called "emphatics" of Semitic grammar). The lateralized affricate series probably lacked a voiced member. Another significant characteristic is the presence of a glottal stop, a voiceless glottal fricative, and voiced and voiceless pharyngeal fricatives. Proto-Afroasiatic may also have had a series of postvelars.

According to Diakonoff (1975:134-36), Proto-Afro-asiatic had a vertical vowel system of *ə and *a as well as a series of syllabic resonants. In my opinion, the evidence from the non-Semitic branches of Afroasiatic does not appear to support the reconstruction of syllabic resonants for Proto-Afroasiatic. Proto-Afroasiatic seems not to have had long vowels.

The Proto-Afroasiatic phonological system may tentatively be reconstructed as follows:

OBSTRUENTS:

p[h]	t[h]	c[h]	ty[h]	tl[h]	ky[h]	k[h]	kw[h]	q[h]	
b	d	ʒ	dy		gy	g	gw	G	
p'	t'	c'	t'y	tl'	k'y	k'	k'w	q'	ʔ
f		s	ʃ			h			h
						ʕ			

GLIDES, NASALS, AND LIQUIDS:

w y m n r l

VOWELS:

ə a

Proto-Afroasiatic was most likely highly inflected. It is simply not possible, however, given the present level of knowledge, to reconstruct the morphological structure of the parent language in detail, though some common features (such as the distinction of grammatical

gender and the existence of two verbal conjugational systems, at least one of which [the prefix conjugation] probably goes back to Proto-Afroasiatic) have been noted. Syntactically, the classical Semitic languages, Egyptian, and the Berber languages are VSO, the majority of Cushitic languages are SOV, and most Chadic languages are SVO.

7. ROOT STRUCTURE PATTERNING IN AFROASIATIC

It is necessary to be quite clear concerning my assumptions regarding root structure patterning in Proto-Afroasiatic, because the assumptions I have made here are critical to the viability of the lexical comparisons I have made between Afroasiatic and the other language families considered in this paper.

Let me quote in full Diakonoff's (1984:1-2) current views regarding Afroasiatic root structure patterning: "The latest argument which has recently been advanced in favour of retaining the term 'Hamitic' was, as far as I know, the supposed fact that the Hamitic roots are mainly biconsonantal while those of Semitic are triconsonantal. Our work on the Comparative Historical Vocabulary of Afrasian (CHVA) has shown without a shadow of a doubt that this is wrong. The Common Afrasian roots were in principle biconsonantal; most of them have been extended to a triconsonantal status either by reduplicating the second consonant of the root, or by adding a real or fictitious 'weak' consonant (forming either *mediae infirmae* or *tertia infirmae* roots); the choice between the formation of a *secundae geminatae*, a *mediae infirmae* or a *tertia infirmae* secondary stem is virtually non-predictable (i.e. these types of the root are allomorphic at the Proto-Afrasian level). An additional method of forming secondary roots is the one well known from Proto-Indo-European, viz., the adding of a suffixed (very rarely a prefixed) consonant 'complement' to the root. In about 90% of the cases (at least in that part of the vocabulary which we have worked through) the co-called 'three-consonantal roots' can with a great certainty be derived from a well attested biconsonantal root plus a complement which is used to modify the main semantics of the biconsonantal root. Note that the 'biconsonantal cum complement' roots are well attested not only in Semitic but also in Cushitic, Berber and Egyptian, and though they are somewhat more rare in the Chadic and some of the Cushitic languages, the reason for this phenomenon is: (1) the loss of external inflection which later also caused losses in the final stem consonants and (2) the loss of a number of Proto-Semitic phonemes in Late Stage languages." I agree totally with Diakonoff's comments.

It is thus now certain beyond any reasonable doubt that the third consonantal element of the Proto-Semitic root, be it infix or suffix, was simply not a part of the root, in the overwhelming majority of cases, at the Proto-Afroasiatic level and that the underlying basic root structure patterning was biconsonantal.

8. URALIC-YUKAGHIR

Vowel harmony and consonant harmony are two notable phonological characteristics of the Uralic languages. In those Uralic languages exhibiting vowel harmony, the system is generally based upon a front / back contrast, most often with the vowels i and e being neutral in regards to this contrast and thus able to combine freely with either front or back vowels, though absolute consistency is unusual. The vowel harmony systems found in the Uralic languages thus differ in this respect from those found in the Altaic languages, especially Turkic and Mongolian, where more consistent systems are the rule. As an active phonological feature, consonant harmony is not as widespread as vowel harmony, being found exclusively in Balto-Finnic and Lapp (though there are traces in Mordvin and Cheremis [Mari]). Consonant harmony is based upon a contrast, in different forms of the same word, between (1) medial voiceless geminated stops at the beginning of an open syllable versus medial single voiceless stops at the beginning of a closed syllable on the one hand and between (2) medial single voiceless stops at the beginning of an open syllable versus medial voiced stops, fricatives, or zero at the beginning of a closed syllable on the other hand. Diachronically, the system of consonant harmony may be viewed as the weakening of the phonetic value of a consonant before closed syllables. This resulted in the correlation of so-called "strong-grade" variants with open syllables and "weak-grade" variants with closed syllables. Even though consonant harmony began as a purely phonetic process, however, it has since become morphologized in those languages where it developed, and a certain amount of leveling has taken place. In Estonian, in particular, so many diachronic changes have taken place that there is no longer a readily discernable correlation between strong-grade and open syllable nor between weak-grade and closed syllable.

There is broad agreement among scholars about Proto-Uralic consonantism. Word initially, Proto-Uralic had the following sounds: *p-, *t-, *k-, *č-, *cy-, *s-, *sy-, *š-, *šy-, *δy-, *y-, *w-, *l-, *ly-, *r-, *ny-, *n-, *m-. Medially between vowels, the following sounds were found: *-p-, *-t-,

*-k-, *-č-, *-cy-, *-s-, *-sy-, *-š-, *-γ-, *-δ-, *-δy-, *-y-, *-w-, *-l-, *-ly-, *-r-, *-ŋ-, *-ŋk-, *-ŋt-, *-n-, *-nt-, *-ny-, *-m-, *-mt-, *-mp-.

There are still many uncertainties regarding the reconstruction of the Proto-Uralic vowels. The system followed in this paper reflects that adopted by Károly Rédei in the new Uralic etymological dictionary currently in the course of publication. Though front rounded and back (or central) unrounded vowels are typical characteristics of most Uralic languages, they are innovations and are not to be reconstructed for Proto-Nostratic.

The Proto-Uralic consonant system may be reconstructed as follows (cf. Austerlitz 1968:1375-77):

p	t	č	cy	k
	δ		δy	γ
	s	sy	š	šy
m	n		ny	ŋ
	r	l	ly	
w			y	

Morphologically, the Uralic languages are underlyingly agglutinating, though many of the modern languages, especially Estonian, which has innovated considerably, have deviated from the original type. The original syntactic structure was probably SOV, and this is fairly well preserved in the modern Samoyed and Ob-Ugric languages (Ostyak [Xanty] and Vogul [Mansi]) and Cheremis (Mari). The basic word order in the other languages is SVO, though, as a general rule, word order in all of the Uralic languages is rather flexible. Hungarian stands apart, word order being determined here more by topic-comment considerations than in the other Uralic languages, so that neither SOV nor SVO can be said to be dominant.

9. ELAMO-DRAVIDIAN

Word initially, there were only voiceless stops in Proto-Dravidian. This is still the situation found in Tamil. On the basis of the reflexes found in South Dravidian languages and Telugu, a series of alveolars distinct from dentals and retroflexes has been reconstructed for Proto-Dravidian. A notable feature of Proto-Dravidian consonantism is the absence of

sibilants. Medially, Proto-Dravidian had a contrast between geminate (including the clusters of nasal plus consonant) and non-geminate consonants. Initially and medially in combination with other stops, *p, *t, *k, and *c were voiceless; between vowels and before nasals, they were voiced. The geminates were voiceless.

Proto-Dravidian had five short and long vowels plus the sequences *ay and *av.

The reconstruction shown below is close to that set up by Kamil Zvelebil (1970:77) for Proto-Dravidian; however, I have followed Thomas Burrow and Murray B. Emeneau (1984:xii-xiii) in their representation of the alveolar as *r̥ instead of *t̥, even though the evidence from the Dravidian daughter languages points to underlying /t̥/ at the Proto-Dravidian level. The reason for my decision to represent the Proto-Dravidian phoneme as *r̥ instead of *t̥ is based on the observation that this phoneme corresponds to /r/ in the closely-related Elamite (though there is some room for interpretation here) as well as in the other Nostratic languages.

p-	t-		c-	k-
-p-	-t-	-r̥-	-t̥-	-c-
-pp-	-tt-	-rr̥-	-tt̥-	-cc-
-mp-	-nt-	-nr̥-	-nt̥-	-ñc-
-p(u)	-t(u)	-r̥(u)	-t̥(u)	-c(u)
m	n	ṇ	ñ	
-mm-	-nn-	-ṇṇ-	-ññ-	
v-	-r	-l	-r̥	y
-v-	-r-	-l-	-r̥-	-y-
			-l̥	
			-l̥-	
-vv-		-ll-	-ll̥-	-yy-
(-v)				
	e	o	a	i
	ē	ō	ā	ī
				ū

Morphologically, the Dravidian languages are agglutinating. The basic root type was monosyllabic, though there is some indication that an extremely small number of bisyllabic roots may have to be reconstructed at the Proto-Dravidian level as well. This is, however, by no means certain, and it is best at present to regard Proto-Dravidian roots as exclusively monosyllabic. Inflectional categorization was achieved by means of suffixes added directly to the lexical roots or to the lexical roots extended by means of derivational suffixes. Any vowel, long or short, could appear in a root, but only a, i, or u could appear in a suffix. Two basic parts of speech were differentiated in Proto-Dravidian: nouns and verbs. Nouns were inflected for case, person, number, and gender. Eight cases (nominative, accusative, sociative, dative, genitive, instrumental, locative, and ablative), two numbers (singular and plural), and two genders (animate and inanimate) are assumed to have existed in Proto-Dravidian. Verbs were inflected for tense and person. There were two tenses (past and non-past) and two moods (modal and indicative). Indclinables existed as a separate stem type distinct from nouns and verbs. Syntactically, the basic word order was SOV.

10. ALTAIC

As noted by Merritt Ruhlen (1987:128): "The study of the Altaic family has had a long and stormy history, and even today there is considerable disagreement among specialists over exactly which languages belong to the family." Traditionally, Altaic has included the core groups (Chuvash-)Turkic, Mongolian, and (Manchu-)Tungus, to which some have tried to add Korean, Japanese-Ryukyuan, and Ainu. Looking at just the core, one is hard-pressed to find features common to all three. There are, to be sure, common features between (Chuvash-)Turkic and Mongolian on the one hand and between Mongolian and (Manchu-)Tungus on the other, but there appear to be relatively few features common to (Chuvash-)Turkic and (Manchu-)Tungus alone. All three are, in fact, similar in structure, but this has been considered to be strictly a typological characteristic. The common features found between the members of the core group have been explained as due to diffusion, and, for a good portion of the common lexical material, this seems to be a valid explanation. There are, however, features common (pronouns, to cite a single example) to the members of the core group as a whole that cannot be explained as due to diffusion, and which do indeed point to some sort genetic relationship. The problem is in trying to define the nature of that

relationship. Two explanations are possible: (1) The shared features are due to common descent from Proto-Nostratic and do not imply a closer relationship between the three. In this scenario, (Chuvash-)Turkic, Mongolian, and (Manchu-)Tungus turn out to be three independent branches of Nostratic. (2) The shared features are due to descent from a common Altaic parent language intermediate between Proto-Nostratic and each of the core group members. The problem with the first explanation is that it merely shifts the question back to the Nostratic level without resolving a thing, whereas the second explanation keeps the focus exactly where it belongs, namely, on the core group. The second alternative thus remains a viable hypothesis. I would include the following groups within the Altaic language family: (Chuvash-)Turkic, Mongolian, and (Manchu-)Tungus, but not Korean, Ainu, and Japanese-Ryukyuan, which I believe must be treated separately. The shared features may be looked upon as due to common descent from an Altaic parent language. Language change over time has gradually led to increasing differentiation between each of the three core group members, while diffusion, especially lexical diffusion, has tended to complicate the picture and has made it difficult to differentiate between that which is borrowed and that which is truly genetically related.

Probably the most notable characteristic of the Altaic languages is the assimilatory phenomenon known as "vowel harmony". In the Turkic languages, for example, the first vowel segment occurring in a word influences the following vowel segments so that all of the vowels in the word have certain features in common. In Kirghiz, all of the vowels occurring in a given word must have the same feature for front / back and for rounded / unrounded, while height distinctions do not figure into the system of vowel harmony at all, so that high and non-high vowels can be freely combined in a word. It was the development of the system of vowel harmony that was responsible for the appearance of front rounded and back unrounded vowels in Altaic. These vowels are, thus, a later development and should not be reconstructed for Proto-Nostratic.

For Proto-Altaic phonology, I follow the reconstructions proposed by Nicholas Poppe (1960). Proto-Altaic is assumed to have had a voicing contrast in stops and affricates, but, as noted by Poppe (1960:9-10), there is a possibility that the contrast could have been between voiceless aspirated and voiceless unaspirated stops and affricates instead. An entirely different approach is taken by Illič-Svityč (1971- .I:147-56), who reconstructs the three-way contrast of (1) voiceless aspirated, (2) plain voiceless, and (3) plain voiced. Neither the

liquids nor the velar nasal were used word initially. Proto-Altaic had a rich system of long and short vowels.

The Proto-Altaic phonological system may be reconstructed as follows:

p	t	č	k
b	d	č̣	g
	s		
m	n	ny	-ŋ-
-l-	-r-		
-ly-	-ry-		
	y		
a	o	u	i e é ö ü ĭ
ā	ō	ū	ī ē ē ō ū ī

Morphologically, the Altaic languages are agglutinating in structure. Syntactically, the original structure was SOV, and this is well preserved in the modern languages, especially the Turkic languages, which are fairly strict in this regard, while more divergence is found in the Mongolian and (Manchu-)Tungus languages.

11. SUMERIAN

In a series of recent, privately-circulated papers, Claude Boisson has been exploring lexical parallels between Sumerian and other languages, especially the Nilo-Saharan languages and the so-called "Nostratic" languages. Boisson has been very careful not to draw wild conclusions from the data he has amassed about possible relationship of Sumerian to other languages or language families. Yet, the lexical parallels he has uncovered between Sumerian and the Nostratic languages, especially Dravidian, though not numerous, look very promising and permit one to establish tentative sound correspondences between Sumerian and the rest of Nostratic.

The Sumerian cuneiform syllabary distinguished the vowels a, e, i, u and the consonants b, d, dr, g, ḡ (probably a velar nasal), h, k, l, m, n, p, r, s, š, t, z. There may have been corresponding long vowels as well. There were no initial consonant clusters, while final consonants,

especially t, d, k, g, m, n, r, were often omitted in the writing, and this often makes it difficult to ascertain the form of the word. Internally, there was a tendency for consonants to assimilate. Lastly, the traditional transliteration shows a voicing contrast in stops. The actual contrast, however, may have been between voiceless aspirated and voiceless unaspirated stops. For details on Sumerian phonology, cf. Thomsen 1984:37-47.

The Sumerian root was generally monosyllabic: CV, VC, and, most often, CVC. There was no distinction between verbal roots and nominal roots: thus, for example, *dug* could mean either "good" or "to be good".

There is still not, even after more than a century of intensive study, widespread agreement among experts in the field on many fundamental questions of Sumerian grammar. Nevertheless, the overall structure is clear. Morphologically, Sumerian was an agglutinating language. Three word classes were distinguished: nouns, verbs, and adjectives. Grammatical gender proper did not exist, but there was a morphological distinction made between animate and inanimate. Sumerian differentiated between ergative and absolutive in nouns. In pronouns, however, the patterning is that of a nominative-accusative system. Syntactically, the basic word order was SOV.

In the Sumerian texts, certain non-standard forms of speech can be discerned. It is not entirely clear what this means: perhaps different dialects, perhaps not. These forms, which have been encountered mostly in religious texts, were labelled "Emesal" by the scribes, while the standard forms were labelled "Emegir".

12. PROTO-NOSTRATIC

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

Three primary vowels may be reconstructed for Proto-Nostratic: *i, *a, *u, and this, along with the addition of the vowel e, is the situation reflected in Sumerian, which is particularly conservative in regards to vocalism. These vowels must have been subject to considerable subphonemic variation in Proto-Nostratic. The high front and back vowels may be assumed to have had lowered variants, while the central low vowel may be assumed to have had higher variants. It was the reanalysis, phonemicization, and exploitation of this

subphonemic variation that gave rise to the ablaut and vowel harmony patterning found in the majority of the Nostratic daughter languages. In Afroasiatic, on the other hand, the high allophones merged into *ə, and the low allophones merged into *a. It is unclear whether phonemic long vowels existed in Proto-Nostratic as well, though the evidence seems to indicate that they did not.

The Proto-Nostratic phonological system may tentatively be reconstructed as follows:

OBSTRUENTS:

p[h]	t[h]	c[h]	ty[h]	tl[h]	ky[h]	k[h]	kw[h]	q[h]
b	d	ʒ	dy		gy	g	gw	G
p'	t'	c'	t'y	tl'	k'y	k'	k'w	q' q'w
								ʔ
		s	sy				h	h
							ʕ	

GLIDES, NASALS, AND LIQUIDS:

w	y	m	n	r	l
			ny	ry	ly

VOWELS:

i/e e/a u/o

The palatalized velars are reconstructed solely on the basis of the reflexes found in Afroasiatic, and their reconstruction at the Proto-Nostratic level is, therefore, highly uncertain. I would like to be able to propose that the Afroasiatic reflexes are due to an innovation in which plain velars were palatalized before front vowels, but the evidence that I have gathered to date is simply too contradictory to allow me to be able make such a statement with even a modicum of certainty.

We may note in passing that the vowel system reconstructed above for Proto-Nostratic is identical to that found in Chukchi, with the sole exception that Chukchi adds schwa to the system; thus: i/e, e/a, u/o, plus schwa. The Chukchi vowels form a system of vowel harmony in which the second correspondent (e, a, o) is labelled "dominant", and the first (i, e, u)

"recessive". Native Chukchi words must contain either all "dominant" vowels or all "recessive" vowels; the two correspondents cannot co-exist in the same word. The schwa is neutral in regards to the "dominant" / "recessive" contrast.

The system of vowel harmony found in Chukchi operates according to different principles than the system found, for example, in Altaic. In Altaic, the direction of vowel harmony is determined by the root vowel. In Chukchi, on the other hand, a particular morpheme is either "dominant" or "recessive"; it is the vowel of the "dominant" morpheme (this need not be the root) that influences the remaining vowels.

Morphologically, Proto-Nostratic may well have been an agglutinating language. Those daughter languages that are highly inflectional, namely, Proto-Indo-European, Proto-Afroasiatic, and Proto-Kartvelian, may be seen as having gone through an earlier period of development as agglutinating languages. Such a development is assumed for Proto-Indo-European by Bomhard (1988:475-88) and, in particular, Rasmussen (1987:107-22).

13. EXAMPLES

The following abbreviations will be used: PN = Proto-Nostratic; PK = Proto-Kartvelian; PAA = Proto-Afroasiatic; PIE = Proto-Indo-European; PU = Proto-Uralic; PFU = Proto-Finno-Ugrian; PD = Proto-Dravidian; PED = Proto-Elamo-Dravidian; PA = Proto-Altaic; S = Sumerian.

Note: Since it is often difficult to determine the quality of certain vowels in Proto-Uralic and Proto-Finno-Ugrian, especially in non-initial syllables, the following cover symbols will be used: /i/ = any front vowel, /u/ = any back vowel, and /ɜ/ = any vowel.

1. PN *baw-/*bew- "to become aware of": PIE *b[h]ew-d[h]-/*b[h]ow-d[h]-/*b[h]u-d[h]- "to be or become aware of"; PAA *baw-/*baw- "to become aware of".
2. PN *bur-/*bor- "cypress, pine, fir": PIE *b[h]or- "pine, fir"; PAA *bər- "cypress, pine, fir".
3. PN *bur-/*bor- "to bore, to pierce": PIE *b[h]or-/*b[h]r- "to bore, to pierce"; PAA *bər-/*bar- "to bore, to pierce"; PU *pura "auger, borer"; PD *pur- "to bore, to perforate"; PA *bur- "to bore a hole"; S būr "to bore

through, to pierce".

