

## **Issue 2 / Часть 2**

### **Articles / Статьи**



## Lexicostatistical Studies in Khoisan III/III: Reconstructing a Swadesh wordlist for Proto-Khoe (items 51–100)<sup>1</sup>

This paper is the third part of an ongoing lexicostatistical analysis of the basic lexicon for languages belonging to the Khoe family of South Africa, revised and expanded in comparison to the author's previously published attempt. Here, I focus on the second, generally less stable half of the Swadesh wordlist with the aim of investigating lexical replacement from Proto-Khoe to intermediate proto-stages and modern languages and offering an onomasiological reconstruction for at least some parts of the wordlist. Results of this analysis, combined with similar earlier treatment of the first half of the wordlist, constitute the basis for a robust phylogenetic classification, based on objective statistical analysis and manually examined shared innovations (to appear in the future as the last part in this series).

*Keywords:* Khoisan languages; Khoe languages; lexicostatistical analysis; onomasiological reconstruction; historical semantics.

### Introductory notes

In my previous two publications on the diachronic (etymological and lexicostatistical) analysis of languages belonging to the Khoe family (Starostin 2024, 2025), I have focused on the “ultra-stable” part of the Swadesh wordlist, i.e. 50 lexical items selected for their overall higher average rates of retention (following the stratification algorithm in S. Starostin 2007, further refined in Starostin 2013). Given the relatively large number of languages and subgroups involved (as compared to the other two “Khoisan” families, Ju and Tuu), it was impossible to publish a detailed account of all the lexical evidence at once. However, since Khoe is, by all accounts, not a very deep linguistic family, and the lexicostatistical distance between its constituents (especially all the subgroups within the large Kalahari Khoe branch) is fairly small, it was also clear that a meaningful phylogenetic analysis of the family is impossible without at least extending the scope of the data to the entirety of the wordlist, which is why I have so far refrained from producing a new phylogenetic tree or engaging into lengthy discussions on the controversial and ambiguous moments in the classification.

Consequently, in this paper I continue the analysis begun in Starostin 2024 and 2025, offering an attempt of onomasiological reconstruction for the second, “less stable” part of the 100-item wordlist, further supporting it with 10 additional entries (originally selected by Sergei Yakhontov from the full 200-item Swadesh wordlist and included by Sergei Starostin in his standard computerized version of the lexicostatistical wordlist) for the sake of extra precision. Due to the fact that this part contains etyma which are commonly known to be more liable to lexical replacement around the world (as we shall see below, this holds more or less true for the Khoe family as well), the reconstruction process may be a little more complicated, yet, on the other hand, this part of the investigation actually promises more insight into the process of dispersion and diversification of the family, and more reliable results as to the internal

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classification of Khoe on the level of small language clusters. Unfortunately, progress is still hampered by the lack of data — lacunae in the wordlists, dialectal interference, and occasional inaccuracy in phonetic transcriptions and semantic glossing can be seriously problematic, though active data collection and publication over the last decade (especially concerning the Eastern areas of Kalahari Khoe) are starting to gradually alleviate these issues.

As before, for a general overview of the surveyed languages, specific details on the reconstruction of Proto-Khoe, and the chosen methodology, the first two parts of the study (Starostin 2024, 2025) should be consulted, as well as my earlier works on the subject (e.g. Starostin 2013). For the sake of readers' convenience, I shall once again repeat the list of principal data sources and notes on transcription.

(a) **Data.** The list of principal sources remains the same as in the previous papers; below I provide a brief recapitulation, distinguishing between primary and auxiliary sources.

I. **Khoekhoe (KK):** Nama (N) — Haacke & Eiseb 2002 (primary), Rust 1969, Haacke et al. 1997 (auxiliary); !Ora (K) — Meinhof 1930 (primary), Wuras 1920, Du Plessis 2018 (auxiliary); Xri — Haacke & Snyman 2019 (primary), Meinhof 1930 (auxiliary).

II. **Non-Khoekhoe (NKK)** (= Kalahari Khoe).

II.1. **Khwe:** ||Ani, |Ganda, Buga — Vossen 1997 / Vossen et al. 1988 (primary), Vossen 1986 (auxiliary); Khwe — Kilian-Hatz 2003 (primary), Vossen 1997 (auxiliary);

II.2. **Naro-†Haba:** Naro — Visser 2001 (primary), Barnard 1985, Vossen 1997 (auxiliary); †Haba — Vossen et al. 1988 / Vossen 1997 (primary);

II.3. **|Gwi-||Gana:** |Gwi, ||Gana — Vossen et al. 1988, Vossen 1997 (primary), Tanaka 1978, Nakagawa 1996, Nakagawa 2006 (auxiliary).

II.4. **Shua:** Cara, |Xaise, Deti, Danisi — Vossen et al. 1988, Vossen 1997 (primary). *New:* I also add the recently made available dictionary of Shua (Fehn et al. 2025) as an auxiliary source (it is difficult to use it as a primary one due to the conflation of several dialects of Shua, although the authors usually take care to note specific dialectal differences — however, they do not easily correlate with the ones originally traced by Vossen).

II.5. **Ts'ixa:** Vossen et al. 1988, Vossen 1997 (primary), Fehn et al. 2024 (primary), Fehn 2014 (auxiliary). Compared to the previous papers, I now treat Vossen's earlier data and the recently published dictionary by Fehn et al. on equal footing; differences between the two sources are very rarely lexical and mainly include phonetic discrepancies (sometimes very important, as Fehn et al. often note Ts'ixa variants with click loss instead of or in addition to variants with the palatal click, attested by Vossen).

II.6. **Tsua:** Kua, Tsua — Vossen et al. 1988, Vossen 1997 (primary); Tjwao (Tshwao) — Phiri 2021 (primary); Hie (Hietshware) — Dornan 1917 (primary).

II.7. **Cua:** Welstood 2024 (primary); Collins & Wellstood 2025 (auxiliary).

(b) **Transcription.** I follow the current standards of the Global Lexicostatistical Database (GLD), which, in their turn, are largely based on standard IPA conventions. The only major changes involve consistent transcription of the palatal glide as *y* (instead of *j*) and modifications to the affricate system (IPA *ts*, *dz* = GLD *c*, *ɟ*; IPA *tʃ*, *dʒ* = GLD *č*, *ǰ*; IPA *tɕ*, *dɕ* = GLD *ɕ*, *ɟ̚*). In transcribing clicks, I also adopt Rainer Vossen's convention of representing clicks with voiced effluxes with an underline tilde (*ǀ̚*, *ǃ̚*, etc.), while clicks with nasal effluxes get a superscript tilde (*ǀ̚̚̚*, *ǃ̚̚̚*, etc.).

Some of the newer sources on Khoe languages use more complicated notation to transcribe both click and non-click phonemes, concentrating more on the actual phonetic values of the sounds rather than their phonological status. In order to provide more comparative transparency and avoid confusion for readers who are not so well versed in the specific intricacies of Khoe phonetics, we have simplified those transcriptions: thus, e.g., the exact same click that

is transcribed as  $\text{fx}$  (velar fricative efflux) or  $\text{fx}$  (uvular fricative efflux) in different sources — which, quite often, does not even reflect a true dialectal/idiolectal difference in articulation, but rather a transcriptional convention — will be consistently unified to  $\text{fx}$  so as to avoid creating the illusion that we may be dealing with different phonemes. Likewise, the velar/uvular ejective affricate, alternately transcribed as  $k'$ ,  $kx$ ,  $kx'$ ,  $q\chi$ , or  $q\chi'$  depending on the source, shall be consistently simplified and unified to  $kx$ .

### Khoe basic lexicon: Items 51-110

#### 51. ALL

- KK: **\*hoa** (N *hòá*, K *hoá*, Xri *hoa ~ wa*). ◇ At least in N, the word is polysemous (may mean ‘all’, ‘both’, or ‘entire’ depending on the grammatical number of the head noun).
- Khwe: Not reconstructible. ◇ The concept is poorly documented in published Khwe sources. The most common equivalent in ||Xom is the complex form *yó-kà-xā*, derived from the noun *yó* ‘size, quantity’.
- Naro-ǀHaba: **\*we** (Naro *wě*, ǀHaba *wé:*).
- |Gwi-||Gana: **\*we** (|Gwi *wèè* [Na.], *wé-kae* [Ta.], ||Gana *wé-ha* [Ta.]).
- Shua: Not reconstructible due to lack of attestation, but cf. Shua *?ĩ-yé* ‘all’ (Fehn et al. 2025: 4), in agreement with Ts’ixa and Tsua forms below.
- Ts’ixa: **?ĩ-yè**.
- Tsua: **\*?i(-ye)** (Hie *i-he*, Tjwao *?i:-ye ~ ?i:-ra*). ◇ Attested only in Hie and Tjwao, but external data corroborates the archaic nature of the stem.
- Cua: **yé:**.
- NKK: This is a rare case where an isogloss actually distinguishes “Western” from “Eastern” Kalahari Khoë: Naro and |Gwi-||Gana allow to reconstruct *\*we*, while Shua and Tsua agree on sharing the root *\*?i-*, usually in the extended morphological form *\*?i-ye* (in all likelihood, contracted to just *yé:* in Cua). External data (Khoekhoe) speak in favor of *\*we*; internal data would rather suggest *\*?i*, but it is somewhat more likely to represent a secondary formation from a verbal root (cf., perhaps, Cua *?ĩ:* ‘to be like?’).
- CK: **\*hoε**. ◇ The root is reconstructible on the basis of PKK *\*hoa* and PNKK (Western) *\*we*, with two caveats: (a) the more accurate PNKK reconstruction should be *\*we* (the form is not attested in languages which consistently differentiate between *\*e* and *\*ε*, such as ||Ani), which would account for *\*oε* → *\*oa* in PKK; (b) word-initial *\*h-* is irregularly lost in PNKK, although this may be a specific development in front of a labial diphthong (basically a development like *\*hw-* → *\*w-* in NKK; for a similar example, cf. PKK *\*hui* ‘to help’ vs. |Gwi *wùí* id., quoted in Vossen 1997: 148). It may be tempting to further speculate on possible derivation of this stem from the verbal root *\*ho* ‘to find, get, obtain’ (N *hòò*, K *ho*, Naro *hò:*), though outside of KK it is only found in Naro; such a derivation would still already have to be projected onto the PCK level.

#### 52. BARK (of tree)

- KK: **\*soro-** (N *sòrò-b* ‘peel, skin (of fruit), rind; rare bark’, K *sòró-b*). ◇ Not attested in Xri. A more common equivalent for the meaning ‘bark of tree’ in modern N is *ǀàǀm-mi*, although it seems to more generally denote ‘bark stripped off tree’, being derived from the verb *ǀàǀm* ‘to (de)bark’. Another close synonym is *ǀúú-b* ‘periderm (of bark); (dry, dead) bark’, also

with somewhat more narrow semantics than is required. The primary meaning of *\*soro-*, as is seen both from synchronic and comparative data, is rather ‘shell’, ‘cover’ in general; however, examples from the older dictionary of Krönlein & Rust 1969 show that in the 19th century at least, the word could definitely apply to tree-bark (cf. *sac go ɸawɪ sorob āsa ɥxu:s gumo* “there is the thorn-tree whose bark you are peeling” on p. 349), so formally we are justified in reconstructing *\*soro-* ‘shell, peel, tree-bark’ on the PKK level.

- Khwe: *\*ɥkũ* (||Ani, |Ganda, Buga, ||Xom *ɥkũ*).
- Naro-ɸHaba: *\*ɥkũ* (Naro *ɥkũ*, ɸHaba *ɥũ*). ◊ The ɸHaba form most certainly belongs here, though simplification of the click efflux and (compensatory?) appearance of pharyngealization are quite irregular (possibly erroneous).
- |Gwi-||Gana: *\*gure* (|Gwi, ||Gana *gure* [Ta.]). ◊ Attested only in Tanaka’s dictionary, but well corroborated by external data.
- Shua: *\*ɥũ* (Cara *ɥũ*, |Xaise *ɥũ*). ◊ Note also Shua *gōré* ‘bark’ (Fehn et al. 2025: 20).
- Ts’ixa: *ɥũ* [Vossen], *ɥũ*: [Fehn].
- Tsua: *\*zore* (Hie *zore*, Tjwao *zore*). ◊ Kua has *ɥũ* ‘bark’ in Vossen’s records, but no other Tsua lect seems to preserve traces of this root.
- Cua: *zũrē*.
- NKK: *\*ɥkũ*. ◊ Of the five main branches of NKK, three have *\*ɥkũ* as the default equivalent for this meaning, while two (|Gwi-||Gana and Tsua) prefer the bisyllabic *\*gure*. However, the situation is not so black-and-white overall, since *\*gure* is also found in some Shua lects, while *\*ɥkũ* is attested at least in Kua. As of now, evidence is lacking as to whether both forms could be encountered in the same lect with any semantic differentiation. However, a serious argument can be put up in favor of a secondary origin for *\*gure*: it functions as the main equivalent for ‘bark’ in !Xóõ, where, furthermore, the form is morphologically segmentable (sg. *gú-le*, pl. *gú-n*, see Traill 1994: 173). This means that *\*gure* in the NKK area is most likely a Taa root, diffused wide enough to replace the original CK root in some of the languages.
- CK: *\*ɥkũ*. ◊ PNKK *\*ɥkũ* is a transparent match with N *ɥũ-b* ‘(dry/dead) bark’, allowing to easily project the root onto the PCK level. As to the precise semantics, there are two possibilities: (a) reconstructing the semantic opposition *\*ɥkũ* ‘bark of tree’ : *\*coro* ‘cover, shell, peel’ for PCK, with several semantic shifts in PKK; (b) reconstructing *\*ɥkũ* ‘dead bark’ : *\*coro* ‘cover, shell, peel, bark /general/’, with the inverse semantic shifts in PNKK or some of its daughter branches (note that on some rare occasions, reflexes of *\*coro* in NKK languages also include the semantics of ‘bark’, though this issue demands very fine-grained investigation). Given, however, that even in N *sòrõ-b* is rarely encountered in the meaning ‘bark’, solution (a) seems altogether preferable at our current state of knowledge.

### 53. BELLY

- KK: *\*ĩa-b* (N *ĩáá-b*, K *ĩá-b*). ◊ Not attested in Xri. Always with polysemy: ‘belly’/‘stomach’/‘innards’.
- Khwe: *\*ĩᵀa* (||Ani *ĩná*, |Ganda *là*, Buga *lá*, ||Xom *lāá*). ◊ The notation *\*ĩᵀ-* is here rather an arbitrary designation of the rare correspondence where a nasal efflux in ||Ani matches a zero efflux in the other Khwe lects (as in, e.g., *\*ĩᵀabo* ‘shoe’ → ||Ani *ĩnàbó*, but |Ganda *lábò*, ||Xom *lāvòò*).
- Naro-ɸHaba: *\*ĩa* (Naro *ĩá*, ɸHaba *ĩnà*).
- |Gwi-||Gana: *\*ĩa* (|Gwi *ĩnà*, ||Gana *ĩnà*).
- Shua: *\*ĩa* (Cara, Danisi *ĩá*, |Xaise *là*, Deti *là*).
- Ts’ixa: *là* [Vossen], *lāà* [Fehn].
- Tsua: *\*ĩa* (Kua *là*, Tsua *là*, Tjwao *lā*).

- Cua: *ǀāā* ‘stomach’. ◇ No separate word for ‘belly’ is given, so it makes sense to suspect polysemy.
- NKK: *\*ǀ<sup>h</sup>a*. ◇ All the forms are clearly related; whether the fluctuation between nasal and non-nasal efflux reflects an original complex click efflux in PNKK or is due to other (unknown) factors is really a subject for a separate study.
- CK: Not properly reconstructible. ◇ Despite some phonetic similarity, PKK *\*ǀa-* and PNKK *\*ǀ<sup>h</sup>a-* (whatever its efflux might have actually been) cannot be expected to correspond to each other. The closest possible parallel to the KK root I can find is perhaps Naro *ǀáè* ‘middle; waist’ (with a different suffix?), but without any further NKK comparanda.

## 54. BIG

- KK: *\*kai* (N *kǎi*, K *kái* ~ *gái*, Xri *kai*).
- Khwe: *\*ǀáú* (ǁAni *ǀáú*, ǁGanda, ǁXom *ǀéú*).
- Naro-ǀHaba: Unclear. ◇ Naro *kāi-ā* ‘big’ is somewhat suspicious due to the rarity of this root in other NKK languages; a relatively recent borrowing from KK cannot be excluded. The ǀHaba equivalent is *ǀǔ* (Vossen 2022: 120; transcription *ǀpǔ* in Vossen 1988: 72 is likely erroneous in light of the later entry as well as external data), with further parallels in the Eastern branches, so it might actually be more archaic. (On the other hand, see also notes on MANY).
- ǁGwi-ǁGana: Unclear. ◇ Vossen (1988: 72) contrasts ǁGwi *ǀúrí* with ǁGana *ǀó*; however, Tanaka’s dictionary, despite the usual orthographic problems, shows that both roots can be found in both of these languages (ǁGwi *ǀuri*, *ǀdó*; ǁGana *guri*, *ǀdó*), without any clear semantic differentiation. In light of external data, *\*ǀo* seems to be a likely candidate for proto-status.
- Shua: Not reconstructible. ◇ Vossen’s data are highly contradictory here, with each lect reflecting a different root: Cara *gùrí*, ǁXaise *ǀô*, Danisi *ǀáú*, Deti *kái* (Fehn’s data support many of these synonyms but do not allow to construct a clear historical picture).
- Ts’ixa: *ǀáú* [Vossen, Fehn].
- Tsua: Unclear. ◇ Kua *ǀǔ*, Tsua *ǀǔ* (Vossen’s data) are opposed to Hie *ǀo*: ~ *ǀxo*; Tjwao *ǀo*; despite phonetic similarity, these two groups of forms are not really compatible (reflecting *\*ǀǔ* and probably *\*ǀo* respectively).
- Cua: *ǀqǔǔ*.
- NKK: Not properly reconstructible. ◇ The concept ‘big’ seems to be quite unstable in NKK languages. At least four different roots display an almost random distribution here: (a) *\*ǀau* (all of Khwe + Danisi and Ts’ixa); (b) *\*ǀ(q)ǔ* (ǀHaba + Kua-Tsua and Cua); (c) *\*ǀuri* (ǁGwi-ǁGana + Cara); (d) *\*ǀo* (ǁGwi-ǁGana + ǁXaise + Hie-Tjwao), not to mention *\*kai* (in Naro and Deti, perhaps diffused from a KK source). Of these, (a) does look like a Khwe innovation, which could then have areally penetrated into Danisi and Ts’ixa; for a possible external correlate, cf. perhaps N *ǀǎú* ‘manner, way, style, mode; amount’. The other roots are all encountered both in the Western and Eastern parts of the NKK continuum, and without precise semantic descriptions it is impossible to differentiate between the three.
- CK: Not reconstructible. ◇ PKK *\*kai*, reasonably stable in this small branch, is sharply contrasted here with a variety of roots in NKK languages; selecting a single optimal candidate is impossible at our current level of knowledge.

## 55. BITE

- KK: *\*ba* (K *bá*, Xri *baa*). ◇ Although K and Xri agree in this case, and the antiquity of the root is further confirmed by external data, N has no traces of it; instead, the equivalent is *nǎǎ* ~ *nǎá* ~

(Hai||om) *ndáá*, without any known Khoe parallels and with phonetic features hinting at a non-Khoe origin (word-initial *n-*, including an even less regular reflex *nd-* in the Hai||om dialect).

- Khwe: \***pá** (||Ani *pá*, |Ganda, Buga, ||Xom *pá*).
- Naro-ǀHaba: \***kạ̌** (Naro *kạ̌*, ǀHaba *kạ̌*).
- |Gwi-||Gana: \***pá** (|Gwi *pá*, ||Gana *pá*).
- Shua: \***pá** (Cara, |Xaise, Danisi, Deti *pá*).
- Ts'ixa: **pá** [Vossen], **pá**: [Fehn].
- Tsua: \***pá** (Kua, Tsua *pá*, Hie *p<sup>h</sup>a*, Tjwao *pa:*).
- Cua: **pá**.
- NKK: \***pa**. ◇ This is a stable root, only replaced in Proto-Naro-ǀHaba with the innovation \**kạ̌*; given the presence of pharyngealized articulation, this can be compared with the frequently attested root \**qa* 'to open /mouth/' (→ ||Xom *qá:*, Ts'ixa *qáā*, Shua *káā*, Cua *qáā*, etc.) with a trivial semantic shift.
- CK: \***pa**. ◇ The isogloss between PNKK and PKK is quite transparent and shows that the word belongs to the very small group of PCK items with word-initial \**p-* (the only other item in this group is PCK \**pi-* 'milk'). Although the statistical rarity is suspicious, there are no formal grounds on which the item could be refused PCK status.

## 56. BREAST (= CHEST)

- KK: \*||**xai-b** (N ||*xái-b*, Xri ||*xaip*). ◇ This term denotes '(male) chest' in N and probably in Xri as well (glossed as 'chest'); it is lexically opposed to N *sáín-s* '(female) breast' = K *samm-a* (only in Maingard's data), Xri *samm-i* id. For K, both Meinhof and Wuras quote the compound form *t<sup>h</sup>am-kxari-b* (Mh.) = *t<sup>h</sup>am-kxarri-b* (Wu.), glossed as 'Brust' and 'chest' respectively. Its first component can be identified as *t<sup>h</sup>am* 'soft' (which would rather imply 'female breast' as the original semantics?), but the second component is unclear. Maingard's texts consistently indicate the use of *samma* to denote 'female breast', but contain no examples for 'male chest'. Still, at least attestation in Xri confirms that \*||**xai-** can be formally traced back to PKK in the required meaning (and the compound form in K is very likely to be a recent innovation).
- Khwe: \*||**u** (||Ani, ||Xom ||*ũ*).
- Naro-ǀHaba: \*||**u** (Naro ||*úũ*, ǀHaba ||*úũ*).
- |Gwi-||Gana: \*||**u** (||Gana ||*ũ*). ◇ For |Gwi, cf. the form *ǵ!u-ša* in Tanaka 1978: 21.
- Shua: \*||**u** (Cara |Xaise, Danisi, Deti ||*ũ*).
- Ts'ixa: ||**úú** (Fehn), ||**ũ** (Vossen).
- Tsua: \*||**u** (Kua ||*ũ*, Tsua ||*ũ*, Hie ||*u:*).
- Cua: ||**ũũ**.
- NKK: \*||**u**. ◇ A very stable root for 'male chest' throughout NKK (more stable, actually, than the equivalents for 'female breast', which include reflexes for PNKK \**pi*, more common in the Western area, and PNKK \**sam*, more common for Eastern languages).
- CK: Not properly reconstructible. ◇ The only known NKK parallel to the KK root is Naro ||*xái* 'breastbone' (suspicious since it could actually be a KK borrowing). On the other hand, a curious parallel in KK to PNKK \*||*u* may be N ||*ũ-s* 'sternum of ostrich' (according to Haacke & Eiseb, only found in an old source, so also suspicious). No way to properly resolve the binary split.

