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A Grammar of Ts'ixa (Kalahari Khoe)

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A Grammar of Ts'ixa (Kalahari Khoe)

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Abstract

Ts'ixa is an endangered language of northern Botswana. It belongs to the Kalahari branch of the Khoe-Kwadi language family and is nowadays spoken by a small community of 200 individuals residing in the village of Mababe, Ngamiland. The internal affiliation of Ts'ixa within Kalahari Khoe is not clear, as the language displays affinities to both the western Kalahari Khoe language Khwe and the eastern Kalahari Khoe language Shua.

The present work is the first attempt at providing a systematic description of Ts'ixa, based on phonological, morphological and syntactical features. Data from related Khoe languages, as well as from unrelated "Khoisan" languages of the Kx'a and Tuu families is used to locate Ts'ixa in both a genealogical and an areal framework. Findings suggest that Ts'ixa was shaped by a history of migration and contact between both related and unrelated languages, leading to a unique profile different from both Khwe and Shua, but with strong typological affinities to the Kalahari Basin as a linguistic area.

Zusammenfassung

Ts'ixa ist eine bedrohte Sprache aus dem Norden Botswanas. Es gehört dem Kalahari-Zweig der Khoe-Kwadi Sprachfamilie an und wird gegenwärtig von einer kleinen Sprechergemeinschaft, bestehend aus etwa 200 Individuen gesprochen, die alle in dem Dorf Mababe in Ngamiland leben. Die Klassifikation von Ts'ixa innerhalb der Kalahari Khoe Gruppe ist unklar, da die Sprache Merkmale der West Kalahari Khoe Sprache Khwe und der Ost Kalahari Khoe Sprache Shua aufweist.

Die vorliegende Arbeit ist der erste Versuch einer systematischen Beschreibung des Ts'ixa, basierend auf phonologischen, morphologischen, und syntaktischen Merkmalen. Daten aus verwandten Khoe Sprachen, wie auch aus unverwandten "Khoisan" Sprachen der Kx'a und Tuu Familien werden herangezogen, um Ts'ixa in einem genealogischen, sowie in einem arealen Rahmen zu verorten. Die Ergebnisse legen nahe, dass Ts'ixa durch seine Migrations- und Kontaktgeschichte mit verwandten und unverwandten Sprachen geprägt wurde. Dies führte letztendlich zur Entstehung eines spezifischen Profils, das sich durchaus von den Nachbarsprachen Khwe und Shua unterscheidet, gleichsam jedoch starke typologische Affinität zum Kalahari Becken Sprachbund aufweist.

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Abbreviations

I	gender-number series I	INT	intensification
II	gender-number series II	IPFV	imperfective
1	1 st person	ITER	iterative
2	2 nd person	J	junction
3	3 rd person	JVC	junction-verb construction
A	agent	LOC	locative
ABL	ablative	M	masculine
ACC	accusative	MPO	multipurpose oblique
ADV	adverbial	N	noun
AG	agentive	NEG	negation
ALL	allative	NMZ	nominaliser
ASSOC	associative	NOM	nominative
ATTR	attributor	NP	noun phrase
BEN	benefactive	O	object
C	common gender or consonant	OBL	oblique
CAUS	causative	OBLG	obligation
C.EXP	counter expectation	PASS	passive
CL	clause	PFV	perfective
CONJ	conjunction	PL	plural
COM	comitative	PN	personal name
COMP	complementizer	POSS	possessive
COMPL	completive	PRF	perfect
CONJ	conjunction	PRIV	privative
COP	copula	PROG	progressive
DS	different subject	PST	past
DAT	dative	PST1	same day past (anterior)
DEM	demonstrative	PST2	recent past (anterior)
DIM	diminutive	PST3	remote/general past (anterior)
DIR	directive	Q	question
DISJ	disjunction	QUOT	quotative
DIST	distal	RCPR	reciprocal
DU	dual	REF	referential
DUR	durative	REFL	reflexive
EMPH	emphatic	S	subject
EXIST	existential	SEQ	sequential
F	feminine	SG	singular
FREQ	frequentative	SS	same subject
FUT	future (posterior)	STAT	stative
GN	geographical name	SUBJ	subjunctive
ID	identification marker	SVC	serial verb construction
IMP	imperative	TAM	tense-aspect-modality
		V	verb or vowel
		VOL	volition

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1 Background of the present study

The present study intends to provide a linguistic description of Ts'ixa, a highly endangered Khoisan¹ language of northern Botswana. Ts'ixa belongs to the Kalahari Khoe branch of the Khoe-Kwadi language family (cf. Güldemann & Vossen 2000; Vossen, ed. 2013) and has been classified as a dialect of the Eastern Kalahari Khoe language Shua (Köhler 1971, 1975, 1981a; Vossen 1997).

The Ts'ixa speech community comprises about 200 speakers who reside in the small village of Mababe, located on the eastern fringe of the Okavango Delta. They constitute a foraging society and belong to the ethnically diverse grouping commonly referred to as “San”, “Bushmen” or “Basarwa”. Although they no longer subsist on hunting and gathering, they neither practice agriculture nor pastoralism and still reside close to their traditional hunting grounds.

1.1 Nomenclature

1.1.1 The term “Ts'ixa”

Ts'ixa as a name for the language and speech community only became known to a wider Africanist public when Köhler (e.g., 1962, 1971) started using it after his survey of the Khoe languages undertaken during the 1950s. Vossen (1997), a student of Köhler's, proceeds to use Ts'ixa, but notes that the speakers do not use it as a term of self-reference. While there appears to be some controversy with regards to the actual origin of “Ts'ixa”, it seems possible that the term emerged among the Buga of the neighbouring village Khwai (cf. Map 2 below). In Buga, as in other dialects of Khwe, *ts'í-xà* ‘buttock-ASSOC’ translates as ‘with/having buttocks’. While *ts'í*, in modern Ts'ixa, is a derogative term for the female reproductive organ, people are well aware of its meaning in Khwe and usually take this particular etymology as a compliment to the beauty of Ts'ixa women. It has also been suggested that the term denotes what the anthropologist H.-J. Heinz (n.d.) described as

¹ In this work, “Khoisan” is understood as a cover term for the non-Bantu, non-Cushitic click languages of southern and eastern Africa (cf. Güldemann 2014 for a thorough discussion). It does not imply a genealogical unit in the sense of Greenberg (1963).

“more marked Bush features”, i.e., a perceived resemblance to the phenotypical features commonly associated with the “San” of the Central Kalahari, rather than with those of the Okavango Delta (see also §10.5.2).

Other etymologies proposed include a Bantu term for ‘loincloth’, and the expression *tsé-xà* ‘ours’, which is used as a term for ‘friend’ by some Eastern Kalahari Khoe speaking groups (cf., e.g., Westphal’s Ganade, n.d.a, field notes). However, most speakers pronounce *Ts’ixa* with a clearly audible ejective, suggesting that the Buga etymology is at least partly true.

The residents of Mababe accept *Ts’ixa* and agreed to its use in the present study during a community workshop held in 2011. Still, the more common term of self-reference is *Xuukhoe* ‘people left behind’, a rather broad ethnonym roughly equalling “San”, which is also in use among Botswanan Khwe-speakers.²

1.1.2 Terms of self-reference and ethnic diversity

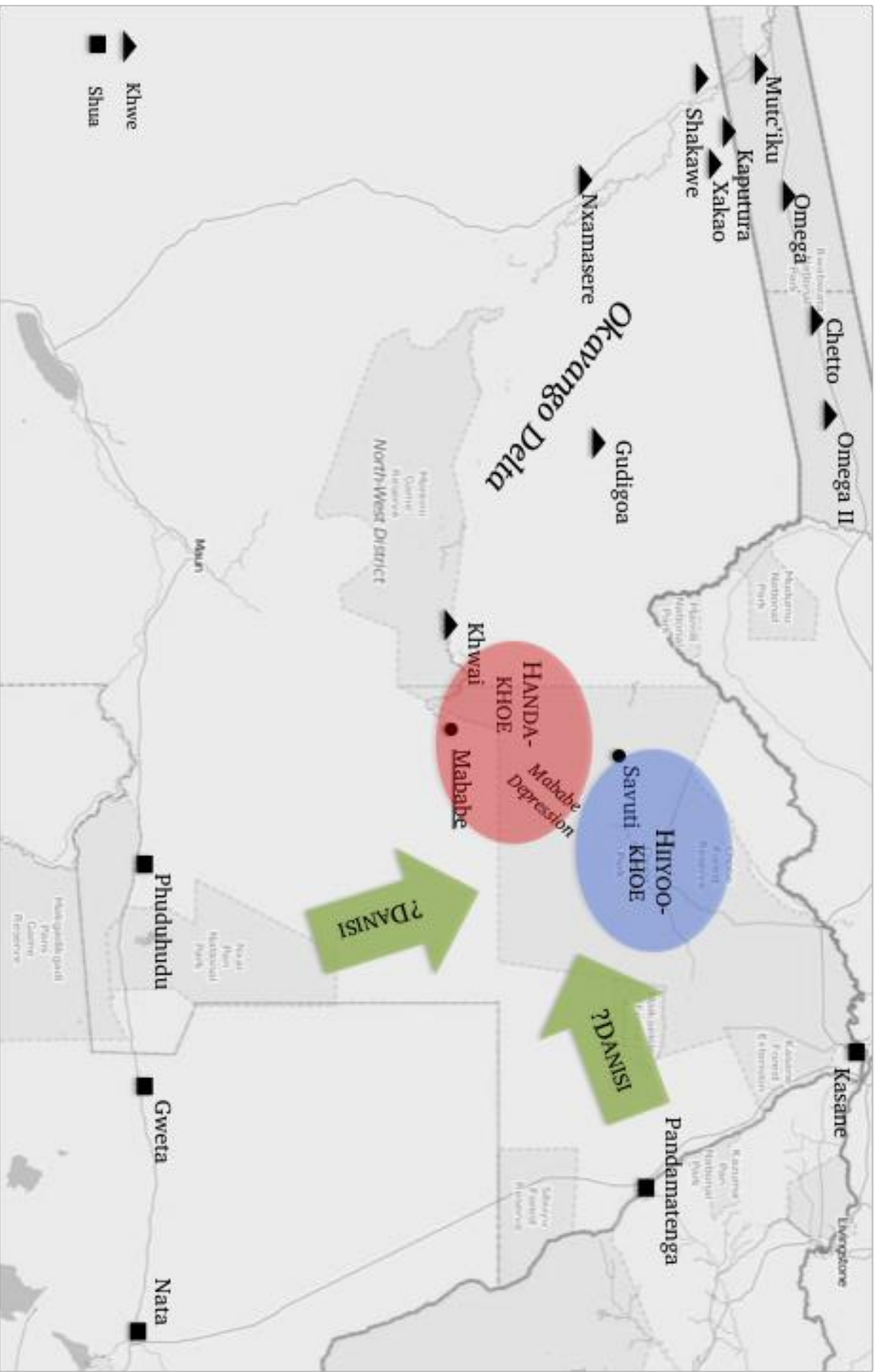
The *Ts’ixa* language is sometimes referred to as *Handakhoedam* ‘language of the Handa’, which is also the term found in Westphal’s (1971) study. However, while most speakers of *Ts’ixa* agree that the group referred to as *Handakhoe* ‘people of the planes’ are the “owners” of the language, they only make up a small part of the total speech community. Other speakers consider themselves to be *Hiiyookhoe* ‘people of the forest’, and yet others use *Danisi* to refer to their ethnic affiliation.

It should be noted that Vossen (1997) refers to one dialect of Shua recorded in Mababe as “Danisi”. During a survey undertaken in 2013, W.B. McGregor and the present author found “Danisi” to be the most widespread term of self-reference among speakers of Shua dialects, encompassing a rather wide range of dialectal variation. The term *Shua*, since Köhler (1971, 1975, 1981a) commonly used to refer to the dialect cluster, is the name of a river in the Nata area and appears to be restricted to Eastern Kalahari Khoe speakers living in its immediate neighbourhood. In general, the dialectal variation present amongst speakers who refer to themselves as Shua seems negligible, compared to the variation found amongst speakers who consider themselves to be “Danisi”. It therefore seems reasonable to assume that the “Danisi” of Mababe are simply people who trace their origins to groups further east,

² Speakers of Shua dialects more commonly refer to themselves as *Kuakhoe* ‘slave people’.

rather than (former) speakers of one particular dialect of Shua. Vossen's (1997) "Danisi", while quite distinct from his Ts'ixa data, still appears to be in line with the idiolectal variation found in the village. Nevertheless, it is not disputed here that the idiolect of his informant, Mr. Pekenene Mosesane, displays features of Shua dialects spoken to the east of Mababe, particularly the variety spoken at Pandamatenga. In the present sample, the majority of speakers of Ts'ixa referring to themselves as "Danisi" obviously had no working knowledge of any Shua dialect and failed to produce or understand previously identified lexical isoglosses. It is therefore suggested here that "Danisi", in Mababe, is a term referring to a speaker's not so distant ethnic origin and heritage, but not a linguistic label.

Much the same applies to *Hiiyookhoe*, which, according to the present author's consultants, is a slightly more specific term to refer to the Khoe-speaking residents of the area east of modern-day Savuti. One of the villagers identifying himself as Hiiyookhoe claimed that at some point in the past, Hiiyookhoe and Handakhoe met and eventually came to settle in Mababe together. He believed that at this point, the Handakhoe were exerting dominance over the Hiiyookhoe, who consequently came to adopt their language. Nowadays, the Hiiyookhoe of Mababe do not display any specific idiolectal features that would link them to groups further east. The term of self-reference itself is not helpful either, as 'people of the bush' is a quite common way to refer to people via their habitats (compare also Dornan's (1917) *Hiechware* < *hii-tshoa-re* 'forest-person-PL'). It is therefore impossible to state with any degree of certainty whether the Hiiyookhoe actually abandoned their ethnic language / dialect in favour of Ts'ixa, and, if yes, what language / dialect group they originally belonged to.



Map 1: Geographical location of Mababe, including the village's ethno-linguistic environment and population makeup

As should have become apparent from the above discussion, what is here referred to as “Ts’ixa” is not an ethnically homogenous group. Although it appears that the people now residing together in Mababe have been interacting for a rather long time, they not only remember, but insist on their ethnic diversity. However, their geographical and linguistic origins are often matters of speculation, rather than of actually retained knowledge. Table 1 summarises the tentative findings obtained through interviews with more than 30 individuals, recorded between 2011 and 2013 in Mababe.

Table 1: Ethnic composition of the Ts’ixa speech community

	GEOGRAPHIC ORIGINS	ORIGINAL LANGUAGE
<i>Handakhoe</i>	Mababe depression, Savuti	Ts’ixa (= Handa)
<i>Hiiyookhoe</i>	?Area east of Savuti	Unkown
<i>Danisi</i>	“From the east”, more generally from Shua-speaking areas	Shua (dialect unknown)

1.2 Origins and historical distribution

Most speakers of Ts’ixa agree that their language originated among those villagers referring to themselves as *Handakhoe*. As the name ‘people of the planes’ already suggests, their homelands lie in the Mababe depression northeast of the present settlement. Neither *Handakhoe* nor Ts’ixa are listed in the older literature on San cultures and languages, but it is clear from travelling accounts of the 19th century that the depression was indeed home to foraging groups:

Towards the end of June I reached some large vleys that are situated near the northern end of the large open plain known to hunters as the Mababi flat. [...] I soon had a lot of Bushmen and their families camped round my waggon all eager for meat; and as I found them most anxious and willing to show me game, and they carried in all the meat I wanted for myself, I gave them a very liberal supply for themselves. (Selous 1907: 141)

In due course we reached the famous Mababe Flats [...] As there were many Bushmen villages hereabouts, and as we were dependent upon them for guides, it was necessary to feed them all, and they got through an immense amount of meat. I doubt if they had ever had such a good time since Selous’ visit. (Williams 1913: 352)

It is evident from Selous’ account that the people he encountered spoke a Khoe language:

The Masarwa [San] in the Mababi undoubtedly spoke the same language as those living only a couple of days’ journey farther north, with whom I heard my boy John [a Korana] talking in 1874, and these latter, according to John, spoke the same language as the Bushmen living in the Limpopo valley near the mouth of the Shashi. Farther west, I have

listened to Tinkarn conversing not only with the Masarwa of the Mababi, but also with Bushmen living on the Botletlie river, and in many places in the desert between there and Shoshong, and also with some of these people living on the Limpopo. Tinkarn told me that he had learned the language of the Bushmen when he was a child, and I always thought that he spoke to all of them in the same language, not in a number of dialects. At any rate, he was perfectly fluent with all of them. (Selous 1907: 335-6)

While it seems puzzling that Selous' companion apparently thought the Handakhoe spoke the same language found with people further north in the Limpopo valley, this shall not concern us here. What seems important for the discussion of the Handakhoe's geographical origins is the presence of Khoe-speaking groups in the Mababe depression since at least the middle of the 19th century, thus substantiating the Handakhoe's claim to be the original dwellers of the area to the northeast of the present settlement. Incidentally, this renders them the westernmost of the groups making up the population of modern-day Mababe (cf. Map 1). Unlike Danisi and Hiiyookhoe, the Handakhoe consider Handakhoedam or Ts'ixa to be their ethnic language. This is also reflected in Westphal's (1971) classification, which refers to Ts'ixa as "Handa".

The history of the Ts'ixa as a group, and how they came to live together in their present form and social makeup, is difficult to grasp. When, in 1967, the Chobe National Park was established, the Ts'ixa had already been using Mababe and places in its immediate neighbourhood as semi-permanent settlements. However, with the park's establishment, they were effectively cut off from the various places they used to return to for hunting and gathering. Village elders still remember a wide range of place names, most of them associated with waterholes between modern-day Moremi Game Reserve in the west, and Savuti in the northeast (cf. Map 2). Despite the claims made above about the origins of Hiiyookhoe and Danisi, the data recorded does not include any reference to places east of Savuti. Indeed, places remembered by Shua speakers at Nata and Pandamatenga were not recognised by Ts'ixa speakers and *vice versa*, shedding doubts on a more profound interaction between the Ts'ixa and their eastern neighbours in the recent past. Table 2 below provides a list of place names remembered by speakers of Ts'ixa.

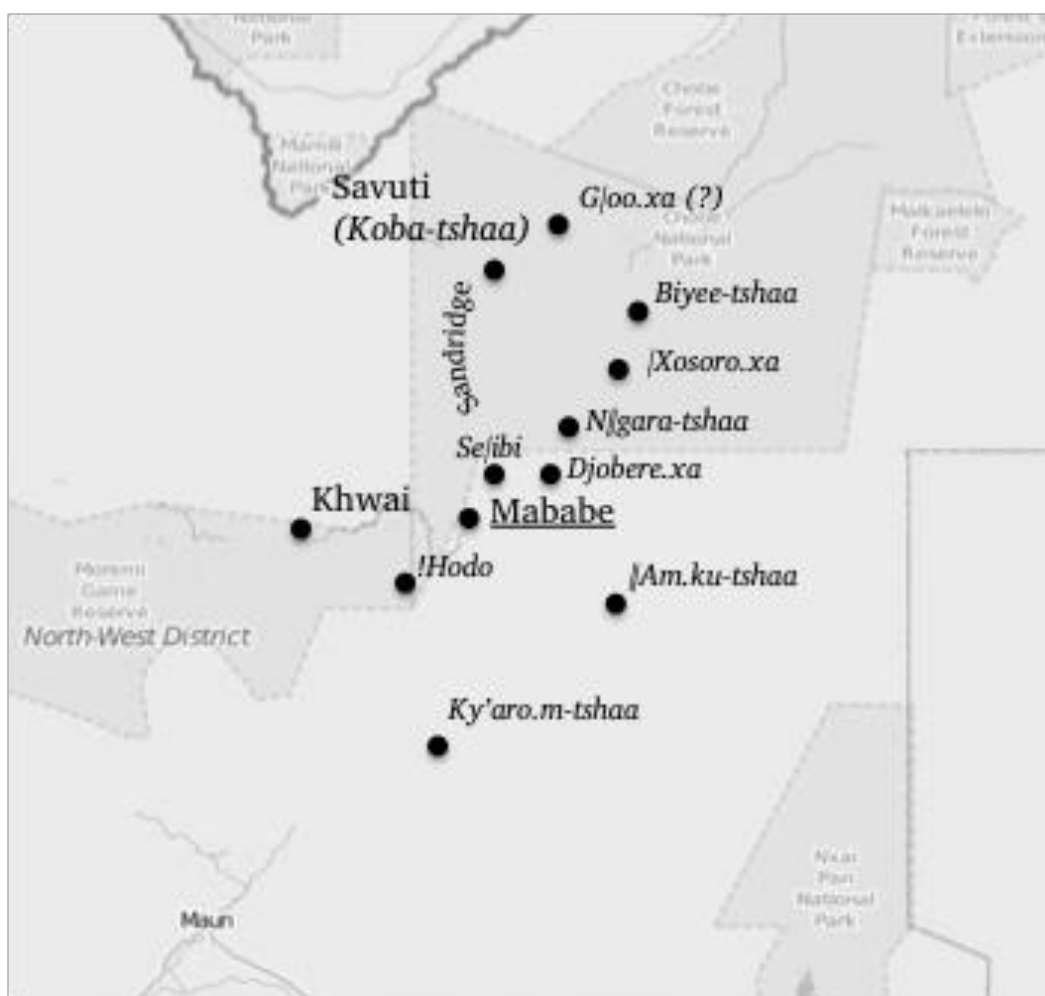
Table 2: Geographical names referring to places between modern-day Mababe and Savuti

