1 Introduction

In southern and eastern Africa, there used to be over a hundred languages characterized by extensively using click consonants in their phonology (Brenzinger, 2013, 1). These languages have been traditionally referred to as the ‘Khoisan’ languages. Only about a dozen of these languages belonging to three different genealogical units are still spoken today. In this article we will provide a typological overview of these languages focusing on the central aspects of their phonology, morphology, and syntax and highlighting the similarities and differences between them. We will also survey the recent contributions dedicated the recurrent question of whether all these languages form one genealogical unit and, if not, how the similarities among them can be explained.

We begin first by presenting some of the terminology used to refer to the individual Khoisan languages and groupings (Section 2). We then survey the recent evidence for the genealogical relatedness among the Khoisan languages and other explanations for the similarities among them (Section 3). The major part of the article is dedicated to outlining some central characteristics of the Khoisan languages. We focus on the three large genealogical units viz. Khoe-Kwadi, Kx’a, and Tuu, and largely ignore Hadza and Sandawe for the sake of space. The phonological profile of these three lineages is presented in Section 4. Section 5 surveys some of the most typical morphological characteristics, whereas Section 6 briefly outlines some of the syntactic characteristics. Finally, Section 7 concludes the paper.

2 Languages and language names

The languages discussed in the present article have been referred to under a variety of names. In this section we briefly survey some of the most common terms (for more detailed recent surveys see e.g. Brenzinger 2013 and Güldemann 2014a).
Among the first terms applied to the respective languages are the derogatory non-linguistic labels ‘Bushman’ and ‘Hottentot’ languages. The term ‘Bushman’ was used to refer to any foraging peoples of southern Africa, whereas the term ‘Hottentot’ was used to denote the non-Bantu herding peoples of South Africa and Namibia with similar languages and culture. Today, these two terms are replaced with ‘San’ and ‘Khoekhoe’. Schultze’s (1928) term ‘Khoisan’ was introduced to cover phenotypical commonalities between the Khoekhoe and San of South Africa and is also of little use from a linguistic perspective, as it incorrectly implies that groups covered by this term form a linguistic entity. In recent publications this term and its alternates ‘Khoesan’ and ‘Khoesaan’ have been used exclusively in the sense of African non-Bantu and non-Cushitic languages with click phonemes, without implying any commonalities of the languages covered by this term and any commonalities in the subsistence type of the populations speaking these languages (as e.g. in the individual contributions in Güldemann & Fehn 2014). It is with this meaning that we also use the term ‘Khoisan’ in the present paper.

Not only the labeling of all the Khoisan languages as a unit is problematic, terminological difficulties also pertain to individual ethnolinguistic groups, languages and language varieties and encompass both the choice of the label and their spelling, in particular the use or avoidance of orthographic symbols to represent tone and click phonemes not widely known beyond Khoisan studies. A detailed recent summary of the terminological variation and its problems are presented in Güldemann (2014a) (see also Treis 1998 for an earlier survey). In what follows we will adopt the labels suggested in Güldemann’s publication.

3 The genealogical and areal relations among the Khoisan languages

Two languages can resemble one another with respect to some aspects of grammar (categories, rules, etc.) and/or with respect to the form of words and smaller units. There are several explanations for such similarities (cf. e.g. Aikhenvald & Dixon 2001). An obvious explanation is chance. Second, similarities can also be accounted for by universal tendencies, so that not only two or more languages in question but most human languages would share a particular feature. Third, grammatical features, constructions and lexical items can be borrowed in the situation of language contact from one language into another. Finally, similarities can be traced back to the shared protolanguage and explained by genealogical relatedness of the languages in question; there is a longstanding tradition of the historical-comparative method identifying this kind of similarities and grouping languages into language families in the form of phylogenetic trees on the basis of such similarities. The three sections on phonology, morphology, and syntax highlight a number of characteristics which either all or some Khoisan languages have in common. In the case of Khoisan there is a longstanding discussion of the origin of these similarities with either the genealogical relationship or the language contact/linguistic area being frequently mentioned to account for the most striking of these similarities (see e.g. Güldemann 2014a).
The question of the genealogical relatedness of the Khoisan languages and the details thereof have been an issue of ongoing debate for many years (see e.g. Honken 2013 and Güldemann 2014a for some recent surveys and references therein for the many earlier accounts and discussions). Most early genealogical classifications relied on non-linguistic evidence, in particular, on different modes of subsistence of the pastoral Khoekhoe and foraging San. The idea that all or most Khoisan languages form a genealogical unit based on linguistic evidence was expressed in Greenberg (1950, 1963, 66–84). Despite its popularity, ‘Khoisan’ remains a negatively defined entity encompassing indigenous Non-Bantu click languages of southern Africa, which cannot all be related genealogically to each other or any established lineage (Güldemann, 2014a, 1). Up to now it has not been possible to reach a conclusive classification of all Khoisan languages and due to the current state of language documentation this may never be possible for some of the extinct Khoisan languages. On the other hand, a study of available archive resources might allow for some modifications and extensions of the classification.

The state-of-the-art cautious evaluation of the available evidence suggests five distinct lineages within Khoisan. For now, these lineages should be regarded as independent genealogical units, as at the current state of language description and applying the historical-comparative method one cannot convincingly show their relatedness to other – Khoisan or not – linguistic lineages. These five lineages are the two language isolates in eastern Africa, Hadza and Sandawe, and three language families in southern Africa, namely Khoe-Kwadi, Kx’a, and Tuu. These five lineages and the respective subbranches, as well as a selection of languages belonging to them are listed in Table 1.

In what follows we briefly present some recurrent issues in the genealogical classification of the Khoisan languages and provide further references for the individual groupings. We start with the first two lineages in Table 1. The position of Hadza as a language isolate is meanwhile uncontroversial both within Khoisan studies and beyond. It has been convincingly argued for in Sands (1998a,b). Sandawe – the other Khoisan language spoken in eastern Africa – indeed shows some similarities to the Khoe-Kwadi languages observed by many researchers (see e.g. Elderkin 1986, 1989, 2014 and Güldemann & Elderkin 2010). However, the available evidence is not yet sufficient to prove genealogical relatedness of this language to any of the other three Khoisan lineages (Güldemann, 2014a, 26). If this case of genealogical relatedness were proven one day, this would be of high relevance not only for Khoisan studies, but it would also serve as an important step in the reconstruction of the population history in Africa before the Bantu expansion (Güldemann, 2014a, 35–36).

Khoe is a group of over twenty attested varieties. Their accepted classification was established by Vośen (1997) on the basis of an extensive historical-comparative analysis. Combining the evidence from the person-gender-number markers (see Section 5.1) with the ones stemming from lexical affinities Güldemann (2004) placed Kwadi as the other member of the Khoe-Kwadi language family. The most recent publication on Proto-Khoe-Kwadi Güldemann & Elderkin (2010) provides additional lexical data to support this genealogical entity.
<table>
<thead>
<tr>
<th>Families</th>
<th>Major brunches</th>
<th>Major sub-branches</th>
<th>Languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hadza</td>
<td>isolate</td>
<td></td>
<td>Hadza (isolate)</td>
</tr>
<tr>
<td>Sandawe</td>
<td>isolate</td>
<td></td>
<td>Sandawe (isolate)</td>
</tr>
<tr>
<td>Khoe-Kwadi</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kwadi</td>
<td>Kwadi (isolate within Khoe-Kwadi)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Khoe</td>
<td>Kalahari Khoe</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>East: Shua dialect cluster (Cara, Deti, Xaise, Danisi, etc.), Tshwa (Kua, Tsua); West: Khwe (Xom, Xo, Buga, Ani, etc.), Gjana (Gjana, Gju, etc.), Naro (Naro, Ts'a, etc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Khoekhoe</td>
<td>Cape Khoekhoe†, Ora-Xiri†, Einì†, Namadama language complex (Khoekhoegowab), Haijom, Aakhoe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kx’a</td>
<td>Ju</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>North: Angolan !Xuun varieties; North-central: Ekoka !Xuun, Okongo !Xuun; Central: Grootfontein !Xuun, etc.; Southeast: Ju!hoan varieties (e.g. Groot Laagte !Xa!ae)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>†’Amkoe</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>West: Hoan, Niaqiaxe; East: Sasi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuu</td>
<td>Taa-Lower Nossob</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Taa</td>
<td></td>
<td>West: West !Xoon, (N!u!en); East: East !Xoon, ’N!aha, etc.</td>
</tr>
<tr>
<td></td>
<td>Lower Nossob</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>!Ui</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ng, !Xam†, etc.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1: The five Khoisan lineages (adopted with some modifications from Güldemann (2014a, 27). † indicates extinct languages, languages given in parentheses are known only from older data sources.

Whereas the higher-level classification of the Khoe-Kwadi lineage is empirically well supported and widely accepted in Khoisan studies, the classification of individual varieties is still not conclusive and future descriptive work on individual languages and dialects is likely to result in modifications of the classification in Table 1 (Güldemann, 2014a, 27–28). In particular, the limited information available on dialectal variation within both Shua and Khwe does not allow one to make any definitive statements on the genealogical varieties within and across these groups. Among the recent modifications to the grouping of the varieties within the Kalahari Khoe is a result of a recent descriptive account by Fehn (2014), who suggests to treat Ts’ixa (not listed in Table 1) – a variety classified by Voßen (1997) as belonging to the Shua dialect cluster – as a language in its own right with an intermediate position between East and West Kalahari Khoe. Another major open question within the Khoe-Kwadi lineage is the problematic language-dialect distinction among the Namibian varieties of Khoekhoe (viz. Nama-Damara language complex and Haijom and Aakhoe, which are listed separately in Table 1). For sociolinguistic reasons these varieties are often included into the single standard language Namibian Khoekhoe. However, Haijom and Aakhoe remain still insufficiently accessible in published form, so that their status and relation to other va-
rieties is subject to modifications once in-depth descriptive accounts become accessible to the wider audience. On the other hand, future detailed studies of the Nama-Damara varieties going beyond lexical comparison might shed light onto the internal structure of this dialect cluster (Güldemann, 2014a, 9, 28).

Within the Kx’a family, the Ju branch and its internal classification have been reliably established, see Sands (2010) for the most recent work on the genealogy of this group and the references therein. The linking of the Ju and ǂ’Amkoe branches into one family is relatively new, as the varieties of ǂ’Amkoe were ‘discovered’ only recently starting with Traill (1973). Heine & Honken (2010) present sufficient evidence for this grouping relying on regular correspondences, see also Güldemann & Elderkin (2010, 30) for a list of other contributions to this genealogical grouping.

