

"Khoisan" linguistic classification in the light of genetic, anthropological, and geographical evidence in southern Africa

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1. Linguistic classification

1.1. Classification according to features identifying genealogical language sets

- early classifications replaced in the 1950s by linguistically-oriented approaches:

- a) "splitting": more than half a dozen unrelated groups (Westphal i.a. 1962a, b, 1971)
- b) "lumping": subsumed under one genealogical unit (Greenberg 1963), internal subgrouping largely valid (based on Bleek i.a. 1929, 1956) > **Figure 1**

Figure 1: Subgrouping of "Khoisan" according to Greenberg (1963)

Hadza
 Sandawe
 South African Khoisan (= SAK)
 Northern Khoisan (= *Ju*)
 Central Khoisan (= *Khoe*)
 Southern Khoisan (= *Tuu*)

- > heavily flawed, but formative influence on "Khoisan" perception among non-specialists
- present approach: in between "splitters" and "lumpers", counts with up to a maximum of 6, but not less than 3/4 lineages (cf. Güldemann & Vossen 2000)
- data (?and applied methods) still insufficient to provide conclusive classification
- > three pragmatically oriented language groups:
 - a) two East African isolate languages as two lineages
 - b) fairly substantial lineage Khoe-Kwadi
 - c) typologically defined set Non-Khoe comprising three lineages
- > "Khoisan" = click languages unrelated to another genealogical group, linguistically vacuous

1.1.a. East African isolates

- Hadza and Sandawe with few, if any, clear indication of a relation to each other or SAK, especially the former (Sands 1998)
- Sandawe with typological affinities to SAK (Güldemann forthcoming b), promising genealogical relationship to Khoe-Kwadi (e.g., Güldemann & Elderkin forthcoming)

1.1.b. Khoe-Kwadi

- Khoe with "individual-identifying features" (in the sense of Nichols 1996) - Voßen (1997)
 - a) basically head-final in clause and noun phrase, though deviant patterns widespread
 - b) rich verb derivation system with suffixes (largely reconstructed to Proto-Khoe)
 - c) some languages with verb suffixes cross-referencing objects (but not subjects)
 - d) many other grammatical functions in the verb phrase encoded by particles
 - e) nominal morphology characterized by integration of (partly bound) markers of person, gender, and number (largely reconstructed to Proto-Khoe); marking on the noun and agreement often not obligatory and exploited for derivational functions
- Kwadi with considerably deviant structure, but genealogically related (Güldemann 2004, Güldemann & Elderkin forthcoming)

> sub-classification > **Figure 2**

Figure 2: Subgrouping of Khoe-Kwadi († = extinct, DC = dialect cluster)

<i>Kwadi</i> :	single language [†]
<i>Khoe</i> (= Central Khoisan)	
Kalahari	
West:	Kxoe, Buga, Ani (DC); Naro (DC); G ana, G ui, †Haba (DC)
East:	Shua, Ts'ixa, Danisi, Xaise, Deti [†] (DC); Kua-Tsua (DC)
Khoekhoe	
North:	Eini [†] , Nama-Damara, Hai 'om, †Aakhoe (DC)
South:	!Ora [†] (DC); Cape Khoekhoe [†] (DC)

- in certain domains, also pronounced differences between and within Kalahari and Khoekhoe
> typological affinities to languages in East Africa (Heine & Voßen 1981)

1.1.c. *Non-Khoe*

- basic structure surprisingly homogeneous, historical significance unclear
 - a) SVO clause order, head-initial noun phrase except head-final genitive
 - b) little morphology, importance of constituent order, particles, analytical constructions
 - c) verb serialization encompassing encoding of participants, predication operators, etc.
 - d) special type of relational gram as a default marker of valence-external participants
 - e) complex and irregular number marking in both nominal and predicative expressions
 - f) special type of noun classification
 - g) general inclusive-exclusive opposition in 1st-person pronouns
- > internal grouping > **Figure 3**

Figure 3: Constituency of Non-Khoe († = extinct, DC = dialect cluster)