## 57. BURN (tr.)

- KK: \***dao** (N *tàò*, K *dao*, Xri *dāu*). ◇ In N, this is primarily a verb denoting transitive action (= 'to burn smth.');

agree on sharing the common intransitive verb \*ʔ<sup>h</sup>ubi ‘to burn’ (N ʔ<sup>h</sup>ũwí ~ ʔ<sup>h</sup>ũbí, K ʔ<sup>h</sup>ũbī, Xri ʔ<sup>h</sup>ubi), so it can be safely assumed this basic opposition was inherited from PKK. The nasalized variant in Xri finds confirmation in K *dāu-sa* ‘burning /of sun’ (Mh.), but, as in many similar cases, reasons for additional nasalization remain unclear (external comparanda only show oral vowels).

- Khwe: \***dao** (||Ani, Buga *dáò*, |Ganda *dàò*, ||Xom *dàò*).
  - Naro-ǀHaba: \***dao** (Naro *dàò*, ǀHaba *díò*).
  - |Gwi-||Gana: \***dao** (|Gwi *díò*, ||Gana *dáó*).
  - Shua: \***dao** (Cara, Danisi, Deti *dàò*, |Xaise *dáó*, Deti *dàò*).
  - Ts'ixa: **dáò** ~ **dāò** [Fehn], **dáó** [Vossen].
  - Tsua: \***dao** (Kua *dáó*, Tsua *dáò*, Hie *d<sup>h</sup>au*, Tjwao *dao/-xo/*).
  - Cua: **dāò**.
- NKK: \***dao**. ◇ A highly stable verbal root, usually employed both in the transitive and intransitive functions throughout NKK (additional partial synonyms are scattered across languages, but hardly ever projected even to the intermediate proto-levels).
- CK: \***dao**. ◇ Except for a stricter distinction between transitive and intransitive equivalents for this meaning, KK and NKK generally agree on the transitive equivalent.

## 58. CLOUD

- KK: (?) \***ǀanu-s** (N **ǀānú-s**, Xri **ǀanu-s**). ◇ A clear isogloss between N and Xri, yet its PKK status is somewhat dubious due to the overall instability of the concept in KK (and the Khoisan area in general). For N, the meaning is glossed as ‘cloud, raincloud, nimbus’, with the masc. counterpart **ǀānú-b** meaning ‘rain; thunderstorm’. Additionally, the word **!ǀǎú-s** ~ **!ǀǎú-b** is glossed as ‘cloud’ for the Damara dialect and as ‘white cloud’ for the Topnaar dialect (Haacke & Eiseb 2002: 298), while the word **ǁ<sup>h</sup>ǎǎ-s** is glossed as ‘cloud’ for the Hai||om and ǀĀkhoe dialects (Haacke & Eiseb 2002: 264). In older sources, **ǀanu-s** is glossed as ‘cloud’ (Krönlein & Rust 1969: 272), while the word **ǁ<sup>h</sup>ao** is only attested in its verbal meaning ‘to be covered with clouds (of sky)’ (Krönlein & Rust 1969: 162) and the equivalent of **!ǀǎú-s** is not attested at all.

In K, the only known equivalent is  $^h\text{umm-a}$  ‘cloud, sky’ = N  $^h\text{òm-m-i}$  ‘heaven, (sky)’ = Xri  $^h\text{ommi}$  ‘cloud’, going back to PKK  $^h\text{om-}$ ; however, since out of these three languages only the N data are consistently reliable in the semantic aspect, it is probably more cautious to reconstruct the original meaning of the word as ‘sky’ rather than ‘cloud’.

- Khwe: Unclear. ◇ Cf. Buga *qóm*, |Ganda *qóm* (Vossen 1992: 385). These forms would seem to be comparable to ||Xom *ǀòṁ* ‘cloud’, but click loss in this case would be completely irregular.
- Naro-ǀHaba: \***tu-ǀũ** (Naro *tú:-ǀò:*, ǀHaba *tú:-m-ǀúũ*). ◇ This compound literally means ‘hair of rain’ (similar idiomatization is also encountered in various Ju dialects). Additionally, cf. Naro *ǀòṁ* ‘cloudy’, *ǀòṁ-ā* ‘cloud’ (but without any known parallels in ǀHaba).
- |Gwi-||Gana: Not attested.
- Shua: Not attested in Vossen’s data, but cf. Shua *ǀũṁ ~ ǀũṁ* ‘sky; cloud’ in Fehn et al. 2025: 22.
- Ts’ixa: **ǀũṁ** (Fehn).
- Tsua: \***ǀũṁ** (Hie. *ǀom*, Tjwao *ǀum*). ◇ Not attested in Kua or Tsua; the Hie-Tjwao comparison is acceptable, assuming that Dornan is mistranscribing the lateral click.
- Cua: **ǀqāi**.
- NKK: \***ǀũṁ** (?). ◇ Although this reconstruction can be seen as reliable based on joint evidence from ||Xom, Shua, Ts’ixa, and Tjwao, what makes it problematic are the divergent forms in Naro (with an unexpected nasal efflux) and Buga/|Ganda, with a uvular stop (*q-*) in

place of the lateral click. This can mean two things: either all these forms are tied together with a rare series of correspondences reflecting an equally rare click efflux (e.g. prenasalized uvular or something of the sort), or at least some of them are not genetically related, but areally diffused (e.g. different scenarios of borrowing from a substrate source). Still, formally the connection between at least the above-mentioned four languages can be counted as genetically valid.

- CK: Not reconstructible. ◇ The concept of ‘cloud’ is generally unstable in the entire Khoisan area, so, not surprisingly, coming up with a credible PCK reconstruction is hardly possible at the present levels of knowledge.

## 59. COLD

- KK: **\*!xai** (N *!xàǎ*, K *!xai*, Xri *!xai*).
- Khwe: **\*!xonu** (||Ani *|xónó*, |Ganda *|xònú*, ||Xom *|xùnú* ‘be cold; be okay, feel good’). ◇ For ||Xom, this word seems rather to convey the semantics of ‘cool’ (with positive connotations); the actual meaning ‘cold’ is rather correlated with *|kává*, an isolated item that nevertheless correlates well with N *|àwǎ-s* ‘North’.
- Naro-ǀHaba: **\*!q<sup>h</sup>ai** (Naro *!xàǎ*, ǀHaba *k<sup>h</sup>ài ~ kái<sup>h</sup>*). ◇ Click loss in ǀHaba is regular; strange discrepancies in transcription between Vossen 1988 and Vossen 2022 (aspirated stop in the former, unaspirated stop + pharyngealization in the latter) may actually tie in with |Gwi-||Gana data as being indicative of a rare aspirated uvular click efflux.
- |Gwi-||Gana: **\*!q<sup>h</sup>ai** (|Gwi *!q<sup>h</sup>āi* [Na.], *!hàì* [Vossen]; ||Gana *q<sup>h</sup>āi* [Na.], *qái* [Vossen]). ◇ Nakagawa’s data clearly show that we are dealing with a uvular aspirated efflux (which Vossen seems to have struggled to transcribe).
- Shua: **\*xai** (Cara *xái*). ◇ In Vossen’s data, this root is only found in Cara; it is also, however, confirmed as Shua *xāi ~ xái* ‘cold; to freeze; to shiver’ in Fehn et al. 2025. |Xaise and Deti have *kára* ‘cold’ with no external parallels. Danisi has *|xónó* ‘cold’ = Shua *|xun* ‘to shiver’ (Fehn).
- Ts’ixa: **|xúnú** (Fehn), **|xúnù** (Vossen). ◇ Another Ts’ixa equivalent is *|kábá* ‘be cold, freeze’ (Fehn), which, judging by this root’s distribution, is almost certainly a loanword from Khwe.
- Tsua: Unclear. ◇ According to Vossen, the Kua equivalent is *|xónù*, while Tsua has *hùrú* = Tjwao *|xuru ~ |<sup>h</sup>uru* with sporadic click loss. On the other hand, Hie. *hai*: ‘cold’ = Shua *\*xai*, etc.
- Cua: **k<sup>h</sup>āi**.
- NKK: **\*!q<sup>h</sup>ai**. ◇ The most widespread, phonetically and semantically certain equivalent for the required concept throughout NKK is this stem, although its original phonetic shape has probably only been preserved in (Nakagawa’s) |Gwi. A weaker second candidate would be PNKK *\*|xonu*, displaying the required semantics in Khwe, Kua, Ts’ixa, and Danisi (because of this distribution, ruling it out as just another Khwe loan in Ts’ixa would be premature); this may, however, be a secondary semantic development from ‘to shiver’ (as a possible etymological cognate, cf. PKK *\*|xon* ‘to itch’ → N *|xón*, K *|xòn-|xón*, which would suggest the physical movement semantics as primary), and its overall distribution is narrower than that of *\*!q<sup>h</sup>ai*.
- CK: **\*!q<sup>h</sup>ai**. ◇ Although the click efflux in KK is predictably simplified, the sole PKK and the preferable PNKK candidates for this term present a solid match.

## 60. COME

- KK: **\*ha** (N *hàà*, K *há*, Xri *ha*). ◇ N uses the verb *|xiǎ* as a full synonym for *hàà*, and its existence in K is also confirmed as *|xi*: ‘to come, arrive’ by Maingard. However, it is absent from all main sources on K and Xri, and its archaic nature is not corroborated by external data.

- Khwe: **\*ha** (||Ani *hǎ*, Buga *hâ*, ||Xom *yāá*). ◇ |Ganda *||ám* ‘to come’ = ||Xom *||ám* ‘to run, run into smth.’, i.e. a transparent innovation (provided the meaning is accurate in the first place).
- Naro-ǀHaba: **\*ha** (Naro *hà*, ǀHaba *hǎ*).
- |Gwi-||Gana: **\*hâ** (|Gwi, ||Gana *hâ*).
- Shua: **\*ha** (Cara, |Xaise, Danisi *hǎ*, Deti *hâ*).
- Ts’ixa: **hāà** (Fehn), **hâ** (Vossen). ◇ Aligns with Shua rather than ||Xom (although the development *\*ha* → ||Xom *ya* is recent and not very diagnostic).
- Tsua: **\*ha** (Kua, Tsua *yâ*, Hie. *ya*, Tjwao *ha*: ~ *a*). ◇ Tjwao preserves the original laryngeal articulation, as corroborated by external data.
- Cua: **āà**.
- NKK: **\*ha**. ◇ Superstable root, (possibly) lost only in |Ganda.
- CK: **\*ha**. ◇ A clear match between PKK and PNKK.

## 61. EARTH (= SOIL)

- KK: **\*!h<sub>u</sub>-** (N *!h<sub>u</sub>ú-*, K *!h<sub>u</sub>-b*, Xri *!h<sub>u</sub>:-p*). ◇ Usually attested with polysemy ‘earth/land/soil/country’ (at least in N; K also shows signs of polysemy).
- Khwe: **\*xóm** (||Ani, |Ganda, Buga, ||Xom *xóm*).
- Naro-ǀHaba: **\*xóm** (Naro, ǀHaba *xóm*).
- |Gwi-||Gana: **\*xóm** (|Gwi *xóm*, ||Gana *xóám*).
- Shua: **\*xóm** (Cara, |Xaise, Danisi *xóm*, Deti *xòm*).
- Ts’ixa: **xúm** (Fehn), **xóm** (Vossen). ◇ Aligns with both Shua and ||Xom.
- Tsua: **\*xóm** (Kua, Tsua *xóm*).
- Cua: **xòm**.
- NKK: **\*xom**. ◇ In most NKK languages, there is no lexical differentiation between ‘earth’ and ‘sand’ (see SAND for further details).
- CK: Unclear. ◇ KK is clearly opposed to NKK in its lexical differentiation between *\*!h<sub>u</sub>-* ‘earth, soil, land’ and *\*||xae* ‘sand’, whereas NKK merges both meanings in the single root *\*xom* — very likely related to the geological realities of Khoekhoe vs. Kalahari Khoe-speaking peoples. Unfortunately, linguistic evidence does not allow to decisively establish which situation is primary, because neither of the KK roots finds any etymological correlates in KK. There is, however, a hint that the nominal stem *\*xom* may have originally been present in KK as well, due to the preservation of the potentially related verb N *xòm* ‘to wipe off/up (liquid)’ (Haacke & Eiseb) = *xom* ‘abstauben, abbürsten’ (Rust), i.e. ‘to dust’. But even if the two words are etymologically related, this does not disprove the possibility of an original opposition like *\*!h<sub>u</sub>-* ‘soil’ vs. *\*xom* ‘dust/fine sand’, so the issue remains unresolved.

## 62. FAT (n.)

- KK: **\*kau-** (N *kǎú-b* ~ *kǎú-s*, K *kou-b*). ◇ This is the noun denoting ‘solid fat’, as opposed to PKK *\*||ui-b* ‘liquid fat; ointment’; the root also functions as the verbal/adjectival stem *\*kau* ‘(to be or become) fat’ (this is the only meaning in which it is attested in Xri, so we are not completely sure of the situation with denoting different types of ‘fat’ in that language).
- Khwe: **\*||úi** (||Ani *||núì*, |Ganda, Buga, ||Xom *||úi*).
- Naro-ǀHaba: **\*||úi** (Naro *||úi*, ǀHaba *||núì*).
- |Gwi-||Gana: **\*||úi** (|Gwi, ||Gana *||úi*).
- Shua: **\*||úi** (Cara, Danisi, Deti *||úi*, |Xaise *||núì*).
- Ts’ixa: **||núì** (Fehn), **||úi** (Vossen). ◇ Aligns with both Shua and ||Xom.

- Tsua: \***ǀui** (Kua *ǀùì*, Tsua *ǀùí*, Hie *ǀwi*, Tjwao *ǀnui*).
- Cua: **ǀùì**.
- NKK: \***ǀnúi**. ◇ No NKK language has been shown so far to distinguish (at least, on the level of different lexical roots) between the sub-meanings of ‘liquid fat, oil’ vs. ‘hard/congealed fat’.
- CK: \***ǀnúi**. ◇ KK \**kau-* can be seen as a secondary nominal derivative of the verb \**kau-* ‘to be fat’ which, in turn, is comparable to PNKK \**cau* ‘to be fat’ (ǀAni, Naro, Cua etc. *cáú*) with a rare, but recurrent correspondence pattern (cf. PKK \**k<sup>h</sup>ao* ‘to dig’ : PNKK \**c<sup>h</sup>ao* id.); since none of the NKK languages derive the noun ‘fat’ from this root, this speaks in favor of an innovation in PKK.

## 63. FEATHER

- KK: \***ǀam-i** (N *ǀàǀm-mi*, K *ǀamm-a*). ◇ Both N and K systematically distinguish between \**ǀũ-* ‘human hair (on head or body)’ and this term for ‘feather’; Snyman’s data on Xri, however, yield the same equivalent (Xri *ǀũ-b*) for both concepts. Since there is no easy way to explain the N-K isogloss as an innovation, while the semantic merger of ‘hair’ and ‘feather’ in one lexeme is typologically common, it is preferable to treat the N-K situation as more archaic (in the context of PKK proper).
- Khwe: Unclear. ◇ Attested only in ǀXom: *ǀũũ*, the same word as HAIR q.v.
- Naro-ǀHaba: Unclear. ◇ Attested only in Naro: *ǀōō*, the same word as HAIR q.v.
- ǀGwi-ǀGana: Not attested.
- Shua: Not attested (in Fehn et al. 2025, same word as HAIR q.v.).
- Ts’ixa: Unclear. Fehn lists *ǀābò* with polysemy ‘feather/wing’, but this word typically means ‘wing’ in NKK languages; additional checkups are necessary to understand if there really has been a subtle semantic shift in Ts’ixa compared to the rest of NKK or not.
- Tsua: Unclear. ◇ Not attested in Kua or Tsua; Hie *ǀo* and Tjwao *ǀũ*: are the same word as HAIR q.v.
- Cua: *ǀũ*: (same word as HAIR q.v.).
- NKK: \***ǀũ**. ◇ Although the concept is poorly attested across the group, most attested examples in different subbranches agree that there was probably no lexical distinction between the concepts HAIR and FEATHER in PNKK.
- CK: Unclear. ◇ While the basic term for HAIR remains the same across both of the major subdivisions of Khoe, a separate term for FEATHER (\**ǀam-*) is exclusive to Khoekhoe, and has no clear parallels in the Kalahari languages. Whether this situation is archaic or innovative cannot be easily determined.

## 64. FISH

- KK: \***ǀau-b** (Nama *ǀàù-b*, ǀOra *ǀau-b*, Xri *ǀau-p*).
- Khwe: \***ǀau** (ǀAni, ǀGanda, Buga *ǀáù*, ǀXom *ǀéú*).
- Naro-ǀHaba: \***ǀau** (Naro *ǀāù*, ǀHaba *ǀáù*).
- ǀGwi-ǀGana: \***ǀáù** (ǀGwi, ǀGana *ǀáù*).
- Shua: \***ǀau** (Cara, ǀXaise, Deti *ǀáú*, Danisi *ǀáù*).
- Ts’ixa: *ǀáũ* (Fehn), *ǀáù* (Vossen). ◇ Aligns with both Shua and ǀXom.
- Tsua: (?) \***ǀau** (Tjwao *ǀau*). ◇ Not attested in Kua or Tsua. Hie. *t<sup>h</sup>api* ‘fish’ is a transparent borrowing from Setswana.
- Cua: Not attested.

- NKK: \***||ʔau**. ◇ A surprisingly stable term throughout Kalahari Khoe (despite the well-known difficulties of eliciting terms for ‘fish’ in the San area). Note the irregular (so far unexplained) lateral click loss throughout the Eastern area (but not in Ts’ixa, where preservation of the click may be tentatively attributed to Khwe influence).
- CK: \***||ʔau**. ◇ The term is safely reconstructible based on evidence from both major branches.

## 65. FLY (v.)

- KK: Not properly reconstructible. ◇ Only N has a special word for the concept of ‘flying’ (*||xàná*), although even that one is occasionally replaced in dialects with *kʰāĩ* ‘to stand up, rise, fly up’. K and Xri nominally agree on *doe* ‘to fly’, but even in K the semantics fluctuates between ‘fly’ and ‘fly away, flee’ = N *dòè* ‘to migrate, move away’, and in NKK the respective cognates for this item almost always have the same meanings as in N; therefore, even if the semantics of ‘flying’ (no specific direction) is indeed present in K and Xri *doe* (and is not simply the result of inadequate glossing), it is most likely innovative. On the other hand, N *||xàná* is not easily explainable as a recent innovation and may represent a PKK retention in this language.
- Khwe: Unclear. ◇ The only attested form is *||Xom ||èvùũ* ‘to fly (of birds)’, very likely related to the general CK term for ‘wing’ (\**||abo*), although the voiced articulation of the click is unexpected.
- Naro-†Haba: \***3āĩ** (Naro *cāēĩ* [Visser], *cāĩ* [Vossen], †Haba *3āĩ*). ◇ Although formally reconstructible on this low level, this word has no obvious parallels in the rest of NKK, but can be identified as a borrowing from Taa, cf. !Xóõ *3āĩ* ‘to fly’.
- |Gwi-||Gana: Not attested.
- Shua: Not attested. Fehn et al. (2025) offer several dialectal synonyms: *pēē* (← PNKK \**pe* ‘to jump’), *tāñ* (← PNKK \**tan* ‘to stand up, rise’), *||ābũ* (again, connected to *||ābò* ‘wing’).
- Ts’ixa: *||ābũ* (Fehn). ◇ Aligns with both Shua and *||Xom*.
- Tsua: Not attested, except for several competing Tjwao synonyms (*||abu* as in Shua; *tan* ← ‘to rise’; *zaro*, perhaps = PNKK \**zaro* ‘to gather’) and Hie. *fofa*, borrowed from Setswana.
- Cua: Not attested.
- NKK: (?) \***||abu**. ◇ After excluding several roots with originally distinct semantics (‘to jump’, ‘to rise’, etc.) and borrowings, the only remaining candidate is \**||abu*, found in the Eastern area as well as *||Xom* (albeit with phonetic deviations) — however, it seems to be morphologically related to the nominal stem ‘wing’ and is probably derived from it rather than vice versa.
- CK: Not reconstructible. ◇ The concept of ‘flying’ is generally unstable in the Khoisan area, as the meaning tends to colexify with a variety of other concepts, and CK is no exception. The only etymon represented by its own root is N *||xàná*, but the complete lack of comparanda in other languages makes it ineligible for PCK status at our present level of knowledge.

## 66. FULL

- KK: \***||kxoa-sa** (N *||òà-sǎ*, K *||kxóá*, Xri *||kxoa-sa* ~ *||roa-sa*). ◇ Adjectival derivative from the verbal root \**||kxoa* ‘to be full / to fill’.
- Khwe: \***||kxóè** (*||Ani*, *|Ganda*, *Buga*, *||Xom ||kxóè*).
- Naro-†Haba: \***||kxoe** (Naro *||kxòè*, †Haba *||kxóè*).
- |Gwi-||Gana: \***||kxoε** (*|Gwi ||kxóé*, *||Gana ||kxòè*).
- Shua: \***||kxoe** (*Cara*, *Deti ||róé*, *|Xaise ||róè*, *Danisi ||kxóé*).
- Ts’ixa: *||kxóè* (Fehn), *||róè* (Vossen). ◇ Aligns with both Shua and *||Xom*.

- Tsua: \*|**kxoe** (Kua /*ɔ̀è*, Tsua /*ɔ̀é*, Hie /*zwea*, Tjwao /*ɔe-ha*).
- Cua: |**kxòè**.
- NKK: \*|**kxoe**. ◇ This root is extremely stable throughout the entire group.
- CK: \*|**kxoe**. ◇ The diphthong \*-*oe* is explicitly preserved in some of the NKK languages and undergoes regular development → \*-*oa* in PKK.

