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Lexicostatistical studies in Khoisan III/II: Reconstructing a Swadesh wordlist for Proto-Khoe (items 26–50)[1]

This paper is the second part of a 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. This section concentrates on the etymological analysis of the second half of the "ultra-stable" sub-section of the Swadesh wordlist, following it up on certain preliminary conclusions about the internal phylogenetic structure of Khoe.

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

Introductory notes

In this section of my ongoing lexicostatistical study of Khoe languages, I shall complete the analysis of the (provisionally) "ultra-stable" part of the Swadesh wordlist (i.e. 50 lexical items selected for their overall higher average rates of retention) for this family. For a general overview of the languages included in the survey, details on the reconstruction of Proto-Khoe, and the methodological basis for the comparison, the first part of the study (Starostin 2024) should be consulted, as well as my earlier works on the subject (e.g. Starostin 2013). Here, for the sake of convenience, I shall only repeat the list of principal data sources and notes on transcription.

(a) **Data**. The list of principal data sources remains the same as in the previous paper; below I provide a brief recapitulation, distinguishing between primary and auxiliary sources for the reader's convenience.

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

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

II.3. **|Gwi-ǁGana**: |Gwi, ǁGana —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).

II.5. **Ts'ixa:** Vossen et al. 1988, Vossen 1997 (primary), Fehn 2014 (auxiliary).

[1] The present work was conducted as part of the research project "From antiquity to modernity" (National University Higher School of Economics, 2025). As before, I am grateful to Chris Collins for providing me with some of the newer materials on Khoe languages, and to all the other specialists who have made their data available in published form or online, making this comparative analysis possible.

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 forthc. (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, ʒ*; IPA *tʃ, dʒ* = GLD *č, ǯ*; IPA *tɕ, dʑ* = GLD *ɕ, ʒ).* In transcribing clicks, I also adopt Rainer Vossen's convention of representing clicks with voiced effluxes with an underline tilde (*ǀ̲, ǂ̲*, etc.), while clicks with nasal effluxes get a superscript tilde (*ǀ̃, ǂ̃*, 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 *ǂx* (velar fricative efflux) or *ǂχ* (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 *ǂx* so as to avoid creating the illusion that we may be dealing with different phonemes. Likewise, the velar/uvular ejective affricate, alternately transcribed as *kx*, *kx*, *kxʼ*, *qχ*, or *qχʼ* depending on the source, shall be consistently simplified and unified to *kx*.

Khoe basic lexicon: Items 26-50

26. LOUSE

- KK: ***kxuri-** (N *úrì-b/s*, K *kxūrí-b*, Xri *kxuri-p*). ◊ With regular loss of initial affricate in N.
- Khwe: ***kxuni** (‖Ani *kxùní*, ‖Xom, Buga *kxúní*).
- Naro-ǂHaba: Naro *ǂ̃ãˢ*. ◊ Not attested in ǂHaba. In Naro, cf. also *‖kxóné* 'very small louse; something very small' (Visser 2001: 113); it is very tempting to regard this as a partial (with a slight semantic shift) retention from Proto-NKK, but the lateral click articulation would instead suggest a recent borrowing from Taa (cf. !Xóõ *ǁ̲kxóni* 'a species of louse' in Traill 1994: 113). Meanwhile, the main Naro word for 'louse' is exactly the same as Ju|'hoan *ǂ̃ãˢ* 'louse' (Dickens 1994: 244) which does not, however, go back to the common Ju root for 'louse' (Proto-Ju **cʔíŋ́*, see Starostin 2018: 37); this is, therefore, exactly the same case as with the word for 'leaf' (Starostin 2024: 236) — a Naro-Ju|'hoan isogloss with no cognates in either of the two families, indicating a possible unknown linguistic substrate as a common source for both.
- |Gwi-‖Gana: ***kxuni** (|Gwi *kxúní*, ‖Gana *kxúnì*).
- Shua: ***kʔúnì** (|Xaise, Deti, Cara, Danisi *kʔúnì*).
- Ts'ixa: **kʔùní** [Vossen]. ◊ Aligns with both Shua and Khwe.
- Tsua: ***kʔuni** (Kua, Tsua *kʔúnì*, Tjwao *kʔuni ~ kxuni*). ◊ Unclear: Hie *ǁ̲am* 'louse' with no parallels in any other language. Whether this is a genuine lexical replacement or the result of some semantic aberration on Dornan's part is impossible to ascertain at present.
- Cua: **kxʼūnī**.
- NKK: ***kxuni**. ◊ Highly stable overall, with the exception of the (potentially substrate-based) replacement in Naro and the unclear situation in Hie.
- CK: ***kxuri ~ *kxuni**. ◊ The phonetic discrepancy between KK ***kxuri** and NKK ***kxuni** is important (a phonetic isogloss separating the two major branches of the family) but difficult to

resolve in either morphological (two different fossilized suffixes?) or phonetic terms (the correspondence KK **-r-* : NKK **-n-* is irregular, though somewhat recurrent, cf. Proto-KK **!xaru* 'to snore' : Proto-NKK **!xúnú* id. It is also difficult to ignore the phonetic proximity with !Xóõ *ǂǁkxóni* 'species of louse' (already mentioned in the Naro section as a potential source for a related Naro form); if it is non-accidental, the two CK variants could represent independent results of accommodation of some old Tuu root, losing its click influx (note that phonetic variation *-ni ~ -ñi ~ -ri* is a rather common feature in |Xam and other !Ui languages, unlike in Khoe). All of this is highly speculative, but could indicate pathways for future areal research.

27. MEAT

- KK: [a] ***kxo-b** (K *kxo-b*, Xri *kxoː-p*); [b] ***ǁ̰an-** (N *ǂàǹ-i*, Xri *ǂann-i*). ◊ Of the two roots denoting the concept 'meat' in KK, only the first one has clear (and ubiquitous) cognates in NKK, which would seem to mark it as the optimal candidate. The full situation is, however, more complex, since the nominal stem **kxo-b* 'meat' is easily interpretable as nominalization of the old verbal stem **kxo-* 'to eat /meat/' (the same situation in NKK, see below), still preserved in N as *òő-* 'to eat /greedily/, devour'. Meanwhile, in Snyman's Xri corpus, both roots are attested in the language without any clear semantic demarcation, making it impossible to determine which one was the most basic or archaic term. If Xri is indeed an outlier on the Khoekhoe tree (a claim that is difficult to verify lexicostatistically, but can be backed by certain phonetic arguments, e.g. preservation of the old Khoe opposition between voiceless and voiced click effluxes), elevating ***ǁ̰an-** 'meat' to Proto-KK status is a very natural choice — perhaps as a synonym with ***kxo-b** (the original semantic distinction could be similar to 'flesh' vs. 'meat', i.e. 'meat = muscle, tissue' vs. 'meat = food').
- Khwe: ***kxo-xu** (‖Ani *kxò-xú*, ǁXom *kxó-xò*, Buga, |Ganda *kxó-xò*). ◊ The noun 'meat' in this branch is formally a derivative from the verb **kxo-* 'to eat /meat/', with the partially desemanticized suffix **-xu* ← Proto-Khoe **xu* 'thing' (Vossen 1997: 428).
- Naro-ǂHaba: ***kxo-xo** (← **kxo-xu*; Naro *kxò-xó* [Vossen], *kxǒ* [Visser], ǂHaba *kxó-xò*). ◊ Same situation as in Khwe.
- |Gwi-ǁGana: ***|xa** (|Gwi */xá*, ǁGana */xâ*).
- Shua: ***kxo-xu** (|Xaise *kʔò-hú*, Deti *kʔò-xú*, Cara *kʔò-hú*, Danisi *kxò-xú*). ◊ Same situation as in Khwe.
- Ts'ixa: **kʔò-xú** [Vossen], **kʔō-xú** [Fehn]. ◊ Aligns with both Shua and Khwe.
- Tsua: ***kʔo-xu** (Kua, Tsua *kʔó-xù*, Tjwao *kɤ̀ː-xo ~ kxoː-xo*, Hie *ko-ho*). ◊ Same situation as in Khwe.
- Cua: **kxóō-xò**.
- NKK: ***kxo-xu**. ◊ See notes on Khwe for internal etymology. It is important to note that the noun 'meat' is always bisyllabic, as opposed to the monosyllabic verb **kxo* 'to eat /meat/' (even Naro *kxǒ* in Visser's dictionary, judging by its tonal pattern, is most likely a dialectal contraction from **kxo-xo*). This means that, while **kxo-xu* is unquestionably reconstructible on the Proto-NKK level, it may have itself been a not particularly archaic compound formation on that level. Attention should be paid to |Gwi-ǁGana **|xa*, which is in itself a stable nominal CK root with the general semantics of 'body' in some languages and 'flesh/muscle/meat without bone' in others (Vossen 1997: 468). It is possible that such an opposition — 'meat /with bone/' : 'meat /without bone/' — has to be set up for Proto-NKK itself.
- CK: ***kxo-**. ◊ Given the joint evidence of KK and NKK, there can hardly be any doubt that a nominal derivative of the verbal root **kxo-* 'to eat /meat/', with the specific meaning 'meat /as food/' or 'meat /on the bone/' must have existed already in PCK. Beyond that, things are more difficult, as the NKK opposition is between **kxo-xu* 'meat /on the bone/' and **|xa* 'meat

/without bone/', whereas in KK that opposition may rather be between **kxo-* and **ǁan-*, while **ǀxa* in that subgroup has the semantics of 'body'. A "maximalist" scenario would allow to project all three roots to top level (as 'meat /on the bone/' vs. 'meat /without bone/' vs. 'body' respectively) — in fact, it is not excluded that precisely this kind of situation is attested (unfortunately, without any indication of precise semantics) in Xri. But from a strict distributional perspective, only **kxo-* can be carried over to the top level without any "penalties".

28. MOON

- KK: ***ǁxã-** (N *ǁxâ̂-b*, K *ǁxã-s*, Xri *ǁxã-s*). ◊ Curious gender discrepancy between N (masculine) and K+Xri (feminine), but otherwise the reconstruction is unambiguous.
- Khwe: ***ǁ̃oɛ** (ǁAni *ǁ̃nóɛ́*, ǁXom *ǁ̃óɛ́*, Buga *ǁ̃óɛ́*, ǀGanda *ǁ̃óé*).
- Naro-ǂHaba: **ǁ̃oe** (Naro *ǁ̃óé*, ǂHaba *ǁ̃nóè*).
- ǀGwi-ǁGana: **ǁ̃oe** (ǀGwi, ǁGana *ǁ̃óè*).
- Shua: **ǁ̃oe** (ǀXaise *ǁ̃nóè*, Deti, Cara, Danisi *ǁ̃óé*).
- Ts'ixa: **ǁ̃óɛ́** [Vossen], **ǁ̰nóé** [Fehn].
- Tsua: **ǁ̃oe** (Kua *ǁ̃óé*, Tsua *ǁ̃úé*, Tjwao *ǁ̰noe ~ ǁ̰oe*, Hie *ǀ̰we:*). ◊ The dental click in Dornan's notation of Hie is most likely erroneous, as in other cases (e.g. 'fingernail').
- Cua: **ǁ̰óē**.