1. **Ju** (= Northern Khoisan, DC)

<i>Northwest</i> :	!O!Xūu, !Xūu
<i>Southeast</i> :	Ju 'hoan, †Kx'au 'en
2. **†Hōa**: single language (probably related to Ju)
3. **Tuu** (= Southern Khoisan)

<i>Taa-Lower Nossob</i> :	East including East !Xōo, West including West !Xōo (DC); Lower Nossob including 'Auni [†] , Haasi [†]
<i>!Ui</i> :	Xam (DC) [†] ; N ng including N huki (DC); †Ungkue [†] ; Xegwi [†]

- promising genealogical Ju-†Hōa relation (Westphal 1974, Sands 2003, Güldemann 2003)

+ major problems arising from genealogical classification:

- a) Khoe lineage internally much more diverse than Non-Khoe with a greater time depth
- b) homogeneity across larger areas (e.g., |Xam in the Karoo)

1.2. Classification according to features identifying areal language sets

- convergence processes widely attested
 - lexical isoglosses, but often bilateral (Köhler 1973/4, Snyman 1974, Traill 1986)
 - some linguistic subareas in SAK discernible - promising candidates, e.g.:

1.2.a. *Central Kalahari*

- Traill (1980), Traill & Nakagawa (2000)
- !Xōo (Tuu), †Hōa (undetermined Non-Khoe), G|ui (Khoe) - high phonological complexity

1.2.b. *Cape*

- Güldemann (2002, forthcoming a)
- Khoekhoe (Khoe), !Ui (Tuu): geographical inclusion of an entire lineage in area of another
 - a) comparably small size of consonant inventory, but high phonological load on clicks
 - b) inclusive/exclusive distinction in pronominal system
 - c) similar semantics, morph type, and position of grams marking tense, aspect, etc.
 - d) lexically complex predicates
 - e) clausal pronoun pivot
 - f) syntactically, rather than semantically triggered marking of participants
- > possible substrate explanation for distinct character of Khoekhoe vis-à-vis Kalahari branch

1.2.c. *SAK*

- "Kalahari Basin" (Güldemann 1998): ?linguistic area before Bantu expansion
- features rather typological, than defining a genealogical unit
 - a) high reliance on clicks as phonemic speech sounds, backbone of consonant system
 - b) root formation with preferred phonotactic pattern: $C_1V_1C_2V_2$ (clicks in C_1)
 - c) tone languages
 - d) mostly host-final morphology
 - e) head-final genitive despite different clause word order, grammatically productive noun compounding (> nominal suffixes)
 - f) common existence of noun classification (but distinct types)
 - g) neutral alignment for pronoun and noun inflection
 - h) no subject cross-reference on the verb
- > areal concept gives the term SA"K(hoisan)" a different meaning

2. Survey of basic non-linguistic factors in the SAK area

2.1. Genetics

2.1.a. *General introduction*

- early recognition of "biological uniqueness" encountered at the Cape
- > great influence on i.a. linguistic classification: Schultze's (1928) "Khoisan", only propagated later with a wider geographical extension and as a linguistic unity
- > *Khoisan* without scare quotes used here in this biological sense (excludes some "Khoisan")
- shift from phenotypical to genetic markers: maternal mtDNA, paternal Y-chromosome
- but still today no general classificatory picture, only few sample groups: Ju (two samples from Angola and Botswana), Kxoe, Namibian Nama, Dama
- Africa with highest genetic diversity in the world (Watson & al. 1997, Scozzari & al. 1999)
- major three-way mtDNA split of African (and world) populations (Soodyall & Jenkins 1998, Chen & al. 2000) > **Figure 4**

Figure 4: "Khoisan" distribution over major genetic populations in Africa

Pygmy	None
Khoisan	all Non-Khoe, Pastoral Khoekhoe, southwestern Kalahari Khoe (Naro, G ana, G ui)
Other	Khoekhoe-speaking Dama, most Kalahari Khoe, Kwadi, Sandawe, Hadza