PLACE NAME	TRANSLATION (AS GIVEN BY SOURCE)	ORIGIN	APPROXIMATE GEOGRAPHICAL LOCATION
<i>g/óò-xà</i>	none given	< Khoe ? (-xà 'with', 'ASSOC')	group of hills in Chobe National Park
<i>/xó sóro-xà</i>	none given	< Khoe ? (-xà 'with', 'ASSOC')	place to the northeast of Mababe, near Savuti
<i>‡?áń-!óò</i>	'elder brother'	< Ju 'hoan <i>!ó</i> 'elder brother' (Dickens 1994: 315) ?	hill near modern-day Savuti
<i>!hódò</i>	none given	< Ts'ixa <i>!hóó</i> 'to lash' ?	place on the eastern fringe of the Moremi Game Reserve which holds water in the dry season
<i>!xurń-!xau</i>	none given	< Ju 'hoan <i>!xòm</i> 'river' (Dickens 1994: 320), <i>!xàò</i> 'hippopotamus' (Dickens 1994: 319, also Ts'ixa) ?	place near Savuti (?)
<i>//ám-kù-tshàà</i>	'whisper to e.o.-water'	Ts'ixa	pond to the southeast of Mababe
<i>n//gárá-tshàà</i>	'sand-water'	Ts'ixa	pond to the northeast of Mababe, about 30 kilometres from the village
<i>n//údzò</i> <i>n//ú-tsòò</i> <i>n‡ú-tsòò</i>	none given	< Ju 'hoan <i>zó</i> 'honey' (Dickens 1994: 95), <i>n//ó</i> 'eat hungrily, gobble' (Dickens 1994: 257) or <i>n//òq</i> 'place, territory' (Dickens 1994: 258) ? < Ts'ixa <i>tsóò</i> 'magic', possibly a reinterpretation	place in Chobe National Park where an abundance of honey and fruit could be gathered
<i>ky'árò-ìl/</i> <i>ky'árò = ì-</i> <i>tshàà</i>	'buffalo thorn-tree', 'buffalo thorn-water'	Ts'ixa	pond to the south of Mababe, on the road to Maun
<i>djobé-ré-xà</i>	'a place with cows'	< Shua <i>djobé</i> 'cow', <i>ré</i> 'PL', -xà 'ASSOC'	hunting camp near Mababe, on the fringes of the depression
<i>gám-kù-tshàà</i>	'throw at e.o.-water'	Ts'ixa	pond in Chobe National Park
<i>kóbá-tshàà</i>	'Yeyi-water'	Ts'ixa	old name of Savuti
<i>kurumatsángà</i>	none given	< Bantu (Kalanga) ?	place to the northeast of Mababe
<i>ngyúú-/àà</i>	'black-bush'	Ts'ixa	pond in the Mababe depression

<i>situngú</i>	none given	< Bantu ?	former settlement some kilometres to the east of modern-day Mababe
<i>se bí</i>	none given	< Bantu ? (possibly a reinterpretation of a “Khoisan”-word)	former settlement only few kilometres north of modern-day Mababe
<i>táń- àrà</i>	‘get up-refuse’	Ts’ixa	pond near Savuti, said to be unreachable
<i>xarń = dzi-tshàà</i>	‘lionesses-water’	Ts’ixa	pond near Mababe, on the way to

While some of these place names, like *gáń-kù-tshàà* ‘throw at e.o.-water’ or *ngyúú-|àà* ‘black bush’ are easily identifiable as originating from Ts’ixa or at least a closely related Khoe language, others, like *ǃáń-!óò* or *!hódò* are etymologically opaque. Speakers usually fail to translate them, or state that these names are from a different language. The fact that people are using some of them without actually understanding their meaning is also mirrored in the variation found in their pronunciation. *n||údzò*, *n||ú-tsòò* and *nǃú-tsòò* are all variants of one and the same place name, given by different speakers.

When taken together, the places frequented by the Ts’ixa all border on what is nowadays known as *Magwikwe Sandridge*, a wide, sandy area with little vegetation and wildlife. The Ts’ixa would therefore have moved between the Savuti marshes and the Okavango swamps, possibly following wildlife frequenting the same route.



Map 2: Approximate location of some of the temporary settlements and camps remembered by present speakers of Ts'ixa (in italics)

During a 2013 survey of Khoe languages spoken in northern Botswana, no other group was found laying claims on, or at least making reference to the same area. It may therefore be assumed that the Ts'ixa of Mababe are indeed all that remains of the Khoe speakers Selous (1907; see above) and others encountered in what is now the western part of Chobe National Park. The question whether the Hiiyookhoe and Danisi nowadays residing in the village were a long-term part of this network, or rather constitute a more recent migration from further east cannot be answered convincingly at this point.

1.3 Previous research and classification

Greenberg (1963) assumed a genealogical unit “Southern African Khoisan”; this view has been heavily challenged in recent years (see Güldemann 2014 for an exhaustive discussion) and most specialists now assume the existence of three

independent language phylae: Khoe (cf. Vossen 1997), Kx'a (cf. Heine & Honken 2010) and Tuu (cf. Güldemann 2005). Güldemann (2004, 2008) and Güldemann and Elderkin (2010) provide further evidence for a genealogical link between Khoe and the extinct Angolan language Kwadi, leading to the assumption of a Khoe-Kwadi language family of which Ts'ixa is a part.

To this date, no in-depth study of Ts'ixa has been undertaken. Classifications of the Khoe language family, including Ts'ixa, were made by Köhler (1971, 1975, 1981a), Westphal (1963, 1971) and Vossen (1997), based on data collected during their respective surveys. The classification commonly accepted is the one made by Vossen (1997) who based his study on a thorough historical-comparative assessment of the languages in question. According to his findings, Ts'ixa is a member of the Shua dialect cluster that has been influenced by the Buga dialect of Khwe (cf. also Vossen 2011). He thereby perpetuates the findings of Köhler, but contradicts Westphal who – at least from a synchronic point of view – classifies Ts'ixa as a dialect of Khwe.³

Table 3: Previous classifications of Ts'ixa

WESTPHAL (1963, 1971)	KÖHLER (1971/75)	VOSSEN (1997)
SHUA (Tshu-Khwe northern-central; 1.22)	SHUA	SHUA
G oro N oo ʃua ʔaiye Danisi(-n) Tshuma (?) oree haise Tʃidi Mahura (1.23 a Deti)	Shuákhoë ʔAyé Dánisa Tshúmakhoe Koréèkhoe Xáise Tçáítí Húra Tetí <i>Ts'ixakhoe</i> Borekhoe	Danisi Xaise Cara (?) Deti <i>Ts'ixa</i>

³ “[...] originally of the northcentral [Shua] group, according to their history and according to linguistic evidence” (Westphal 1963: 250).

KXOE (Tshu-Khwe north-western; 1.24)	KXOE	KXOE
<i>Handá</i>		
	Galikwe (?)	
	Goëkwe (?)	
	Garikwe	
G ani	Kanikxoe	Ani
Buka	Bogákxoe	Buga
	Búmáxoe	
Xū	Kxoé	Kxoe
		Anda

Güldemann (2014: 27), based on the data collected by the present author, suggests to treat Ts'ixa as a language in its own right and addresses its problematic position between East and West Kalahari Khoe. His suggestion is adopted in the classification given below.

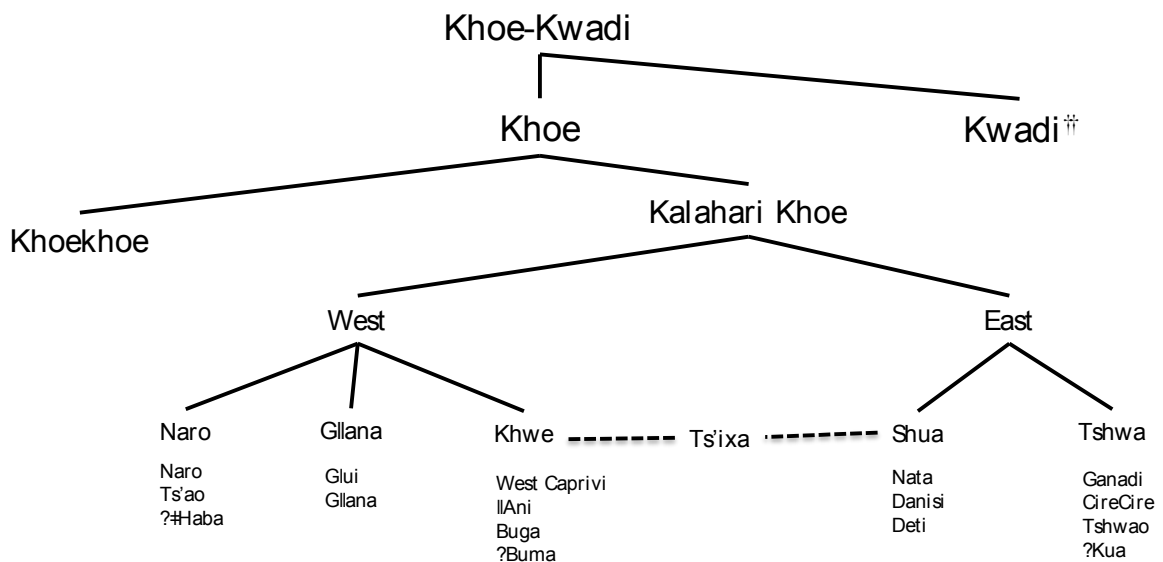


Figure 1: Genealogical position of Ts'ixa within the Khoekhoe-Kwadi family (based on Güldemann & Vossen 2000; Güldemann 2014)

The limited amount of research done on dialectal variation within both Shua and Khwe makes it difficult to provide a more definite statement on the language's historical ties. Nevertheless, preliminary findings based on the present author's own comparative work suggest a tentative link to ||Ani and hence the Khwe cluster and Kalahari Khoe West; this is discussed in more depth in §10 of this study.

1.4 Typological characteristics

Güldemann and Vossen (2000) and Güldemann (1998a, 2014: 17) identify a typological split between Khoekhoe-Kwadi on the one, and the two Non-Khoe phylae

Kx'a and Tuu on the other hand. Although Ts'ixa clearly aligns with other Khoe-Kwadi languages in such pivotal matters as transitive word order, prepositional vs. postpositional phrases and head position in the noun phrase, it also displays a limited amount of features or feature variation that may be ascribed to contact with a Non-Khoe language. Ts'ixa – like, e.g., G|ui (Traill & Nakagawa 2000) and Khoekhoe (Güldemann 2002, 2006) – therefore constitutes a good example for linguistic convergence within the Kalahari Basin Area 'Sprachbund' (see also Güldemann & Fehn, forthc.). In the list of typological characteristics given below, features not found in Khoe but in the Kx'a and Tuu families are marked by *.

- Ts'ixa has a comparatively large phoneme inventory, featuring four distinctive click influxes.
- The preferred phonotactic patterns in lexical root formation are C(C)V₁V₂, C(C)VN and C(C)₁V₁C₁V₂.
- Strong segments like clicks, ejectives and clusters are restricted to C(C)₁.
- Ts'ixa is a tone language, distinguishing three tone levels high (H), mid (M) and low (L).
- Ts'ixa is a gender marking language.
- Ts'ixa uses a set of clitics, the so-called person-gender-number (PGN) markers which attach to nouns and noun phrases. They function as specific articles, case markers and plural markers.
- Ts'ixa makes use of postpositions.
- Noun phrases display head-final constituent order (however, the head may be preposed *).
- Ts'ixa makes use of a rich suffixing morphology in verb derivation.
- Ts'ixa has a special type of complex predicate, here called juncture-verb construction (JVC).
- Transitive clauses commonly display AOV constituent order (evidence from narrative texts however suggests a AOV~AVO * variation which can only partly be explained by pragmatic considerations).
- Ts'ixa displays accusative alignment in transitive clauses.
- Ts'ixa displays non-semantic participant flagging by using a postposition *ka* to mark a wide range of oblique participants.*

- Ts'ixa does not have ditransitive verbs. In semantically ditransitive constructions, one participant is always treated as oblique.*

1.5 Language vitality assessment

At present, competent speakers number less than 200. Most adults use Ts'ixa as an everyday language, although the language most commonly employed to address children is Tswana, Botswana's national language. Due to this fact, alongside the use of Tswana and English as instructional languages at school, most children only retain a passive knowledge of Ts'ixa.

Even though villagers perceive Ts'ixa as their ethnic language, there is considerable idiolectal variation amongst its speakers. While some of it may be explained by speakers' differing ethnic and linguistic backgrounds, signs of phonological depletion between generations (e.g., palatal click replacement, loss of ejective clicks) may be ascribed to a creeping loss of the language.

The latter goes hand in hand with loss of traditional concepts, including communication strategies (Fehn 2012a) and naming patterns (Fehn 2012b).

1.6 The present study

This work intends to provide a description of Ts'ixa, encompassing the language's phonology and morphosyntax. It is based on data collected during fieldwork undertaken between 2011 and 2013 in northeastern Botswana, with a research permit kindly granted by the Government of Botswana. The research was funded by the a.r.t.e.s. graduate school of the University of Cologne, the German Academic Exchange Service (DAAD) and the Humboldt University of Berlin. Research stays lasted from two to three months during which the present author lived with the speech community in Mababe, Khwai and Maun. The corpus collected during fieldwork encompasses elicited data as well as texts and word lists. It was recorded with a wide range of male and female speakers between 15 and 80 years of age. The major amount of elicited data was recorded, discussed and transcribed with the speakers named in Table 4 below, with English serving as meta language. All speakers contributing to the present research are bilingual in Tswana and have some knowledge of the Buga dialect of Khwe.

Table 4: Research assistants with whom data was elicited, transcribed and discussed

NAME	SEX	AGE (IN 2013)	ETHNIC GROUP (CF. TABLE 1 ABOVE)
Tshiamo Kebuelemang	Male	38	Danisi
Maxwell Kebuelemang	Male	36	Danisi
Politics Kebuelemang	Male	40	Danisi
Kgalalelo Barutegi	female	27	Danisi
Arnold Ketapilwe	Male	20s	Handa / Danisi
Steven Momparu	Male	30s	?

Texts from which examples were taken have been collected with the following speakers:

Table 5: Speakers who provided textual data used in this study

NAME	SEX	AGE (IN 2013)	ETHNIC GROUP (CF. TABLE 1 ABOVE)
Maxwell Kebuelemang	Male	36	Danisi
Paulin	Male	30s	Hiiyookhoe
Keabetswe Bathapi	female	70s	Handa
Thabare Kgosi Itsele	Male	70s	Danisi
Idea Newa	Male	50s	Danisi

Tshiamo and Maxwell Kebuelemang further accompanied the present author and W.B. McGregor on a survey of Khoe languages spoken in northern Botswana in May/June 2013 and conducted interviews with speakers of various Shua and Khwe varieties. The data corpus used for the comparative analysis comprises word lists and some grammatical elicitation. Sampled locations (cf. also Map 1) and languages are summarised in Table 6.

Table 6: Datasets recorded during a survey in May 2013 (McGregor & Fehn, field notes)

LANGUAGE	DIALECT SUB-VARIETY	#OF DATASETS	GEOGRAPHIC LOCATION
Shua:			
	Nata-Shua	3	Nata, Pandamatenga
	Danisi		
	North	2	Pandamatenga
	Central	4	Gweta, Phuduhudu
	West	3	Rakops area, data recorded in Nxabe, northeast of Maun
Khwe:			
	Buga	4	Khwai, Gudigoa, Kaputura
	Ani		
	West	1	Xakao
	East	3	Samochima, Nxamasere

When deemed relevant, Westphal's (n.d.b.) fieldnotes and recordings of Ts'ixa and other Kalahari Khoe varieties were consulted. Most of them have been made available online by the Archives of the University of Cape Town and can be accessed at <http://uctscholar.uct.ac.za/>.

The theoretical framework used for this study is what Dixon (1997: 128-135) terms "Basic Linguistic Theory". This approach is widely used in language documentation and focuses on the necessity to describe each language in its own terms. Apart from Dixon's own writings, a wide array of typological literature has been consulted. Nevertheless, the functional categories adopted sometimes fall short to cover linguistic realities and hence necessitate a considerable amount of cross-referencing between chapters. They have still been kept up to facilitate cross-linguistic comparison, especially with regard to the still poorly understood linguistic relationships within the Khoe language family.

As the short duration of the project severely limited the amount of data that could be collected and transcribed, some questions arising during the analysis could not be answered satisfactorily; these instances have been noted in the text. The present author is also aware that this work lacks a comprehensible description of the language's information-structural properties, i.e., the encoding of topic and focus. While both phenomena are referred to in various chapters of the study, in particular with regard to constituent order variation (§6.1), more research would be needed to offer a more satisfying insight.

As the genealogical affiliation of Ts'ixa within the Kalahari Khoe group is still under discussion, the descriptive part is supplemented by a restricted comparative overview (§10.1-4), covering phonology, nominal modification, the encoding of grammatical relations and the lexicon. Although the chapter is by no means exhaustive, it hopefully conveys that the classification of Ts'ixa as a dialect of Shua should be reconsidered. It is further meant to contribute to the ongoing research on convergence phenomena in the Kalahari Basin, with Ts'ixa displaying possible traces of a Kx'a substrate no longer spoken in the area. The study concludes with a brief assessment of clues provided by oral histories (§10.5.1-3) and data from molecular anthropological research undertaken within the framework of the multidisciplinary project "Kalahari Basin Area: A 'Sprachbund' on the verge of extinction" (§10.5.4).

2 Phonology

The present chapter describes distinctive characteristics of the phonological structure of Ts'ixa. After presenting the methodological framework in §2.1, §2.2 will introduce the phoneme inventory of Ts'ixa, describing vowels as well as click and non-click consonants. §2.3 will give an overview of the language's phonotactic structure, and §2.4. will provide a very preliminary overview of Ts'ixa tonology.

2.1 Methodological framework

This section will provide a short introduction to previous studies on the phonology of Ts'ixa and the Khoe languages (§2.1.1) before dealing with orthographic choices (§2.1.2) and addressing questions concerning the collection and analysis of the data this study is based on (§2.1.3).

2.1.1 Previous research on Khoe phonology

Although research on the Khoe family has intensified in recent years, there are only a few in-depth treatments of the phonological properties of individual languages. The majority of existing work focuses on Khoekhoe (Beach 1938, Haacke 1999), and the only Kalahari Khoe language which has been subject of a thorough phonological analysis is G|ui (Nakagawa 2006). Nevertheless, several aspects of Khwe phonology have been described by Köhler (1981b), Elderkin (1986) and Kilian-Hatz (2008), and there is a short treatment of the ||Ani variety by Vossen (1986).

A comparative phonological analysis of all known Khoe languages – including Ts'ixa – is included in Vossen's (1997) historical-comparative work, which also served as a basis for the present study. Reconstruction based on comparative evidence, especially focusing on the Western Kalahari Khoe branch of the Khoe languages, features prominently in the ongoing work of Elderkin (2008, 2014a), and was part of recent studies undertaken by Honken (2012, ms.).

Selected aspects of Khoe phonology were subject to a number of articles (e.g., Traill 1986a, Traill & Vossen 1997), which will be referenced whenever relevant to phenomena observed in Ts'ixa.

My analysis further considers approaches to cross-Khoisan phonology, especially by Güldemann (2001) and Nakagawa (2006).

2.1.2 Phoneme inventory and orthographic choices

To facilitate comparative use of the data, the consonant chart below uses the orthography suggested by Nakagawa (2006) in his cross-Khoisan consonant chart. Note that the voiced uvular stop /g/ has been put into brackets as it should exist for reasons of symmetry, but only featured in three lexemes, one of which appeared to be known to one speaker only.

Table 7: Consonant chart, using Nakagawa's (2006) orthography

SERIES	EXTENDED PLACE OF ARTICULATION											
	Lb	Dt	Dt-Af	Dt-Af-Cl	Al-Cl	Al-Af (Ll)-Cl	Pl	Pl-Cl	Vl	Uv	Gl	
Stop segments	plain	p	t	ts		!		(c)	+	k	q	?
	voiced	b	d	dz	g	g!	g	(ɸ)	g#	g	(g?)	
	voiceless ejective		t'	ts'	!'		'	(c')	ɸ'	k'		
	voiceless aspirated		t ^h	ts ^h	! ^h		^h	(c ^h)	ɸ ^h	k ^h		
Stop cluster	plain + x		tx	tsx	x	!x	x	(cx)	ɸx			
	plain + q				q		q	(qy)	ɸq			
	plain + g				g		g	ɸg				
	plain + ?				?	!?	?	(?y)	ɸ?			
Nasal	voiced	m	n		ŋ		ŋ	(n)	ŋ#	ŋ		
Pre-nasalised		mb	nd		ŋ g	n!g	ŋ g	(nɸ)	ŋɸg	ŋg		
Fricative	voiceless		s							x		h
Tap or Flap			(ɾ)									
Glides		w						j				

(Abbreviations used: Lb = labial, Dt = dental, Dt-Af = dental affricate, Dt-Af-Cl = dental affricate click, Al-Cl = alveolar click, Al-Af (Ll)-Cl = alveolar affricate lateral click, Pl = palatal, Pl-Cl = palatal click, Cl = velar, Uv = uvular, Gl = glottal)

The orthography adopted in this grammar is based on the Applied Community Orthography⁴ in use among both Ts'ixa and Khwe speech communities (cf. Schladt 2000 for Khwe). It largely follows the conventions adhered to by Kilian-Hatz (e.g., 2003, 2008) for Khwe, with two noteworthy exceptions: (1) voicing is noted by <g> before, rather than after the click; this change was necessitated by the need to distinguish a voiced uvular click accompaniment, which, to my knowledge, is not found in Khwe; (2) the glottal stop is written <ʔ>, rather than <'>, as Ts'ixa features ejective clicks which need to be distinguished from clusters with a glottal stop accompaniment. The same consonant chart as above, but using the applied orthography, is given below. Note that no orthographical convention for the voiced uvular stop has been decided upon, as it is not commonly featured in Ts'ixa lexical roots.

⁴ An applied community orthography does not necessarily adhere to phonemic or phonetic realities. The orthography decided upon by the Khwe Speech Community and later adopted by the Ts'ixa is practical in the sense that it enables the speakers to communicate in written form, using their own language. All orthographic choices were made or approved of by the Ts'ixa Language Committee, which was formed during a community workshop held in April 2011.