4. PN *bur-/*bor- "to strike, to fight": PIE *b[h]er-/*b[h]or-/*b[h]r- "to strike"; PK *brg- "to struggle, to fight"; PAA *bər-/*bar- "to strike, to fight"; PD *por- "to fight".
5. PN *bar-/*ber- "to swell, to puff up, to expand": PIE *b[h]rews-/*b[h]rows-/*b[h]rus- "to swell", *b[h]er-/*b[h]or-/*b[h]r- "to swell, to puff up, to expand, to bristle out", *b[h]ard[h]eA "beard", *b[h]erw-/*b[h]orw-/*b[h]rw-, *b[h]rew-/*b[h]row-/*b[h]ru- "to bubble up, to boil", *b[h]rend[h]-/*b[h]rond[h]-/*b[h]rñd[h]- "to swell up", *b[h]rew-/*b[h]ru- "to sprout, to swell"; PK *ber- "to blow, to inflate, to puff out"; PAA *bər-/*bar- "to swell, to puff up, to expand"; PD *par- "to swell, to increase, to expand, to become large".
6. PN *bar-/*ber- "to bear, to carry, to bring forth": PIE *b[h]er-/*b[h]or-/*b[h]r- "to bear, to carry, to bring forth"; PAA *bər-/*bar- "to bear, to carry, to bring forth"; PD *por- "to bear, to carry, to sustain"; PED *par "child, young one".
7. PN *bar-/*ber- "to twist, to turn": PIE *b[h]er-/*b[h]or-/*b[h]r- "to plait, to braid, to twist"; PK *br- "to turn, to twist"; PAA *bər-/*bar- "to twist, to braid, to twine, to weave".
8. PN *buw-/*bow- "to go, to come, to proceed, to spend (time)": PIE *b[h]ewH-/*b[h]owH-/*b[h]uH- "to spend (time), to abide, to dwell"; PAA *baw-/*baw- "to come, to go (in), to enter"; PD *pō- "to go, to come, to proceed, to spend (time)".
9. PN *buw-/*bow- "to become, to arise, to come into being, to grow": PIE *b[h]ewH-/*b[h]owH-/*b[h]uH- "to become, to arise, to come into being, to grow"; PAA *baw-/*baw- "to be or become full, filled; to grow large"; PU *puwe "tree, wood"; PD *pū- "to blossom, to bloom, to flower"; PA *būi- "to become, to arise, to come into being, to increase, to grow".
10. PN *bul-/*bol- "to swell, to expand": PIE *b[h]ol-/*b[h]l- "to swell, to puff up, to inflate, to expand, to blow up, to bubble up, to

- overflow", *b[h]leH-/*b[h]loH- "to puff up, to inflate, to blow up", *b[h]elg[h]-/*b[h]olg[h]-/*b[h]lg[h]- "to swell", *b[h]lek'w-/*b[h]lk'w- "to swell, to expand", *b[h]leyt'-/*b[h]loyt'-/*b[h]lit'- "to overflow with moisture", *b[h]lew-/*b[h]low-/*b[h]lu- "to overflow, to pour over, to flow"; PAA *bəl-/*bal- "to swell, to expand"; PD *pol- "to increase, to grow, to abound, to thrive, to prosper"; S buluğs "to grow, to make grow".
11. PN *bul-/*bol- "to mix, to mix up, to confuse; to be blind": PIE *b[h]lend[h]-/*b[h]lond[h]-/*b[h]lnd[h]- "to blend, to mix; to make blind, to be blind"; PAA *bəl-/*bal- "to mix, to mix up, to confuse; to be blind"; PA *bul- "to mix, to mix up, to confuse".
12. PN *bul̥s-/*bol̥s- "to ripen, to blossom, to bloom, to sprout, to mature": PIE *b[h]olH3-, *b[h]leH3-/*b[h]loH3- "to blossom, to sprout, to bloom"; PAA *bəl̥s-/*bal̥s- "to attain puberty, to ripen, to mature".
13. PN *bul-/*bol- "to become worn out, weak, tired, old": PIE *b[h]ol- "worn out, weak; misfortune, calamity"; PAA *bəl-/*bal- "to become worn out, weak, tired, old"; PD *pul- "to fade, to wither, to become weak".
14. PN *baly-/*bely- "to shine, to be bright": PIE *b[h]el-/*b[h]ol- "shining, white", *b[h]ley-/*b[h]loy-/*b[h]li-, *b[h]liH-, *b[h]leH- "to shine", *b[h]les-/*b[h]los- "to shine", *b[h]lu-, *b[h]luH- "to shine", *b[h]elk'-/*b[h]olk'-/*b[h]lk'-, *b[h]lek'-/*b[h]lok'- "to shine"; PAA *bəl-/*bal- "to shine, to be bright"; PD *pal- "to glitter, to shine".
15. PN *bar-/*ber- "to shine, to be bright": PIE *b[h]erEk'-, *b[h]reEk'- "to shine, to gleam, to be bright", *b[h]rek[h]- "to shine, to glitter"; PK *berc'q'-/*br̥c'q'- "to shine"; PAA *bār-/*bar- "to shine, to be bright"; PD *par- "to shine, to become light".
16. PN *bar-/*ber- "to be kind, charitable, beneficent; to do good": PIE *b[h]er-/*b[h]or-/*b[h]r̥- "to be kind, charitable, beneficent; to do good"; PAA *bār-/*bar- "to be kind, charitable, beneficent; to do good"; PFU *para "good".

17. PN *bad-/*bed- "to split, to cleave, to separate, to divide": PIE *b[h]ed[h]-/*b[h]od[h]- "to prick, to pierce, to dig"; PAA *bəd-/*bad- "to split, to separate, to divide"; PFU *peḏā- "to prick"; PD *paṭ- "to break, to split, to crack".
18. PN *burgy-/*borgy- "to protrude, to be prominent": PIE *b[h]erg[h]-/*b[h]org[h]-/*b[h]rg[h]- "high; mountain, hill", (?) *b[h]urg[h]- "fortress, citadel"; PK *br̥g- "strong, powerful, high, large"; PAA *börgy-/*bargy- "to protrude, to stand out"; PD *por- "hill, mountain"; PA *burgan- "(wooded) mountain, (woodland) pasture, promontory".
19. PN *bah-/*beh- "to shine": PIE *b[h]eH4-/*b[h]oH4- "to shine"; PAA *bāh-/*bah- "to shine".
20. PN *bah-/*beh- "to say, to speak": PIE *b[h]eH4-/*b[h]oH4- "to say, to speak"; PAA *bāh-/*bah- "to say, to speak".
21. PN *bak'-/*bek'- "to cleave, to split, to break open": PIE *b[h]ek'-/*b[h]ok'- "to break", *b[h]ak'- "to divide, to distribute"; PAA *bək'-/*bak'- "to cleave, to split, to break open"; PFU *pakka- "to burst, to rend, to split"; PD *pak- "to divide, to distribute, to apportion, to break, to split".
22. PN *ba/*be "in, into, with, within, among": PIE *(-)b[h]i/y-, *-b[h]o- "in, within, among" (also used as a case ending); PAA *bā/*ba "in, with, within, among".
23. PN *bar-/*ber- "grain, cereal": PIE *b[h]ars- "grain"; PAA *bār-/*bar- "grain, cereal".
24. PN *bay-/*bey- "to apportion, to divide into shares, to distribute, to allot": PIE *b[h]ey-/*b[h]oy- "to give" (found only in Anatolian); PAA *bāy-/*bay- "to separate into equal parts, to divide into shares, to apportion"; PD *pay- "to divide into shares, to distribute"; S ba "to give as a gift or a ration".
25. PN *ban-/*ben- "to join together, to fit together, to fasten, to twist together": PIE *b[h]en-d[h]-/*b[h]on-d[h]-/*b[h]n-d[h]- "to tie, to bind, to fasten"; PAA *bān-/*ban- "to build, to construct".

26. PN *bay-/bey- "bee": PIE *b[h]i- "bee"; PAA *bāy- "bee".
27. PN *bun-/bon- "to puff up, to inflate, to expand, to swell"; (extended form) *bung-/bong- "to swell, to fatten, to increase, to expand": PIE *b[h]eng[h]-/*b[h]ong[h]-/*b[h]ng[h]- "to swell, to fatten, to grow, to increase", *b[h]ng[h]u-s "swollen, thick, fat"; PFU *puṅka, *poṅka "rounded protuberance, lump"; PD *poṅk- "to increase, to swell, to expand"; S bún "to blow, to inflate; breath".
28. PN *bury-/bory- "brown": PIE *b[h]er-, *b[h]ru- "brown"; PA *bory- "gray, brown".
29. PN *bur-/bor- "to whirl, to rage, to agitate": PIE *b[h]ur-/b[h]r- "to move rapidly, to rage, to quiver, to palpitate"; PU *purk/3/ "snowstorm, drifting of snow"; PA *bur- "storm, snowstorm".
30. PN *bar-/ber- "to scrape, to cut, to carve, to whittle, to trim": PIE *b[h]ord[h]-/*b[h]rd[h]-, *b[h]red[h]- "(piece) cut off", *b[h]reH-, *b[h]riH- "to cut, to clip, to scrape"; PAA *bar-/bar- "to cut, to carve, to scrape"; PU *par/3/- "to scrape, to cut, to carve"; S bar "to split (with a tool or weapon)".
31. PN *p[h]uw-/p[h]ow- "to puff, to blow, to exhale, to puff up, to inflate": PIE *p[h]ū- "to puff, to blow"; PK *p[h]u- "to swell, to puff up, to inflate"; PAA *p[h]aw-/p[h]aw- "to puff, to blow, to exhale"; PU *puw/3/- "to blow"; PD *pū- "to fart".
32. PN *p[h]ily-/p[h]ely- "to split, to cleave": PIE *p[h]el-/p[h]ol-/p[h]l-, *p[h]ley-/p[h]loy-, *p[h]liH-, *p[h]leH- "to split, to cleave"; PAA *p[h]el-/p[h]al- "to split, to cleave"; PU *pil/3/- "to cleave, to split"; PD *pil- "to split, to burst open, to rend, to tear apart, to cleave".
33. PN *p[h]al-/p[h]el- "stone": PIE *p[h]els-/p[h]ols-/p[h]ls- "stone"; PAA *p[h]al-/p[h]al- "stone".
34. PN *p[h]ar-/p[h]er- "to separate, to divide": PIE *p[h]er-/p[h]or-/p[h]r- "to separate, to divide"; PK *p[h]ric'- "to tear, to rend, to break or burst apart"; PAA *p[h]ar-/p[h]ar- "to

- divide, to separate"; PD *par- "to split, to tear, to rend, to separate", *pir- "to sever, to separate".
35. PN *p[h]at[h]-/*p[h]et[h]- "to open; to be open, wide, spacious": PIE *p[h]et[h]-/*p[h]ot[h]- "to be open, wide, spacious, broad"; PAA *p[h]at[h]-/*p[h]at[h]- "to open; to be open, wide, spacious".
36. PN *p[h]ir-/p[h]er- "to bring forth, to bear fruit": PIE *p[h]ir-/p[h]r- "to bear, to bring forth"; PAA *p[h]ar-/p[h]ar- "to bring forth, to bear fruit"; PD *per- "to bring forth, to get, to obtain, to beget".
37. PN *p[h]a?-/p[h]e?- "to swell, to fatten, to stretch out, to extend": PIE *p[h]eH1y-V-/p[h]oH1y-V-/p[h]eH1y-V- > (with metathesis) *p[h]eyH1-V-/p[h]oyH1-V-/p[h]eyH1-V- > (with loss of the laryngeal) *p[h]ey-V-/p[h]oy-V-/p[h]iy-V- (and, later, by analogical extension, *p[h]ey-C-/p[h]oy-C-/p[h]i-C-) "to swell, to fatten"; *p[h]oH1i-C- > (with syncope of i) *p[h]oH1-C-, *p[h]oH1y-V-/p[h]eH1y-V- > (with metathesis) *p[h]oyH1-V-/p[h]eyH1-V- > (with loss of the laryngeal) *p[h]oy-V-/p[h]iy-V- (and, later, by analogical extension, *p[h]oy-C-/p[h]i-C-) "to drink, to swallow"; PAA *p[h]a?-/p[h]a?- "to swell, to fatten; to drink"; PD *pā- "to swell, to fatten, to grow; milk".
38. PN *p[h]ar-/p[h]er- "to precede, to surpass, to outstrip, to overtake": PIE *p[h]er-/p[h]or-/p[h]r- "preceding, surpassing" (used as the base of a large number of prepositions and preverbs); PAA *p[h]ar-/p[h]ar- "to precede, to surpass, to outstrip, to overtake".
39. PN *p[h]asy-/p[h]esy- "to breathe out, to blow, to fart": PIE *p[h]est'-/*p[h]ost'- "to fart", *p[h]es-/p[h]os- "to blow"; PAA *p[h]as-/p[h]as- "to breathe out, to blow, to fart".
40. PN *p[h]ahw-/p[h]ehw- "fire, flame, spark": PIE *p[h]eH2ur "fire"; PD *pū- "spark".
41. PN *p[h]at'-/*p[h]et'- "to hasten, to move quickly; foot": PIE *p[h]et'-/*p[h]ot'- "foot"; PAA *p[h]at'-/*p[h]at'- "to hasten, to move quickly; foot".
42. PN *p[h]at[h]-/*p[h]et[h]- "to rush, to hurry, to

- go rapidly; to fall down": PIE *p[h]et[h]-/
*p[h]ot[h]- "to fly, to rush, to pursue; to fall,
to fall down"; PAA *p[h]et[h]-/*p[h]at[h]- "to
rush, to hurry, to go rapidly; to fall down"; PD
*pat- "to rush, to hurry; to be impatient,
anxious".
43. PN *p[h]ar-/*p[h]er- "to spread, to scatter":
PIE *p[h]er-/*p[h]or- "to spread, to scatter"
(extended forms: *p[h]r-eE-, *p[h]r-ew-/
*p[h]r-ow-/*p[h]r-u-), *p[h]erk[h]-/
*p[h]ork[h]-/*p[h]rk[h]- "spotted, speckled",
(s)p[h]er-/(s)p[h]or-/*(s)p[h]r- "to spread,
to scatter, to strew"; PAA *p[h]ar-/*p[h]ar- "to
spread, to scatter"; PD *par- "to spread".
44. PN *p[h]ar-/*p[h]er- "to fly, to flee": PIE
*p[h]er-/*p[h]or-/*p[h]r- "to fly, to flee";
PK *p[h]r-in- "to fly"; PAA *p[h]ar-/*p[h]ar-
"to fly, to flee"; PD *par- "to fly, to flee".
45. PN *p[h]al-/*p[h]el- "flat, level, broad": PIE
*p[h]el-/*p[h]ol-/*p[h]l-, *p[h]elH2-,
*p[h]leH2-/*p[h]lH2- "even, level, flat, wide,
broad"; PAA *p[h]al-/*p[h]al- "flat, level,
broad".
46. PN *p[h]ur-/*p[h]or- "young bull or calf": PIE
*p[h]or-/*p[h]r- "young bull or calf"; PAA
*p[h]ar-/*p[h]ar- "young bull or calf"; PD
*pör- "young bull or calf".
47. PN *p[h]asy-/*p[h]esy- "to split, to cleave, to
break, to shatter": PAA *p[h]aš-/*p[h]aš- "to
split, to cleave, to break, to shatter"; PU
*pasy/3/ "to break, to shatter, to tear, to split".
48. PN *p[h]ah-/*p[h]eh- "to eat": PIE *p[h]eH2-/
*p[h]oH2- "to feed"; PAA *p[h]eh-/*p[h]ah- "to
eat" (found only in Cushitic).
49. PN *p[h]ul-/*p[h]ol- "to fall, to fall down":
PIE *p[h]ol- "to fall, to fall down"; PAA
*p[h]al-/*p[h]al- verbal stem indicating downward
motion: "to fall, to fall down, to fall to the
ground; to set (sun), to grow dark".
50. PN *p[h]al-/*p[h]el- "to fill": PIE *p[h]elE-/
*p[h]olE-/*p[h]lE-, *p[h]leE-/*p[h]loE- "to
fill"; *p[h]elu/*p[h]olu, *p[h]lEu "much,
many"; PU *paly/3/ "much"; Dravidian *pala "much,
many".

51. PN *p[h]al-/*p[h]el- "settled place": PIE
*p[h]lH- "citadel, fortified high place"; PFU
*paly/3/ "village, dwelling-place"; PD *palli
"settlement, hamlet, abode, village"; PA *palaga-
"village, dwelling".
52. PN *p[h]al-/*p[h]el- "thumb": PIE *p[h]ol-
"thumb"; PU *palkä "thumb".
53. PN *p[h]id-/*p[h]ed- "to seize, to hold, to
grasp, to clutch, to capture, to cling to": PAA
*p[h]ed-/*p[h]ad- "to snatch away, to rescue, to
set free"; PFU *pitä- "to seize, to hold, to grasp,
to cling to"; PD *pit- "to seize, to grasp, to
clutch, to cling to, to hold".
54. PN *p[h]iny-/*p[h]eny- "to watch (over), to pro-
tect; to feed": PIE *p[h]en- "food, protection";
PU *pünya "to watch (over), to protect, to keep,
to preserve"; PD *pēn- "to protect, to take care
of, to nourish, to nurture".
55. PN *p[h]al-/*p[h]el- "skin, hide": PIE
*p[h]el- "skin, hide"; PAA *fal-/*fal- "skin,
hide" (found only in Cushitic).
56. PN *p[h]ir-/*p[h]er- (?) "house": PIE
*p[h]er-/*p[h]r- "house" (found only in
Anatolian); PAA *p[h]ar-/*p[h]ar- "house"; PD
*pur- "house".
57. PN *p[h]asy-/*p[h]esy- "penis": PIE *p[h]es-/
*p[h]os- "penis"; PFU *pasy/3/ "penis".
58. PN *p[h]aly-/*p[h]ely- "to burn; to smart, to be
painful": PIE *p[h]el-/*p[h]ol-, *p[h]loH- "to
burn; to be painful"; PFU *palya "to burn; to be
cold, to be freezing; to smart".
59. PN *p[h]al-/*p[h]el- "to tremble, to shake; to be
frightened, fearful, afraid": PIE *p[h]el-/
*p[h]ol-/*p[h]l- "to shake, to tremble; to be
frightened, fearful, afraid"; PU *pele- "to fear,
to be afraid".
60. PN *p[h]any-/*p[h]eny- "to do, to make, to
prepare": PIE *p[h]en-/*p[h]on- "to work, to
make ready, to prepare" (found only in Greek); PD
*pan- "to make ready, to prepare, to make, to
produce".

61. PN *p[h]ir-/*p[h]er- "to twist or turn around": PIE *p[h]eri "around"; PU *pir/3/ "round; any round object; around, round about"; PD *pir- "to twist, to turn, to curl"; PA *pergi- "to turn or twist around, to move around".
62. PN *diy-/*dey- "to throw, to cast, to put, to place": PIE (*d[h]ey-C- >) *d[h]ē- "to set, to put, to place"; PAA *day-/*day- "to throw, to cast, to put, to place".
63. PN *dab-/*deb- "to stick together, to join together, to fit together": PIE *d[h]ab[h]- "to fit together"; PAA *dab-/*dab- "to stick together, to join together".
64. PN *duly-/*doly- "to dangle, to hang, to swing back and forth": PIE *d[h]el-/*d[h]ol- "to swing, to dangle"; PAA *dal-/*dal- "to dangle, to hang"; PD *tul- "to move, to shake, to swing, to hang, to be agitated".
65. PN *dunv-/*dony- "to cut, to cut off, to cleave, to split": PIE *d[h]en-/*d[h]on-/*d[h]n- "to cut, to cut off, to cleave"; PAA *dan-/*dan- "to cut, to cut off, to cleave"; PD *tun- "to cut, to sever", *tunt- "to cut or break into pieces; piece, fragment, bit, slice"; S dun "to dig (with a hoe)".
66. PN *day-/*dey- "to look at, to consider, to examine": PIE *d[h]ey-A-/*d[h]oy-A-/*d[h]i-A-, *d[h]y-eA- "to look at"; PAA *day-/*day- "to look at, to consider"; PD *tē- (*tēt-, *tēnt-) "to seek, to search for, to inquire after".
67. PN *daw-/*dew- (?) "to sound, to resound, to make a noise": PIE *d[h]wen-/*d[h]un- "to sound, to resound"; PAA *daw-/*daw- "to sound, to resound"; S du₁₂ "to play (an instrument), to sing".
68. PN *dur-/*dor- "spot, blemish, dirt": PIE *d[h]er-/*d[h]or- "dirt, filth"; PAA *dar-/*dar- "to be dirty, filthy" (found only in Arabic); PD *tur- "spot, dirt, blemish, rust".
69. PN *dam-/*dem- "to become dark": PIE *d[h]em-/*d[h]om- "dark; to darken, to make dark"; PAA *dam-/*dam- "to become dark".
70. PN *dal-/*del- "to cut, to prick, to pierce, to gash, to notch, to wound": PIE *d[h]el-b[h]-/

- *d[h]ol-b[h]- "to dig, to hollow out", *d[h]el-g[h]-/*d[h]ol-g[h]- "to gash, to wound", *d[h]el-k'-/*d[h]ol-k'- "to prick, to pierce; sharp object"; PAA *dal-/*dal- "to cut, to prick, to pierce, to gash, to notch"; PD *tal- "to cut, to strike with a sharp instrument" > "to strike, to hit, to beat".
71. PN *dig-/*deg- "fish": PIE *d[h]g[h]-ū- "fish"; PAA *dag- "fish"; PA *diga- "fish" (> pre-Mongolian *ṣiga-).
72. PN *diq[h]-/*deq[h]- "earth, ground, soil, clay": PIE (*deq[h]- > *deG- [progressive voicing assimilation] >) *d[h]eg[h]-om-, *d[h]g[h]-om- "earth, ground; human being"; PK *diq[h]a- "earth, clay".
73. PN *daG-/*deG- "day": PIE (*d[h]eg[h]-/) *d[h]og[h]- "day" (found only in Germanic); PK *deG- or *daG- "day"; (?) PAA *daG-/*daG- "early morning" (found only in Ethiopian Semitic).
74. PN *dan-/*den- "to run, to flow": PIE *d[h]en-/*d[h]on- "to run, to flow"; PK *den-/*din- "to run, to flow".
75. PN *dar-/*der- "to bend, to twist, to turn": PIE *d[h]er-g[h]-/*d[h]or-g[h]-/*d[h]r-g[h]-, *d[h]r-eg[h]-/*d[h]r-og[h]-/*d[h]r-g[h]- "to turn"; PK *dr-ek'- "to bend" (tr.), *der-k'- "to bend, to stoop" (intr.); PAA *dar-/*dar- "to go, to walk, to move, to proceed; to wrap, to wind, to twist".
76. PN *daw-/*dew- "to become exhausted, to die": PIE *d[h]ew-/*d[h]ow-/*d[h]u- "to be exhausted, to die"; PAA *daw-/*daw- "to be sick, ill; to die".
77. PN *dil-/*del- "to shine, to be or become bright": PIE *d[h]el- "to be shining, bright"; PK *dila "morning".
78. PN *dul-/*dol- "to burn, to be bright": PU *tule "fire"; PD *tul- "to shine, to be bright, to glitter"; PA *dul- "to warm".
79. PN *day-/*dey- "to convey, to take, to bring": PAA *day-/*day- "to convey, to take, to bring"; PD *ta-, *tā-, *tay- "to bring"; S des "to bring".