- Pygmy and Khoisan as most ancient distinct populations vs. all others in- and outside Africa
- support for Schultze's biological Khoisan - virtually unique serogenetic features: Gm groups; ABO and Rhesus blood group systems; mtDNA types

2.1.b. Non-Khoe

- consistently within Khoisan

2.1.c. Khoe-Kwadi

- general geographical north-south cline from "Other (African)" > Khoisan
- + Dama: overall like "Other African", little Khoisan admixture
- + Kwadi: phenotypically "Other African", ?close to Damara
- + Kxoe: overall like "Other African"
- + southern Kalahari Khoe West (Naro, G||ana, G|ui): overall Khoisan
- + pastoral Khoekhoe: overall close to other Khoisan; but also differences; genetic substrate in South Africa, but superstrate in Namibia
- + "Khoisan" as a wider concept genetically more diverse than all non-Khoisan populations on earth: genetic Khoisan vs. "Other" including Dama, many Kalahari Khoe, Kwadi in SAK
- > "Khoisan" languages not at all tied to the genetic type, groups of non-Khoisan genetic type not necessarily related to "(South)-Western Bantu"
- > possibly suggests earlier "Other African" population in southern Africa not speaking Bantu; evidence for shared history with Khoisan (and individual Bantu groups)

2.2. Culture and history

2.2.a. Rough pre-colonial culture sequence

- Stone-age foraging (> San)
 - avoidance practices - retention of inherited lexicon (Traill 1998)
 - small bands associated with a territory, individual mobility and exchange networks
 - > variable, but sustained local bilingualism bridges a border between linguistic lineages
 - frequently enter client relationship to pastoralists and agriculturalists
 - > language shift: Khoekhoe; Bantu of zone S and R
 - > unilateral gene flow from San groups into non-San groups (Jenkins 1986, 1988)
 - > linguistic affiliation not necessarily indicative of early history
- Stone-age small stock pastoralism from about 2000 BP
 - Khoekhoe pastoralism: small stock (sheep), not reliant on agriculture, foraging component
 - archaeological+historical records for distinct foraging and pastoralist identities (Smith 1996)
- Iron-age agro-pastoral subsistence slightly later
 - from early on with cattle
 - never reached the Cape
 - correlates linguistically with non-"Khoisan" African = Bantu

2.2.b. Non-Khoe

- correlates consistently with culture group forager>client

2.2.c. Khoe-Kwadi

- culturally highly diverse
 - forager: all Kalahari Khoe; non-pastoral Khoekhoe (Damara, Hai||'om, †Aakhoe)
 - pastoralist: Cape Khoekhoe, !Ora, Eini, Nama (classical "Hottentots"); Kwadi
- food production possibly more salient in some modern forager groups
 - pastoralist Khoe-speakers in northern Kalahari (Cashdan 1986, Denbow 1986)
 - possible agriculture (Köhler 1986)
 - Proto-Khoe with relevant reconstructed terms - sheep pastoralism (Voßen 1984, 1997)

2.3. Natural environment

- environmental conditions determine modes of subsistence and thus the distribution of certain populations, varied considerably:
 - a) in space: large arid/semi-arid areas unsuitable for agriculture and even pastoralism (e.g., interior of Kalahari, Karoo system, coastal Namib desert)
 - b) in time: climatic changes influenced settlement in general and distribution of culture groups in particular, e.g.:
 - > dry period 7500-4500 BP: i.a. interior Cape (Karoo) largely uninhabited, end associated by change from "Wilton" to "Smithfield" LSA culture (Deacon & Deacon 1999: 126)
 - > considerably more humid period 2500-1500 BP: northern Kalahari (Okavango, Makgadikgadi) (Denbow 1986) - around the advent and expansion of pastoralism