Table 8: Consonant chart, written in the orthography (cf. Kilian-Hartz 2003, 2008 for Khwe) used in this grammar

SERIES	EXTENDED PLACE OF ARTICULATION											
	Lb	Dt	Dt-Af	Dt-Af-Cl	Al-Cl	Al-Af (L)-Cl	P1	P1-Cl	V1	Uv	G1	
Stop segments	plain	p	t	ts		!		(ky)	†	k	q	?
	voiced	b	d	dz	g	g!	g	(gy)	†g	g	(gq)	
	voiceless ejective		t'	ts'	l'		'	ky'		k'		
	voiceless aspirated		th	tsh	lh	lh	h	(kyh)	†h	kh		
Stop cluster	plain + x		tx	tsx	lx	lx	x	(kyx)	†x			
	plain + q				lq		q	(qy)	†q			
	plain + g				g q		g q		g†q			
	plain + ?				l?	l?	?	(?y)	†?			
Nasal	voiced	m	n		n		n	(ny)	n†	ŋ		
Pre-nasalsed		mb	nd		n g		n g	(ndy)	n†g	ng		
Fricative	voiceless		s							x		h
Tap or Flap			(r)									
Glides		w						y				

The orthography used in this grammar diverts from the Applied Community Orthography in three regards. The first concerns clicks with a glottal stop accompaniment /|ʔ/ and ejective clicks /|ʔ':⁵ As the similarities between both languages, as well as wide-spread bilingualism enable Ts'ixa-speakers to read Khwe written material (including a Bible translation), the Ts'ixa Language Committee decided to disregard phonetic realities and adopt the applied orthography for Khwe, i.e., write <|ʔ'> for /|ʔ'/, and <|x'> for /|ʔ'/, even though it is not entirely clear yet whether the latter is actually a cluster or a complex click in Ts'ixa. Second, the voicing for the voiced uvular click accompaniment /g|q/ is generally realised as nasalisation, followed by what is perceived by the speakers as similar to a velar fricative /x/, rather than a voiced uvular stop /gq/. Hence, what is written <g|q> in this grammar to meet phonemic requirements is written <n|x> by the community. It is due to this choice that the Khwe orthography is also adhered to with regards to the voicing of clicks, which is noted by <g> after, rather than before the click, i.e., <|g>. The orthography used in this grammar and the Applied Community Orthography are contrasted in Table 9.

⁵ Throughout this grammar, the dental click [ɽ] will be used to exemplify click accompaniments.

Table 9: Click accompaniments as represented in the orthography used in this grammar and the Applied Community Orthography, exemplified by the dental click and its accompaniments

		ORTHOGRAPHY USED IN THIS GRAMMAR	APPLIED COMMUNITY ORTHOGRAPHY
Stop segments	plain		
	voiced	g	g
	voiceless ejective	'	x'
	voiceless aspirated	h	h
Stop cluster	plain + x	x	x
	plain + q	q	q
	plain + g	g q	n x
	plain + ʔ	ʔ	'
Nasal	voiced	n	n
Pre-nasalised		n g	n g

Speakers of Ts'ixa distinguish between five different vowel phonemes, with [ɛ] constituting a variant of /e/ which different speakers use in different environments, depending on their idiolectal affiliation (see §2.1.3 below). The orthography used in this grammar matches the orthography used by both Nakagawa (2006) and Kilian-Hatz (e.g., 2003, 2008)⁶.

Table 10: Oral vowel phonemes

	FRONT	CENTRAL	BACK
HIGH	i		u
MID-CLOSED	e		o
MID-OPEN	(ɛ)		
LOW		a	

There are two phonation types: Oral and nasal. In this grammar, nasal vowels are written with a tilde⁷, cf. Table 11.

⁶ Note that neither Kilian-Hatz (e.g., 2003, 2008) nor the Ts'ixa community write the word-initial glottal stop. Though its appearance is mostly predictable, I have chosen to include it to highlight its state as a regular phonemic consonant.

⁷ Note that some orthographic conventions suggested for Khoisan languages (e.g., Güldemann 1998b; Heine 1999 for ||Ani; Naumann, forthcoming) note nasalisation by the letter <n> following the vowel. Whenever examples from works adhering to this convention are cited, the orthography was adapted to match the one used in this grammar.

Table 11: Nasal vowel phonemes

ĩ	ũ
ã	

In addition to the monophthongs noted above, Ts'ixa has nine oral and four nasal diphthongs (or vowel sequences) which will be treated in more detail in §2.2.3.

Ts'ixa is a tone language and has three phonemic tone levels, which are marked as follows:

á	HIGH
a	MID
à	LOW

The Applied Community Orthography does not mark tones, as their notation does not contribute to a better understanding of a written text for the speakers themselves.

2.1.3 Data collection and analysis

The data this phonological overview is based on was recorded with male and female speakers of Ts'ixa in Mababe, northeastern Botswana between 2011 and 2013. The research assistants involved came from different age groups and are representative of three idiolect groups distinguishable in the village. The data this chapter is based on was primarily provided by six speakers which represent the idiolect groups given in Table 12.

Table 12: Idiolect groups in Mababe, according to phonological features

	A	B	C
<i>Palatal click retention</i>	The palatal click is retained in more than 20% of the lexemes included in a 50-item word list	The palatal click is retained in less than 20% of the lexemes included in a 50-item word list (most retentions concern [ɬʔ] and [ɬq])	The palatal click is only retained in a small number of fossilised forms, or not retained at all
<i>ejective click [ʔ] ~ (affricated)velar ejective click cluster [[k(x)ʔ]</i>	All forms featuring [xʔ] in Khwe are realised with weak affrication or delayed ejection		The cluster [xʔ] in Khwe corresponds to a complex click [ʔ]
	A subset of forms displaying [xʔ] in Khwe are realised with weak affrication or delayed ejection		
<i>Affrication of the velar ejective k' (> kx')</i>	Few lexemes, e.g., [kx'uí] 'to talk' or [kx'oó] 'to eat meat'; irregular and idiosyncratic		Not found
<i>Lenition of velar fricative [x] to glottal fricative [h]</i>	Not found	Found with some lexemes, no clear pattern	word-medial /x/ is always realised as [h]; the lenition also affects [x] as part of stop clusters, i.e., /x/ is realised as [h], /tsx/ is realised as [h], etc.
<i>[e] ~ [ɛ]</i>	[ɛ] as reflex of diphthongs [ae] or [ai]; [e] ~ [ɛ] disambiguation also in other lexemes, but no minimal pair		[ɛ] is preferred in most instances, possibly following the Tswana pattern
	[ɛ] as reflex of diphthongs [ae] or [ai]; [e] is preferred after voiceless stops [t, p, k] and after the voiceless alveolar fricative [s]		

Tables 7 and 8 above present a maximal phoneme inventory for Ts'ixa, with all phonemic distinctions only made by a small number of Group A-speakers. A maximum of palatal click retention can be seen in the datasets collected by Westphal (n.d.b) and Vossen (1997), both of which display more than 70% retentions.⁸

The following sections will introduce all phonemic consonants found in modern Ts'ixa, but refer to variation whenever deemed necessary.

⁸ In Westphal's (n.d.b) data (263 item wordlist plus recordings), I counted 15 lexemes with a palatal onset, 3 of which featured a non-click consonant (corresponding to 80% retentions). Vossen's (1997) sample included 31 items with a palatal onset, including 9 with non-click consonants (corresponding to 71% retentions).

All results are based on a computer-aided analysis using three distinctive software tools: The data was cut and edited in Audacity, analysed in Praat, and annotated in Elan.

2.2 The phoneme inventory

In this section, the phoneme inventory of Ts'ixa will be described. After an introduction to the methodological framework used, I will proceed to describe both the consonants and vowels of Ts'ixa.

In my description of the consonantal system (§2.2.2), click and non-click consonants will be treated separately. This choice is motivated by descriptive conventions, rather than by the implication that click and non-click consonants should be treated as separate entities. Indeed, it would seem that there are strong parallels between click and non-click consonants as highlighted by the replacement of clicks by non-click consonants (cf. Traill 1986a, Traill & Vossen 1997, Güldemann 2001). Replacement of both the alveolar and the palatal click series is further explored in §2.2.2.3. The vowels of Ts'ixa will be described in §2.2.3.

2.2.1 Descriptive framework

This study primarily follows Nakagawa's (2006) revised interpretation of the phonological framework introduced by Güldemann's (2001) "cross-Khoisan consonant chart". Khoisan languages are generally thought to have extensive consonant inventories, with some languages of the Kx'a and Tuu families being analysed as having more than one hundred distinctive consonant phonemes. These numbers are produced by a unit analysis of consonants (especially of click-consonants) that treats all complex sounds as single segments (Miller 2011). Following Traill (1985), Güldemann (2001) suggests to treat certain types of complex sounds as stop clusters, thereby considerably reducing the number of distinctive phonemes featured in Khoisan consonant inventories. According to this so-called cluster analysis, a cluster consists of two segments referred to as "onset" and "offset" (Güldemann 2001: 8), both of which constitute separate phonemic entities. This interpretation is followed in this study.

To comply with this analysis, the term "click accompaniment"⁹ is used according to Traill (1985: 99-100) and Nakagawa (2006: 138) in the sense that "it does not necessarily imply that the relevant sounds surrounding the influx are phonologically

⁹ Since Beach (1938), click consonants are analysed as consisting of an "influx" and an "efflux". Traill (1985) was the first to use the term "accompaniment" instead of "efflux".

part of the click”. Hence not only voicing, ejection, aspiration and nasalisation of the click will be referred to with the term, but also pre-nasalisation, as well as plosion or friction in the uvula or glottis following the influx. However, following Güldemann (2001), only the voiced, ejective, aspirated and nasalised clicks will be considered complex consonant phonemes. All other clicks consisting of an influx and an accompaniment will be treated as clusters.

2.2.2 The consonantal system

Nakagawa (2006) lists four classes of consonants for G|ui, which he groups in terms of manner of articulation. These four groups also constitute the phoneme inventory of Ts’ixa: stops, nasals, fricatives and non-nasal sonorants. In addition, Ts’ixa has pre-nasalised stops which fall into three categories: (1) possibly allophonic variants of the nasal click before oral rhymes (cf. Elderkin, n.d.); (2) replacements for pre-nasalised voiced clicks of the alveolar and palatal click series; (3) foreign phonemes only featured in loanwords.

Ts’ixa has a maximum of 67 distinctive consonant sounds, including 16 clusters and 7 pre-nasalised stops. This number decreases to 63 if the pre-nasalised clicks are considered allophones of the nasal click, and further to 61 if [r] and [gq] are not treated as phonemic. Click inventories found with Ts’ixa speakers range from 26 (palatal click retention in fossilised forms only) to 36 (full palatal click retention) distinctive sounds. Again, this number decreases to 32 (23, respectively), if the pre-nasalised clicks and their replacements are not treated as phonemic. Of these clicks and their replacements, 14 are clusters. The working hypothesis of this study is to treat Ts’ixa ejective clicks as complex consonants, but further research might reveal them to be clusters /plain/+ /k’/, thereby increasing the number of consonant clusters found in the language.

It should be noted that the phoneme inventory suggested in this study is substantially larger than the one described by Vossen (1997, 2013a): based on his corpus, he counted 54 distinctive sounds, made up of 27 click and 27 non-click consonants. Reasons for this deviation will be further discussed in §2.2.2.2 of this chapter.

2.2.2.1 Non-click consonants

Table 13 below lists the phonemic non-click consonants of Ts’ixa. The palatal click replacements are not included as they are considered allophones of the palatal click series. They are discussed in §2.2.2.3.

Table 13: The phonemic non-click consonants of Ts'ixa

SERIES		EXTENDED PLACE OF ARTICULATION						
		Lb	Dt	Dt-Af	Pl	Vl	Uv	Gl
Stop segments	plain	p	t	ts		k	Q	?
	voiced	b	d	dz		g	(gq ?)	
	voiceless ejective		t'	ts'		k'		
	voiceless aspirated		th	tsh		kh		
Stop cluster	plain + x		tx	tsx				
Nasal	voiced	m	n			ŋ		
Fricative	voiceless		s			x		h
Tap or Flap			(r)					
Glides		w			y			

2.2.2.1.1 Stop segments

All speakers of Ts'ixa clearly distinguish between four distinctive stop segments: plain (voiceless), voiced, voiceless ejective and voiceless aspirated stops. Examples for different places of articulation are provided in Table 14:

Table 14: Examples of stop segments in Ts'ixa

	EXTENDED PLACE OF ARTICULATION					
	Lb	Dt	Dt-Af	Vl	Uv	Gl
plain	<i>páá</i> 'bite'	<i>túú</i> 'rain'	<i>tsáá</i> 'shine'	<i>káò</i> 'long'	<i>qáré</i> 'sweet'	<i>?abá</i> 'dog'
voiced	<i>baa</i> '(my) father'	<i>dúú</i> 'eland'	<i>dzāá-khòè</i> 'relatives'	<i>gàò</i> 'look'	<i>gqáí (?)</i> 'blue'	
voiceless ejective		<i>t'úú</i> 'pus'	<i>ts'áá</i> 'steal'	<i>k'áò</i> 'male'		
voiceless aspirated		<i>thuú</i> 'night'	<i>tshaá</i> 'water'	<i>khoó</i> 'skin'		

In genuine, non-composed lexical roots, voiceless (plain) stops are restricted to C₁ position (cf. §2.3). There are several lexemes that have /k/ in C₂ position, but all of them are Bantu-loans (e.g., Tswana *noká* 'river', Kalanga *hukú* 'chicken') or lexemes composed from a genuine root and the causative suffix *-kà* (§4.4.2.1.1.2, e.g., *àà.kà* 'bring'). /p/ appears as C₂ in *tsípà* 'zibet cat' (< Tswana).

Among the voiced stops, only /b/ and /d/ can appear in C₁ as well as in C₂ position (cf. 1 below); both /dz/ and /g/ are restricted to C₁.

(1)

C ₁	C ₂
<i>baa</i> 'father'	<i>?abá</i> 'dog'
<i>dúú</i> 'eland'	<i>kadí</i> 'strong'

When in C₂ position, /d/ has the allophones [d] and [r], whereas [d] only appears before a high front vowel. However, there does not seem to be a clear-cut rule to account for the allophony in modern Ts'ixa, as some lexemes show [d] and [r] as free variants while others only accept either the one or the other. It has been observed, however, that while there is a general preference for [r] in C₂ position, some Ts'ixa speakers (mostly Group C, see Table 12) are more likely to use [d] than [r] before a high front vowel. Lexemes that show [d] ~ [r] variation include *khudí* ~ *khurí* 'to end' and /'udí ~ /'urí 'dirty', whereas [r] is never accepted with e.g., //ádì 'to find'.

Aspirated stops and ejectives are restricted to C₁ position. /k'/ is sometimes realised as [kx'], but it could be observed that the variation between [k'] and [kx'] is highly idiosyncratic and only found with speakers of groups A and B (cf. Table 12).

The state of the voiced uvular stop /gq/ has to be considered unclear. The lexeme reproduced in the table is one of three attestations of this sound in the data. It was given by one single speaker and does not appear to have cognate forms in any neighbouring Khoe language. However, /gq/ would be expected to have been present in Ts'ixa at some point, considering that it still exists as a click accompaniment in what appear to be genuine lexical roots (cf. §2.2.2.2.2).

2.2.2.1.2 Stop clusters

Ts'ixa has two non-click stop clusters, [tx] (/t/+ /x/) and [tsx] (/ts/+ /x/). [tx] is alternatively realised as [th] by speakers of Group C, e.g., *txá-rì-sì* 'straight' may be realised as [thá-rì-sì]. It is interesting to note that the same phenomenon can be observed with click clusters involving /x/.

/tsx/ was noted more frequently than /tx/, but is till not a regularly occurring sound in Ts'ixa lexical roots. The phoneme was realised by most speakers as [tʃx], i.e., *tsxáá* 'tired' was commonly realised as [tʃxáá]. It should be noted that speakers of Group C frequently realise the palatal click replacement [kyx] as [tʃx], i.e., *kyxoà* 'elephant' may be realised as [tʃxoà].¹⁰

2.2.2.1.3 Nasals

/m/ and /n/ mostly appear as C₂. The data contains very few lexemes with /m/ in C₁ position, and only loans (e.g., Tswana *noká* 'river', *noxà* 'snake') allow for word-initial /n/, as /m/ and /n/ are not accepted as C₁ of Ts'ixa lexical roots (see §2.3.1).

¹⁰ In the Applied Community Orthography, both /tsx/ and [kyx] are represented by [tcx].

Since diachronically, /ŋ/ is a phonemic replacement for the nasal alveolar click [n!], it is restricted to C₁ position.

Table 15: Examples of nasal segments in Ts'ixa

SERIES		EXTENDED PLACE OF ARTICULATION		
		Lb	Dt	Vl
Nasal	voiced	<i>mũũ</i> 'see'	<i>noká</i> 'river'	<i>ŋũũ</i> 'land'

Only one lexeme of unknown origin, *díŋà* 'wild cat', features /ŋ/ as C₂. The pre-nasalised stop /ng/ goes back to the pre-nasalised voiced alveolar click /n!g/; both are possibly allophones of their nasal counterparts /ŋ/ and /n!/, respectively. In word-initial position, /ŋ/ preferably appears before nasalised rhymes, and /ng/ in all other environments, rendering further support to the hypothesis that they might have started out as allophones, rather than separate phonemic entities.

2.2.2.1.4 Pre-nasalised stops

Lexemes that have /ng/ as C₂ have to be considered loans, although not all of them can be traced to a Bantu language still spoken in the area, e.g., *dóngò* 'abandoned homestead' (possibly from Nambya or a related Bantu language of zone S; J. Wills, p.c.).

The pre-nasalised stops /mb/ and /nd/ are considered foreign sounds as well (cf. Vossen 1997: 116). Vossen (ibid.) further notes /nt/, /ntx/ and /ŋk/, but these were not found in the data collected by the present author. /mb/ and /nd/ were found in C₁ as well as in C₂ position. It should be noted that they are perceived as genuine Ts'ixa sounds by the speakers, probably due to the fact that the donor language is no longer part of their environment.

(2)	C ₁		C ₂	
	<i>mbùrù</i>	'monitor lizard'	<i>gúmbá</i>	'aardvark'
	<i>ndábè</i>	'necklace'	<i>bándà</i>	'courtyard'

2.2.2.1.5 Fricatives

In general, all fricatives seem to be restricted to C₁ in genuine Ts'ixa lexical roots:

Table 16: Examples of fricative segments in Ts'ixa

SERIES		EXTENDED PLACE OF ARTICULATION		
		Dt	Vl	Gl
Fricative	voiceless	sàà 'refuse'	xóó 'hold'	háà 'exist'

There are several instances of /x/ in C₂ position that require explanation. Most of the cases found in the data can be interpreted as lexicalised compounds involving the root *xíù* 'thing'. Along these lines, a lexeme such as *k'oxú* 'meat, animal' can be interpreted as *k'oo* 'eat meat' + *xíù* 'thing' (cf. §3.4.2.2.3). However, no corresponding explanation can be offered for the lexeme *baxá* 'honey'. Word-medial /x/ is realised as [h] by speakers of Group C (cf. Table 12).

/h/ as a phonemic consonant is extremely rare and only occurs twice in the collected corpus of genuine lexical roots (*háà* 'to exist'; *hú* 'to do'). Although [h] is frequently pronounced as onset of various other lexemes, e.g., [háà] 'to come', it is not phonemic in these contexts. This assumption is based on the existence of idiolectal variants, such as [jàà] or [àà] for the lexemes in question. In accordance with these observations, [h], along with [j], is considered a possible realisation of a /zero/-onset in vowel-initial roots (e.g., *àà* 'to come', *ù* 'tree', *aqám* 'toad'). In this grammar, only phonemic /h/ will be noted, including occurrences of /h/ in loanwords, e.g., *hukú* 'chicken' (< Kalanga).

/s/ is generally realised as [ʃ] before (oral) high front vowels, e.g., *sí* 'arrive' is realised as [ʃí]. Speakers of Group C also tend to realise [ʃ] before [u], e.g., *súnù* 'breathe' is realised as [ʃúnù].

My data includes an additional fricative which was also noted by Vossen (1997: 116), namely the foreign phoneme /f/, which only featured in loans from Afrikaans, e.g., *fènstèré* 'window'.

2.2.2.1.6 Taps

As has already been noted, the state of [r] in Ts'ixa requires further research. [r] appears word-medially as an allophone of /d/, but the rules governing the allophony are not entirely clear. Some lexemes seem to allow for [d] ~ [r] variation, while others allow for one variant only. Furthermore, there is variation between Groups A and B on the one hand, and Group C on the other hand (cf. Table 12), which makes

it even harder to determine whether [r] is phonemic in Ts'ixa lexical roots. For the time being, the state of [r] has to be considered unclear.

2.2.2.1.7 Liquids

/l/ is the only liquid to be found in the data. However, it does not feature in genuine Ts'ixa roots, and all occurrences of /l/ in Ts'ixa can be ascribed to loans from either Yeyi or Tswana. /l/ can appear in C₁ as well as in C₂ position:

(3)

C ₁	C ₂
<i>le!úmá</i> 'mouthbow' (< Yeyi)	<i>boló</i> 'ball' (< Tswana)

2.2.2.1.8 Glides

Ts'ixa has both a labial glide /w/ and a palatal glide /y/.

Table 17: Examples of glides in Ts'ixa

SERIES	EXTENDED PLACE OF ARTICULATION	
	Lb	Pl
Glides	<i>wóò</i> 'delouse'	<i>yábà</i> 'love'

Both appear as C₁, and /y/ also appears as glide in C₂ position, but its occurrence is extremely rare.