- NKK: ***nǁ̰oɛ**. ◊ A highly stable NKK root; the only issues are with reconstructing some of its phonological features. Based largely on Vossen's data (supported by ǁXom, where the contrast between *e* and *ɛ*, particularly in diphthongs, is also phonological), I reconstruct **oɛ* rather than **oe* (unfortunately, lack of parallels in Khoekhoe, where **oɛ* is supposed to regularly yield *oa*, prevents from fully confirming this reconstruction). Additionally, Fehn's notation of the click in Ts'ixa as pre-nasalized, together with the non-nasal reflex in Cua and select data from Vossen's fieldwork, rather invite to reconstruct pre-nasalized **nǁ̰-* than simple nasal **ǁ̃-*, though this decision is still provisional.
- CK: Unclear. Proto-KK ***ǁxã-** and Proto-NKK ***nǁ̰oɛ** formally remain equiprobable candidates. In NKK, cf. perhaps Cua *ǁxáà̰* 'light (n.)' and Naro *ǁxáà* 'to light everything (of sun)' (the latter without vowel nasalization) as acceptable etymological cognates for the KK term; given the low overall probability of the shift from 'moon' to 'light' as opposed to vice versa ('light' → 'moon' is quite common, cf. Indo-European **louk-snā* 'moon' = 'shining', etc.), one might suggest that KK **ǁxã-* is a semantic innovation (although the sparse attestation of reflexes in NKK raises chances of accidental similarity).

  On the other hand, it is impossible to ignore the phonetic resemblance between NKK **nǁ̰oɛ* and Proto-Ju **ǃúí* 'moon' (Starostin 2018: 38). If these two forms are related through contact, the only possible direction of borrowing would have been from Ju into NKK (with the retroflex click, alien to the Khoe family, shifting to lateral articulation) — or from an earlier ancestral form of Ju into Proto-Khoe, with subsequent loss in Proto-KK. One cannot also exclude the possibility of some deeper relation (theoretically, there is nothing preventing the Ju and NKK forms to reflect some super-archaic "Common Khoisan" ancestry). In any case, the sheer number of possible scenarios means that we cannot speak here with certainty about a single optimal candidate for the meaning 'moon' in Proto-Khoe.

29. MOUTH

- KK: ***kxam-** (N *ǎḿ-s*, K *amm-a* [Wu.], Xri *amm-i* [Mh.]). ◊ The situation in K is strange: Meinhof's *kxam-ma* is only listed with the meaning 'gate', and no word at all with the meaning

'mouth' is found in his vocabulary; however, *kxam-ma* 'mouth' was elicited from Du Plessis' !Ora informants in the 2000s (Du Plessis 2018: 284). Meanwhile, Wuras lists K *amm-a* 'mouth', which is a strange form since *kx-* is normally expected to be retained in all dialects of that language (with Xri, the situation is different, as sources indicate free variation between *kx-* and initial zero in some cases). It is possible that we may deal here with some areal interference between various Khoekhoe dialects. Nevertheless, external data very strongly confirm the primary nature of **kx-* in this root.

- Khwe: ***kxáḿ** (‖Ani, ‖Xom, Buga, |Ganda *kxáḿ*).
- Naro-ǂHaba: ***kxáḿ** (Naro, ǂHaba *kxáḿ*).
- |Gwi-‖Gana: ***kxáḿ** (|Gwi, ‖Gana *kxáḿ*).
- Shua: ***kxáḿ** (|Xaise *kʔáḿ*, Deti *kʔàḿ*, Cara *kʔáḿ*, Danisi *kxáḿ*).
- Ts'ixa: **kʔáḿ** [Vossen, Fehn].
- Tsua: ***kʔam** (Kua *kʔàḿ*, Tsua *kʔàm̀*, Tjwao *kʔam*, Hie *ǂam*). ◊ In Hie, initial *ǂ* is likely to represent a phonetic error on Dornan's part (ejective articulation misheard as a click).
- Cua: **kxàm̄**.

○ NKK: ***kxam**. ◊ A stable root with a phonetically unambiguous reconstruction.

○ CK: ***kxam**. ◊ Except for some strange instability of the initial consonant in Khoekhoe (see notes above), most languages of the family preserve regular reflexes of this root.

30. NAME

○ KK: ***|kxon-** (N */ʔòǹ-s*, K */kxōnn-á*, Xri */kxonn-i*). ◊ There is considerable phonetic variation between the reflexes of this root; in some of the Nama dialects, the root vowel is *e* (cf. Hai‖om, Topnaar */ʔèǹ-s*). This may be the result of vocalic assimilation from an earlier **/kxon-i → */kxen-i*, with the new vowel retained by analogy in morphological formations with a different gender ending, but the explanation is not fully convincing since this development is non-recurrent.

- Khwe: ***|kxon-(i)** (‖Ani */kxóǹ*, ‖Xom */kxónn̄*, Buga, |Ganda */kxṹĩ̀*). ◊ Two morphological variants are in complementary distribution between the different varieties of Khwe: ‖Ani and ‖Xom reflect the pure monosyllabic root **/kxon*, while Buga and |Ganda reflect **/kxon-i* (→**/kxun-i* → */kxũĩ̀* with assimilation and loss of intervocalic nasal with compensatory vowel nasalization).
- Naro-ǂHaba: ***|kxun-(i)** (Naro */kxṹĩ̀*, ǂHaba */kxúǹ*). ◊ Naro has the same development here as Buga and |Ganda.
- |Gwi-‖Gana: ***|kxon** (|Gwi */kxoàǹ*, ‖Gana */kxóǹ*).
- Shua: ***|kxon** (|Xaise */ʔóǹ*, Deti */ʔúǹ*, Cara */ʔóǹ*, Danisi */kxúǹ*).
- Ts'ixa: **|ʔòǹ** [Vossen].
- Tsua: ***|ʔun** (Kua, Tsua */ʔúǹ*, Tjwao */ʔun*, Hie */un*).
- Cua: **|kxṹũ̄**.

○ NKK: ***|kxon**. ◊ Consistently preserved in all daughter languages, albeit with some morphological discrepancies and unclear phonetic changes (it is still not quite clear if the vowel raising in so many NKK languages is a regular development here or a result of assimilation and reduction: **/kxon-i →*/kxun-i →*/kxun*).

○ CK: ***|kxon**. ◊ One of the most stable CK roots in the entire lexicon.

31. NEW

○ KK: ***|ʔa-sa** (N */ʔá-sà*, K */ʔà-sà*, Xri */ʔa-sa*). ◊ In Xri, attested only within the collocation */ʔa-sa ‖xã-p* 'new moon'. Phonetic and semantic proximity to N */ʔáà* 'sharp, pointed, acute' could indicate

a typical pattern of derivation with the standard adjectival suffix *-sa*; however, Proto-KK 'sharp' is clearly to be reconstructed as **ǀkxa-* (cf. K *ǀkxa*, Xri *ǀkxa: ~ ǀʾa:* with variation), while the bisyllabic forms for 'new' are never attested with the velar affricate click efflux. For the moment, the two roots should probably be regarded as etymologically different.

- Khwe: ***kxoa** (‖Ani *kxóà*, ‖Xom *kxóa*). ◊ Very broad polysemy in ‖Xom: 'green/unripe/uncooked/raw/new/tainted, spoiled (of meat)'.
- Naro-ǂHaba: Naro *kàˢbā*. ◊ Not attested in ǂHaba.
- ǀGwi-‖Gana: ***qábà** (ǀGwi, ‖Gana *qábà*).
- Shua: ***kxóá** (Deti *kʾóá*, Cara *kʾóá*, Danisi *kxóá*).
- Ts'ixa: **kʾóá** [Vossen, Fehn].
- Tsua: [a] ***ǀʾa** (Tjwao *ǀʾaa*); [b] **ǁ̃ao** (Tsua *ǁ̃áò*, (?) Hie *!ao*). ◊ Tsua *ǁ̃áò*, according to Vossen, really means 'new' — although it clearly goes back to Proto-NKK and Proto-CK **ǁ̃ao* 'old' (!; see Vossen 1997: 415). I suppose that Hie *!ao* 'new' (Dornan 1917: 101), given the extreme rarity of the transcriptional sign *!* in Dornan's records (normally, Proto-NKK **!* just yields simple *k-* in Hie, as in all other Tsua languages), may be an erroneous transcription for *ǁ̃ao*, in which case this odd antonymous semantic shift might boast a little bit more antiquity than just Tsua. In any case, 'old' is clearly the original meaning here, which leaves Tjwao *ǀʾaa* as a better candidate for the Proto-Tsua status — the problem with this root, of course, is that its closest relative can only be found in Khoekhoe, making the distribution extremely weird.
- Cua: **qábā**.

○ NKK: The situation here is quite complicated. Two roots have the widest distribution: (a) ***kxoa** (the main equivalent in Khwe and Shua + Ts'ixa) and (b) ***qaba ~ *kaˢba** (Naro, ǀGwi-‖Gana, Cua). The former is also attested, with a suffixal extension, as Naro *kxōā-rà* 'raw /of meat/' and Cua *kxórā* 'unripe, not cooked' (← **kxoa-ra*). The latter has no etymological parallels in the remaining languages and no semantics other than 'new' proper. It would be possible to suggest a Proto-NKK opposition like **qaba* 'new' vs. **kxoa* 'raw, unripe', with the latter taking on the functions of the former in several branches, but external data show this is hardly the likeliest solution (see below).

○ CK: Not formally reconstructible. ◊ Proto-KK ***ǀʾa** finds formal NKK support in Tjwao *ǀʾaa*, but, as already stated, the distribution is extremely strange. (Possible) Proto-NKK ***qaba** 'new' has a clear match in Nama *kàwā́* 'new', but this is a restricted dialectal form (Sesfontein and Hai‖om dialects), not easily reconstructible for Proto-KK; the overall distribution raises suspicions of diffusion from a non-CK substrate. Finally, (possible) Proto-NKK ***kxoa** is comparable with the Proto-CK root ***kxoa** 'to return' (N *óà*, K *kxōā*); if this phonetically impeccable comparison is etymologically correct, this would imply a semantic shift from 'returning' → 'new' in NKK (and only from there to 'unripe', 'raw', etc., rather than vice versa). Overall, there are too many possible pathways to suggest a definitive onomasiological reconstruction in this case.

32. NIGHT

○ KK: ***tʰu-xu-** (N *cùū́-xû-b*, K *tʰũ̄-xu-b*, Xri *cʰu-xu-ba ~ tʰu-xu-ba*). ◊ All Khoekhoe lects reflect a compound form, in which the second morpheme is the desemanticized nominal root **xu* 'thing'.

- Khwe: ***tʰŭ** (‖Ani, ‖Xom, Buga, ǀGanda *tʰŭ*).
- Naro-ǂHaba: (?) ***ǂ̃u** (Naro *ǂ̃ŭ*). ◊ The Naro equivalent is the same as the word for BLACK; in light of external evidence, this is clearly a merger, but due to lack of attestation in ǂHaba, it is unclear to which chronological level the merger should be assigned.