3. Synopsis

3.1. Introduction

- + if "Khoisan" is taken as a population type, it is characterized by an enormous diversity in biological, linguistic, and cultural terms
- + synchronic diversity can be the result of different historical scenarios:
 - divergence processes in a more homogeneous population
 - convergence processes between different populations
- + previous scenarios mostly based on linguistic hypothesis of "Khoisan" language family
 - > predominantly assume internal divergence within alleged "Khoisan" with an original profile of Khoisan+"Khoisan"+forager; modern diversity mediated by involvement of just one other population profile, namely "Other African"+Bantu+agro-pastoralist
 - > however, unlikely:
 - spurious linguistic-genealogical unity
 - degree of diversity; sometimes of a maximally possible extent on the world level
 - time depth; more population mixture
 - discernible third population type: pastoralism, "Other African" lacking some Bantu
- + Westphal (i.a. 1963, 1980) as only exception, present proposal with considerable parallels

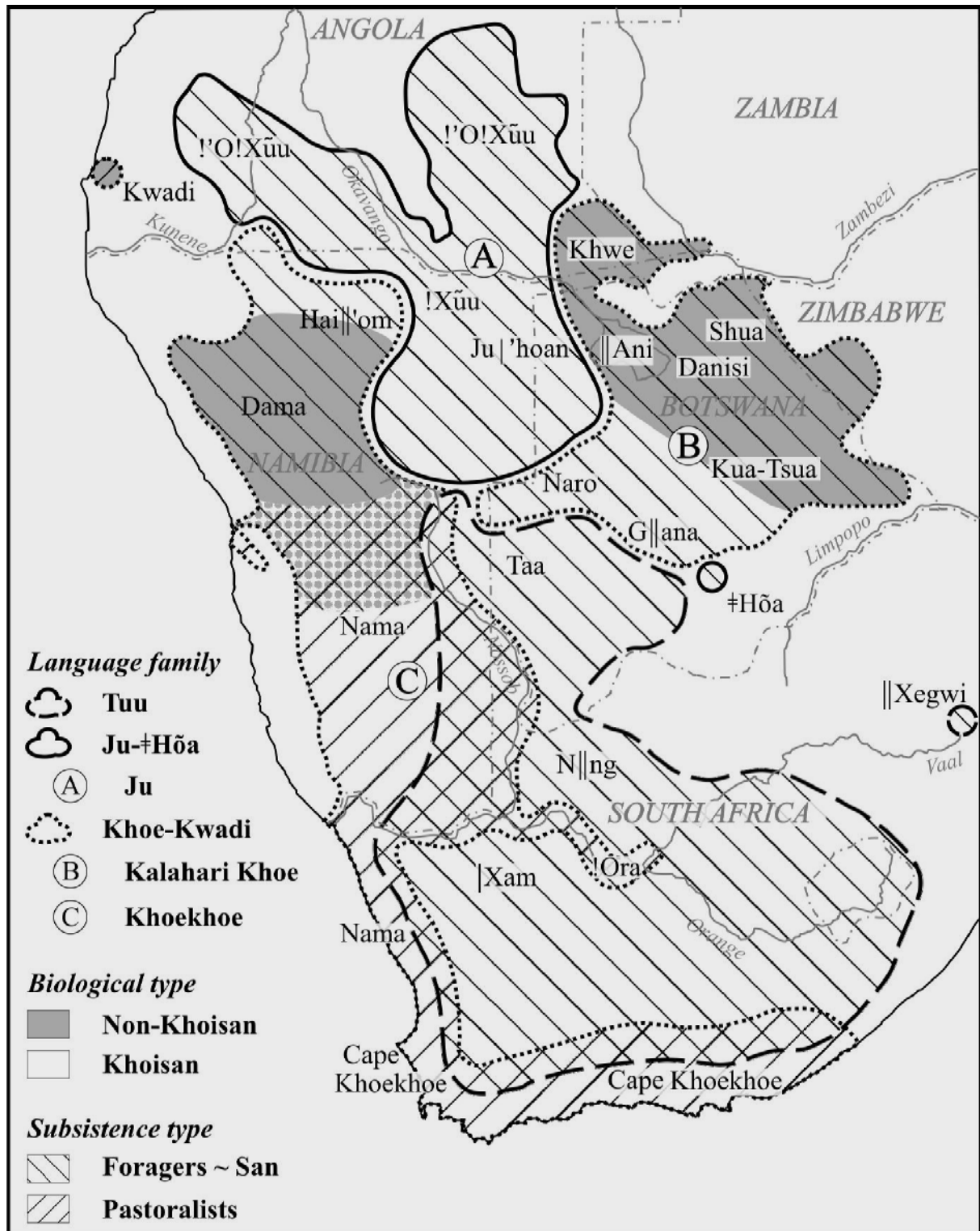
3.2. Non-Khoe

- + relatively consistent in all basic classification criteria > oldest attested population profile in southern Africa: Non-Khoe, stone-age forager, Khoisan gene type
 - > earlier existence of an area of similar populations with approximate distribution across modern Namibia, Botswana, South Africa
- + but historical dynamics also in more recent past, e.g., expansion of some forager groups:
 - a) re-population of some areas after dry period until around 5000 BP implies "recent" expansion, single group explains linguistic homogeneity, e.g. |Xam in the Karoo
 - b) language shift among hunter-gatherers, e.g. G|ui substrate in West !Xõo
 - > modern Non-Khoe groups in some areas with a far shorter history than assumed
- + linguistic character of Non-Khoe to be clarified by linguistics:
 - a) linguistic area, original genealogical classification submerged by diffusion/ convergence
 - b) very old genealogical unit, divergence into different groups - major split Ju-#Hõa vs. Tuu

3.3. Khoe-Kwadi

- + independent linguistic lineage as clearest indicator for the involvement of a third independent population type:
 - ... it might be said that about 1000 years before the Iron Age and the advent of Bantu languages, the Bushman province of Southern Africa was invaded by Khoe speakers. These Khoe speakers introduced a cultural re-orientation into the hitherto entirely hunter gatherer sub-continent. They also introduced their language. (Westphal 1980: 70-2)