80. PN *t[h]ak[h]-/*t[h]ek[h]- "to fashion, to form, to make, to create": PIE *t[h]ek[h](s)-/*t[h]ok[h](s)- "to fashion, to form, to make, to create"; PU *teke- "to do, to make".
81. PN *t[h]ap[h]-/*t[h]ep[h]- "to burn, to be hot": PIE *t[h]ep[h]-/*t[h]op[h]- "to burn, to be hot"; PK (*t[h]ep[h]- >) *t'ep[h]- "warm"; PAA *t[h]ap[h]-/*t[h]ap[h]- "to burn, to be hot".
82. PN *t[h]ir-/*t[h]er- "to be or become full, to be satisfied": PAA *t[h]ar-/*t[h]ar- "to be or become full, to increase, to add to"; PU *tire- (*türe-) "to fill, to become full, to become satisfied".
83. PN *t[h]ir-p[h]-/*t[h]er-p[h]- "to have all needs fulfilled, to have enough, to be satisfied" (extended form of the preceding): PIE *t[h]erp[h]-/*t[h]orp[h]-/*t[h]rp[h]-, *t[h]rep[h]-/*t[h]rop[h]- "to be satisfied, to have enough"; PAA *t[h]arp[h]-/*t[h]arp[h]- "to be satisfied, to have enough".
84. PN *t[h]ary-/*t[h]ery- "to rub, to wear down": PIE *t[h]er-/*t[h]or-/*t[h]r- "to rub, to wear down"; PD *tar- "to rub, to grind; to be worn out, rubbed".
85. PN *t[h]ary-/*t[h]ery- "weak, frail, delicate" (derivative of the preceding): PIE *t[h]er-/*t[h]or- "weak, frail, delicate"; PAA *t[h]ar-/*t[h]ar- "weak, frail, delicate; to be weak" (found only in Egyptian).
86. PN *t[h]ir-/*t[h]er- "to tremble, to shake": PIE *t[h]er-s-, *t[h]r-es- "to tremble, to shake", *t[h]r-em- "to tremble, to shake"; PK *t[h]rt[h]- "to tremble"; PAA *t[h]ar-/*t[h]ar- "to tremble, to shake"; PD *tir- "to tremble, to quiver".
87. PN *t[h]aly-/*t[h]ely- "to lift, to raise, to spread, to extend, to stretch": PIE *t[h]el-/*t[h]ol-/*t[h]l- "to lift, to raise, to stretch, to extend"; PAA *t[h]al-/*t[h]al- "to lift, to raise, to stretch, to spread, to extend"; PD *tāl- "to bear, to suffer, to endure", *tel- "thin, lean"; S tál "to be or make wide, broad; to spread wide".
88. PN *t[h]ar-/*t[h]er- "to be dry, arid": PIE

- *t[h]ers-/*t[h]ors-/*t[h]rs- "to be or become dry"; PAA *t[h]ar-/*t[h]ar- "to be dry, arid".
89. PN *t[h]ak'-/*t[h]ek'- "to touch, to push, to strike": PIE *t[h]ak'- "to touch, to strike, to push, to stroke"; PAA *t[h]ak'-/*t[h]ak'- "to touch, to push, to strike"; PD *tak- "to touch, to strike, to hit"; S tag "to touch".
90. PN *t[h]am-/*t[h]em- "to cover over, to hide": PIE *t[h]em-/*t[h]om- "dark; darkness"; PAA *t[h]am-/*t[h]am- "to cover over, to hide".
91. PN *t[h]i-/*t[h]e- (*t[h]wi-/*t[h]we- ?) "you": PIE (nom. sg.) *t[h]ū "you", (acc. sg.) *t[h]wē/*t[h]ē, *t[h]wēm/*t[h]ēm, (gen. sg.) *t[h]ewe/*t[h]ewo, (enclitic) *t[h](w)ey/*t[h](w)oy; (2nd pl. verb ending) *-t[h]e; PAA *t[h]a/*t[h]a "you"; PU (sg.) *tinā/*tūna "you", (pl.) *te; PA *ti "you"; S za.e "you", (2nd sg. possessive suffix) -zu.
92. PN *t[h]a-/*t[h]e- "this", *t[h]u-/*t[h]o- "that": PIE *t[h]o- demonstrative pronoun stem: "this, that"; PAA *t[h]a-/*t[h]a- demonstrative pronoun stem; PU *tā- demonstrative pronoun stem: "this"; *tō- demonstrative pronoun stem: "that"; PD *tām(m)- demonstrative pronoun stem.
93. PN *t[h]aw-/*t[h]ew- "to swell": PIE *t[h]ew-/*t[h]ow-/*t[h]u- "to swell"; PAA *t[h]aw-/*t[h]aw- "to swell"; PFU *tāwōe "full"; PD *tava "much, abundantly, greatly".
94. PN *t[h]ik'-/*t[h]ek'- "to be or become established, firm, solid": PIE *t[h]ek'-u- "firm, solid, thick"; PAA *t[h]ak'-/*t[h]ak'- "to be or become established, firm, solid"; PA *tīgīrak "firm, solid, thick".
95. PN *t[h]any-/*t[h]eny- "to extend, to spread, to stretch": PIE *t[h]en-/*t[h]an-/*t[h]n- "to extend, to spread, to stretch"; PAA *t[h]an-/*t[h]an- "to extend, to spread, to stretch, to endure; to stretch out the hand, to hand over, to give"; PD *tan- "to increase, to grow, to thrive".
96. PN *t[h]um-/*t[h]om- "to fill, to fulfill": PAA *t[h]am-/*t[h]am- "to fulfill, to finish, to complete, to terminate, to end; to be fulfilled, completed, finished, ended, done"; PFU *tunke- (< *tum-ke-) "to fill up, to stuff in, to cram";

- PD *tum- "to fill; to become full, filled up, complete; to abound; abundant, much, full".
97. PN *t[h]aly-/ *t[h]ely- "to push, to thrust": PIE *t[h]el-k[h]-/ *t[h]ol-k[h]-/ *t[h]l-k[h]- "to push, to thrust"; PK *t[h]el- "to press"; PAA *t[h]el-/ *t[h]al- "to push, to thrust"; PFU *tolv/3/- "to push, to shove, to thrust"; PD *tal- "to push, to thrust; to push in, to press together".
98. PN *t[h]al-/ *t[h]el- "head, top, end": PIE *t[h]el- "head, top, end; headman, chief" (found only in Celtic); PD *tal- "head, top, end, tip; headman".
99. PN *t[h]ur-/ *t[h]or- "to cram, to push in, to stuff, to thrust in, to press in": PIE *t[h]er-/ *t[h]or-/ *t[h]r- "to cram, to push in, to stuff, to thrust in, to press in"; PD *tur- "to force in, to cram, to stuff, to fill".
100. PN *t'ar-/ *t'er- "to tear, to rend, to cut, to sever": PIE *t'er-/ *t'or-/ *t'r- "to tear, to rend, to flay"; PD *tar- "to cut, to cut off, to chop, to strip", *ter- "to burst asunder, to snap in two, to split, to break, to cut", *ter- "to pluck out"; S dar "to split".
101. PN *t'arp[h]-/ *t'erp[h]- "to tear, to rend, to pluck" (extended form of the preceding): PIE *t'erp[h]-/ *t'orp[h]- "to pluck"; PAA *t'arp[h]-/ *t'arp[h]- "to tear, to rend, to pluck".
102. PN *t'uly-/ *t'oly- "to drip, to fall in drops, to sprinkle, to wet, to moisten": PIE *t'el-/ *t'ol- "to drip, to fall in drops, to sprinkle, to wet, to moisten"; PAA *t'al-/ *t'al- "to bedew, to wet, to moisten"; PD *tul- "to drip, to fall in drops, to sprinkle, to rain".
103. PN *t'ay-/ *t'ey- "to shine, to gleam, to be bright, to glitter, to glow": PIE *t'ey-/ *t'oy-/ *t'i- "to shine, to be bright"; PAA *t'ay-/ *t'ay- "to be good, pleasant, agreeable, glad, happy, desirable, beautiful, lovely"; PD *tī- "to be burnt, charred, singed; to burn, to scorch, to singe; to shine; light, brightness, heat, fire".
104. PN *t'aw-/ *t'ew- (?) "to revere, to honor, to worship": PIE *t'ew-/ *t'ow-/ *t'u- "to revere,

- to honor, to esteem, to venerate"; PAA *t'aw-/ *t'aw- "to praise, to worship" (found only in Egyptian).
105. PN *t'uw-/ *t'ow- "to give, to put, to place": PIE (*t'ow-C- >) *t'ō- "to give, to put, to place"; PAA *t'aw-/ *t'aw- "to give, to put, to place" (found only in Egyptian); (?) PU *tōye- "to give, to bring".
106. PN *t'arh-/ *t'erh- "to do, to make, to prepare, to work": PIE *t'erH2-/ *t'orH2-, *t'reH2- "to do, to make"; PAA *t'arh-/ *t'arh- "to work, to toil".
107. PN *t'al-/ *t'el- "to stretch out, to extend": PIE *t'el-/ *t'ol-/ *t'l- "to stretch, to extend, to lengthen", *t'l-H-g[h]- "long"; PAA *t'al-/ *t'al- "to stretch out, to extend".
108. PN *t'ary-/ *t'ery- "to grasp, to embrace": PIE *t'er-g[h]-/ *t'or-g[h]- "to grasp"; PAA *t'ar-/ *t'ar- "to handle, to grasp" (found only in Cushitic); PD *tar- "to clasp, to embrace, to grasp".
109. PN *t'am-/ *t'em- "to quiet, to calm, to pacify, to tame": PIE (*t'em-/) *t'om- "to tame, to subdue"; PAA *t'am-/ *t'am- "to quiet, to calm, to pacify" (found only in Arabic).
110. PN *t'ans-/ *t'ens- "to be tightly loaded, closely packed or pressed together": PIE (*t'ens-/ *t'ons-/) *t'ns- "tightly loaded, closely packed or pressed together; dense"; PAA *t'ans-/ *t'ans- "to be loaded heavily" (found only in Egyptian).
111. PN *t'am-/ *t'em- "to twist, to turn, to wind": PIE *t'em- "worm"; PAA *t'am-/ *t'am- "to twist, to turn, to wind".
112. PN *t'ul-/ *t'ol- "to reach, to attain, to strive for, to come to": PIE *t'el-/ *t'ol- "to reach, to attain, to strive for, to come to" (found only in Germanic); PAA *t'al-/ *t'al- "to reach, to attain, to strive for, to come to"; PU *tule- "to reach, to arrive at, to come to"; PD *tol "old, ancient; formerly, previously".
113. PN *t'aw-/ *t'ew- "to hit, to strike": PIE (*t'ew-/ *t'ow-/) *t'u- "to hit, to strike"; PAA *t'aw-/ *t'aw- "to hit, to strike"; S du7 "to butt, to gore".

114. PN *t'ah-/t'eh- "to split": PIE *t'eH₂- "to cleave asunder, to divide"; PK *t'ex- "to break"; PAA *t'əh-/t'ah- "to break, to shatter".
115. PN *t'ak[h]-/t'ek[h]- "to be fit, appropriate, suitable, proper": PIE *t'ek[h]s-/t'ok[h]s- "to be fit, appropriate, suitable, proper"; PD *tak- "to be fit, appropriate, suitable, proper, worthy".
116. PN *t'ak[h]-/t'ek[h]- "to take, to seize, to grasp, to obtain" (probably identical to the preceding): PIE *t'ek[h]-/t'ok[h]- "to take"; PD *tek- "to receive, to take".
117. PN *t'im-/t'em- "to fashion, to make, to create": PIE *t'em-/t'om- "to build, to construct"; S dīm "to make, to fashion, to create".
118. PN *dyab-/dyeb- "to harm, to injure": PIE *d[h]eb[h]-/d[h]ob[h]- "to harm, to injure"; PAA *dyəb-/dyab- "to harm, to injure".
119. PN *dyanw- "a kind of tree": PIE *d[h]anw/u- "a kind of tree"; PAA *dyanw- "a kind of tree".
120. PN *dyakw[h]-/dyekw[h]- "to blaze, to be bright": PIE (*dyekw[h]-/dyakw[h]- > [with progressive voicing assimilation]) *d[h]egw[h]-/d[h]ogw[h]- "to blaze, to burn"; PAA *dyək[h]-/dyak[h]- "to blaze, to be bright".
121. PN *dyar-/dyer- "to hold firmly in the hand, to support": PIE *d[h]er-/d[h]or-/d[h]r- "to hold firmly in the hand, to support"; PAA *dyər-/dyar- "hand, arm".
122. PN *dywar-/dywer- "to stab, to pierce, to penetrate; spike, prong": PIE (*d[h]wer-/d[h]wor-/d[h]ur- "to stab, to pierce, to penetrate; spike, prong"; PK *žwar- "stake, spike".
123. PN *dyaw-/dyew- "to run, to flow, to gush forth": PIE *d[h]ew-/d[h]ow- "to run, to flow"; PK *žw-, *žw-am-/žw-m- "to void excrement"; PAA *dyəw-/dyaw- "to flow, to gush".
124. PN *dyi-/dye- demonstrative stem: PIE *-d[h]e suffixed particle; PAA *dyə-/dya- demonstrative stem; PU *cye, *cyi "this, that".
125. PN *ty[h]um-/ty[h]om- "to hit, to strike, to

- stun, to stupefy": PIE *t[h]em-/t[h]om- "to hit, to strike, to stun, to stupefy"; PAA *ty[h]əm-/ty[h]am- "to hit, to strike, to stun, to stupefy"; PD *cōm- "to fade, to droop; to get intoxicated, bewildered, stupefied"; (?) S šum "to slaughter".
126. PN *ty[h]awr- "bull, steer": PIE *t[h]awro- "bull"; PAA *ty[h]awr- "bull, steer".
127. PN *ty[h]ar-/ty[h]er- "to cross over, to pass through, to overcome": PIE *t[h]er-/t[h]or-/t[h]r-, *t[h]erH₂-/t[h]orH₂-/t[h]rH₂-, *t[h]reH₂-/t[h]roH₂- "to cross over, to pass through, to overcome, to surpass"; PAA *ty[h]ər-/ty[h]ar- "to cross over, to pass through, to overcome" (found only in Egyptian).
128. PN *t'yar-/t'yer- "to be or become stuck, joined, or bound together; to be or become firmly or strongly attached; to be firm, solid, steadfast": PIE *t'eru-, *t'rew- "to be firm, solid, strong, steadfast", *t'oru-, *t'rew- "tree, wood"; PAA *t'yər-/t'yar- "to be stuck, joined, or bound together; to be firmly or strongly attached"; PU *cyar/3/ "hard, rigid, stiff"; PD *car- "rough, coarse".
129. PN *t'yul-/t'vol- "to overshadow, to cover over, to make dark": PIE *t'el-/t'ol- "to cover over, to stretch over"; PAA *t'yəl-/t'yal- "to overshadow, to cover over, to make dark"; S dul "to cover".
130. PN *t'yaw-/t'yew- "bad, evil": PIE *t'ews-/t'ows-/t'us- "bad, evil; (prefix) ill-, un-, mis-"; PAA *t'yəw-/t'yaw- "bad, evil" (found only in Egyptian).
131. PN *t'yan-/t'yen- "to think": PIE *t'en-s-/t'on-s- "great mental power, wise decision"; PAA *t'yən-/t'yan- "to think".
132. PN *t'yar-/t'yer- "to cut, to split": PK *č'er-/č'ar-/č'r- "to cut"; PAA *t'yər-/t'yar- "to cut"; PFU *cyärke- "to split open, to rend"; PED *car- "to tear apart, to tear out".
133. PN *t'yur-/t'yor- "to run, to flow": PIE *t'r-eA-, *t'r-em-/t'r-om-/t'r-m-, *t'r-ew-/t'r-ow-/t'r-u- "to run, to flow"; PAA *t'yər-/t'yar- "to run, to flow"; PU

- *cyor/3/- "to run, to flow".
134. PN *zam-/zem- "to blow, to play (a wind instrument)": PIE *d[h]em-/d[h]om-/d[h]m- "to blow, to play (a wind instrument)"; PAA *zam-/zam- "to blow, to play (a wind instrument)".
135. PN *zaw-/zew- "to pass, to pass on, to pass away, to remove": (?) PIE *d[h]wiH- "to dwindle, to wither, to wane"; PK *ziw-el- "old", *ziw-en- "to grow old"; PAA *zawl-/zawl- "to pass, to pass on, to pass away, to remove"; PD *cā- "to die, to fade, to wither, to cease, to disappear".
136. PN *zaw-/zew- "to tremble, to move, to shake, to agitate": PIE *d[h]ew-/d[h]ow-/d[h]u- "to tremble, to shake, to move, to agitate"; PAA *zaw-/zaw- "to tremble, to shake, to move, to agitate".
137. PN *zaʔ-/zeʔ- "to waste away; to become faded, exhausted, withered, weak, weary": PIE *d[h]eH₁-/*d[h]oH₁- > *d[h]ē-/d[h]ō- "to waste away; to become exhausted, faded, withered, languid, weak, weary"; PAA *zaʔ-/zaʔ- "to waste away; to become exhausted, faded, withered, weak, weary".
138. PN *zar-/zer- "to gush forth, to burst forth, to spurt": PIE *d[h]er-/d[h]or-/d[h]r- "to gush forth, to burst forth, to spurt"; PAA *zarm-/zarm- "to gush forth, to burst forth, to spurt".
139. PN *zim-/zem- "to be sour, bitter, pungent, sharp": PK *zim- "salt", *zim-ar- "vinegar"; PFU *čem/3/ "sour; to become sour".
140. PN *zag-/zeg- (?) "to push, to strike, to beat": PK *ziger- "to beat, to strike"; PAA *zag-/zag- "to push, to shove, to urge, to drive".
141. PN *c[h]uk[h]-/*c[h]ok[h]- "to bend, to turn, to wind, to twist; to close, to shut; to cover": (?) PIE *t[h]ok[h]- "to bend, to turn, to wind, to twist"; PAA *c[h]ek[h]-/*c[h]ak[h]- "to bend, to turn, to wind, to twist; to close, to shut; to cover"; PU *čukka- "to bend, to turn, to twist; to close, to shut, to shut up, to shut in".
142. PN *c[h]al-/*c[h]el- "to let loose, to free; freedom from, leisure; empty, free (from), at leisure, unoccupied": PIE (?) *t[h]al- "to let loose, to free" (found only in Hittite); PK *c[h]al- "to empty; to have spare time"; PAA

- *c[h]el-/*c[h]al- "to empty, to get rid of".
143. PN *cil-/cel- "to stretch out, to extend, to exceed; to be wealthy, to prosper": PAA *c'al-/c'al- "to stretch out, to extend, to exceed; to be wealthy, to prosper"; PED *cel "prosperity".
144. PN *car-/cer- "to be visible, clear, evident": PIE *t'er-/t'or-/t'r- "to be or become clear, visible, evident", *t'er-k[h]-/*t'or-k[h]-/*t'r-k[h]- "to be or become visible, evident, clear; to see clearly"; PAA *c'ar-/c'ar- "to be visible, clear, evident".
145. PN *hac'-/hec'- "to pluck, to reap, to harvest": PIE *H₂et'- "crop, grain"; PAA *hac'-/hac'- "to harvest, to reap"; PD *ec- "to pluck, to pick (berries, fruit, etc.)".
146. PN *c'ab-/c'eb- "to press, squeeze, stick, tie, bind, or join firmly together": PK *c'ieb- "to glue", *c'iebo- "glue"; PAA *c'ab-/c'ab- "to press, squeeze, stick, tie, bind, or join firmly together".
147. PN *car-/cer- "to cut, to cut into, to cut through": PK *c'ier- "to cut into, to scratch, to carve, to engrave" > "to write"; PAA *c'ar-/c'ar- "to cut, to cut off, to cut through".
148. PN *tl[h]ak'y-/tl[h]ek'y- "hook": PIE *k[h]ek'-/*k[h]ok'- "hook"; PAA *tl[h]ak'y-/tl[h]ak'y- "hook".
149. PN *tl[h]ir-/tl[h]er- "highest point, highest rank; to be highly esteemed, to be eminent": PIE *k[h]er-/k[h]or-/k[h]r- "highest point, top, summit, head, peak, horn"; PAA *tl[h]ar-/tl[h]ar- "highest rank"; PD *cir- "to be eminent, illustrious; to surpass".
150. PN *tl[h]ay-/tl[h]ey- "to advance (in years), to grow old, to age, to turn gray (hair)": PIE *k[h]ey-/k[h]oy-/k[h]i- "gray-haired, old"; PAA *tl[h]ay-/tl[h]ay- "to grow old, to age, to turn gray (hair)"; PD *cāy- "to advance, to proceed".
151. PN *tl[h]im-/tl[h]em- "to enclose, to wrap, to contain": PIE *k[h]em-/k[h]om- "to enclose, to contain", *k[h]em-/k[h]om- "to wrap, to cover"; PAA *tl[h]em-/tl[h]am- "to wrap, to enclose, to