## 67. GIVE

- KK: \***ma** (N *màà*, K *mà* ~ *mā*). ◇ For Xri, Snyman's data only quote *au* in the meaning 'give' = N *áú* 'to share in; to let sbmd. have something (food, etc.)', K *au* 'to give up (abgeben)', i.e. a word with a very close, but narrower meaning. Whether this is a genuine replacement or a deficiency of the wordlist can only be guessed.
- Khwe: \*|**xa** (||Ani *ɬxá*, |Ganda, Buga, ||Xom *ɬxǎ*). ◇ For ||Xom, cf. also *mǎ*: 'to distribute, give (out) as gift', as well as *xàróó* 'to give, give away, hand in'.
- Naro-ɬHaba: \***mâ** (Naro, ɬHaba *mâ*).
- |Gwi-||Gana: \***mā** (|Gwi *mā*: [Na.], *mâ* [Vossen], ||Gana *mā*). ◇
- Shua: Unclear. ◇ Vossen does not record any Shua equivalents; Fehn et al. (2025) have *kʰáà* and *xáró* as synonyms.
- Ts'ixa: **kʰàà** (Fehn). ◇ Aligns with data from Shua, but not from ||Xom.
- Tsua: (?) \***ma**. ◇ Attested as Tjwao *ma*: and Hie *ma*: 'to lend, to give to, to forgive'; the more basic Hie equivalent for 'to give' seems to be *tʰe*.
- Cua: **tʰèè** and **mǎà** are given as synonyms.
- NKK: \***ma** ~ \***mā**. ◇ This root seems to still function as the default equivalent for the Swadesh meaning only in Naro-ɬHaba, |Gwi-||Gana, and (importantly) in Tjwao; some other languages still preserve it in slightly shifted meanings.
- CK: \***ma** ~ \***mā**. ◇ A solid isogloss between KK and NKK. However, there is a clear tendency in different branches to replace the original root with more specialized terms from the same semantic field. In KK, one such term is \**au* 'to share, partake' (not found in NKK except for Naro *āū* 'give' /polite/, possibly a loan from KK); in the Shua cluster, it is \**kʰa* = Naro *kʰáà* 'to give generously', N *kʰàà* 'to give' (especially as a gift; said to be "obsolete"). Khwe \*|*xa* and Tsua/Cua \**tʰe* have no transparent etymologies for now, but may be speculated to represent recent replacements of a similar nature.

## 68. GOOD

- KK: \*|**āi** (N *!āi*, K *!āi*, Xri *!āi* ~ *!āi*). ◇ In KK, this root mainly conveys the semantic of moral or intrinsic goodness/quality, as opposed to KK \*|*ɬi* 'good' = 'handsome/beautiful' (although K *ĩ-sa* is also occasionally rendered as 'good' in European translations).
- Khwe: \*|**on[i]** (||Ani, Buga *t'úĩ*, |Ganda *t'ón*, ||Xom *t'ón* ~ *t'ún* ~ *t'úin*). ◇ Phonetic variation here is probably best explained through two morphological variants (one with the verbal suffix \*-*i* and one reflecting the pure root). In ||Xom, this root seems to merge both the sub-meaning referring to "moral goodness" and to "physical beauty".
- Naro-ɬHaba: \*|**āi** (Naro *!āē*, ɬHaba *kʷi*). ◇ Click loss in ɬHaba is regular; monophthongization may somehow be tied to the palatalization of initial velar (\*|*āi* → \**kāi* → \**kʷāi* → *kʷi*), although it is not possible to verify this on additional examples for now. In any case, both items can be traced back to a single proto-source with sufficient confidence.
- |Gwi-||Gana: Unclear. ◇ Sources here are conflicting and not sufficiently accurate. For |Gwi, Vossen has *c'è* 'good' and *qádè* 'good/pleasant/comfortable/sweet'; Nakagawa has *ɕ'òè* 'beau-

tiful’ = *ekyuen* ‘beautiful/good’ in Tanaka’s dictionary. For ||Gana, Vossen has *kāi* ‘good’ and *qádè* with the same meanings as in |Gwi, as well as *t’úĩ* ‘good, beautiful’ = *ǀóǀē* ‘beautiful’ (Nakagawa) = *ekyuen* ‘beautiful/good’ (Tanaka).

- Shua: [a] *\*t’úĩ* (Cara, Deti *t’úĩ*, |Xaise, Danisi *t’úĩ*); [b] *\*kāi* (Cara *kāi*, |Xaise, Deti, Danisi *kāi*). ◇ The semantic difference between these two roots cannot be established based on extant data.
- Ts’ixa: [a] *t’úĩ*; [b] *kāi* (Fehn, Vossen). ◇ Meanings of these two items overlap, but item [a] seems to primarily refer to physical beauty, while item [b] is also attested in the verbal meaning ‘to enjoy (smth.)’ and more commonly refers to abstract qualities.
- Tsua: [a] *\*t’úĩ* (Kua *t’úĩ*, Tsua *t’úĩ*, Tjwao *t’úĩ* ~ *t’u(i)n*); [b] *\*kāi* (Kua, Tsua *kāi*, Hie *kai-e* ‘to be nice, pretty, agreeable’). ◇ Exact semantic difference between these roots is difficult to figure out based on available sources. It should be noted that a huge variety of partial synonyms is also attested for Hie (*ǀčo* ‘good, goodness’; *hwi* ‘good, well’, *!xo*: ‘good’, *tweje* ‘fine, pretty’), complicating the situation even further.
- Cua: [a] *t’úĩ* ‘beautiful’; [b] *kāi* ‘delicious, good, well’.
- NKK: *\*!āĩ*. ◇ Despite significant technical difficulties such as an abundance of partial synonyms and inaccuracy of semantic glossing, many, if not most, of the NKK branches point to a fundamental lexical dichotomy between ‘good = of suitable quality’ and ‘good = physically beautiful’, just as in KK. The required Swadesh meaning is more typically expressed by reflexes of *\*!āĩ*, while the meaning of ‘physical beauty’ is more commonly rendered by *\*t’on[i]* (→ *\*t’úĩ* in most of the subbranches). In Khwe (at least in ||Xom) the latter root may have also taken on the functions of the former as well, but this seems to be an exceptional situation rather than the norm.
- CK: *\*!āĩ*. ◇ Reliably reconstructible based on data from both branches; distribution of the root in NKK speaks against a scenario of diffusion from KK. However, the basic terms for ‘good = physically beautiful’ are completely different in KK and NKK and cannot be etymologized on any mutual grounds.

## 69. GREEN

- KK: *\*!kxam* (N *!ǀáǀm*, K *!kxam*, Xri *!kxam* ~ *!ǀam*).
- Khwe: Unclear. ◇ The only well-attested form is ||Xom *!kxáo* ‘green’, a color term applicable to leaves and other green objects.
- Naro-ǀHaba: Unclear. ◇ Attested forms for this meaning are similar in both languages: Naro *cá<sup>f</sup>* ~ *zá<sup>f</sup>* (Visser), ǀHaba *ǀǀá* (Vossen). However, variation *c-* ~ *ǀ-* in Naro is unusual, and the forms are impossible to separate from Sasi (ǀHoan) *ǀǀá* ‘green’; note also, perhaps, !Xóǀ *ǀǀá<sup>f</sup>* ‘green’, which is phonetically quite similar despite the substitution of affricate by a dental click. It is difficult to construct a single reliable historical scenario for all these forms, but the overall distribution rather points out to a local *Wanderwort* than an inherited term.
- |Gwi-||Gana: Unclear. ◇ The only well-attested form is |Gwi *ckxāē* [Na.] ‘blue, green’, with a very rare initial cluster and no external parallels.
- Shua: Unclear. ◇ Cf. in Fehn et al. 2025: Shua *c’áē* ‘blue, green’; *t’ǀǀá* ‘blue, green’.
- Ts’ixa: *t’ǀǀá*.
- Tsua: Unclear. ◇ Not attested in Kua or Tsua. Hie (in addition to the probable loan *barat<sup>h</sup>i*) has *ǀǀabe* ‘green’ = Tjwao *c’abe* (in Tjwao, cf. also *kǀoara* ~ *kura* ‘green’).
- Cua: *cá<sup>f</sup>bé* ‘green’; *ckxāē* ‘green’.
- NKK: Not reconstructible. ◇ Although some links may be drawn between certain branches (most notably |Gwi *ckxāē* = Shua *c’áē* = Cua *ckxāē*, pointing to a hypothetical prototype like *\*ckxae*), the concept is overall highly unstable, prone to borrowing, and areal diffusion.

- CK: Not reconstructible. ◇ It should be noted that KK does have a stable, phonetically unexceptional and semantically well-defined term for ‘green’, sharply contrasting with NKK in this matter. Whether this situation may be projected onto the PCK level, however, remains unknown.

## 70. KNEE

- KK: \***||oa-** (N *||óá-s*, K *||óá-b*, Xri *||oa-p ~ ||óã-p*).
- Khwe: [a] \***||óé** (*||Ani*, *||Xom ||óé*); [b] \***kuru** (*|Ganda kúrù*, *Buga kúdù*, *||Xom kûrù*). ◇ Both words are attested in *||Xom*, where *kûrù* is glossed simply as ‘knee’, while *||óé* is given with polysemy (‘knee / joint / node of reed shaft’). The other lects, if Vossen’s data are to be trusted, tend to choose between one of the two synonyms.
- Naro-ǀHaba: \***!úrù** (Naro, ǀHaba *!úrù*).
- |Gwi-||Gana: Unclear. ◇ Cf. *||Gana qúrù*, |Gwi *||ǀ-ǀxèrì* (Vossen). The first term is phonetically similar to Khwe *\*kuru*, but genetically incompatible if the first consonant is indeed uvular. The second is a compound formation, but the individual components are obscure.
- Shua: [a] \***||oe** (Cara, Danisi *||óé*, Deti *||òé*); [b] \***kukuru** (Cara *kúkúrù*, |Xaise *kúkúrù*). ◇ Fehn et al. 2025 also list the same two synonyms (Shua *||óé*, *kúkūrù*) without any notes on semantic or dialectal differentiation. Same situation as in Khwe (see above).
- Ts’ixa: *||óé* (Fehn), *||úé* (Vossen). ◇ Aligns with both Shua and *||Xom*.
- Tsua: \***||oe** (Kua *||ùè*, Tsua *||óé*, Tjwao *||oe*). ◇ Irregular vocalic reflexes in Kua. Hie has *kukuru* ‘knee’, just like in Shua, but all the other lects in the cluster go against it.
- Cua: *||óé*.
- NKK: \***||oe**. ◇ This root is well attested and reconstructible for Khwe, Shua, and Tsua without any phonetic difficulties, and is further corroborated by external data in KK. Its main competitor is Naro-ǀHaba *\*!úrù*, which can be genetically correlated with Khwe *\*kuru* (with regular click loss); far more problematic, however, is its relation with Eastern forms such as Shua *\*kukuru* and Hie *kukuru* — forms that do not display a phonotactic structure typical of CK. It is tempting to speculate about a contraction from a trisyllabic structure (*\*kukuru*) to a bisyllabic one with secondary click formation (*\*kukuru* → *\*!kuru*), but this would not be a normal development from PNKK to daughter subbranches; at best, such a scenario could only be entertained from an areal perspective, i.e. different scenarios of accommodation of a non-Khoe word (*\*kukuru*) in the Western and Eastern areas of Kalahari Khoe.
- CK: \***||oe**. ◇ A straightforward and fully regular isogloss between PKK and PNKK (reflecting the regular shift *\*-oe* → *\*-oa* in PKK). No support exists in the KK branch for the archaic nature of forms like *\*!uru* or *\*kukuru*, which, at this point, are better treated as areal intrusions across the spread zone of NKK.

## 71. KNOW

- KK: \***ǀʔan** (N *ǀʔán*, K *ǀʔán*, Xri *ǀʔan*).
- Khwe: \***ǀʔã** (*||Ani ǀʔã*, *|Ganda*, *Buga ǀʔã*, *||Xom ǀʔã*).
- Naro-ǀHaba: \***ǀʔã** (Naro *ǀʔã*, ǀHaba *kʔã*).
- |Gwi-||Gana: \***ǀʔã** (*|Gwi ǀʔã*, *||Gana ǀʔã*).
- Shua: \***ǀʔã** (Cara, |Xaise *ǀʔã*, Danisi, Deti *ǀʔã*).
- Ts’ixa: *ǀʔãã* (Fehn), *ǀʔã* (Vossen). ◇ Aligns with both Shua and *||Xom*.
- Tsua: \***ǀʔã** (Kua, Tsua *ǀʔã*, Hie *an*, Tjwao *ǀana-ha ~ ǀã*).
- Cua: *ǀʔãã*.

- NKK: *\*!ʔā*. ◇ This root is well preserved in all daughter languages, although it is commonly subject to regular (or at least recurrent) click loss.
- CK: *(?)\*ʔan*. ◇ This is a semantically complicated situation. In KK, the semantic opposition between ‘to know’ and ‘to think’ is usually expressed as *\*ʔan* ‘to know’ vs. *\*ʔāĩ* ‘to think’ (→ N, K, Xri *\*ʔāĩ*), where the latter looks like a causative derivation of the former (with contraction: *\*ʔan-i* → *\*ʔāĩ*). In those NKK languages where this root has been preserved, it commonly means ‘to think’ by itself (cf. |Gwi, ||Gana *ʔāñ*, Cara, Danisi, |Xaise *ʔāñ*, Ts’ixa *ʔyāñ* ~ *ʔāñ* /Fehn/), which, in light of the N data, could be thought of as a semantic shift from ‘to know’, perhaps under the influence of the same old (unpreserved) causative forms. Meanwhile, PNKK *\*!ʔā* ‘to know’ corresponds to K *!ʔā* ‘to listen; to understand’ (from which also comes the K word for ‘head’) and, most likely, to the second component of the N compound verb *hòò-!ʔā* ‘to feel, perceive; to come to learn, become aware of’ (*hòò* = ‘to find’). Again, a semantic shift from ‘perceive, learn /new information/’ to ‘know’ is rather trivial. The opposite scenario, according to which the NKK situation is original, requires a more complex chain of assumptions, though it cannot be ruled out by any fully waterproof arguments.

## 72. LIE

- KK: *\*||oe* (N *||óé*, K *||óé*, Xri *||oe*).
- Khwe: *\*||oe* (||Ani, Buga *||óé*, ||Xom *||òé*).
- Naro-ʔHaba: *\*||óé* (Naro, ʔHaba *||óé*).
- |Gwi-||Gana: *\*||óé* (||Gana *||óé*). ◇ Not attested in |Gwi.
- Shua: *\*||óé* (||Gana, Cara, |Xaise, Danisi *||óé*, Deti *||òé*).
- Ts’ixa: *||óé* (Fehn, Vossen). ◇ Aligns with both Shua and ||Xom.
- Tsua: *\*||oe* (Kua *||óé*, Tsua *||úé*, Hie *!ʰoe*, Tjwao *||oe*). ◇ The Hie word is glossed as ‘to be asleep’, but since the meaning ‘to sleep’ already corresponds in Dorman’s vocabulary to a different lexical root (*||om*), it may be cautiously assumed that ‘to be asleep’ here is actually = ‘to be lying down’.
- Cua: *||óé*.
- NKK: *\*||oe*. ◇ Highly stable root, preserved everywhere.
- CK: *\*||oe*. ◇ Perfect phonetic and semantic match between PCK and PNKK.

## 73. LIVER

- KK: *\*kxāĩ-b* (N *āĩ-* ~ *āĩ-*, K *kxāĩ-b*, Xri *kxāĩ-p*).
- Khwe: *\*kxāĩ* (||Ani, Buga *kxāĩ*, |Ganda *kxāĩ*, ||Xom *kxāĩ*).
- Naro-ʔHaba: *\*kxāĩ* (Naro *kxāĩ*, ʔHaba *kʰāĩ*).
- |Gwi-||Gana: *\*kxāĩ* (|Gwi *kʰāĩ* [Na.], *kʰāĩ* [Vossen], ||Gana *kʰāĩ*).
- Shua: *\*kxāĩ* (Cara, Deti *kʰāĩ*, |Xaise *kʰĩ*, Danisi *kxāĩ*).
- Ts’ixa: *kʰāĩ* (Fehn, Vossen). ◇ Aligns with both Shua and ||Xom.
- Tsua: *\*kʰĩ* (Kua, Tsua *çĩ*, Hie *čĩ*, Tjwao *kxĩ* ~ *kʰĩ* ~ *čĩ*). ◇ Tjwao is the only lect here that still preserves (at least in some sub-lects) the original velar articulation of the first consonant.
- Cua: *çĩ*.
- NKK: *\*kxāĩ*. ◇ Highly stable root, preserved in all languages.
- CK: *\*kxāĩ*. ◇ Perfect phonetic and semantic match between PCK and PNKK.

## 74. LONG

- KK: *\*ga-xu* (N *kàì-xùũ* ~ *kàà-xùũ*, K *gá-xù*). ◇ Not attested in Xri. In N, largely restricted to the Damara dialect, but clearly archaic in light of the direct correspondence in K. Variation be-

tween *kai-* and *kaa-* is unclear (perhaps due to contamination with *\*kai* ‘big?’), as is the nature and origin of the second component (perhaps to be equated with N *xùú* ‘to let go’ and the correlated terminative suffix *\*-xu*). In K, cf. also *gú-xū* ‘length; thin, high’, as well as *ku-xa* ‘long’ and *kui-hu-b* ‘length’ (Wuras); perhaps all these forms are actually from *\*ga(i)-xu-* with vocalic assimilation, although this is contradicted by the opposition between *gá-xù* and *gú-xū* in Meinhof’s data.

- Khwe: *\*!áò* (||Ani, Buga *!áò*, ||Xom *kʷáò*).
- Naro-ɛHaba: *\*!áò* (Naro, ɛHaba *!áò*).
- |Gwi-||Gana: *\*!au* (|Gwi *!àù*, ||Gana *!áù*).
- Shua: *\*káo* (Cara *káo*, Danisi, Deti *káo*).
- Ts’ixa: *káo* (Vossen, Fehn). ◊ Aligns with both Shua and ||Xom.
- Tsua: *\*káo* (Kua *!áò*, Tsua *!áò*, Hie *ɛxau*, Tjwao *kao*).
- Cua: *!áò*.
- NKK: *\*!ao*. ◊ The reconstruction seems quite straightforward, but distribution of the reflexes causes some concern: the word shows an unusually high rate of conservation of the alveolar click, even in such languages as Kua and Tsua, descendants of Proto-Tsua where the alveolar click must have normally disappeared already at the proto-level (another such exception is the word for ‘white’, see below). Reasons for such abnormal persistence remain unclear; scenarios such as gradual eastward diffusion from, e.g., Naro (where the alveolar click is most consistently preserved) would seem rather far-fetched, while a scenario of independent recent borrowings from an unknown substrate finds no supporting evidence.
- CK: Not reconstructible. ◊ As of now, PKK *\*ga-xu* and PNKK *\*!ao* find no clear etymological parallels in the other branch of the family, and both stems are somewhat problematic (the former due to its morphological complexity and the latter due to the suspicious status of the alveolar click in daughter languages).

## 75. MAN

- KK: *\*kxao-b* (N *áò-b*, K *kxao-b* ~ *kxao-kʰoe-b*). ◊ In KK, the meaning ‘man = male human being’ may either be expressed by the masculine form of the word for ‘person = human being’, *\*kʰoe-b*, or by the separate root *\*kxao-* whose original semantics may have been wider, i.e. = ‘male’ (of humans and animals). In modern N, however, the meaning ‘male’ more typically corresponds to the derived form *àò-rě*, while K frequently prefixes the root *ɛxara-* (← PKK *\*ɛxara* ‘testicle’) to terms for male animals. Here and also below (in the case of ‘woman’) we adopt a unified lexicostatistical strategy to both KK and NKK: (a) if the language in question has documented usage of a *separate* lexical root for the concept of ‘man’ or ‘woman’, we choose it as the default equivalent; (b) if the language does not document any such roots, we take the respective form of *\*kʰoe* ‘person’ as the default equivalent. Thus, for Xri the use of *\*kxao-b* as ‘man’ is not attested in Snyman’s data, which requires us to accept Xri *kʰoe-p* as the default term and postulate a lexical divergence between Xri, on one hand, and N + K, on the other (allegedly, this could be merely a deficiency of the limited lexical corpus).
- Khwe: (?) *\*kxao*. ◊ The only clear attestation here is ||Xom *kxá-kʰòè* ‘man/husband’ (contracted from *\*kxao-kʰoe* ‘male-person’). ||Ani has *kʰóé-mà* ‘man’ and *kxáò* ‘male, manly’ (Vossen’s data), but the semantic glossing is not very reliable here.
- Naro-ɛHaba: *\*kʰóè-ba* (Naro, ɛHaba *kʰóè-ba*). ◊ Text examples from Naro show that this is indeed the most common word for ‘man’, although a rarer, more specialized *kxáò-kʰòè* ‘man = male human being’ also exists (in Visser’s data). For ɛHaba, Vossen explicitly quotes an opposition between *kxáò* ‘male’ and *kʰóè-ba* ‘man’.