The Tuu languages have been identified as belonging to one genealogical unit already in Bleek (1927) (her ‘Southern Bushman’). However, only little has been done towards the reconstruction of the Tuu proto-language. Among the few attempts towards such a reconstruction are Hastings (2001) and Güldemann (2005). Due to a relatively early extinction of most Tuu varieties, any attempts at the reconstruction need to rely on the evidence provided by the two remaining languages (the moribund Nǀng language of the !Ui branch and the different varieties of !Xoon of the Tuu branch), as well as by the many archival resources on the extinct varieties and earlier stages of the existing varieties. Among the most recent contributions on the topic is Güldemann’s (2014b) revision of the genealogical relatedness of the extinct Lower Nossob varieties. He suggests that they do not belong to the !Ui branch, as has been claimed previously, but rather form a closer genealogical unit with the Taa varieties called Taa-Lower Nossob. The previous assignment of the Lower Nossob varieties to the !Ui branch was motivated by their intensive language contact with the !Ui language Nǀng. Finally, in another contribution to the same volume, Naumann (2014) delivers a detailed study allowing a more reliable classification of the !Xoon varieties.

Another unsettled issue pertaining to the genealogical classification of the Khoisan languages is the question of possible relatedness of the Kx’a and Tuu languages, which might explain the many similarities among the Non-Khoe languages to be highlighted below. Quite a number of recent publications entertain this possibility (e.g. Collins & Honken 2016), however, the available evidence is still insufficient to claim this higher order lineage with certainty and the explanation of similarities as resulting from language contact is still a viable option (see Güldemann 2014a, 36–37 for an overview of the available evidence).

As the brief preceding survey makes clear, there is still a number of open questions pertaining to the genealogical classification of the Khoisan varieties. Also in a later discussion of the typological profiles of the three major genealogical groups, we will also indicate a number of striking similarities among the languages belonging to various genealogical units which are in need of an explanation. Apart from having to deal with a number of gaps in the descriptive accounts and having to rely on centuries-old archival data on the extinct varieties, another major challenge the researchers face when trying to provide a definitive classification of the Khoisan languages is the difficulty of disen-
tangling the similarities resulting from a centuries-old language contact situation and the ones stemming from the shared proto-language. Due to the fact that the Khoisan languages used to be considered to form a single genealogical unit, the investigation of the effects of the language contact is relatively recent and started in the late 1990's with the publication of Güldemann (1998). Meanwhile, the accounts of shared traits due to language contact support the hypothesis of the existence of a linguistic macro-area referred to as the Kalahari Basin area (see Güldemann 2014a, 18–24 for a survey of evidence and further references). Additionally, a number of micro-areas of intense contact between groups of Khoisan languages from various lineages have been proposed and a number of affected linguistic features have been identified. Thus, the speakers of Taa (Tuu), ‡Amkoe (Kx’a) and Gǀui (Khoe-Kwadi) as well as probably of a few other languages are speculated to have been in intense contact when these communities were the demographically predominant populations in the respective area. This resulted in the three languages sharing an exceptionally high phonological complexity, as well as a number of lexical items (see Traill & Nakagawa 2000 and Güldemann & Loughnane 2012).

To summarize, the five units given in Table 1 represent the currently recognized independent genealogical entities encompassing the languages commonly referred to as Khoisan. The future research might change this picture: First, the description of not yet documented varieties, as well as the further study of archival resources might alter the internal classification within the five lineages. Second, further historical-comparative research might allow to join Sandawe with Khoe-Kwadi and/or Kx’a with Tuu (Güldemann, 2014a, 35). Finally, a better understanding of the Khoisan population prehistory and the language contact situation in the Kalahari Basin area before the Bantu expansion combining both linguistic evidence and evidence from other disciplines, e.g. from anthropology or genetics, as in Pakendorf (2014), might help to identify whether individual structural similarities between the Khoisan languages are witnesses of a genealogical relatedness or rather of an intense language contact.

4 Phonology

This section sketches two important aspects of the Khoisan phonological typology, namely the phonemic inventory and the word phonotactics, both of which are essential to understand the Khoisan phonological type. As will be clear in the course of description in the following subsections, there are striking similarities across Khoisan languages in the organization of both phonemic inventory and the phonotactics. As in other sections, we focus on the three Khoisan families in southern Africa, excluding the two isolates, Sandawe and Hadza, because they often pattern differently from the three families in the phonemic system and phonotactic constraints. The cross-Khoisan generalizations stated below are based on the relatively well documented samples from the three families. Their sources are Traill (1985) and Naumann (2016) on Taa; Miller et al. (2009) on Nǁng; Dickens (1994) on Ju; Gerlach (2016) on Nǃqriaxe; Fehn (2014)

In order to outline the Khoisan phonology from the typological perspective, it is convenient to first introduce the word phonotactic templates shared by all the Khoisan languages. Most lexical roots or simple stems fall into one of the three templates below.¹

(1) Khoisan root phonotactic templates with examples from G|ui (Kalahari Khoe, Khoe-Kwadi)
   a. OV₁CₘV₂ (e.g. ǃàrò ‘run’, ǃqúrù ‘wild cat’)
   b. OV₁V₂ (e.g. ǀáò ‘buffalo’, ǀqχ’òè ‘be full’)
   c. OV₁N (e.g. χám̄ ‘lion’, ǃχán̄ ‘sew’)

Note that the onset (O) can be a cluster, i.e. O→/C₁ + C₂/, e.g. /ǃ+q/, /ǀ+qχ’/ and /ǃ+χ/ as seen in the second example word of each template, while the root-medial consonant (Cₘ) is always a single segment (the lower case “m” in the symbol Cₘ comes from “medial”). The coda (N) in (1c) is always a non-click nasal consonant.

A remarkable phonotactic feature shared across the Khoisan languages is a skewed distribution of consonants and vowels in these templates: Each slot in the templates has its own inventory and own set of distinctive features. Section 4.1 provides an overview of the cross-Khoisan range of consonants occurring in the root-onset and analyses the onset-internal structure in terms of constraints on C₁ and C₂. Section 4.2 describes the inventories of Cₘ and N, and then points to an asymmetry between O and Cₘ, which is a typological trait of the Khoisan word phonotactics. Section 4.3 outlines the Khoisan vowel system by presenting a set of distinctive features and observing their asymmetric distribution in V₁ and V₂ in order to capture the variation of Khoisan vowels. Section 4.4 finally discusses two asymmetries, that between O and Cₘ and that between the vowel slots V₁ and V₂.

### 4.1 Onset inventory and onset-internal structure

In order to capture the core structure of the cross-Khoisan consonantal inventory, we employ the cross-Khoisan consonant chart, which was originally designed by Gülde-mann (2001), revised by Nakagawa (2006), further elaborated by Naumann (2016), and adapted to specific languages by Fehn (2014) on Ts’ixa and Gerlach (2016) on Nǀaqriaxe. Here we use a modified current version for the onset shown in Table 2. This chart classifies the segments and clusters occurring in O that are attested in the sample languages. The classificatory framework is two-dimensional, consisting of 13 extended places of articulation as the horizontal axis and 25 series as the vertical axis.

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¹ This section uses the following abbreviations: C₁ = the first consonant in the cluster, C₂ = the second consonant in the cluster, Cₘ = root-medial consonant, N = nasal coda, O = root-onset, V₁ = the first vowel in the root, V₂ = the second vowel in the root
The Khoisan root-onset generally falls within the framework comprising the set of features and their combinations (i.e. classes) hypothetically presented in this chart, despite language specific minor variation.

<table>
<thead>
<tr>
<th>Series</th>
<th>Click (Labial/Coronal-Dorsal)</th>
<th>Non-click (Labial, Coronal, Dorsal, Glottal)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lb</td>
<td>Dt</td>
</tr>
<tr>
<td>Plain</td>
<td>⊙</td>
<td>t</td>
</tr>
<tr>
<td>Voiced</td>
<td>⊙</td>
<td>g⊙</td>
</tr>
<tr>
<td>Voiced-ejective</td>
<td>⊙'</td>
<td>t'</td>
</tr>
<tr>
<td>Voiced-aspirated</td>
<td>⊙ʰ</td>
<td>g⊙ʰ</td>
</tr>
<tr>
<td>Voiced-asp. ejectives</td>
<td>⊙ʰ'</td>
<td>tʰ'</td>
</tr>
<tr>
<td>Voiceless</td>
<td>⊙</td>
<td>t</td>
</tr>
<tr>
<td>Voiced-ass.</td>
<td>⊙</td>
<td>g⊙</td>
</tr>
<tr>
<td>Voiced-ass. ejectives</td>
<td>⊙'</td>
<td>t'</td>
</tr>
<tr>
<td>Voiceless</td>
<td>⊙'</td>
<td>t'</td>
</tr>
<tr>
<td>Plain + χ</td>
<td>⊙χ</td>
<td>iχ</td>
</tr>
<tr>
<td>Voiced + χ</td>
<td>⊙χ</td>
<td>g⊙χ</td>
</tr>
<tr>
<td>Plain + χ’</td>
<td>⊙χ’</td>
<td>iχ’</td>
</tr>
<tr>
<td>Voiced + χ’</td>
<td>⊙χ’</td>
<td>g⊙χ’</td>
</tr>
<tr>
<td>Plain</td>
<td>q</td>
<td>iq</td>
</tr>
<tr>
<td>Voiced</td>
<td>iq</td>
<td>giq</td>
</tr>
<tr>
<td>Plain + q</td>
<td>q</td>
<td>iq</td>
</tr>
<tr>
<td>Voiced + q</td>
<td>q</td>
<td>giq</td>
</tr>
<tr>
<td>Plain + q’</td>
<td>q’</td>
<td>iq’</td>
</tr>
<tr>
<td>Voiced + q’</td>
<td>q’</td>
<td>giq’</td>
</tr>
<tr>
<td>Plain</td>
<td>h</td>
<td>ih</td>
</tr>
<tr>
<td>Voiced</td>
<td>ih</td>
<td>gh</td>
</tr>
<tr>
<td>Plain + h</td>
<td>h</td>
<td>ih</td>
</tr>
<tr>
<td>Voiced + h</td>
<td>h</td>
<td>gh</td>
</tr>
<tr>
<td>Plain</td>
<td>ʔ</td>
<td>iʔ</td>
</tr>
<tr>
<td>Voiced</td>
<td>ʔ</td>
<td>gʔ</td>
</tr>
<tr>
<td>Plain + ʔ</td>
<td>ʔ</td>
<td>iʔ</td>
</tr>
<tr>
<td>Voiced + ʔ</td>
<td>ʔ</td>
<td>gʔ</td>
</tr>
<tr>
<td>Nasal stops</td>
<td>ŋʘ</td>
<td>ŋǀ</td>
</tr>
<tr>
<td>Voiced</td>
<td>ŋ̊ʘ</td>
<td>ŋ̊ǀ</td>
</tr>
<tr>
<td>Preglottalized</td>
<td>ŋ̊ʘ</td>
<td>ŋ̊ǀ</td>
</tr>
<tr>
<td>Fricative</td>
<td>s</td>
<td>z</td>
</tr>
</tbody>
</table>