- contain"; PD *cim- "to wrap, to contain, to restrain".
152. PN *tl[h]unk[h]-/*tl[h]onk[h]- "to hook up, to hang; hanging, dangling; peg, hook": PIE *k[h]onk[h]- "to hook up, to hang; peg, hook"; PAA *tl[h]onk[h]-/*tl[h]ank[h]- "to hook up, to hang; peg, hook" (found only in Arabic); PD *cuñk- "end of cloth left hanging out, dangling tatter".
153. PN *tl[h]iŋr-/*tl[h]eŋr- "hair": PIE *k[h]eEr- "hair"; PAA *tl[h]eŋr-/*tl[h]aŋr- "hair; hairy"; PU *švir- "hair".
154. PN *tl[h]iry-/*tl[h]ery- "to grow, to grow up, to thrive, to flourish": PIE *k[h]er-/*k[h]or- "to grow, to grow up, to thrive, to flourish"; PAA *tl[h]er-/*tl[h]ar- "to grow, to mature"; PD *cer- "to thrive, to flourish, to increase, to grow".
155. PN *tl[h]ar-/*tl[h]er- "to cause harm, to injure; injury, harm, evil": PIE *k[h]or-mo- "injury, harm, suffering"; PAA *tl[h]er-/*tl[h]ar- "to cause harm, to injure"; PD *ceraku "calamity, misfortune".
156. PN *tl[h]ar-/*tl[h]er- "to burn, to roast": PIE *k[h]er-/*k[h]or-/*k[h]r- "to burn, to roast"; PK *xr-ak'- "to roast, to fry, to char", *xr-ek'-/*xr-ik'- "to roast, to fry, to char"; PAA *tl[h]er-/*tl[h]ar- "to burn"; PFU *šyar/3/- "to be or become parched, dry".
157. PN *natl[h]-/*netl[h]- "to lift, to carry, to take": PIE *nek[h]-/*nok[h]- "to bear, to carry, to convey"; PAA *natl[h]-/*natl[h]- "to lift, to carry, to take".
158. PN *tl[h]ar-/*tl[h]er- "to cut": PK *xarx- "to saw; saw"; PAA *tl[h]er-/*tl[h]ar- "to cut".
159. PN *tl[h]ily-/*tl[h]ely- "to see": PK *xel-/ *xil- "to open the eyes, to see"; PU *švilymä "eye".
160. PN *tl[h]ut'-/*tl[h]ot'- "to cut": PK *xot'r- "to cut, to clip"; PAA *tl[h]et'-/*tl[h]at'- "to cut, to split".
161. PN *tl[h]ah-/*tl[h]eh- "(young) sheep or goat": PIE *k[h]eH2-k'- > *k[h]ā-k'- "(young) goat,

- kid"; PAA *tl[h]ah-/*tl[h]ah- "(young) sheep or goat".
162. PN *tl'im-/*tl'em- "to join, bind, or unite together": PIE *k'em-/*k'om-/*k'm- "to join together, to unite"; PAA *tl'am-/*tl'am- "to join together"; PU *šyimā (*šyūmā) "glue".
163. PN *tl'ars-/*tl'ers- (?) "to bite, to gnaw": PIE *k'ras- "to gnaw, to eat"; PAA *tl'ers-/*tl'ars- "to bite".
164. PN *tl'al-/*tl'el- "to be curved, bent, round": PIE *k'el-/*k'ol-/*k'l- "bent, curved, round"; PAA *tl'al-/*tl'al- "to be bent, curved, round".
165. PN *tl'aw-/*tl'ew- "to chew, to eat": PIE *k'ew-/*k'ow-/*k'u- "to chew", *k'ews-/*k'ows-/*k'us- "to taste, to choose"; PAA *tl'aw-/*tl'aw- "to chew, to eat" (found only in Arabic).
166. PN *tl'uk[h]-/*tl'ok[h]- "to push, to shove, to thrust in": PFU *šy/u/kk/3/- "to put (in), to stick, to thrust (in)"; PD *tuk- "to push, to shove".
167. PN *gub-/*gob- "highest point, summit, top": PIE *g[h]eb[h]- "gable, head, pinnacle"; PAA *gab-/*gab- "highest point, pinnacle"; PD *kop- "top, summit, turret, crest, ridge"; (?) S gub "to stand, to erect".
168. PN *gasy-/*gesy- "to touch, to feel, to handle": PIE *g[h]es-/*g[h]os- "hand"; PAA *gaš-/*gaš- "to touch, to feel, to handle".
169. PN *gad-/*ged- "to force, drive, or press together; to join, to unite; to gather (together), to collect": PIE *g[h]ed[h]-/*g[h]od[h]- "to force, drive, or press together; to join, to unite; to gather (together); to collect"; PAA *gad-/*gad- "to force, drive, or press together; to join, to unite; to gather (together), to collect".
170. PN *gar-/*ger- "to take, to take hold of, to take away, to carry off, to remove": PIE *g[h]er-/*g[h]or-/*g[h]r- "to take, to take hold of, to seize, to take away, to carry off, to remove"; PAA *gar-/*gar- "to take, to take away, to carry off, to remove"; PD *ker- "to gather up, to take a handful, to scoop up with the hand"; PA *gār-

"hand, arm".

171. PN *gir-/ *ger- "to scratch, to scrape": PIE *g[h]er-/ *g[h]or-/ *g[h]r- "to scratch, to scrape", *g[h]reb[h]-/ *g[h]rob[h]r- "to scratch, to scrape", *g[h]r-em-/ *g[h]r-om- "to scrape"; PAA *gar-/ *gar- "to scratch, to scrape"; PD *kir- "to scratch, to scrape", *kiranku "itch, scab".
172. PN *gur-/ *gor- "to crush, to grate, to grind": PIE *g[h]er-/ *g[h]or-/ *g[h]r- "to crush, to grate, to grind", *g[h]er-d[h]r-/ *g[h]r-d[h]r-, *g[h]r-iH-d[h]r- "barley, grain", *g[h]r-en-t'-/ *g[h]r-on-t'- "to grind", *g[h]r-en-d[h]r-/ *g[h]r-on-d[h]r- "to grind"; PAA *gar-/ *gar- "to crush, to grate, to grind", *gar-n- "threshing floor"; PFU *kor/3/ (*korw/3/-) "to scrape, to grate"; PD *kur- "to pound, to crush".
173. PN *giry-/ *gery- "to grow": PIE *g[h]r-eE-/ *g[h]r-oE- > *g[h]rē-/ *g[h]rō- "to grow"; PAA *gar-/ *gar- "to grow old"; PD *kir- "old, ancient".
174. PN *gat'-/ *get'- "to take (with the hand), to grasp": PIE *g[h]et'-/ *g[h]ot'-, (with nasal infix) *g[h]e-n-t'- "to take (with the hand)"; PAA *gat'-/ *gat'- "to take"; PFU *käte "hand"; PD *kat- "to seize, to grasp", *ketkā, *kay "hand".
175. PN *gawl-/ *gawl-, *gwal-/ *gwel- "to twist, to turn, to bend": PIE *g[h]wel-/ *g[h]wol-/ *g[h]wl- "to turn; to twist; to bend; to be or become twisted, curved, crooked, bent"; PK *gwel- "snake"; PAA *gawl-/ *gawl- "to perform a turning movement"; PU *k/u/l/3/ "(tape)worm".
176. PN *gil-/ *gel- "to shine, to glisten": PIE *g[h]el-/ *g[h]ol-/ *g[h]l- "to shine, to glisten"; PAA *gal-/ *gal- "to make clear, plain, evident, obvious"; PFU *kil/3/ (*kül/3/) "to shine, to glisten, to glitter, to gleam".
177. PN *gur-/ *gor- "gut, cord": PIE *g[h]er-/ *g[h]or- "gut, cord"; PU *kurk/3/ (?) "cord, intestine, string, tendon".
178. PN *gul-/ *gol- "to cut, to clip off, to shear, to shave": PIE *g[h]el-/ *g[h]ol-/ *g[h]l- "to cut"; PAA *gal-/ *gal- "to cut, to clip off, to

shear, to shave"; PD *kol- "razor".

179. PN *gal-/ *gel- "to plow": PIE *g[h]el-/ *g[h]ol-/ *g[h]l- "to plow"; PD *kalappai "a plow".
180. PN *gud-/ *god- "to throw, to toss, to shake": PK *gd- "to throw, to cast, to fling, to toss"; PAA *gəd-/ *gad- "to throw, to cast"; PD *kuṭ- "to throw, to toss, to fling, to shake".
181. PN *k[h]a-/ *k[h]e- demonstrative pronoun stem: PIE *k[h]e-/ *k[h]o-, *k[h]i- demonstrative pronoun stem; PAA *k[h]ə-/ *k[h]a- demonstrative pronoun stem. (Cf. Etruscan ca "this".)
182. PN *k[h]ap[h]r- "to take, to seize; hand": PIE *k[h]ap[h]r- "to take, to seize"; PAA *k[h]əp[h]r-/ *k[h]ap[h]r- "to take, to seize; hand"; PFU *kapp/3/- "to seize, to grasp"; PD *kap- "to feel, to touch"; PA *kapa- "to seize, to snatch".
183. PN *k[h]as-/ *k[h]es- "to cut": PIE *k[h]es-, *k[h]as- "to cut"; PAA *k[h]əs-/ *k[h]as- "to cut".
184. PN *k[h]al-/ *k[h]el- "to make a noise, to sound": PIE *k[h]el-, *k[h]al- "to call, to summon"; PAA *k[h]əl-/ *k[h]al- "to call, to summon"; PD *kal- "to make a noise, to sound; sound, noise".
185. PN *k[h]ar-/ *k[h]er- "to cut": PIE *k[h]er-/ *k[h]or-/ *k[h]r- "to cut off, to cut down"; PAA *k[h]ər-/ *k[h]ar- "to cut"; PA *ker-ti- "to cut into, to carve, to notch".
186. PN *k[h]al-/ *k[h]el- "to guard, to hold (back), to watch": PIE *k[h]el-/ *k[h]ol- "to guard, to watch, to hold (back)"; PAA *k[h]əl-/ *k[h]al- "to guard, to watch, to hold (back)".
187. PN *k[h]al-/ *k[h]el- "to strike, to wound, to injure": PIE *k[h]el-, *k[h]al- "to strike, to wound, to injure"; PAA *k[h]əl-/ *k[h]al- "to strike, to wound, to injure".
188. PN *k[h]aw-/ *k[h]ew- "to swell, to expand, to inflate, to grow, to increase": PIE *k[h]ew-/ *k[h]ow-/ *k[h]u- "to swell, to expand, to grow, to inflate, to increase"; PAA *k[h]əw-/ *k[h]aw- "to swell, to expand, to inflate, to grow, to increase"; PD *kō- "mountain; above, over, atop,

- upon".
189. PN *k[h]uny-/ *k[h]ony- "bee, honey": PIE *k[h]g-H-k[h]o- "honey; honey-colored"; PAA *k[h]ən-/ *k[h]an- "bee"; PD *kuṇ- "bee".
190. PN *k[h]ay- "alone": PIE *k[h]ay- "alone"; PAA *k[h]ay-w- "alone" (found only in Cushitic); PD *kay- "a single woman, a widow".
191. PN *k[h]ab-/ *k[h]eb- "hoof, hooved animal": PIE *k[h]ab-ro- > (with progressive voicing assimilation) *k[h]ap[h]-ro- "he-goat, buck"; PAA *k[h]əb-/ *k[h]ab- "hoof, hooved animal".
192. PN *k[h]am-/ *k[h]em- "to seize, to grasp, to grip, to clutch": PIE *k[h]em-t[h]-/ *k[h]om-t[h]-/ *k[h]m-t[h]- "to seize, to grasp, to grip, to clutch; hand" (found only in Germanic); PAA *k[h]əm-/ *k[h]am- "to seize, to grasp, to grip, to clutch"; PD *kam- "to seize, to steal".
193. PN *k[h]an-/ *k[h]en- "to sing, to sound": PIE *k[h]an- "to sing, to sound"; PAA *k[h]ən-/ *k[h]an- "to sing, to sound"; PU *kan/3/- "to call"; PD *kaṇa-kaṇa "to sound".
194. PN *k[h]um-/ *k[h]om- "to work, to labor, to toil; to make, to do": PIE *k[h]m-H- "to work, to toil, to labor"; PK *k[h]om- "to make, to do".
195. PN *k[h]ay-/ *k[h]ey- "to put, to place, to set, to lay; to be placed, to lie": PIE *k[h]ey-/ *k[h]oy-/ *k[h]i- "to lie, to be placed"; PAA *k[h]əy-/ *k[h]ay- "to put, to place, to set, to lay"; PFU *kuy/3/- "to lie"; PD *kē- "to lie (down), to rest".
196. PN *k[h]ay- "to scoop out", *k[h]ayw- "to dig; cave, pit, hollow": PIE *k[h]aywr-t[h], *k[h]aywn-t[h] "cave, hollow"; PU *kay/3/ (*koy/3/) "spoon, ladle, shovel"; PFU *koywa- "to dig"; PD *kay- "ladle, spoon".
197. PN *k[h]al-/ *k[h]el- "to point out, to make clear, to make known, to disclose, to explain": PAA *k[h]əl-/ *k[h]al- "to point out, to make clear, to make known, to reveal, to disclose, to explain"; PU *kele "tongue, speech, language"; PD *kal- "to learn, to study, to teach"; PA *kel- "to speak".

198. PN *k[h]ul-/ *k[h]ol- "to hear": PIE *k[h]lew-/ *k[h]low-/ *k[h]lu- "to hear"; PFU *kule- "to hear"; PD *kēl- "to hear, to listen (to)"; PA *kul- "to hear".
199. PN *k[h]unk'-/ *k[h]onk'- "hook, clasp": PIE *k[h]enk'-/ *k[h]onk'- "hook"; PD *koṅki "hook, clasp".
200. PN *k[h]ay-/ *k[h]ey- "to be or become warm or hot; to make warm, to heat; heat": PIE *k[h]ay- "to heat; heat"; PFU *keye- "to cook, to boil"; PD *kāy- "to grow hot, to be warm, to burn; heat, warmth".
201. PN *k[h]ar-/ *k[h]er- "to twist, to turn, to wind": PIE *k[h]er-/ *k[h]or-/ *k[h]r- and *(s)k[h]er-/ *(s)k[h]or-/ *(s)k[h]r- "to twist, to turn, to wind"; PAA *k[h]ər-/ *k[h]ar- "to twist, to turn, to wind"; PFU *kerä "round; to turn, to twist, to wind", *kere "any round thing or object"; PD *kar- "to turn around, to spin, to whirl".
202. PN *k[h]ar-/ *k[h]er- "edge, side, bank": PIE *k[h]er-/ *k[h]or-/ *k[h]r- "edge, shore, bank"; PU (?) *ker/3/ "edge, brim" (found only in Selkup Samoyed); PD *karai "shore, bank, border, edge"; S kar "embankment, quay-wall, wall along a canal or moat, mooring-place, harbor".
203. PN *k[h]ur-/ *k[h]or- "blood": PIE *k[h]rewH-/ *k[h]rowH-/ *k[h]ruH- "bloody, raw"; PD *kuruti "blood; blood colored"; S guruṁ-un, kurin "blood".
204. PN *k[h]aly-/ *k[h]ely- "to rob, to steal, to hide": PIE *k[h]l-ep[h]-/ *k[h]l-op[h]- "to rob, to steal, to hide"; PD *kaḷ- "to rob, to steal".
205. PN *k[h]ad-/ *k[h]ed- "to wind, to wrap, to bend": PIE *k[h]ad- > (with progressive voicing assimilation) *k[h]at[h]- "to twist, to bend together, to fasten, to tie"; PK *k[h]ad-/ *k[h]d- "to be or become bent, twisted, crooked" > "to be mistaken, wrong"; PAA *k[h]əd-/ *k[h]ed- "to cover, to wrap"; PD *kaṭi "protection, safeguard", *katt- "to tie, to fasten, to bind, to build, to clasp".
206. PN *k[h]an-/ *k[h]en- "to set straight, to make right": PIE *k[h]an- "to do, to achieve, to finish"; PK *k[h]en-/ *k[h]n- "to do, to make";

- PAA *k[h]ən-/*k[h]an- "to set straight, to make right" (a *verbum mediae infirmæ* must be reconstructed for Semitic: *k[h]a/wa/n- "to set straight, to make right").
207. PN *k[h]ar- "hard, strong, firm": PIE *k[h]ar- "hard, strong, firm"; PAA *k[h]ar- "hard, dry"; PD *kar- "stout, hard, strong".
208. PN *k[h]ar- "rough, coarse": PAA *k[h]ar- "rough, coarse"; PD *kar- "rough, coarse".
209. PN *k'an-/*k'en- "to get, to acquire, to possess, to create": PIE *k'en-/*k'on-/*k'ŋ- "to beget"; PAA *k'an-/*k'an- "to get, to acquire, to possess, to create"; PD *kan- "to bear or bring forth, to beget"; S gan "to bear, to bring forth, to give birth to".
210. PN *k'ar-/*k'er- "to call out, to summon, to cry (out), to shout, to sound": PIE *k'er-/*k'or-/*k'ŕ- "to call out to"; PAA *k'ar-/*k'ar- "to call to"; PD *kar- "to sound, to emit a sound, to call, to cry out".
211. PN *k'iy-/*k'ey- "to break, to split, to crack, to burst open": PIE *k'ey-, *k'I- "to crack, to burst open"; PAA *k'ay-/*k'ay- "to break, to split, to crack, to burst open"; PD *kī- "to break, to split, to crack, to burst open".
212. PN *k'um-/*k'om- "to pack or press together": PIE *k'em-/*k'om-/*k'm- "to press together, to seize, to grasp"; PAA *k'am-/*k'am- "to press together, to seize, to grasp"; PD *kum- "to be heaped together".
213. PN *k'am-/*k'em- "to weep, to moan, to lament, to groan": PIE *k'em-/*k'om- "to weep, to moan, to lament"; PAA *k'am-/*k'am- "to weep, to moan, to lament".
214. PN *k'am-/*k'em- "to chew, to bite, to eat; to cut to pieces, to crush": PIE *k'em-b[h]-/*k'om-b[h]-/*k'm-b[h]- "to chew, to bite, to cut to pieces, to crush", *k'om-b[h]o- "tooth, spike, nail"; PAA *k'am-/*k'am- "to chew, to bite, to eat, to cut to pieces, to crush".
215. PN *k'aw-/*k'ew- "to make a round hole in": PIE *k'ew-/*k'ow-/*k'u- "to make a round hole in"; PAA *k'aw-/*k'aw- "to make a round hole in"; PD

- *kavi "cave, hole".
216. PN *k'ar-/*k'er- "to cut": PIE *k'er-/*k'or-/*k'ŕ- "to cut, to cut into, to make an incision, to engrave, to notch, to cut off"; PAA *k'ar-/*k'ar- "to cut".
217. PN *k'alw-/*k'elw- "female in-law": PIE *k'elowV-, *k'elōC- "husband's sister"; PFU *käl/3/(-w/3/) "sister-in-law"; PD *kal- "female in-law"; PA *käli(n) "female in-law".
218. PN *k'il-/*k'el- "to decrease; to diminish; to be or become little, small, few": PK *k'el- "to be lacking, insufficient"; PAA *k'al-/*k'al- "to decrease; to diminish; to be or become little, small, few"; PD *kil- "small, little".
219. PN *k'ury-/*k'ory- "to gather (together)": PIE *k'er-/*k'or-/*k'ŕ- "to gather (together)"; PK *k'er-b-, *k'r-eb- "to gather"; PD *kur- "to gather together, to collect in large numbers; heap, crowd".
220. PN *k'uly-/*k'oly- "to be cold": PIE *k'el-/*k'ol-/*k'ļ- "to be cold"; PD *kul- "to feel cool, to be cool or cold"; PA *küly-, *köly- "to be or become cold, to freeze".
221. PN *k'ab-/*k'eb- "to seize, to take hold of; to seize with the teeth, to bite": PIE *k'eb[h]-/*k'ob[h]- "to munch, to chew; jaw"; PK *k'b-in- "to bite"; PAA *k'ab-/*k'ab- "to seize, to take hold of"; PD *kapp- "to seize with the mouth, to bite".
222. PN *k'ap[h]-/*k'ep[h]- "jaw, jawbone": PIE *k'ep[h]-/*k'op[h]- "jaw, mouth"; PK *ni-k'ap[h]- "jaw"; PD *kavul "cheek, jaw".
223. PN *k'ur-/*k'or- "crane": PIE *k'er-/*k'or- "crane"; PU *korke "crane"; PD *korku "crane".
224. PN *k'ak'- "to cackle, to chatter": PIE *k'ak'- "to cackle, to chatter"; PK *k'ak'a-n- "to cackle"; PAA *k'ak'- "to cackle, to make a noise"; PD *kak- "to laugh".
225. PN *k'ak'- "partridge": PK *k'ak'ab- "partridge"; PAA *k'ak'- "partridge" (found only in Semitic as a *mediae infirmæ* root: *k'a/wa/k'- "partridge"); PD *kak- "partridge".