- |Gwi-||Gana: (?) **\*kxao(-k<sup>h</sup>oe)** (|Gwi, ||Gana *kxáo* ‘male’). ◇ In Tanaka 1978: 60, the meaning ‘man’ is rendered by the form *kxao-kue* (= *kxao-k<sup>h</sup>oe*) for both languages.
- Shua: (?) **\*kxao(-k<sup>h</sup>oe)** (Cara, |Xaise *kʔáo*, Danisi *kʔáo*, Deti *kʔáo* ‘male’). ◇ Cf. Fehn et al. 2025: *kʔá:* ~ *kʔâ:* ~ *kʔáo* ‘male’, *kʔá:-k<sup>h</sup>òè* ~ *kʔâ:-k<sup>h</sup>òè* ~ *kʔâ:-k<sup>h</sup>ō* ~ *kʔáo-khòè* ‘man’. Judging by Fehn’s data, here, too, the primary carrier of the meaning is the root *\*kxao* rather than *\*k<sup>h</sup>oe*.
- Ts’ixa: **kʔá:-k<sup>h</sup>óè** (Fehn). ◇ Aligns with both Shua and ||Xom.
- Tsua: (?) **\*kxao(-k<sup>h</sup>oe)** (Kua *kʔáo*, Tsua *kʔáo* ‘male’; Hie *kau-čō*, Tjwao *kxao-čō* ~ *kʔao-čō*). ◇ Same situation as in Shua (Hie *kau-čō*, Tjwao *kxao-čō* ← *\*kxao-k<sup>h</sup>oe*).
- Cua: **kxáo-k<sup>h</sup>ò**.
- NKK: **\*kxao(-k<sup>h</sup>oe)**. ◇ The most common equivalent for the concept ‘male human being’ in NKK is a compound formation, in which the first morpheme (*\*kxao*) carries the semantics of ‘male’ and the second (*\*k<sup>h</sup>oe*) restricts the denoted objects to humans.
- CK: **\*kxao**. ◇ Situations in KK and NKK are comparable, but KK more rarely uses the (typical for NKK) compound formation *\*kxao-k<sup>h</sup>oe*, preferring instead to substitute it with simple masculine forms of the second root (*\*k<sup>h</sup>oe-b*). It is interesting to note that of all the subbranches of NKK, only Naro-ǀHaba seems to mirror this situation — a fact that is difficult to separate from Naro as the only direct point of areal contact with Khoekhoe in the Kalahari Khoe continuum.

## 76. MANY

- KK: **\*ǀui** (N *ǀuĩ*, Xri *ǀui*). ◇ This root is not found in extant sources on K; instead, Meinhof lists the equivalent *ǀxóá-sá*, which may be the same word as ‘full’ (q.v.) with an erroneously transcribed click efflux. Reliability is questionable.
- Khwe: Unclear. ◇ The only data are on ||Xom, where there are two equivalents: (a) *kó* ~ *á=kó*, the adjectival equivalent of the noun *kó* ‘quantity, multitude’, with multiple confirming examples; (b) *t<sup>h</sup>iyà* ‘be much, be many / be four’ (no textual examples).
- Naro-ǀHaba: **\*káí** (Naro *kái*, ǀHaba *kí*). ◇ Obviously the same root as *\*kai* ‘big’ (q.v.), but ǀHaba apparently preserves it only with the semantics of ‘many’.
- |Gwi-||Gana: Not attested. ◇ Tanaka (1978: 60) lists the form *ǀtui* ‘many’ for both languages, which would be tempting to compare with KK *\*ǀui* (since Tanaka’s click transcription may, in fact, easily represent a palatal click with zero efflux); however, ambiguity of the unprofessional transcription and lack of corroborating evidence from other NKK sources make the comparison questionable.
- Shua: Unclear. ◇ Several Shua synonyms are listed in Fehn et al. 2025: *gūrí* ‘many, much’, *t<sup>h</sup>iyà* id. (western dialect; borrowed from Khwe?), *c<sup>h</sup>iyà* id. (Deti; variant of the former?), *ǀxará* id. (cf. also *ǀxará-k<sup>h</sup>òè* ‘crowd; family’, lit. ‘many-people’).
- Ts’ixa: **t<sup>h</sup>iyà**. ◇ This seems to be a borrowing from Khwe.
- Tsua: Unclear. ◇ Cf. Hie *cao*; Tjwao *ǀxara* ~ *ǀ<sup>h</sup>ara* (see Shua above).
- Cua: **c<sup>h</sup>ää**.
- NKK: Not reconstructible. ◇ The concept is both poorly attested (Vossen does not usually include it in his survey data) and glaringly unstable.
- CK: Not reconstructible. ◇ It should, however, be noted that KK (at least Nama and Xri) have a separate and quite basic root for the concept, while most of the NKK equivalents are either polysemous, phonetically unusual, or borrowed.

## 77. MOUNTAIN

- KK: (?) **\*ǀui-** (N *ǀuĩ*, K *ǀuy-b* [Wuras]). ◇ Same word as ‘stone’. For K, Meinhof lists a different equivalent: *ǀàrè-b* = N *ǀàrè-s* ‘(granite) boulder’ (Haacke & Eiseb), cf. also *ǀare-b* ‘einzeln

stehender Fels’ (Krönlein & Rust). Xri *ʃam-p* = N *ʃãã-b* ‘steep, abrupt slope; cliff face’. Another N synonym is *!hòmm-i*, without external parallels in K or Xri. Clearly an unstable concept overall, and the link between N and one of the K dialects suggests that lexical differentiation between ‘stone’ and ‘mountain’ may have been recent, which explains so many different strategies in between lects.

- Khwe: Not attested. ◇ The only reliably attested equivalent is *||Xom ndúndù*, a word clearly of non-Khoe origin, judging by its phonetic structure.
- Naro-ʃHaba: Unclear. ◇ Cf. Naro *||àbì* ‘mountain’; not attested in ʃHaba.
- |Gwi-||Gana: Unclear. ◇ Tanaka (1978: 63) lists *!kabi* ‘mountain’ for both lects, which theoretically could reflect *\*||abi* and be consequently comparable with Naro, but this needs confirmation.
- Shua: Not attested. ◇ No data in Vossen’s records. Fehn et al. (2025) record three different synonyms for Shua, without differentiation: *kārō*, *ʃúì*, *||ai* (the first two words are polysemous with ‘stone’).
- Ts’ixa: *||nóá* (Fehn).
- Tsua: Unclear. ◇ Cf. Hie *ʃoa*; Tjwao *karo*, also *gae*.
- Cua: Not attested.
- NKK: Not reconstructible. ◇ An unstable concept, sometimes merging with ‘stone’ and at other times represented by various areal lexemes.
- CK: Not reconstructible. Perhaps there was no lexical difference between ‘stone’ and ‘mountain’ at the proto-level, but other scenarios are possible as well.

## 78. NECK

- KK: *\*!kxao-* (N *!káo-s*, K *!kxau-b* [Wuras], Xri *!kxao-p* ~ *!káo-p*). ◇ Variation between glottalic and affricative efflux is odd (cf. also K *!káo-b* ‘nape of the neck’ in Meinhof’s data), but overall the data support a reconstruction with *\*!kx-*, further corroborated by external data.
- Khwe: *\*!kxao* (*||Ani !káo*). ◇ The *||Ani* form is supported by external data; other lects, however, feature an innovation – |Ganda *xèrí*, *||Xom xèrèé*.
- Naro-ʃHaba: *\*!kxáo* (Naro, ʃHaba *!káo*).
- |Gwi-||Gana: *\*!kxáo* (*|Gwi*, *||Gana káo*).
- Shua: *\*k’ao* (Cara *káo*, |Xaise *k’ào*, Deti *k’ào*). ◇ Innovation in Danisi: *g’ànú* ‘neck’.
- Ts’ixa: *z’ànú* (Fehn), *d’ànú* (Vossen). ◇ Aligns not just with Shua in this particular case, but even more specifically with the lexical innovation in Danisi.
- Tsua: *\*k’ao* (Kua *k’ào*, Tjwao *k’ao* ~ *kxao*). ◇ Innovation in Tsua (*kínù*), and possibly the same word in Hie (*ʃano*, but only if ʃ- somehow ended up transcribing the palatal stop ɕ-).
- Cua: *!kxào*.
- NKK: *\*!kxao*. ◇ Relatively stable across subbranches, with a few innovations of unclear origin across branches. Note that Danisi *g’ànú* + Ts’ixa *z’ànú*, on one hand, and Tsua *kínù*, on the other hand, probably go back to different roots: the first two reflect *\*ʃanu*, the second may go back to *\*kVnu* or *\*!Vnu*.
- CK: *\*!kxao*. ◇ CK and NKK data are in good agreement with each other.

## 79. PERSON

- KK: *\*k<sup>h</sup>oe* (N *k<sup>h</sup>òè-*, K *k<sup>h</sup>oe-*, Xri *k<sup>h</sup>oe-*). ◇ The root itself carries the semantics of ‘human being’, which can be restricted to ‘male’ or ‘female’ categories by means of gender markers.
- Khwe: *\*k<sup>h</sup>óé* (*||Ani*, |Ganda, Buga, *||Xom k<sup>h</sup>óé*).
- Naro-ʃHaba: *\*k<sup>h</sup>óè* (Naro, ʃHaba *k<sup>h</sup>óè*).

- |Gwi-||Gana: \***k<sup>h</sup>oe** (|Gwi *k<sup>h</sup>óé*, ||Gana *k<sup>h</sup>óè*).
- Shua: \***k<sup>h</sup>oe** (Cara, |Xaise, Deti *k<sup>h</sup>óé*, Danisi *k<sup>h</sup>óè*).
- Ts'ixa: **k<sup>h</sup>ōē** ~ **k<sup>h</sup>óè** (Fehn), **k<sup>h</sup>óè** (Vossen). ◇ Aligns with both Shua and ||Xom.
- Tsua: \***k<sup>h</sup>oe** (Kua *k<sup>h</sup>òé*, Tsua *c<sup>h</sup>òé*, Hie *čo* ~ *čwa*, Tjwao *čoa*). ◇ Regular palatalization in most lects, but Kua still preserves the original velar.
- Cua: **k<sup>h</sup>ōè**.
- NKK: \***k<sup>h</sup>oe**. ◇ Super-stable root, preserved in all languages.
- CK: \***k<sup>h</sup>oe**. ◇ NKK and CK are in perfect agreement with each other in this case (unlike the situation with the concepts of MAN and WOMAN).

## 80. RED

- KK: |**kxaba** (N *ǀàwǎ* ~ *ǀàpǎ*, K *|kxābā*, Xri *|kxaba*).
- Khwe: \***ǀoa** (||Ani *ǀnòá*, Buga *ǀóá*, ||Xom *ǀóá* ‘be clean / be red / be holy’). ◇ Loss of nasality in ||Xom is unclear. Additionally, this root does not seem to be the principal equivalent for the required Swadesh meaning in ||Xom, with the more common term being *ǀqéú-ǀi* ‘(be) red, reddish’, derived from the noun *ǀqéú* with polysemy ‘red colour, reddish colour/sunset’ = |Ganda *ǀxéú* ‘red’ (acc. to Vossen’s data). No external parallels for this item have been found (could the original meaning be simply ‘sunset?’), but external data clearly mark it as an innovation.
- Naro-ǀHaba: \***ǀoa** (Naro *ǀòá*, ǀHaba *ǀnòá*).
- |Gwi-||Gana: \***ǀoa** (|Gwi *ǀòá*, ||Gana *ǀnòá*).
- Shua: \***ǀoa** (Cara, |Xaise *ǀóá*, Deti *ǀóá*). ◇ Alternate synonym: Danisi *qâ-sè* (see Ts'ixa below), of unclear origin but clearly an innovation, based on external data.
- Ts'ixa: **qāā-sī** (Fehn), **qâ-si** (Vossen). ◇ Aligns not just with Shua in this particular case, but even more specifically with the lexical innovation in Danisi (see NECK for a similar situation).
- Tsua: (?) \***ǀoa** (Tjwao *ǀoa* ~ *ǀqoa*). ◇ Archaic nature of the Tjwao item is corroborated by external data. Kua *ǀúdu*, Tsua *wúdu* are a shared innovation of unknown origin; Hie *ǀeye* is unclear due to ambiguity of Dornan’s transcription (alternately, cf. also *ǀurupe* ‘red’ and *ta: kue* ‘redness, red’, both of which are also rather obscure).
- Cua: **ǀqōlā**.
- NKK: \***ǀoa**. ◇ The original root tends to be replaced in modern languages (presumably by more specialized partial synonyms, mostly of unclear origin), but every major subgroup preserves it at least partially. Phonetic reconstruction is uncertain; note the presence of pharyngelization in Naro-ǀHaba, the occasional unpredictable loss of nasality (||Xom, Shua), and even an occasional uvular efflux (Tjwao *ǀqoa*), all of which suggest the possibility of a more complex onset (e.g. \***ǀq-?**).
- CK: Not reconstructible. ◇ PKK *|kxaba* and PNKK \***ǀ(q)oa** ‘red’ seem to be in fully complementary distribution and have no mutual etymological parallels in the other branch.

## 81. ROAD

- KK: \***dao-b** (N *tào-b*, K *dāō-b* ~ *dau-b*). ◇ This term is common for N and K and is corroborated by external data. Presumable innovations include N *ǀáñn-i* ‘road, street’ (more commonly applicable to modern ‘streets’), as well as Xri *ǀaro-p* ‘road’ = K *ǀārō-b* ‘road, path’ = N *ǀǎró-b* ‘footpath’. This evidence points to a PKK opposition between \**dao-b* ‘road’ (large) and \**ǀaro-b* ‘footpath’; it is unclear if Xri truly merged both concepts or if this glossing simply represents another deficiency of Snyman’s lexical corpus.

- Khwe: **\*dao** (||Ani, Buga *dáò*, |Ganda *dáu*, ||Xom *dáo* ~ *dào*).
- Naro-ɛHaba: **\*dao** (Naro *dàò*, ɛHaba *díó*).
- |Gwi-||Gana: **\*dao** (|Gwi *díó*, ||Gana *dáu*).
- Shua: **\*dao** (Cara, |Xaise, Deti *dáo*, Danisi *dáu*).
- Ts'ixa: **dáo** (Fehn, Vossen). ◇ Aligns with both Shua and ||Xom.
- Tsua: **\*dao** (Kua *dáo*, Tsua *dáu*, Hie *d<sup>h</sup>au*, Tjwao *dao*).
- Cua: **ɛró**. ◇ Meaning given as 'road'; the common NKK root *dáo*, on the other hand, is glossed as 'path, spoor, track' (of animals).
- NKK: **\*dao**. ◇ A very stable root, preserved almost everywhere; detailed dictionaries usually stress the lack of lexical differentiation between 'road' (large) and 'path' (small), the only clear exception being Cua.
- CK: **\*dao**. ◇ A possible scenario would involve an original opposition between 'road' (as used, e.g., by cattle-herders) and '(foot)-path' in PCK, preserved in PKK but neutralized in PNKK due to the speakers' loss of the corresponding semantic distinction. It should be pointed out that of all semantically and phonetically adjacent words in NKK, Cua *ɛró* is the one closest to PKK *\*ɛaro-b* 'footpath' (phonetically identical, in fact, if one assumes that the first *o* is the result of vocalic assimilation); however, accepting this relationship is complicated by the necessity to suggest a semantic reversal of meanings in Cua, as well as independent loss of *\*ɛaro-* in all the other subbranches of NKK, which is highly dubious. Perhaps the similarity is accidental, after all.

## 82. ROOT

- KK: **\*ɛoma-b** (N *ɛómá-b*, K *ɛómá-b*, Xri *ɛoma-p*).
- Khwe: **\*toε** (Buga *tóε*, ||Xom *tòε*). ◇ Not attested in ||Ani and |Ganda.
- Naro-ɛHaba: **\*to<sup>h</sup>be** (Naro *tò<sup>h</sup>bē*, ɛHaba *tò<sup>h</sup>bé*).
- |Gwi-||Gana: (?) **\*tabe** (|Gwi, ||Gana *tabe* [Tanaka]). ◇ The forms are only attested in Tanaka's dictionary and may not be phonetically accurate; however, the word itself is quite likely the same as in Naro-ɛHaba.
- Shua: Unclear. ◇ The concept is not attested in Vossen's comparative data, but cf. Shua *tóbē* 'root' in Fehn et al. 2025 (clearly the same word as in the Western subgroups above). For the western dialect of Gweta, the same source, however, records *ɛómá* ~ *ɛūmá* 'root'.
- Ts'ixa: **tóbē** (Fehn). ◇ Phonetically aligns with Shua rather than Khwe.
- Tsua: (?) **\*kxari** (Tjwao *kxari* ~ *kari*). ◇ Hie. *papasi* 'root', judging by its unusual phonetics, is almost certainly a borrowing. Tjwao *kxari* ~ *kari* 'root', although not supported by data from other lects, directly corresponds to the Cua form below and is therefore somewhat more promising.
- Cua: **kxàdī**.
- NKK: (?) **\*to<sup>h</sup>be**. ◇ Most of the major clusters of NKK show evidence for a form like *\*tobe*, with the Naro-ɛHaba cluster adding support for original pharyngealization of the main root vowel. However, a form like PNKK *\*to<sup>h</sup>be* is formally irreconcilable with the phonetically similar Proto-Khwe *\*toε*, since there are no supporting cases of deletion of intervocalic *\*-b-* in Khwe. Either the Khwe forms do not belong here, or, perhaps, we are dealing with two old morphological variants, such as simple *\*toε<sup>h</sup>* (→ Proto-Khwe *\*toε*) and extended *\*toε<sup>h</sup>-be* (→ *\*to<sup>h</sup>/be* in most of the other clusters).
- CK: Not reconstructible. ◇ PKK *\*ɛoma-b* and PNKK *\*toε<sup>h</sup>(-be)* are more or less in complementary distribution, but Gweta (western Shua) *ɛómá* ~ *ɛūmá*, transparently going back to *\*ɛoma-*, raises some concern: since the form can hardly be a KK borrowing, its attestation would imply the presence of a *\*ɛoma-* in PNKK, lost (or having avoided detection) in every single lect of

the family except for one small Shua dialect (!). For now, it is perhaps advisable to regard the situation as aberrant (result of a stray contact with some Khoekhoe speakers? independent semantic shift from a common PCK root with a highly specialized meaning? accidental resemblance?).

### 83. ROUND

- KK: \***!ubu** (N *ǀúwú* ~ *ǀúpú*, Xri *!ubu*). ◇ N actually distinguishes between this root (as ‘round = cylindrical’) and *ǀùwù* ~ *ǀùbù* (as ‘round = spherical’); however, only the former is reliably traceable back to PKK. (Could the phonetic variation between two such phonetically and semantically close roots be explained by the factor of sound symbolism?). K *!úm* ‘round’ is also quite similar phonetically, but impossible to directly compare with N and Xri due to the difference in click efflux articulation.
- Khwe: Not attested. ◇ *ǁXom mbíri*, judging by word-initial *mb-*, is not of Khoe origin.
- Naro-ǀHaba: Unclear. ◇ Not attested in ǀHaba; Naro *gàrù-gàrù* (also *gau-garu*, *ga-garu* id.) looks like an expressive lexeme.
- |Gwi-ǁGana: Not attested.
- Shua: Not attested in Vossen’s data. ◇ Cf. *mbárí* ~ *mbádí* ‘round’ in Fehn et al. 2025 (of non-Khoe origin; same word as *ǁXom mbíri* above).
- Ts’ixa: **kúlú**.
- Tsua: Not attested.
- Cua: Not attested.
- NKK: Not reconstructible. ◇ Highly unstable and poorly documented concept overall.
- CK: Not reconstructible. ◇ It should be noted, however, that the concept is better attested and somewhat more stable in KK than in NKK.

### 84. SAND

- KK: \***ǁxae-b** (N *ǁxàě-b* ‘river-sand’; K *ǁxā.ē-b*, Xri *ǁxae-p*). ◇ N distinguishes between *ǁxàě-b* ‘river-sand’ and *ǀòwǎ- ~ ǀòpǎ-* ‘fine sand; dune’. The latter is probably a better candidate for the required Swadesh meaning, but has no parallels in K or Xri; only \**ǁxae-b* is reliably reconstructed onto the proto-level. Xri also has *ǀoma-p* ‘sand’ without external parallels.
- Khwe: Unclear. ◇ Attested only in *ǁXom: qàn* ‘sand’, very likely the same root as in the verbal stem *qán ~ qǎi* ‘to bury’ (in the sand?). It must be noted that the word *xóm* ‘earth’ is also listed with polysemy ‘earth, sand, desert’ (but cf. compounds such as *qàn-xóm* ‘sandy ground’ which show that there is sufficient semantic differentiation between the two roots).
- Naro-ǀHaba: \***xóm** (Naro, ǀHaba *xóm*). ◇ Same root as ‘earth’ q.v.
- |Gwi-ǁGana: \***xóm** (|Gwi, ǁGana *xóm*). ◇ Same root as ‘earth’ q.v.
- Shua: Unclear. ◇ Poorly attested. Fehn et al. 2025 list multiple synonyms for ‘sand’, including *xóm ~ xúm* (same word as ‘earth’) and *ǁará* ‘sand’ with parallels in Ts’ixa and *ǁXom* (see below).
- Ts’ixa: **xúm** (Fehn). ◇ Same word as ‘earth’. Ts’ixa also has a separate word, *ǁnára*, for ‘(white) sand of river’ = Shua *ǁará* ‘sand’.
- Tsua: (?) \***xom** (Hie *hom*, Tjwao *xum*). ◇ Not attested in Kua or Tsua specifically in the meaning ‘sand’ (only ‘earth’). Tjwao also has *ǁnara* as an additional synonym (see above).
- Cua: **xòm**. ◇ Same word as ‘earth’.
- NKK: \***xom**. ◇ There is no convincing evidence that PNKK may have lexically distinguished between ‘earth, soil’ and ‘sand’. *ǁXom: qàn* ‘sand’ most likely goes back to a verbal stem: cf. *ǁAni qán* ‘to cover with sand’, *|Gwi qàn* ‘to bury’, and even N *kǎn* ‘to cover with hot ash’. The

Eastern term \**||nara* ‘river-sand’ may be of PNKK origin (cf. *||Xom* *||ná:rá* ‘white sand /appearing when digging a grave’), but with more restricted semantics than required.

- CK: Unclear. ◇ See notes on ‘earth’ above which tentatively suggest that the NKK situation may be more archaic than the one observed in PCK.