Table 2: Cross-Khoisan consonant chart for the root-onset (Plain stands for voiceless unaspirated, Af = affricate, Al = alveolar, Dt = dental, Gl = glottal, Lb = labial, Lt = lateral alveolar, Pl = palatal, Uv = uvular, VI = velar)

The horizontal axis includes 7 conventional places of articulation, [labial] [dental] [alveolar] [palatal] [velar] [uvular] [glottal], which are extended by the click-nonclick distinction for [Labial] and [Coronal], and, in addition, by the [± affricate] distinction for [Coronal] and [Dorsal]. The affrication is not a conventional place feature, but the [± affricate] distinction is combined with only the [dental] [alveolar] and [uvular] places. Treating [± affricate] as the extension of place of articulation makes a simpler classificatory chart to better understand the parallelism between affricates and other stops in Khoisan languages (see Janine 2014 for a discussion of the cross-linguistic patterns of affricates in terms of place and other features).

The measure of the vertical axis is series. Series are contrastive categories, which share identical features except the extended place-of-articulation features. A series consists of the same feature values of phonation (i.e. [± voiced], [± glottalized], [± aspirated]) and manner (i.e. [oral stop], [nasal stop], [fricative]), and of C2 for clusters. As shown in Table 2, the root-onset contrasts 6 oral stop series, 14 cluster series, 3 nasal stop series, and 2 fricative series. The chart lacks the series of [liquid] because the liquid (/r/ or /l/) does not occur in O.
There are important phonetic details that are not reflected in the chart. First, the voiced uvular stops are frequently realized with pre-nasalization, e.g. /ɡ/ [ⁿɡ]. The similar pre-nasalization is also observed in the click cluster Voiced + q (e.g. /ɡǃq/ [ⁿǃq]), in which the dorsal closure involved in /ɡǃ/ in C₁ is co-articulated in place to /q/ in C₂.

The pre-nasalization can be interpreted as facilitating the voicing with the uvular closure (Ladefoged & Maddieson, 1996). Second, the two click cluster series with /h/ or /ʔ/ in C₂ involve nasality, thus / lh, glh, ?h, gǃʔh/ are realized as [ⁿh, ḳh, ḳʔh, ḳǃʔh], respectively (cf. Ladefoged & Traill 1984, Traill 1991, 1992; Nakagawa 2006, 166–185; Naumann 2016, 343). Third, the voiced ejective stops have a complex temporal structure in voicing on surface, i.e. prevoicing (initial partial voicing) during the closure with the voiceless release: e.g. / dz', g', gs '/ are realized as [dts', gk', gqχ'], respectively. This type of mixed voicing is rare in the world’s languages (see Ladefoged & Maddieson 1996, 80–81 for a detailed discussion). Finally, the non-click palatal stops are transcribed by using the symbols for the palatal plosives c and j with/without diacritics, but in some languages, such as Ju varieties, they are affricates, e.g. [tɕ], [dʑ], etc. Since the contrast in [± affricated] are not attested for the palatal stops, the symbols c and j are used here for covering affricated and unafricated palatal stops.

Note that this table is not exhaustive, omitting some segments and classes which are under investigation or of which the phonological status is still controversial. They include the palatalized glottal plosive, i.e. [ʔ] historically derived from ǂʔ as click replacement found in East Kalahari Khoe (cf. Traill 1986 and Fehn 2014, 34, 36–38), the “retroflex” click type [ǃ!] reported in the literature (e.g. Doke 1925, Snyman 1997, Miller et al. 2009, Miller 2011), and the prenasalized stop cluster series consisting of /mb, nd, ŋg!/ etc., which are attested in Khwe and Ts’ixa (see Fehn 2014, 35 for discussion on their controversial phonemic status in Ts’ixa).

The onset-internal structure is summarized in Figure 1. Stop clusters always comprise two obstruents, C₁ and C₂. C₁ involves a constraint of series, C₁ being the plain or voiced series, while C₂ involves a place-of-articulation constraint, C₂ being a uvular or glottal obstruent.

Regarding the cross-Khoisan frequency, plain C₁ is attested in all Khoisan languages, while the [± voiced] distinction in C₁ is unattested in the Khoe-Kwadi family. Among the stop cluster series, the plain + χ and the plain +ʔ series are most frequent across Khoisan languages.

It should be noted here that there is a still unresolved debate about the phonological interpretation of the root onset. The Khoisan linguistic descriptive tradition treated...
the root-onsets of all series including stop clusters as phonological units, e.g. Beach (1938, 31), Snyman (1970), and Voßen (1997) referring to them as “phonemes”. This traditional assumption has been adopted by more recent theoretical works such as Sagey (1990), Clements & Hume (1995), Miller-Ockhuizen (2000, 2003), Miller et al. (2009), Miller (2011), etc. As opposed to this unit analytic approach, Traill (1985) presented an alternative proposal in which some complex clicks and consonants are analyzed as clusters. This new approach was developed and elaborated by Güldemann (2001), Nakagawa (2006), and Naumann (2016) with a proposal of the cross-Khoisan consonant chart, and applied to recent phonological descriptions of Ts’ixa by Fehn (2014, 17–45) and of Nłaqriaxe by Gerlach (2016). Cluster analysis of complex clicks are also implied in Ladefoged & Maddieson’s (1996, 278) linguistic phonetic description of Khoisan clicks and in Clements’s (2000, 159–160, footnote 15) view onǃXoon based on Traill’s (1985) data. See Güldemann & Nakagawa (2013), Güldemann (2001, 2016), Nakagawa (2006), and Miller (2011) for detailed discussions on this issue.

4.2 Medial consonants and codas

In contrast to the root-onset (O), the root-medial slot (Cm) has an excessively small inventory consisting of typically /b r m n/ (or /l/ instead of /r/ in some languages), and much less frequently also /j w/, e.g. /èbà ‘carry on the head’, /qχ’àri ‘scorpion’, /χámá ‘hartebeest’, /lànù ‘metal’, /tíjá ‘bug’, /gìwà ‘yes’. The difference between O and Cm can be seen in terms of not only the inventory size but also the predominant place of articulation. The typical Cm consonants /b r m n/ involve only the non-dorsal places. In contrast, the inventory of O shows a large dorsal to non-dorsal ratio (approximately 70–80%, after Güldemann & Nakagawa 2013) because of the large number of clicks and click clusters that involve the dorsal articulation. The phonemic inventory for the coda (N) typically comprises /m/ and /n/, correlating to the two nasal consonants in Cm in most sample languages, but Naro (Kalahari Khoe) and Nłaqriaxe (Kx’a) have only /m/ in N though they have both /m/ and /n/ in Cm. Since no language has only /n/ in N, the current generalization is that /m/ is more frequent than /n/ in N across Khoisan languages.

4.3 Vowels and their distinctive features in the templates

The Khoisan vowels are characterized by an asymmetric distribution of distinctive features within the template. There are at maximum 8 distinctive features for the Khoisan vowels, as listed below:

i. Lip-rounding feature: [± round]

ii. Guttural features: [± pharyngealized; ± glottalized; ± breathy]

iii. Dorsal features: [± high, ± low; ± back]

iv. Nasal feature: [± nasal]
These features are grouped into two sets according to their distribution in the template, namely the set of (i) and (ii), and that of (iii) and (iv). The two sets are mutually exclusive in occurrence within the templatic slots underlyingly: (i) [± round] and (ii) [± pharyngealized; ± glottalized; ± breathy] are distinctive only in V₁, while (iii) [± high, ± low; ± back], and (iv) [± nasal] are distinctive only in V₂.

It is remarkable that the dorsal features [± high, ± low; ± back], which are cross-linguistically (i.e. globally) common as vowel features, are not distinctive for V₁. The vowel height and backness of V₁ is predictable from the phonological context, such as O, V₂ and Cₚ, and is implemented by certain phonetic interpolation rules or by more or less phonologized language-specific rules (see Nakagawa 2010, 2016 for a more concrete description). The phonetic realization in the dorsal stricture of V₁ is illustrated in Table 3. The dorsal articulation of V₁ on the surface is here represented with the angle-bracketed values of the features [high] and [back], which are redundant and predictable from O and/or V₂. Thus, in (1) < + high, –back > is predictable from [+ high, –back] of O, in (2) < + high, + back > from [+ high, + back] of V₂, and in (3) < –high, + back > is from [–high] of V₂ and [+ back] of O.

Table 3: Dorsal features in V₁ and V₂ of the Gǀui words (1) [ɟiːa] ‘owner’, (2) [ʔúú] ‘send’, and (3) [kéɾɛ] ‘return’. The feature values in angle brackets for V₁ are redundant and predictable from O and/or V₂ (see the same values in the horizontally adjoined boxes in grey).

<table>
<thead>
<tr>
<th></th>
<th>O</th>
<th>V₁</th>
<th>V₂</th>
<th>O</th>
<th>V₁</th>
<th>V₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>[high]</td>
<td>+</td>
<td>&lt;+&gt;</td>
<td>-</td>
<td>&lt;+&gt;</td>
<td>+</td>
<td>&lt;+&gt;</td>
</tr>
<tr>
<td>[back]</td>
<td>–</td>
<td>&lt;+&gt;</td>
<td>+</td>
<td>&lt;+&gt;</td>
<td>+</td>
<td>&lt;+&gt;</td>
</tr>
</tbody>
</table>

Table 4: Cross-Khoisan variation of V₁ in terms of distinctive features. (✓ indicates the feature is distinctive.)