- + hypothesis for original population profile:
 - Khoe-Kwadi family, but structurally closer to Kwadi than to Proto-Khoe
 - stone-age food-producing culture with focus on small stock pastoralism
 - "Other African" genetic type
- + probable geographical origin in East Africa
 - southern African pastoralism originates in East Africa (Smith 2005)
 - possible pre-Bantu linguistic area from East down to South Africa (clicks, laterals, etc.)
 - typological and possibly even genealogical (Sandawe) linguistic affinities
 - > possible existence of a pre-Bantu spread zone (?substratum in Bantu)
- + major modern characteristic: diverse according to all classification criteria
 - > suggests admixture in and/or shift of some groups in terms of all classification criteria in relation to the profile of the originally more homogeneous population
 - > subsequent local developments in individual Khoe-Kwadi groups as explanation for considerable synchronic discrepancies between language, culture, and genetic type
- (I) 2000 BP - rapid expansion in the northern periphery of the Kalahari Basin and the Kalahari itself, coincides with favorable climatic conditions
- (II) separation of western group(s) > **Kwadi**, possibly includes **Dama** ancestors (see below)
- (III) contact of eastern group(s) with San in northern Kalahari > **Proto-Khoe** with linguistic San substratum (presumably Ju-#Hōa, Güldemann ms.); ?partial language shift of San to Khoe > Kalahari Khoe speaking San with Khoisan genetic type = **Naro, G||ana, G|ui**
- (IV) subsequent contact with San in southern Kalahari > **Proto-Khoekhoe**; rapid expansion into Cape (?and areas further east); retention of pastoral subsistence, but nevertheless heavy impact of San: Tuu substratum (Güldemann forthcoming a), addition of strong foraging component, increasing shift to Khoisan genetic type
- (V) ca. 1000 BP - re-desiccation of Kalahari; retreat of pastoral subsistence but without back migration of people (!Bantu), partial shift to foraging under language maintenance > San with "Other African" genetic type = **northern and eastern Kalahari Khoe**
- (VI) from 17th century on - Khoekhoe spread into Namibia > linguistic Khoekhoeization of some indigenous populations > **Dama**, San with Khoisan genetic type = parts of **Hai||'om**

4. Map



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