(4)

C ₁	C ₂
<i>wóò</i> 'delouse'	
<i>yíbè</i> 'axe'	<i>síyò</i> 'cigarette'

2.2.2.2 The click consonants of Ts'ixa

Like all members of the Khoe family, Ts'ixa has a comparatively large phoneme inventory featuring lingual ingressive consonants, i.e., click sounds. Vossen (1997), following the unit rather than the cluster analysis, lists 27 click phonemes for Ts'ixa, based on combinations of four influxes (dental, palatal, alveolar, lateral) and 8 accompaniments. According to Vossen (1997: 114), the phoneme inventory of Ts'ixa is larger than that of related Eastern Kalahari Khoe languages. This is due to the presence of the palatal click and its accompaniments, which other Shua varieties have replaced with non-click consonants. However, the gradual replacement of the palatal click is also observable with speakers of Ts'ixa and will be further discussed in §2.2.2.3.

Even with speakers who do not use the palatal click, the click inventory of Ts'ixa is still richer than Vossen assumed. The present data features an ejective click /|'/ and

a uvular accompaniment /plain/ +/q/, both of which have not been noted by either Vossen (1997) or Westphal (n.d.b).¹¹ While only a limited number of lexemes feature the uvular click accompaniment, the ejective click is rather widespread, though mostly limited to the dental and lateral influxes.

Following the cluster analysis, Ts'ixa has 4 influxes and 10 accompaniments. As not all combinations are attested, this makes for a maximum of 35 distinctive click sounds, including 14 clusters and 3 pre-nasalised segments.

Table 18 lists all click sounds attested in modern Ts'ixa, including the non-click replacements for the palatal click. The non-click forms are much more widespread with all speakers except for some of Group A (cf. Table 12), especially with high-frequency lexemes. However, the palatal click is still readily accepted as a variant of the replacement, hence click and non-click series are allophonic variants rather than separate phonemic entities.

In general, the clicks of the palatal and alveolar series occur less frequently than the ones of the dental and lateral series.

Like in other Khoe languages, all click sounds are restricted to C₁ of genuine lexical roots. Phonotactic constraints relating to the appearance of click consonants will be further discussed in §2.3 of this chapter.

Table 18: Click consonants and their accompaniments

SERIES		EXTENDED PLACE OF ARTICULATION				
		Dt-Af-Cl	Al-Cl	Al-Af (Lt)-Cl	Pl	Pl-Cl
Stop segments	plain		!		(ky)	‡
	voiced	g	g!	g	(gy)	‡g
	voiceless ejective	'		'	ky'	‡'
	voiceless aspirated	h	!h	h	(kyh)	‡h
Stop cluster	plain + x	x	!x	x	(kyx)	‡x
	plain + q	q		q	(qy)	‡q
	nasal + x	g q		g q		g‡q
	plain + ?	?	!?	?	(?y)	‡?
Nasal	voiced	n		n	(ngy)	n‡
Pre-nasalised		n g		n g	(ngy)	n‡g

¹¹ Both Vossen (1997) and Westphal (n.d.b, field notes) treat non-affricated ejective clicks /|'/ as glottalised clicks /|?/. Traill (1986b) notes a velar ejective accompaniment /|k'/ for Ts'ixa.

2.2.2.2.1 Stop segments

All four influxes appear as plain (voiceless) and with voicing. The ejective accompaniment /'/' is mostly restricted to the dental and lateral series. Only the lexeme $\neq'u\grave{a}$ 'go out' is sometimes pronounced with a click; otherwise, the non-click replacements appear. Some speakers of group A and B (cf. Table 12) realise the ejective click in a way that might be interpreted as a cluster /plain/+ /k'/ (cf. also Traill 1986b). A more thorough analysis is needed to decide whether the underlying segment is a cluster rather than a complex consonant as assumed in this study.

The data features only one lexeme with an aspirated alveolar click /!h/. Likewise, the accompaniment is rarely used with the palatal click, where the non-click replacements are clearly preferred with all speakers, including speakers of Group A who otherwise show a comparatively high rate of palatal click use.

Table 19: [+ click] stop segments

SERIES		EXTENDED PLACE OF ARTICULATION				
		Dt-Af-Cl	Al-Cl	Al-Af (Lt)-Cl	Pl	Pl-Cl
Stop segments	plain	/úí 'one'	!áú 'basket'	//àà 'claw'	(kyúí)	\neq úí 'nose'
	voiced	g/úí 'bush'	g!urń 'wildcat'	g//áá 'ladder'	(gyíí)	g \neq íí 'thick'
	voiceless ejective	/'áñ 'bad'		//'áé-kù 'meet'	(ky'oà)	\neq 'oà 'go out'
	voiceless aspirated	/húí 'rhino'	!hoó 'flay'	//háí 'pull'	(kyhúíí)	\neq húíí 'elbow'

2.2.2.2.2 Stop Clusters

Following Güldemann (2001) and Nakagawa (2006), /|x/, /|q/, /g|q/ and /|?/ are not considered separate phonemes, but stop clusters. In contrast, linguists following the unit analysis, e.g., Miller (2011), treat them as complex consonants.

Table 20: Stop clusters in Ts'ixa

SERIES		EXTENDED PLACE OF ARTICULATION				
		Dt-Af-Cl	Al-Cl	Al-Af (Lt)-Cl	Pl	Pl-Cl
Stop cluster	plain + x	/xáni 'guinea fowl'	!xaò 'hippo'	//xóó 'dry'	(kyxoà)	‡xoà 'elephant'
	plain + q	/qòà 'light, fair'		//qání 'raisin'	(kyáé)	‡qáé 'marrow'
	plain + ɠ	g/quí-/óà 'weaver bird'		g//qái 'maggot'		g‡qadi 'slippery'
	plain + ?	/ʔúá 'bone'	!ʔãã 'face'	//ʔóó 'die'	(ʔyóá)	‡ʔóà 'ask'

While both /|x/ and /|ʔ/ are quite frequent in the lexicon, especially with the dental and lateral series, there are only few roots attested with a uvular accompaniment /|q/ or /g|q/. Vossen (1997) does not include the uvular accompaniment at all, although he notes /|q/ for the neighbouring Danisi variety of Shua. Interestingly, /‡q/ is rarely replaced by any speaker of Ts'ixa. In the rare case where it is replaced, the replacement is a velar, rather than an uvular stop.

While /|x/ is clearly phonemic with most speakers of Ts'ixa, some speakers realise [h] instead of [|x] (cf. Table 12).

The glottalised click /|ʔ/ appears to be nasalised. However, the nasalisation is only heard between vowels, i.e., remains silent whenever lexemes featuring a glottalised click are pronounced in isolation. As the nasalisation is fully predictable, it will not be noted for glottalised clicks, regardless of whether a lexeme is treated in isolation or as part of a sentence. The phenomenon extends to the non-click replacements for the palatal click, i.e., the replacement for /‡ʔ/ is pronounced [ʔy] in isolation, but becomes [ny] between vowels.

The voiced uvular click /g|q/ is rare, but attested for all influxes except for the alveolar series. Vossen (1997, 2013a) also noted this click, but interpreted it as a pre-nasalised click with velar frication (<n|x>). However, data from a wide range of both Khoe and Non-Khoe languages has shown that voicing of the uvular click may be realised as nasalisation (cf., e.g., Traill 1985). Cognate forms in other Khoe languages with voiced uvular accompaniments, like G|ui (H. Nakagawa, p.c.) and //Ani further support the interpretation of this click as voiced uvular, rather than a pre-nasalised velar fricative.

2.2.2.2.3 Nasal and pre-nasalised

Ts'ixa has two phonetically distinct click accompaniments. /n|/ is a complex click sound (for this interpretation, see Nakagawa 2006), /n|g/ is a pre-nasalised stop. The nasal click /n|/ is rare in Ts'ixa and only appears before nasal rhymes (with the notable exception of the referential demonstrative *n|a*), while /n|g/ is singularly attested with oral rhymes. E.D. Elderkin (p.c.) suggests an underlying allophony, i.e., /n|/ before nasal rhymes, and /n|g/ in all other environments. However, there is no minimal pair to prove or disprove the allophony assumed above, and it seems that synchronically, both are perceived as distinct sounds by the speakers. Hence, both will be treated as phonemic in the present study.

Table 21: Nasal and pre-nasalised clicks

SERIES		EXTENDED PLACE OF ARTICULATION				
		Dt-Af-Cl	Al-Cl	Al-Af (Lt)-Cl	Pl	Pl-Cl
Nasal	voiced	<i>n úú</i> 'owl'		<i>n ani</i> 'build'	(<i>nyánà</i>)	<i>n ánà</i> 'pour water'
Pre-nasalised		<i>n góá</i> 'cook'	<i>n!góbé</i> 'poison apple'	<i>n gáè</i> 'sing'	(<i>ngyóró</i>)	<i>n góró</i> 'back (of body)'

2.2.2.3 Click replacement

Ts'ixa is affected by a phenomenon that is commonly understood as gradual replacement of both the palatal and the alveolar click series. According to Traill (1986a), all Khoe languages, except for Nama, Naro and |Gui, are affected by this to differing degrees. He argues in favour of a west-east continuum, with western languages being more conservative than those further to the east. With regard to click-replacement in general, he observes that “the non-affricated click series [...] are the marked ones, and may be replaced by cognate palatal and velar stops respectively” (Traill 1986a: 304).

He goes on to state that the alveolar influx is more marked than the palatal one, offering an explanation for the fact that a number of Khoe languages, such as Khwe, replace the alveolar series while keeping the palatal one. As a member of the Shua group (cf. Vossen 1997, 2013a), Ts'ixa would be expected to have replaced both the palatal and the alveolar series. While this is certainly true for the alveolar click, which has only been retained in a small number of lexemes, some speakers (predominantly of Group A, cf. Table 12) use the palatal click much more frequently than should be expected from a language of the Shua group whose members have all lost the palatal click series (cf. Vossen 1997, 2011).

As outlined in §2.1.3, the three idiolect groups found in Mababe differ with regards to their use of the palatal click. The highest frequency of palatal click use is displayed by Group A; however, the degree to which the palatal click is retained by those speakers still does not compare to Vossen’s (1997) and Westphal’s (n.d.b) datasets, both of which display a much higher retention rate (see footnote 8 above). The palatal click is rarely used by speakers of Group C, and with moderate frequency by speakers of Group B. Hence, click and non-click series, for the most part, have to be considered allophones. To highlight the variation and give an impression of the frequency with which individual speakers of different idiolect groups use the palatal click, the examples used in this grammar will consider whatever allophonic variant was used by the speaker with whom the data was recorded.

2.2.2.3.1. Palatal click replacement

Table 22 below shows the palatal click series and its replacements in Ts’ixa. Some lexemes do not display any variation, i.e., speakers of Groups A, B and C realise them in the same way (either [+ click] or [- click]). Nevertheless, all speakers except for one elder¹² accept the [+click] variant for all lexemes, even when they are commonly realised with a [- click] replacement. It could also be observed that even Ts’ixa-speakers of Group C find it very easy to switch to palatal click use when talking to a speaker of Khwe or ||Ani. Hence, I have decided to treat both [+click] and [- click] variants as allophonic variants¹³ of the same phoneme, rather than as separate phonemic entities. The entire series with the exception of the voiced uvular click is attested as both [+ click] and [- click] in the data. Table 22 provides examples for all accompaniments.

¹² The speaker in question is Mr. Pekenene Mosesane, who provided the Danisi data for Vossen’s study (cf. Vossen 1997: 81). Surprisingly, a text recorded with Mr. Mosesane in 2011 actually suggests that he himself is a Group A speaker with a comparatively high frequency of palatal click use.

¹³ Here, the term “diaphoneme”, as coined by Jones (1932, 1950) might apply. Jones uses “diaphoneme” (or “diaphone”, cf. Jones 1932) to refer to dialectal variation in the realisation of a phoneme. While speakers may produce different sounds to realise a particular phoneme, they still think of them as “the same”. This is clearly the case with speakers of Ts’ixa, who sometimes are not even able to tell whether or not they retained the palatal click in their pronunciation of a particular lexeme.

Table 22: The palatal click series and its non-click replacements

SERIES		EXTENDED PLACE OF ARTICULATION	
		Pl	Pl-Cl
Stop segments	plain	<i>kyíí</i> 'call'	<i>ɸíí</i> 'call'
	voiced	<i>gyíí</i> 'thick'	<i>gɸíí</i> 'thick'
	voiceless ejective	<i>ky'òà</i> 'go out'	<i>ɸ'òà</i> 'go out'
	voiceless aspirated	<i>kyhúní</i> 'elbow'	<i>ɸhúní</i> 'elbow'
Stop cluster	plain + χ	<i>kxáí</i> 'eye'	<i>ɸxáí</i> 'eye'
	plain + q	<i>(kyúm̩)</i> 'wet')	<i>ɸqúm̩</i> 'wet'
	plain + gq	-	<i>gɸqadi</i> 'slippery'
	plain + ?	<i>ʔyáá</i> 'wind'	<i>ɸʔáá</i> 'wind'
Nasal	voiced	<i>nyánà</i> 'pour'	<i>nɸánà</i> 'pour'
Pre-nasalised		<i>ngyóró</i> 'back (of body)'	<i>nɸgóró</i> 'back'

With the notable exception of the replacement for the glottalised click [ʔy] (which is always palatalised in Ts'ixa and hence follows Traill's "eastern pattern", cf. Table 23), the replacement pattern in Ts'ixa generally follows that of Traill's "western" Eastern Kalahari Khoe. Note that Traill does not consider the pre-nasalised voiced click [nɸg], which is replaced by [ngy].

Table 23: Palatal click replacement in Eastern Kalahari Khoe

CLICK EQUIVALENT	"WESTERN"	"EASTERN"
	TRAILL (1986a)	TRAILL (1986a)
ɸ	c	ty ~ ts ~ tš
ɸg	j	dz ~ dž
nɸ	ɲ	ndz
ɸx	cx	tsx ~ tšx
---	---	---
ɸh	ch	tyh
ɸʔ	ʔ	ʔj
ɸx'	c'	ts ~ tš'

The “eastern” replacements are sometimes found with speakers of Group C, i.e., with those showing the lowest frequency of palatal click use.

2.2.2.3.2. Alveolar click replacement

Unlike the replacement of the palatal click, alveolar click replacement is neither an ongoing process, nor a matter of idiolectal variation in Ts’ixa. Ts’ixa shows [- click] cognates for most lexemes that have been reconstructed with an alveolar click (E.D. Elderkin, p.c.), though the sound has been retained in a number of lexemes. Interestingly, those include some that have replaced the alveolar click in the neighbouring Khwe cluster, e.g., Ts’ixa: ‘hippo’ *!xað*, but Khwe: *xáo* (Kilian-Hatz 2003). As there is no [+ click] ~ [- click] variation with regard to the alveolar click, both the [+ click] and the [- click] series have to be considered phonemic in Ts’ixa.

As can be seen in Table 24, the replacement pattern in Ts’ixa matches Traill’s (1986a) non-palatalised series.

Table 24: Alveolar click replacement in Ts’ixa

CLICK EQUIVALENT	POSSIBLE REPLACEMENTS (CF. TRAILL 1986a: 308)	REPLACEMENT IN TS’IXA
!	k or ky	k
!g	g or gy	g
n!	ŋ or gy	ŋ
n!g	ng or ngy	ng
!x	kx or x	x
!h	kh or kyh	kh
!x’	kx’ or k’	k’
!?	?	?

2.2.3 The vowels of Ts’ixa

The vowel system of Ts’ixa is also subjected to idiolectal variation. While most speakers of Groups A and B acoustically distinguish six oral vowel phonemes, speakers of Group C only distinguish five (cf. Table 12). In contrast, all speakers make use of nine oral diphthongs.

Likewise, all speakers distinguish three nasal monophthongs and four nasal diphthongs (or vowel sequences). While an additional phonation type found in other Khoe languages such as G|ui and Naro, [+ pharyngeal] is not attested in Ts’ixa, two speakers displayed audible glottalisation of low toned vowels which were generally realised as [+nasal] by other speakers. However, I do not consider the feature [+ glottal] to be an actual phonation type of Ts’ixa vowels.

The vowels of Ts'ixa may be described as displaying the following distinctive features: [+/- high, +/- low], [+/- back], [+/- round], [+/- nasal]. While Ts'ixa has both long and short vowels, they appear in complementary distribution: As all Ts'ixa lexical roots are inherently bimoraic, C(C)V₁V₁ roots trigger a long vowel, while C(C)VCV roots display short vowels only (Traill 1985, compare also Nakagawa 2006 for G|ui, and Brugman 2009 for Khoekhoe). The difference in vowel length is clearly audible with elicited lexemes, but hard to hear in fast speech. Lexical roots of the C(C)V₁V₁CV₂-kind can generally be explained as lexicalised root-suffix compounds (e.g., *boó-dì* 'tell') and therefore do not form an exception to the above rule (compare Nakagawa 2006 for G|ui, and Brugman 2009 for Khoekhoe).

In the following, the vowel phonemes of Ts'ixa will be discussed. Phonotactic constraints relating to vowels and their distribution are treated in more detail in §2.2.4 of this chapter.

2.2.3.1 Oral vowels

The vowel-system used by most speakers of Ts'ixa appears to resemble that of Khwe in that it features an open mid vowel [ɛ]. However, there is no minimal pair to suggest that [e] and [ɛ] are actually phonemic, rather than free variants of one vowel phoneme /e/. While some Group A speakers (cf. Table 12) show a clear tendency to use [ɛ] according to its use in cognate forms in Khwe, others merely use it as a reflex of the diphthong /ae/ (e.g., 'to tie': Ts'ixa [kɛ́ɛ́], but Khwe *kyáé*, cf. Kilian-Hatz 2003: 365).

Although some speakers show a slight preference for [e] after voiceless plosives and [ɛ] in all other environments, there is no conclusive evidence to argue for a complementary distribution. Only speakers of Group C do not display an audible /e/ ~ /ɛ/ disambiguation but use [ɛ] in all environments. As it is not phonemic in Ts'ixa, [ɛ] will not be noted in this grammar.

Table 25 shows the oral vowel phonemes, including [ɛ], according to their distinctive characteristics:

Table 25: Oral vowel phonemes

	FRONT	CENTRAL	BACK
HIGH	i		u
MID-CLOSED	e		o
MID-OPEN	(ɛ)		
LOW		a	

All vowels can appear in V₁ and V₂ position, but there are some phonological restrictions as to which vowels may be combined in disyllabic roots (cf. Nakagawa 2006 on V₁ features). In (5) below, examples for all vowels are given:

- (5) Monophthongs in monosyllabic roots (C(C)V₁V₁)
- | | | | | | | | | |
|----|--------------|---------|----|------------|----------|----|------------|--------------|
| a. | <i>ts'û</i> | 'limp' | b. | <i>sí</i> | 'arrive' | c. | <i>/í</i> | 'song' |
| | <i>ts'éè</i> | 'sharp' | | <i>sòò</i> | 'forge' | | <i>/éé</i> | 'wildebeest' |
| | <i>ts'áà</i> | 'penis' | | <i>sàà</i> | 'refuse' | | <i>/aa</i> | 'stomach' |
| | | | | | | | <i>/úù</i> | 'near' |
| | | | | | | | <i>/óò</i> | 'top' |

- (6) Only /a/, /o/ and /u/ can appear in C(C)VN roots:

- | | | |
|---|--------------|---------|
| a | <i>//am̩</i> | 'feel' |
| o | <i>//om̩</i> | 'cloud' |
| u | <i>//um̩</i> | 'navel' |

In the immediate environment of a nasal consonant, oral vowels are often pronounced with a tinge of nasalisation, e.g., *guni* 'hunt' may be realised as [gũn̩]. The present data yielded nine vowel combinations that may be either diphthongs or vowel sequences. In the following, I will talk about "diphthongs", but it should be kept in mind that this is based on a very preliminary and superficial analysis which may have to be revised as research on cross-Khoe phonology progresses.

Table 26: The oral diphthongs of Ts'ixa

ai, ae, ao, au

oe, oa

ui, ue, ua

(7)-(9) show minimal contrasts between the existing diphthongs. As the /oV/- and especially the /uV/- series occur much less frequently than the /aV/-series, the minimal set for the former is not complete. In cases that did not yield a minimal pair, a non-contrasted example is given.

- (7) ai : ae : ao : au
- | | | | | | |
|----|---------------|---------|----|--------------|--------|
| a. | <i>n//gáè</i> | 'sing' | b. | <i>//háí</i> | 'pull' |
| | <i>n//gáò</i> | 'old' | | <i>//háò</i> | 'hoe' |
| | <i>n//gáú</i> | 'point' | | | |

- (8) oe : oa
 n||góé ‘moon’
 n||góá ‘stone’

- (9) ui : ue : ua
 a. *gúí* ‘bush’ b. *ʔúè* ‘break’ c. *gúà* ‘hyena’

/ua/ is extremely rare, and it is not actually clear whether it contrasts with /oa/ or not. *gúà* ‘hyena’ in (9)c above may well be an onomatopoeia. In this grammar, /oa/ and /ua/ will both be treated as phonemic, but further research will be needed to test the status of these diphthongs.

Diphthongs are generally restricted to monosyllabic C(C)V₁V₂ structures. The only appearance of an oral diphthong outside this environment found in the data is the noun *petóàná* ‘small axe’, which has /oa/ in the V₂-slot of a trisyllabic root.