<table>
<thead>
<tr>
<th></th>
<th>Taa type</th>
<th>†Amkoe type</th>
<th>Gǀui type</th>
<th>Khoekhoe type</th>
</tr>
</thead>
<tbody>
<tr>
<td>[± round]</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>[± pharyngealized]</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>[± glottalized]</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>[± breathy]</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

The pattern of cross-Khoisan variation of vowel phonemes can be understood by using the two sets of distinctive features. The phonemic inventory of V₂ is the same across Khoisan languages, which indicates that the feature sets of (iii) and (iv) are stable in Khoisan phonology. In contrast, V₁ exhibits a wide range of phonemic variation. The pattern of variation of V₁ is illustrated in Table 4.
The four types of co-occurrence of the four features in this table are the only attested patterns in the sample languages. From this observation, we can hypothesize the following implicational hierarchy: [±breathy] implies [±glottalized], which in turn implies [±pharyngealized]. The feature [±round] is universal across Khoisan languages.

4.4 The symmetric configuration of the dorsal features within the template

We have seen two asymmetries within the template: the one between O and Cm for consonants, and the other between V1 and V2 for vowels. These two asymmetries are in fact mutually related in terms of the template-internal distribution of the dorsal features, and they constitute a single symmetric configuration of the dorsal features as illustrated in Figure 2. As seen in this figure, the template has [Dorsal] dispersed at both edges, and [Non-dorsal] in the middle.

![Dorsal feature dispersion in the root template](image)

This symmetric configuration is a typologically unique trait of Khoisan phonology. It can be explained by the dorsal feature dispersion hypothesis, which is summarized in the following four points (Nakagawa 2010, Güldemann & Nakagawa 2013).

i. O is the slot for the large inventory of clicks
ii. Clicks are lexically frequent
iii. Clicks require complex dorsal gestures
iv. O involves excessive dorsal density
v. The dorsal feature dispersion in the template reflects avoidance of local concentration of dorsal articulatory adjustments.

5 Morphology

This section provides a brief overview of the major morphological characteristics of the Khoisan languages. It focuses on the three families and ignores the two isolates Hadza and Sandawe for reasons of space. For the same reasons, the discussion of the Khoe-Kwadi languages only considers Khoe languages and does not discuss Kwadi. Each account is structured in a parallel fashion if possible: after a general overview of inflectional morphology, the typologically remarkable characteristics of the respective languages are presented. We consider only those aspects of morphology (and of syntax in Section 6) for which data are available on languages of all branches of the three
genealogical units to allow the comparability of the accounts. As all three families encompass two major branches each, we selected one language from each branch for the purposes of illustration. Where possible, we selected those languages, for which new descriptive material became available during the last years. We begin this section with the Khoe languages (Section 5.1), and then proceed with the Tuu and Kx’a languages (Sections 5.2 and 5.3).

5.1 Khoe languages

The morphology of the Khoe languages will be illustrated using examples from Ts’ixa from the Kalahari Khoe branch and two varieties from the Nama-Damara dialect cluster for the Khoekhoe branch. Compared to the predominantly isolating Tuu and Kx’a languages, Khoe languages have a larger amount of bound inflectional markers. A hallmark of the nominal and pronominal inflectional morphology of most Khoe languages is the so-called person-gender-number-markers commonly abbreviated as PGN’s following Hagman (1977, 16). Due to their central position in the inflectional morphology of the Khoe languages, we begin this section with an overview of these markers, and then proceed with the discussion of other nominal and verbal inflectional categories.

In most Khoe languages inflectional categories of person (first, second and third), number (singular, dual, and plural) and gender (masculine, feminine, and common) combine to form a paradigm or a group of formally similar paradigms of portmanteau morphemes called person-gender-number markers. These markers have been reconstructed for Proto-Khoe by Voßen (1997) and for Proto-Khoe-Kwadi by Güldemann (2004). They are commonly thought to form one paradigm with the languages’ personal pronouns, however, the paradigmatic relation between PGN markers and personal pronouns differs across languages.

Depending on a language, these markers show up either as nominal suffixes or as clitic on noun phrases and some other constituents. Example (2) from Ts’ixa shows the person-gender-number clitic =si ‘SG.F’ on a noun and a demonstrative, see also (12b). Namibian Khoekhoe examples in (3) show the PGN markers on nouns and as subject enclitics phonologically bound to clause-initial constituents. For instance, =b ‘3SG.M.SBJ’ in (3a) is bound to the direct object, which has its own PGN suffix -s ‘3SG.F’, whereas =ta ‘1SG.SBJ’ in (3b) attaches to the subject of the first clause and to the conjunction ts’d ‘and’ of the second clause. The second clause in (3b) also illustrates that suffixes formally similar to the one used on nouns and pronouns are used to index the direct object on the verb.

(2) Ts’ixa (tsix1234, Kalahari Khoe, Khoe-Kwadi; Fehn 2014, 68)

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2 Formally the subject PGN markers in the clause second position and the regular PGN markers on nouns are identical in Namibian Khoekhoe. When the subject occupies the clause initial position it has only one PGN marker and two different analysis are possible: either it carries the regular PGN suffixes which occur on nouns and pronouns in most other positions, or it carries the PGN clitic showing agreement with the subject, which attaches to any constituent in the clause initial position. In the present article we adopt the second viewpoint.
‘This hyena was very hungry.’

(3) Namibian Khoekhoe (Khoekhoe, Kho-Kwadi; Haacke 2013b, 329–330)

a. |gôa-s-a=b
girl-3SG.F-OBL = 3SG.M.SBJ
gō axa-b-a
taorase-3SG.M-OBL
gi trapped go gently #gai. REC.PST
call ‘The boy called the girl gently.’

b. Ti=ta
ti=1SG=1SG.SBJ
gi khô-n-a
skin-3PL.NEU-OBL
gâ nî
FUT
|noror tan
taorase and=1SG.SBJ
|noror tsî=ta
sell-3PL.NEU.OBJ
nî
FUT
|noror ŋaxû-ni.
I shall tan skins and I shall sell them.’

Intimately related to the PGN markers presented above is the system of gender marking and assignment shared by all Kho languages. We follow Corbett (1991, 4), who defines gender as a type of noun classification visible through grammatical agreement on elements other than the noun itself. In Kho languages the gender distinction is visible both on nouns and through grammatical agreement on other elements of the clause, e.g. on demonstrative and adjectives modifying nouns in Ts’ixa (Fehn, 2014, 67–68), as in (2), or as a clitic attaching to the clause-initial constituent and showing agreement with the subject in Namibian Khoekhoe, as in (3).

The Kho languages distinguish three genders, viz. masculine, feminine, and common. Gender assignment is to some extent semantically motivated and flexible with some non-human nouns. For instance, in Ts’ixa (Fehn, 2014, 65–67) two gender categories viz. masculine and feminine are distinguished in singular, whereas in dual and plural additionally the common gender is distinguished. Common gender is used when the relevant group of non-singular referents includes representatives of masculine and feminine gender. In some other Kho languages, e.g. in Khoekhoe, the common gender can also be used with singular nouns with generic or indefinite reference (Hagman 1977, 24, Haacke 2013b, 142), as in (14d). Human nouns are assigned to the feminine and masculine genders on the basis of biological sex, as in (4a–4b). Gender assignment with non-human nouns is flexible with most nouns and depends on the semantic properties of the respective referent, whereby masculine is used with large or square or elongated object and feminine with small or round objects, as in (4c–4d). The flexibility of the gender assignment with non-humans is not absolute and with some nouns the gender is more stable than with the others. For instance, abstract nouns and loanwords from English or Tswana, as in (4e), are almost always feminine. For the discussion and examples of the gender assignment principle and gender related morphology in other Kho languages, see e.g. Hagman (1977, 22–24) on Khoekhoe and Kilian-Hatz & Heine (2010) and Kilian-Hatz (2008, 40–47) on Khwe.

(4) Ts’ixa (tsix1234, Kalahari Khoi, Khoekwadi; Fehn 2014, 65–67)

a. k’akhòè=mà husband = MASC.SG ‘husband’
b. gêakhòè=sà wife = FEM.SG ‘wife’
c. nguú=mà house = MASC.SG ‘house’
After providing an overview of the PGN system of marking and the system of gender assignment common to all Khoe languages, we proceed with the description of the inflectional morphology in the two branches of Kalahari Khoe and Khoekhoe Khoe. We will add further language specific details on the PGN marking where appropriate, along with the discussion of other inflectional categories of individual word classes.

The pronominal system of the Kalahari Khoe languages distinguishes three numbers and three genders. In contrast to the Khoekhoe varieties, no distinction between inclusive vs. exclusive is made within the first person singular. In many Kalahari Khoe languages the paradigm of independent pronouns has both forms build solely of the PGN markers (mostly in the first and second person, sometimes in the singular number only) and of a combination of the pronominal base and the respective PGN markers (see Vossen 2013a, 171, 2013b, 216, 2013d, 207–208). This combination of two mechanisms is different from the unified structure of the pronominal paradigm in the Khoekhoe varieties build of the two elements for all persons (see below).

Whereas in the Khoekhoe varieties the person-gender-number marking on the noun or noun phrase itself is almost always obligatory, the Kalahari Khoe languages allow for an alternation between bare noun phrases and the ones with overt PGN marking depending either on the referential properties of the noun or on the syntactic context, see e.g. Killan-Hatz & Heine (2010) on Khwe and Fehn (2014, 69–74) on Ts’ixa. For instance, in Ts’ixa nouns with generic references are used in its bare forms, as in (5a), so are nouns used in a type of attributive possessive constructions involving a simple apposition of the possessor and possessee, as in (5b), also compare these examples with (2). Finally, in some Kalahari Khoe languages, the PGN marking system has undergone considerable reduction and nouns are marked for PGN only in some lexicalized forms, as in Deti of the Shua subgroup (cf. Vossen 2013b, 215).

(5) Ts’ixa (tsix1234, Kalahari Khoe, Khoekhoe Khoe, Fehn 2014, 69, 71)
   a. K’ará gāĩ khònà ṭì ñé.
      impala steenbok be.like look.like NEG
      ‘An impala does not look like a steenbok.’
   b. tì kyáó kò thũũ.
      1SG heart IPFV hurt
      ‘My heart hurts.’ (i.e. ‘I am sad’)

With the exception of Tsi’ixa (cf. Fehn 2014, 81) Kalahari Khoe languages have a very limited number of adjectives (Vossen 2013a, 170, Vossen 2013d, 209), Vossen 2013c, 217). The functions played by adjectives in other languages are taken over adjectival verbs in these languages.