- |Gwi-‖Gana: Not reconstructible. ◊ Only attested in Tanaka 1978: 26 as |Gwi, ‖Gana *hxae-šika*, where the first part is most likely the same as |Gwi-‖Gana *qáè* 'dark' (Vossen 1992: 386) and the second part is unclear. Whether this is really the basic |Gwi-‖Gana compound for 'night' remains to be ascertained.
- Shua: ***tʰǔ** (Cara *tʰǔ*, Danisi *tʰǔ*). ◊ Not attested in |Xaise or Deti.
- Ts'ixa: **tʰǔ** [Vossen], **tʰūú** [Fehn].
- Tsua: ***xae** (Tjwao *xae*, Hie *haie*). ◊ Not attested in Kua or Tsua, but reconstructible based on the direct parallel between Tjwao and Hie.
- Cua: **qxāē** (= *xāē*).

○ NKK: ***tʰǔ**. ◊ Reconstructed based on the joint evidence of Khwe and Shua (+ Ts'ixa). In Naro, replaced with a nominalization of **ǂ̃u* 'black'; in Tsua + Cua (also possibly in |Gwi-‖Gana, though based on unreliable sources), with a semantic shift from Proto-CK **!qʰae* 'darkness' (interestingly, a similar shift also took place in at least one sub-lect of !Ora, as Meinhof quotes K *!xaì-b* 'night' alongside the more common *tʰũ-xu-b*).

○ CK: ***tʰǔ**. ◊ Reliably reconstructible based on both KK and NKK evidence (although it is possible that **!qʰae* 'dark/ness/' was already used as a stylistic synonym on the Proto-CK level).

33. NOSE

○ KK: ***ǂui-** (N *ǂ̰ùí-s*, K *ǂùì-b*, Xri *ǂ̰ui-p ~ ǂ̰ui-s*). ◊ Preserved in all daughter languages.

- Khwe: ***ǂúì** (‖Ani, Buga, |Ganda *ǂúì*, ‖Xom *ǂúī*).
- Naro-ǂHaba: ***ǂui** (Naro *ǂūì*, ǂHaba *ǂúî*).
- |Gwi-‖Gana: ***ǂui** (|Gwi *ǂúì*, ‖Gana *ǂ̰úì*). ◊ Voiced articulation in ‖Gana is irregular (and is not confirmed by the transcription *!tui* = *ǂui* in Tanaka's dictionary).
- Shua: ***ɕui** (|Xaise, Danisi *ɕúì*, Deti, Cara *ɕúí*).
- Ts'ixa: **ǂúì** [Vossen], **ǂúí** [Fehn].
- Tsua: ***ɕúì** (Kua, Tsua *ɕúì*, Tjwao *cui ~ čui*, Hie *čui ~ čwi*).
- Cua: **ǂūī**.

○ NKK: ***ǂúì**.

○ CK: ***ǂui**. ◊ One of the most stable items in the wordlist (preserved in all languages).

34. NOT

○ KK: ***tama** (N *tàmà*, K, Xri *tama*). ◊ This is the only negative particle that can be safely projected onto the Proto-KK level based on evidence from all the major lects; additionally, N has a special negative marker *tídè* for future tense forms whose only parallels lie outside KK (see notes on Naro and general CK below).

- Khwe: ***bé** (‖Ani, Buga, |Ganda *bé*, ‖Xom *béē ~ vé*). ◊ Enclitic particle.
- Naro-ǂHaba: ***tama** (Naro *=tá ~ =tāmā*, ǂHaba *=tímá*). ◊ In Naro, a special verbal enclitic for future tense forms is *títè* (cf. a very similar situation in N above). Naro *=tá* is probably best explained as a colloquial contraction from **=tama*. Front vowel in ǂHaba is not well understood; could it be that ǂHaba also used to have *tite* as a future tense negative, and *=tímá* is the result of analogical change before the other form got lost? (highly speculative).
- |Gwi-‖Gana: ***tàmà** (|Gwi, ‖Gana *tàmà*).
- Shua: ***=tà** (|Xaise, Deti, Cara, Danisi *=tà*). ◊ Negative verbal enclitic for imperfective forms; the corresponding perfective morpheme displays considerably more variety (Cara *=mana*, Deti *=mànà*, |Xaise *=m*, Danisi *=bé*).

- Ts'ixa: **=tã** [Vossen], **=tà̃** [Fehn]. ◊ Negative verbal enclitic for imperfective forms; the corresponding perfective morpheme is *=íté* [Vossen, Fehn].
- Tsua: ***=ta** (Kua, Tsua *=tà*, Tjwao *=ta ~ =tam ~ =taʔm*, Hie *=t^{h}a*). ◊ For Hie, Dornan indicates that *=t^{h}a* is used in the perfective forms; the present (= imperfective) variant is *=be:*.
- Cua: **tàmàhà̃** (= *tàm-à hà̃* NEG-JCT PFV). ◊ A special negative morpheme, **bě̄**, is reported for negation in focus sentences (e.g. *T^{h}abo m̀ bě̄ ɕíé kwà mű̀ù̀* "it is not Thabo who I see", etc.).

○ NKK: [a] ***=tama;** [b] ***=be**. ◊ The most widespread marker of negation in NKK has the bisyllabic shape **=tama* in Naro-ǂHaba, |Gwi-‖Gana, and Cua, but a monosyllabic variant in most of the Tsua languages (*=ta*, but sometimes also *=tam* or *=tã*); it makes sense to agree with Vossen (1997: 366), who reconstructs **=tama* and considers the short variants to be the result of reduction. Less widespread, but sufficiently well distributed to be projected onto the Proto-NKK level is **=be* (default marker of negation in Khwe; perfective negation in Danisi; imperfective (!) negation in Hie; focus negation in Cua; |Xaise *=m* may also be related through irregular sound change). The question of their semantic opposition in NKK remains open; this may have to do with the distinction between imperfective and perfective forms, or with some other factor (such as the "focus" distinction in Cua, which looks promising but, for now, remains a unique phenomenon attested for this one particular language).

○ CK: ***=tama**. ◊ The only negative morpheme that is reliably reconstructible for the top level of the family based on joint evidence from KK and NKK. N *tídè* is clearly the same as Naro *títè*, but whether this is retention of a shared archaism or an areal innovation is unclear; from a purely distributional point of view, borrowing into Naro from N is the likelier scenario. On the other hand, despite not having any cognates in KK, Proto-NKK **=be* has no obvious internal etymology and could very well be a retention from Proto-CK, lost in the other branch.

35. ONE

○ KK: ***|ui** (N *|ű́í*, K, Xri *|ui*).
- Khwe: ***|úí** (‖Ani, ‖Xom, Buga, |Ganda *|úí*).
- Naro-ǂHaba: ***|úí** (Naro, ǂHaba *|úî*).
- |Gwi-‖Gana: ***|úí** (|Gwi, ‖Gana *|úí*).
- Shua: ***|úí** (|Xaise, Deti, Cara, Danisi *|úí*).
- Ts'ixa: **|úí** [Vossen, Fehn].
- Tsua: *|**úí** (Kua, Tsua *|úí*, Tjwao *|ui*, Hie *kwie ~ kwiye*). ◊ Hie shows a curious irregular case of dental click loss (*kwie* ← **|ui-e*).
- Cua: **|úí**.

○ NKK: ***|úí**.

○ CK: **|úí**. ◊ One of the most stable items in the wordlist. Of note is the similarity with the almost equally distributed Proto-NKK (but not Proto-KK) root **|ú* 'other' (Vossen 1997: 415; in ‖Ani and |Gwi the form *|úí* actually expresses both the meanings 'one' and 'other', indicating either a contamination of the two or a trace of their common etymological identity).

36. RAIN

○ KK: ***tu-** (N *tű́ú-s*, K *tú:-s*, Xri *tu:-p*). ◊ The N form is dialectal (characteristic of the Damara, Topnaar, and Bondelzwarts lects as per Haacke & Eiseb 2002: 134); in Nama proper, the old root has been largely replaced by *ǀʔàpí-b* (←*ǀʔàwí ~ ǀʔàpí* 'to pour /of rain/', perhaps ultimately traceable to N *ǀʔàű́* 'to flow'). For the masculine form *tu:-p* in Xri, cf. Nama *tu:-b* 'rainclouds' in Krönlein & Rust 1969: 361.

- Khwe: ***tu** (‖Ani, ‖Xom, |Ganda *tú*, Buga *tŭ*).
- Naro-ǂHaba: ***tú** (Naro, ǂHaba *tú ~ tyú*).
- |Gwi-‖Gana: ***tú** (|Gwi, ‖Gana *ɕú:* [Nakagawa], |Gwi *tú ~ tyú* [Vossen]). ◊ ‖Gana *gyú* 'rain', listed in Vossen 1986: 93, is most likely the same root, with *gy* representing a palatal stop, although the voiced articulation is unclear.
- Shua: ***tú** (|Xaise, Cara, Danisi *tú*, Deti *tŭ*).
- Ts'ixa: **tú** [Vossen], **tú:** [Fehn].
- Tsua: ***tú** (Kua, Tsua *tú*, Tjwao *tu:*, Hie *tu*).
- Cua: **tú**:.

○ NKK: ***tú**.

○ CK: ***tu**. ◊ Extremely stable everywhere with the exception of modern Nama dialects.

37. SMOKE

○ KK: ***|kxan-** (N */ʔáǹ-ni*, K */kxan-ni ~ /kxān-na*, Xri */kxan* 'to smoke /intr./'). ◊ This root must have already been both nominal ('smoke') and verbal ('to smoke /intr./') on the Proto-KK level; Xri only seems to preserve the verbal usage, as the corresponding noun is listed as *k^{h}abu-p* (= K *k^{h}abu-* 'flame', which does beg the question of semantic accuracy in Xri).

- Khwe: ***c'ánì** (‖Ani, |Ganda *c'ánì*, ‖Xom *č'ánì*). ◊ ‖Ani *c'ánì* is only listed in the meaning 'tobacco' (not clear what is the proper equivalent for 'smoke' itself). The root is both nominal ('smoke') and verbal ('to smoke /intr./') in ‖Xom.
- Naro-ǂHaba: ***c'ínì** (Naro *c'énè* [Visser], *c'ínì* [Vossen], ǂHaba *c'ínì*). ◊ The root is both nominal ('smoke') and verbal ('to smoke /intr./') in Naro. External data clearly show that first vowel *i* is the result of regressive assimilation.
- |Gwi-‖Gana: ***c'ínì** (|Gwi *c'énè*, ‖Gana *c'ínì*). ◊ Both forms are transcribed as *čene* in Tanaka 1978: 88; vocalic development in this branch is quite similar to the situation in Naro-ǂHaba (see above).
- Shua: ***c'ani** (|Xaise, Deti, Cara *c'ání*, Danisi *c'ínì*).
- Ts'ixa: **c'ínì** [Vossen].
- Tsua: ***c'ínì** (Kua, Tsua *c'ínì*, Tjwao *c'ini*, Hie *cene*).
- Cua: **c'ínì**.