4.2.3.2 Nasal vowels

There are three phonemic nasal monophthongs in Ts’ixa:

Table 27: Nasal vowel phonemes

ĩ	ũ
ã	

Their distribution is restricted to monosyllabic roots. The following example contrasts them with their oral equivalents:

(10)	nasal	oral
	<i>hũ</i> ‘do’	<i>ì</i> ‘tree’
	<i>ts’áã</i> ‘steal’	<i>ts’áà</i> ‘penis’
	<i>thúũ</i> ‘hurt’	<i>thuú</i> ‘night’

There are four nasal diphthongs: /ãĩ/, /ãũ/, /ũã/ and /ũĩ/. /ãũ/ is not noted by Vossen (1997: 116), but a sufficient number of genuine Ts’ixa lexemes suggest it is indeed phonemic. (11) below contrasts nasal diphthongs with their oral counterparts:

(11)	nasal	oral
	<i> ʔâĩ</i> ‘barter’	<i> ʔâ</i> ‘proper’
	<i> ’áũ</i> ‘smell’	<i> ʔaũ</i> ‘fish’
	<i> ʔúã</i> ‘arm’	
	<i> xúí</i> ‘curse’	<i> xúĩ</i> ‘vomit’

No minimal pair could be found to contrast /ũã/ and /ua/. In fact, /ua/ is extremely rare (see §2.2.3.1. above), while [ũã] is a common sound in Ts'ixa lexical roots. This raises the question whether [ũã], phonemically, should rather be [õã], as /oa/ is at least slightly more common than /ua/. However, the vowel quality of [ũ] in /ũã/ matches that of [ũ] in /ũĩ/, which is a much clearer case, as it behaves like /ui/ rather than like /oe/ when taking on the juncture morpheme (see §4.2.1.1). It has therefore been decided to note [ũã], rather than [õã]. In Ts'ixa, these diphthongs do not contrast. Nasal diphthongs only appear in the V₁V₂-slot of monosyllabic C(C)V₁V₂-roots.

2.3. Phontactic structure

Beach (1938) was the first to accurately describe the root structure of a Khoisan language (Nama). His findings are still relevant today and may be transferred to other languages of the Khoe family and beyond. Beach talks about “strong roots”, a term rejected by Elderkin (2014b), who prefers “morph”. I will stick to the term “root”, as the lexical root is indeed the Ts'ixa unit to which Beach's findings first and foremost apply (§2.3.1.). Sections §2.3.2 and §2.3.3 will make special reference to the structure of grammemes and ideophones.

According to Beach (1938: 259ff), four root patterns occur:

- 1) CV
- 2) CV₁V₂
- 3) CVN
- 4) CVCV

Beach assumes that all of these roots have an underlying structure CVCV, with CV, CV₁V₂ and CVN having arisen from either C₂-deletion or deletion of V₂. This so-called “decomposition” hypothesis can neither be proven nor disproven at this point. An alternative position is held by Meinhof (1909), who analysed all Nama roots as originally monosyllabic. Some support for the latter model is found in Vossen (1997: 339), who was able to show that there is a lexicalisation of stem+ juncture combinations in Proto-Kalahari Khoe.

Within the root, the following restrictions apply (cf., e.g., Nakagawa 2006; Elderkin 2014b):

- Clicks are restricted to C₁. If a click occurs word-medially, it must be part of a suffix, the result of compounding, or of partial reduplication.

- Following the “cluster analysis” (cf. Güldemann 2001), consonant clusters are only accepted as C₁.
- There is a connection between the place of articulation of the click and the vowel quality of V₁. According to the so-called “back-vowel constraint”, [!] and [||] show a clear preference for the back-vowels [a], [o] and [u]; hence, the front vowels [i] and [e] generally occur with [ɸ] and [||] (see Nakagawa 2006).
- In C(C)V and C(C)V₁V₂ roots, the rhyme may be oral or nasalised; in nasalised rhymes, only [ĩ], [ã] and [ũ] may appear as V₂.
- Only [r], [b], [m] and [n] appear as C₂.

2.3.1 Structure of Ts’ixa lexical roots

For Ts’ixa, I follow Nakagawa (2006 for G|ui) in assuming that every lexical root is at least bimoraic.¹⁴ This assumption is based on tonal observations, according to which the tone-bearing unit in Ts’ixa is the mora, not the syllable (see §2.4). In accordance with this assumption, the following patterns occur:

(1a)	C(C)V ₁ V ₁	e.g.,	ʔóó	‘to die’
(1b)	C(C)V ₁ V ₂	e.g.,	ʔáò	‘blood’
(2a)	C(C)V ₁ CV ₁	e.g.,	yábà	‘to love’
(2b)	C(C)V ₁ V ₂	e.g.,	tórá	‘God’
(3)	C(C)VN	e.g.,	ám̃	‘to feel’
(4)	VV	e.g.,	ì	‘tree’
(5)	CVCVCV	e.g.,	petóànà	‘small axe’
(6)	CVCVCVCV	e.g.,	durumberà	‘pumpkin’

(1)-(3), i.e., the structural patterns identified for all Khoisan languages, occur more frequently than (4)-(6). Indeed, they have been identified as making up 90% of the roots found in the Khoe family (Vossen 1997: 336). (4) is sometimes interpreted as C(C)VV by other researchers (i.e., Kilian-Hatz 2008 for Khwe), as the root-initial vowel may be preceded by [h] or [j]. However, this is fully predictable and often subject to idiolectal variation (for example, Ts’ixa speakers may realise the root àà

¹⁴ Lexical roots which appear to feature a short vowel, like *páá* [pá] ‘bite’, do occur. This phenomenon is restricted to high-toned roots, and it is assumed here that the underlying form is still bimoraic.

‘to come’ as [jàà], [hàà] or [àà]). I will therefore follow Nakagawa (2006 for G|ui) in treating these roots as vowel-initial. They are not to be confused with roots like *?abá* ‘dog’ or *?ǎǎ* ‘to get to know’ which start with a phonemic glottal stop and therefore correspond to C(C)VCV and C(C)VV, respectively. (5) and (6) occur in a handful of lexemes, most of which, e.g., *fènstèré* ‘window’ (<Afrikaans via Tswana) can easily be identified as loanwords. Lexical roots of unknown origin with more than two morae include *petóànà* ‘small axe’¹⁵ and *durumberà* ‘pumpkin’.

Apart from the root patterns listed above, trimoraic lexemes of the C(C)VVCV and C(C)VCVV type occur, e.g., *boódì* ‘to tell’, *biyéé* ‘zebra’ or *||abuù* ‘to fly’. The former may be interpreted as combinations of a lexical root C(C)VV plus a suffix-like element of unknown origin, e.g., *boódì* < *boó-dì* (cf. Nakagawa 2006 for G|ui). The existence of C(C)VVCV lexemes like *||abuù* ‘to fly’ is not as easy to explain. They also occur in Khwe (Kilian-Hatz 2003) and, according to my data, also in other Kalahari Khoe languages like *||Ani* or various dialects of Shua. There always is a clear contour on the final two vowels, indicating a trimoraic lexeme.

Another curious case is the root *aqám* ‘toad’, which does not conform to any of the root patterns outlined above. The present data does not include any other lexeme of this pattern, and one may assume that it is either an ideophone (see §2.3.4 below) or a borrowing from a yet unidentified language.

For Ts’ixa lexical roots, the general constraints cited above apply. In addition to the consonants generally accepted as C₂ ([m], [n], [b], [d] ~ [r]), [mb], [nd] and [ng] appear in Bantu loans. Apart from the alveolar click replacements /ŋ/ and /ng/, no nasal consonants are found as C₁. Lexemes with word-initial /n/, /mb/ or /nd/ have to be considered loanwords which have not been adapted to match the phonotactic structure of genuine lexical roots.

2.3.3 Root structure of grammemes

Nakagawa (2006) suggests distinguishing grammatical elements from lexical roots in both their root structure and tonal behaviour. This approach will be followed in this study. In Ts’ixa, grammemes of the following patterns appear:

(1)	C(C)V	e.g.,	<i>nà</i>	‘NEAR.FUTURE’
(2a)	C(C)V ₁ V ₁	e.g.,	<i>nàà</i>	‘ID / COP’
(2b)	C(C)V ₁ V ₂	e.g.,	<i>/xàà</i>	‘COMITATIVE’
(3)	C(C)V ₁ CV ₁	e.g.,	<i>gère</i>	‘FUTURE’

¹⁵ On Westphal’s (n.d.b) recording, this root is found as [petóràngà], revealing a likely Bantu origin.

Ts'ixa grammemes, unlike lexemes, may be monomoraic, and no C(C)VN roots occur. While vowel length may be distinctive, notably in the case of the NEAR FUTURE marker *nà* and the COPULA / IDENTIFICATION MARKER *nàà*, there is some idiolectal variation with regard to the tonal melodies realised on a small number of particles (cf. §2.4.3, Table 30). Although the vowel is usually short, the occurrence of an HL melody with some speakers suggests an underlyingly bimoraic form.

Many grammemes in Ts'ixa go back historically to lexical roots. In these cases, different stages of grammaticalisation can be observed. Highly grammaticalised suffixes, like the GENERIC / REMOTE PAST SUFFIX *-hã ~ -ha* (< *háã 'to exist') may have lost tonal properties, nasalisation, and the second mora. Other grams, like the EXISTENTIAL copula *hàà* (< *háã 'exist' + *-nà* 'STATIVE / CURRENT RELEVANCE') have retained more properties of their original form.

Unlike in lexical roots, /n/ is accepted as C₁, cf., e.g., the sequential *n/gè ~ nè*. Pronominal elements like demonstratives and interrogatives follow the phonological patterning of grammemes, rather than lexemes, cf., e.g., the exophoric proximal demonstrative *n/íí ~ ní ~ íj* (§3.3.4).

However, unlike other grammemes which are particles, suffixes or clitics, demonstratives and interrogatives may have the status of independent phonological words.

2.3.4 Root structure of Ts'ixa ideophones

Ideophones are distinct from both lexical roots and grammemes. While all patterns found with lexical roots are also found with ideophones, two additional patterns appear:

- | | | | | |
|-----|---------|-------|---------------|--|
| (1) | C(C)Vp | e.g., | <i>/úᵑ</i> | 'sound of a stopper being pulled from a bottle' |
| (2) | C(C)VpV | e.g., | <i>//'ápà</i> | 'manner in which sticky food is served on a plate' |

Ideophones also display an interesting reduplication pattern in which the first element is monomoraic and the second bimoraic, corresponding to C(C)V-C(C)VV. This pattern is also found with adjectives of clearly ideophonic origin, e.g., *tsu-tsuú* 'hot'. It is likely that ideophones in Ts'ixa are a distinct word class (cf. Nakagawa 2011 for G|ui), but due to lack of data, this has to be considered a topic of future research.

2.4 Tonology

Tone in Ts'ixa is both lexically and grammatically distinctive. In this study, it is assumed that the tone-bearing unit is the mora, not the syllable. Hence, monosyllabic roots may be bimoraic and carry two register tones which together form a tonal melody (cf. Nakagawa 2006: 33). More research is needed to establish the number of distinct tone levels in Ts'ixa. Vossen (1997, 2013a) assumes two register tones, High and Low. However, this does not seem sufficient to cover the amount of tonal variation found in the present data.

Measurements by means of Praat have yielded three tone levels – High (H), Mid (M) and Low (L). This distinction is also suggested by a comparative analysis of cognate forms in G|ui (H. Nakagawa, p.c.) and Khwe (E.D. Elderkin, p.c., Kilian-Hatz 2003). However, it was not possible to record minimal pairs to prove an actual three-way contrast in Ts'ixa. The assumption of three tone levels is therefore a working hypothesis, based on acoustic measurements, observations on cognate forms, and tonological processes triggered by suffixation or compounding (cf. §2.4.1-3). The following tonal melodies appear on bimoraic lexical roots:

(1)	HH	e.g.,	<i>ʃqáé</i>	'bone marrow'
(2)	MM	e.g.,	<i>k'aro</i>	'boy'
(3)	LL	e.g.,	<i>ʃòṁ</i>	'short'
(4)	MH	e.g.,	<i>dam̃</i>	'tongue'
(5)	HL	e.g.,	<i>kúù</i>	'to go'
(6)	ML	e.g.,	<i>ʃom̃</i>	'cloud'

Tone in Ts'ixa lexical roots may undergo changes on both a phonological and on a post-lexical level. Like other Khoe languages, Ts'ixa displays a tone shift referred to as “flip-flop” which affects the tone in verbal roots when other verbal or deverbal elements are attached. This phenomenon is discussed in §2.4.1. On a phrasal level, the tone of certain elements may be lowered; more specifically, H shifts to L. These forms which have been dubbed “sandhi” by Haacke (1999) are treated in more detail in §2.4.2. Finally, the tonal behaviour of Ts'ixa grammemes will be examined in §2.4.3.

2.4.1 Flip-Flop

The term “flip-flop” was first used by Haacke (1999) to refer to a tone shift in verbs which act as V1 in what he refers to as “verbal compounds”. The same phenomenon was also described by Nakagawa (2006) for G|ui, and its existence was mentioned in

Kilian-Hatz (2008) for Khwe. In Ts'ixa – like in G|ui – “flip-flop” basically means that melodies that do not feature a mid tone switch to ones that do, whereas melodies with a mid tone stay the same, i.e.

Table 28: Unilateral flip-flop pairs in Ts'ixa

HH	>	HM
MM	>	MM
LL	>	LM
MH	>	MH
HL	>	MM
ML	>	ML

Both Haacke (1999) and Nakagawa (2006) describe contexts in which flip-flop is “bilateral”, i.e., where melodies exchange with their counterparts in both, rather than in merely one direction. This, to the best of my knowledge, is not the case in Ts'ixa.

Flip-flop generally occurs if a verb is followed by another verb in what is termed a juncture-verb construction (JVC) in this work. The flip-flop form also appears before the three ANTERIOR / PAST suffixes *-hã~ -ha*, *-ʔo* and *-ta* (§4.3.2.2.2), before the COMPLETIVE suffix *-xù* (§4.4.3.1) and before the BENEFACTIVE suffix *-mà* (§4.4.2.1.2). It may co-occur with the so-called juncture morpheme (§4.2), although in some cases, *either* flip-flop *or* the juncture morpheme occur. These will be discussed below. (12) shows co-occurrence of the juncture and flip-flop in all possible contexts:

- (12) *g//âi* (var. *g//qâi*) ‘to run’
- a. GENERIC / REMOTE PAST: *g//ai-a-hà*
 - b. COMPLETIVE: *g//ai-a-xù* ‘outrun’
 - c. BENEFACTIVE: *g//ai-a-mà* ‘run for’
 - d. JVC: *g//ai-a kyãã* ‘run-J enter’ > ‘run into’

In the following, occurrence or non-occurrence of flip-flop will always be exemplified by the generic past tense form of a given verb, which is formed by attaching the suffix *-ha* to the verb stem by means of the juncture morpheme. The juncture has several allomorphs the distribution of which depends on the verb’s syllable structure and the quality of the final vowel (see §4.2.1). Flip-flop generally occurs with the juncture allomorph /a/ :

- (13) a. *káú* ‘to stay’ > *káú-a-hà*
 b. *tsháú* ‘to become wide’ > *tsháú-a-hà*

HH-verbs of the root structure C(C)VN appear with and without flip-flop:

- (14) a. *kírí* ‘to hear’ > *kírí-á-hà* OR *kúm-a-hà*
 b. *ʔùm* ‘to sleep’ > *ʔùm-à-hà* OR *ʔùm-a-hà*

Flip-flop also co-occurs with so-called “/r/-insertion” (cf. Nakagawa 2006), a juncture allomorph which takes the shape of an infix *-r-* inserted in between V1 and V2 of monosyllabic lexical roots:

- (15) a. *ʔó* ‘to shoot’ > *ʔá-ro-hà*
 b. *gà* ‘to look’ > *gà-ro-hà*

However, flip-flop does not always co-occur with /r/-insertion, although this appears to be a case of idiolectal variation, rather than a rule:

- (16) a. *xó* ‘to hold’ > *xó-ro-hà* OR *xó-ro-hà*
 b. *pé* ‘to chase’ > *pé-rè-hà* OR *pere-hà*

The juncture allomorph /nà/ constitutes a special case. Occurrence of /nà/ is obligatory after C(C)VCV and derived lexical roots, but – as has already been remarked by Vossen (1997: 223) – it is also evolving into a “default juncture” and may therefore replace virtually any other juncture allomorph (see also §4.2.2). Note, however, that default use of /nà/ is only possible before the ANTERIOR / PAST suffixes §4.3.2.2), but not in other contexts (i.e., JVCs and before derivative suffixes). Application of flip-flop is always optional with /nà/:

- (17) a. *ʔxírú* ‘to become dull’ > *ʔxírú-nà-hà* OR *ʔxíru-nà-hà*
 b. *ʔxurí* ‘to be clever’ > *ʔxurí-nà-hà*
 c. *ʔáru* ‘to play’ > *ʔáru-nà-hà* OR *ʔáru-nà-hà*
 d. *ʔxòrò* ‘to dance’ > *ʔxòrò-nà-hà* OR *ʔxòro-nà-hà*
 e. *ngó* ‘to be quiet’ > *ngó-nà-hà* OR *ngóo-nà-hà*
 f. *xáí* ‘to swell’ > *xáí-nà-hà* OR *xáĩ-nà-hà*
 g. *thúù* ‘to hurt’ > *thúù-nà-hà* OR *thũũ-nà-hà*
 h. *ʔúu* ‘to come near’ > *ʔúu-nà-hà* OR *ʔuu-nà-hà*

In the case of zero-juncture, flip-flop is obligatory:

- (18) a. *k’áà* ‘to drink’ > *k’aa-hà*
 b. *ʔ’áà* ‘to become satiated’ > *ʔ’áà-hà*
 c. *ʔxó* ‘to dry’ > *ʔxóo-hà*

Table 29: Lowered or “sandhi” forms of Ts’ixa lexical roots

CITATION FORM		LOWERED FORM
HH	>	LL
MM	>	MM
LL	>	LL
MH	>	ML
HL	>	LL
ML	>	ML

I will not use the term “sandhi” here, as it appears to me that its general meaning is quite different from the context for which it is used by Haacke (1999). Nevertheless, the phenomenon observed in Ts’ixa certainly bears striking resemblance to what has been described for Khoekhoe. Although similar processes have not yet been reported for any other Khoe language, Haacke (1999, p.c.) presumes that they might constitute a feature of the entire family. Recordings of various dialects of both Shua and Khwe made by the present author certainly suggest that the presence of lowered forms in naturally produced language is present in all Khoe varieties of northern Botswana.

In Ts’ixa, lowered forms have been observed to show up in four different contexts: in the second element of nominal compounds (§2.4.2.1), in all verbs but V1 of contiguous juncture-verb constructions (see §2.4.2.2), in all elements but the first of any noun phrase (§2.4.2.3), and, finally, on a sentence level (§2.4.2.4). In the latter case, noun phrases (NP) and the verb phrase (VP) are all considered separately, leading to structures in which only the first element of any phrase involved, as well as certain adverbial elements, appear in the citation form; all other elements, including the verb, are realised as lowered.

In this grammar, lowered forms will only be noted in compounds and in contiguous juncture-verb constructions, as in these contexts, they are considered to be indicative of lexicalisation or grammaticalisation respectively. On the NP or sentence level, they are almost solely present in naturally produced language. They usually fail to show up in elicitation contexts where the speaker takes some time and pauses to produce the requested utterance. The same is true for narrative texts read from a transcription, even when produced fluently.

In the following, all contexts in which lowered forms appear will be described briefly. Nevertheless, more in-depth research on the tonology of Ts’ixa and related

Kalahari Khoe languages will be needed to arrive at a more conclusive theory of post-lexical tonal operations.

2.4.2.1 Nominal compounds

In this section, I will consider lexical expressions composed of two nouns, henceforth referred to as N_1 and N_2 . The citation form will be marked with a $< + >$ and the lowered or “sandhi” form with a $< - >$. In the default case, N_1 appears in the citation form, whereas N_2 is lowered, e.g.,

- | | | | | | | | |
|---------|--------------|--------------|---|--------------------|---|--|---------------|
| | + | + | | + | - | | |
| (19) a. | <i>biyéé</i> | <i>/úú</i> | > | <i>biyéé-úú</i> | | | ‘young zebra’ |
| | zebra | child | | zebra-child | | | |
| | | | | | | | |
| | + | + | | + | - | | |
| b. | <i>k’ará</i> | <i>k’oxú</i> | > | <i>k’ará-k’oxù</i> | | | ‘impala meat’ |
| | impala | meat | | impala-meat | | | |

Only if N_1 does not feature a high tone, N_2 receives the citation form as well, e.g.,

- | | | | | | | | |
|---------|--------------|--------------|---|--------------------|---|--|-----------------|
| | + | + | | + | + | | |
| (20) a. | <i>ù</i> | <i>/úú</i> | > | <i>ù-úú</i> | | | ‘stick’ |
| | tree | child (DIM) | | tree-DIM | | | |
| | | | | | | | |
| | + | + | | + | + | | |
| b. | <i>kyxoà</i> | <i>k’oxú</i> | > | <i>kyxoà-k’oxú</i> | | | ‘elephant meat’ |
| | elephant | meat | | elephant-meat | | | |

A similar phenomenon has been observed by Elderkin (1986) for Khwe.