## 85. SAY

- KK: \**mĩ* (N *mĩĩ*, K *mĩ*, Xri *mĩ*).
- Khwe: \**mĩ* (*||Ani*, *||Xom* *mĩ*). ◇ In the English-Khwe index section of her *||Xom* dictionary, Kilian-Hatz also attaches the meaning ‘say’ to such verbs as *||ĩ* and *||â*, but these are really transitive predicates meaning ‘to say, tell (smth.)’, ‘inform of (smth.)’, less eligible for inclusion.
- Naro-†Haba: \**mi* (Naro *mé*, †Haba *mí*). ◇ Nasalized variants of this root also exist in Naro at least (*mĩ* acc. to Vossen 1997, *mí*: ~ *mĩ*: acc. to Barnard 1985).
- |Gwi-||Gana: (?) \**me* (|Gwi, ||Gana *me* [Tanaka]). ◇ Attested only in Tanaka’s dictionary (so the transcription is not fully reliable), but well supported by external data.
- Shua: \**mi* ~ \**mĩ* (Cara *mí*). ◇ Not attested in most of Vossen’s data sources, but cf. Shua *mĩ*: in Fehn et al. 2025.
- Ts’ixa: *mĩ*: (Fehn). ◇ Aligns with both Shua and *||Xom*.
- Tsua: \**mi* (Hie *me*, Tjwao *mí*). ◇ For Hie, the meaning is glossed as ‘to say to’ (*me-he* ‘to say to oneself’), as opposed to *kwa* ‘to say’, but only the first item finds strong external support.
- Cua: *mĩ*:
- NKK: \**mi* ~ \**mĩ*. ◇ Although there are some problems with attestation, this basic verb is still well represented in all the clusters. Fluctuation of nasal/non-nasal articulation of the vowel remains poorly understood.
- CK: \**mĩ*. ◇ KK and NKK are in solid agreement with each other.

## 86. SEE

- KK: \**mũ* (N *mũũ*, K *mũ*, Xri *mũ*).
- Khwe: \**mũ* (*||Ani*, |Ganda, Buga, *||Xom* *mũ*).
- Naro-†Haba: \**mô* (Naro *mô* ~ *bô*, †Haba *mô*).
- |Gwi-||Gana: \**m̃* (|Gwi, ||Gana *m̃*).
- Shua: \**mũ* (Cara, |Xaise, Danisi, Deti *mũ*).
- Ts’ixa: *mũũ* ~ *mũũ* (Fehn), *mũ* (Vossen).
- Tsua: \**mũ* (Kua *mũ*, Tsua *mũ*, Hie *mo*, Tjwao *mũ*).
- Cua: *mũũ*.
- NKK: \**mũ*. ◇ This root undergoes occasional irregular developments (mostly in the Naro-†Haba / |Gwi-||Gana areas, where it can lose nasal articulation of the vowel or even contract to the state of a syllabic nasal), but on the whole is extremely stable.
- CK: \**mũ*. ◇ KK and NKK are in perfect agreement. Note, however, that only KK derives the nominal stem for ‘eye’ from this root, while NKK preserves the more archaic separate stem \**ƛxai* (see Starostin 2024: 230). Of note, perhaps, is the similarity between this root and Proto-Bantu \**-bon-* ~ \**-mon-* ‘to see’ (Guthrie 1970: 56).

## 87. SEED

- KK: \**!xum-* (N *!xóm-s*, K *!xùmm-a*). ◇ In N this word (with polysemy: ‘seed/descendants, offspring’) contrasts with *ƛǎrá-s* ‘pip, seed (of e.g. date/pumpkin/peach)’, and the latter word, glossed as *ƛxara-p* ~ *ƛara-p*, is also the only known equivalent for the meaning ‘seed’ in Xri;

there is no way to ascertain if Xri had really merged both sub-concepts into one or if the lack of attestation for *\*!xum-* was merely accidental. PKK *\*!kxara-* ‘pip’ could, perhaps, be cautiously compared with the PKK verb *\*!kxara* ‘to spit’ (→ N *ǃáárǎ*, K *ǃkára*), itself derived from PKK *\*!kxa-* ‘spit, saliva’ (i.e. ‘pip, kernel /of fruit/’ as ‘smth. spat out’).

- Khwe: *\*!xuri* (ǁAni *|xúrí*, Buga, ǁXom *|xùí*). ◇ Not attested in ǁGanda. Buga and ǁXom show a completely irregular loss of intervocalic *-r-*; this can only be reasonably interpreted in terms of contamination with some other lexeme (cf., perhaps, ǁXom *|xúí* ‘to vomit, spit out’, esp. in light of the proposed internal etymology for N *ǃáárǎ* above?). Additionally, cf. ǁXom *ǃáró* ‘flesh of fruits and tubers; fruit, seed, nut (*gen.*)’, suspiciously similar to N *ǃáárǎ* but probably unrelated, both because of the discrepancies in word-final vocalism and the fact that the N word likely goes back to *\*!kxara*, while in ǁXom there are no signs of a velar affricate efflux.
- Naro-ǃHaba: *\*!xuri* (Naro *|xùrí*, ǃHaba *|xúrí*).
- ǁGwi-ǁGana: *\*!xúrí* (ǁGwi, ǁGana *|xúrí*).
- Shua: *\*!xúrí* (Cara, Danisi, Deti *|xúrí*). ◇ For ǁXaise, Vossen lists the form *ǃódó* ‘seed’ ← PNKK *\*coro* ‘shell, pod’. Curiously, Fehn et al. 2025 do not have any reflexes of *\*!xúrí* at all for the meaning ‘seed’ in Shua; instead, they give *ǃxái ~ čxái*, i.e. the same word as ‘eye’ (clearly a metaphoric shift from the latter meaning).
- Ts’ixa: *ǃáró ~ ǃáró* (Fehn). ◇ Meaning listed as ‘pip/pod/seed’, also ‘grin’ (?).
- Tsua: *\*!xuri* (Kua *|xúrí*, Tsua *|xúrí*, Hie *čai=xai=!xuri*, Tjwao *|xuri*). ◇ The Hie form is a compound where the last morpheme likely transcribes a misheard *\*!xuri* (see external data), the first morpheme = *čai* ‘eye’, and the second remains unidentified, but may be the same as in *ča-kai* ‘eyes (pl.)’ (where *kai* is, however, not a productive plural morpheme). The whole expression is thus, literally, ‘eye-smth.-seed’ or ‘eyes-seed’. Actually, the simple root *|xuri* is also listed by Dornan, under the meaning ‘a grain of seed’.
- Cua: *|xódí*.
- NKK: *\*!xuri*. ◇ This stem is well preserved in all daughter branches. It seems to have disappeared in Ts’ixa; the replacement *ǃáró ~ ǃáró* is perhaps best interpreted as a loan from Khwe, since no parallels for it have so far been discovered in sources on the Eastern NKK languages. (Note, however, that the presence of Naro *ǃáró* ‘body, fruit, self’ shows that this word is more widespread in the Western area than just the Khwe cluster, and may be reconstructed for PNKK).
- CK: Not reconstructible. ◇ The opposition between PKK *\*!xum-* ‘seed’ and *\*!kxara-* ‘pip’, on one hand, and PNKK *\*!xuri* ‘seed’, on the other, is absolute; none of these words find any etymological support in the other branch (and the similarity between PKK *\*!kxara-* and PNKK *\*!ǃaro-* ‘fruit, seed’, as has been mentioned above, is probably accidental).

## 88. SIT

- KK: *\*ǃu ~ \*ǃũ* (N *ǃò-ǎ*, K *ǃú*, Xri *ǃo-a ~ ǃò-a*). ◇ The pure root is seen in K as well as in N *ǃũũ* ‘to sit down’, and generally corresponds to the dynamic meaning; the static ‘to sit’ is formed with the suffix *\*-ǎ*, probably grammaticalized from the verb ‘to be, to stay’ (N *ǃǎǎ*).
- Khwe: *\*ǃu ~ \*ǃũ* (ǁAni *ǃnú*, ǁGanda, Buga *ǃnú*, ǁXom *ǃú* ‘to sit down’, *ǃũ-ǃ ~ ǃũ-ǃ ~ ǃòē* ‘to sit’). ◇ Most of the attested data (Vossen) corresponds to the meaning ‘sit down’; ǁXom shows that the grammatical opposition is to be reconstructed as *\*ǃu ~ \*ǃũ* ‘to sit down’ : *\*ǃũ-i* ‘to sit’ (with the common passive/intransitive suffix *\*-i*).
- Naro-ǃHaba: *\*ǃũ* (Naro *ǃó*: ‘to sit down’, *ǃò:-ǎ* ‘to sit’, ǃHaba *ǃnú* ‘to sit down’). ◇ Naro conveys the opposition between ‘sit’ and ‘sit down’ in exactly the same way as KK; for ǃHaba, the relevant information is missing.

- |Gwi-||Gana: \***ǃu** (|Gwi *ǃnú*, ||Gana *ǃnú-è*). ◇ Only the forms for ‘to sit down’ are attested in Vossen’s data, but it is not likely that the static concept would be represented by a different root.
- Shua: \***ǃu** ~ \***ǃũ** (Cara, Danisi *ǃú*, |Xaise *ǃú*, Deti *ǃú* ‘to sit’). ◇ Only the forms for ‘to sit down’ are attested in Vossen’s data. For Shua, Fehn et al. 2025 list *ǃú*: ‘to sit; to sit down; live (dwell)’ and *ǃũ* ~ *ǃũĩ* ‘to sit’, which is interesting since Shua *ǃ-* typically goes back to PNKK \**ǃ-* and thus points to a denasalized variant \**ǃũĩ* (← \**ǃũ-i*) — dissimilation before a nasal diphthong?
- Ts’ixa: **ǃú** ‘to sit down’ (Vossen); **ǃú**: ‘to sit down’, **ǃũĩ** ‘to be seated’ (Fehn). ◇ Phonetically aligns with Shua rather than ||Xom.
- Tsua: \***ǃũ** (Kua *ǃú*, Tsua *ǃũ*, Hie *ǃu*, Tjwao *ǃũ*: ~ *nũ*:). ◇ Only the simple root form is attested in all these languages, glossed either as ‘to sit down’ or ‘to sit’ depending on the source.
- Cua: **ǃú**: ‘to sit down (eventive); to stay, to live’, **ǃũĩ** ‘to be in a sitting position’. ◇ Of note is the same difference in click effluxes as in Shua, with probable denasalization in the second case.
- NKK: \***ǃu** ‘to sit down’. ◇ The pure root verb, barring the unpredictable fluctuations of vowel nasalization, is well preserved in all lects. The corresponding static form ‘to be sitting’ may be reconstructed as \**ǃu-i* based on data from Khwe, Shua, Ts’ixa, and Cua (the only explicitly contradicting form is Naro *ǃũ-à*, which may have been areally influenced by Khoekhoe).
- CK: \***ǃu** ‘to sit down’. ◇ Although the main grammatical means forming the static meaning ‘to sit’ are different between KK and NKK, the base root is always the same.

## 89. SKIN

- KK: \***k<sup>h</sup>o-b** (N *k<sup>h</sup>òǝ-b*, K *k<sup>h</sup>òǝ-b*, Xri *k<sup>h</sup>òǝ-p*). ◇ Odd orthography in Xri (a unique case of *kxh-* in Snyman’s transcription), but the word is clearly the same.
- Khwe: \***k<sup>h</sup>o** (||Ani, Buga, ||Xom *k<sup>h</sup>ǝ*, |Ganda *k<sup>h</sup>ǝ*).
- Naro-ǃHaba: \***k<sup>h</sup>o** (Naro *k<sup>h</sup>ǝǝ*, ǃHaba *k<sup>h</sup>ǝ*).
- |Gwi-||Gana: \***k<sup>h</sup>ǝ** (|Gwi, ||Gana *k<sup>h</sup>ǝ*).
- Shua: \***k<sup>h</sup>o** (Cara, |Xaise, Deti *k<sup>h</sup>ǝ*, Danisi *k<sup>h</sup>ǝ*).
- Ts’ixa: **k<sup>h</sup>ǝó** (Fehn), **k<sup>h</sup>ǝ** (Vossen). ◇ Aligns with both Shua and ||Xom.
- Tsua: \***k<sup>h</sup>o** (Kua *k<sup>h</sup>ǝ*, Tsua *c<sup>h</sup>ǝ* ~ *k<sup>h</sup>ǝ*, Hie *ǝ*, Tjwao *ǝ*:). ◇ Regular palatalization in most languages (Vossen’s data on Tsua are ambiguous).
- Cua: **k<sup>h</sup>ǝǝ**.
- NKK: \***k<sup>h</sup>o**. ◇ The original root seems to be well preserved in all lects.
- CK: \***k<sup>h</sup>o**. ◇ KK and NKK data are in perfect agreement with each other.

## 90. SLEEP

- KK: \***ǃum** (N *ǃóm*, K *ǃũm*, Xri *ǃom* ~ *ǃǝm*). ◇ See SEED for the same vocalic correspondence.
- Khwe: Unclear. ◇ ||Ani *ǃóé*, |Ganda *ǃúi* ‘to sleep’ are the same as the verb ‘to lie’ q.v. ||Xom *ǃóm* ‘to sleep’ (no relation to the forms with the lateral click listed above for KK and below for NKK) is clearly related to N *ǃòm-s* ‘sleep’ (noun), Xri *ǃum-i* ‘sleepy’, Naro *ǃǝm* ‘sleepy, drowsy’; meanwhile, ||Xom *ǃóm* (the probable reflex of the most widespread NKK root) means ‘to perch at dusk, to roost /of bird/’, a possible narrowing of the original meaning ‘to sleep’. Choosing an optimal candidate for Proto-Khwe with this distribution is hardly possible.
- Naro-ǃHaba: \***ǃóm** (Naro, ǃHaba *ǃóm*).
- |Gwi-||Gana: \***ǃóm** (|Gwi *ǃóam*, ||Gana *ǃóm*).
- Shua: (?) \***ǃoe** (Cara, |Xaise, Deti *ǃóé*). ◇ For Danisi, Vossen lists *ǃúm* in the meaning ‘to sleep’, which, upon first sight, would seem to mean that Danisi alone preserves the old root for this

concept, while the other lects merge it with ‘to lie’. However, the situation in Ts’ixa (see below) suggests that we may really be dealing with a situation in which only the old *static* meaning ‘to sleep’ (= ‘to be asleep’) has merged with the concept ‘to lie’, while the *dynamic* meaning ‘to go to sleep’, ‘to fall asleep’ has remained with the old root. (In this case, Vossen’s listing for Danisi may simply be semantically inaccurate).

- Ts’ixa: **||óé** (Fehn, Vossen). ◇ Fehn explicitly opposes Ts’ixa **||óé** ‘to sleep’ and **||ūm** ‘to fall asleep’, which may be a reflection of the entire Proto-Shua situation. Here Ts’ixa fully agrees with Shua rather than with **||Xom**.
- Tsua: **\*||oe** (Kua **||óé**, Tsua **||úé**, Hie **|oe ~ !we**, Tjwao **||oe**). ◇ The same word as ‘to lie’ is used in most of the lects. For Hie, however, in addition to the (probably) mistranscribed words going back to the same root, Dornan also lists **||om** ‘to sleep’, which shows that the old root must still have been present in the Tsua cluster as a synonym (‘to fall asleep’, as in Ts’ixa?)
- Cua: **||úṁ**.
- NKK: **\*||um**. ◇ Some of the NKK clusters merge the meanings ‘to be asleep’ and ‘to fall asleep’ under one lexical root (this seems to be the case with Naro-ǀHaba, Cua, and maybe |Gwi-||Gana), while others prefer to merge the first one with the root ‘to lie’. Based on mainly the external data of KK, it seems reasonable to view the first situation as primary and the second as the result of semantic innovation.
- CK: **\*||um**. ◇ PKK and PNKK are in general agreement. It makes sense to reconstruct the verbal roots **\*||oe** and **\*||um** for PCK as ‘to lie’ and ‘to sleep’ respectively, with the former encroaching upon the latter’s semantic territory over time.

## 91. SMALL

- KK: **\*|a** (K **|ā:**, Xri **|a:**). ◇ This original KK root for ‘small’ is still attested in N as **|a:**, at least in a limited number of contexts, in Krönlein & Rust’s dictionary (1969: 74); it is also found in K as the main equivalent for the required meaning. All modern dialects of N, however, replace it with **ǀxàrí**, a word of unknown origin; Xri has both **|a:** and **ǀxari** listed as synonyms (as well as **ǀxami**, which could hint at **ǀxa-** being the original base root — or, conversely, could be the result of contamination with the unrelated PKK stem **\*ǀxam** ‘young’).
- Khwe: **\*kú** (||Ani, |Ganda, ||Xom **kú**). ◇ Note that the attested forms may reflect an earlier **\*!ú**, with regular alveolar click loss in all lects.
- Naro-ǀHaba: **|kxaré** (Naro, ǀHaba **|kxaré**). ◇ Cf. Naro **|kxānà** ‘useless, old, without value; small thing (something despicable)’, **|kxāi-|kxái** ‘very small’ (Visser 2001: 8), which may hint at an original monosyllabic **|kxa-** as the base root.
- |Gwi-||Gana: (?) **\*|kxare** (|Gwi **|kxaré**). ◇ The |Gwi equivalent is the same as in Naro-ǀHaba and is therefore likely to be more archaic. For ||Gana, Vossen (1988: 97) lists **||òm** ‘small’, which is somewhat dubious since (a) this is really the same word as SHORT q.v., and (b) Tanaka (1978: 88) gives **|are** (= **|kxare**) ‘small’ for both languages.
- Shua: **\*ǀúí** (Cara, |Xaise, Deti **ǀúí**). ◇ This is the most widespread root in the required meaning (should go back to an earlier **\*ǀúí**); cf. also Shua **ǀúí ~ ǀúí** ‘small; young; few’ in Fehn et al. 2025. For Danisi, Vossen (1988: 97) originally quotes the form **ǀòré** ‘small’, later also adding **|áré** ‘small’ (Vossen 1997: 457) — however, this word in all other Shua lects rather means ‘thin’, ‘narrow’ (in Fehn et al. 2025, the meanings for Shua **|áré** are given as ‘narrow; small; thin’).
- Ts’ixa: **ǀòré** (Vossen), **ǀòré** ‘be small / be narrow’ (Fehn). ◇ Aligns not just with Shua, but quite specifically with the innovation in Danisi.
- Tsua: Unclear. ◇ Kua and Tsua (Vossen’s data) have **|àré** ‘small’ (just like in Danisi above). For Hie, Dornan lists the form **hai-ni** ‘small’ without any clear etymology. Finally, Tjwao has

*cũĩ* ‘small’ = Shua \**çũĩ*. Without a larger amount of semantically accurate data, the situation in Proto-Tsua remains beyond reliable reconstruction.

- Cua: |**kxaré**.
- NKK: \*|**kxare**. ◇ Although the concept is generally unstable throughout the family, reflexes of this root are found in both the Western and Eastern areas, whereas all the others are limited to one cluster or at least one geographical area (and do not easily find etymological parallels in the other clusters).
- CK: Not reconstructible. ◇ PKK \*|**a** and PNKK \*|**kxare** remain without mutual etymological parallels for now, and it cannot be established which root is more archaic.

## 92. STAND

- KK: \***mã** (N *mǎ̃*, K *mǎ̃*). ◇ Not attested in Xri. Dynamic (‘to stand up’) and static (‘to stand’) sub-meanings are not distinguished (although static usage in N may historically result from contraction: *mǎ̃* + *hǎ̃* ‘to stay’, see notes on SIT).
- Khwe: \***té** (||Ani *té*, |Ganda, Buga, ||Xom *té*). ◇ Static verb, opposed to \**tan* (→ ||Ani, Buga *tàn*, ||Xom *tàn*) ‘to stand up’.
- Naro-†Haba: \***te** (Naro, †Haba *té*). ◇ Static verb, opposed to \**ten* ~ \**tin* ‘to stand up’ (→ †Haba *tín*, Naro *tēē* with vocalization of the coda). (In Vossen 2022: 128, †Haba *té* is given with the meaning ‘stand up’; this is most likely inaccurate, since Vossen 1997: 418 lists *tín* in the same meaning, which is rather to be expected).
- |Gwi-||Gana: \***té** (|Gwi *ché* [Na.], *té* [Vossen], ||Gana *tê*). ◇ Static verb, opposed to \**tàn* ‘to stand up’ (|Gwi *tàn* [Vossen] = *çən* [Na.] with palatalization).
- Shua: \***te** (Cara *tè*, Danisi *té*, Deti *tě*). ◇ Static verb, opposed to \**tàn* ‘to stand up’ (→ Cara, Danisi *tàn*). Cf. Shua *té*: ‘stand’, *tān* ‘stand up’ in Fehn et al. 2025.
- Ts’ixa: *tê* (Vossen), *té*: (Fehn). ◇ Static verb, opposed to *tān* (Fehn) ‘get up’. Aligns with both Khwe and Shua.
- Tsua: \***te** (Kua *té*, Tsua *tè*, Hie *t<sup>h</sup>e*, Tjwao *te*). ◇ Static verb, opposed to \**tan* ‘to stand up’ (→ Kua *tán*, Tsua *tàn*, Tjwao *tan*).
- Cua: **té**: ~ **tí**:. ◇ Static verb, opposed to *tān* ‘to stand up’.
- NKK: \***tε**. ◇ The opposition between \**tε* ‘to stand’ and \**tan* ‘to stand up’ is also safely traced back to PNKK (the latter root undergoes occasional irregularities in daughter languages, e.g. unclear pharyngealization in Cua and vowel fronting in Naro-†Haba, perhaps by analogy with \**tε*).
- CK: Not reconstructible. ◇ PKK \**mã* and PNKK \**tε* are in total complementary distribution, which is quite remarkable of verbal roots with such a basic meaning. Of note, perhaps, is the similarity between PKK \**mã* and Proto-Bantu \*-*yim(ad)*- ‘to stand’ (reflexes often have the phonetic shape -*ma* ~ -*ima* in various daughter languages).

## 93. SWIM

- KK: \***t<sup>h</sup>ã** (N *cǎ̃*, K *t<sup>h</sup>ǎ̃* ~ *t<sup>h</sup>a*, Xri *c<sup>h</sup>ǎ̃* ~ *t<sup>h</sup>ǎ̃*). ◇ Stable root; correspondences are regular (PKK \**t<sup>h</sup>* → N *c*- with fluctuations in Xri).
- Khwe: \***bara** (||Ani, Buga *bàrá*, ||Xom *bàrà-á*). ◇ Not attested in |Ganda.
- Naro-†Haba: Unclear. ◇ For Naro, Vossen lists *bàdà* ‘to swim’; this is likely the same word as *bà<sup>r</sup>rā* ‘to go through’ in Visser 2001: 2, for which an association with ‘swimming’ only springs up for the derivative *ba<sup>r</sup>ra-kxao* ‘one who goes through a difficult situation, one who suffers’ (lit. ‘go-through-male-person’), with one further example: *c<sup>h</sup>a*: *ba<sup>r</sup>ra-kxao-ba* ‘swimmer’ (lit. ‘water-go-through-male-person’). Visser himself gives the equivalent for ‘swim’ as

*gāā-tòè* ← *gāā* ‘duck /bird/’ + *tòè* ‘move’, which is, in turn, similar to †Haba *dá-tùé* ‘swim’ (Vossen 2022: 128), but *dá* is unclear (name for another bird? or a misprint for smth. like *gá*: ‘duck’, as in Naro?). Overall, it is clear that the concept is quite unstable in this branch.