The verb in the Kalahari Khoe languages has a relatively high degree of synthesis compare to the other Khoisan languages: It can take suffixes for tense-aspect marking, object agreement markers (in |Ani and Buga only), and passive and negation suffixes
Further verbal inflectional categories (e.g. other tense-aspect categories and negation) are marked with particles, as e.g. in (5). A peculiarity of the Kalahari Khoe languages is the presence of a suffix called *(verbal) linker or juncture*, which follows the verb stem (with any derivational morphology) and precedes all inflectional suffixes, as in (2) and (11). Synchronically, the marker has no recognizable meaning and its distribution and morphophonological behavior differ between languages and even dialects (Vossen 2010, Fehn 2014, 136–138).

The PGN marking described at the beginning of the present section is also omnipresent in the Khoekhoe varieties. In the Nama-Damara language complex nouns obligatorily carry a PGN marker coding its person, gender and number in a single portmanteau morpheme. In addition, PGN markers surface as the Wackernagel position clitic showing agreement with the subject of the clause, as well as suffixes on the verb encoding pronominal object arguments of transitive and ditransitive verbs as an alternative strategy to using independent pronouns. These different uses of the PGN markers are illustrated in (3). Some variation in the distribution of the PGN marking can be observed across the Khoekhoe varieties. Thus, in contrast to the Nama-Damara language complex, Gǃora allows dropping the PGN markers (Haacke, 2013a, 152). In addition, whereas in Namibian Khoekhoe the PGN marking attaches only to the phrase final head of a noun phrase, in Richtersveld Nama demonstratives can agree with the head noun and carry the PGN markers (Witzlack-Makarevich, 2006, 23). Apart from the PGN marking, the nominal morphology of Namibian Khoekhoe distinguished the unmarked nominative case and the -a marked oblique case. See Section 6.1 for details of the distribution of these markers.

The independent pronouns in the Khoekhoe varieties distinguish three numbers and three persons and make an inclusive vs. exclusive distinction within the first person plural (Haacke, 2013c, 64–65). Whereas, the dual number is distinguished for all three persons in the varieties of the Nama-Damara language complex, it is only distinguished in the first person in Haiǁom and ǂAakhoe (Haacke, 2013c, 63). In contrast to the independent pronouns in the Kalahari Khoe varieties, independent pronouns in the Khoekhoe varieties are morphologically complex in that they consist of PGN markers introduced above preceded by a pronominal base, as in the following examples from Namibian Khoekhoe (see also Meinhof 1930, 43 on Glora and Haacke 2013c on the comparison of Nama-Damara, Haiǁom, and ǂAakhoe):

\[(6)\] Namibian Khoekhoe (Khoekhoe, Kho-ǁKwadi, Hagman 1977, 44)

\[a. \quad si-khom \quad (SPEAKER-1MASC.DU) \quad ‘we two (incl. masc.)’\]

\[b. \quad sa-khom \quad (ADDRESSEE-1MASC.DU) \quad ‘we two (excl. masc.)’\]

\[c. \quad sa-kho \quad (ADDRESSEE-2MASC.DU) \quad ‘you two (masc.)’\]

\[3\] Haacke (1977, 2013b, c) analyzes these forms in Standard Namibian Khoekhoe as definite articles. However, in contrast to definite articles in other languages these elements are not used regularly to modify a noun phrase including elements other than the PGN elements.
d. sā-ko (ADDRESSEE-2MASC.PL) ‘you (masc. pl.)’

The tense-aspect-mood and negation inflectional categories in the Khoekhoe varieties are primarily realized by particles (see e.g. Haacke 2013b, 336–339 on Namibian Khoekhoe), this is in contrast to some Kalahari Khoi languages, which also employ suffixes in addition to using particles. On the other hand, other verbal inflectional categories are realized by means of bound morphology. Thus, the verb can index the object of a transitive verb or one or both objects of a ditransitive verb (Hagman, 1977, 81), an example is provided in (3b). Also various valency and diathesis modifying derivations (passive, applicative, reflexive, and reciprocal) are all realized by means of suffixes and several such suffixes can be combined on a single verbal wordform, e.g. the reflexive -\textit{sen} and the applicative -\textit{ba}. In addition to productive suffixation, reduplication is employed to derive inchoative verbs (Haacke, 2013b, 147–149).

To summarize, as this section has shown, despite minor differences, there are certain prominent morphological features characteristic of the Khoi languages of both branches. Specifically, the presence of the PGN marking on various constituents of the clause is a prominent feature of this genealogical unit and figures as evidence for placing Kwadi into this genealogical unit, as mentioned in Section 3.

5.2 Tuu languages

The morphology of the Tuu languages will be primarily illustrated using examples from the East !Xoon dialect of Taa and Nǁng from the !Ui sub-branch of Tuu. We will first provide a brief overview of the the East !Xoon morphology and then focus on the intricate system of noun classification and agreement unique to the Taa languages. We will then present the morphological profile of Nǁng and compare it to the one of Taa.

In general, East !Xoon has little bound morphology, most grammatical categories are expressed by separate words (cf. Güldemann 2013a, 235–241). First and second person pronouns distinguish dual in addition to singular and plural, there is no inclusive vs. exclusive distinction within the first person plural pronouns. Nouns inflect for number. The singular form is either zero-marked or marked with an overt singular suffix, plural is coded primarily with a suffix, though stemm alternation, a combination of two suffixes, as well as a combination of these techniques are also possible. There is a small class of adjectives, whereas the majority of lexemes which can be used attributively with nouns are stative verbs. The only regular inflectional category of the verbs is the indexing of the object. In addition, a group of common verbs have suppletive forms co-varying with the number of the intransitive subject and transitive object. All other verbal categories (e.g. tense, aspect, mood, polarity) are formed by isolating formatives (particles) or analytically with the help of auxiliaries. Valence-changing operations are achieved via periphrastic constructions (e.g. with the verb '\textit{âh} ‘to do’ for causatives).

The nominal morphology of the Taa-Lower Nossob languages of the Tuu family is characterized by an intricate system of noun classification and agreement, which is
uncommon within the Khoisan area and is absent in the !Ui branch of Tuu (cf. Gülde-
system operates in such a way that certain grammatical and lexical elements, such as
adjective-like modifiers, prepositions, relative clause marker, as well as third person
free pronouns and enclitics, carry morphological features of person, number and gen-
der of the related nominal expressions. This can be illustrated with (7), in which the
comitative preposition agrees in gender with the respective head noun. More examples
from West !Xoon are provided in (15).

(7) East !Xoon (Taa, Tuu, Güldeemann 2013a, 417)

a. \(\text{o!\text{\l}u\text{j}e\text{\textbar}e}\-s\text{'e} \, k\text{\textbar}u\text{'a} \, \#i \, g\text{\textbar}h\text{\textbar}u\text{'u} \)
drongo.33-SG descend COM:1 flywhisk.1/4
‘Drongo (a kind of a bird) descends with a flywhisk.’

b. \(\text{\textbar}h \, \text{n\textbar}u\text{\textbar}m \, \text{\textbar}i\text{\textbar} \, \#\text{\textbar}c \, \text{o!\text{\l}u\text{j}e\text{\textbar}e}\-s\text{'e} \)
4PRO stay STAT COM:3 drongo.3/3-SG
‘They stay with the drongo.’

The uniqueness of the system lies in the fact that all nouns belong to one of the five
agreement classes characterized by the same agreement formative. However, the same
noun can belong to one agreement class in the singular but to a different agreement
class in the plural, thereby creating an intricate system of seven or eight genders (de-
pending on the language). The system is exemplified with the agreement classes and
genders of independent pronouns in East !Xoon in Figure 3. For the majority of nouns
the assignment to agreement classes and genders is neither phonological, nor morphe-
ologically, nor semantically predictable. A similar system is also at work in the Lower
Nossob varieties. This fact presents a strong evidence for a closer genealogical relation-
ship between Taa and Lower Nossob (Güldemann, 2014b, 274–281).

The morphological profile of the !Ui languages – the second major branch within
Tuu – will be illustrated with the examples from Nǁng, as the existing archival material
on !Xam – the other better documented but meanwhile extinct !Ui language – does
not allow one to make any definite conclusion about the degree to which grammatical
markers are phonologically bound to their host words (cf. Güldeemann 2013a, 241). The
overall morphological profile of the Nǁng language is rather similar to the one of the
East !Xoon dialect of Taa in that there is in general not much inflectional morphology.
But there are striking differences in details to be highlighted below.

Neither within the third person pronouns, nor on any other elements one finds re-
flexes of the complex nominal classification and agreement system found in the Taa
languages, though see Güldeemann (2000) for the analysis of the closely related extinct
!Xam as having two genders. Also the structure of the pronominal paradigm of Nǁng is
rather different from the one in the Taa languages: Pronoun distinguish three person

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4 !Xam has a simple two-gender system and the only elements which vary according to the gender of the
nouns are third person singular pronouns (Güldemann, 2013b, 243).
and two numbers categories, as well as inclusive and exclusive forms for the first person plural (Collins & Namaseb 2011, 26, own data). There are separate third person pronouns for human and non-human referents. Differently from the Taa languages, there are three series of pronouns: the basic form without a click, the form derived in a mostly predictable fashion from the basic one with the suffix -a, and the form with an initial click. The basic form occurs in most context: as direct objects, possessive pronouns and in some cases as subjects, as in (8a). The click form occurs in any kind of questions starting with a pronoun, as in (8b–8d), as well as following the oblique preposition ng, as in (8e). Finally, the -a form occurs in two context: In one case the basic form is followed by the regular dative suffix -a, as in (8f). The other context is when the form occurs as the subject of the clause, in this context the -a form alternates with the basic form. According to Collins & Namaseb (2011, 26), the -a form is used for subjects of declarative sentences alternating with what they analyze as the declarative particle. This analysis however does not explain the absence of either the -a form, or the declarative particle in many declarative sentences. What exactly conditions the distribution of the two pronoun forms in the subject position is still not clear.

(8) \( \text{Nǁng (ǃUi, Tuu, author's fieldwork)} \)

\begin{itemize}
  \item a. \( \涉足 ng \#xoa ng \text{xainki \#xoaki} \)
      \text{so that 1SG speak 1SG.POSS mother language}
      \text{‘... so that I speak my mothers language.’}
  \item b. \( \text{Nǁng xae xae jie-e ku?} \)
      \text{1SG.Q TQ PST catch-ASP 3H.SG}
      \text{‘Did I catch him?’}
\end{itemize}

5 Güldemann & Witzlack-Makarevich (2013) analyze the so-called declarative marker as a marker of constructions with very specific information-structural configurations, namely, in thetic statements and for term focus.
c. *Nǀng* *si* *dyee* *kx’uu*?