2.4.2.2 Juncture-verb constructions

Juncture-verb constructions (JVC) are a distinctive feature of all Kalahari Khoe languages and are discussed in more detail in §4.5. Here, it shall suffice to say that they consist of two or more verbs forming one complex predicate. JVCs conform to what Kilian-Hatz (2006, 2008) calls a “serial verb construction” in Khwe, and what Haacke (1999) calls “compound verbs” in Khoekhoe. Note that in Khoekhoe, unlike in Khwe and Ts’ixa, the individual verbs are not connected by a so-called juncture morpheme, but display flip-flop only. For Khoekhoe, Haacke (1999, 2014) distinguishes JVCs of the “resultative” and the “manner”-type. While both types display flip-flop in V_1 , only JVCs of the “resultative” type also have lowered forms in V_2 . In Ts’ixa, all JVCs display flip-flop in V_1 , and lowered forms in V_2 (and all subsequent verbs which are part of the predicate), e.g.,

- (21) a. $\begin{array}{cccccc} + & + & & + & - & \\ m\ddot{u}\ddot{u} & \text{ʔ}\ddot{a}\ddot{a} & > & m\ddot{u}\ddot{u}\text{-}\grave{a} & \text{ʔ}\ddot{a}\ddot{a} & \text{'recognize, identify'} \\ \text{see} & \text{know} & & \text{see-J} & \text{know} & \end{array}$
- b. $\begin{array}{cccccc} + & + & & + & - & \\ k'o\acute{o} & khud\acute{i} & > & k'or\acute{o} & khud\grave{i} & \text{'eat up'} \\ \text{eat.meat} & \text{end} & & \text{eat.meat:J} & \text{end} & \end{array}$

If the entire predicate is lowered due to tonal operations taking place on a sentence level (see §2.4.2.4 below), V_1 – whether affected by flip-flop or not – is lowered, too, e.g.,

- (22) $\begin{array}{cccccc} + & + & & - & - & \\ k'or\acute{o} & khud\acute{i} & > & k'or\grave{o} & khud\grave{i} & \text{'eat up'} \\ \text{eat.meat} & \text{end} & & \text{eat.meat:J} & \text{end} & \end{array}$

2.4.2.3 Noun phrase level

Only the first element of a noun phrase, irrespective of whether it acts as head or modifier, receives the citation form. All elements that follow are lowered, e.g.,

- (23) a. $\begin{array}{cccccc} + & + & & + & - & \\ //\text{ʔ}or\acute{a} & x\grave{u}\grave{u} & > & //\text{ʔ}or\acute{a} & x\grave{u}\grave{u} & \text{'a big thing'} \\ \text{big} & \text{thing} & & \text{big} & \text{thing} & \end{array}$
- b. $\begin{array}{cccccc} + & & + & & + + & - \\ \text{ʔ}\ddot{u} & k\acute{a} & b\acute{o}ks\grave{i}=m\grave{a} & > & \text{ʔ}\ddot{u} k\acute{a} b\grave{o}ks\grave{i}=m\grave{a} & \text{'this box'} \\ \text{DEM.REF} & \text{ATTR} & \text{box = SG.M:II} & & & \end{array}$

Note that attributor postposition *ka* is phonologically part of the demonstrative $\text{ʔ}\ddot{u}$ and therefore not lowered. If the *ka*-marked demonstrative precedes its head (cf. §3.3.4.2.2), neither modifier nor head is lowered:

- (24) $\begin{array}{ccc} + & + & \\ \text{ʔ}\ddot{u} & b\acute{o}ks\grave{i}=m\grave{a} & \text{'this box'} \\ \text{DEM.REF} & \text{box = SG.M:II} & \end{array}$

2.4.2.4 Sentence level

More research is required to provide an in-depth analysis of tonal operations taking place on the sentence level. As pointed out above, only the first constituent of any phrasal unit may receive the citation form – all other constituents are lowered. Noun phrases are considered above the verb phrase, meaning that the first element of a noun phrase is always given in the citation form, even when it is not the first element of a verb phrase. Consider (25) below:

- (25) + - + - +
 [[[//*ʔorá* /ù.xù]_{NP} [[*pará=ń*]_{NP} *kò* *mǔ̃-a* [*bóksi tà*]_{COMP}
 big something Tswana = PL.C:I IPFV QUOT box COMP
 - + - -
kyǐ̃]_{VP}]_{REL} = *xù*]_{NP.SBJ} [*ʔé.m* *kà* *k'ài.ʔò = m̃* *ʔà*]_{PP} *tèè-nà*]_{VP}
 call = NMZ 3SG.M:I POSS front = SG.M:I LOC be.standing-STAT
 'A big something which the Tswana call 'boksi' stands in front of him.'

Although this example perfectly matches the rules stated above, others are not as clear. In (26) below, *xúù* 'thing' would be expected to appear in the citation form. It is however lowered, while the right-shifted demonstrative *ʔǐ̃* receives the citation form:

- (26) + - + -
 [*k'aro-ǐúá = m̃*]_{NP.SBJ} *kò* [*xùù = sà* *à* *ʔǐ̃* *ká*]_{NP.OBJ} *bulà-kàà*]_{VP}
 boy-DIM = SG.M:I IPFV thing = SG.F:II ACC DEM.REF ATTR open-VOL
 'The little boy wants to open this thing.'

Exceptions like the one cited above are frequent and may be caused by a pause in speech, or by the speaker wanting to emphasise a certain element which is not otherwise emphasised by its syntactic position (see §6.1 on constituent order). In many cases, unexpected appearance of the citation form appears to have an information structural background the tracing of which constitutes a topic for future research.

2.4.3 The tonal behaviour of grammemes

The tonal behaviour of grammemes poses a problem in the analysis of the present data. There are two reasons for this: one relates to the lowering treated in the previous section (§2.4.2) which makes it extremely difficult to measure the tone level of grammemes in many environments as anything other than L. The second has to do with the idiolectal variation present in the village, resulting in different speakers realising one and the same grammeme (appearing in the same environment) in different ways.

The variation is reflected in the vowel length of certain grammemes (see §2.3.3 above), as well as in the tonal melodies applied to them. The majority of the

variation concerns an alternation between HL and L(L)¹⁶, whereas the underlying morpheme may be realised as either monomoraic or bimoraic, depending on the speaker. Table 30 lists 6 grammemes – all of them particles – for which HL ~ L(L) variation has been observed:

Table 30: HL ~ L(L) variation in Ts'ixa grammemes

FUNCTION	GLOSS	FORM
COMITATIVE	'COM'	xóà ~ xòà
IMPERFECTIVE	'IPFV'	kô ~ kò (kû ~ kù, kúè ~ kùè)
LOCATIVE / ABLATIVE	'LOC'	ngúà ~ ngùà
NEAR PAST	'NEAR.PST'	tê ~ tè
REASON	'because'	ʔóò ~ ʔòò
SIMILATIVE	'be.like'	khónà ~ khònà

Note that when lowered, all of these grammemes consistently appear as L(L) with all speakers whose data has been analysed. I have chosen to consistently note them as L(L) in this grammar to avoid the implication that the variation might be due to phonological or semantic reasons.

Other grammemes with fixed tonal patterns display a more consistent behaviour across speakers. These include suffixes as well as particles. A non-exhaustive list is given in Table 31:

¹⁶ In this context, it is worth mentioning that Elderkin (2004) reconstructs a 2-tone system for proto-Khoe in which the tonal pattern *HL corresponds to LL in G|ui, and consequently also to LL in Ts'ixa (there is a regular correspondence between G|ui LL and Ts'ixa LL (H. Nakagawa, p.c.)). The HL-forms found with some speakers of Ts'ixa might therefore be thought of as representing a more archaic tone pattern than the L(L) forms.

Table 31: Ts'ixa grammemes with fixed tonal patterns not affected by idiolectal variation

FUNCTION	GLOSS	FORM
ACCUSATIVE	'ACC'	?à
ADESSIVE / DATIVE	'LOC'	/xè
ADVERBIALISER	'ADV'	= sè
ALLATIVE / DATIVE	'ALL'	?ò
ASSOCIATIVE	'ASSOC'	-xà
BENEFACTIVE	'BEN'	-mà
CAUSATIVE I	'CAUS'	-kà
CAUSATIVE II	'CAUS'	-kàxù
COMPLEMENTIZER	'COMP'	tà
COMPLETIVE	'COMPL'	-xù
DIFFERENT SUBJECT	'DS'	thòò
DISCOURSE REFERENCE / SAME SUBJECT	'SS' / 'and then'	thà (< thí.?à)
FUTURE	'FUT'	gère
IDENTIFICATION MARKER / COPULA	'COP/ID'	?è
IDENTIFICATION MARKER / COPULA	'COP/ID'	nàà
NARRATIVE / SEQUENTIAL	'SEQ'	n/gè ~ nè
NEGATED IMPERFECTIVE	'IPFV.NEG'	-tâ(â)
NEGATED SEQUENTIAL	'SEQ.NEG'	-té
NEGATION	'NEG'	?ité
RECIPROCAL	'RCPR'	-kù
SUBORDINATION	'when'	nò
VOLITIONAL	'VOL'	-kàà

Finally, 14 grammemes are “tonally underspecified”, i.e., the tone they receive depends on the tonal pattern of the lexeme which they attach to.

Table 32: Tonally underspecified grammemes in Ts'ixa

FUNCTION	GLOSS	FORM
ATTRIBUTOR	'ATTR'	<i>ka</i>
CAUSATIVE III	CAUS	<i>-xu</i>
FREQUENTATIVE	'FREQ'	<i>-ti</i>
GENERIC/REMOTE PAST	'PST3'	<i>-ha ~ -hã</i>
JUNCTURE	'J'	<i>/a/ (/na/)</i>
MULTI-PURPOSE OBLIQUE / POSSESSION	'MPO' / 'POSS'	<i>ka</i>
PASSIVE	'PASS'	<i>-e ~ -i</i>
PGN 3 RD PERSON SINGULAR FEMININE	'SG.F.I'	<i>= si</i>
PGN 3 RD PERSON COMMON GENDER PLURAL	'PL.C.II'	<i>= n</i>
PGN 3 RD PERSON SINGULAR MASCULINE	'SG.M.I'	<i>= m</i>
RECENT PAST	'PST2'	<i>-ʔo</i>
REFLEXIVE	'REFL'	<i>-si</i>
SAME DAY PAST	'PST1'	<i>-ta</i>

With tonally underspecified grammemes, three patterns can be observed:

- a) The grammeme becomes high-toned after melodies that do not include a high tone
- b) The grammeme takes on the tone of the preceding mora
- c) The grammeme becomes high-toned after the rising contour MH

Pattern a) applies to the REFLEXIVE suffix *-si* and the FREQUENTATIVE suffix *-ti*. They always receive a high tone after verbs which do not have a H-including melody, e.g.,

- (27) a. $\overset{?}{\underset{\sim}{a}} + \underset{\sim}{-si} > \overset{?}{\underset{\sim}{a}}\overset{?}{\underset{\sim}{-s}}i$ 'wear'
 dress REFL
- b. $\overset{h}{\underset{\sim}{i}} + \underset{\sim}{-si} > \overset{h}{\underset{\sim}{i}}\overset{?}{\underset{\sim}{-s}}i$ 'happen'
 do REFL
- c. $\overset{s}{\underset{\sim}{i}} + \underset{\sim}{-ti} > \overset{s}{\underset{\sim}{i}}\overset{?}{\underset{\sim}{-t}}i$ 'work frequently'
 work FREQ

In all other instances, they appear with a low tone, e.g., after HL in (27)d, or after HH in (27)e:

- (27) d. $\overset{b}{\underset{\sim}{o}}\overset{\sim}{\underset{\sim}{o}}\overset{\sim}{\underset{\sim}{d}}i + \underset{\sim}{-s}i > \overset{b}{\underset{\sim}{o}}\overset{\sim}{\underset{\sim}{o}}\overset{\sim}{\underset{\sim}{d}}i\overset{\sim}{\underset{\sim}{-s}}i$ 'tell yourself'
 tell REFL
- e. $\parallel\overset{\sim}{\underset{\sim}{a}}\overset{\sim}{\underset{\sim}{o}} + \underset{\sim}{-t}i > \parallel\overset{\sim}{\underset{\sim}{a}}\overset{\sim}{\underset{\sim}{o}}\overset{\sim}{\underset{\sim}{-t}}i$ 'shoot frequently'
 shoot FREQ

Pattern b) is followed by the juncture allomorph /a/ and the passive marker *-i~ -e*. They always receive the tone of the preceding mora. Note that the verb stem appears in its flip-flop form before /a/, and in its citation form before the passive marker, e.g.,

		JUNCTURE /a/	PASSIVE <i>-i~ -e</i>
(28) a.	<i>g//áí</i>	<i>g//ái-a-hà</i>	<i>g//áí-í-hà</i>
	run	run-J-PST3	run-PASS-PST3
b.	<i>kúmí</i>	<i>kúm-a-hà</i>	<i>kúm-é-hà</i>
	hear	hear-J-PST3	hear-PASS-PST3
c.	<i>/'úú</i>	<i>/'úú-á-há</i>	<i>/'úú-í-hà</i>
	kill	kill-J-PST3	kill-PASS-PST3

Finally, pattern c) applies to the causative suffix *-xu*, to three PGN clitics (= *m* '3SG.M:I', = *si* '3SG.F:I', = *n* '3PL.C:I'), to the attributor morpheme *ka*, to the homophonous MULTI-PURPOSE OBLIQUE postposition *ka*, and to the three ANTERIOR / PAST suffixes. They receive a high tone when immediately following a root with a rising contour MH, but are low-toned in all other contexts.

(29)a-b below shows the tonal behaviour of the causative suffix *-xu* after MH:

(29) a.	<i>khudí</i>	+	<i>-xu</i>	>	<i>khudí-xú</i>	'bring down, defeat'
	end		CAUS		end-CAUS	
b.	<i>/'eé</i>	+	<i>-xu</i>	>	<i>/'eé-xú</i>	'make so. fall'

After LL, HL and ML, *-xu* receives a low tone, e.g.,

(29) c.	<i>dàò</i>	+	<i>-xu</i>	>	<i>dàò-xù</i>	'burn' (vt)
	burn		CAUS			
d.	<i>ʔuè</i>	+	<i>-xu</i>	>	<i>ʔuè-xù</i>	'break' (vt)
	break		CAUS			

The three PGN clitics = *m*, = *si* and = *n* of series 'I' behave accordingly:

(30) a.	<i>nguú</i>	+	= <i>m</i>	>	<i>nguú=ṁ</i>	'house'	MH	+	H
b.	<i>kolóí</i>	+	= <i>si</i>	>	<i>kolóí=sí</i>	'car'	MH	+	H
c.	<i>g//óé</i>	+	= <i>si</i>	>	<i>g//óé=sì</i>	'tortoise'	HH	+	L
d.	<i>k'aro</i>	+	= <i>m</i>	>	<i>k'aro=ṁ</i>	'boy'	MM	+	L
e.	<i>/àà</i>	+	= <i>sì</i>	>	<i>/àà=sì</i>	'stomach'	LL	+	L
f.	<i>/ádò</i>	+	= <i>m</i>	>	<i>/ádò=ṁ</i>	'buffalo'	HL	+	L
g.	<i>kyxoà</i>	+	= <i>m</i>	>	<i>kyxoà=ṁ</i>	'elephant'	ML	+	L

All other PGN-markers of both series ‘I’ and ‘II’ consistently appear with a low tone. The tonal behaviour outlined above for the PGN markers of the third person is also displayed by the attributor morpheme *ka*, and the homophonous MULTI-PURPOSE OBLIQUE / POSSESSION MARKER *ka*. Both receive a high tone if they follow a non-PGN marked noun with a rising contour MH. After other melodies and PGN-marked nouns, they are always low-toned, e.g.,

- (31) a. *kuú* + *ka* > *kuú ká* ‘dress’ MH + H
 b. *xarń* + *ka* > *xarń ká* ‘lion’ MH + H
 c. *nguú* + *ka* > *nguú ká* ‘house’ MH + H
 d. *g//óé* + *ka* > *g//óé kà* ‘tortoise’ HH + L
 e. *baa* + *ka* > *baa kà* ‘my father’ MM + L
 f. *ʔqòná* + *ka* > *ʔqòná kà* ‘crocodile’ LL + L
 g. *ngárò* + *ka* > *ngárò kà* ‘chameleon’ HL + L
 h. *kyxoà* + *ka* > *kyxoà kà* ‘elephant’ ML + L

If the ANTERIOR / PAST suffixes *-hã~-ha*, *-ʔo* and *-ta* attach to a verbal root with the contour MH, the high tone not only spreads to the juncture allomorph /a/ (and, in some cases, /na/, cf. Table 33 below), but also to the following suffix. If the juncture allomorph is /r/- or /n/-insertion, or zero, the TAM marker still receives a high tone. In all other environments, the TAM suffixes appear with a low tone.

Table 33: MH with H-tone spread to the ANTERIOR / PAST suffixes

	MH + Ø	MH + /r/-INSERTION	MH + /n/-INSERTION	MH + /a/	MH + /na/
	/ʔeé ‘to fall’	k’oró ‘to eat meat’	ʔãã ‘to get to know’	/ʔũũ ‘to kill’	//ʔorá ‘to grow up’
PST1	/ʔeé-tá	k’oró-tá	ʔaná-há	/ʔũũ-á-tá	//ʔorá-ná-tá
PST2	/ʔeé-ʔó	k’oró-ʔó	ʔaná-ʔó	/ʔũũ-á-ʔó	//ʔorá-ná-ʔó
PST3	/ʔeé-há	k’oró-há	ʔaná-há	/ʔũũ-á-há	//ʔorá-ná-há

3 The noun phrase

The Ts'ixa noun phrase consists of a single noun or pronoun, or of a noun and its modifiers. Members of the word class “noun” cannot be identified by a specific set of phonological or phonotactic properties. At present, there is no reason to assume that Ts'ixa distinguishes nouns according to their tonal behaviour with associated elements, such as suffixes, clitics, and postpositions. The only exception is constituted by nouns with a rising contour MH(H), as the high tone generally spreads to three of the series ‘I’ person-gender-number clitics (= *m* ‘SG.M’, = *si* ‘SG.F’ and = *n* ‘PL.C’) as well as to the MULTIPURPOSE OBLIQUE postposition and the homonymous ATTRIBUTOR postposition *ka* (§2.4.3).

Phonologically, nouns – along with verbs and adjectives – form one category “lexical root”, which is treated in §2.3.1. Genuine Ts'ixa nouns display the phonotactic patterns C(C)VV, C(C)VN and C(C)VCV. While CVCV(C)CV (e.g., *petóànà* ‘small axe’), CVCVCVCV (e.g., *durumberà* ‘water melon’) and C(C)VCVV (e.g., *kolói* ‘car’) occur as well, these forms can usually be traced to either Tswana or another Bantu language.

Nouns in Ts'ixa are characterised by possessing inherent grammatical gender. The gender of a noun is reflected in the form of associated elements, notably by a set of clitics known in the literature as person-gender-number (PGN) markers. They are found throughout the Khoe family and are commonly thought to form one paradigm with the languages’ personal pronouns (cf. Hagman 1977, Vossen 1997, Güldemann 2004). However, the paradigmatic relation between PGN markers and personal pronouns differs across languages and calls for a more differentiated approach.

In Ts'ixa, the post-nominal clitics marking nouns for gender and number are not pronouns or obligatory noun class markers but specific articles, which are found attaching to about 75% of the language’s noun phrases.¹⁷ They are also found marking agreement on nominal modifiers, such as adjectives and demonstratives, and may act as nominalisers that attach to verbs or even full verb phrases. Their link with the pronominal system lies in their recruitment to form the pronouns of the 3rd person by attaching to a demonstrative base. The personal pronouns of Ts'ixa are discussed in §3.1. Nominal gender marking, which is at the heart of Ts'ixa nominal morphology, will be addressed in §3.2.

¹⁷ See also Kilian-Hatz and Heine (1997) and Kilian-Hatz (2008) for a similar assessment of nominal gender marking in West Caprivi Khwe

Nouns may be modified by a possessor noun phrase, an attributive demonstrative, an adjective, a numeral / quantifier, or by a relative clause. Ts'ixa employs three main strategies for nominal modification: an unmarked strategy in which the modifier precedes its head and may or may not be marked by an agreeing PGN clitic, an appositive strategy, and an attributive strategy in which the NP head is marked by the postposition *ka*. Nominal modification and relativisation are treated in §3.3. Nominal derivation by means of affixes is discussed in §3.4.

3.1 The concept of “Person-Gender-Number” (PGN) and the personal pronouns

This section provides a short introduction to the history of the term “Person-Gender-Number” and addresses the phenomenon in Khoekhoe (§3.1.1). Subsequently, the personal pronouns (§3.1.2) and “Person-Gender-Number” (PGN) markers (§3.1.3) of Ts'ixa are discussed

3.1.1 “Person-Gender-Number” (PGN) in Khoekhoe

The term “Person-Gender-Number” (PGN) was coined for a group of suffixes in Khoekhoe (Hagman 1977: 41ff). These suffixes attach to both nouns and pronominal stems, thereby constituting part of the language’s pronominal paradigm. They are portmanteau morphemes, coding three persons (1st, 2nd, 3rd), three genders (masculine, feminine, common) and three numbers (singular, dual, plural). Table 34 below cites the personal pronouns of Khoekhoe, consisting of a pronominal base *tíí*, *síí*, *saá* or *//ĩĩ* plus a PGN suffix. Vossen (1997) distinguishes between a “Vollform”, i.e., pronominal base plus suffix, and a “Kurzform”, i.e., the PGN-suffix without a pronominal base.

Table 34: The personal pronouns of Khoekhoe (pronoun base + PGN suffix) (cf. Hagman 1977: 44)

	1 ST PERSON		2 ND PERSON	3 RD PERSON
	EXCLUSIVE	INCLUSIVE		
MASCULINE				
SINGULAR	<i>tíí-ta</i>		<i>saá-ts</i>	<i>//ĩĩ-p</i>
DUAL	<i>sií-kx̣m̄</i>	<i>saá-kx̣m̄</i>	<i>saá-kx̣ò</i>	<i>//ĩĩ-kx̣à</i>
PLURAL	<i>sií-ke</i>	<i>saá-ke</i>	<i>saá-ko</i>	<i>//ĩĩ-ku</i>
FEMININE				
SINGULAR	<i>tíí-ta</i>		<i>saá-s</i>	<i>//ĩĩ-s</i>
DUAL	<i>sií-m̄</i>	<i>saá-m̄</i>	<i>saá-rò</i>	<i>//ĩĩ-rà</i>
PLURAL	<i>sií-se</i>	<i>saá-se</i>	<i>saá-so</i>	<i>//ĩĩ-tì</i>
COMMON				
DUAL	<i>sií-m̄</i>	<i>saá-m̄</i>	<i>saá-rò</i>	<i>//ĩĩ-rà</i>
PLURAL	<i>sií-tà</i>	<i>saá-tà</i>	<i>saá-tù</i>	<i>//ĩĩ-ṅ</i>

Hagman (1977: 44) defines the Khoekhoe pronoun as “a noun phrase containing only a pronominal [pronoun base], an optional noun derivational suffix (the diminutive *-ró*) and a pgn suffix”. In consequence, PGN-marked nouns are noun phrases lacking the 3rd person pronoun base *//ĩĩ*, e.g., */íí-p* ‘the male jackal’ or *tará-s* ‘the woman, wife’ (cf. Hagman 1977: 22). In general, we can say that every noun phrase in Khoekhoe – both nominal and pronominal – has to be marked by a PGN suffix.