- |Gwi-||Gana: Not attested.
- Shua: \***bara** (Cara, Danisi, Deti *bàrá*, |Xaise *bàrà*). ◇ In addition to Shua *bàrá*, cf. also *tuu* and *túbì* ‘to swim’ in Fehn et al. 2025 (no external parallels).
- Ts’ixa: **bàrá** (Vossen), **bārá** (Fehn). ◇ Aligns with both Khwe and Shua.
- Tsua: Not reconstructible. ◇ Not attested for Kua and Tsua. Hie *!xa* ‘to swim’ and Tjwao *||a*: id. are probably not related, but neither word has reliable external parallels.
- Cua: Unclear. ◇ Cua *dibī* is sometimes glossed as ‘swim’, but a more detailed semantic notation puts it down as ‘to roll around in dirt, to play around in water’ (← PNKK \**dabi* ‘to turn, roll’).
- NKK: (?) \***bara**. ◇ This root is encountered in at least several Western and Eastern clusters and is formally reconstructible to the PNKK level in the meaning ‘swim’ — although its semantic “profile” in Naro, as described above, makes one wonder if ‘to swim’ was indeed the original semantics (rather than ‘go through smth.’).
- CK: Not reconstructible. ◇ PKK \**t<sup>h</sup>ā* and PNKK \**bara* have no etymological connections to each other.

#### 94. THAT

- KK: \***||a** (N *||āā*, K *||a-*, Xri *||a:*). ◇ Adjectival pronominal stem which can also be nominalized both in N and K, e.g. N *||āā-b* ‘that one (masc.)’, *||āā-s* ‘that one (fem.)’.
- Khwe: Unclear. ◇ Detailed information (though somewhat contradictory, depending on the source) is available only on ||Xom. According to Kilian-Hatz 2008: 190, the pure root *||é* by itself denotes the (intermediate) distal degree, while the complex stem *||é-e* denotes the far distal degree. The proximal degree (‘this’) is expressed by *||ū*, which looks like a contraction of the same base root (*||é*) with yet another particle (*i* or *ĩ*). Cf. the situation in ||Ani (Vossen 2000: 137), which is described as *||né* ‘this’ vs. *||né-tè* ‘that’. The two descriptions can be historically reconciled in a scenario which postulates but one base root for all pronouns denoting degrees of proximity (\**||é*), with the actual degrees further differentiated by means of spatial particles that vary from one language to another. Further complications are introduced by the presence of a whole set of referential pronouns (for Khoe, see the full list in Kilian-Hatz 2008: 190), which will not be discussed here. More information on lects other than ||Xom and ||Ani is necessary to fully clarify the situation.
- Naro-†Haba: \***?a** ~ \***?ā** (Naro *ā*, †Haba *?à-sá-hà*). ◇ Visser gives the meanings for this Naro form as ‘that; there (far away)’; he also contrasts it with Naro *ē*: ‘that (thing) there (near addressee)’ and the extended stem *ē-sí-hā*: ‘that there (far away)’ (= Vossen’s *?i-sí-hà*). It is possible that both \**a* ~ \**ā* and \**e* ~ \**ē* represented two different degrees of distal deixis in Proto-Naro-†Haba, but †Haba only presents comparative evidence for the first one.
- |Gwi-||Gana: \***?a** (|Gwi *?āā* [Na.], ||Gana *?á-séá*). ◇ For |Gwi, Vossen only lists the form *||nè-si-ha*, which is basically *||ne* ‘this’ (q.v.) with the same additional suffixal chain as in ||Gana (*?á-séá* ← \**?a-si-ha*) and in Naro-†Haba (see above). It is possible that both Vossen’s and Nakagawa’s data are correct, but the only root that is straightforwardly reconstructible in the meaning ‘that’ based on data from both languages is \**?a* — and it is also the only root corroborated by external evidence from Naro-†Haba.
- Shua: \***(h)ǔ** (Cara, Danisi *ǔ*, Deti *hǔ*). ◇ Cf. Shua *hǔǔ* ~ *?ǔǔ* ‘that’ in Fehn et al. 2025. Interestingly, Vossen’s data contain no indications of nasal vocalic articulation, as opposed to Fehn’s data. The status of initial *h-* is also uncertain (recent prothesis or archaic retention?).

- Ts'ixa: **mé** (Vossen), **mĩĩ** (Fehn). ◇ The only form of the distal deictic pronoun in Ts'ixa; does not align with either Khwe or Shua (in fact, has no clear cognates in any Khoe language). Note the same fluctuation between oral (Vossen) and nasal (Fehn) vocalism as in the (unrelated) Shua distal deictic pronouns.
- Tsua: **\*(h)ũ** (Kua, Tsua *ũ*, Hie *ho*, Tjwao *u*). ◇ Initial *h-* appears only in Hie and is therefore quite unreliable, but the occasional appearance of *h-* in the clearly related Shua forms somewhat raises the chances of its archaic nature. Note also that Dornan distinguishes between Hie *ho* 'that yonder' and *a* 'that'; the latter has no attested parallels in the rest of Tsua proper, but cf. the parallel in Cua below.
- Cua: **ʔáā**.
- NKK: A precise reconstruction of the PNKK system of deictic pronouns is hardly possible at the moment, but certain scenarios can be proposed. First, it can be seen that there is a strong tendency in the Western area to form all or most of the deictic pronouns with the aid of a single stem (usually a reflex of *\*ǵe*) and various extensions; this contrasts with a clear preference for various monovocalic stems (*\*ʔa*, *\*(h)i*, *\*(h)u*) in the Eastern area. Monovocalic stems are, however, also found in the West (esp. *\*ʔa*), while reflexes of *\*ǵe* in the East are largely confined to Ts'ixa — the one language which, as we suspect, has been most seriously influenced by West Khoe. An elegant solution would be to reconstruct three degrees of proximity for PNKK (*\*ʔi* 'this /near/', *\*ʔa* 'that /intermediate/', *\*ʔu* 'that /far away/') plus an optional stem of general deixis (*\*ǵe*) which could be prefixed to any of the three. In this case, for instance, *ǁXom ǵé-e* 'that /far away/' ← *\*ǵe-a* (with assimilation), *ǁĩĩ* 'this' ← *\*ǵe-i* 'this'. The original system would not be preserved in this way in any single cluster, largely due to the instability of the three-way opposition, but very little, if any, of the remaining evidence flat-out contradicts such a scenario.
- CK: Unclear. ◇ The distal deictic pronoun *\*ǵa* in PKK finds a very good etymological parallel in PNKK — but the respective pronoun *\*ǵa*, attested in multiple languages both in the Western and Eastern areas, is *referential* rather than deictic ('that mentioned previously'). This could be taken as a sign that PKK is more archaic in this respect (we would rather expect "deictic" → "referential" as a preferred direction of change rather than vice versa), but this is not certain. Note, however, that PKK has no traces of PNKK monovocalic deictic morphemes such as *\*ʔa*, *\*ʔu*, and it is probably easier to suggest their elimination in PKK rather than having them appear out of thin air in PNKK.

## 95. THIS

- KK: Unclear. ◇ The basic pronominal stem of near deixis has two distinct phonetic shapes in KK languages: (a) with a nasal initial – N *nèè*; (b) with a laryngeal initial – K *hè-*, Xri *he-*. These stems seem to behave in exactly the same way across both N and K, right down to the derived stems (cf. N *nèè-bá* 'here' = K *hè-ba* id., N *nèè-tĩĩ* 'in this way' = K *hè-ti* id., N *nèè-cèè* 'today' = K *hè-cè* id.), but tracing them back to the same ancestral form is difficult since the consonantal correspondence is completely unprecedented. See, however, the discussion below (CK section).
- Khwe: Unclear. ◇ See discussion on THAT above.
- Naro-ǂHaba: *\*ǵe ~ \*ǵĩ* (Naro *ǵĩ*, ǂHaba *ǵĩné*). ◇ Should be distinguished from Naro *ǵā*, also listed in the meaning 'this' in Vossen 1997: 254, but better explained as a referential pronoun ('something or someone already referred to') in Visser 2001: 57.
- ǁGwi-ǁGana: *\*ǵe* (ǁGwi *ǵĩné* [Vossen], *ǵĩnē* [Na.], ǁGana *ǵĩné*). ◇ Should be distinguished from *ǵĩná* 'this (anaphoric)' (Nakagawa 1996: 114).

- Shua: **\*(h)ĩ** (Cara, Danisi *ĩ*, Deti *hĩ*). ◇ Cf. Shua *hĩĩ* ~ *ĩĩ* ‘this’ in Fehn et al. 2025. Same phonetic issues here as in the correlated forms for THAT q.v.
- Ts’ixa: **ĩné** (Vossen), **nēé** ~ **nĩĩ** ~ **ńĩ** ~ **ńĩ** ~ **ĩĩ** (Fehn). ◇ Forms with the dental click align with Khwe; it is, however, unclear if all the clickless variants listed in Fehn’s vocabulary should be regarded as results of dialectal click loss (through frequency of usage?) or if they have a separate origin (for instance, represent a more archaic situation for Ts’ixa, whereas forms with clicks are, instead, recent borrowings from Khwe).
- Tsua: **\*ĩ** (Kua, Tsua *ĩ*, Hie *e*, Tjwao *i*). ◇ For Kua and Tsua, Vossen lists the form *ĩni* ‘this’ as an additional synonym, but it is not supported by data from Hie or Tjwao.
- Cua: **xá** ~ **xā-ĩ**. ◇ The form *xá* is clearly cognate with the anaphoric demonstrative pronoun *xa* in Tjwao (Phiri 2021: 89), whereas *xā-ĩ* almost certainly is the result of contraction of *xá* with *\*ĩ* ‘this’ in its nasalized variant (as, e.g., in Shua).
- NKK: See discussion on THAT above.
- CK: Unclear. ◇ Considering that even in NKK, the pronominal stem *\*ĩe* occasionally undergoes irregular click loss (although the only credible example is for Ts’ixa), it may be speculated that N *nēé* historically comes from *\*ĩe*; in fact, this scenario makes it easier to come up with a common origin for N *nēé* and K *he-*, provided that the original click efflux was more complex (e.g. *\*ĩ<sup>h</sup>e* with aspiration?) and click loss had its own separate variations in N and K. If this is true, we end up with an interesting set of semantic correspondences: (a) KK distal deictic pronoun = NKK referential pronoun (*\*ĩa*); (b) KK proximal deictic pronoun (*ne- ~ he- ← \*ĩ<sup>h</sup>e* ?) = NKK general (neutral) deictic pronominal stem (*\*ĩe*). Beyond that, determining which of the two systems is original and which one is the result of historical transformation is quite a challenge; but in any case, the deep discrepancy between KK and NKK in their “deictic strategies” is every bit as thought-provoking as are the etymological connections between separate elements of the two branches’ deictic pronominal sub-systems.

## 96. WALK (= GO)

- KK: **\*!ũ** (N *ĩũũ*, K *!ũ*, Xri *!ũ*).
- Khwe: **\*kũ** (||Ani, |Ganda, Buga, ||Xom *kũ*).
- Naro-ǀHaba: **\*!ũ** (Naro *!ũ*, ǀHaba *kũ*).
- |Gwi-||Gana: **\*!ũ** (|Gwi *!ũ*, ||Gana *kũ*).
- Shua: **\*kũ** (Cara, |Xaise, Danisi, Deti *kũ*).
- Ts’ixa: **kũ** (Vossen, Fehn). ◇ Aligns with both Khwe and Shua.
- Tsua: **\*kũ** (Kua, Tsua *kũ*, Hie *xo*, Tjwao *kũ*).
- Cua: **kũũ**.
- NKK: **\*!ũ**. ◇ Preserved everywhere; a highly stable root even in its tonal characteristics.
- CK: **\*!ũ**. ◇ Perfect lexical match between PKK and PNKK.

## 97. WARM (HOT)

- KK: **\*|am-** (N *ǀám-sǎ*, K *|am/-sa/*, Xri *|am*). ◇ All known lects share the verbal root *\*|am* ‘to be / to get hot’ (cognate with the word SUN in Kalahari Khoe, see Starostin 2025: 107), but only for N it can be confirmed as the basis for the adjectival derivative ‘hot’. In K, *|am-sa* ‘hot’ is attested in data collected by Maingard and Engelbrecht, but not Meinhof (our main source), who instead lists the adjective *ǀxumm-i* (no external parallels). Xri *|am* ‘hot’ (without any adjectival suffixes) is present in Snyman’s data, but is marked as questionable (Haacke & Snyman 2019: 304). With some reservations, the root can be projected onto the PKK level with the meaning

- ‘hot /of objects that have been heated up, e.g. water etc./’; for the more narrow meaning ‘(naturally) hot /of fire ~ of sun/’, one can also reconstruct PKK  $*\|x\tilde{o}\tilde{a}$  ( $\rightarrow$  N  $\|x\tilde{o}\tilde{a}$ , K, Xri  $\|x\tilde{o}\tilde{a}$ ).
- Khwe: Unclear.  $\diamond$  In the meaning ‘hot’, the only attested form is  $\|Xom \check{c}\tilde{a}$ . The item ‘warm’ is, however, well reconstructible as Proto-Khwe  $*k^h\acute{o}b\grave{o}$  ( $\rightarrow$   $\|Ani$ ,  $|Ganda k^h\acute{o}b\grave{o}$ ,  $\|Xom k^h\acute{o}v\grave{o}$ ).
  - Naro- $\ddot{H}$ aba: Unclear.  $\diamond$  Naro  $k\grave{u}r\ddot{u}-s\acute{a}$  ‘hot/feverish’  $\leftarrow k\grave{u}r\ddot{u}$  ‘to get warm, be warm’; however, the adjectival stem ‘warm, lukewarm’ is formed from a different root = Naro  $\|r\acute{o}\grave{o}$ . For  $\ddot{H}$ aba, however, Vossen (2022: 124) lists  $\|r\acute{o}\grave{o}$  ‘hot’, not ‘warm’ (!).
  - $|Gwi-\|Gana$ : (?)  $*kuru$  ( $|Gwi$ ,  $\|Gana kur\acute{u}$  [Ta.]).  $\diamond$  Attested (in the meaning ‘hot’) only in Tanaka’s dictionary, but likelihood of the words representing the proto-item is significantly increased by the Naro cognate  $k\grave{u}r\ddot{u}-s\acute{a}$  (see above).
  - Shua: Not attested in Vossen’s data.  $\diamond$  Cf. Shua  $c\acute{a}\tilde{a}$  ‘heat; hot, warm’ in Fehn et al. 2025.
  - Ts’ixa:  $c\ddot{u}-c\acute{u}\acute{u} \sim \check{c}\ddot{u}-\check{c}\acute{u}\acute{u}$  (Fehn).  $\diamond$  Reduplicated stem of unclear origin (does not align with either Khwe or Shua).
  - Tsua: (?)  $*c\tilde{a}$  (Hie  $ca$ ; Tjwao  $c\tilde{a}$ ).  $\diamond$  The Hie form, glossed as ‘hot’, and the Tjwao cognate, glossed as either ‘warm’ or ‘hot’ in the default source, are corroborated by a close external parallel in Shua. The situation in Kua and Tsua is, however, not attested. For Hie, cf. also  $\check{f}e$ : ‘hot’ (no clear etymology),  $\|^{h}we-hwe$  ‘to become hot’ and  $\check{c}obe-$  ‘warm’ in Dornan’s data.
  - Cua:  $h\check{o}r\acute{o}$ .
  - NKK: (?)  $*c\tilde{a}$ .  $\diamond$  The isogloss between  $\|Xom \check{c}\tilde{a}$ , Shua  $c\acute{a}\tilde{a}$ , and the Hie/Tjwao forms is not likely to be solved in areal terms and stands as the best candidate as the inherited term for ‘hot’; in this case, Naro- $\ddot{H}$ aba and  $|Gwi-\|Gana$  may be seen as showing a shared innovation for the verbal stem  $*kuru$  in the meaning ‘hot’.
  - CK: Unclear.  $\diamond$  Since PKK  $*|am-$  ‘hot’ acquires the meaning ‘sun’ in PNKK, and the direction of the semantic shift is typically from the former to the latter, NKK  $*c\tilde{a}$  ‘hot’ is more likely to be an innovation; furthermore, it is fully homonymous with PCK  $*c\tilde{a}$  ‘to boil, to cook’ (Vossen 1997: 458), and the semantic shift ‘boiling’  $\rightarrow$  ‘hot’ would be trivial. Nevertheless, the concept as such is seemingly unstable in the area, and both roots could have co-existed in PCK with narrow sub-meanings such as ‘to be hot /of sun/’ and ‘to be hot /of objects/’.

## 98. WHITE

- KK:  $*!uri$  (N  $!ur\acute{i}$ , Xri  $!uri$ ).  $\diamond$  K  $x\acute{a}t\acute{i}$ : ‘white’ is also attested in Xri ( $xati$ ) as an additional synonym, but its origin is unknown; the word’s phonotactic structure (with an intervocalic  $-t-$ ) is atypical of KK (and Khoisan in general) and suggests at a borrowed origin, but the source of borrowing remains unclear.
- Khwe: (?)  $*!r\acute{e}$  ( $|Ganda !r\acute{e}$ ,  $\|Xom !r\acute{e}-fi$ ).  $\diamond$  This is a somewhat dubious root, given the presence of the alveolar click in both  $|Ganda$  and  $\|Xom$  (most Khwe words of NKK origin regularly undergo click loss with this phoneme). The only alternative, however, is  $\|Ani x\acute{o}\acute{e}$  ‘white’ =  $\|Xom x\grave{u}\acute{e}-fi$  ‘be bright white, be very white’ = Naro (Visser)  $x\tilde{o}\tilde{e}-x\tilde{o}\tilde{e}-se$  ‘very white’, cf. also  $\|Xom x\acute{o}\acute{e}$  ‘foam, froth’, from which this adjectival stem is quite likely derived (further KK cognates most likely include N  $g\acute{o}\acute{a}$  ‘foam, froth’, although consonant correspondences are not fully regular).
- Naro- $\ddot{H}$ aba:  $*!ru$  (Naro  $!r\acute{u}$ ;  $\ddot{H}$ aba  $!r\acute{u}$ ).
- $|Gwi-\|Gana$ :  $*!r\acute{u}$  ( $|Gwi !r\acute{u}$ ,  $\|Gana !r\acute{u}$ ).
- Shua:  $*x\acute{o}\acute{e}$  (Cara,  $|Xaise$ ,  $Deti x\acute{o}\acute{e}$ ).  $\diamond$  Cf. Shua  $x\acute{u}\acute{e} \sim x\acute{o}\acute{e}$  ‘white’ in Fehn et al. 2025. Differently in Danisi:  $\acute{o}-s\acute{e}$  ‘white’, with a very rare case of an alveolar click in this lect.
- Ts’ixa:  $!o-s\acute{i}$  (Vossen),  $!o\grave{o}-s\acute{i}$  (Fehn).  $\diamond$  Aligns not with Shua in general, but specifically with Danisi (as in Danisi, cases of alveolar clicks in Ts’ixa are quite rare). Fehn also adds syno-

nyms such as *ǃ'úrú-sì* and *cōū* ‘white’, with no semantic differentiation and no clear etymological origin.

- Tsua: (?) *\*xoe* (Hie *hwe-he*, Tjwao *xue*). ◇ These forms contrast with Kua *!ʷú*, Tsua *!ʷú* ‘white’ in Vossen’s data — but the latter are highly atypical for the Tsua cluster, where the alveolar click is normally supposed to be dropped already at the proto-level, and are perhaps better seen as areal re-borrowings, diffused from the western Khoe-speaking area.
- Cua: *!ʷú*.
- NKK: Unclear. ◇ A striking detail is that the various NKK branches give evidence for three different, but phonetically similar roots, all of which contain alveolar click phonemes (Khwe *\*!ʷé*, Naro-ǃHaba / |Gwi-||Gana / Kua-Tsua *\*!ʷu*, Danisi-Ts’ixa *\*!ô*) — despite the fact that only Naro-ǃHaba and |Gwi-||Gana languages preserve such phonemes on a consistent basis in the inherited lexicon. This raises doubts about their antiquity, and only *\*!ʷu* has external parallels in PKK (see below). The only other candidate that would be plausible from a phonetic and distributional angle is PNKK *\*xoe*; however, as shown above, its original semantics probably goes back to the concept of ‘foam, froth’, and it is unclear if the secondary meaning ‘white’ should really be projected onto PNKK.
- CK: (?) *\*!ʷu-*. ◇ PKK *\*!ʷuri* ‘white’ is hardly possible to separate from *\*!ʷu*, the main equivalent for this meaning in Naro-ǃHaba and |Gwi-||Gana which also unexpectedly crops up in the Kua-Tsua cluster (with a unique case of initial *!ʷ-*); however, a genetic solution would require the analysis of the Nama form as a later suffixal extension. Further complicating things is the existence of Proto-Ju *\*!àʷú* ‘white’ (Starostin 2018: 51), which, if connected, should rather be seen as a possible donor to CK rather than recipient. Another possibility, however, is that all of these forms were independently gained from a “pre-Khoe” (maybe even “pre-Ju”) substrate, which would (purely speculatively) explain all the attested variation. Nevertheless, on a strictly formal basis it is possible to reconstruct PCK *\*!ʷu* ‘white’, regularly preserved in two out of three Western clusters of NKK and (in an extended suffixal form) in PCK. For Kua and Tsua, however, one would still need to postulate a scenario of diffusion — in fact, it is more likely that the common ancestral stage for all of the Eastern clusters was *\*xoe*, and that forms with *!-* were introduced (or re-introduced) to some of the languages already after the split.