○ NKK: ***c'ánì**. ◊ Vocalic reconstruction is not completely certain, since it does not explain such forms as |Gwi *c'énè*; amendment to something like **c'ane* (**c'anɛ*?) is a possibility.

○ CK: ***c'an-**. ◊ Extremely stable root; the development **c'-* → **|kx-* is regular for Proto-KK. The original shape was monosyllabic, corresponding to the verbal meaning 'to smoke'; the noun 'smoke', ***c'an-i** (or ***c'an-e**?), is likely an old nominal derivative. Given the possibility that glottalic **c'-* was actually phonetically realized as the affricate **ckx'-*, the similarity to !Xóõ *ckx'âye* 'smoke' is rather striking, as is also the segmental proximity to Sandawe *c'uk'a* 'smoke'; historic interpretation of these similarities is a future issue.

38. STAR

○ KK: ***|ami-ro-** (N */ǀàmǐ́-rǒ-s*, K */ámó-ró-*). ◊ This word is clearly derived from the verb **|ami-* 'to wink, to blink; to twinkle (of stars)', still preserved as N */ǀàmǐ́*. In Snyman's Xri data, it is only attested in certain compounds, such as *‖oa-|amaro-s* 'Venus' (literally = 'dawn-star'); the actual equivalent for 'star' is given as *‖amaro-da-i* = N */ǁàm̋-rò-di* 'raindrop', indicating a possible separate metaphorical shift.

- Khwe: ***|xani** (‖Ani */xání*, ‖Xom */xánī*, Buga, |Ganda */xánì*). ◊ Polysemy: 'star/guinea-fowl' in all attested languages.

- Naro-ǂHaba: ***ǂóˢnù** (Naro *ǂóˢnò*, ǂHaba *ǂóˢnùˢ*).
- |Gwi-‖Gana: (?) ***ǂ[x]ónù** (|Gwi *ǂxónù*, ‖Gana *ǂónù*). ◊ Click efflux correspondences are irregular; if this is not the result of a mistake in transcription, it could be a hint at the forms being areally diffused rather than inherited from Proto-|Gwi-‖Gana (see discussion below).
- Shua: ***|xani** (|Xaise */xání*, Deti, Danisi */xánì*, Cara */xínì*).
- Ts'ixa: **|xánì** [Vossen].
- Tsua: ***|xánì** (Kua */xánì*, Tsua */xáinì*, Tjwao */xani*, Hie *ǂxaine*). ◊ Dornan's transcription for Hie indicates the same partial vocalic assimilation as in Tsua, but incorrectly indicates the articulation of the dental click.
- Cua: **|xáīníì**.

○ NKK: ***|xani**. ◊ The most widespread and reliably distributed, as well as phonetically non-problematic, equivalent for the required meaning. Its only competition comes from the Naro-ǂHaba and |Gwi-‖Gana clusters, displaying a bunch of similar variants (**ǂoˢnu ~ *ǂonu ~ *ǂxonu*) that are difficult to reconcile in terms of fully regular correspondences and have no external parallels in CK. They are, however, quite similar to the term for 'star' in Ju-ǂHoan: Proto-Ju **ǂǜ*, ǂHoan *ǂô* (Starostin 2018: 45), which once again brings to mind the possibility of a common substrate (see LEAF and LOUSE for already discussed examples of exclusive Naro-Ju isoglosses). In any case, this is an areal form, attested in contiguous languages and most likely diffused already after the disintegration of Proto-NKK.

○ CK: (?) ***|xani**. ◊ Although the Proto-NKK term for 'star' is not attested in this meaning in KK, it is clear that the actual KK terms are all semantic innovations; moreover, for an etymological parallel cf. N */xìní-nǐ-s*, dial. */xìnɪ̀ɪ̌-s ~ /xɪ̀ɪ́nā́-s* '*Tribulus sp.*', 'morning star' (a plant with small star-shaped flowers) — an indirect trace of the former presence of this root in KK as well. It is hardly accidental that the same root also expresses the meaning 'guinea-fowl' in several NKK languages, cf. ‖Xom */xání*, Naro */xáné*; also in N, cf. */xénà-s*, dial. */xínà-s ~ /xínì-s* 'guinea-fowl' (the metaphoric connection here is through the guinea-fowl's star-like plumage). Given the narrow distribution of the word, it seems likely that the semantic shift direction here is from 'star' to 'guinea-fowl', not vice versa. This makes it possible to include in the same comparison the !Xóõ form */xǎ̀-nàa* 'hedgehog', which, according to Traill (1994: 59), is for the !Xóõ "the animate form of a fallen star", and could mean that the Khoe form for 'star' was specifically borrowed into !Xóõ in the metaphorical meaning 'hedgehog'.

39. STONE

○ KK: ***|ʾui-** (N */ʾűí-*, K */ʾui-b*, Xri */ʾui-p*). ◊ Polysemy: 'stone/mountain' in most lects.

- Khwe: ***‖óá** (‖Ani *‖nóá*, ‖Xom, Buga, |Ganda *‖óá*). ◊ Polysemy: 'stone/flint/hill' in ‖Xom.
- Naro-ǂHaba: ***‖òáˢ** (Naro *‖ɔ̀ɔ́ˢ* [Visser], *‖nòáˢ* [Vossen], ǂHaba *‖nòáˢ*).
- |Gwi-‖Gana: ***‖oa** (|Gwi *‖òá*, ‖Gana *‖óá*).
- Shua: [a] ***|ʾúì** (Deti, Cara */ʾúì*); [b] ***‖oa** (Danisi *‖óá*). ◊ From a distributional point of view as well as judging by external evidence, |Xaise *káró* 'stone' is clearly an innovation, despite etymological parallels in Tsua. For the possible difference between [a] and [b] see notes on Ts'ixa below.
- Ts'ixa: [a] **|ʾúì** [Fehn]; [b] **‖óá** [Vossen], **‖nóá** [Fehn]. ◊ Analysis of the contexts given in Fehn 2014 shows that *‖nóá* is predominantly said of small stones used as projectiles ("he threw the stone", etc.), whereas */ʾúì* seems rather to refer to 'stone' as material or (big) 'rock' in general (e.g. "this arrow was made of stone"). This may help understand the odd fluctuation between these two roots in Shua languages — either having to do with not fully accurate semantic glossing or with subtle semantic shifts and mergers in some of those lects.

- Tsua: [a] ***ǁ̃oa** (Kua *ǁ̃óà*, Tjwao *ǁ̃goa*, Hie *ǁwa*); [b] ***qaro** (Tsua *qárò*, Tjwao *karo*, Hie *karo* ‘a large hail stone; a stone’). ◊ It is impossible to decide on a single optimal candidate from available evidence, but **ǁ̃oa* is clearly the more archaic root of the two. Interestingly, Phiri 2021 mentions both *ǁ̃goa* and *karo* as Tjwao equivalents for ‘stone’, but only *karo* is prominently featured in text examples (“throw a stone”, “jump over the stone”, “the stone is hard”, etc.).
- Cua: **ǁ̰oa**.

○ NKK: ***n̰ǁoa (~ ǁ̃oa)**. ◊ The most widespread root in NKK displays some phonetic peculiarities, such as pharyngealization in the Naro-ǂHaba cluster and denasalization in Cua. The latter phenomenon is probably correlated with the recording of a prenasalized click in Ts’ixa, implying that the reconstruction should feature a prenasalized (or pre-glottalized nasal) click. Whether this articulation is also responsible for pharyngealization in Naro-ǂHaba is unclear.

Two more, weaker candidates are ***|ʔui** ‘stone’, attested only in the Shua cluster (+ Ts’ixa), and ***qaro** (Tsua + |Xaise; possibly ← **!qaro* with regular alveolar click loss?). The former, as seen from the discussion of Ts’ixa evidence, may rather be referring to ‘large rocks’ or ‘hills’; the latter is very clearly an areal Eastern innovation.

○ CK: [a] ***n̰ǁoa**; [b] ***|ʔui**. ◊ Although Proto-NKK ***n̰ǁoa** is not found in KK in the basic meaning ‘stone’, it is highly likely that its cognate in N is *ǁ̃óá-s* ‘(mouse)trap (using flat stone and stick)’, confirming the basic semantics of ‘*small* stone’. Meanwhile, Proto-KK ***|ʔui-** ‘stone; mountain’ corresponds to the same Shua cluster root with the semantics of ‘*large* stone’. That said, it is impossible to establish with certainty which of the two roots was the default CK equivalent for the narrow meaning ‘stone’ (of relatively small size); since both are formally reconstructible to the Proto-CK level, it would be permissible to use both of them for further comparisons.

40. SUN

○ KK: ***sore-** (N *sórè-s*, K *sōrē-b*, Xri *sore-p*). ◊ In N, the distinction between fem. *sórè-s* and masc. *sore-b* (only in the old dictionary of Krönlein & Rust 1969: 349) is noted as ‘sun’ vs. ‘heat of the sun; hot sun(shine)’. This is not confirmed in modern sources, but could reflect an archaic semantic differentiation (e.g. along the lines of ‘active’/‘passive’).

- Khwe: ***|ǽ̀** (ǁAni, Buga, |Ganda */ǽ̀*, ǁXom */ǽ̄*).
- Naro-ǂHaba: ***|ǽ̀** (Naro, ǂHaba */ǽ̀*).
- |Gwi-ǁGana: ***|ǽ̀** (|Gwi, ǁGana */ǽ̀*).
- Shua: ***|ǽ̀** (|Xaise, Cara, Danisi */ǽ̀*). ◊ In Deti, the elicited equivalent is *k*ʰóbó* (Vossen 1988: 99) = Proto-Khwe **k*ʰóbò* ‘(to be) warm’, Naro *k*ʰóbò* ‘to sweat’ (this word is also attested in !Xóõ: *k*ʰúʔbu* ‘sweat; to perspire’, probably as a borrowing from a NKK source).
- Ts’ixa: **|ǽ̀** [Vossen, Fehn].
- Tsua: ***|ǽ̀** (Kua, Tsua */ǽ̀*, Hie */am*). ◊ Tjwao has *ʒini* ‘sun’ without any clear etymology.
- Cua: **|ǽ̀**.