3.1.2 Personal pronouns

Ts’ixa only forms the pronouns of the 3rd person following the strategy outlined above for Khoekhoe, i.e., by attaching a PGN marker to a pronominal base. The pronouns of the 1st and 2nd person, in contrast, cannot be analysed as consisting of two separate morphological formatives. The full pronominal paradigm is given in Table 35.

Table 35: Personal pronouns and article PGNs (in brackets) of Ts'ixa

	1 ST PERSON	2 ND PERSON	3 RD PERSON	
			I	II
MASCULINE				
SINGULAR	<i>tí</i>	<i>tsá</i>	<i>ʔé.m̩ (= m)</i>	<i>ʔé.mà (= mà)</i>
DUAL	<i>tsúrn̩</i>	<i>tsórò</i>	<i>ʔé.tsérà (= tsérà)</i>	
PLURAL	<i>ʔé</i>	<i>ʔó</i>	<i>ʔé.ʔu (= ʔu)</i>	<i>ʔé.ʔùà (= ʔùà)</i>
FEMININE				
SINGULAR	<i>tí</i>	<i>sá</i>	<i>ʔé.sì (= sì)</i>	<i>ʔé.sà (= sà)</i>
DUAL	<i>súrn̩</i>	<i>sórò</i>	<i>ʔé.sérà (= sérà)</i>	
PLURAL	<i>sé</i>	<i>só</i>	<i>ʔé.dzi (= dzi)</i>	<i>ʔé.dzà (= dzà)</i>
COMMON				
DUAL	<i>khúrn̩</i>	<i>khórò</i>	<i>ʔé.khórà (= khórà)</i>	
PLURAL	<i>tsé</i>	<i>tó</i>	<i>ʔé.n (= n)</i>	<i>ʔé.nà (= nà)</i>

The personal pronouns of the 1st and 2nd person are neither complex nor clitics, but independent nominal elements. They do not have a cliticised counterpart that may attach to a noun stem or to a demonstrative base (cf. 32a). The pronouns of the 3rd person are different in that they are morphologically complex: they are composed of a distance neutral demonstrative base *ʔé* and a clitic encoding gender and number, but not person (cf. 32b). The very same clitics optionally attach to nouns, noun phrases and nominal modifiers (cf. 32c). They then act as specific articles, nominalisers and agreement markers. Among these clitics, those of singular and plural stand out in displaying a case distinction, here labelled as ‘I’ and ‘II’, which does not exist for dual (compare (32)c and (32)d).

- (32) a. *tí kò sá / tsá yábà.*
 1SG IPFV 2SG.F / M love
 ‘I love you (f/m).’
- b. *ʔé.m̩ kò ʔé.sà ʔà yábà.*
 3SG.F.I IPFV 3SG.F.II ACC love
 ‘He loves her.’
- c. *ʔé.m̩ kò khoe = sà ʔà yábà.*
 3SG.M:I IPFV person = SG.F:II ACC love
 ‘He loves the woman.’
- d. *ʔé.sérà kò khoe = tsérà ʔà ʔ*árn̩.*
 3DU.F IPFV person = DU.M ACC hit
 ‘They (du.f) hit the two men.’

The personal pronouns of Ts'ixa do not form one paradigm with the language's PGN markers (cf. Khoekhoe), but may be grouped into two sets: the pronouns of the 3rd person, which follow the Khoekhoe pattern in displaying morphological complexity, and those of the 1st and 2nd person, which do not. Both Hagman (1977) and Vossen (1997) recognised the special status of the PGN markers of the 3rd person in their role as article-like noun markers across the Khoe family. Vossen (1997: 341ff) in his reconstruction treats them separately from the pronominal paradigm and uses the term "Genus-Numerus" (GN) instead of Hagman's "Person-Gender-Number".

Ts'ixa does not distinguish between subject and object pronouns, but a case distinction exists for the third person singular and plural through the language's case sensitive PGN markers (cf. §6.2.1). Possessive pronouns do not form a separate category either, but are formed, like other independent possessors, by combining the pronoun with the possessive postposition *di* (cf. §3.3.7.4).

3.1.3 "Person-Gender-Number" (PGN) markers

In this grammar, I will follow Kilian-Hatz (2008) in using the term "PGN" for what I analyse as clitics marking nominal referents – including the personal pronouns of the 3rd person – for gender and number. The PGNs of Ts'ixa may be further divided into those that possess case-sensitive forms (singular and plural), and those that do not (dual).

The PGNs are treated as enclitics rather than suffixes because they not only attach to nouns and their modifiers, but to any element that occupies the final slot of a syntactic unit acting as definite noun phrase. In (33), the PGN for singular masculine attaches to the verb 'to eat', but has scope over the entire verb phrase 'eat cattle', thereby creating a headless relative clause with the meaning 'those who eat cattle' which serves as a nominal argument (subject) of the verb 'to come'. Unlike the pronouns of the 1st and 2nd person, PGNs are not independent words; they cannot stand on their own and form a phonological unit with whatever lexical element precedes them.

- (33) *thà* [*góè = dzà* *kò* *k'óó*] = //ù *kò* àà *nò*
 SS cattle = PL.F:II IPFV eat.meat = PL.M:I IPFV come when
ʔé.sì *kò* *nyúm.*
 3SG.F:I IPFV whistle
 'When the cattle-eaters came, she would whistle.'

In the following, personal pronouns and PGNs will be treated as separate categories.

3.2 Nominal gender marking

Ts'ixa optionally marks nouns and noun phrases for gender and number. This is achieved by attaching the PGN markers (cf. §3.1) to the noun or the final constituent of a noun phrase. As has already been established, they are clitics, rather than suffixes. Unlike related Khoe languages, e.g., West Caprivi Khwe (Kilian-Hatz & Heine 1997, Kilian-Hatz 2008: 40), Ts'ixa has pronouns, but no clitics for the 1st and 2nd person, i.e., personal deixis is not considered in Ts'ixa nominal gender marking. The PGNs distinguish between three gender categories (masculine, feminine and common gender) and three number categories (singular, dual and plural). In singular, only masculine and feminine gender is distinguished. Nouns denoting human referents in dual and plural also take on marking for common gender.

The PGNs in singular and plural each have two forms; one ends in /a/, the other ends in a high vowel or is a nasal. The latter (labelled 'I') is used for the subject of the clause and may hence be thought of as bearing a certain affinity to nominative case marking. However, clitics of series 'I' also attach to dependent nominal referents, e.g., those headed by a postposition, as well as to agreeing nominal modifiers preceding their heads.

The second group (labelled 'II') attaches to the direct object of the verb phrase and thereby displays an affinity to accusative case. However, this is not its only function. PGNs of series 'II' also mark predicate nouns in non-verbal clauses, as well as appositions.

Table 36 illustrates the behaviour of the PGNs when attached to a high-toned lexical stem, the noun /úá 'child'.

Table 36: The PGNs of Ts'ixa, attached to the noun /úá 'child'

	M		F		C	
	I	II	I	II	I	II
SG	/úá = m̃	/úá = mà	/úá = s̃ì	/úá = sà		
DU	/úá = tsérà		/úá = sérà		/úá = khórà	
PL	/úá = ʔù	/úá = ʔùà	/úá = dzì	/úá = dzà	/úá = ò	/úá = nà

The PGNs of series 'II' are always low-toned, notwithstanding the tonal profile of the lexical stem they attach to. In contrast, PGNs of series 'I' are tonally dependent on their hosts. If they attach to stems carrying a rising contour MH, the high tone spreads to the PGNs for singular masculine and feminine, as well as common gender plural. Dual PGNs always have a falling melody HL (cf. §2.4.3).

This chapter discusses the semantics of gender assignment (§3.2.1) as well as PGN agreement on nominal modifiers (§3.2.2). In §3.2.3, the relationship between marked and unmarked nouns is addressed. Finally, §3.2.4 offers a preliminary assessment of the status of PGN clitics as specific articles.

3.2.1 Gender assignment

According to Corbett (1991: 7-8), “[a]ssignment may depend on two basic types of information about the noun: its meaning (semantics) and its form”. As shown in §3.1 (cf. Table 35), Ts’ixa distinguishes three genders: masculine, feminine, and common gender. However, common gender is only applied to [+human] referents in dual and plural. [-human] referents in dual and plural are marked with the appropriate PGN for either masculine or feminine gender.

It could be argued that Ts’ixa, despite the distinction of only masculine and feminine with both animate and inanimate nouns, primarily constitutes what Corbett (1991: 13) calls a “predominantly semantic system”, making use of semantic assignment rules that allow certain exceptions which are linked to the concept of “semantic residue”, i.e., “nouns whose gender is not assigned according to a positive semantic criterion” (Corbett 1991:13).

In Ts’ixa, this “semantic residue” comprises all nominal referents that do not possess a natural gender. However, they are not merely assigned either masculine or feminine gender. Gender assignment with [-human] referents is flexible insofar as masculine and feminine PGNs in Ts’ixa display certain semantic properties. Depending on the implications a speaker wants to make, most referents may be assigned either masculine or feminine gender. Hence, a simplified representation of the actual state of affairs looks as follows:

Table 37: Gender assignment (singular)

CRITERION	GENDER	EXAMPLE	GLOSS
male	masculine	<i>k’áàkhòè = mà</i>	‘husband’
female	feminine	<i>g//àakhòè = sà</i>	‘wife’
residue	masculine/feminine,	<i>nguú = mà</i>	‘house’
	depending on semantic intent of speaker (e.g., M = big, F = small)	<i>nguú = sà</i>	‘nest’

Table 37 does not take into account that the gender of some nouns appears to be more stable than that of others. Abstract nouns, for example, are almost always feminine, as are round objects and loanwords from Tswana or English, e.g., *kolóí = sà*

‘car’ (< Tswana *koloī*). Nouns denoting items that constitute the basic diet of the Ts’ixa, i.e., *k’oxú=mà* ‘meat’ and *khobá=mà* ‘millet, porridge’, are inherently masculine, as are houses and angular objects (but see Table 37 above). However, even in these rather stable cases, exceptions are possible, e.g., to place particular emphasis on the referent, or to make an insult. One speaker described this system as “playing with the language” – something mostly found with old people rather than with younger speakers who may only have a limited command of their heritage language.

Nevertheless, evidence from texts as well as from discussions with speakers of Ts’ixa reveals a prominence hierarchy along which gender is commonly assigned:

Natural gender > Importance > Shape > Size

Possible criteria for noun classification via gender marking that could be derived from the data are provided in Table 38.

Table 38: Semantic implications of grammatical gender

	MASCULINE	FEMININE
NATURAL GENDER	male	female
IMPORTANCE	important	less important
SHAPE	square, elongated	round
SIZE	big	small
OTHER	place names	abstract nouns

As has already been noted, these distinctions are very productive with older speakers, but seem to be virtually unknown to speakers under 30. This becomes evident by considering the following example: When people were asked whether the noun *n//goé* ‘moon’ was to be marked for masculine or feminine gender, younger speakers opted for feminine marking. Two elders, however, agreed that the noun *n//goé* may be marked for feminine or masculine gender, depending on the moon’s shape at the time of reference. In this case, elder speakers regarded shape as the most salient semantic criterion for the gender assignment of this particular noun, while younger speakers displayed a general tendency to use feminine marking for all referents not in possession of natural gender. It could however be observed that the importance of a referent was sometimes emphasised by using masculine marking. This suggests that importance is still regarded as the most salient semantic criterion for the marking of non-animate nominal referents.

In dual and plural, referents are marked according to their natural gender: Animate nouns denoting male or female entities are marked accordingly. If the noun in question refers to a pair or group made up of both male and female referents, common gender is used as long as the referents are [+human] (cf. 34b). Large groups of animals are usually marked by the PGN for feminine plural (cf. 34a).

Group of animals with unspecified gender:

- (34) a. *kyxoà = dzì* */hóó = mà* *ʔà* *kò* *ʔyúú.*
 elephant = PL.F:I grass = SG.M:II ACC IPFV eat
 ‘The elephants are eating the grass.’

vs. group of humans including both men and women:

- b. *xúúkhè = ñ* *//’árí-tà* *ná = ñ* *kà* */úú = nà* *ʔà.*
 San = PL.C:I beat-IPFV.NEG DEM.REF = PL.C:I POSS child = PL.C:II ACC
 ‘The San do not beat their children.’

The semantic residue takes the dual or plural form of the gender it has been assigned, according to the semantic criteria discussed above. (35), for instance, was taken from a text about a pair of hills in Savuti considered to be female by the elders.

- (35) *kaxóré* *n//góá = sérà* */ámè-nà-hà.*
 because hill = DU.F be.two-J-PST3
 ‘Because the hills were two.’

3.2.2 Agreeing nominal modifiers

According to Hockett (1958: 231), agreement, i.e., the “behavior of associated words” is crucial in identifying a language as featuring grammatical gender. Corbett (1991: 4) elaborates on Hockett’s definition, stating that

[w]hile nouns may be classified in various ways, only one type of classification counts as a gender system; it is one which is reflected beyond the nouns themselves in modifications required of ‘associated words’ (Corbett 1991: 4).

Apart from pronoun agreement and agreeing PGNs, Ts’ixa displays agreement on nominal modifiers, i.e., demonstratives, adjectives, and relative clauses. They receive a PGN clitic agreeing with the semantic properties of their heads, no matter whether the head is openly stated (cf. 36a) or omitted (cf. 36b).

- (36) a. */áú = ñ* *k’ará = ñ* *kò* *g//áí.*
 big = SG.M:I impala = SG.M:I IPFV run
 ‘The big impala is running.’

- b. /áú = m̃ kò g//áí.
 big = SG.M:I IPFV run
 ‘The big one (referring to the impala) is running.’

Modifiers may precede their heads or follow them as an apposition. However, most speakers prefer the more flexible construction with the attributor morpheme *ka* (see §3.3.1.2). Note that adnominal demonstratives may act as the syntactical head of the NP, even though the PGN clitic they receive is still governed by the semantic properties of the noun which acts as their dependent (cf. 37 below):

- (37) *gúà = s̃i í = s̃i //àbà-kùm-//àbà-nà-hà.*
 hyena = SG.F:I DEM.REF = SG.F:I bec.hungry-INT-bec.hungry-J-PST3
 ‘This hyena was very hungry.’

Modifiers preceding their heads are always marked by a PGN of series ‘I’, irrespective of the syntactic slot occupied by the noun phrase. Although (38) below appears to display case agreement – both the ‘impala’ and the adjective ‘big’ are marked by a PGN of series ‘II’ – this is not actually the case. Rather, we are dealing with an appositive construction, i.e., ‘the impala, the big one’. Hence, both constituents occupy the direct object slot; they do not form a complex noun phrase.

- (38) *k’ará = mà /áú = mà ?à tí /’úú-á-tá.*
 impala = SG.M:II big = SG.M:II ACC 1SG kill-J-PST1
 ‘I killed the big impala (not the small one).’

3.2.3 PGN marking vs. zero marking

Nominal gender marking is not obligatory in Ts’ixa, as a nominal referent can either be a bare noun phrase, or a noun phrase marked by a PGN clitic. Marked noun phrases, however, occur more frequently than unmarked ones. Table 39 provides an overview of the quantitative relationship between marked and unmarked noun phrases in 3 Ts’ixa texts (2 narrative, 1 descriptive).

Table 39: Quantitative assessment of marked vs. unmarked NPs in three texts

	GENRE	# OF NPS	-PGN	+ PGN
TEXT 1	narrative	51	15,7%	84, 3%
TEXT 2	narrative	32	21,9%	78,1%
TEXT 3	descriptive	62	35,5%	64,5%
	Total:	145	74,5%	25,5%

As can be gathered from the above table, roughly 75% of the language's noun phrases are marked. Following Kilian-Hatz and Heine's (1997: 5) line of argument for West Caprivi Khwe, nominal referents with a PGN will be treated as basic, while a lack of PGN marking is to be accounted for by a set of language specific rules and tendencies. This will be attempted in §3.2.3.1. Note that on the level of the noun phrase, lack of PGN marking on the head noun is determined by syntactic rather than semantic properties. These cases are discussed in §3.2.3.2, while §3.2.2.3 looks at the relationship between the language's postpositions and PGN marking.

3.2.3.1 Distribution of unmarked nominal referents

In the following, all contexts in which zero marking occurs will be introduced and illustrated by examples. These include generics (§3.2.3.1.1), unspecific count nouns (§3.2.3.1.2), and proper nouns (§3.2.3.1.3).

3.2.3.1.1 Generics

Descriptive texts on hunting and wildlife tend to contain a considerable number of unmarked nouns denoting animals, e.g.,

- (39) a. *gǎí kò kúú=xùà kò tsí-í ?è.*
 steenbok IPFV go = LOC IPFV observe-PASS ?PASS
 'It is observed where the steenboks go.'
- b. *k'ará gǎí khòná ?ì ?íté.*
 impala steenbok be.like look.like NEG
 'An impala does not look like a steenbok.'

Human nouns, in particular those referring to ethnic groups, may also be treated as generic (cf. 40a-c). The unmarked noun *khoe* 'person' is frequently used as an impersonal pronoun (cf. 40d):

- (40) a. *kaná xúúkhòè guni kónò*
 or San hunt when
 '[...] or when the San were hunting'
- b. *g//ámá = ñ mǐ = ní xúúkhòè ?è.*
 ancestor = PL.C:I DEM.DIST = PL.C:I San COP
 'Those ancestors are San.'
- c. *?é.ñ Ts'ixà ?è.*
 3SG.M:I Ts'ixa COP
 'He is a Ts'ixa.'

- d. *ʔyáá=sì kà khoe kò kírú.*
 wind = SG.M:I MPO person IPFV hear
 ‘One hears/smells with the wind’

In addition, mass nouns in generic usage – in particular those denoting dietary items – appear without a PGN:

- (41) a. *|éé-k’oxù tòrà ʔè.*
 wildebeest-meat bitter COP
 ‘Wildebeest meat is bitter.’
- b. *tshaá hààná.*
 water be.there
 ‘There is water.’

3.2.3.1.2 Unspecific count nouns

Unspecific count nouns are not marked by a PGN clitic:

- (42) a. *ù-|úú àà.kà=sè thà nè kũũ-a //’àm gòè=sà ʔà.*
 tree-DIM bring = ADV SS SEQ go-J beat cattle = SG.F:II ACC
 ‘Bringing a stick, [she] went to beat the cow.’

This also applies to unspecific count nouns modified by a numeral:

- b. *|ám |ʔúú nyáá.xù ʔé.sì kà khoó=ń ʔà.*
 two bone put 3SG.F:I POSS skin = SG.M:I LOC
 ‘Put two bones on its skin.’

3.2.3.1.3 Proper nouns

Proper nouns other than personal names sometimes remain unmarked, such as *khóédàm* in (43):

- (43) *tí kò kírú khóédàm.*
 1SG IPFV hear Khwedam
 ‘I understand Khwedam.’ (lit. I can hear Khwedam.)

The marking of place names does not seem to follow any particular rule, and for the most part, they are simply left unmarked. (44) quotes two instances of the place name *ʔÁń-lóò* with the locative postposition *ʔà*, one marked (cf. 44a), the other unmarked (cf. 44b). In (44)c, *Savuti* is the grammatical subject of the passive construction but still remains unmarked, just like the complement clause *Koba-tshaa*. If a place name is marked, it always receives the PGN for masculine singular.

- (44) a. *ʔí.xùà ʔà ky'òà tsé kónò n/gè †ʔÁñ-!óò=m ʔà ʔúá.*
 LOC.REF LOC exit 1PL.C when SEQ GN=SG.M:I LOC descend
 ‘When we leave here, we climb down †ʔAn-!oo [a hill near Savuti].’
- b. *†ʔÁñ-!óò ʔà /ú.xùà tsé kò ʔóbé n//goé séè.*
 GN LOC sometimes 1PL.C IPFV three moon take
 ‘At †ʔAn-!oo, we sometimes take three months.’
- c. *[Savuti] [Koba-tshaa] tà kò kyíí-í ʔè.*
 GN GN COMP IPFV call-PASS PASS
 ‘Savuti is called Koba-tshaa (‘Black people’s water’).’

Unlike West Caprivi Khwe (cf. Kilian-Hatz & Heine 1997), Ts’ixa obligatorily marks personal names, no matter whether they occur as subject (cf. 45a), object (cf. 45b), or with a postposition (cf. 45a).

- (45) a. *[Maxwell]=m [Joseph]=m /xòà [Khwai] ngùà ʔ'áé-kù-nà-tà.*
 PN=SG.M:I PN=SG.M:I COM GN LOC meet-RCPR-J-PST1
 ‘Maxwell met Joseph at Khwai.’
- b. *thà ʔé [Mokuba]=mà ʔà tʔóín-nà.*
 SS 1PL.M PN=SG.M:II ACC join-STAT
 ‘Then we joined Mokuba.’

3.2.3.2 Unmarked head nouns in [+specific] modifying constructions

Not only the semantic properties of a nominal referent may trigger zero marking. Ts’ixa has two modifying constructions which require obligatorily unmarked heads: 1) juxtaposed possessive constructions (cf. §3.3.7.1) and 2) modifying constructions with the ATTRIBUTOR postposition *ka*. Modification by an attributive demonstrative also allows for optional zero-marking, but this appears to be infrequent in modern Ts’ixa.

a) Zero-marked heads of juxtaposed possessive constructions

Ts’ixa has three different strategies to encode attributive possession (§3.3.7). One of them allows for simple juxtaposition of the two components in the fixed order ATTRIBUTE-HEAD (or POSSESSOR-POSSESSUM). Juxtaposition is sometimes found with body parts (cf. 46a) and kin terms (cf. 46b). The head of a juxtaposed genitive must never be marked by a PGN clitic.