226. PN *gyil-/ *gyel- "to glide, to slip, to slide": PIE *g[h]l-ey-/ *g[h]l-oy-/ *g[h]l-i- "to glide, to slip, to slide"; PAA *gyel-/ *gyal- "to glide, to slip, to slide"; PFU *kil/3/ (*kūl/3/) "smooth, slippery".
227. PN *wigy-/ *wegy- "to carry, to convey": PIE *weg[h]-/ *wog[h]- "to carry, to convey, to weigh"; PAA *wagy-/ *wagy- "to carry"; PFU *weye- or *wiye- "to bring, to carry, to convey".
228. PN *hagy-/ *hegy- "to grieve, to be sad": PIE *H₂eg[h]- "to grieve, to be sad"; PAA *hagy-/ *hagy- "to grieve, to be sad".
229. PN *gyir-/ *gyer- "to enclose, to gird": PIE *g[h]er-/ *g[h]or- "to gird, to enclose"; PAA *gyer-/ *gyar- "to gird, to enclose"; PD *ker- "to enclose, to fence in, to close tightly"; S gir "girdle".
230. PN *gyab-/ *gyeb- "to bestow upon, to give": PIE *g[h]eb[h]-/ *g[h]ob[h]- "to give" (found only in Germanic); PAA *gyab-/ *gyab- "to bestow upon, to give".
231. PN *ky[h]ily-/ *ky[h]ely- "to rise, to ascend, to raise up": PIE *k[h]el-/ *k[h]ol-/ *k[h]l- "to lift, to raise, to elevate"; PAA *ky[h]el-/ *ky[h]al- "to lift, to raise, to ascend"; PD *kil- "to rise, to ascend, to raise up, to make high".
232. PN *ky[h]al-/ *ky[h]el- "to twist, to twine, to wind around, to plait": PIE *k[h]elH-/ *k[h]olH-/ *k[h]lH- "to twist, to turn, to plait"; *k[h]el-k'-/ *k[h]ol-k'-/ *k[h]l-k'- "to twist, to wind"; PAA *ky[h]el-/ *ky[h]al- "to twist, to twine, to plait".
233. PN *ky[h]ay-/ *ky[h]ey- "to move, to move on, to move along, to go, to go away": PIE *k[h]ey-/ *k[h]oy-/ *k[h]i-, *k[h]y-ew-/ *k[h]y-ow- "to move, to move on, to move along, to go, to go away"; PAA *ky[h]ay-/ *ky[h]ay- "to move, to move on, to move along, to go, to go away".
234. PN *k'yib-/ *k'yeb- "point, prong; to point out, stick out": PIE *k'eb[h]-/ *k'ob[h]- "point, prong, piece"; PAA *k'yab- "finger".

235. PN *bawk'y-/ *bewk'y- "to flee": PIE *b[h]ewk'-/ *b[h]owk'-/ *b[h]uk'- "to flee"; PAA *bawk'y-/ *bawk'y- "to flee" (found only in Arabic).
236. PN *k'yal- "bald; head": PIE *k'al- "bald; head"; PAA *k'yal- "bald; head".
237. PN *k'yun-/ *k'yon- "to bend or fold together, to crack, to split, to divide": PIE (*k'en-/ *k'on-/) *k'n- "to bend or fold together, to crack, to split, to divide"; PK *k'on- "to tie or bind together"; PAA *k'yan-/ *k'yan- "to bend or fold together, to crack, to split, to divide".
238. PN *gwan-/ *gwen- "to harm, to injure": PIE *gw[h]en-/ *gw[h]on-/ *gw[h]n- "to strike, to slay, to kill, to wound, to hurt"; PAA *gwan-/ *gwan- "to harm, to injure".
239. PN *gwun-/ *gwon- "to swell, to abound": PIE *gw[h]en-/ *gw[h]on- "to swell, to abound"; PAA *gwan-/ *gwan- "to swell, to abound"; PD *kund- "to sprout, to bud".
240. PN *kw[h]ul-/ *kw[h]ol- "to end, to bring to an end, to complete, to finish": PIE *kw[h]el-/ *kw[h]ol-/ *kw[h]l- "to end, to bring to an end, to finish, to complete"; PAA *kw[h]el-/ *kw[h]al- "to end, to bring to an end, to complete, to finish", *kw[h]el- "all, whole"; PFU *kul/3/- "to end, to bring to an end, to finish".
241. PN *kw[h]ul-/ *kw[h]ol- "far off, far away, distant": PIE *kw[h]el- "far off, far away, distant"; PA *kola "far off, far away, distant".
242. PN *kw[h]ul-/ *kw[h]ol- "to bend, to curve, to turn, to revolve": PIE *kw[h]el-/ *kw[h]ol-/ *kw[h]l- "to revolve, to turn, to move around"; PU *kuike- "to ramble about, to move about, to roam or wander about"; PD *kul- "to bend, to curve", *kul- "to walk, to move about, to go round and round".
243. PN *kw[h]ay-/ *kw[h]ey- "to repay in kind, to return an equal measure": PIE *kw[h]ey-/ *kw[h]oy-/ *kw[h]i- "to repay in kind, to return like for like"; PAA *kw[h]ay-/ *kw[h]ay- "to repay in kind, to return an equal measure".

244. PN *kw[h]alp'/*kw[h]elp'- "dog": PIE *kw[h]elp'- "whelp, puppy"; PAA *kw[h]alp'- "dog" (Semitic *k[h]alb- "dog").
245. PN *kw[h]ay/*kw[h]ey- "to form, to fit, to fashion": PIE *kw[h]ey/*kw[h]oy/*kw[h]i- "to form, to fashion, to fit"; PAA *kw[h]ay/*kw[h]ay- "to form, to fashion, to fit" (found only in Arabic); PD *key- "to do, to make"; PA *ki- "to do, to make".
246. PN *kw[h]ary/*kw[h]ery-, *kw[h]ray/*kw[h]rey- "to procure": PIE *kw[h]rey(H)-/*kw[h]roy(H)-/*kw[h]ri(H)- "to buy, to purchase"; PAA *kw[h]aray/*kw[h]aray/*kw[h]aray/*kw[h]aray- "to rent, to buy".
247. PN *kw[h]ar/*kw[h]er- "to scratch, to scrape, to dig": PIE *kw[h]er/*kw[h]or/*kw[h]r- "to draw, to drag, to plow"; PAA *kw[h]ar/*kw[h]ar- "to dig, to plow"; PFU *kur/3/- (or *kara-) "to dig, to plow"; PD *kār- "to dig"; PA *kary- "to scratch, to dig".
248. PN *kw[h]ur/*kw[h]or- "body, belly": PIE *kw[h]er/*kw[h]or/*kw[h]r- "body, belly"; PAA *kw[h]ar/*kw[h]ar- "body, belly"; PU *kur/3/ "body, form, figure".
249. PN *kw[h]i/*kw[h]e- relative pronoun stem, *kw[h]a/*kw[h]e- interrogative pronoun stem: PIE *kw[h]e/*kw[h]o-, *kw[h]i- interrogative and relative pronoun stem; PAA *kw[h]a/*kw[h]a- interrogative stem; PU *ki-, *ke- relative pronoun stem, *ku-, *ko- interrogative pronoun stem; PA *ka-, *ki- interrogative pronoun stem.
250. PN *kw[h]ay "when, as, though, also" (derivative of the preceding): PIE *kw[h]oy "when, as, though, also"; PAA *kw[h]ay "when, as, though, also".
251. PN *kw[h]ar/*kw[h]er- "vessel, pot": PIE *kw[h]er/*kw[h]or- "vessel, pot"; PAA *kw[h]ar/*kw[h]ar- "vessel, pot"; PD *kar- "clay pot or vessel with a narrow neck".
252. PN *kw[h]ur/*kw[h]or- "to cut": PIE *kw[h]er/*kw[h]or/*kw[h]r- "to cut"; PAA *kw[h]ar/*kw[h]ar- "to cut"; PU *kur/3/ "knife"; PD *kur- "to cut", *kūru "section, division, part, share, portion".

253. PN *kw[h]al- "(large) fish": PIE *kw[h]alo- "large fish"; PU *kala- "fish"; PD *kalk- "a kind of fish".
254. PN *k'wul/*k'wol- "to call (out), to cry (out), to shout": PIE *k'wl-eA- "to shout, to cry out" (found only in Greek); PAA *k'wəl/*k'wal- "to call (out), to cry out, to shout" (a verbum mediae infirmæ must be reconstructed for Semitic: *k'a/wa/l- "to speak, to call, to cry"); PD *kul- "to bark, to snarl; loud noise, uproar, hubbub".
255. PN *k'wir/*k'wer- "highest point, top, peak": PIE *k'wer/*k'wor/*k'wr- "hill, mountain, peak"; PAA *k'wər/*k'war- "highest point, top, peak, summit, hill, mountain, horn"; PA *kira "mountain crest".
256. PN *k'wiy/*k'wey- "to fester; to be putrid, foul, purulent": PIE *k'wey/*k'woy/*k'wi- "to be foul, purulent"; PAA *k'wəy/*k'way- "to fester; to be putrid, foul, purulent; to vomit"; PD *ki- "pus, putrid matter".
257. PN *k'wat'/*k'wet'- "to burn, to smoulder, to smoke": PIE (*k'wet'-/*k'wat'- > [with regressive deglottalization]) *kw[h]et'/*kw[h]ot'- "smoke; to smoke"; PAA *k'wət'/*k'wat'- "smoke; to smoke"; PD *katt- "to burn".
258. PN *k'warb/*k'werb- "the inside, the middle, interior, inward part": PIE *k'werb(h)-/*k'worb(h)-/*k'wrb(h)- "the inside, the middle, interior, interior part"; PAA *k'wərb/*k'warb- "the inside, the middle, interior, inward part"; PD *karb- "foetus, embryo, egg".
259. PN *k'war/*k'wer- "to rest, to stay, to remain, to wait": PIE *k'wer/*k'wor/*k'wr- "gentle, mild, calm, at rest, still"; PAA *k'wər/*k'war- "to stay, to remain, to rest, to settle down".
260. PN *k'war/*k'wer- "to praise": PIE *k'wer/*k'wor/*k'wr- "to praise"; PAA *k'wər/*k'war- "to praise" (found only in Arabic).
261. PN *k'walb/*k'welb- "the inside, middle, center, interior": PIE *k'welb(h)-/*k'wōlb(h)- "womb; pregnant"; PAA *k'walb- "the inside, middle, center, interior, heart".

262. PN *k'wur-/k'wor- "to be heavy, weighty, solid, bulky": PIE *k'wer-/k'wor-/k'wr- "heavy, weighty"; PAA *k'war-/k'war- "to be heavy, weighty"; S gur₄ "to be or make thick".
263. PN *k'wat-/k'wet- "to cut": PIE (*k'wet-/k'wat- > [with regressive deglottalization]) *kw[h]et-/k'w[h]ot- "to whet, to sharpen"; PK (*k'wet'y-/k'wat'y- >) *k'wet[h]y-/k'wat[h]y- "to cut"; PAA *k'wet-/k'wat- "to cut"; PD *katti "knife", *katk- "to cut, to cut with an axe, to cut down (trees), to fell, to chop to pieces".
264. PN *k'wud-/k'wod- "to strike, to wound, to hurt, to slay": PIE *k'wed[h]-/k'wod[h]- "to strike, to wound, to hurt, to slay"; PK *k'wed- "to die"; PD *kuṭ(ṭ)- "to beat, to strike, to pound, to bruise".
265. PN *k'wuty[h]-/k'woty[h]- "to say, to speak, to call": PIE *k'wet[h]-/k'wot[h]- "to say, to speak, to call"; PFU *kucy/3/- "to summon, to call".
266. PN *k'wud-/k'wod- "to build": PK *k'wed- "to build", *k'wedel- "wall"; PAA *k'wad-/k'wad- "to build" (found only in Egyptian); PD *kuṭi "house, hut".
267. PN *k'wury-/k'wory- "to crush, to grind": PIE *k'werAn-/k'wrAn-, *k'wreAn- "mill, mill-stone"; PK *k'werc[h]x- "to break, to crush (tr.); to crumble, to break (intr.)"; PD *kuravi "small rolling stone to grind with, grinding pestle".
268. PN *Gul-/Gol- "bend, corner, edge, valley, ravine, gully": PIE *g[h]el-/g[h]ol-/g[h]l- "edge, valley" (found only in Celtic); PK *Gele "ravine"; PAA *Gəl-/Gal- "edge, slope, valley"; PFU *kol/3/ "hollow, hole; crack, fissure, crevice, rift"; PD *kolli "bend, corner, valley, gulf".
269. PN *Gar-/Ger- "to cry (out), to yell, to shout": PIE *g[h]er-/g[h]or-/g[h]r- "to cry (out), to yell, to shout"; PK *Gar-/Gr- "to cry (out), to yell, to shout".
270. PN *q'al-/q'el- "neck, throat": PIE *k'el-/k'ol-/k'l- "neck, throat; to swallow"; PK *q'eli "neck, throat".

271. PN *q'uw-/q'ow- "forehead, brow": PK *q'ua- "forehead, brow; back"; PAA *q'aw-/q'aw- "brow, forehead" (found only in Cushitic: Proto-Southern Cushitic *k'awa "brow ridge").
272. PN *q'wul-/q'wol- "to throw, to hurl": PIE *k'wel-/k'wol-/k'wl- "to throw, to hurl"; PAA *q'wəl-/q'wal- "to throw, to hurl".
273. PN *q'wul-/q'wol- "to strike, to hurt, to wound, to slay, to kill" (probably identical to the preceding): PIE *k'wel-/k'wol-/k'wl- "to strike, to kill"; PK *q'wal- "to slay, to kill"; PAA *q'wəl-/q'wal- "to kill, to slaughter" (Proto-Semitic *k'a/t[h]a/l- "to kill, to slay"; Proto-East Cushitic *k'al- "to slaughter"); PU *kola- "to die"; PED *kol- "to kill"; S gul "to destroy".
274. PN *q'wur-/q'wor- "to swallow; neck, throat": PIE *k'wer-/k'wor-/k'wr- "to swallow; neck, throat"; PK (*q'worq- >) *q'orq- "throat, gullet"; PAA *q'war-/q'war- "throat"; PFU *kurk/3/ "neck, throat"; PD *kural "throat, neck, gullet".
275. PN *q'wul-/q'wol- "to swell, to expand": PIE *k'wel-/k'wol-/k'wl- "to swell, to overflow, to burst forth"; PK *q'wel- "cheese"; PD *kul- "to be full, abundant; to shoot forth in a bunch; cluster, bunch"; S gu.ul "to enlarge, to increase, to make numerous".
276. PN *sam-/sem- "to resemble, to be like": PIE *sem-/som-/sm- "like, same"; PAA *səm-/sam- "to be like".
277. PN *sag-/seg- "to get, to obtain": PIE *seg[h]-/sog[h]- "to get, to obtain"; PAA *sag-/sag- "to get, to obtain".
278. PN *sal-/sel- "to spring, to leap, to jump": PIE *sel-, *sal- "to spring, to leap, to jump"; PAA *səl-/sal- "to spring, to leap" (found only in Hebrew).
279. PN *san-/sen- "to perceive, to sense": PIE *sen-t[h]- "to feel, to perceive, to sense"; PAA *sən-/san- "to smell; nose".
280. PN *sap[h]-/sep[h]- (?) "seven": PIE *sep[h]-t[h]m "seven"; PAA *saf- (?) "seven".

(Cf. Etruscan *semph* "seven".)

281. PN **sun-/*son-* "sinew, tendon": PIE **senEw-*, **sneEw-* "sinew, tendon"; PU **sōne* "sinew, tendon".
282. PN **saw-/*sew-* "to drink, to swallow": PIE **sew(H)-/*sow(H)-/*su(H)-* "to drink, to swallow", **sw-el-* "to swallow" (found only in Germanic); PK **s₁w-* "to drink"; PAA **saw-/*saw-* "to drink, to swallow".
283. PN **sar-/*ser-* "to split, to rip apart, to tear asunder": PIE **sor-* "to split apart, to rip apart, to tear asunder" (found only in Hittite), **sorg(h)-* "to wound, to tear"; PK **s₁ar-/*s₁r-* "to destroy"; PAA **sar-/*sar-* "to cut with repeated knife strokes; knife" (found only in Cushitic: cf. Proto-Southern Cushitic **sar-* "to cut with repeated knife strokes").
284. PN **swak(h)sw-/*swek(h)sw-* (?) "six": PIE (**swek(h)sw-* >) **swek(h)s-* "six" (cf. Gamkrelidze and Ivanov 1984.II:845-46); PK (**swek(h)sw-* >) **ek(h)s₁w-* "six".
285. PN **syil-/*syel-* "fat, lard": PIE **sel-p(h)-/*sol-p(h)-/*sl_o-p(h)-* "fat, butter"; PU **syilä* "fat, lard".
286. PN **syal-/*syel-* "to be safe, well, sound": PIE **sol-* "whole, sound, well, safe"; PAA **šal-/*šal-* "to be safe, well, sound".
287. PN **syar-/*syer-* "to run, to flow, to move": PIE **ser-/*sor-* "to run, to flow, to move", **ser-p(h)-/*sor-p(h)-* "to creep, to crawl", **sr-ew-/*sr-ow-/*sr-u-* "to flow"; PAA **šar-/*šar-* "to run, to flow, to move".
288. PN **syal-/*syel-* "to take, to seize": PIE **sel-/*sol-* "to take, to seize"; PAA **šal-/*šal-* "to take, to seize, to plunder".
289. PN **nasy-/*nesy-* "to breathe, to blow": PIE **nas-* "nose"; PAA **nəš-/*naš-* "to breathe, to blow".
290. PN **syam-/*syem-* "to be hot, sunny": PIE **sem-/*som-/*sm-* "summer"; PAA **šam-/*šam-* "to be hot, sunny".

291. PN **syam-/*syem-* "to change, to deteriorate, to grow old": PIE **sen-* "old"; PAA **šam-/*šam-* "to change, to deteriorate, to grow old".
292. PN **syaw-/*syew-* "to be dry, arid, withered": PIE **saw-s-/*su-s-* "dry"; PK **šw-er-/*šw-r-* "to dry, to become dry"; PAA **šaw-/*šaw-* "to be dry, arid" (found only in Egyptian).
293. PN **syaw-/*syew-* "to give birth, to be born": PIE **sew(H)-/*sow(H)-/*su(H)-* "to give birth"; PK **šw-* "to give birth, to be born".
294. PN **šag-/*šeg-* "young of an animal": PIE **H₂eg(h)-* "with young (of animals)"; PAA **šag-/*šag-* "young of an animal".
295. PN **šat(h)-/*šet(h)-* "to move, to proceed, to advance (in years)": PIE **H₂et(h)-* "to move, to proceed, to advance (in years)"; PAA **šat(h)-/*šat(h)-* "to move, to proceed, to advance (in years)".
296. PN **šal-/*šel-* "to be high, elevated; to rise high; to ascend; on, upon, on top of, over, above, beyond": PIE **H₂el-/*H₂ol-* "over, above, beyond"; PAA **šal-/*šal-* "to be high, elevated; to rise high; to ascend; on, upon, on top of, over, above, beyond"; PU **äl/s/-* "to lift, to raise".
297. PN **šan-/*šen-* "to breathe, to respire, to live": PIE **H₂enH₂-* "to breathe, to respire, to live"; PAA **šan-/*šan-* "to breathe, to respire, to live" (found only in Egyptian).
298. PN **šaw-/*šew-* "to sleep": PIE **H₂ew-* "to spend the night, to sleep"; PAA **šaw-/*šaw-* "to sleep" (found only in Egyptian).
299. PN **šaw-/*šew-* "flock or herd of small animals; sheep and goats": PIE **H₂owi-* "sheep"; PAA **šaw-/*šaw-* "flock or herd of small animals; sheep and goats" (found only in Egyptian).
300. PN **šut'-/*šot'-* "to smell": PIE **H₂ot'-* "to smell"; PAA **šat'-/*šat'-* "to smell".
301. PN **šan-/*šen-* "to turn, to return, to turn around, to turn back": PIE **H₂en-* "on the contrary, on the other hand" (**H₂en-yo-s* "other", **H₂en-t(h)ero-s* "second, other"); PAA **šan-/*šan-* "to turn, to return, to turn around, to turn".