○ NKK: **|ǽ̀**. ◊

○ CK: ***sore-**. ◊ Despite the extremely stable term **/ǽ̀* in the NKK area, there is a strong argument to be made that it is rather Proto-KK **sore-* which continues the old Proto-CK term for SUN. This is because the obvious N cognate for **/ǽ̀* is the verbal stem *ǀ̱ǽ̀* ‘to heat up; to grow / become hot’ (cf. also the nominal derivates *ǀ̱ǽ̀-mi* ‘heat, warmth’; dial. *ǀ̱ǽ̀-b*/*s* ‘East’). Typologically, ‘heat/hot’ → ‘sun’ is a much more natural development than vice versa (cf. even within NKK itself a later parallel development of the meaning ‘sun’ from earlier **k*ʰóbò* ‘warm; sweat’). On the other hand, Proto-KK **sore-* ‘sun’ is a pure nominal stem without any

internal etymology. In Starostin 2018: 46, it was noted that **|áǹ* is also the most widely distributed term for 'sun' in the Ju languages; however, the idea of its being borrowed from a Khoe source was criticized as not highly probable, since typically those borrowings should come from KK — precisely *the* branch of CK in which the reflex of **|áǹ* does *not* mean 'sun'. This counter-argument itself, however, may be circumvened in different ways — one cannot exclude an old borrowing from Proto-NKK or one of its immediate descendants, or even an independent shift from 'heat' to 'sun' in Proto-Ju itself. (Theoretically, it cannot even be excluded that both roots are related genetically on a "Khoisan" level, though in that case it would be advisable to locate potential cognates in South Khoisan languages as well).

41. TAIL

- KK: [a] ***ǂʔare-** (N *ǂʔáré-b*, Xri *ǂʔare-p*); [b] ***sao-** (K *sáó-b*). ◊ The first of these two stems is purely nominal and is usually attested with the polysemy 'tail' (masc. *ǂʔare-b*) : 'buttocks' (fem. *ǂʔare-s*). The nominal stem in K formally looks like a nominal derivative from the Proto-KK verb **sao* 'to follow' (attested as such both in N and in Xri). However, it is strongly supported as the optimal candidate by external evidence from NKK (see below).
- Khwe: ***cáó** (‖Ani, Buga, |Ganda *cáó*, ‖Xom *čáó*).
- Naro-ǂHaba: ***cao** (Naro *cáó*, ǂHaba *càó*).
- |Gwi-‖Gana: ***cáó** (|Gwi, ‖Gana *cáó*).
- Shua: ***cáó** (|Xaise, Deti, Cara, Danisi *cáó*).
- Ts'ixa: **cáó** [Vossen].
- Tsua: ***cáó** (Kua, Tsua *cáó*, Tjwao *cao*, Hie *cau*). ◊ According to Dornan, Hie *cau* 'tail' is colexified with *cau* 'hand', but the latter goes back to Proto-Tsua **c(ʰ)au* and is clearly different.
- Cua: **cáó**.
- NKK: ***cáó**.
- CK: ***cáó**. ◊ Given the presence of Proto-KK **sao* 'to follow' (**s-* is the regular Proto-KK reflex of Proto-NKK **c-*), one could try to derive the nominal meaning 'tail' (= 'that which follows') from it; however, the verbal meaning is only attested in KK and could just as well be secondary ('to follow' = 'to tail smbd.'). Cf. the strikingly similar Sandawe form *c'wa:* 'tail' (one of the few potential basic lexicon matches between Sandawe and CK) which could be used as an indirect argument in favor of the primary nature of the nominal meaning for **cáó*. In this case, Proto-KK **ǂʔare-b* 'tail' could be seen as a secondary, KK-only, masculine formation from the correlated feminine term **ǂʔare-s* 'buttocks'.

42. THOU

- KK: ***sa-c**/***sa-s** (N masc. *sàǎ́-c*, fem. *sàǎ́-s*, K masc. *sa-c*, fem. *sa-s*). ◊ Although synchronically and even on the Proto-KK level, it makes sense to analyze **sa* as the root denoting the 2nd p. pronoun (simple **sa* is also reconstructible as the possessive stem 'your') and **-c*/**-s* as, respectively, masc. and fem. suffixes, external data show that **sa-c*/**sa-s* ← **sa=ca*/**sa=sa*, where **sa=* is historically an additional prefixal component in KK — possibly the result of reduplication of the original paradigm (i.e. masc. **ca-ca* → **sa-c* with dissimilation, fem. **sa-sa* → **sa-s*).
- Khwe: ***cá**/***há** (‖Ani masc. *cá*, fem. *há*, ‖Xom masc. *čá*, fem. *hǎ́*, |Ganda masc. *cá*, fem. *há ~ hǎ́*). ◊ The corresponding object concord markers in the verbal paradigm are masc. ***cì** / fem. ***sì** (→ same reflexes in ‖Ani, |Ganda; ‖Xom masc. *-čì*, fem. *-ʃì*), indicating that ***há** must be the result of lenition (← ***sá**).

- Naro-ǂHaba: ***cá**/***sá** (Naro masc. *cá:*, fem. *sá:*, ǂHaba masc. *câ*, fem. *sâ*). ◊ For Naro, Vossen also lists the emphatic forms *cá-cí*, *sá-sí*, as well as shortened, non-emphatic (clitical) variants *cì*, *sì* (apart from the tonal differences, they coincide with object markers *=cí*, *=sí*).
- |Gwi-‖Gana: ***ca**/***sa** (|Gwi masc. *cí*, fem. *sí*, ‖Gana masc. *câ*, fem. *sâ*). ◊ The vocalic discrepancy is due to the clitical variants *ci, si* replacing the full forms in |Gwi (see notes on Naro-ǂHaba).
- Shua: ***cá**/***sá** (|Xaise masc. *ɕá*, fem. *sá*; Deti, Cara, Danisi masc. *cá*, fem. *sá*).
- Ts'ixa: **cá**/**sá** [Vossen, Fehn].
- Tsua: ***cá**/***sá** (Kua, Tsua masc. *cá*, fem. *sá*, Tjwao masc. *ča*, fem. *ša*, Hie *ča*).
- Cua: **cá**/**sá**.

○ NKK: Masc. ***cá** / fem. ***sá**.

○ CK: Masc. ***cá** / fem. ***sá**. ◊ The mini-system of 2nd p. sg. pronouns throughout Khoe is generally quite stable; the largest structural discrepancy is between NKK and KK, as languages in the latter group expand the simple forms with an additional prefixal component (possibly formed from an original reduplication). Object forms ***ci**/***si** (contracted from ***ca-i**, ***sa-i**) are also reconstructible and may occasionally influence the shape of the subject forms as well.

In terms of internal reconstruction, it is notable that **s(a)* is the common Khoe marker of the feminine gender, and while there is no corresponding **c(a)* marker for the masculine gender of nouns, it does prominently feature in the pronominal subsystem, cf. such forms in Naro as *sì-c-áḿ* 'we (masc.)', *sì-s-áḿ* 'we (fem.)'; *sà-c-áó* 'you pl. (masc.)', *sà-s-áó* 'you pl. (fem.)'; *xà-c-árá* 'they (masc.)', *xà-s-árá* 'they (fem.)'. This formally allows to structurally analyze **cá/*sá* as **c=á/*s=á*, singling out the monovocalic root ***á** as the potential (pre-)Proto-Khoe equivalent for the basic meaning 'thou' — and constitutes a small, but serious argument for an ultimate "Khoisan" origin of Khoe, given that ***a** is a common morph for the same meaning in both Ju and Tuu families.

43. TONGUE

○ KK: ***lam-** (N *nàḿ-mi ~ làḿ-mi ~ tàḿ-mi*, K *tām-mà*, Xri *tam-mi ~ nam-s*). ◊ There is no reason to doubt that all listed forms are related (in N the three variants have a complicated dialectal distribution); however, status of the initial consonant, reflected rather chaotically as *t-*, *n-*, or *l-*, remains problematic. Presence of *t-* in K would suggest that the stop reflex is more archaic than the sonorant one, which is further supported by NKK data (see below). Even so, voiceless *t-* in K is not a regular correspondence for Proto-NKK **d-*. Existing evidence, therefore, strongly suggests either an "exotic" reconstruction for Proto-KK and Proto-CK, or an irregular "expressive" set of developments in Khoekhoe (typologically not unusual for a word such as 'tongue'). However, it must also be noted that such fluctuation is not exclusively limited to N 'tongue': cf. N *náwà ~ táwà* 'to strike (of lightning)', *lápà-b ~ napa-b ~ tapa-b* '(flash of) lightning' (Haacke & Eiseb 2002: 97). Such cases exclude a simple reconstruction with **t-* and increase the probability of a rare word-initial resonant like **l-* at the proto-level.

- Khwe: ***dàm** (‖Ani, ‖Xom, Buga *dàḿ*, |Ganda *dàm̀*).
- Naro-ǂHaba: ***dam** (Naro *tàˀm̄* [Visser], *dàḿ* [Vossen], ǂHaba *dáḿ*). ◊ Visser's transcription is puzzling (neither Vossen nor Barnard confirm voiceless *t-* or pharyngealization), but probably should not be ignored in light of the overall peculiar phonetic behavior of this root in CK.
- |Gwi-‖Gana: ***dam** (|Gwi *gyàm̀* [Vossen], *ʒém* [Nakagawa], ‖Gana *dáḿ*). ◊ Palatal transcription in |Gwi is expected (given that the phonetic realization of **t*, **d* already in Proto-|Gwi-‖Gana, if not earlier, must have been that of palatal rather than alveolar stops).
- Shua: ***dáḿ** (|Xaise, Deti, Cara, Danisi *dáḿ*).

- Ts'ixa: **dáḿ** [Vossen], **dāḿ** [Fehn].
- Tsua: ***dáḿ** (Kua, Tsua *dáḿ*, Tjwao *dam*, Hie *d^{h}am*).
- Cua: **dǎm̄**.

○ NKK: ***dam**. ◊ Unlike in KK, segmental reflexes of this (exceptionally stable) root are generally regular and predictable in NKK languages, with the exception of at least one lect of Naro (in Visser's transcription) — but without confirmation from at least one other branch, this is hardly sufficient evidence for projecting pharyngealization onto the proto-level.

○ CK: ***dam** [~ ***lam** ~ ***nam**?]. ◊ The common CK root for 'tongue' behaves most unusually only in the KK group; it makes sense to assume that this behavior was caused by some "exotic" properties of the initial consonant in Proto-CK, with subsequent development of it into common **d-* on the Proto-NKK level. Precise reconstruction, due to uniqueness of the situation, is impossible at our current state of knowledge (resonant? lateral affricate? consonantal cluster?). An additional question is the phonetic proximity of this root to Common Bantu **=dímè* ' tongue' (many of whose reflexes in specific languages involve the regular consonantal shift **d* → *l*, see Guthrie 1970: 156) as well as similar forms in other related Benue-Congo languages.

44. TOOTH

○ KK: ***‖ũ-b** (N *‖ǖ́ū́-b*, K *‖ū́ː-b*, Xri *‖ũ-p*).

- Khwe: ***‖ũ** (‖Xom *‖ú́* ~ *‖úŋ*, Buga *‖ǔ́*, |Ganda *‖ū́*). ◊ In ‖Ani, the original word is replaced by a clearly non-native form *ságárì* (origin unknown).
- Naro-ǂHaba: ***‖ǔ̋ˤ** (Naro *‖ǒ̋ˤ* [Visser], *‖ǔ́* [Vossen], ǂHaba *‖ǔ̋ˤ*). ◊ It makes sense to reconstruct this root with pharyngealization on this level, given the matching transcriptions for Visser's Naro and Vossen's ǂHaba (though not for Vossen's Naro).
- |Gwi-‖Gana: ***‖ǘ** (|Gwi, ‖Gana *‖ǘ*).
- Shua: ***‖ũ** (|Xaise, Cara, Danisi *‖ǘ*, Deti *‖ǔ́*).
- Ts'ixa: **‖ǘ** [Vossen], **‖ǘː** [Fehn].
- Tsua: ***‖ũ** (Kua *‖ûˀ*, Tsua *‖ǘ*, Tjwao *‖ũː*, Hie *‖o̲ː*). ◊ Dornan's transcription, as usual, is curious (unpredictable voiced efflux; *o* instead of *u*; lack of nasalization), but there is no reason to doubt that the Hie form represents the same root.
- Cua: **‖ǘː**.