## 99. WOMAN

- KK: *\*tara-s* (N *tàrǃ-s*, K *tara-s*). ◇ With polysemy: ‘woman/wife’. This root is not attested in Snyman’s Xri corpus, although Meinhof does mention *tara-s* as one of the equivalents for the meaning ‘woman’. The other, also common for all attested lects, is PKK *\*kʰoe-s*, the feminine equivalent of *\*kʰoe-b* ‘man’; see discussion on MAN above for reasons why it is convenient to lexically differentiate between MAN/WOMAN and PERSON on the root level for PKK.
- Khwe: (?) *\*||ɛ*. ◇ ||Xom *||èè-kʰòè* ‘woman’ consists of *||èè* ‘female’ + *kʰòè* ‘person’. This contrasts with the situation in ||Ani, where the default equivalent seems to be *kʰóé-hè* (‘person’ + feminine gender morpheme *-hè* = N *kʰòè-s*, etc.). Symmetrically to the case with ‘man’ (q.v.), we prefer to view the situation in ||Xom as more archaic, based on external data, but this is not certain.
- Naro-ǃHaba: Unclear. ◇ For Naro, Visser differentiates between *kʰóé-sa* ‘woman’ (= Khwe *kʰóé-hè*, N *kʰòè-s*, etc.) and *||àè-kʰòè* ‘young woman, wife’ (lit. ‘female-person’). For ǃHaba, the precise semantic situation is not attested. Given the parallel situation with MAN q.v., it is tempting to reconstruct *\*kʰoe-sa* ‘woman’ as the basic equivalent for Proto-Naro-ǃHaba, but formal evidence for such a reconstruction is lacking.

- |Gwi-||Gana: \*||ε (|Gwi ||ae-, ||Gana ||ε-). ◇ This root by itself means ‘female’; compound forms for ‘women’ are attested in Tanaka’s dictionary as |Gwi, ||Gana ||ai-kue ~ ||ai-ko-ši (the second component is \*k<sup>h</sup>oe ‘person’ + optional feminine marker).
- Shua: \*||ae- (Cara ||a-, |Xaise, Danisi, Deti ||ae-). ◇ Vossen does not record the full stems for the lexeme ‘woman’, but cf. Shua ||āā-k<sup>h</sup>ō(ê) ~ ||ēē-k<sup>h</sup>ōê ‘woman’ in Fehn et al. 2025, showing that in Shua, just as in most of the other clusters, it is typically formed as a compound of \*||ae- ‘female’ + \*k<sup>h</sup>oe ‘person’.
- Ts’ixa: ||ā:-k<sup>h</sup>ōē (Fehn). ◇ Aligns with both Khwe and Shua.
- Tsua: \*||ae- (Kua ||ae-, Tsua ||ae-, Hie ||ai-čo ~ ||aie-čwe, Tjwao ||e:-xo ~ ||e:-čo). ◇ Vossen does not record the full Kua/Tsua stems for the lexeme ‘woman’, but Hie and Tjwao forms demonstrate that the standard Tsua equivalent is the same compound form as in Shua.
- Cua: ||āē-ǀiā. ◇ Compound form: ||āē ‘wife’ (← ‘female’) + unclear second part.
- NKK: \*||ε-k<sup>h</sup>oe. ◇ The compound formation for ‘woman’ seems well supported by most of the NKK clusters, with the possible exception of Naro-ǀHaba.
- CK: Not reconstructible. ◇ Unlike ‘man’, the concept of ‘woman’ has no single lexical root that would be common for both PKK and PNKK: PKK \*tara- has no parallels in PNKK, whereas PNKK \*||ε- has no known cognates in PKK. Both roots are equally likely to be archaic.

## 100. YELLOW

- KK: Not reconstructible. ◇ N !<sup>h</sup>ūnì ‘yellow’ has no external parallels. K !<sup>h</sup>āī, Xri !<sup>h</sup>ai ‘yellow’ = N !<sup>h</sup>āī ‘grey, ash-coloured’, making the original semantics of this color term difficult to establish. (Xri also has !<sup>h</sup>ao ‘yellow’ as a synonym, but this form has no external parallels).
- Khwe: Not reconstructible. ◇ The concept is attested only for ||Xom, as čèrè-tòè-ǀú, lit. ‘silver terminalia (*Terminalia sericea*)’ (čèrèē) + ‘root’ (tòē) + ‘color’ (ǀú), with slight morphophonological changes of the individual stems — clearly a recent formation.
- Naro-ǀHaba: Not reconstructible. ◇ Naro dàǀm ǀūbī ‘yellow’ = ‘tortoise-egg’ (Visser 2001: 15). For ǀHaba, Vossen (2022: 130) suggests that ‘yellow’ is the same word as ‘white’, which is somewhat dubious (but agrees with the overall flimsiness of the concept).
- |Gwi-||Gana: Unclear. ◇ For ||Gana, Tanaka lists the form dam-!ubi ‘yellow’ = Naro dàǀm ǀūbī (see above); despite the obvious recent origin, it is quite possible that Naro and ||Gana inherit this from a common intermediate ancestor.
- Shua: Not attested in Vossen’s data. ◇ Out of several synonyms listed in Fehn et al. 2025, Shua |xóā (usually in the idiomatic expression |xóā-k<sup>h</sup>òā-?ī, like all the other color terms) looks like the only one with some chances of being relatively archaic.
- Ts’ixa: |kxóā-sī (Fehn). ◇ Aligns with Shua (but note the irregular discrepancy between click effluxes — which could, allegedly, be due to transcriptional error in one of the sources).
- Tsua: Not attested. ◇ The only known form is Hie set<sup>h</sup>a:, a transparent Bantu borrowing (cf. Tswana se:ǀ<sup>h</sup>a ‘yellow’).
- Cua: gòē-||úi. ◇ Compound form: literally = ‘bullfrog-oil’ (see FAT for the second part).
- NKK: Not reconstructible. ◇ This is arguably the least stable concept of all on the 110-item wordlist; new formations are constantly produced based on specific yellow-colored objects (‘silver terminalia’, ‘tortoise egg’, ‘bullfrog’, etc.), and few links exist between individual branches (Naro-ǀHaba and |Gwi-||Gana being the only exception).
- CK: Not reconstructible. ◇ In this case, KK and NKK seem to display comparable rates of (in)stability: just as in the rest of Khoisan, ‘yellow’ is simply not a part of the “default” color palette.

## 101. FAR

- KK: \***ĩu** (N *ĩùù ~ ãùù*, K *ĩu:*, Xri *ĩu:*).
- Khwe: \***ĩû** (||Ani *ĩnû*, |Ganda, Buga, ||Xom *ɲgû*).
- Naro-ǀHaba: \***ĩû** (Naro *ĩû*, ǀHaba *ĩnû*).
- |Gwi-||Gana: Unclear. ◇ Vossen (1997: 507) lists *ɲú* ‘far’ for |Gwi (same root as in Naro-ǀHaba), but Nakagawa (1996: 116) mentions *kxái* ‘far’ instead, and the latter is further supported by |Gwi and ||Gana *kxai ~ kxai-ka* ‘far’ in Tanaka 1978: 34. This root is perhaps to be connected with the PNKK term \**kxái* ‘face, surface’, cf. especially such Naro derivatives as *kxái-a* ‘first’, *kxái-xa* ‘regularly, usually, for a long time already, all the time’ (Visser 2001: 37) — which, in turn, raises issues of semantic accuracy in Nakagawa’s and Tanaka’s sources. Overall, it is difficult to say whether Proto-|Gwi-||Gana indeed replaced the original PNKK root in the basic meaning ‘far’ or if Vossen’s attestation of |Gwi *ɲú* ‘far’ should be deemed more important.
- Shua: \***ɲu** (|Xaise, Danisi *ɲgû*, Deti *ɲú*).
- Ts’ixa: **ɲgû** (Vossen), **ɲgûû** (Fehn). ◇ Aligns with both Shua and ||Xom.
- Tsua: \***ɲu** (Kua *ɲgû*, Tsua *gú*, Hie *gu-no*, Tjwao *ɲgu*).
- Cua: **kxāi**.
- NKK: \***ĩu**. ◇ Well reconstructible based on cohesive evidence from most branches. An interesting additional parallel can be made between |Gwi-||Gana \**kxai* and Cua *kxāi*, but if any of these languages truly share this root for the precisely required meaning ‘far’ = ‘not near’, this should probably be considered a homoplastic (semantically independent) development.
- CK: \***ĩu**. ◇ Perfect agreement between KK and NKK.

## 102. HEAVY

- KK: \***!um** (N *!óǀm*, K *!úm*, Xri *!om*). ◇ See SEED, SLEEP for the same vocalic correspondence.
- Khwe: \***!úm** (||Ani *!óǀm*, |Ganda *kúm*, Buga *kóm*, ||Xom *kóm*).
- Naro-ǀHaba: \***!úm** (Naro *!óǀm*, ǀHaba *!úm*).
- |Gwi-||Gana: \***!óm** (|Gwi *!óám*, ||Gana *!óm*).
- Shua: \***kúm** (Cara, |Xaise, Deti *kóm*, Danisi *kúm*). ◇ Cf. Shua *kúm ~ kóm* in Fehn et al. 2025.
- Ts’ixa: **kúm** (Vossen, Fehn). ◇ Aligns with both Shua and ||Xom.
- Tsua: \***kúm** (Kua *kóm*, Tsua *kúm*). ◇ Not attested in Hie or Tjwao.
- Cua: **kúm**.
- NKK: \***!úm**. ◇ Stable and well-preserved in all branches.
- CK: \***!um**. ◇ Another perfect match between KK and NKK.

## 103. NEAR

- KK: \***|u** (N *|úù*, K *|u-*, Xri *|ku:se*). ◇ Adjectival use in K is only attested in Wuras’ dictionary (*|u-se*: ‘near’); Meinhof has *|u-|u* ‘to bring near’ and *|u-e*: ‘to approach, get near’. The appearance of a velar affricate in Xri is inexplicable (it is certainly not supported by any external data and looks like the result of “hypercorrection”), but cf. also *|u:-|u*: ‘to bring near’ in the same corpus.
- Khwe: \***|û** (||Ani, |Ganda, Buga, ||Xom *|û*).
- Naro-ǀHaba: \***|û** (Naro, ǀHaba *|û*).
- |Gwi-||Gana: \***|û** (|Gwi, ||Gana *|û*).
- Shua: \***|û** (Cara, |Xaise, Danisi, Deti *|û*).
- Ts’ixa: **|û**. ◇ Aligns with both Shua and ||Xom.

- Tsua: \*|**û** (Kua, Tsua /*û*, Hie /*u*, Tjwao /*u*:).
- Cua: |**û**.
- NKK: \*|**û**. ◇ Stable and well-preserved in all branches.
- CK: \*|**u**. ◇ Another perfect match between KK and NKK.

## 104. SALT

- KK: \*|**kxo-** (N *ʔòò-*, K *ʔkxo:-b*, Xri *ʔkxo:-p ~ ʔo:-p*).
- Khwe: \***dobe** (||Ani *dóbè*, Buga *dòbé*, ||Xom *dòvèè*).
- Naro-ʔHaba: \***daʔbe** (Naro *tàʔbē*, ʔHaba *dàʔbé*). ◇ Pharyngealization in Naro is confirmed by all the sources (cf. *dàʔbē* in Vossen 1997: 481, *dāʔbé* in Barnard 1985: 98); for ʔHaba, Vossen lists the pharyngealized variant in Vossen 2022: 126 (although the same form is listed simply as *dàbé* in Vossen 1997: 481, perhaps by accident).
- |Gwi-||Gana: \***daʔbe** (|Gwi *dàʔbē* [Na.], *dàʔbé* [Vossen], ||Gana *dàʔbē*).
- Shua: \***dobe** (Cara, Deti *dóbè*, |Xaise *dèbè*, Danisi *dóbé*). ◇ Vocalic assimilation in |Xaise.
- Ts'ixa: **dōbē** (Fehn). ◇ Aligns with both Shua and Khwe.
- Tsua: \***debe** (Kua, Tsua *dèbé*, Hie *debe*, Tjwao *debe*:). ◇ Note the same vocalic assimilation through the entire cluster as in |Xaise. Regarding the final vowel length in Tjwao, it is curious to note that for Hie, Dornan differentiates between *debe* 'salt' and *debe*: 'salt pan' (result of contraction with an unknown suffix?).
- Cua: **dòbē**.
- NKK: (?) \***dobe**. ◇ The main difficulty here is that Khwe, Shua, and Tsua \**dobe* (→ Tsua \**debe*), on one hand, and Naro-ʔHaba / |Gwi-||Gana \**daʔbe*, on the other, are not easy to reconcile with each other. Pharyngealization in the latter two clusters could be archaic and regularly disappear in the other clusters, but the vowel correspondence (*o* : *a*) is utterly irregular. Furthermore, the variant \**daʔbe* is hardly separable from N *tàbé* ~ *tàwé* 'to lick /brackish substance', *tàbé-s* 'brackish spot, salt-lick', both of which also have dialectal variants with *n-* (*nàwé*). The latter observation makes it reasonable to seek a further connection with the word for 'tongue' (N *nàǹ-mi* ~ *tàǹ-mi*; note Naro *tàǹm*, also with pharyngealization!); an old verbal derivative such as \**daʔ/m-e* would have likely yielded \**daʔ/be* in accordance with the general laws of Khoe phonotactics. In this case, either PNKK \**dobe* and Nama / Naro-ʔHaba / |Gwi-||Gana \**daʔbe* are accidental look-alikes (the former representing the original PNKK root for 'salt' and the latter being a new areal formation from the word for 'tongue'), or all the \**dobe*-like forms are the result of areal diffusion of \**daʔbe* with irregular vocalic correspondences formed through areal transmission.
- CK: Not reconstructible. ◇ In light of the discussion above, the isogloss between N *tàbé* and NKK \**dobe* ~ \**daʔbe* is not particularly telling from a genetic point of view, and even if all these forms were genetically related, we would still be in the dark as to the root's original meaning. In pure theory, an archaic opposition between \**ʔkxo-* 'salt' (preserved only in KK) and \**daʔbe* 'salt-lick' (transitioning to simply 'salt' in NKK) cannot be excluded.

## 105. SHORT

- KK: \*|**ubu** (N *ʔùwú* ~ *ʔùbú*, K *ʔùbù*, Xri *ʔubu* ~ *ʔobu*).
- Khwe: \*||**óm** (||Ani, |Ganda, Buga ||*òm*, ||Xom ||*óm*).
- Naro-ʔHaba: \*||**om** (Naro ||*òm*, ʔHaba ||*óm*).
- |Gwi-||Gana: \*||**òm** (|Gwi ||*òm*, ||Gana ||*òm*).
- Shua: \*||**om** (Cara, |Xaise, Danisi ||*óm*, Deti ||*óm*). ◇ Cf. Shua ||*ōm* ~ ||*ūm* in Fehn et al. 2025.

- Ts'ixa: **||óǀm** (Vossen), **||ūǀm** (Fehn).
- Tsua: \***||óǀm** (Kua **||óǀm**, Tsua **||úǀm**, Hie **||om-je**). ◇ Not attested in Tjwao.
- Cua: **||ōǀm**.
- NKK: \***||om**. ◇ Stable and well-preserved in all branches.
- CK: Not reconstructible. ◇ PKK \***ǀubu** and PNKK \***||om** have no mutual etymological connections.

## 106. SNAKE

- KK: \***ǀkxao-b** (N **ǀàǎ-b**, K **ǀkxāō-b**, Xri **ǀkxao-p**). ◇ An additional Xri synonym, **ǀau-p**, is not corroborated by any external data (it could signify some specific kind of snake).
- Khwe: Unclear. ◇ Equivalents are only attested for **ǀXom**: **ǀíyō** ‘snake’ and **ǀqòyō** id., without any semantic differentiation. The **-yō** coda in both cases is very rare and atypical of Khoe root structure; given that from a distributional point of view, both terms are historical innovations, a borrowed origin for both (albeit purely speculative) is not out of the question.
- Naro-ǀHaba: \***ǀkxao** (Naro **ǀkxāō**, ǀHaba **ǀkxāō**).
- |Gwi-ǀGana: \***ǀkxáó** (|Gwi **ǀkxáó** [Na.], **ǀkxáú** [Vossen], ǀGana **ǀkxáó**).
- Shua: \***ǀráó** (Cara, ǀXaise, Danisi, Deti **ǀráó**). ◇ For Deti, Vossen (1988: 97) also lists the synonym **ǀǎ-kà-kǎ**, which can be literally translated as ‘walking-on-the-belly’ (see BELLY, WALK/GO for the individual components) — probably a recent euphemism.
- Ts'ixa: **ǀíǀ** (Fehn). ◇ A unique Ts'ixa lexeme, although phonetic similarity with **ǀXom** **ǀíyō** should not be ignored (the Ts'ixa form cannot be borrowed directly from **ǀXom**, but perhaps both can be retentions from some earlier substrate?). Judging by text examples, this is the primary word for the concept in the modern language; however, Fehn also adds the common Shua/NKK term **ǀkxāō** ‘snake’ as an extra synonym, but in a very telling context — *Xuukhoedam a ǀkxao e* ‘in the language of the San, (snake) is **ǀkxao**’ (possibly hinting at the word’s archaic status). Finally, Vossen 1988: 97 lists the Ts'ixa equivalent as **ǀǎ-kà-kǎ**, i.e. the same euphemistic expression as in Deti (see above).
- Tsua: \***ǀkxáó** (Kua **ǀráó**, Tsua **ǀráó**, Hie **ǀauo ~ ǀao**, Tjwao **ǀkxao**). ◇ Tjwao still preserves the original velar affricate efflux (which merges with the simple glottalic efflux in most of Tsua).
- Cua: **ǀkxáō**.
- NKK: \***ǀkxáó**. ◇ Reliably reconstructible, based on data from at least four major clusters.
- CK: \***ǀkxao**. ◇ KK and NKK data are in perfect agreement here.

## 107. THIN

- KK: \***ǀrui** (N **ǀrui**, K **ǀru:ǀ**, Xri **ǀrui**). ◇ In N, this word has the specific meaning ‘slim, slender; narrow (of road); thin (of stick, rope)’, e.g. ‘thin’ as applied to two-dimensional objects. A separate term, **ǀàá**, has the meaning ‘thin, flimsy (of smth. flat), sheer (of textiles), thin (of fluid), weak, thin (of hair)’, e.g. ‘thin’ of one-dimensional objects; its only external parallel is K **ǀǎ** ‘thin’ (unspecified) in Engelbrecht’s data, but it is quite possible that the opposition goes all the way back to PKK.
- Khwe: Unclear. ◇ The concept is attested only for **ǀXom**: **ǀíní** ‘be thin’ (of objects; should be distinguished from **ǀǎǎ** ‘(be) meagre, thin; weak, feeble’, presumably mainly of people).
- Naro-ǀHaba: Unclear. ◇ Visser lists Naro **ǀōēē** ‘thin’ (= Vossen’s **ǀúíí** in Barnard 1985: 120), distinct from **càíí** ‘thin (of persons, animals)’. Not attested in ǀHaba.
- |Gwi-ǀGana: Not attested.
- Shua: Not attested in Vossen’s data. ◇ Cf. Shua **ǀání ~ ǀíní** ‘thin’ in Fehn et al. 2025.
- Ts'ixa: **ǀíní** (Fehn). ◇ Aligns with both Shua and **ǀXom**.

- Tsua: Not attested. ◇ Hie *ǁai-ču* ‘lean, thin’ is likely the same root as *ǁXom ǁhǁǁ* ‘meagre, thin’, but this is not the required semantics for this concept.
- Cua: *ǁxǁǁ*.
- NKK: Not reconstructible. ◇ *ǁXom: /íni = Shua /ǁni ~ /íni = Ts’ixa /íni* is clearly the best candidate, but distribution of attested reflexes can be interpreted as areal rather than genetic. Overall, more data are necessary to make a properly informed decision.
- CK: Not reconstructible. ◇ The concept is well represented in KK, but seems to be far less stable in NKK. Note an obvious parallel to KK in Juǀhoan */ùʔi* ‘to be thin /of paper, etc.’ — probably an areal connection, but the direction of borrowing is hard to establish (although the phonetic structure of the Ju word would suggest borrowing into KK, with transposition of glottalic articulation to click efflux position).

## 108. WIND

- KK: *\*ǁoa-b* (N *ǁóǁ-b*, K *ǁōǁ-b ~ ǁoa-b-i*). ◇ For Xri, Snyman lists the related form *ǁoa-p* in the meaning ‘strong wind’, while ‘wind’ as such is rendered by *ǁao-p*, a form of unknown origin.
- Khwe: *\*ǁǁ* (*ǁAni*, *ǁGanda*, *Buga*, *ǁXom ǁǁ*).
- Naro-ǁHaba: *\*ǁǁ* (Naro *ǁǁ*, ǁHaba *ǁǁ*).
- ǁGwi-ǁGana: *\*ǁǁ* (*ǁGwi*, *ǁGana ǁǁ*).
- Shua: *\*ǁǁ* (Cara, ǁXaise, Danisi *ǁǁ*, Deti *ǁǁ*).
- Ts’ixa: *ǁǁ* (Vossen), *ǁǁ* ~ *ǁǁ* (Fehn). ◇ Vossen’s shape of this item aligns strictly with *ǁXom*, but Fehn lists the click-containing (Khwe-like) and clickless (Shua-like) variants as doublets.
- Tsua: *\*ǁǁ* (Kua *ǁǁ*, Tsua *ǁǁ*, Hie *ǁǁ*). ◇ Not recorded in Tjwao, where the basic equivalent for this concept seems to be *xai* (no known etymology).
- Cua: *ǁǁ*.
- NKK: *\*ǁǁ*. ◇ Stable in all clusters and perfectly reconstructible for PNKK.
- CK: Unclear. ◇ It is highly tempting to trace PKK *\*ǁoa-* and PNKK *\*ǁǁ* back to the same source, but the vocalic correspondence here is unique, since PKK *\*oa* normally corresponds to either PNKK *\*oa* or *\*oε*. Although a sporadic irregularity (due to contamination with some other root?) cannot be excluded, we probably have to treat KK and NKK entries here as separate etymological entities, at least until it is demonstrated that the *\*oa : \*a* correspondence is actually recurrent. Note that a widespread equivalent for ‘wind’ in North Khoisan is the root *\*ǁa* (Snyman 1997: 55), which cannot be a borrowing from KK for phonetic reasons.