- back".
302. PN *šarb-/šerb- "to be or become dark": PIE *H₃erb[h]-/*H₃orb[h]- "dark"; PAA *šarb-/šarb- "to be or become dark".
303. PN *šigy-/šegy- "to go out or away from, to separate or part from": PIE *H₃eg[h]-s "out of, forth from"; PAA *šegy-/šagy- "to go out or away from"; PD *ik- "to move away from, to part with, to separate oneself from others, to leave behind, to go away from".
304. PN *hang-/heng- "to press or squeeze together; to make narrow or constricted; to strangle; narrow, constricted; throat": PIE *H₂eng[h]- "to be narrow; to choke, to strangle"; PAA *hang-/hang- "to be narrow, constricted; throat"; PFU *aŋke "painfully constricted"; PD *anaŋk- "to press into a narrower compass, to press, to suppress, to cause pain; narrow, small", *aŋkal- "palate, tongue".
305. PN *haly-/hely- "to grow, to be strong": PIE *H₂el- "to grow, to be strong"; PAA *hal-/hal- "to grow, to be strong"; PD *a_l "strength, power, energy".
306. PN *has-/hes- "to burn, to be hot": PIE *H₂es- "to burn, to be hot"; PAA *has-/has- "to be hot" (found only in Egyptian); PFU *äs/3/ "to heat, to ignite".
307. PN *haw-/hew- "to sprinkle, to spray, to rain": PIE *H₂ewr-/H₂owr-/H₂ur-, *H₂wer-/H₂wor- "to sprinkle, to spray, to rain; water, moisture", *H₂wers-/H₂wors- "to rain", *H₂ewont[h]-/*H₂ewot[h]- "spring, well" (also used as the base of various river names); PAA *haw-/haw- "to rain" (found only in Egyptian); PD *var- "flood, inundation".
308. PN *har-/her- "to prepare, to make ready": PIE *H₂er-/H₂r- "to prepare, to make ready, to attend to"; PAA *har-/har- "to prepare, to make ready".
309. PN *hark[h]-/herk[h]- "to move, to set in motion": PIE *H₂erk[h]w/u- "arrow, bow"; PAA *hark[h]-/hark[h]- "to move, to set in motion".
310. PN *ham-/hem- "to be sharp, sour, acid": PIE *H₂em-/H₂om- "sharp, sour, acid"; PAA *ham-/

- *ham- "to be sharp, sour, acid".
311. PN *han-/hen- "to show favor; to be gracious, tender, affectionate": PIE *H₂en-s- "to be gracious, to show favor"; PAA *han-/han- "to show favor, to be gracious".
312. PN *har-/her- "to be superior, to be higher in status or rank, to be above or over": PIE *H₂er-yo- "a superior, a person higher in status or rank"; PAA *har-/har- "to be superior, to be higher in status or rank, to be above or over".
313. PN *hag-/heg- "to cover, to hide, to conceal, to obscure": PIE *H₂eg[h]-lu- "obscurity, darkness, dark cloud"; PAA *hag-/hag- "to cover, to hide, to obscure".
314. PN *har-/her- "then, therefore, with, and": PIE *H₂er-/H₂r- "then, therefore, and"; PAA *har-/har- "then, therefore, with, and" (found only in Egyptian).
315. PN *huyt'-/hoyt'- "to swell, to be fat": PIE *H₂oyt'- "to swell"; PAA *hayt'-/hayt'- "to swell, to be fat".
316. PN *hap[h]-/hep[h]- "to gather, to collect; to accumulate wealth, to be rich; to be abundant": PIE *H₂ep[h]-/*H₂op[h]- "to gather wealth; to be abundant, wealthy, rich"; PAA *hap[h]-/hap[h]- "to gather, to collect; to gather wealth, to be rich; to be abundant".
317. PN *haw-/hew- "to shine": PIE *H₂ew-s-, *H₂wes-/H₂us- "to shine", *H₂ew-k'- "to shine"; PAA *haw-/haw- "to shine".
318. PN *haw-/hew- "to weave, to braid, to plait": PIE *H₂ew- "to weave", *H₂w-eE- "to weave, to braid, to plait", *H₂w-ey-/H₂w-oy-/H₂w-i- "to weave, to braid, to plait, to twist, to turn", *H₂w-eb[h]-/*H₂w-ob[h]-/*H₂u-b[h]- "to weave"; PAA *haw-/haw- "to weave, to braid, to plait".
319. PN *han-/hen- "to bend, to curve, to twist": PIE *H₂en-k[h]- "to bend, to curve", *H₂en-k'- "to bend, to curve"; PAA *han-/han- "to bend, to curve, to twist".
320. PN *hak'-/hek'- "field": PIE *H₂ek'-ro- "field"; PAA *hak'-/hak'- "field".

321. PN *hak'-/*hek'- "to direct, to guide, to command": PIE *H₂ek'- "to direct, to guide, to command"; PAA *hak'-/*hak'- "to direct, to guide, to command".
322. PN *hak[h]-/*hek[h]- "to cut into, to whet, to sharpen, to scrape": PIE *H₂ek[h]-/*H₂ok[h]- "sharp, pointed; edge, point"; PAA *hak[h]-/*hak[h]- "to scratch, to scrape; to cut into".
323. PN *haw-/*hew- "to swell, to increase": PIE *H₂ew-k'-/*H₂u-k'-, *H₂w-ek'(s)-/*H₂w-ok'(s)- "to grow, to increase"; PK *xwaw- "great number, many"; PAA *haw-/*haw- "to swell, to increase" (found only in Egyptian).
324. PN *har-/*her- "to scratch, to scrape, to plow": PIE *H₂er- "to plow"; PAA *har-/*har- "to scratch, to scrape, to plow"; PD *ar- "a plow"; S har(-har) "to scratch, to scrape".
325. PN *hak'-/*hek'- "to cut into": PIE *H₂ek'-w(ə)siH "axe"; PAA *hak'-/*hak'- "to cut into".
326. PN *hark'-/*herk'- "to tear, to rend, to break apart": PIE *H₂erk'-/*H₂ork'-/*H₂rk'- "to tear, to rend, to break apart"; PAA *hark'-/*hark'- "to tear, to rend, to break apart".
327. PN *hark'y-/*herk'y- "to glisten": PIE *H₂erk'-/*H₂rk'- "to glisten; glistening, white"; PAA *hark'y-/*hark'y- "to glisten".
328. PN *hap[h]-/*hep[h]- "to go, to move along, to flow": PIE *H₂ep[h]- "water, stream"; PAA *hap[h]-/*hap[h]- "to go, to move along, to flow" (found only in Egyptian).
329. PN *hant[h]-/*hent[h]- "front, front part": PIE *H₂ent[h]-s "front, front part", *H₂ent[h]-i "in front of, before"; PAA *hant[h]-/*hant[h]- "front, front part" (found only in Egyptian).
330. PN *hal-/*hel- "to wear down, to weaken": PIE *H₂el- "to wear down, to grind"; PAA *hal-/*hal- "to wear down, to weaken"; PD *al- "to be tired, weary, weak, worn out".
331. PN *hat'-/*het'- "to scratch, to scrape, to cut into, to hollow out": PIE *H₂et'- "to cut into,

- to etch"; PAA *hat'-/*hat'- "to scratch, to scrape, to cut into, to hollow out".
332. PN *har-/*her- "falcon, hawk": PIE *H₃er-/*H₃or- "eagle"; PAA *har-/*har- "falcon, hawk" (found only in Egyptian); PD *eruvai "eagle, kite".
333. PN *hink[h]-/*henk[h]- "to reach, to come to, to arrive at, to gain; to offer, to present": PIE *H₂ink[h]-/*H₂nk[h]- (later *H₂enk[h]-/*H₂nk[h]-) "to reach, to come to, to arrive at; to offer, to present"; PAA *hank[h]-/*hank[h]- "to reach, to come to, to arrive at, to gain; to offer, to present"; PED *iñc- "to receive".
334. PN *mih-/*meh- "to measure, to mark off": PIE *miH₂- (later *meH₂- > *mē-) "to measure, to mark off"; PAA *meh-/*mah- "to measure, to mark off" (found only in Egyptian).
335. PN *haw-/*hew- "to lack, to stand in need, to be in want": PIE *H₃ew-/*H₃u-, *H₃w-eA- "to lack, to stand in need, to be in want"; PAA *haw-/*haw- "to lack, to stand in need, to be in want".
336. PN *hal-/*hel- "to separate, to divide, to set apart; to be separated, alone": PK *xole- "only, merely, sole"; PAA *hal-/*hal- "to separate, to divide"; S hal "to deal out, to distribute".
337. PN *hul-/*hol- "to destroy, to lay waste, to cause to perish": PIE *H₂ul- (later *H₂ol-) "to smite, to destroy"; PD *ul- "to be wasted, ruined; to die; ruin, destruction, defeat"; S hul "to destroy".
338. PN *ak[h](k[h])-/*ek[h](k[h])- "female relative": PIE *H₁ak[h]k[h]- "mother"; PAA *ak[h]k[h]- "grandmother"; PD *akka "elder sister"; PA *aka "elder sister".
339. PN *at'-/*et'- "to press, to squeeze, to pinch, to crush, to bite, to chew": PIE *H₁et'-/*H₁ot'- "to eat"; PAA *at'-/*at'- "to bite into"; PD *at- "to press, to squeeze, to pinch, to bite, to chew".
340. PN *ar-/*er- "earth": PIE *H₁er- "earth"; PAA *ar-/*ar- "earth, land".
341. PN *ak[h]-/*ek[h]- "to eat": PIE *H₁ek[h]-

- "to eat"; PAA *ʔək[h]-/*ʔak[h]- "to eat".
342. PN *ʔawn-/*ʔewn- "to be at rest": PIE *H₁ewn-eA "resting place" (found only in Greek); PAA *ʔawn-/*ʔawn- "to be at rest".
343. PN *ʔas-/*ʔes- "to gather, to collect": PIE *H₁es-/*H₁os- "harvest-time"; PAA *ʔas-/*ʔas- "to gather, to harvest".
344. PN *maʔ-/*meʔ- "to increase (in number), to be many, to be abundant": PIE *meH₁-/*moH₁- > *mē-/*mō- "abundant, considerable, more"; PAA *maʔ-/*maʔ- "to increase (in number), to be many, to be abundant"; S me "abundant, plenty".
345. PN *ʔan-/*ʔen- "to bring, to convey, to carry": PIE *H₁en-os-/*H₁on-os- "load, burden"; PAA *ʔan-/*ʔan- "to bring, to convey" (found only in Egyptian).
346. PN *ʔan-/*ʔen- "to come or arrive at the right time, to be opportune": PIE *H₁en-o- "(span of) time, year"; PAA *ʔan-/*ʔan- "to come at the right time, to be opportune".
347. PN *ʔim-/*ʔem- "to seize, to grasp, to take": PIE *H₁em-/*H₁im- "to take, to obtain"; PAA *ʔam-/*ʔam- "to seize, to grasp, to take".
348. PN *ʔawr-/*ʔewr-, *ʔwar-/*ʔwer- "male": PIE *H₁wer-s-/*H₁wr-s- "male"; PK *wer₃- "ram"; PAA *ʔawr- "male" (Proto-East Cushitic *ʔawr- "male animal"); PFU *ur/3/ "male, man".
349. PN *ʔarg-/*ʔerg- "to climb on, to mount": PIE *H₁erg[h]-/*H₁org[h]-/*H₁rg[h]- "to climb on, to mount", *H₁org[h]i- "testicle"; PAA *ʔarg-/*ʔarg- "to climb on, to mount" (found only in Cushitic: Proto-East Cushitic *ʔorg- ["moulder" >] "male animal"); PD *ark- "to climb, to mount".
350. PN *ʔar-/*ʔer- "associated or related person or thing; associate, companion, friend, kinsman; associated, related": PIE *H₁er-/*H₁or- "associated, related"; PAA *ʔar-/*ʔar- "associated or related person or thing; associate, friend, companion, kinsman; associated, related".
351. PN *ʔat[h](t[h])-/*ʔet[h](t[h])- "father": PIE *H₁at[h](t[h])- "father"; PAA *ʔat[h](t[h])-/*ʔat[h](t[h])- "father"; PED *atta "father";

- PA *ata, *et(i) "father".
352. PN *ʔul-/*ʔol- demonstrative pronoun stem: PIE *H₁ol- demonstrative pronoun stem; PAA *ʔal-/*ʔal- demonstrative pronoun stem.
353. PN *ʔany-/*ʔeny- "to lift, to raise, to rise, to go upward, to ascend; upper part; on top of, over, above, upon, on": PIE *H₁an- "to, towards, over, for, against, upon, on"; PAA *ʔan- "to, towards, for, against, upon, on" (found only in Akkadian); PD *an- "upper part; upwards, above; to rise, to move upwards, to go upward, to ascend"; S an "to be high; high; above".
354. PN *ʔin-/*ʔen- "in, on, from, by, including": PIE *H₁ien "in, into, among, on"; PAA *ʔan- "in, on, from, by".
355. PN *ʔa-/*ʔe- 1st singular personal pronoun stem: PIE *H₁e- + k'-/g[h]-/k[h]- 1st singular personal pronoun stem; PAA *ʔa-/*ʔa- 1st singular personal pronoun prefix.
356. PN *ʔasy-/*ʔesy- "to put, to place, to set; to sit, to be seated": PIE *H₁ēs-/*H₁ōs- "to put, to place, to set; to sit, to be seated"; PAA *ʔaš-/*ʔas- "to put, to place, to set; to sit, to be seated"; PU *asye- "to place, to put, to set"; S eš-de, eš-ki "throne".
357. PN *ʔap[h]-/*ʔep[h]- "and, also, and also": PIE *H₁ep[h]i/*H₁op[h]i "and, also, besides"; PAA *ʔap[h]- "and, also, and also".
358. PN *ʔady-/*ʔedy- "to be pointed, sharp": PIE *H₁ied[h]-/*H₁iod[h]- "pointed, sharp"; PAA *ʔady-/*ʔady- "to be pointed, sharp", *ʔadyn- "ear"; PD *ac- "thorn".
359. PN *ʔar-/*ʔer- used as the base for the designation of various animals: PIE *H₁er-/*H₁or- used as the base for the designation of various domestic horned animals; PK *arc[h]k[h]w- used as the designation for various horned animals; PAA *ʔar-/*ʔar- used as the base for the designation of various animals; PD *eru- "bull, ox, buffalo, steer".
360. PN *ʔap[h]-/*ʔep[h]- "to burn, to be hot, to cook, to boil, to bake": PIE *H₁ep[h]-/*H₁op[h]- "to cook"; PAA *ʔaf-/*ʔaf- "to burn, to be hot,

- to bake".
361. PN *ʔam(m)-/*ʔem(m)- "mother": PIE *H₁am(m)- "mother"; PAA *ʔam(m)-/*ʔam(m)- "mother"; PU *emä "mother"; PED *amma "mother"; S ama "mother".
362. PN *ʔab- "father; forefather": PIE *H₁ab[h]- "father, forefather, man"; PAA *ʔab- "father, forefather, ancestor"; PD *appa "father"; S ab, ab-ba "father". (Cf. Etruscan apa "father".)
363. PN *ʔab-/*ʔeb- "to be strong, mighty": PIE *H₁ab[h]-ro- "strong, powerful, mighty"; PAA *ʔab-/*ʔab- "to be strong, mighty".
364. PN *ʔay-/*ʔey- "to come, to go": PIE *H₁ey-/ *H₁oy-/ *H₁i- "to go", *H₁y-eA- "to go"; PAA *ʔay-/*ʔay- "to come, to go"; PD *iy- "to go, to move, to proceed".
365. PN *ʔi-/*ʔe adverbial particle: "to, toward, near to, hither, here": PIE *H₁ie/*H₁io "hither, near to, toward"; PAA *ʔa "to, toward, in, on"; S e "hither, here".
366. PN *ʔa-/*ʔe- distant demonstrative particle: "that there"; *ʔi-/*ʔe- proximate demonstrative particle: "this here" (probably identical to the preceding adverbial particle): PIE *H₁ie-/*H₁io-, *H₁ey-/ *H₁oy-/ *H₁i- (< *H₁ie-/*H₁io- + y/i-) demonstrative particle; PU *e- demonstrative particle; PD *ā distant demonstrative particle, *ī proximate demonstrative particle; PA *e-, *i- proximate demonstrative particle.
367. PN *ʔay(y)- "mother, female relative": PIE *H₁ay-t[h]- "mother" (found only in Germanic); PAA *ʔay(y)- "mother"; PD *āy- "mother".
368. PN *ʔam-/*ʔem- "time, moment": PIE *H₁m- "time, moment"; PAA *ʔam- "time, now".
369. PN *ʔak[h]-/*ʔek[h]- "to strike, to wound, to hurt, to injure, to cause grief; to be hurt, wounded, injured": PIE *H₁ek[h]-/*H₁ok[h]- "to be hurt, wounded, injured"; PAA *ʔak[h]-/*ʔak[h]- "to strike, to wound, to hurt, to injure, to cause grief"; PFU *äkt/3/ "to cut, to strike"; PD *ak- "to break, to cut to pieces, to tear, to trouble, to oppress"; S AK "to strike".

370. PN *ʔat[h]r-/*ʔet[h]r- "at once, early, quickly": PIE (lengthened-grade) *H₁et[h]r- "at once, early, quickly"; PK *adre (< *at[h]re) "at once, early, quickly"; PA *ēte (< *ētre) "early".
371. PN *ʔal-/*ʔel- element of negation: PIE *H₁le- (?) element of negation (found only in Hittite: li-e used with the present indicative to express a negative command); PAA *ʔal-/*ʔal- element of negation; PU *elä- negative auxiliary verb; PD *al- "to be not so-and-so".
372. PN *ʔil-/*ʔel- "to shine, to radiate, to flash, to glitter, to glisten": PK *el- "lightning"; PAA *ʔal-/*ʔal- "to shine, to radiate, to flash, to glitter, to glisten"; PD *el- "to shine, to glisten, to glitter; light, luster, splendor".
373. PN *ʔar-/*ʔer- "to cut, to sever, to separate": PIE *H₁er-d[h]-/*H₁or-d[h]- "to split, to divide, to separate"; PD *ar- "to cut, to sever, to chop or lop off", *arai "half", *ar- "to be severed, cut off; to cut off, to sever, to break".
374. PN *har-/*her- "to set free, to let go, to release, to send forth": PIE *H₄er- "to liberate, to set free" (found only in Anatolian); PAA *har-/ *har- "to set free, to let go, to release, to send forth".
375. PN *hap[h]-/*hep[h]- "to turn, to turn away, to turn back": PIE *H₄ep[h]o "(turned) away, back"; PAA *hap[h]-/*hap[h]- "to turn, to turn back, to turn away".
376. PN *hal-/*hel- "to shine, to be bright": PIE *H₄el-b[h]o- "white; cloud, whiteness"; PAA *hal-/ *hal- "to shine, to be bright"; PD *al- "to shine, to glitter"; S al-ē "to light up, to shine, to brighten up, to radiate, to beam forth".
377. PN *haw-/*hew- "to long for, to desire": PIE *H₄ew- "to long for, to desire"; PAA *haw-/ *haw- "to long for, to desire"; PD *āv- "to desire".
378. PN *hak'-/*hek'- "to inflict pain, to wrong, to offend, to oppress": PIE *H₄ek'- "to inflict pain, to wrong, to offend, to injure", *H₄ek'-os- "injury, fault, offense"; PAA *hak'-/*hak'- "to inflict pain, to wrong, to offend" (found only in

Egyptian); PD *ak- "to press firmly, to confine, to afflict; affliction, trouble, difficulty".

379. PN *haw-/hew- "to put on, to get dressed, to wear": PIE *H₄ew-, *H₄w-es-/H₄w-os- "to put on, to wear"; PAA *həw-/haw- "to put on, to get dressed, to wear" (found only in Cushitic: Proto-East Cushitic *huww- "to dress, to wear").
380. PN *hag-/heg- "to burn, to be on fire, to be aflame, to be ablaze": PIE *H₄eg[h]- "day" (found only in Indo-Iranian); PAA *həg-/hag- "to burn, to be on fire, to be aflame, to be ablaze".
381. PN *ham-/hem- "black": PIE *H₄em-s-, *H₄m-es- "blackbird"; PAA *həm-/ham- "black" (found only in Cushitic: Proto-Southern Cushitic *ham- "black").
382. PN *hay exclamation of surprise, astonishment, grief, or misfortune: PIE *H₄ey exclamation of surprise, astonishment, grief, or misfortune; PAA *hay exclamation of surprise, astonishment, grief, or misfortune; PD *ayya exclamation of pain, grief, annoyance.
383. PN *hal-/hel- "else, otherwise": PIE *H₄el- "else, otherwise; other"; PAA *həl-/hal- "else, otherwise" (found only in Cushitic: Proto-Southern Cushitic *hal- "else, otherwise").
384. PN *hayw-/heyw- "to live": PIE *H₂eyw-/H₂oyw-, *H₂eyu-/H₂oyu- "alive; lifetime, life"; PAA *hayw-/hayw- "to live".
385. PN *ʔay-, *ʔya- interrogative and relative pronoun stem: PIE *H₁yo- relative pronoun stem; PAA *ʔay(y)- interrogative pronoun stem; PFU *yo- "who, which"; PD *yā- interrogative pronoun stem; PA *ya- "who, which, what".
386. PN *yewa- "grain": PIE *yewo- "grain"; PFU (*yewā >) *yūwā "grain".
387. PN *wad-/wed- "to take, to lead, to carry, to bring": PIE *wed[h]-/wod[h]- "to lead, to carry, to bring"; PAA *wad-/wad- "to take, to lead, to carry, to bring"; PFU *wetä- "to take, to guide, to lead, to carry".
388. PN *wa-/we- 1st person personal pronoun stem: PIE *we-/wo-, *wey- 1st person dual and plural

personal pronoun stem; PAA *wə-/wa- 1st person personal pronoun stem.