○ NKK: ***‖ũ(ˤ)**. ◊ Unlike in the situation with TONGUE above, pharyngealization is consistently marked for this root across the entire Naro-ǂHaba cluster and cannot be ignored, especially since the only two branches of NKK which consistently discriminate between simple and pharyngealized vowels are Naro-ǂHaba and |Gwi-‖Gana (although in this particular case their data contradict each other), so this feature could theoretically be archaic.

○ CK: ***‖ũ(ˤ)**. ◊ Another ultra-stable root, preserved in all languages without exception.

45. TREE

○ KK: ***hai-** (N *hǎ́i-i*, K *hai-s-a* 'bush' [Meinhof], *hei-b* 'tree' [Wuras], Xri *hai-s* 'tree' [Meinhof], *hai-ra-p* 'gum (of tree)' [Snyman]). ◊ Despite some problems with attestation, the basic KK root for 'tree' is quite reliably reconstructible on the proto-level.

- Khwe: ***yi** (‖Ani, Buga *yǐ*, ‖Xom *yìī*, |Ganda *yì*).
- Naro-ǂHaba: ***yǐ** (Naro *hìī* [Visser], *yǐ* [Vossen], ǂHaba *yǐ*).
- |Gwi-‖Gana: ***yì** (|Gwi *yì* [Vossen], *īː* [Nakagawa], ‖Gana *yì*).
- Shua: ***yì** (|Xaise *ʒì*, Deti, Cara, Danisi *yì*).

- Ts'ixa: **yì** [Vossen], **ì:** [Fehn].
- Tsua: ***yi** (Kua *yî*, Tsua *yǐ*, Tjwao *ǰi:(-ra)*, Hie *yi: ~ hi:*).
- Cua: **yìī**.

○ NKK: ***yi**. ◊ Cases of word-initial **y-* in Proto-NKK are exceptionally rare, but in this case there can hardly be any doubt about the reconstruction.

○ CK: ***yi**. ◊ Proto-KK **hai-* can be construed as a regular development from an earlier **yi*, since (a) diphthongization **-i* → **-ai* in Proto-KK is recurrent, if not fully regular (e.g. Proto-NKK **ǂí* 'to call' = Proto-KK **ǂai* id., etc.); (b) word-initial **h-* is usually preserved in NKK (e.g. N *híĩ ~ hĩ* 'to do' = ǁAni, ǁXom, |Xaise, Deti, etc. *hĭ̌* ← Proto-CK **hĩ*). Initial **h-* in Proto-KK can thus be seen here as part of the same dissimilative process (palatal glide shifts backwards before front vowel) that must have independently taken place in certain dialects of Naro (cf. Naro *hìī* above).

46. TWO

○ KK: ***|am** (N *ǀ́ǹ*, K, Xri *|am*).
- Khwe: ***|ám̀** (ǁAni, ǁXom, Buga, |Ganda *|ám̀*).
- Naro-ǂHaba: ***|ám̀** (Naro, ǂHaba *|ám̀*).
- |Gwi-ǁGana: ***|ám̀** (|Gwi, ǁGana *|ám̀*).
- Shua: ***|ám̀** (|Xaise, Deti, Cara, Danisi *|ám̀*).
- Ts'ixa: **|ám̀** [Vossen, Fehn].
- Tsua: ***|ám̀** (Kua, Tsua *|ám̀*, Tjwao *|am*, Hie *|am-e ~ |am-ɲe*).
- Cua: **|ám̀**.

○ NKK: **|ám̀**.

○ CK: **|ám̀**. ◊ Another ultra-stable root, preserving the exact same shape (even prosodically) in most of the daughter languages.

47. WATER

○ KK: ***ǁam-i** (N *ǁ̀áḿ-mi*, K *ǁam-mi ~ ǁam-ma*, Xri *ǁam-* in *|a: ǁam-dan* 'a little water'). ◊ According to Haacke & Eiseb 2002: 135, the Hai‖om equivalent for 'water' is *cǎà-b*, which in all the other dialects of N is only glossed with the meaning 'saliva; dribble, drivel, slobber; synovial fluid'. From a distributional standpoint, this should have no influence on the Proto-KK choice of reconstruction, but throws additional light on the genesis of Hai‖om from the point of view of external evidence (see discussion below).
- Khwe: ***c^{h}a** (ǁAni, Buga *c^{h}ǎ*, ǁXom *ǰ̃ã*, |Ganda *c^{h}à*).
- Naro-ǂHaba: ***c^{h}a** (Naro *c^{h}àā* [Visser], *c^{h}à* [Vossen], ǂHaba *c^{h}á*).
- |Gwi-ǁGana: ***c^{h}â** (|Gwi, ǁGana *c^{h}â*).
- Shua: ***c^{h}ǎ** (|Xaise, Deti, Cara, Danisi *c^{h}ǎ*).
- Ts'ixa: **c^{h}ǎ** [Vossen], **c^{h}āá** [Fehn].
- Tsua: ***c^{h}ǎ** (Kua, Tsua *c^{h}ǎ*, Tjwao *c^{h}a:*, Hie *ca:*).
- Cua: **c^{h}ǎà**.

○ NKK: ***c^{h}a**.

○ CK: ***c^{h}a** (?). ◊ In light of Hai‖om *cǎà-b* 'water', one could see it as a peripheral retention of the same original Proto-CK term for 'water' which is consistently preserved in all NKK languages. However, as indicated above, the most common meaning of this form in N is 'saliva', with the correlated verbal root *cǎá* meaning 'to lick, lap' (in this meaning, it has a direct parallel in K *t^{h}ā* 'to lick'). It is even not entirely certain at present that Proto-KK **c-* (→ N *c-*, K *t^{h}-*)

is the proper regular correspondence to Proto-NKK *c^h-. In light of this, as well as previously observed strong areal connections specifically between Hai‖om and Naro, it is more likely that Hai‖om *càà-b* is either directly borrowed from the latter or, perhaps, is the result of semantic contamination between the original 'saliva, sticky fluid' and the Naro word for 'water'.

Such a scenario by itself does not preclude an etymological comparison between Proto-KK **ca* 'saliva' and Proto-NKK *c^h*a* 'water', but it sheds no light on the original meaning of this etymon, and leaves open the possibility of Proto-KK **‖am-* being a semantic archaism rather than a KK innovation after the primary split of the family.

48. WE

- ○ KK: [a] (dual) ***=m** (N *=m̀*, K *=m*); [b] (plural) ***=e** (N *=è*, K *=e:*). ◊ See Vossen 1997: 234 for a detailed listing of all the forms of KK paradigms (no fewer than twelve different variants in N alone with all possible combinations of clusivity and gender categories). It is easy, however, to reduce them to two basic pronominal roots (dual vs. plural) with strings of preceding prefixes, such as **sa=* (for inclusive forms; most likely cognate with the 2nd p. pronoun, see THOU) and **si=* (for exclusive forms).
- Khwe: [a] (dual) ***=m** (‖Ani *=ḿ*, ‖Xom, |Ganda *=m̀*); [b] (plural) ***=é** (‖Ani, ‖Xom, |Ganda *=é*). ◊ Cf. the full paradigm in ‖Ani (the other languages are similar): dual — *có=ḿ* (masc.), *só=ḿ* (fem.), *khá=ḿ* (common); plural — *‖=é* (masc.), *s=é* (fem.), *t=é* (common). No clusivity.
- Naro-ǂHaba: [a] (dual) ***=m** (Naro *=ḿ*, ǂHaba *=m*); [b] (plural) ***=é** (Naro *=é ~ =á*, ǂHaba *=e ~ =a*). ◊ Cf. the full paradigm in Naro: dual — *sì=cá=ḿ* (masc.), *sì=sá=ḿ* (fem.), *sì=k^há=ḿ* (common); plural — *sì=‖=áé* (masc.), *sì=s=é* (fem.), *sì=t=á* (common).
- |Gwi-‖Gana: [a] (dual) ***=bè** (subject), ***=mà** (object) (|Gwi, ‖Gana *=bè, =mà*); [b] (plural) ***=è** (|Gwi *há=‖=à* (masc.), *há=s=è* (fem.), *há=t=à* (common); ‖Gana *í=‖=áè* (masc.), *í=s=ê* (fem.), *í=t=ê* (common)).
- Shua: [a] (dual) ***=ḿ** (|Xaise, Deti, Cara, Danisi **=ḿ**); [b] (plural) ***=é** (|Xaise, Deti, Cara, Danisi **=é**). ◊ Cf. the full paradigm in |Xaise: dual — *cá=ḿ* (masc.), *sá=ḿ* (fem.), *k^há=ḿ* (common); plural — *k=é* (masc.), *s=é* (fem.), *c=é* (common).
- Ts'ixa: [a] (dual) **=ḿ** [Vossen, Fehn]; [b] (plural) **=é** [Vossen, Fehn].
- Tsua: [a] (dual) ***=be** (Kua, Tsua *=bè*, Tjwao *=be*); [b] (plural) ***=e** (Kua, Tsua masc. *k=â* ← **ka-e*; Kua fem. *s=í*, common *c=í*, Tsua fem. *s=íè*, common *c=íè* ← **sa-e*, **ca-e*; Tjwao masc. *k=a*, common *c=i*; Hie *=e* in *c=e* 'we'). ◊ The monovocalic plural morpheme is largely obscured in Tsua languages through contractions with preceding gender markers, and recovered only through comparison with external evidence. For Hie, Dornan only lists the 1st common plural marker *ce*, but it is likely that he simply failed to elicit the rest of the paradigm. For Tjwao, Phiri also records an additional form *čoan/a/* 'we' of unclear origin.
- Cua: [a] (dual) **=bé**; [b] (plural) **=é**. ◊ Cf. the full paradigm: dual — masc. *=cá=bé*, fem. *=sá=bé*, common *=k^há=bé*; plural — masc. *=‖á=é*, fem. *=ší=é*, common *=tá=é*. All forms are preceded by the prefix of clusivity (*ʔà=* for inclusive forms, *ʔí=* for exclusive ones) — a unique feature for NKK languages, but with close parallels in KK.
- ○ NKK: (dual) ***=m**, (plural) ***=e**. ◊ All subgroups show a clear distinction between two primary pronominal roots, one dual and one plural. The plural root is easily reconstructible as **=e*, despite the reflexes occasionally being obscured through vocalic assimilation and contraction with preceding CV-type gender markers (detailed discussions for some of these can be found in Vossen 1997). The situation with the dual marker is slightly more complicated, since at least two of the subgroups (|Gwi-‖Gana and Tsua) agree on the variant **=be* as opposed to monoconsonantal **=m*; Vossen reasonably argues that the first variant looks more archaic and

that the second is the result of reduction and "mutation", comparing the situation with sporadic development of the masculine gender marker *=*ba* → *=ma* in several NKK languages.