1SG.Q IRR do/how do

‘How should I do?’

d. *Nǀng* *jɔqan xa* *ǁ’ae* *kidye*?

1SG.Q frog PST go.to where

‘Where is my frog?’

e. !Oo *a* *ǀqx’aan ng* *nǀng*

put 2SG hand OBL 1SG.OBL

‘... put your hand on me.’

f. *A* *si* *aa* *n-a* *ǀaeki* *a.*

2SG IRR give 1SG-DAT woman this

‘You must give me that woman.’

g. *N-a* *xa* *kx’aan ki.*

1SG-a PST drink 3NHUM.SG

‘I drank it.’

Nominal number is highly irregular, the attested strategies for marking the plural form include the suffixation with -ke accompanied by the replacement of the singular suffix, if available, the prefixation with ka-, suppletion, and various combinations of these three strategies, examples are provided in (9). Moreover, some nouns allow the plural formation using various strategies (see also Collins & Namaseb 2011, 16–18).

(9) *Nǀng* (!Ui, Tuu, author’s fieldwork)

a. *ǂhunn* ‘dog.SG’ – *ǂhuin* ‘dog.PL’

b. *gǂaru(-si)* ‘sheep(-SG)’ – *gǂaru-ke* ‘sheep-PL’ or *ka-gǂaru-ke* ‘PL-sheep-PL’

Noun modification is realized primarily via relative clauses, this strategy is used with most concept falling into the word class of adjective in languages which have adjectives, as well as for the modification of a noun with numerals. The only lexical items which regularly occur post-nominally are the lexeme *nlain* ‘big, large’ and *ko* ‘other’ (always used in a combination with a demonstrative pronoun). A similar situation is reported for !Xam (Güldemann, 2013a, 245–246).

Most regular verbal inflectional features (TAM, negation) are realized via particles. The only kind of morphology found on the verb are the perfective suffix -a and isolated cases of agreement with the number of the subject via suppletion (see Collins & Namaseb 2011, 20, 22). The only productive instance of verbal derivation involve the use of the prefix ka- for repetitive or distributive action (Collins & Namaseb, 2011, 20).

As this section shows, the morphological profiles of the two branches of the Tuu languages share some similarity (e.g. low degree of synthesis), but are also remarkable different: The Taa-Lower Nossoob languages are characterized by an intricate system of noun classification and agreement absent in the !Ui languages. On the other hand, *Nǀng*...
used to illustrate the !Ui group has such remarkable characteristic as highly irregular
nominal number marking and the various pronominal series with particular distribution
restricted syntactically; these features are absent in Taa-Lower Nossob. Also the general
shape of the pronominal paradigm is different in the two branches.

5.3  Kx’a languages

The morphology of the Kx’a languages will be presented using the examples from the
two recent grammars: the one of the ±Hoan language from the ±Amkoe branch (Collins
& Gruber, 2014) and the other one of the Southeastern Ju varieties from the Ju branch
(Pratchett, 2017). As will become clear from the description which follows, Kx’a lan-
guages of both branches are highly isolating.

The inflectional categories in ±Hoan are realized mostly by analytic means. Pronoun
distinguish three person and two numbers categories, as well as inclusive and exclusive
forms for the first person plural, there is no distinction according to animacy or gender
in the pronominal paradigm (Collins & Gruber, 2014, 70). The same pronominal forms
are used as subjects and objects, as well as to indicate pronominal possessors with the
exception of the only dedicated pronoun for the first person singular. The nominal mor-
phology is characterized by various strategies for marking nouns as plural comprising a
number of suffixes, as well as suppletive forms. In addition, there is a small number of
dependent pronouns, e.g. used to derive agent nominalizations and diminutives (Collins
& Gruber, 2014, 129–130). Most cases of nominal modification are realized via a rela-
tive clause, but there is also a small class of true adjectives used for direct modification
of nouns (Collins & Gruber, 2014, 85–89).

The analytic strategy is the most common way of realization of various verbal inflec-
tional categories: Particles are used to express the imperfective/progressive aspect, the
recent and distant past tenses, as well as the future tense, as in (17), as well a few mood
categories, polar interrogatives and negation (Collins & Gruber, 2014, 23–38, 46–47,
187). Prefixation on the verb is only used to form the passive, as well the causative
(Collins & Gruber, 2014, 163–164). Finally, a small number of verbs indicate agree-
ment in number – with the subject of the intransitive verbs and the object of transitive
verbs – via suppletion or via prefixation (Collins & Gruber, 2014, 57–61).

As in the ±Amkoe branch of the Kx’a languages, many inflectional categories in
Southeastern Ju of the Ju branch are realized by means of particles. Pronouns have
three numbers and distinguish dual in addition to singular and plural, as well as the
inclusive vs. exclusive distinction within the first person plural. The plural marking on
nouns is indicated by suffixes and in a few cases via suppletion (Pratchett 2017:63). An
important feature of nouns absent in the languages of the the ±Amkoe branch is nominal
gender: all nouns trigger agreement on a number of pronominal elements including
the third person pronouns depending on the agreement class assigned to a noun. The
same noun in singular and plural can require different agreement forms, e.g. different
anaphoric pronouns, thus yielding a system of five genders with a set of only four
different forms for the third person anaphoric pronouns. This situation is illustrated for
three different genders in (10) and is summarized in Table 4. It is highly reminiscent of the situation illustrated for East !Xoon in Table 3 in Section 5.2, however, one important difference is the fact that the assignment of nouns to individual agreement classes and genders is largely semantically motivated. For instance the gender encompassing the agreement class 1 in singular and 2 in plural illustrated in (10a) includes all kinship terms, words for humans and for culturally similar ethnic groups (Pratchett, 2017, 62–63).

(10) Tsumkwe Ju’hoan (Ju, Kx’a, Pratchett 2017)

1SG see PRO1 1SG see PRO2-PL
‘I see him (jù ‘person’, class 1). I see them (jú ‘people’, class 2).’

1SG see PRO1 1SG see PRO4
‘I see him (nlâng ‘eland’, class 1). I see them (nlâng(-sì) ‘elands’, class 4).’

<table>
<thead>
<tr>
<th>Agreement class</th>
<th>Singular pronoun</th>
<th>Plural pronoun</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>hī</td>
<td>hī</td>
</tr>
<tr>
<td>1</td>
<td>hȁ</td>
<td>hȁ</td>
</tr>
<tr>
<td>2</td>
<td>ēh</td>
<td>sì</td>
</tr>
<tr>
<td>3</td>
<td>ká</td>
<td>ká</td>
</tr>
</tbody>
</table>

Figure 4: Third person free pronouns and genders in Tsumkwe Ju’hoan (after Gülde-mann 2000, 23)

As the other Kx’a languages, Southeastern Ju has a handful of adjectives which directly follow the nouns they modify (Pratchett, 2017, 71).

Verbal morphology in Southeastern Ju is also very limited, most inflectional categories (e.g. TAM and negation) are realized by particles, as e.g. the imperfective formative in (18). There is a handful of verbs which show agreement in number via suppletion. As in ḫHoan, the intransitive verbs agree with the subject, whereas the transitive verbs agree with the object, as the verb nǀáng ‘sit.SG’ in (18), the form cross-referencing a plural subject is ghóó ‘sit.PL’ (Pratchett, 2017, 82). There is a regular process of applicativization with the suffix -a – illustrated in (18) – and causative formation via full or partial reduplication (Dickens 2005, 19–20, Pratchett 2017, 83–84).

To summarize, the morphologies of the Kx’a languages of both branches is highly analytical and share many similarities. Among the differences is the existence of a complex system of gender assignment in the varieties of the Ju branch reminiscent of what one finds in the !Xoon varieties of the Tuu language family.
6 Syntax

This section provided a bird’s-eye view of the syntactic organization of the three Khoisan lineages. For reasons of space and comparability, we only discuss such variables as the constituent order in the main clause, argument marking, as well as the structure of the noun phrase (including the possessive noun phrase). Section 6.1 considers these aspects in the Kalahari Khoe and Khoekhoe branches of the Khoe-Kwadi lineage. Section 6.2 presents two representatives of the Tuu language family, viz. the Taa language complex of the Taa-Lower Nossob branch and Nǁng of the !Ubi branch of the Taa language family. Finally, Section 6.3 outlines the syntactic organization in ǂHoan of the ǂ’Amkoe branch and in the Southeastern Ju varieties of the Ju branch of the Kx’a lineage.

6.1 Khoe languages

This section provide an overview of the major syntactic properties of the two Khoe branches. In-depth descriptions of the syntax are missing for most Shua and Tshwa varieties (East Kalahari Khoe) (Vossen 2013b, 401, 2013c, 407), whereas the syntax of some languages of the West Kalahari Khoe and Khoekhoe varieties is described much better. In what follows we will primarily rely on the recent detailed descriptive account of Ts‘ixa and the better described West Kalahari Khoe varieties. We then proceed with an account of the syntactic properties of the Khoekhoe varieties focusing on the Namibian Khoekhoe and Richtersveld Nama varieties of the Nama-Damara language complex.

Generally, the dominant word order in all Kalahari Khoe languages is SOV, though other word orders are possible and common. This stands in stark contrast to the languages of the Kx’a and Tuu families which all have the SVO word order with little variation. Thus in addition to the SOV word order, Ts‘ixa also frequently uses the SVO word order and occasionally the OSV order. The choice is conditioned primarily by information-structural considerations, as well as by the marking of the arguments, and the status of the clause as either main or dependent (Fehn, 2014, 213–224). The details seem to differ between the individual Kalahari Khoe languages, compare the account of Ts‘ixa with the one of Khwe in Kilian-Hatz (2008, 47–51, 2013, 356–361). The subject is often omitted if it is accessible to the hearer (Fehn, 2014, 215). The position of the oblique-marked participants (arguments and adjuncts) is also variable with a preference to the immediate preverbal and clause final positions (Fehn, 2014, 221).