389. PN *ʔaw-, *ʔwa/*ʔwe "or": PIE *H₁we "or"; PAA *ʔaw- "or".
390. PN *wa/*we sentence particle: "and, also, but; like, as": PIE *we, *u sentence particle: "and, also, but; like, as"; PK *-we enclitic particle; PAA *wa sentence particle: "and, also, but".
391. PN *wad-/wed- "to cut, to strike, to slay": PIE *wed[h]-/wod[h]- "to cut, to strike, to slay"; PAA *wad-/wad- "to kill, to destroy" (found only in Arabic); PFU *weð/ʒ/ "to kill, to slaughter"; PD *vet- "to cut with a sword or an axe; blow, cut, strike, wound".
392. PN *way exclamation: "woe!": PIE *way exclamation: "woe!"; PAA *way exclamation: "woe!"; S ù-a, ù "woe!".
393. PN *war-/wer- "to look, to watch out for, to observe, to care for": PIE *wer-/wor- "to look, to watch out for, to observe, to care for"; PAA *wər-/war- "to look, to watch out for, to observe, to care for".
394. PN *waf-/wef- "to call, to cry out, to sound": PIE *weH₂-/*woH₂- > *wā-/wō- "to call, to cry out"; PAA *waf-/waf- "to call, to cry out"; PD *vā-ñk- "to call, to sound".
395. PN *wir-/wer- "to stretch, to extend, to increase": PIE *wer-/ur- "wide, broad, extended, great, large"; PK *wrc[h]e-l- "wide, broad"; PAA *wər-/war- "to stretch, to extend, to increase"; PD *vir- "to expand, to spread out, to open; extent, width".
396. PN *wat'-/wet'- "to moisten, to wet; water": PIE *wet'-/wot'-/ut'- "to moisten, to wet; water"; PU *wete "water".
397. PN *wus-/wos- "to trade, to deal": PIE *wes-/wos- "to trade, to deal"; PFU *wosa "trade, commerce".
398. PN *wal-/wel- "to pull (out)": PIE *wel-/wol-/wl- "to draw, to pull, to tear out"; PD *val- "to draw, to pull".

399. PN *waly-/wely- "to turn, to roll, to revolve": PIE *wel-/wol-/wl- "to turn, to roll, to revolve"; PAA *wəl-/wal- "to revolve"; PD *val- "to turn around, to surround, to walk around".
400. PN *wal- "to be or become strong": PIE *wal- "to be strong"; PD *val- "to be or become strong, firm, hard, forceful, powerful".
401. PN *wal-/wel- "to cry out, to call out, to shout": PAA *wəl-/wal- "to lament, to wail"; PD *val- "to call out to, to invite, to say, to tell, to narrate".
402. PN *wury-/wory- "to scratch, to incise, to dig up, to plow": PIE *wor-/wr- "to plow; furrow, ditch"; PD *ur- "to plow, to dig up, to root up, to scratch, to incise"; S uru4, ur11(.ru) "to plow".
403. PN *wum-/wom- "to spew forth, to emit": PIE *wem-/wom- "to vomit, to spit up"; PD *um- "to spit, to emit, to vomit".
404. PN *wur-/wor- "to burn": PIE *wer-/wor- "to burn"; PAA *wər-/war- "to burn"; PD *ur- "to burn, to blaze, to feel a burning sensation"; S ur4-ur4 "to burn up, to consume, to flicker, to flame, to glitter, to glisten".
405. PN *wir-/wer- "to say, to speak, to tell, to point out, to make known": PIE *wer- "to say, to speak, to tell"; PAA *wər-/war- "to say, to speak, to tell, to point out, to make known"; PD *ver- "to speak, to say, to tell".
406. PN *wir-/wer- a kind of tree: "poplar": PIE *wer-n- "poplar, alder"; PK *werxw- "aspen"; PD *vir- "sebesten".
407. PN *waly-/wely- "to shine, to be bright": PIE *wel- "to see, to look"; PFU *walyk/3/ "white, light (of color)", *waly/3/ "to shine, to gleam"; PD *vel- "to shine, to become bright, to grow white, to become clear".
408. PN *mah-/meh- "to increase, to swell, to exceed, to surpass, to be great": PAA *māh-/mah- "to increase, to swell"; PD *mā "big, great", *mān- "to be full, abundant, great; to become excellent,

- glorious; greatness, excellence, glory", *mē "that which is above; height, high place, superiority, excellence; upper, higher, superior", *mēlti "loftiness, greatness, excellence"; S mah "to be or make great, magnificent; to be much, many".
409. PN *mag-/meg- "to be of great influence, power, and importance; to be eminent, exalted, highly esteemed, glorious, illustrious": PIE *meg[h]-/*mog[h]- "to be of great influence, power, and importance; to be eminent, exalted, highly esteemed, glorious, illustrious"; PAA *mæg-/mag- "to be eminent, exalted, highly esteemed, glorious, illustrious".
410. PN *mig-/meg- "to give": PIE *meg[h]- "to give" (found only in Indo-Iranian); PU *miye- "to give, to sell".
411. PN *mi?-/me?- "to reap, to harvest": PIE *meH1- > *mē- "to mow, to reap"; PAA *mē?-/ma?- "to reap, to harvest" (found only in Egyptian).
412. PN *mat[h]-/*met[h]- "middle; in the middle of, with, among": PIE *met[h]- "middle; in the middle of, with, among"; PAA *mat[h]-/*mat[h]- "middle; in the middle of, with, among".
413. PN *mul-/mol- "to rub, to crush, to grind": PIE *mel-/mol-/ml- "to rub, to crush, to grind"; PAA *mēl-/mal- "to rub, to crush, to grind"; PU *mol/3/ "to grind, to crush, to break, to smash"; PD *mel- "soft, tender; to become weak, soft, thin, lean".
414. PN *man-/men- "to divide, to apportion" (> "to count, to reckon" > "to consider, to think" > "to recount, to speak, to say"): PIE *men-/mon-/mp- "to reckon, to consider, to think"; PAA *mēn-/man- "to enumerate, to count, to reckon"; PU *man/3/- (*mon/3/-) "to consider, to conjecture, to recount, to say, to speak"; PD *many- > *mañ- "to talk, to speak".
415. PN *man-/men- "to stay, to remain": PIE *men-/mon- "to stay, to remain"; PAA *mān-/man- "to stay, to remain, to abide; habitation, abode"; PD *man- "to remain, to abide, to stay", *manai "house, dwelling, abode".
416. PN *maw-/mew- "water, liquid, fluid": PIE

- *mew-/ *mow-/ *mu- "to flow, to be watery; fluid, liquid"; PAA *maw-/ *maw- "water, liquid, fluid"; PA *mō- "water".
417. PN *mar-/ *mer- "young man, young animal": PIE *mer-yo- "(young) man"; PAA *mar-/ *mar- "(young) man"; PD *mari "young man, son; young of animals".
418. PN *ma(?)/ *me(?) negative particle: PIE *meH; negative particle; PAA *ma(?) negative particle.
419. PN *ma-/ *me- relative pronoun stem, *mi-/ *me- interrogative pronoun stem: PIE *me-/ *mo- interrogative and relative pronoun stem (found in Hittite and Tocharian); PK *ma- "what", *mi-n- interrogative pronoun stem: "who?"; PAA *ma-/ *ma- interrogative and relative pronoun stem; PU *mi- interrogative and relative pronoun stem; PA *mi- interrogative pronoun stem; S me-a "where?", me-šè "where to", me-na-am "when?".
420. PN *mir-/ *mer- "to stab, to pierce, to cause pain; to suffer pain, to be weakened, to be afflicted": PIE *mer-/ *mor-/ *mr- "to die"; PAA *mar-/ *mar- "to suffer pain, to be weakened, to be afflicted; to be or become sick, to fall ill; to die"; PD *mir- "to pierce, to stab, to cause pain; to suffer, to be afflicted".
421. PN *mur-/ *mor- "to crush, to break, to destroy": PIE *mer-/ *mor-/ *mr- "to crush, to destroy; to be or become crushed; to disintegrate"; PU *mur/3/ "to break, to shatter"; PD *mur- "to break, to crush, to destroy; to be crushed; to cut, to wound", *mur- "to break, to split, to cut"; S mur "to crush, to grind".
422. PN *mat-/ *met- "to stretch, to expand, to lengthen, to draw out, to measure": PIE *met-/ *mot- "to measure"; PK *mat- "to augment, to increase"; PAA *mat-/ *mat- "to stretch, to expand, to lengthen, to draw out, to measure out"; PA *med- "to feel, to perceive, observe, to know, to notice".
423. PN *mal-/ *mel- "to fill, to be or become full, to increase": PIE *mel-/ *mol-/ *ml- "much, many", *mel-g[h]-/ *mol-g[h]- "to make full, to become full"; PAA *mal-/ *mal- "to fill, to be full"; PD *mal- "to abound, to be plentiful, to be full, to increase".

424. PN *mal-/ *mel- "good, pleasant": PIE *mel-/ *mol- "good, pleasant"; PAA *mal-/ *mal- "good, pleasant".
425. PN *mar-/ *mer- "body of water": PIE *mari- "body of water"; PAA *mar-/ *mar- "body of water" (found only in Egyptian).
426. PN *mur-/ *mor- "to twist, to turn, to bend": PIE *mer-/ *mor- "to twist, to turn"; PAA *mar-/ *mar- "to twist, to turn"; PD *mur- "to bend, to turn round, to twist, to turn, to curve", *mur- "to twist, to turn, to twirl, to tighten"; PA *muri- "to turn, to twist, to bend".
427. PN *mur-/ *mor- "mulberry, blackberry": PIE *mor- "blackberry, mulberry"; PAA *mar-/ *mar- "mulberry"; PU *mura "Rubus Chamaemorus".
428. PN *mun-/ *mon- "to protrude, to stand out, to jut out; to be first, foremost, in front of; highest or farthest point, topmost or most protuberant part": PIE *men-/ *mon-/ *mq- "to protrude, to stand out; highest or farthest point, topmost or most protuberant part"; PAA *man-/ *man- "to protrude, to stand out, to jut out; highest or farthest point, topmost or most protuberant part" (found only in Egyptian); PD *mun- "in front, previous, before; front, face, end, top, (sharp) point, tip; to be first, to surpass, to take the lead, to be prior in time or place, to be in front".
429. PN *munt'y-/ *mont'y- "to suckle; breast, udder": PIE *ment'-/ *mont'-/ *mnt'- "to suckle; suckling, young animal; breast, udder"; PAA *mant'y-/ *mant'y- "breast" (found only in Egyptian); PD *moñci "breast".
430. PN *mal-/ *mel- "honey": PIE *mel-it "honey"; PAA *mal-/ *mal- "honey".
431. PN *mat[h]-/ *met[h]- "to grow, to increase, to rise, to swell, to expand; to flourish, to be fertile, to become strong; man, male": PIE *mat[h]- "man, human being" (found only in Old Icelandic [and perhaps Ligurian]); PAA *mat[h]- "man, person, human being"; PD *mat- "to grow, to increase, to flourish, to be fertile; strength, excess, abundance".
432. PN *mat-/ *met- "to be or become wet, moist":

- PIE *mat'- "to be wet, moist"; PAA *mat'-/
*mat'- "to be or become wet, moist".
433. PN *mar-/mer- "to smear, to anoint, to rub (with grease, fat, ointment, etc.)": PIE *(s)mer-/
(s)mor-/(s)m̥- "to smear, to anoint, to rub (with grease, fat, ointment, etc.)"; PAA *m̥ar-/
*mar- "to smear, to anoint, to rub (with grease, fat, ointment, etc.)"; PD *mar- "to rub (with oil, etc.), to smear"; S mar "to daub, to anoint".
434. PN *mi-/me- (variant *ma-/me-) 1st person personal pronoun stem: PIE *me-/mo- 1st person personal pronoun stem; PK *me-, *men- 1st person personal pronoun stem; PAA *m̥a-/ma- 1st person personal pronoun stem (Chadic, with traces in Cushitic); PU *minā (*mūnā) 1st person personal pronoun singular: "I, me", *me 1st person personal pronoun plural: "we"; PA *mi-, *ma- 1st person personal pronoun stem; S (Emesal) ma(-e), me-a, me-e "I", (1st plural possessive suffix) -me "our". (Cf. Etruscan mi "I", mini "me".)
435. PN *many-/meny- "to copulate, to have sexual intercourse, to beget; progenitor, begetter; man, male": PIE *man(u)- "man, begetter, progenitor"; PAA *m̥an-/man- "to copulate, to have sexual intercourse, to beget"; PFU *mānycyē "man, male"; PD *mañ- "to be united with, to copulate with, to love, to marry; copulation, marriage".
436. PN *madw-/medw- "honey, mead": PIE *med[h]u- "honey, mead"; PFU *mete "honey"; PD *mat̥tu "honey, toddy, fermented liquor". (Cf. Etruscan math "honey, honeyed wine".)
437. PN *musk-/mosyk'- "to immerse in water, to dip or plunge into water": PIE *mesk'-/*mosk'- "to immerse in water, to dip or plunge into water"; PU *muskē- (*mosykē-) "to wash"; PD *muy- > *mī(y)-/*muc- "to wash".
438. PN *mag- "young; young person, child": PIE *mag[h]- "young", *mag[h]u- "young person, child"; PD *maka "young person, child".
439. PN *mik'-/*mek'- "to exceed, to surpass, to be in excess, to grow, to increase, to swell, to expand; big, great, much": PIE *mek'-/*mek'- "big, great, much"; PD *mik- "to exceed, to surpass, to grow, to increase, to be great; great, much; excess, surplus, abundance".

440. PN *mur-/mor- "to make a noise, to murmur": PIE *mur-/mor-, (redup.) *mur-mur-/mor-mor- "to murmur, to rustle, to grumble"; PAA *m̥ar-/mar- "to murmur, to make a noise"; PFU *mura "crying, shouting, singing; to cry, to shout, to sing"; PD *mur- "to make a sound, to cry, to sing, to hum, to buzz, to murmur", *muru-muru- "to murmur, to grumble", (*mury- >) *mur- "to sound, to make a noise, to roar, to thunder"; S mur "scream, cry, shouting, yelling; voice".
441. PN *mak'-/*mek'- "to handle, to work with the hands": PIE *mak'- "to work with the hands, to form, to shape; to prepare, to make"; PAA *m̥ak'-/*mak'- "to handle"; PU *meke "to do, to make, to work".
442. PN *mun-/mon- "egg, testicle": PIE (?) *mon-d[h]- "testicle" (found only in Slavic); PU *muna "egg, testicle"; PD *muṇṭai "egg, testis".
443. PN *mal-/mel- "hill, mountain": PIE *mel-/mol- "hill, mountain"; PD *malai "mountain, hill".
444. PN *muk'-/*mok'- "to strain, to make great efforts": PIE *mok'- "difficult, laborious, hard; hardship, toil" (found only in Greek); PD *mukk- "to strain, to make great efforts".
445. PN *nat'-/*net'- "to wet, to moisten": PIE *net'-/*not'- "to wet, to moisten"; PAA *nat'-/*nat'- "to wet, to moisten, to sprinkle, to drip".
446. PN *nik[h]-/*nek[h]- "to strike, to hit": PIE *nek[h]-/*nok[h]- "to slay, to smite"; PAA *n̥ek[h]-/*nak[h]- "to strike, to hit"; PU *nikk̥ā- "to push"; PD *nek- "to suffer, to be distressed".
447. PN *nar-/ner- "to be strong, manly, virile": PIE *ner- "to be strong, manly, virile; man, hero"; PAA *n̥ar-/nar- "to be strong, mighty" (found only in Egyptian).
448. PN *nat'-/*net'- "to tie, to bind": PIE *net'-/*not'- "to tie, to bind"; PAA *nat'-/*nat'- "to tie, to bind" (found only in Egyptian).
449. PN *nap[h]-/*nep[h]- "to breathe, to blow": PIE PN (*np[h]- > [with metathesis]) *p[h]n-: *p[h]n-ew-/*p[h]n-ow-/*p[h]n-u-, *p[h]n-es-

- *p[h]n-os-, *p[h]n-ek[h]- "to breathe, to blow"; PAA *nəf-/naf- "to breathe, to blow".
450. PN *naw-/new- "time": PIE *nu "now"; PAA *nəw-/naw- "time, hour" (found only in Egyptian).
451. PN *na/*ne, *ni/*ne, *nu/*no negative particle: PIE *ne, *n̥-, *ney negative particle; PK *nu prohibitive particle; PAA *nə/*na negative particle (found only in Egyptian); PU *ne negative particle; S na "not", na- prohibitive prefix, nu "not", nu- negative prefix.
452. PN *nah-/neh- "to fear": PIE *neH₂- (later *nā-) "to fear"; PAA *nəh-/nah- "to fear".
453. PN *na-/ne- 1st person personal pronoun stem: PIE *ne-/no-/n̥-s- "we, us"; PAA *nə-/na- 1st person personal pronoun stem; PD *nām(m)- "we".
454. PN *nab-/neb- "to burst forth, to gush forth": PIE *neb[h]-/*nob[h]- "to burst out, to burst forth"; PAA *nəb-/nab- "to burst forth, to gush forth".
455. PN *nag-/neg- "to strike, to split, to pierce": PIE *neg[h]-/*nog[h]- "to strike, to split, to pierce"; PAA *nəg-/nag- "to strike, to split, to pierce".
456. PN *nasy-/nosy- "to wear down, to reduce in size, to diminish, to weaken": PIE *nos- "to be weak, to be sick" (found only in Greek); PAA *nəš-/naš- "to wear down, to reduce in size, to weaken, to diminish"; PD *noy- > *nō(y)-/*noc- "to be weakened, debilitated, sick; to ache, to suffer, to be in pain".
457. PN *naš-/neš- "to come, to go, to arrive, to journey, to travel, to sail": PIE (*neH₂-/noH₂- "to sail":) *neH₂-u-s "ship"; PAA *nəš-/naš- "to come, to go, to arrive, to journey, to travel, to sail".
458. PN *nim-/nem- "name": PIE *nēm̥, *nōm̥/*nōm(e)n- "name"; PU *nime "name".
459. PN *naw-/new- "to sound, to call, to praise": PIE *new-/now/*nu- "to sound, to shout, to exult, to praise, to commend"; PAA *nəw-/naw- "to praise, to laud, to extol"; PD *nav- "to say,

- to tell, to declare, to utter".
460. PN *nyip[h]-/*nyep[h]- "offspring": PIE *nep[h]-(ō)t[h]- "descendant, offspring"; PAA *nəf-/naf- "offspring"; PU *nyepl/3/ "rein-deer calf".
461. PN *luk'-/*lok'- "to gather, to collect": PIE *lek'-/*lok'- "to pick, to gather, to collect"; PAA *lək'-/*lak'- "to gather, to collect"; PFU *luke- "to read, to count".
462. PN *law-/lew- "to be or become dirty, tarnished, stained, soiled, filthy": PIE *lew-/low/*lu- "to make dirty; dirt, filth"; PAA *ləw-/law- "to stain, to tarnish, to soil, to make dirty" (found only in Arabic).
463. PN *law-/lew- "to shine": PIE *lew-k[h]-/*low-k[h]-/*lu-k[h]- "to shine, to be bright"; PAA *ləw-/law- "to shine, to gleam, to glimmer, to sparkle; to appear, to come into sight".
464. PN *lak[h]-/*lek[h]- "leg, foot": PIE *lak[h]- "leg, foot"; PAA *lək[h]-/*lak[h]- "leg, foot".
465. PN *law-/lew- "to bend, to turn, to twist": PIE *lew-/low/*lu- "to bend, to twist, to turn, to wind"; PAA *ləw-/law- "to bend, to twist, to turn".
466. PN *law-/lew- "to yearn for, to feel burning desire": PIE *lew-b[h]-/*low-b[h]-/*lu-b[h]- "to yearn for, to desire greatly, to feel burning love or desire", *lu-s- "to yearn for, to desire greatly, to lust after" (found only in Germanic); PAA *ləw-/law- "to yearn for, to feel burning desire" (found only in Arabic).
467. PN *lamd-/lemd- "low; low-lying ground, lowland, any piece of land": PIE *lend[h]-/*lond[h]-/*lnd[h]- "low-lying ground, lowland, any piece of land"; PU *lamte "low; low-lying ground, lowland".
468. PN *lag-/leg- "to put, to place, to lay, to set": PIE *leg[h]-/*log[h]- "to put, to place, to lay (down), to set; to lie (down)"; PK *lag-/lg- "to put, to plant".
469. PN *rak'-/*rek'- "to stretch, to extend, to draw out": PIE *rek'-/*rok'-/*rk'- "to stretch out, to draw out, to extend"; PAA *rək'-/*rak'-

"to stretch out, to spread out".

470. PN *rak[h]/-/*rek[h]- "to twist, to turn, to bind": PIE *rek[h]/-/*rok[h]- "to twist, to turn, to bind"; PAA *rak[h]/-/*rak[h]- "to twist, to turn, to bind".
471. PN *ʔur/-/*ʔor- "to move rapidly, quickly, hastily; to set in motion": PIE *H₁er/-/*H₁or/-/*H₁r- "to move, to set in motion"; PAA *ʔar/-/*ʔar- "to move rapidly"; PD *ur- "to move hastily, to be flung at high speed; speed, rapidity, fleetness, force".
472. PN *rawh/-/*rewh- "to be spacious, wide": PIE *rewh₂/-/*rowh₂- "to be wide, spacious"; PAA *rawh/-/*rawh- "to be wide, spacious".
473. PN *raʔy/-/*reʔy- "to see, to perceive": PIE *reH₁i-C/-/*roH₁i-C/-/*reH₁i-C- > (with syncope of i) *reH₁-C/-/*roH₁-C/-/*reH₁-C- > (with loss of the laryngeal) *rē-C/-/*rō-C/-/*re-C-; *reH₁y-V/-/*roH₁y-V/-/*reH₁y-V- > (with metathesis) *reyH₁-V/-/*royH₁-V/-/*reyH₁-V- > (with loss of the laryngeal) *rey-V/-/*roy-V/-/*riy-V- (and, later, by analogical extension, *rey-C/-/*roy-C/-/*rī-C-) "to think, to reckon"; PAA *raʔy/-/*raʔy- "to see, to perceive".
474. PN *riy/-/*rey- "to prosper, to flourish, to thrive": PIE *riy-C/-/*rey-C- > (*rī-C-/) *rē-C-, (*riy-V-/) *rey-V- "wealth, property, riches, prosperity"; PAA *ray/-/*ray- "to prosper, to flourish, to thrive" (found only in Arabic).
475. PN *ʃurb/-/*ʃorb- "to separate, to set apart, to put asunder": PIE *H₂orb[h]/-/*H₂rb[h]- "to separate", *H₂orb[h]-o- "bereft, deprived of"; PAA *ʃarb/-/*ʃarb- "to separate, to set apart, to put aside"; PD *oruv- "to abandon, to renounce, to pass over, to escape; leaving, separation".
476. PN *ram/-/*rem- "to stop, to rest, to relax": PIE *rem/-/*rom/-/*r̥m- "to stop, to rest, to relax"; PAA *ram/-/*ram- "to stop, to rest, to relax".
477. PN *raq'-/*req'- "to observe, to watch, to regard attentively; to supervise, to control": PIE *rēk'-/*rōk'- "to observe, to watch, to watch over, to care for"; PK *req'- "to drive (cattle)"; PAA *raq'-/*raq'- "to observe, to watch, to regard attentively; to control, to supervise".