There are, however, problems with this analogy, since in the case of the gender marker the occlusive reflex *=b(a)* is much more widespread (and is also the basic reflex in KK). Also, it should be noted that the labial nasal is sometimes observed in pronominal object forms even in those languages where the subject form is *=be* (e.g. ǁGana: subject *ʔí=cè=bè*, object *ʔí=cè=mà*). In addition, |Gwi-ǁGana and Tsua languages are geographically contiguous (see Vossen 1997: 27), meaning that the shift from *=*m* to *=*be* can be described not in terms of two mutually independent events (which would be really strange), but in terms of co-dependent gradual areal diffusion. As for the nature of the shift, it may represent contraction of the final *=*m* with an unclear subsequent clitical particle, or perhaps even a modification by analogy with the plural stem (*=*m* + *=*e* → *=*me* → *=*be*; loss of nasalization would be due to the unusual nature of the sequence *-me-* in NKK).

○ CK: (dual) ***=m**, (plural) ***=e**. ◊ The full original paradigm for the 1st p. non-sg. pronoun should probably be reconstructed as follows: 1DU-M **ca=m*, 1DU-F **sa=m*, 1DU-N **k^{h}a=m*, 1PL-M **ǁ=e*, 1PL-F **ʂ=e*, 1PL-N **t=e*. This paradigm is usually preserved in NKK languages (with occasional phonetic change here and there, such as vocalic assimilations with adjoining morphemes and frequent loss of click articulation in the 1PL-M form), but undergoes significant restructuring in KK, where the old common (neuter) form takes on the functions of the masculine gender (N 1INCL-DU-M *sá=kx=m̀* = NKK 1DU-N **k^{h}a=m*).

Additionally, KK doubles the overall number of possible forms by adding **sa=* and **si=* respectively as inclusive/exclusive prefixes. This may have been an independent innovation in Proto-KK; however, it is useful to note that this prefixal slot in the sub-system of non-singular personal pronouns finds a clear analogy in the systems of non-clitical non-singular pronouns in some NKK languages (e.g.: Naro *sì=*; ǁGana *í=*; |Gwi dual *hí=*, plural *há=*; Deti *à=*; finally, only in Cua Collins & Wellstood report on an actual opposition between incl. *ʔà=* and excl. *ʔí=*, mirroring the respective **sa=* vs. **si=* in KK). All of this hints at the fact that the KK prefixes reflect the original situation, having been truncated in most of the NKK subgroups — but occasionally preserved in reduced form (e.g. **sa=* → *ha=* ~ *ʔa=*) and desemanticized, their function being reduced from marking clusivity to simply separating "emphatic" subject forms from shorter, clitical prefix-less object variants. If so, the full paradigm in Proto-CK must have consisted of the same number of specific forms (twelve) as seen today in languages such as Nama and Cua.

49. WHAT

○ KK: ***ta-(r)e** (N *tā́ré ~ tā́é*, K *táē:-b*, Xri *tae*). ◊ It is not clear if the more common variant **tae* is historically "lenited" from **tare* (this would be quite irregular) or if, conversely, N *tā́ré* is an analogical change from **tae* under the influence of **tari* 'who?' (see below).

• Khwe: (?) ***ne** (ǁAni *né*). ◊ The reconstruction is dubious, since it depends on exclusive attestation in ǁAni. |Ganda and Buga equivalents are unknown; in ǁXom, the required meaning is expressed by the compound formation *mà-xú*, where the first component is really 'who?' (see below) and the second is **xú* 'thing', modifying the meaning to express an inanimate object. Cf., however, also such ǁXom interrogatives as *nẫű́* 'what sort of? what kind of?', *ndéú* id., both of which could theoretically contain the same morpheme as ǁAni *né* (plus additional semantic components).

• Naro-ǂHaba: (?) ***du** (Naro *dŭ*). ◊ Not attested in ǂHaba, so reconstruction is slightly dubious. Also, Naro *m*, whose meaning Vossen (1997: 263) gives as 'what?', is in fact a general interrogative morpheme, usually encountered in adverbials (*m̀-ǀámá* 'when?', *m̄-dà* 'where?', etc.).

- |Gwi-‖Gana: (?) ***nu** (|Gwi *nu:* [Tanaka], ‖Gana *nŭ* [Vossen], *nu:* [Tanaka]). ◊ Although Vossen's data make no mention of this morpheme for |Gwi, it is still clearly the likeliest candidate for Proto-|Gwi-‖Gana interrogative 'what?'.
- Shua: ***ndú** (Deti *dú*, Cara, Danisi *ndú*). ◊ A very rare case of a morpheme-initial nasal cluster; it may be assumed that in Deti, **ndú* is simplified to *dú*.
- Ts'ixa: **né** [Vossen], **nǐ́** [Fehn]. ◊ This form notably aligns with Khwe rather than Shua.
- Tsua: ***na-U** (Kua *ná-ǜ*, Tjwao *na-o*, Hie *na-o*). ◊ The interrogative morpheme **na-* is the same as in WHO (see below); the "inanimate suffix" is difficult to reconstruct with certainty, but in light of evidence from Cua (below), the Kua form with **-ũ* may be archaic (in this case, Tjwao and Hie both irregularly lose nasality).
- Cua: **nǎ̋ű̋**.

○ NKK: See discussion on WHO below.

○ CK: See discussion on WHO below.

50. WHO

○ KK: [a] ***da-** (K masc. *da:-b*, fem. *da:-s*, Xri *daa*); [b] ***ta-(r)i** (N *tàrǐ́ ~ tàǐ́*, Xri *tari*). ◊ The two sets of forms may be related, but the voiced and voiceless reflexes of the initial consonants are hard to reconcile. Both forms are only attested in Xri, but their internal distribution is unknown. The second variant is clearly paradigmatically connected to **ta(r)e* 'what?', so it may be less archaic if analogical restructuring of the paradigm is invoked.

- Khwe: ***ma-** (‖Ani *ma*, ‖Xom *mə̀ə̄ ~ màā*).
- Naro-ǂHaba: (?) ***di** (Naro *dǐ*). ◊ Not attested in ǂHaba, so reconstruction is slightly dubious.
- |Gwi-‖Gana: ***dí** (|Gwi, ‖Gana *dí*). ◊ An alternate pronominal stem, reflected as |Gwi *mə̂*, ‖Gana *mâ*, is used as a question word referring to previously identified people, i.e. as in "who is that woman?" vs. "who knows this?" (Vossen 1997: 264).
- Shua: ***má** (Deti, Cara, Danisi *má*). ◊ Also *má-é* in Danisi.
- Ts'ixa: **má ~ má-é** [Vossen], **māá ~ m̃ə̃ǎ́** [Fehn].
- Tsua: ***na(-re)** (Kua *nă*, Tjwao *na-re ~ na:-re*, Hie *na-re*). ◊ For Kua, Vossen also notes the presence of *má* 'who?' as a free variant, but this is not confirmed for any other Tsua languages.
- Cua: **níń**.

○ NKK: [a] ***ma-;** [b] ***na-**. ◊ Upon first glance, the system of interrogatives in Proto-NKK looks almost hopeless in terms of reconstruction: specific oppositions in different branches are highly individual and seem to reflect at least half a dozen different stems, not easily reconcilable with each other. This variety, however, can be thought of in terms of morphemic combinations, where no more than two principal interrogative morphemes are conjoined with various extensions — either fully desemanticized suffixes/clitics or recognizable nominal roots such as **xu* 'thing' — to form paradigmatic mini-systems.

For Proto-NKK, these morphemes can be identified as **m(a)* and **n(a)* (original root vowel for both was probably *a*, but it is frequently lost or assimilated in daughter languages) — and although it is tempting to correlate them, respectively, with the semantics of WHO? and WHAT?, actual distribution of the forms shows that this correlation is, at best, statistical: **m(a)* almost never appears in WHAT?-type forms (a notable exception being ‖Xom *mà-xú*, but this may actually be a recent productive formation, lit. 'who-thing') — however, **n(a)* explicitly forms WHO?-type forms in at least one branch (Tsua) and, perhaps, implicitly in several others. This suggests paying closer attention to situations such as in |Gwi-‖Gana, where Vossen mentions an opposition based on reference to previously known people vs. unknown ones (see above) — this contrast might very well be archaic.

A separate question is the frequent presence of stems beginning with coronal stops: Naro *dŭ* 'what?', *dĭ* 'who?', |Gwi-‖Gana *dí* 'who?'. Given that the first of these forms is most likely cognate with Shua **ndú* 'what', and that the unique word-initial nasal cluster, from a historical perspective, may only represent a morphemic contraction, the most logical solution is to assume that they all stem from compound formations such as **n(V)-du*, **n(V)-di* (or **n(V)-tu*, **n(V)-ti* with vowel elision and assimilative voicing), though the second element in these compounds remains etymologically obscure. A detailed analysis of this situation deserves its own paper; for now, we have to restrict ourselves to simply reconstructing **m(a)-* and **n(a)-* as the two most common interrogative morphemes in Proto-NKK, both capable of expressing the required Swadesh meanings WHAT? and WHO?.

- CK: Unclear. ◊ Proto-KK **da- ~ *ta-* as the main interrogative stem(s) cannot correspond to either Proto-NKK **ma-* or **na-*, unless we make the arbitrary decision to project **na-* onto the top level and assume a (regular?) development **n- → *d- ~ *t-* in Proto-KK (theoretically a possibility, since **n-* is generally not reconstructible for Proto-CK, and if this were a unique case of this nasal consonant in morpheme-initial position, denasalization would not be out of place).

  Alternately, one might try to compare (as has been originally done in Starostin 2013: 435) the KK stems with the *du-/di-*type interrogatives in Naro and |Gwi-‖Gana (see above); however, such a comparison would still be impeded by glaring discrepancies in vocalism. It would make more sense to suggest that Proto-KK **da- ~ *ta-* could derive from the same *type* of morphemes as the Naro/|Gwi-‖Gana *du-/di-*interrogatives, i.e. additional nominal stems or particles that took on the status of fully autonomous interrogatives after the loss of the original word-initial interrogative morpheme, e.g. **N-ta- → *da- ~ *ta-* (this could also account for the inexplicable variation between voiced and voiceless reflexes). But even this solution is still speculative.

  At the very least, Proto-NKK **ma-* is definitely reconstructible at the top level, since it can be reliably compared with Proto-KK **ma-* as the main adjectival interrogative morpheme ('which?'; cf. N *mã gomasa* 'which cow?', *mã-sa xu* 'for what reason?', etc.). However, its exact semantics in Proto-CK remains obscure.