## 109. WORM

- KK: *\*ǁxoni-b* (N *ǁǁni-b*, K *ǁxòni-b*, Xri *ǁuni-p*). ◇ Loss of velar affricate efflux in Xri is strange but not unprecedented (for many words with *-ǁ-*, doublets are attested in Snyman’s corpus).
- Khwe: Unclear. ◇ Attested only in *ǁXom: ǁxèi* ‘worm/maggot/caterpillar’.
- Naro-ǁHaba: Not reconstructible. ◇ For Naro, Visser lists *ǁǁ* ‘worm in manure, beetle larva, caterpillar’ and *ǁxǁǁ* ‘ringworm (in the body)’. For ǁHaba, Vossen gives *ǁǁǁ* ‘worm’ = Naro *ǁǁǁ* ‘(small) puff adder’ (no idea about the degree of semantic accuracy).
- ǁGwi-ǁGana: Not attested.
- Shua: Not attested in Vossen’s data. ◇ Cf. Shua *ǁǁ* ‘worm’ in Fehn et al. 2025.
- Ts’ixa: *ǁǁǁ* (Fehn). ◇ Aligns better with Shua than with *ǁXom*.
- Tsua: Not reconstructible. ◇ Only attested in Hie *ǁǁǁ* ‘worm’, which may, however, be cognate with the forms attested in Shua, Ts’ixa, and Cua.

- Cua:  $\|\text{ǎi}^f$ . ◇ Polysemy: ‘worm/maggot’.
- NKK: (?)  $\|\text{nai}^f$ . ◇ Although the word is not very well attested, most of the clusters seem to feature at least one or two reflexes of it. Naro-ǀHaba and Cua give evidence for pharyngealized articulation of the coda; Eastern languages show that the click efflux must have been complex (something like the pre-nasalized voiced click in Ts’ixa?).
- CK: Not reconstructible. ◇ PKK  $\text{ǀxoni-b}$  and PNKK  $\|\text{nai}^f$  are two different roots without any mutual etymological parallels.

## 110. YEAR

- KK:  $\text{*kuri-b}$  (N  $\text{kùrĩ-b}$ , K  $\text{kuri-b} \sim \text{gūrĩ-b}$ , Xri  $\text{kuri-p}$ ).
- Khwe:  $\text{*kúrí}$  ( $\|\text{Ani}$ ,  $\|\text{Ganda}$ , Buga  $\|\text{Xom kúrí}$ ).
- Naro-ǀHaba:  $\text{*kúrí}$  (Naro  $\text{kūrĩ}$ , ǀHaba  $\text{kúrí}$ ).
- $\|\text{Gwi-}\|\text{Gana}$ :  $\text{*kúrí}$  ( $\|\text{Gwi}$ ,  $\|\text{Gana kúrí}$ ).
- Shua:  $\text{*kúrí}$  (Cara,  $\|\text{Xaise}$ , Danisi, Deti  $\text{kúrí}$ ).
- Ts’ixa:  $\text{kúrí}$ . ◇ Aligns with both Shua and Khwe.
- Tsua:  $\text{*kúrí}$  (Kua  $\text{kúrí}$ , Tsua  $\text{cúrí}$ , Hie, Tjwao  $\text{čurĩ}$ ).
- Cua:  $\text{ǀúdi}$ .
- NKK:  $\text{*kúrí}$ . ◇ Stable and well-preserved in all the languages.
- CK:  $\text{*kuri}$ . ◇ KK and NKK are in perfect agreement with each other.

## Preliminary observations (by way of conclusion)

Following the same scheme that was earlier introduced in Starostin 2024, 2025, I summarize below (Table 1) the results of intermediate reconstructions for Proto-Khoekhoe (PKK) and Proto-Non-Khoekhoe (PNKK), as well as for the top level of Proto-Central Khoisan = Proto-Khoe (PCK). Reconstructions in square brackets represent probable lexical/semantic innovations in the respective intermediate protolanguage. Question marks in the PCK column note the impossibility of making an “optimal” choice between PKK and PNKK given our current state of knowledge on Khoe etymology (note that this can mean one of *three* possible options, including a scenario in which the original equivalent was replaced independently in both primary nodes of the family).

Additionally, I also list all the semantic connections (both polysemies and historically more or less certain semantic shifts) between the analyzed etyma and other meanings; for details on particular connections (names and number of languages, direction of shift, etc.) the actual data lists in the paper should be consulted.

Based on this table, we can make the following conclusions:

1. For almost half of the entries (29 out of 60), it is formally impossible to come up with a reliable and unambiguous *single* onomasiological candidate for Proto-Khoe — not just because of the transparent and strongly divergent binary branching of the family, but also because in most of these cases, the items reliably reconstructible for Proto-Khoekhoe and Proto-Kalahari Khoe find *no etymological traces* in the opposite branches, at least, not at the current level of our knowledge and investigation. Given the lack of detailed sources on many of the languages (particularly in the Kalahari area), it is quite likely that in the future, some mutual etymological support for these forms will be discovered, but overall, this is a rather surprising situation — and it begs the question of just how many of the forms listed in this table have, in fact, been inherited in the intermediate ancestral stages from Proto-Khoe itself.

| Word       | PCK                 | PKK                 | PNKK                      | Semantic connections                       |
|------------|---------------------|---------------------|---------------------------|--------------------------------------------|
| ALL        | *hoε                | *hoa                | *wε                       |                                            |
| BARK       | *  kxũ              | [*soro-]            | *  kxũ                    | ‘shell, cover’; ‘dry/dead bark’            |
| BELLY      | ?                   | *ĩa-b               | *ĩa                       |                                            |
| BIG        | ?                   | *kai                | ?                         |                                            |
| BITE       | *pa                 | *ba                 | *pa                       | ‘to open the mouth’                        |
| BREAST     | ?                   | *  xai-b            | *  u                      | ‘breastbone’; (?) ‘sternum of ostrich’     |
| BURN (TR.) | *dao                | *dao                | *dao                      |                                            |
| CLOUD      | ?                   | *ĩanu-s (?)         | *  um (?)                 | ‘rain’; ‘sky’                              |
| COLD       | *!q <sup>h</sup> ai | *!xai               | *!q <sup>h</sup> ai       | ‘cool’; (?) ‘to shiver’                    |
| COME       | *ha                 | *ha                 | *ha                       |                                            |
| EARTH      | ?                   | *!h <sup>u</sup> -  | *xom                      | ‘sand’                                     |
| FAT (N.)   | *  núi              | [*kau-]             | *  núi                    | ‘fat (adj.)’                               |
| FEATHER    | ?                   | *!ʔam-i             | *!ʔũ                      | ‘hair’                                     |
| FISH       | *  ʔau              | *  ʔau-b            | *  ʔau                    |                                            |
| FLY (V.)   | ?                   | ?                   | *  abu (?)                | ‘to rise’, ‘to jump’, ‘to migrate’, ‘wing’ |
| FULL       | * kxoε              | * kxo-a-sa          | * kxoε                    |                                            |
| GIVE       | *ma                 | *ma                 | *ma ~ *mā                 | ‘to share’, ‘to distribute’                |
| GOOD       | *!āi                | *!āi                | *!āi                      | ‘handsome, pretty’                         |
| GREEN      | ?                   | *!kxam              | ?                         |                                            |
| KNEE       | *  oε               | *  oa-              | *  oε                     |                                            |
| KNOW       | *!ʔan (?)           | *!ʔan               | [*!ā]                     | ‘to think’, ‘to perceive/understand’       |
| LIE (V.)   | *  oe               | *  oe               | *  oe                     | ‘to sleep’                                 |
| LIVER      | *kxāi               | *kxāi-b             | *kxāi                     |                                            |
| LONG       | ?                   | *ga-xu              | *!ao                      |                                            |
| MAN        | *kxao               | *kxao-b             | *kxao-(k <sup>h</sup> oe) | ‘male’, ‘person’                           |
| MANY       | ?                   | *ʔui                | ?                         | ‘big’, ‘quantity’                          |
| MOUNTAIN   | ?                   | *!ʔui- (?)          | ?                         | ‘stone’                                    |
| NECK       | *!kxao              | *!kxao-             | *!kxao                    |                                            |
| PERSON     | *k <sup>h</sup> oe  | *k <sup>h</sup> oe  | *k <sup>h</sup> oe        |                                            |
| RED        | ?                   | * kxaba             | * q <sup>h</sup> oa       | ‘sunset’                                   |
| ROAD       | *dao                | *dao-b              | *dao                      | ‘path’                                     |
| ROOT       | ?                   | *ĩoma-b             | *toĩbe (?)                |                                            |
| ROUND      | ?                   | *!ubu               | ?                         |                                            |
| SAND       | ?                   | *  xae-b            | *xom                      | ‘earth’, ‘to cover /w. sand or ash/’       |
| SAY        | *mĩ                 | *mĩ                 | *mi ~ *mĩ                 |                                            |
| SEE        | *mũ                 | *mũ                 | *mũ                       |                                            |
| SEED       | ?                   | *!xum-              | * xuri                    | ‘pip’, ‘fruit’                             |
| SIT        | *ĩu                 | *ĩu ~ *ĩũ           | *ĩu                       |                                            |
| SKIN       | *k <sup>h</sup> o   | *k <sup>h</sup> o-b | *k <sup>h</sup> o         |                                            |
| SLEEP      | *  ʔum              | *  ʔum              | *  ʔum                    | ‘to lie’, ‘to roost’                       |
| SMALL      | ?                   | * a                 | * kxare                   | ‘young’, ‘thin’, ‘narrow’                  |
| STAND      | ?                   | *mā                 | *tε                       |                                            |

Table 1. Khoekhoe, Non-Khoekhoe, and Proto-Central Khoisan reconstructions for Swadesh items 51–110.

| Word       | PCK       | PKK               | PNKK                    | Semantic connections                                    |
|------------|-----------|-------------------|-------------------------|---------------------------------------------------------|
| SWIM       | ?         | *t <sup>h</sup> ã | *bara                   | ‘to go through (smth.)’                                 |
| THAT       | ?         | *  a              | *ʔa/*ʔu (?)             |                                                         |
| THIS       | ?         | *ne/*he (?)       | *ʔi (?)                 |                                                         |
| WALK (GO)  | *!ũ       | *!ũ               | *!ũ                     |                                                         |
| WARM (HOT) | ?         | * am-             | *cã (?)                 |                                                         |
| WHITE      | *!ʔu- (?) | *!ʔuri            | *!ʔu (?)                | ‘foam, froth’                                           |
| WOMAN      | ?         | *tara-s           | *  ε-k <sup>h</sup> oe  | ‘female’, ‘wife’                                        |
| YELLOW     | ?         | ?                 | ?                       | ‘grey’, ‘tortoise egg’, ‘bullfrog’, ‘silver terminalia’ |
| FAR        | *ĩu       | *ĩu               | *ĩu                     |                                                         |
| HEAVY      | *!um      | *!um              | *!úrh                   |                                                         |
| NEAR       | * u       | * u               | * û                     |                                                         |
| SALT       | ?         | *!kxo-            | *dobe (?)               | ‘salt-lick’, ‘to lick salt’                             |
| SHORT      | ?         | *!ubu             | *  om                   |                                                         |
| SNAKE      | * kxao    | * kxao-b          | * kxáo                  | ‘belly-walker’                                          |
| THIN       | ?         | * ui              | ?                       |                                                         |
| WIND       | ?         | *!ʔoa-b           | *!ʔá                    |                                                         |
| WORM       | ?         | *!kxoni-b         | *  nai <sup>ɛ</sup> (?) | ‘maggot’, ‘caterpillar’                                 |
| YEAR       | *kuri     | *kuri-b           | *kúrí                   |                                                         |

Table 1. Khoekhoe, Non-Khoekhoe, and Proto-Central Khoisan reconstructions for Swadesh items 51–110 (continued).

2. On the positive side, these results are in solid agreement with the overall splitting of the Swadesh wordlist into two halves based on their average stability (as originally proposed in Starostin 2012): the first half only yielded around 10 items for which it was completely impossible to suggest the primary (more archaic) nature of the intermediate proto-item in either Khoekhoe or Kalahari Khoe. While the individual stability ratings for Khoe would naturally differ from the average ranking of the items (cf., for instance, such super-stable Khoe items as BURN, FULL, LIVER, PERSON, etc.), generally the family behaves as it would be expected to on this behalf.

3. It may be seen, even more clearly than before, that Khoekhoe and Kalahari Khoe sometimes display significant differences in their lexicalization of concepts. Among these are: (a) Khoekhoe’s consistent lexical distinction between transitive and intransitive BURN, as opposed to Kalahari Khoe’s tendency to use the same root for both; (b) Khoekhoe’s colexification of SOLID FAT with FAT (adj.) rather than with LIQUID FAT = OIL in Kalahari Khoe; (c) Khoekhoe’s possession of a special term for GREEN, unlike Kalahari Khoe here that meaning is quite “volatile”; (d) for WOMAN, a preference for using either a specialized lexical root (\*tara-) or a feminine form of PERSON (\*k<sup>h</sup>oe-s) in Khoekhoe over the more common compound ‘female-person’ in Kalahari Khoekhoe, etc. These differences are likely to be explainable in areal terms and warrant comparison with the correlating semantic divisions in other African families, both those of the “Khoisan area” and of “non-Khoisan” lineages to the north of Khoe territory.

Although the assembled evidence, with complete lists published here and available in StarLing database format, permits to produce a new phylogenetic tree for all the included Khoe lects, publishing a “raw” version without first submitting the evidence to another round of historical analysis would be somewhat premature. As we have seen, in many cases there are reasons to suspect areal interference, sometimes mutual (e.g. Naro-Nama contacts), sometimes on the part of other “Khoisan” lineages (such as Ju or Taa), and sometimes on the part of uni-

identified substrates or adstrates; failing to take those into consideration while producing a lexicostatistical tree may (and indeed will) result in glaring errors of both phylogenetic classification and glottochronological dating. Because of this (and also due to volume considerations), we shall postpone the relevant discussion for a final (fourth) part of this series, with a focus on the following questions:

1) does the major lexical rift between Khoekhoe and Kalahari Khoe truly reflect a deep chronological split, or should it rather be accepted as a result of substrate/adstrate interference (possibly related to the necessarily implied language shift on the part of some of the family's speakers)?;

2) does the data speak in favor of Rainer Vossen's earlier hypothesis of a binary split of Kalahari Khoe into the Western and Eastern branches, or is this split more of an illusion triggered by areal waves of phonetic change in the region? consecutively, is there sufficient lexical evidence to postulate *any* large clusters of a genetic nature within Kalahari Khoe?;

3) what is the status of Ts'ixa? should it be considered part of the Shua cluster, part of the Khwe cluster, or a separate entity on the Kalahari Khoe tree in between the two?;

4) what is the status of Cua? is it part of the Tsua cluster despite being so notoriously more archaic in its phonology, or is the lexical evidence against such a classification after all?;

5) an additional question is that of Khoe's relation to the extinct Kwadi (Fehn & Rocha 2024), with which it seems to form a generally accepted single family — in particular, how can the status of Kwadi as an outlier contribute to the onomasiological reconstruction of the Proto-Khoe wordlist itself?

Only after a serious look at all these issues on an etymon-by-etymon basis, and a subsequent correction of the assembled wordlists and their cognation indexes, would it finally make sense to present a lexicostatistical tree for the Khoe family. The final part of the present study will hopefully be able to address all of these problems individually and present a definitive classification (at least inasmuch as the currently available data permit to establish).

## References

- Barnard, Alan. 1985. *A Nharo Wordlist with Notes on Grammar*. Durban: University of Natal.
- Collins, Chris, Zachary Wellstood. 2025. *A Grammatical Sketch of Cua*. Berlin / Bruxelles: Peter Lang.
- Dornan, Samuel S. 1917. The Tati Bushmen (Masarwas) and their language. *Journal of the Royal Anthropological Society of Great Britain and Ireland* 47: 37–112.
- Du Plessis, Mélan. 2018. *Kora: A lost Khoisan language of the Early Cape and the Gariep*. Cape Town: University of South Africa Press.
- Fehn, Anne-Maria. 2014. *A Grammar of Ts'ixa (Kalahari Khoe)*. Ph.D. thesis. Köln: Institut für Afrikanistik.
- Fehn, Anne-Maria, Arnold Ketapilwe, Tshiamo Kebuelemang. 2024. *A dictionary of Ts'ixa: a Khoe language of northern Botswana*. Manuscript Version. Vairão: Network of CIBIOInBIO TwinLabs in Africa.
- Fehn, Anne-Maria, Jorge Rocha. 2024. Lost in translation: A historical-comparative reconstruction of Proto-Khoe-Kwadi based on archival data. *Diachronica* 40(5): 609–665.
- Fehn, Anne-Maria, Tshisimogo Leepang, Jorge Rocha. 2025. *A Dictionary of Shua*. Manuscript Version. Vairão: Network of CIBIO-InBIO TwinLabs in Africa.
- Guthrie, Malcolm. 1970. *Comparative Bantu: an introduction to the comparative linguistics and prehistory of the Bantu languages. A catalogue of common Bantu with commentary Part 2 (Volume 3)*. London: Gregg Press Ltd.
- Haacke, Wilfrid, Eliphas Eiseb. 2002. *A Khoekhoegowab Dictionary with an English-Khoekhoegowab Index*. Namibia: Gamsberg Macmillan.
- Haacke, Wilfrid, Eliphas Eiseb, Levi Namaseb. 1997. Internal and external relations of Khoekhoe dialects: a preliminary survey. In: Wilfrid Haacke, E. D. Elderkin (eds.). *Namibian languages: reports and papers*: 125–203. Köln: Rüdiger Köppe Verlag.
- Haacke, Wilfrid, Jan W. Snyman. 2019. Lexical proximity of a Xri corpus to Khoekhoegowab. *Studies in African Linguistics* 48(2): 267–328.

- Kilian-Hatz, Christa. 2003. *Khwe-English Dictionary*. Köln: Rüdiger Köppe Verlag.
- Meinhof, Carl. 1930. *Der Koranadialekt des Hottentotischen*. Berlin: Dietrich Reimer Verlag.
- Nakagawa, Hiroshi. 1996. A first report on the click accompaniments of |Gui. *Journal of the International Phonetic Association* 26(1): 41–54.
- Nakagawa, Hiroshi. 2006. *Aspects of the phonetic and phonological structure of the G|ui language*. Ph.D. Thesis. Johannesburg: University of the Witwatersrand.
- Phiri, Admire. 2021. *The Verbal and Nominal Morpho-syntax of Tjwao: A Grammaticalisation Approach*. Ph.D. dissertation. Cape Town: Stellenbosch University.
- Rust, Friedrich Jr. 1969. *Nama Wörterbuch (Krönlein Redivivus)*. Pietermaritzburg: University of Natal Press.
- Starostin, George. 2018. Lexicostatistical Studies in Khoisan I: The Ju-ǀHoan Relationship. *Journal of Language Relationship* 16(2): 19–61. doi: 10.31826/jlr-2018-161-205
- Starostin, George. 2024. Lexicostatistical Studies In Khoisan III/I: Reconstructing a Swadesh wordlist for Proto-Khoe (items 1–25). *Journal of Language Relationship* 22(3–4): 216–240. doi: 10.31826/jlr-2025-223-404
- Starostin, George. 2025. Lexicostatistical Studies In Khoisan III/II: Reconstructing a Swadesh wordlist for Proto-Khoe (items 26–50). *Journal of Language Relationship* 23(1–2): 97–119. doi: 10.31826/jlr-2026-231-208
- Starostin, Georgiy. 2013. *Языки Африки: опыт построения лексикостатистической классификации. Том I: Методология. Койсанские языки*. Москва: Языки славянских культур.
- Starostin, Sergei. 2007. Opređenje ustojčivosti bazisnoj leksiki. In: Sergei Starostin. *Trudy po jazykoznaniju*: 825–839. Москва: Языки славянских культур.
- Tanaka, Jiro. 1978. *A San Vocabulary of the Central Kalahari: G|ana and G|wi Dialects*. Tokyo: Institute for the Study of Languages and Cultures of Asia and Africa.
- Traill, Anthony. 1994. *A !Xóǀ dictionary. Quellen zur Khoisan-Forschung/Research in Khoisan studies, Bd 9*. Köln: Rüdiger Köppe Verlag.
- Visser, Hessel. 2001. *Naro Dictionary*. Botswana: Printing & Publishing Co.
- Vossen, Rainer. 1986. Zur Phonologie der ǁAni-Sprache. In: Rainer Vossen, Klaus Keuthmann (eds.). *Contemporary studies on Khoisan (Festschrift Oswin R. A. Köhler)*, v. 2: 321–345. Hamburg: Helmut Buske Verlag.
- Vossen, Rainer. 1997. *Die Khoe-Sprachen: Ein Beitrag zur Erforschung der Sprachgeschichte Afrikas*. Köln: Rüdiger Köppe Verlag.
- Vossen, Rainer, Sabine Neumann, Christina Patriarchi, Margit Rottland, Rainer Spörl, Beate Vagt. 1988. Khoe Linguistic Relationships Reconsidered: The Data. In: Rainer Vossen (ed.). *New perspectives on the study of Khoisan. Quellen zur Khoisan-Forschung / Research in Khoisan studies, Bd 7*: 67–108. Köln: Rüdiger Köppe Verlag.
- Wellstood, Zachary. 2024. *Cua Dictionary*. Ms. (unpublished).
- Wuras, Carl Friedrich. 1920. *Vokabular der Korana-Sprache. Herausgegeben und mit kritischen Anmerkungen versehen von Walther Bourquin*. Berlin: Dietrich Reimer Verlag.

Г. С. Старостин. Лексикостатистические исследования по койсанским языкам III/III: реконструкция списка Сводеша для працентрально-койсанского (пракхойского) языка (элементы 51–110)

Настоящая работа представляет собой третью часть лексикостатистического анализа базисной лексики языков семьи кхой (Южная Африка); впервые проводится попытка ономаσιологической реконструкции второй, «нестабильной» (в среднестатистическом плане) половины списка Сводеша для пракхойского языка с целью выявления лексических замен от пракхойского состояния к промежуточным праязыковым состояниям и в конечном итоге к современным языкам. В совокупности с проведенной ранее реконструкцией первой половины списка результаты исследования формируют основу для построения устойчивой филогенетической классификации кхойской семьи на основе глоттохронологического метода и ручного анализа общих инноваций (соответствующую классификацию предполагается опубликовать в последней, завершающей статье автора на тему кхойской лексикостатистики).

Ключевые слова: койсанские языки; кхой языки; лексикостатистический анализ; ономаσιологическая реконструкция; историческая семантика.