14. CORRESPONDENCES

PROTO-NOSTR.	PROTO-KARTV.	PROTO-AA	PROTO-IE	PROTO-URALIC	PROTO-DRAVIDIAN	PROTO-ALTAIC	SUM.
b-	b-	b-	b[h]-	p-	p-	b-	b-
-b-	-b-	-b-	-b[h]-	-w-	-pp-/-vv-	-b-	-b-
p[h]-	p[h]-	p[h]-	p[h]-	p-	p-	p-	p-
-p[h]-	-p[h]-	-p[h]-	-p[h]-	-p-	-pp-/-v-	-p-/-b-	-p-
p'-	p'-	p'-	(p'-)	p-	p-	p-	b-
-p'-	-p'-	-p'-	(-p'-)	-p-	-p(p)-	-b-	-b-
d-	d-	d-	d[h]-	t-	t-	d-	d-
-d-	-d-	-d-	-d[h]-	-δ-	-ṭ(ṭ)-	-d-	-d-
t[h]-	t[h]-	t[h]-	t[h]-	t-	t-	t-	t-
-t[h]-	-t[h]-	-t[h]-	-t[h]-	-t(t)-	-t(t)-	-t-	-t-
t'-	t'-	t'-	t'-	t-	t-	t-	d-
-t'-	-t'-	-t'-	-t'-	-t-	-t(t)-	-d-	-d-
dy-	ʒ-	dy-	d[h]-	cy-	c-	ʒ-	d-
-dy-	-ʒ-	-dy-	-d[h]-	-cy-	-c(c)-	-ʒ-/-d-	-d-
ty[h]-	č[h]-	ty[h]-	t[h]-	cy-	c-	č-	š-
-ty[h]-	-č[h]-	-ty[h]-	-t[h]-	-cy-	-c(c)-	-č-	-š-
t'y-	č'-	t'y-	t'-	cy-	c-	č-	d-
-t'y-	-č'-	-t'y-	-t'-	-cy-	-c(c)-	-č-	-d-
sy-	š-	š-	s-	sy-	c-	s-	š-
-sy-	-š-	-š-	-s-	-sy-	-c(c)-/-y-	-s-	-š-
ʒ-	ʒ ₁ -	ʒ-	d[h]-	č-	c-	ʒ-	ʒ-
-ʒ-	-ʒ ₁ -	-ʒ-	-d[h]-	-č-	-c(c)-	-d-	-d-
c[h]-	c[h] ₁ -	c[h]-	t[h]-	č-	c-	č-	č-
-c[h]-	-c[h] ₁ -	-c[h]-	-t[h]-	-č-	-c(c)-	-č-	-č-
c'-	c' ₁ -	c'-	t'-	č-	c-	č-	č-
-c'-	-c' ₁ -	-c'-	-t'-	-č-	-c(c)-	-č-	-č-
s-	s ₁ -	s-	s-	s-	c-	s-	s-
-s-	-s ₁ -	-s-	-s-	-s-	-c(c)-	-s-	-s-

PROTO-NOSTR.	PROTO-KARTV.	PROTO-AA	PROTO-IE	PROTO-URALIC	PROTO-DRAVIDIAN	PROTO-ALTAIC	SUM.
tl[h]- -tl[h]-	x- -x-	tl[h]- -tl[h]-	k[h]- -k[h]-	šy- -šy-	c- -c-		
tl'- -tl'		tl'- -tl'-	k'- -k'-	δy- -δy-	t- -t(ʔ)-	d- -d-	
g- -g-	g- -g-	g- -g-	g[h]- -g[h]-	k- -γ-	k- -k-	g- -g-	g- -g-
k[h]- -k[h]-	k[h]- -k[h]-	k[h]- -k[h]-	k[h]- -k[h]-	k- -k(k)-	k- -k(k)-	k- -k-/g-	k- -k-
k'- -k'-	k'- -k'-	k'- -k'-	k'- -k'-	k- -k-	k- -k(k)-	-g-	g- -g-
gy- -gy-	g- -g-	gy- -gy-	g[h]- -g[h]-	k- -γ-	k- -k-	g- -g-	g- -g-
ky[h]- -ky[h]-	k[h]- -k[h]-	ky[h]- -ky[h]-	k[h]- -k[h]-	k- -k(k)-	k- -k(k)-	k- -k-/g-	k- -k-
k'y- -k'y-	k'- -k'-	k'y- -k'y-	k'- -k'-	k- -k-	k- -k(k)-	k- -g-	g- -g-
gw- -gw-	gw/u- -gw/u-	gw- -gw-	gw[h]- -gw[h]-	k- -γ-	k- -k-	g- -g-	gu- -gu-
kw[h]- -kw[h]-	k[h]w/ k[h]u- -k[h]w/ k[h]u-	kw[h]- -kw[h]-	kw[h]- -kw[h]-	k- -k(k)-	k- -k(k)-	k- -k-/g-	ku- -ku-
k'w- -k'w-	k'w/u- -k'w/u-	k'w- -k'w-	k'w- -k'w-	k- -k-	k- -k(k)-	k- -g-	gu- -gu-
G- -G-	G- -G-	G- -G-	g[h]- -g[h]-	k- -γ-	k- -k-		g- -g-
q[h]- -q[h]-	q[h]- -q[h]-	q[h]- -q[h]-	k[h]- -k[h]-	k- -k(k)-	k- -k(k)-	k- -k-/g-	k- -k-
q'- -q'-	q'- -q'-	q'- -q'-	k'- -k'-	k- -k(k)-	k- -k(k)-	k- -g-	g- -g-

PROTO-NOSTR.	PROTO-KARTV.	PROTO-AA	PROTO-IE	PROTO-URALIC	PROTO-DRAVIDIAN	PROTO-ALTAIC	SUM.
q'w- -q'w-	q'w/u- -q'w/u-	q'w- -q'w-	k'w- -k'w-	k- -k-	k- -k(k)-	k- -g-	gu- -gu-
l- -l-	l- -l-	l- -l-	l- -l-	l- -l-	l- -l-	-l-	l- -l-
-ly-	-l-	-l-	-l-	-ly-	-l-	-ly-	-l-
r- -r-	r- -r-	r- -r-	r- -r-	r- -r-	-r-/r-	-r-	r- -r-
-ry-	-r-	-r-	-r-	-r-	-r-	-ry-	
y- -y-	y-/0-	y- -y-	y- -y-	y- -y-	y-/0- -y-	y- -y-	
w- -w-	w- -w-	w- -w-	w- -w-	w- -w-	v-/0- -v-		
m- -m-	m- -m-	m- -m-	m- -m-	m- -m-	m- -m-	m- -m-	m- -m-
n- -n-	-n-	n- -n-	n- -n-	n- -n-	n- -n-/n-	-n-	n- -n-
ny- -ny-		n- -n-	n- -n-	ny- -ny-	-n-	ny- -ny-	
ʔ- -ʔ-	0- -0-	ʔ- -ʔ-	H ₁ - -H ₁ -	0- -0-	0- -0-	0- -0-	
h- -h-	0- -0-	h- -h-	H ₄ - -H ₄ -	0- -0-	0- -0-	0- -0-	
h- -h-	x- -x-	h- -h-	H ₂ /H ₃ - -H ₂ -/ -H ₃ -	0- -0-	0- -0-	0- -0-	h- -h-
ʃ- -ʃ-	0- -0-	ʃ- -ʃ-	H ₂ /H ₃ - -H ₂ -/ -H ₃ -	0- -0-	0- -0-	0- -0-	

PROTO- NOSTRATIC	PROTO- KARTVELIAN	PROTO- AFROASIATIC	PROTO- INDO-EUROPEAN
i	i	ə	i, e
e (< a)	e, i	ə	e, a, e
u	u	ə	u, o
e (< i)	e	a	e
a	a, i	a	a, o, e
o (< u)	o	a	o
iy	iy	əy	iy, ī
ey (< ay)	ey, i	əy	ey, ay, i
uy	uy	əy	uy, ū
ey (< iy)	ey	ay	ey, ē
ay	ay, i	ay	ay, oy, i
oy (< uy)	oy	ay	oy, ō
iw	iw	əw	iw, ī
ew (< aw)	ew, u	əw	ew, aw, u
uw	uw	əw	uw, ū
ew (< iw)	ew	aw	ew, ē
aw	aw, u	aw	aw, ow, u
ow (< uw)	ow	aw	ow, ō

PROTO- NOSTRATIC	PROTO- URALIC	PROTO- DRAVIDIAN	PROTO- ALTAIC	SUMERIAN
i	i, ü	i	i, ī	i
e (< a)	e	e	e	e
u	u	u	u, ū	u
e (< i)	e	e	e	e
a	a, ä	a	a	a
o (< u)	o	o, a	o, ö	u
iy	iy, üy	iy, ī	ī, ī	i
ey (< ay)	ey, ē	ey, ī	ē; i, ī	i
uy	uy	uy, ī		
ey (< iy)	ey	ey, ē	ēy; ē	
ay	ay, äy	ay, ā	a; i, ī	a
oy (< uy)	oy	oy, ō		
iw	iw, üw	iv, ū		
ew (< aw)	ew	ev, ū		
uw	uw	uv, ū	u, ū	u
ew (< iw)	ew	ev		u
aw	aw, äw	av, ā	ō, ō	
ow (< uw)	ow, ō	ov, ō	ō, ō	

REFERENCES

- Austerlitz, Robert. 1968. "L'ouralien". Le langage, ed. by André Martinet, pp. 1331-87. Bruges: Editions Gallimard.
- Bergsträsser, Gotthelf. 1983. Introduction to the Semitic Languages: Text Specimens and Grammatical Sketches. Translated with Notes and Bibliography by Peter T. Daniels. Winona Lake, IN: Eisenbrauns.
- Birnbaum, Henrik. 1977. Linguistic Reconstruction: Its Potentials and Limitations in New Perspective. Washington, DC: Journal of Indo-European Studies.
- Boisson, Claude. 1987a. "Quelques ressemblances lexicales entre sumérien et dravidien". Manuscript.
- 1987b. "A Conjecture on the Linguistic Affiliation of Sumerian". Manuscript.
- 1988. "The Sumerian Pronominal System in a Nostratic Perspective". Manuscript.
- Bomhard, Allan. R. 1984. Toward Proto-Nostratic: A New Approach to the Comparison of Proto-Indo-European and Proto-Afroasiatic. (= Current Issues in Linguistic Theory, vol. 27.) Amsterdam: John Benjamins.
- 1986. "Common Indo-European/Afroasiatic Roots: Supplement 1". General Linguistics 26/4. 225-57.
- 1988. "The Prehistoric Development of the Athematic Verbal Endings in Proto-Indo-European". A Linguistic Happening in Memory of Benjamin Schwartz, ed. by Yoël L. Arbeitman, pp. 475-88. Louvain: Publications Linguistiques de Louvain.
- Forthcoming. "A Survey of the Comparative Phonology of the So-Called 'Nostratic' Languages". Proceedings of the Workshop on Language Change and Reconstruction Methodology held at Stanford University from 28 July 1987 to 1 August 1987, ed. by Philip Baldi. The Hague: Mouton de Gruyter.
- Brugmann, Karl. 1904. Kurze vergleichende Grammatik der indogermanischen Sprachen. Reprinted 1970. Berlin: Walter de Gruyter.
- Buck, Carl D. 1949. A Dictionary of Selected Synonyms in the Principal Indo-European Languages. Chicago, IL: University of Chicago Press.
- Burrow, Thomas and Murray B. Emeneau. 1984. Dravidian Etymological Dictionary. 2nd edition. Oxford: Oxford University Press.
- Caldwell, Robert. 1913. A Comparative Grammar of the Dravidian or South Indian Family of Languages. 3rd edition revised and edited by J. L. Wyatt and T. Ramakrishna Pillai. Reprinted 1974. New Delhi: Oriental Books Reprint Corporation.
- Černý, J. 1976. Coptic Etymological Dictionary. Cam-

- bridge: Cambridge University Press.
- Cohen, David. 1968. "Langues chamito-sémitiques". Le langage, ed. by André Martinet, pp. 1288-1330. Bruges: Editions Gallimard.
- Cohen, Marcel. 1947. Essai comparatif sur le vocabulaire et la phonétique du chamito-sémitique. Reprinted 1969. Paris: Honoré Champion.
- Collinder, Björn. 1955. Fenno-Ugric Vocabulary. An Etymological Dictionary of the Uralic Languages. Uppsala: Almqvist and Wiksells.
- 1957. A Survey of the Uralic Languages. Uppsala: Almqvist and Wiksells.
- 1960. A Comparative Grammar of the Uralic Languages. Uppsala: Almqvist and Wiksells.
- 1965. An Introduction to the Uralic Languages. Berkeley and Los Angeles, CA: University of California Press.
- Comrie, Bernard. 1981. The Languages of the Soviet Union. Cambridge: Cambridge University Press.
- Cuny, Albert. 1946. Invitation à l'étude comparative des langues indo-européennes et des langues chamito-sémitiques. Bordeaux: Editions Bierre.
- Décsy, Gyula. 1965. Einführung in die finnisch-ugrische Sprachwissenschaft. Wiesbaden: Otto Harrassowitz.
- Diakonoff, Igor M. 1965. Semito-Hamitic Languages. Moscow: Nauka.
- 1975. "On Root Structure in Proto-Semitic". Hamito-Semitic, ed. by James Bynon and Theodora Bynon, pp. 133-53. The Hague: Mouton.
- 1984. Letter to the Conference regarding recent work in the USSR on the comparative historical vocabulary of Afrasian. Current Progress in Afro-Asiatic Linguistics: Papers from the Third International Hamito-Semitic Congress, ed. by James Bynon, pp. 1-10. Amsterdam: John Benjamins.
- Dolgopolsky, Aharon. 1984. "On Personal Pronouns in the Nostratic Languages". Linguistica et Philologica. Gedenkschrift für Björn Collinder (1894-1983), ed. by Otto Gschwantler, Károly Rédei, and Hermann Reichert, pp. 65-112. Vienna: Wilhelm Braumüller.
- Ehret, Christopher. 1980. The Historical Reconstruction of Southern Cushitic Phonology and Vocabulary. Berlin: Dietrich Reimer Verlag.
- Faulkner, Raymond O. 1962. A Concise Dictionary of Middle Egyptian. Oxford: Oxford University Press.
- Gamkrelidze, Thomas V. and Vjačeslav V. Ivanov. 1984. Indoeuropejskij jazyk i indoeuropejcy: Rekonstrukcija i istoriko-tipologičeskij analiz prajazyka i protokul'tury (Indo-European and the Indo-Europeans: A Reconstruction and Historical

- Typological Analysis of a Protolanguage and a Proto-culture). 2 vols. Tbilisi: Publishing House of the Tbilisi State University.
- Gamkrelidze, Thomas V. and Giri Mačavariani. 1982. Sonantensystem und Ablaut in den Kartwelsprachen. Eine Typologie der Struktur des Gemeinkartwelischen. Tübingen: Gunter Narr Verlag.
- Greenberg, Joseph H. 1957. Essays in Linguistics. Chicago, IL: University of Chicago Press.
- 1987. Language in the Americas. Stanford, CA: Stanford University Press.
- Hajdu, Peter. 1976. Finno-Ugrian Languages and Peoples. Translated and adapted by G. F. Cushing. London: Andre Deutsch.
- Hodge, Carleton T., ed. 1981. Afroasiatic: A Survey. The Hague: Mouton.
- Hopper, Paul J. 1973. "Glottalized and Murmured Occlusives in Indo-European". Glossa 7.141-66.
- Illici-Svityč, V(ladislav) M(arkovič). 1971-. Opyt sravnenija nostratičeskix jazykov (semitoxamitskij, kartvel'skij, indoeuropejskij, ural'skij, dravid'skij, altajskij) (An Attempt at a Comparison of the Nostratic Languages [Hamito-Semitic, Kartvelian, Indo-European, Uralic, Dravidian, Altaic]). 3 vols. Moscow: Nauka.
- Joki, Aulis J. 1973. Uralier und Indogermanen: Die älteren Berührungen zwischen den uralischen und indogermanischen Sprachen. Helsinki: Suomalais-Ugrilainen Seura.
- Klimov, G. V. 1964. Etimologičeskij slovar' kartvel'skix jazykov. Moscow: Nauka.
- Koskinen, Kalevi E. 1980. Nilal: Über die Urverwandtschaft des Hamito-Semitischen, Indogermanischen, Uralischen und Altäischen. Helsinki: Akateeminen Kirjakauppa.
- Mann, Stuart E. 1984-87. An Indo-European Comparative Dictionary. Hamburg: Helmut Buske Verlag.
- Martinet, André. 1975(1953). "Remarques sur le consonantisme sémitique". Evolution des langues et reconstruction, by André Martinet, pp. 248-61. Vendôme: Presses Universitaires de France. Originally published in BSL 54 (1953).
- McAlpin, David W. 1981. Proto-Elamo-Dravidian: The Evidence and Its Implications. Philadelphia, PA: American Philosophical Society.
- Meillet, Antoine. 1964. Introduction à l'étude comparative des langues indo-européennes. Reprint of 8th edition (1937). University, AL: University of Alabama Press.
- Menges, Karl H. 1968. The Turkic Languages and Peoples. Wiesbaden: Otto Harrassowitz.
- Möller, Hermann. 1911. Vergleichendes indogermanisch-

- semitisches Wörterbuch. Reprinted 1970. Göttingen: Vandenhoeck and Ruprecht.
- Moscatti, Sabatino, ed. 1965. An Introduction to the Comparative Grammar of the Semitic Languages. Wiesbaden: Otto Harrassowitz.
- Pedersen, Holger. 1931. The Discovery of Language: Linguistic Science in the Nineteenth Century. English Translation by John Webster Spargo. Midland book edition 1962. Bloomington, IN: Indiana University Press.
- Petráček, Karel. 1982. "La racine en indoeuropéen et en chamito-sémitique et leurs perspectives comparatives". Istituto Orientale di Napoli, Annali 42. 381-402.
- Pokorny, Julius. 1959. Indogermanisches etymologisches Wörterbuch. Bern: Francke Verlag.
- Poppe, Nicholas. 1960. Vergleichende Grammatik der altäischen Sprachen. Teil 1: Vergleichende Lautlehre. Wiesbaden: Otto Harrassowitz.
- 1965. Introduction to Altaic Linguistics. Wiesbaden: Otto Harrassowitz.
- Ramstedt, G. J. 1952-57. Einführung in die altäische Sprachwissenschaft. Helsinki: Suomalais-Ugrilainen Seura.
- Rasmussen, Jens E. 1987. "The Make-Up of Indo-European Morphology". Diachronica IV:1/2.107-22.
- Rédei, Károly, ed. 1986-. Uralisches etymologisches Wörterbuch. Wiesbaden: Otto Harrassowitz.
- Ruhlen, Merritt. 1987. A Guide to the World's Languages. Stanford, CA: Stanford University Press.
- Sasse, Hans-Jürgen. 1979. The Consonant Phonemes of Proto-East Cushitic (PEC): A First Approximation (= Afroasiatic Linguistics 7/1). Malibu, CA: Undena Publications.
- 1982. An Etymological Dictionary of Burji. Hamburg: Helmut Buske Verlag.
- Schmidt, Karl Horst. 1962. Studien zur Rekonstruktion des Lautstandes der südkaukasischen Grundsprache. Wiesbaden: Kommissionsverlag Franz Steiner GMBH.
- Shevoroshkin, Vitalij and Thomas L. Markey, eds. 1986. Typology, Relationship, and Time. Ann Arbor, MI: Karoma Publishers.
- Szemerényi, Oswald. 1980. Einführung in die vergleichende Sprachwissenschaft. 2nd edition. Darmstadt: Wissenschaftliche Buchgesellschaft.
- Thomsen, Marie-Louise. 1984. The Sumerian Language. Copenhagen: Akademisk Forlag.
- Tyler, Stephen A. 1968. "Dravidian and Uralian: The Lexical Outlook". Language 44/4.798-812.
- Vycichl, Werner. 1983. Dictionnaire étymologique de la langue copte. Louvain: Peeters.
- Walde, Alois. 1927-32. Vergleichendes Wörterbuch der

- indogermanischen Sprachen. Revised and edited by Julius Pokorny. 3 vols. Reprinted 1973. Berlin: Walter de Gruyter.
- Watkins, Calvert, ed. 1985. The American Heritage Dictionary of Indo-European Roots. Boston, MA: Houghton Mifflin Co.
- Zvelebil, Kamil. 1970. Comparative Dravidian Phonology. The Hague: Mouton.