Preliminary observations (by way of conclusion)

Following the general scheme introduced in the first part of the paper, in Table 1, I summarize 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). ≈ marks a questionable situation in which the decision is based upon inconclusive (if valid) semantic arguments.

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, as such a list might be useful for anybody interested in the general diachronic typology of semantic change; for details on particular connections (names and number of languages, direction of shift, etc.) the actual data lists in the paper should be consulted.

Word	PCK	PKK	PNKK	Semantic connections
LOUSE	***kxur/ni-**	**kxuri-*	**kxuni-*	
MEAT	***kxo-** (?)	**kxo-b* (+ **ǁan-*)	**kxo-xu* (+ **ǀxa-*)	‘to eat /hard food/’; ‘body’
MOON	**?**	**ǁxã-*	**nǁoɛ*	‘light’ (?)
MOUTH	***kxam**	**kxam-*	**kxam*	
NAME	***ǀkxon**	**ǀkxon-*	**ǀkxon*	
NEW	**?**	**ǀʔa-sa*	**kxoa* (+ **qaba* ~ **kaʕba*)	‘raw, unripe’; ‘to return’; ‘old’ (?)
NIGHT	***tʰŭ**	**tʰu-xu-*	**tʰŭ*	‘black’; ‘dark’
NOSE	***ǂui**	**ǂui-*	**ǂúì*	
NOT	***tama**	**tama*	**tama* (+ **be*)	
ONE	***ǀui**	**ǀui*	**ǀúí*	
RAIN	***tu**	**tu-*	**ŧú*	‘to rain, pour /of rain/’
SMOKE	***c’an-**	**ǁkxan-*	**c’ánì*	‘to smoke /intr./’
STAR	***ǀxani** (?)	**ǀami-ro-*	**ǀxani*	‘to wink, blink’; ‘raindrop’; ‘guinea fowl’; ‘morning star /Tribulus sp./’
STONE	**?**	**ǀʔui-*	**nǁoa*	‘hill, mountain’; ‘flint’; ‘rock, stone /material/’; ‘mousetrap’ /made of flat stone/ (?)
SUN	***sore-** (?)	**sore-*	**ǀáḿ*	‘warm’; ‘sweat’; ‘heat, warmth’
TAIL	***cáó**	**ǂʔare-* (+ **sao-* ?)	**cáó*	‘buttocks, behind’; ‘follow’
THOU	***cá/*sá**	**sa-c/*sa-s*	**cá/*sá*	
TONGUE	***dam (~ *lam ?)**	**lam-*	**dam*	
TOOTH	***ǁũ(ˢ)**	**ǁũ-b*	**ǁũ(ˢ)*	
TREE	***yi**	**hai-*	**yi*	
TWO	***ǀám̀**	**ǀam*	**ǀám̀*	
WATER	***cʰa** (?)	**ǁam-i*	**cʰa*	
WE	***=m** [du.] / ***=e** [pl.]	**=m* [du.] / **=e* [pl.]	**=m* [du.] / **=e* [pl.]	
WHAT	***m(V)-/*n(V)-**	**ta-(r)e*	**ma-/*na-*	
WHO	***m(V)-/*n(V)-**	**da-* ~ **ta-(r)i*	**ma-/*na-*	

Table 1. Khoekhoe, Non-Khoekhoe, and Proto-Central Khoisan reconstructions for Swadesh items 26–50.

The following comments can be made on the table.

1. Again, most of the listed concepts are well reconstructible for both primary branches of Khoe, with but a few partial exceptions; thus, NEW is somewhat problematic since it is quite likely that this meaning is not primary for most of the roots which express it (even so, its colexification with ‘raw, unripe’ on the Proto-NKK level is almost beyond doubt), and there is some difficulty in matching specific concrete meanings with the subsets of interrogative morphemes whose phonetic shapes are reconstructible for both of the Khoe branches.

2. Transitioning onto the Proto-CK level, 15 out of 25 concepts are unambiguously reconstructed for it due to the exact same forms (occasionally with minor unclear phonetic variations, e.g. **kxuri-* vs. **kxuni-* LOUSE) represented in both Proto-KK and Proto-NKK. This number can be raised to 16 if we include **kxo-* MEAT (debatable because usage of this root in the non-verbal meaning may be an independent lexical innovation in both branches) or to 17 if we include **cáó* TAIL (if K *sáó-b* really represents an archaism).

3. Of the remaining 8 cases, there are indirect arguments for MOON, STAR, and the two interrogatives (WHAT? and WHO?) representing innovative formations in KK ('light' → 'moon', 'blink' → 'star', and possible loss of the original interrogative morphemes through fusion with their suffixal extensions), while **|áḿ* SUN can rather be construed as an innovation in NKK — though almost nothing here is conclusive. NEW is problematic already in NKK; the discrepancy with STONE may be due to complex synonymity in Proto-KK; and WATER is quite ambiguous, though, again, formally the KK situation could be described as more innovative. This ties in with the similar conclusion reached earlier about the first 25 items, where evidence also pointed out to Proto-KK, on the whole, being more lexically innovative than Proto-NKK.

Three additional classificatory issues of Khoe which still remain controversial can be tackled at this point, once the initial analysis of the first half of the Swadesh wordlist has been completed: (a) the status of such large intermediate groupings, proposed in Vossen's seminal classification, as "West Kalahari Khoe" (consisting of Khwe, Naro-ǂHaba, and |Gwi-‖Gana) and "East Kalahari Khoe" (consisting of Shua and Tsua); (b) the proximity of Ts'ixa to either of these two large groupings, or, more specifically, to Khwe and Shua, with both of which it is alleged to share common features; (c) the status of "Cua" as phonetically, grammatically, and lexically described by Collins and Wellstood. The analyzed data so far provide the following answers:

(A) No evidence whatsoever on the 50-item wordlist points to any sort of primary split between "West Kalahari Khoe" and "East Kalahari Khoe". At best, one can spot 2–3 lexical isoglosses potentially speaking in favor of a "Naro-‖Gana" subgroup (DOG, NEW, STAR, possibly also WHO?), but even these are questionable: for instance, STAR, as discussed above, looks like an areal diffusion from an originally non-Khoe source, making the Naro-‖Gana connection interpretable more in terms of a contact zone than a phylogenetic entity. The only specific connection between Khwe and Naro is the word for HEAD (Khwe **ǂú* = Naro *ǂú*), and if, as argued in the previous part of the paper, this is really an archaic retention rather than a common innovation, this is not much of an argument, either. Not a single common Shua-Tsua innovation has been elicited, either; for now, the main argument in the presented data for a closer connection between them is phonetic in nature (loss of click articulation for all palatal clicks), and even this circumstance looks less relevant now that we witness the preservation of this click in Cua, meaning that it is difficult to set this process up as an original development in "Proto-East Kalahari Khoe".

(B) Ts'ixa shows one common lexicostatistical innovation with the rest of Shua (FOOT — Ts'ixa *ʒî̂* = Shua *ʒĩ*, originally from 'toe', as opposed to Khwe **ǃ̃are*, inherited from Proto-NKK), and probably one with Khwe (HEAD — *ǂú* ~ *ɕú* = Khwe **ǂú*, as opposed to Shua **ma*), unless this is really an archaic retention. This is hardly sufficient statistical evidence for any phylogenetic conclusions. It must, however, be added that there are at least 5 more cases in which, despite the base root being always the same, Ts'ixa forms show it in a phonetic or morphological shape which is closer to Shua languages than Khwe (BIRD, DOG, LEAF, NOT, SMOKE; cf. also STONE where Ts'ixa shows the same fluctuation between two lexical variants as the other Shua languages, whereas Khwe only has one root). The fact that Ts'ixa shows the same pattern of vocalic assimilation **CaCi* → *CiCi* as Shua (SMOKE) but, on the other hand, does not share the **Cana* → **Cã* contraction with Khwe (LEAF) is a small, but substantial argument in favor of its Shua affiliation.

A lot of lexical data in Vossen 1997 make it seem as if in words with original palatal clicks, Ts'ixa speakers allegedly favor retention of said clicks, which typically makes the respective words coincide with their Khwe counterparts. Comparison with data collected by Fehn, however, shows that the actual situation is far less homogeneous, and many of the words which Vossen only lists with palatal clicks (e.g. EYE, HEART, NOSE, etc.) are listed by Fehn with click-

containing and click-less variants, depending on particular idiolects. In any case, while the fate of the palatal click in Ts'ixa does make it stand out among all the other Kalahari Khoe languages, it can hardly be used as a classificatory argument. Everything else, however, points out that the scenario of Ts'ixa as a Shua language in tense contact with Khwe-area speakers is the most likely one to be historically correct.

(C) Cua, as described by Collins and Wellstood, has at least two exclusive innovations of its own on the list (EAT, LEAF; cf. also its own unique phonetic shape of the interrogative WHO?) and two more cases where it shows no traces of an important lexical innovation, namely, BLOOD (where it preserves the common NKK root instead of replacing it with Proto-Tsua **taka*) and FOOT (where it refuses to replace the original root with Proto-Shua **ʒĩ*). This would seem to suggest treating it as a separate subbranch of East Kalahari Khoe or, if the latter taxon does not exist, of Kalahari Khoe in general. However, there are also at least 3–4 cases in which the Cua form does share certain peculiarities with nearby Tsua languages: cf. the shared lateral click loss in DIE, the "less contracted" (than in Shua) form for HEAD, the possible shared replacement of the old NIGHT with 'dark' with Tjwao and Hietshware, the sharing of the 1st p. dual/plural paradigm *=be/=e* with Tsua (as opposed to *=m/=e* in Shua), and the same shape of the interrogative N-stem as in Kua, but not in Shua (see WHAT?).

Whether this can be taken as evidence for a common "Tsua-Cua" node on the tree still remains to be seen; a significant counterargument is that Cua, unlike both Tsua and Shua, generally preserves the palatal click — if we accept the Tsua-Cua node, it becomes necessary to interpret the shift from palatal clicks to affricates in Tsua and Shua as a contiguous areal development rather than a historical event in "Proto-Tsua-Shua" = "Proto-East Kalahari Khoe". In any case, it is clear that stronger phylogenetic arguments about the status of this language can only be made upon the analysis of the other, less stable, half of the wordlists, where lexical innovations can be expected to be more numerous and statistically relevant. This will be the subject of the next (and, hopefully, last) part of this study, in which I hope to present a more or less definitive phylogenetic tree of all the Khoe lects involved in this comparison and draw some final conclusions on the comparative innovations and retentions of the various subbranches of this complicated family.

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Г. С. Старостин. Лексикостатистические исследования по койсанским языкам III/II: реконструкция списка Сводеша для працентрально-койсанского (пракхойского) языка (элементы 26–50)

Работа представляет собой вторую часть лексикостатистического анализа базисной лексики языков семьи кхой (Южная Африка), переработанного и расширенного по сравнению с ранее опубликованной работой автора. В данной статье основное внимание уделяется этимологическому анализу второй половины «ультрастабильного» подраздела списка слов Сводеша, к которому прикладывается ряд предварительных выводов о внутренней филогенетической структуре языков кхой.

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