In Ts‘ixa the argument flagging follows the nominative-accusative alignment with feature of the differential object marking. Nouns and pronouns can be followed by the PGN clitics from two series, the nominative series marks the S and A arguments (subjects), as in (11a) and (12b), whereas the accusative series, which ends in /a/, marks the P arguments (direct objects), as in (12b) and (11d). In addition, the P argument can also be marked with the accusative postposition ʔà, which either attaches to bare nouns and pronouns, as in (11b), or to nous and pronouns of the accusative series, as in (11d) (Fehn, 2014, 213). The marking of the P argument is conditioned by its
referential properties, namely by its definiteness and its focality, in addition, it intimately interacts with the word order, which is also condition by information structure (Fehn, 2014, 230–231). For instance, (11a) and (11b) show that ʔà-marking triggers a contrastive focus reading when appearing with PGN-marked fronted objects. In a similar fashion, variation in object marking conditioned by information structure, as well as by other properties of arguments and the clause is observed in other Kalahari Khoi languages, see, for instance, the description the oblique postposition à in Khwe in Kilian-Hatz (2013, 367–377).

(11) Ts’ixa (tsix1234, Kalahari Khoi, Khoi-Kwadi Fehn 2014, 117, 227, 230)

a. K’aráʔé.ǁú ǀoutfile-d-ʔó.
    impala 3PL.M:NOM kill-JUNCT-PST2
    ‘They killed an impala.’

b. K’aráʔàʔé.ǁú ǀoutfile-d-ʔó.
    impala ACC 3PL.M:NOM kill-JUNCT-PST2
    ‘They killed an impala (and not something else).’

c. Sá ƙà baa.tshaà=mà ti see-tà ʔíté.
    2SG.F POSS beer=SG.M:ACC 1SG take:JUNCT-PST1 NEG
    ‘I have not taken your beer.’

d. ||É ǁáú=m̀ k’ará=mà ʔà guni-nà-hà.
    1PL.M big =SG.M:ACC impala =SG.M:ACC hunt-JUNCT-PST3
    ‘We hunted the big impala.’

The argument flagging with three-argument verbs follows either the indirective alignment pattern (the recipient argument is marked by a postposition) or the secundative alignment pattern (the theme argument is marked by a postposition). Ts’ixa also has a large array of postpositions used to encode oblique arguments and various types of adjuncts (Fehn, 2014, 213).

The Kalahari Khoi languages are heterogenous with respect to the word order within a noun phrase. Many of them are claimed to have primarily head final noun phrases, so that all sorts of attributes, such as adjectival and adjectival verbs when used in the form of pure stems, as well as possessors and demonstratives, precede the head noun (see Kilian-Hatz 2013, 363–366 on Khwe, Nakagawa 2013, 395 on G|ana, McGregor 2014, 48–49 on Shua). On the other hand, some variation has been reported for the languages for which detailed descriptions are available, e.g. in Khwe the emphasized possessor can follow the possessee (Kilian-Hatz, 2013, 365). Finally, aslo Ts’ixa allows both head-final and head-initial noun phrases, the second type is claimed to be more common (Fehn, 2014, 75–78).

The nominal modifier in the Kalahari Khoi languages can show agreement with the head noun by taking the PGN suffixes, as in (11d), see also examples in (2) above. The frequency and obligatoriness of the agreement, as well as conditions on its distribution vary between the individual languages (see e.g. Nakagawa 2013, 209, Vossen 2013a, 169, Fehn 2014, 75–78).

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The Kalahari Khoe languages also show some variation with respect to the locus of marking in possessive noun phrases (cf. Nichols & Bickel 2013 for a typological overview). For instance, in Ts’ixa, in addition to the simple juxtaposition of the possessor and the possessee, as in (12a), the possessor can be marked with a postposition ka, as in (11c) above, or both the possessor and the possessee can be marked. In the last case the possessee is marked with the postposition dl’ followed by a PGN showing agreement with the possessor, as in (12b) (Fehn, 2014, 112–113).

(12) Ts’ixa (tsix1234, Kalahari Khoe, Khoe-Kwadi Fehn 2014, 115, 118)

a. ìì gihn, tï tû’ā.
   ‘a leaf of a tree’, ‘my friend’

b. Tï dl’=mà tsôò kà séè tîl
   1SG POSS = SG.M:ACC medicine ATTR take IMP.NEG
   ‘Do not take my medicine!’

Despite this considerable variation in the expression of possessive relations in Ts’ixa, there are no semantic restrictions – e.g. the distinction between alienable vs. inalienable possession – on the usage of individual constructions. By contrast, other Kalahari Khoe languages have semantic restrictions on individual possessive construction types. For instance, in the closely-related Khwe, the possessor can be marked with one of the two postposition dl’ or ù, depending on the definiteness of the possessee and its related marking with a PGN suffix, additionally, an indefinite possessor takes the genitive suffix a. Thus the language has both possessor marking and double marking of both possessee and possessor. Another option is the juxtaposition of the possessor and possessee, the two constructions are said to be mostly in free variation, however in cases of part-whole relations including body parts possession only the juxtaposition is possible Kilian-Hatz (2008, 69–78). Also in Gǁana there are two possessive constructions for the alienable vs. inalienable possession Nakagawa (2013, 394–395).

The basic word order in the Khoekhoe languages is SOV with some variation in the relative placement of S and O to be discussed below (Widlok 2013, 347 on ‡Aakhoe, Haacke 2013b, 328 on Namibian Khoekhoe). Namibian Khoekhoe as well as other varieties of the Nama-Damara language complex exhibit a very strict organization of the possible order of the constituents that is best described in terms of a prefield position, a clause second position, and a middlefield position followed by a verb. The obligatorily filled prefield is occupied by either one constituent or a conjunction. It is followed by a subject PGN clitic, a declarative/indicative particle ge, as well as tense-aspect-mood particles, whereas the middlefield contains all the other constituents with subjects preceding objects. The following examples illustrated some possibilities (example (3a) is repeated as (13b)):

(13) Namibian Khoekhoe (Khoekhoe, Khoe-Kwadi, Haacke 2013b, 329–330)
a. \( axa = b \)  
\( ge \)  
\[ |gôa-s-a \]  
\( tsaurase \)  
\( go \)  
\( \#gai. \) 

\( \text{boy} = 3SG.M.SBJ \)  
\( \text{DECL} \)  
\( \text{girl} = 3SG.F-OBL \)  
\( \text{gently} \)  
\( \text{REC.PST} \)  
\( \text{call} \)  

‘The boy gently called the girl’

b. \( |gôa-s-a = b \)  
\( ge \)  
\( axa-b-a \)  
\( tsaurase \)  
\( go \)  
\( \#gai. \) 

\( \text{girl} = 3SG.F-OBL \)  
\( \text{DECL} \)  
\( \text{boy} = 3SG.M-SBJ \)  
\( \text{gently} \)  
\( \text{REC.PST} \)  
\( \text{call} \)  

‘The boy called the girl gently.’

c. \( Tsi = b \)  
\( ge \)  
\( axa-b-a \)  
\( |gôa-s-a \)  
\( tsaurase \)  
\( go \)  
\( \#gai. \) 

\( \text{and} = 3SG.M.SBJ \)  
\( \text{DECL} \)  
\( \text{boy} = 3SG.M-OBL \)  
\( \text{girl} = 3SG.F-OBL \)  
\( \text{gently} \)  
\( \text{REC.PST} \)  
\( \text{call} \)  

‘And the boy gently called the girl.’

Whereas the usage of the declarative/indicative particle \( ge \) is said to be obligatory in Namibian Khoekhoe (Hagman 1977, 54, Haacke 2013b, 335), the study of the naturally produced corpus of the Richterveld variety ofNama-Damara that the use of the particle is subject to variation (Güldemann & Witzlack-Makarevich, 2013), the marker is also.

As in the Kalahari Khoe languages, also in the Khoekhoe languages the noun phrase structure is head final: All modifiers, viz. adjectives, numerals, quantifiers, demonstratives, and relative clauses precede the head noun. There is also an option of placing a modifier after the head noun in an appositional construction, in this case the modifiers need to carry the respective PGN markers (Haacke, 2013b, 339) A selection of example of various types of noun phrases from the Richtersveld Nam variety is provided in (14). As these examples indicate, modifiers normally do not agree with the following head noun and agreement is impossible in Namibian Khoekhoe (Haacke, 2013b). However, as (14c) shows, demonstratives can optionally agree with the head noun in Richtersveld Nama, similar to what is a regular pattern in the Kalahari Khoe varieties.

(14) Richtersveld Nama (Khoekhoe, Khoe-Kwadi; own data)

a. \( ti \)  
\( gowa-b \)  
\( / kai khoe-b \)  
\( / \)  
\( !nona \)  
\( pir-di \)  

\( 1SG.POSS \)  
\( \text{language-3M.SG} \)  
\( \text{big man-3M.SG} \)  
\( \text{three pear-3F.PL} \)  

‘my language / old man / three pears’

b. \( Namibia-s \)  
\( (di) \)  
\( Namagowa-b \)  

\( \text{Namibia-3F.SG} \)  
\( \text{POSS} \)  
\( \text{Nama.language-3M.SG} \)  

‘the Nama language of Namibia’

c. \( \)  
\( |naa \)  
\( axaro-b \)  
\( \)  
\( or \)  
\( |naa-b \)  
\( axaro-b \)  

\( \)  
\( \text{that} \)  
\( \text{boy-3M.SG} \)  
\( \)  
\( \text{that-3M.SG} \)  
\( \text{boy-3M.SG} \)  

‘that boy’

d. \( gowa-e \)  
\( \)  
\( ühâ \)  
\( dama khoe-i \)  

\( \text{language-3C.SG.OBL} \)  
\( \text{have NEG man-3C.SG} \)  

‘a man who does not have a language’

Also in a possessive noun phrase the dependent (possessor) precedes the head noun (possessee). The two special possessive pronouns viz. \( ti \) ‘my’ and \( sa \) ‘your (sg.)’ precede possesseses without any additional marking, as in (14a). Other nominal and pronominal possessors take an optional particle \( di \) between the possessor and the possessee, as in (14b). There are only a few kinship nouns which are obligatorily used with the

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di-construction and for which there is a synonymous noun used in the constructions without any marking (Hagman, 1977).

### 6.2 Tuu languages

The two Tuu languages to be presented in this section in some detail are the Taa language complex (in particular, the West !Xoon and the East West !Xoon dialects) of the Taa-Lower Nossob and Nǁng of the !Uib branch.

The constituent order in the varieties of the Taa language complex is SVO (Güldemann 2013a, 408, Güldemann & Naumann 2015). Whereas a number of elements, such as particles marking TAM and sentential adverbs, can intervene between the subject and the verb, the object directly follows the verb, as in (15a).

Apart from regular transitive verbs taking an unmarked direct objects, a large class of two-argument verbs takes prepositionally marked arguments. For instance, in the West !Xoon dialect apart from semantically specific prepositions, such as the comitative "/"M,7 the similitative kuM, and the dative nM, the patient arguments of a substantial number of verbs are marked with the oblique preposition kM, as in (15b), or with another oblique preposition sM, as in (15d).8 These prepositions are also used to mark adjuncts, as e.g. kē nǀāhè ‘to the house’ in (15a). The verb indexes the direct object (see Section 5.2 for the description of the system of gender agreement), as in (15a), whereas any prepositionally-marked patients are not indexed on the verb, as in (15b–15d).

(15) West !Xoon (Taa, Taa-Lower Nossob; Tuu; Güldemann & Naumann 2015)

- a. È ā qhrē ġāq̩-i ntáqī ā Oāk ē kē nǀāhè.
  3ii PST noon.3i pull-1 hartebeest(1) GEN:1 meat(1) OBL:3i house(3i)
  ‘He pulled the meat of the hartebeest to the house at noon.’

- b. Ň sī nǀāmī kē ī"oyè
  1sg IPFV throw OBL:3i stone(3i)
  ‘I throw a stone.’

- c. Ė sī sā̂"è Oqāqē kē nǀāhè txāè.
  3ii IPFV go COM:3i child(3i) OBL:3i house(3i) big:3i
  ‘She goes with the child to the big house.’

- d. Ň ī"ūn sā-è qôyè ā Oāk.
  1sg hate OBL2:3i ostrich(3i) GEN:1 meat(1)
  ‘I hate/don’t like the meat of the ostrich.’

The majority of modifiers (adjectives, demonstratives, and relative clause), follow the head noun, as e.g. nǀāhè txāè ‘house(3i) big:3i’ in (15c). The possessor, however, precedes the possessee, as e.g. ntáqī ā Oāk ‘hartebeest(1) GEN:1 meat(1)’ in (15a) and

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7 M stands for mora, it can be filled with either a vowel or a nasal.
8 Güldemann & Naumann (2015) refer to the two usages of kM as transitive and multi-purpose oblique marking respectively, and call sM the external object preposition.
qóyè ǀΩdì ‘ostrich(3i) GEN:1 meat(1)’ in (15d). Two possessive constructions are distinguished: the unmarked construction for inalienable possession and the construction with the genitive preposition for the alienable possession, as in (15a) and (15d) (Güldemann, 2013a, 414).

As was discussed in Section 5.2, the Taa-Lower Nossob languages have an intricate system of gender and certain elements, such as adjectives, prepositions, relative clause marker, as well as third person free pronouns and enclitics carry morphological features of the related nominal expressions. Whereas the relative clause marker and the adjectives, as in (15c), follow the nominal expression which triggers agreement, other elements precede the respective nominal expression. What is typologically unusual about the agreement system in the Taa language complex is the fact, that the nominal which triggers agreement is not necessarily a direct syntactic dependent of the agreeing clitic host or the syntactic head of the respective noun phrase. Rather the pure linear proximity determines with which nominal expression the agreeing element will agree (see Güldemann 2013a, 414–415). Thus, in (15d) it is the linear closest dependent (or the possessor) of the possessive noun phrase qóyè ‘ostrich(3i)’ and not the remote head (or the possessee) Ωdì. ‘meat(1)’ which triggers agreement on the oblique preposition sá.

We will now turn to the Nǁng language of the !Ui branch of the Taa language family. Similar to the Taa-Lower Nossob, Nǁng has a rigid SVO word order (Collins & Namaseb 2011, 9). Both the subject and the direct object are almost always present in a clause. In a transitive clause, the direct object directly follows the verb. Only a dative-marked argument (a recipient with three argument verbs or a beneficiary in the case of applicative derivation) can stand between the verb and the direct object. The subject and the direct object do not carry any case marking, nor do they trigger agreement on the verb. The recipient argument of three-argument verbs is marked with the dative suffix -a, as in (16b).

Similar to the situation described above for the Taa language complex, Nǁng has a number of verbs with obliquely marked arguments, as in (16c–16d). (Many more examples are available online in Ernszt et al. (2013.).)

(16) Nǁng (!Ui, Taa, Ernszt et al. 2015, 186, Ernszt et al. (2013))

a. ̣A  si ǁhaa ng ka-khiin.
   2SG IRR break 1SG PL-leg
   ‘You will break my legs.’

b. Ku  aa ǀhuunsi-a ǂxani-si.
   3HUM.SG give Boer-DAT letter-SG
   ‘He gives the letter to the Boer.’

c. ǂOo ke ǀlauke-a  ng ǂoo a ko.
   man FOC become.frightened-PFV OBL man this other
   ‘The man is afraid of the other man.’

d. Maar ǂaa’a ǂqala’a n/a ǂuu.
   but PROH speak COM/INS person
   ‘But don’t speak with anybody!’

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As has been mentioned in Section 5.2, noun modification is realized primarily via relative clauses which follow the noun they modify. The lexical items which regularly occur post-nominally in a modifying position are the lexeme nǀain ‘big, large’, ko ‘other’ and the demonstratives, illustrated in (16c) (own fieldwork, Collins & Namaseb 2011, 35–44). The pronominal possessor (the basic form of the personal pronoun without a click, cf. Section 5.2) in a possessive noun phrase precedes the possessee, e.g. ng luun (1SG grandfather) ‘my grandfather’. In the possessive noun phrase with a nominal possessors, the possessor also precede the possessee. Additionally, the particle si can be used between the possessor and the possessee, it is more common with kinship terms.

6.3 Kx’a languages

ǂHoan is a SVO language, there are both postpositions and prepositions, true adjectives, demonstratives, numerals and relative clauses follow the nouns they modify, whereas possessors precede the possessee, see examples in (17) for some illustrations (Collins & Gruber, 2014). Different constructions are used for alienable and inalienable possession. In the majority of cases, subjects and objects are neither marked, nor do they trigger agreement on the verb apart from the few cases of verb suppletion and prefixation for number. This being said, there is a postposition called subject marker in Collins & Gruber (2014, 21–22), which occurs both in clauses with verbal predication and non-verbal predication, however, the details of its distribution are still unclear. Additionally, the theme argument of the non-subject arguments of three-argument verbs and the original patient of the verb in the causative construction, as well all sorts of adjuncts, as in (17b), are marked with the oblique preposition ki referred to as linker in Collins & Gruber (2014, 141–144), see also Collins (2002, 2003).

(17) ǂHoan (ǂ’Amkoe, Kx’a, Collins & Gruber 2014, 139, 142)

a. Yȁ 3SG PROG ǃâm 1SG.GEN ːsi POSS gȍme cow qaẽ three which REL PL-red
   ‘He wants my three cows.’

b. Yȁ i PST ǂhā yȁ 1SG.OBL ǂkɔ̀a house kì ǂqhũ-ka.
   ‘He thatched his house with grass.’

The basic word order in Southeastern Ju is SVO, there are different constructions for alienable and inalienable possession. Pro-drop is common and a sole verb often constitutes a clause (Pratchett, 2017, 101). The few true adjectives, numerals, quantifiers and relative clauses follow the nouns they modify, whereas possessors and nominal modifiers precede the head noun (Pratchett, 2017, 67–68, 120–121).

At most two constituents – a subject and a direct object – can occur in a clause with an underived simplex verb. If a clause contains an adjunct, as in (18), or another argument in case of semantically three-argument verbs, the verb is obligatorily marked with the applicative suffix -a (called valency-external clitic in Pratchett 2017 and transitivity suffix in Dickens 2005) or a compound verb is used instead, as in (18b). Additionally,
if two constituents (arguments or adjuncts) follow the verb, the second one – often an
adjunct – is marked with the oblique preposition kò, as in (18b). The overall argument
and adjuncts marking profile of Southeastern Ju is in many respects similar to the one in
ǂHoan, though there is nothing comparable to the verbal -a suffix in ǂHoan (cf. Collins
2003).

(18)  Groot Laagte ǂKx’aolj’ae (Ju, Kx’a, Pratchett 2017, 103)
    a. Gòȁq-à tô’à mì kòh cínñá gè-à skórè.
        long.ago.3 DIST 1SG PST still stay-APPL school.3
        ‘Long ago, I was still at school.’
    b. Hȁ nîôá jxô ôlá kò nîâí
        PRO1 cook INS meat.3 OBL oil.3
        ‘He is cooking the meat in oil.’

Other characteristics of the Southeastern Ju syntax include the presence of the se-
erial verb construction. Polar questions are formed with the help of the interrogative
particle. Nonverbal predication require the use of a copula.

7 Conclusions

The present article provides a highly condensed overview of the major typological char-
acteristic of the three Khoisan linages, viz. Khoe-Kwadi, Kx’a, and Tuu. The overview
highlights those characteristics which are typologically rare and identifies features
which languages from different Khoisan linages have in common. Despite the many
similarities, the present state of description and reconstruction does not allow to postu-
late any higher order genealogical groupings beyond the five lineages listed in Table 1.
Any similarities across these five lineages are for now to be accounted for by reference
to language contact. Specifically, it has been proposed to account for the similarities by
suggesting the existence of a linguistic macro-area referred to as the Kalahari Basin area
(Güldemann, 2014a, 18–24), as well as a number of small-scale areas where languages
from two or three different Khoisan lineages have been in long-term contact.

The overview also made clear that there is still a number of open questions pertaining
to the genealogical classification of the Khoisan varieties. Despite an immensely
improved state of the documentation and description of the Khoisan languages dur-
ing the last years, most Khoisan languages are still under-described. Also a substantial
amount of the archival resources or by now extinct varieties are waiting to be included
into the considerations of genealogical relatedness. In addition, the accounts of gram-
matical phenomena with a probabilistic and not rule-based distribution, some of which
have been mentioned in the present articles, require substantial corpora to attempt any
conclusive analysis, the accounts of these phenomena are thus still rather preliminary
and inconclusive. The improved state of description might one day allow one to argue
for higher-order genealogical relatedness between some or all of the five Khoisan lin-
eages. On the other hand, the exact genealogical position of the many extinct Khoisan
languages will probably never be satisfactory answered.
References


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