- (46) a. *tí kyáó kò thúù.*
 1SG heart IPFV hurt
 ‘My heart hurts.’ (i.e., ‘I am sad’)

- b. *g//aàkhòè = s(i) í = sì tí taxù ?è.*
 woman = SG.F:I DEM.REF = SG.F:I 1SG e.sibling COP
 ‘This woman is my elder sister.’

b) Zero-marked heads of modifying constructions with *ka*

The most common way to modify a noun is via the attributor morpheme *ka*, which always follows the unmarked head. This kind of modifying construction is employed for relative constructions, as well as for adjectival and possessive modification of nouns (§3.3.1.2). If the complex noun phrase is [+specific] (i.e., does not fall into one of the categories mentioned in §3.2.3.1.), the modifier receives a PGN agreeing with the inherent semantic properties of the unmarked head.

- (47) a. *tsóð-khòè kà [[Khwai] ?à kò nyúú] = ì*
 medicine-person ATTR GN LOC IPFV stay = SG.M:I
[Omega] ngùà kò ky’uà.
 GN LOC IPFV come.from
 ‘The healer who lives in Khwai comes from Omega.’

- b. *tí kò //?orá = sérà n//góá kà mūù.*
 1SG IPFV big = DU.F hill ATTR see
 ‘I see the two big hills (lit. ‘two hills which are big’).’

c) Zero-marked heads of an attributive demonstrative

In most Khoe languages, the attributive demonstrative precedes its head. Although this construction is possible in Ts’ixa, it is not very common and rarely features in texts or naturally produced speech. In an example from Westphal’s (n.d.b) recordings, the unmarked demonstrative precedes the unmarked noun, e.g.,

- (48) *íj táákhòè kò ?áru.*
 DEM.PROX elder IPFV play
 ‘This elder here plays.’

In the present corpus, the demonstrative follows, rather than precedes the noun. In the majority of examples, noun and demonstrative are both marked (cf. 49a). However, the data also contains examples of a marked demonstrative following an unmarked noun (cf. 49b); in both cases, the PGN marking on noun and demonstrative is governed by the inherent lexical semantics of the noun.

- (49) a. *káràxù = ì mūí = í tsá dí ?è.*
 bed = SG.M:I DEM.DIST = SG.M:I 2SG.M POSS COP
 ‘That bed there is yours.’

- b. *k'áàkhòè mǔ́ = m̄ //harákhòè ?è.*
 man DEM.DIST = SG.M:I carpenter COP
 'That man there is a carpenter.'

More research will be needed to determine whether the markedness patterns of nouns modified by a demonstrative are idiosyncratic and arbitrary, or carry a deeper pragmatic meaning.

3.2.3.3 PGN-marking of nouns headed by a postposition

In a sample of 70 postpositional phrases taken from five Ts'ixa texts, the majority (78,6%) features a PGN-marked noun phrase. However, keeping in mind that roughly 75% of all noun phrases are marked (see Table 38 above), this rate seems fairly in tune with broader patterns found in the language. So at first glance, one might assume that there is no correlation whatsoever between postpositions and PGN marking. This is not the case. As can be seen in the table below, some postpositions appear with higher frequency than others:

Table 40: Correlation between PGN use and assorted postpositions in five texts

POSTPOSITION	# OF EXAMPLES	-PGN	+ PGN
<i>?à</i> 'in, at, on'	28	25%	75%
<i>ngùà</i> 'in, at, on, from'	12	16,7%	83,3%
<i>?ò</i> 'to'	8	0%	100%
<i>ka</i> 'by, with'	10	50%	50%
Others	12	25%	75%
TOTAL	70	21,4%	78,6%

?à, *ngùà* and *ka*, the postpositions most frequently found in texts, are also the ones most frequently found with unmarked nouns. This may be explained by their multifunctional nature. They commonly mark temporal relations as well as expressions which have already taken on an idiomatic or generic meaning. Although some temporal adverbials may appear without a postposition (cf. §5.2), others, like 'in the morning' (cf. 50a) or 'in the past' (cf. 50b) are headed by *?à* or *ka*.

- (50) a. *//xáà ?à góè = dzì kò ky'áà.xù-ì ?è.*
 morning LOC cattle = PL.F:I IPFV take.out-PASS ?PASS
 'In the morning, the cows are taken out.'

- b. *thúù kà tsé kò ηóó = m̄ ?à àà nò*
 past MPO 1PL.C IPFV place = SG.M:I LOC come when
 'In the past, when we used to come to the place [...].'

ngùà does not normally appear with unmarked nouns, but forms part of the common adverbial expression *ngyóró ngùà* ‘later, afterwards’:

- (50) c. *ngyóró ngùà ?é.sì nè ?ám.*
 back LOC 3SG.F:I SEQ agree.
 ‘Later she agreed.’

This use is not to be confused with another idiomatic expression involving unmarked *ngyóró* ‘back’ and a postposition, namely the temporal subordinator *ngyóró ?à* ‘after’ (cf. §8.2.4.3).

Unmarked nouns also appear in instrumental adjuncts specifying a motion verb (‘by foot’, ‘on the knees’ cf. 50d).

- (50) d. *tí kò //óé kà kyãã.*
 1SG IPFV knee MPO enter
 ‘I crawl inside.’ (lit. enter on knee)

3.2.4 Status and grammaticalisation of PGNs

The above description is by no means exhaustive in that it only covers broadly recognisable patterns. Still, it shows that the PGN clitics of Ts’ixa are not obligatory noun markers like their counterparts in Khoekhoe (cf., e.g., Vossen 1994: 430).

They may be interpreted as articles that distinguish specific (marked) from non-specific (unmarked) nominal referents. PGN marking does not depend on whether the referent is identifiable to both speaker and hearer, but on whether it is identifiable *in principle*. This includes use in contexts in which the referent may not be identifiable to the hearer at a given point in time, e.g., when a new participant is introduced (cf., e.g., Himmelmann (1997: 101-108) on specific articles). In (51) below, the noun phrase ‘a big elephant’ is marked by a PGN clitic which attaches to the adjective */áú* ‘big’¹⁸, even though the pragmatic context is indefinite, i.e., the elephant is unlikely to be identified by the addressee.

- (51) *thì. ?à n/gè kúù sù-a /áú=mà ?à kyxoà kà múù.*
 SS SEQ go arrive-J big=SG.M:II ACC elephant ATTR see
 ‘Then they went to find a big elephant.’

¹⁸ Here, the head noun *kyxoà* ‘elephant’ is marked by the attributor *ka* and cannot receive PGN marking, cf. §3.2.3.2.

3.3 Nouns and their modifiers

The Khoe languages are thought to be strictly head-final, i.e., “[n]ominal qualifiers such as adjectives, numerals and demonstratives precede the noun [...]” (Güldemann & Vossen 2000: 118). This assumption is based on observations made for all documented Khoe languages (cf., e.g., Kilian-Hatz 2008: 205 on West Caprivi Khwe, Heine 1999: 34 on ||Ani, Hagman 1977: 21 on Khoekhoe) and conforms to what would be expected typologically from an OV language (Heine 1976). Compared to the regularities observed in closely related languages, Ts’ixa behaves rather peculiar in this domain. While modifiers may indeed precede their heads, this is by no means the only or even the most common strategy found in the data. The different syntactic strategies for nominal modification as found in Ts’ixa are outlined in §3.3.1.

In this grammar, adjectival attribution (§3.3.2), modification by numerals and quantifiers (§3.3.3), demonstratives (§3.3.4), interrogatives (§3.3.5) and relative clauses (§3.3.6) as well as genitive and attributive possession (§3.3.7) are all considered strategies of nominal modification. The order of modifiers in the NP - irrespective of whether the head appears in phrase-initial or phrase-final position - is the following:

ADJECTIVE – NUMERAL – DEMONSTRATIVE – RELATIVE

Some modifiers also display predicative (adjectives) and pronominal (demonstratives, interrogatives) usages; for reasons of convenience, these will also be discussed within the frame of this chapter.

3.3.1 Strategies of nominal modification in Ts’ixa

Ts’ixa employs three main strategies for nominal modification: One corresponding to the default construction of the Khoe language family (cf. Güldemann & Vossen 2000), i.e., the modifier precedes the head (§3.3.1.1), one requiring an attributor morpheme *ka* following the either pre- or post-posed head (§3.3.1.2), and one which treats the modifier as an apposition to the head (§3.3.1.3). The choice of which strategy to use depends on the grammatical definiteness of the nominal head, i.e., whether the NP is marked by a PGN clitic, on pragmatic considerations, i.e., whether the speaker wants to emphasise the modifier or the head, and possibly also on the speakers’ idiolectal affiliation. Table 41 provides an overview of modifying strategies found in the data.

Table 41: Nominal modification strategies

#	TYPE	CONSTITUENT ORDER	FOUND WITH	GRAMMATICAL RESTRICTIONS
1)	Juxtaposition	Modifier - Head	all types, except relative constructions	NP is not marked by a PGN clitic, safe for a small number of adjectives which allow for PGN marking
2a)	Attributor <i>ka</i> (post-posed head)	Modifier = PGN - Head <i>ka</i>	all types, except interrogatives	Definiteness of NP is marked on modifier(s) by PGN clitic agreeing with the semantic and syntactic properties of head noun
2b)	Attributor <i>ka</i> (pre-posed head)	Head <i>ka</i> - Modifier = PGN	all types, except interrogatives	Definiteness of NP is marked on modifier(s) by PGN clitic agreeing with the semantic and syntactic properties of head noun
3)	Apposition	Head = PGN - Modifier = PGN	all types, except interrogatives and demonstratives	Modifier may, but need not take a PGN of series 'II', highlighting its appositive status

At first glance, attributive demonstratives appear to constitute a rather peculiar exception to the patterns introduced above. They commonly follow the noun, which would suggest head-initial juxtaposition. There is, however, some evidence to suggest that in these constructions, demonstratives are treated as syntactic heads. This phenomenon will be discussed in §3.3.4. Adnominal possessive constructions show similar, but slightly diverging strategies to the ones outlined above; they are discussed individually in §3.3.7.

3.3.1.1 Head-final modifying constructions

This strategy is mostly found with heads lacking a PGN suffix:

- (52) a. //xáà ?à ?é.sì kò sī-a góè = dzà ?à ky'áà.xù nò
morning LOC 3SG.F:I IPFV arrive-J cattle = PL.F:II ACC take.out when
//?orá †?áá nè àa ?é.sà ?à séè.
big wind SEQ come:J 3SG.F:II ACC take
'In the morning, when she arrived to take out the cattle, a big wind came to take her away.'

However, modifiers displaying PGN agreement may appear as well:

- (52) b. *gyáá=sì* *g||óé=sì* *||úú.*
 DEM.REF = SG.F:I tortoise = SG.F:I be.lying
 ‘The (aforementioned) tortoise is lying [there].’

3.3.1.2 The attributor postposition *ka*

The majority of [+ specific], i.e., PGN-marked noun phrases require the head to be marked by the attributor postposition *ka*. This grammatical formative puts nouns in what is comparable to the “construct state” found in the Semitic languages. *ka* is always low-toned, unless it follows a noun with a rising contour MH(H). In the latter case, the high tone spreads to *ka* (cf. §2.4.3). The attributor postposition is a full homonym of the MULTIPURPOSE OBLIQUE postposition *ka* (§5.3.7), but an etymological connection between the two cannot be established for the time being.

While a head noun marked by *ka* does not receive PGN marking (see §3.2.3.2), all modifiers – no matter whether they are preceding (cf. 53a) or following (cf. 53b) their heads – receive PGN marking agreeing with the head’s semantic and syntactic properties.

- (53) a. [*aqáám ká* *||?orá=sí*] *nè* *||abù-à* *kyāā* *ǎí* *kà* *mokóró=ám* *?à.*
 toad ATTR big = SG.F:I SEQ jump-J enter DEM.REF ATTR canoe = SG.M:I LOC
 ‘The big toad jumps into the canoe.’
- b. *?é.||ù* [*||ám=tsérà* *múú=tsérà* *tshéè* *kà*] *?à* *||?úà-nà-hà.*
 3PL.M:I two = DU.M DEM.DIST = DU.M day ATTR LOC return-J-PST3
 ‘They returned during those two days.’

In unmarked order, the *ka*-marked head usually follows the modifier(s) (cf. 53b above), although it is possible to reverse the order for emphasis (cf. 53a). However, relative clauses are more likely to follow their *ka*-marked heads than other modifiers.

A variant of the construction schema outlined in Table 41 above is found with adnominal demonstratives. Here, the endophoric demonstratives *ǎí* ~ *ǎíí* ~ *úú* and *múú* may be marked by *ka* and hence act as syntactic heads of the NP (§3.3.4.2.2).

- (54) *thì. ?à* *í* *kà* *k’áó=ám* *|?úú* *kà* *húú-è-hà.*
 SS DEM.REF ATTR arrow = SG.M:I stone MPO do-PASS-PST3
 ‘This (aforementioned) arrow was made from stone.’

Heads of possessive constructions may also be marked by the attributor *ka*; in this case, the possessee is followed by the possessive particle *dí*, which then receives a

PGN marker agreeing with the head’s semantic and syntactic properties (cf. §3.3.7.3).

3.3.2 Adjectives

According to Dixon (2004, 2010), a word class “adjective” can be identified for every human language. This contradicts claims made by various linguists who identify adjectival uses of verbs and nouns, but no distinct word class “adjective”. Yet, Dixon proposes that internal grammatical criteria should enable the linguist to define the prototypical conceptual basis and grammatical function(s) unique to what may rightfully be dubbed an “adjective” within a particular language. §3.3.2.1 identifies semantic tasks for Ts’ixa adjectives. §3.3.2.2.1 introduces non-derived members of the pertaining word class, followed by adjectives derived from nouns and verbs (§3.3.2.2.2). Finally, predicative (§3.3.2.3) and attributive (§3.3.2.4) uses will be discussed.

Note that this section deals with “adjectives in the narrow sense – that is, descriptive adjectives [...] – leaving aside other types of noun modifier, demonstratives, and interrogatives” (Dixon 2004: 1); other types of modifiers will be treated in subsequent sections and not be subsumed under the label “adjective”.

3.3.2.1 Semantic tasks of adjectives

Dixon (2004) suggests that adjectives may be identified by their ability to carry out a set of pre-specified semantic tasks. He further elaborates on two primary roles adjectives are typically expected to fill in the grammar of a language:

- (1) Stating properties of a nominal referent
- (2) Modifying a nominal referent

For both tasks, different syntactic strategies may be applied. Properties of a nominal referent may be stated through an adjective functioning as a copula predicate (cf. 55a) and an adjective functioning as an intransitive predicate (cf. 55b-c). While most languages employ one strategy only, a small set of languages may employ both, albeit with different semantic outcomes. As shown by the examples below, this is also the case in Ts’ixa.

- (55) a. *ŋúú = n̄* /*urí* ?è.
place = SG.M:I dirty COP
‘The place is dirty.’

- b. $\eta\acute{u}\acute{u}=\grave{m}$ $/\acute{u}r\acute{u}-n\grave{a}-\text{?}\grave{o}$.
 place = SG.M:I dirty-J-PST2
 ‘The place is dirty.’ (lit: the place has become dirty)
- c. $\eta\acute{u}\acute{u}=\grave{m}$ $k\grave{o}$ $/\acute{u}r\acute{u}$.
 place = SG.M:I IPFV dirty
 ‘The place is becoming dirty.’

To modify a nominal head, Ts’ixa may use all of the strategies outlined in §3.3.1 above: the adjective may precede the head noun (cf. 56a-b), act as an apposition to the head noun (cf. 56c), or combine with a noun marked by the attributor morpheme *ka* (cf. 56d). Note that a construction like in (56)b, with a definite head and an accordingly marked modifier is only possible with a small number of adjectives.

- (56) a. $/\acute{a}u$ $k\acute{y}x\acute{o}\grave{a}$ $/\acute{u}\acute{u}-k\grave{u}-n\grave{a}-h\grave{a}$.
 big elephant kill-RCPR-J-PST3
 ‘They killed a big elephant.’
- b. $/\acute{a}u=\grave{m}$ $k'\acute{a}r\acute{a}=\acute{m}$ $k\grave{o}$ $g//\acute{a}i$.
 big = SG.M:I impala = SG.M:I IPFV run
 ‘The big impala is running.’
- c. $k'\acute{a}r\acute{a}=\acute{m}\grave{a}$ $/\acute{a}u=\acute{m}\grave{a}$ $\text{?}\acute{e} // \grave{u}$ $/\acute{u}\acute{u}-n\grave{a}-t\grave{a}$.
 impala = SG.M:II big = SG.M:II 3PL.M:I kill-J-PST1
 ‘They killed the big impala.’ (lit. the impala, the big one)
- d. $k'\acute{a}r\acute{a}$ $k\acute{a}$ $/\acute{a}u=\grave{m}$ $k\grave{o}$ $g//\acute{a}i$.
 impala ATTR big = SG.M:I IPFV run
 ‘The big impala is running.’

While the ability to state properties of a nominal referent and modify nouns is at the core of the cross-linguistic properties of adjective classes (cf. Dixon 2004: 10), two more tasks are sometimes found being performed by adjectives:

- (3) Functioning as parameter for comparison
- (4) Modifying verbs (in plain form or via a derivational process)

Both are also among the criteria that define membership to the adjective class in Ts’ixa. There are two different construction types to express comparative (see also §7.3), one which treats the standard NP as a locative argument (cf. 57a), and one

involving the verb *ngéé* ‘surpass’ in an adverbial clause. In both types, the adjective functioning as parameter for comparison acts as copula complement:

- (57) a. *tí kà g//aàkhòè=sì t'úú ?è tsá dí=sì ?à.*
 1SG POSS wife=SG.F:I beautiful COP 2SG.M POSS=SG.F:I LOC
 ‘My wife is more beautiful than yours.’
- b. *g//óé=sì /xurí ?è n//góó=mà ?à ngéé-nà-hà=sè.*
 tortoise=SG.F:I clever COP hare=SG.M:II ACC surpass-J-PST3=ADV
 ‘The tortoise is cleverer than the hare.’

Finally, Ts’ixa adjectives may modify verbs by taking on the adverbialising clitic = *sè*:

- (58) *tsáà=m kái=sè hum-nà-tà.*
 soup=SG.M:I nice=ADV smell-J-PST1
 ‘The soup smelled good.’

Individual properties of the adjective tasks (1) and (2) are outlined in the following sections. Comparative constructions (task (3)) are discussed in §7.3; adverbials derived with = *sè* are the subject of §5.1.2.

3.3.2.2 Derived and non-derived adjectival modifiers

While every language displays “morphological processes deriving stems of one word class from roots of another class” (Dixon 2004: 2), the first part of this outline will concentrate on morphologically simple roots, i.e., non-derived adjectives (§3.3.2.2.1). Derived stems and finite verbs acting as nominal modifiers are treated in §3.3.2.2.2.

3.3.2.2.1 Non-derived adjectives

Dixon (2004: 3-4) identified four semantic core types typically associated with adjectives. They are expected to be present in languages with both small and large adjective classes:

1. DIMENSION (‘big’, ‘small’, ‘long’, ‘short’, etc.)
2. AGE (‘new’, ‘young’, ‘old’, etc.)
3. VALUE (‘good’, ‘bad’, ‘real’, etc.)
4. COLOUR (‘black’, ‘white’, ‘red’, etc.)

In addition, he lists three peripheral semantic types generally found with medium sized and large adjective classes:

5. PHYSICAL PROPERTY ('hard', 'soft', 'heavy', 'light', etc.)
6. HUMAN PROPENSITY ('jealous', 'happy', 'kind', 'clever')
7. SPEED ('fast', 'slow', etc.)

With the exception of type 7 (SPEED), all of the above are featured in the adjective class of Ts'ixa. In addition, one of Dixon's (2004: 5) even more peripheral types, POSITION, is represented by an antonymic pair ('near' / 'far'). Although this is indicative for Ts'ixa having a comparatively large, open class of adjectives, the majority of lexemes is found in the semantic fields DIMENSION and PHYSICAL PROPERTY types. Table 42 provides a preliminary overview of non-derived adjectives featured in the data. All roots given meet the membership criteria for the class "adjective":

Table 42: Selected members of the "adjective" class

(1) DIMENSION	<i>/íní</i>	'thin, narrow'
	<i>gyíí~g#íí</i>	'thick'
	<i>tsháò</i>	'wide'
	<i>káò</i>	'long'
	<i>//oñ</i>	'short'
	<i>/áú</i>	'big'
	<i>?oré(-xà)</i>	'small'
(2) AGE	<i>k'óá</i>	'new'
	<i>n//gáò</i>	'old' (things)
(3) VALUE	<i>t'úú</i>	'good, beautiful, lovely'
	<i>/'án</i>	'bad, ugly'
	<i>//?ái</i>	'proper, suitable'
(4) COLOUR	<i>ngyúú</i>	'dark, black'
	<i>/qòà</i>	'light, fair'
	<i>t'alá</i>	'green, blue' (< Tsw. tala)
(5) PHYSICAL PROPERTY	<i>tsú-tsiù</i>	'hot'
	<i>/xínú</i>	'cold'
	<i>/xáù</i>	'warm'
	<i>/'urí</i>	'dirty'
	<i>/'áá</i>	'wet'
	<i>kuń</i>	'heavy'
	<i>súbú</i>	'light'
	<i>kárí</i>	'hard'
	<i>thań</i>	'soft, smooth'
	<i>k'au</i>	'tasteless'
	<i>kái</i>	'tasty, sweet' (of: taste, smell)
	<i>tòrà</i>	'bitter, bad' (of: taste, smell)

(6) HUMAN PROPENSITY	<i>/xurí</i>	‘clever’
	<i>gyúù</i>	‘angry’
(7) POSITION	<i>/úù</i>	‘near’
	<i>ngúù</i>	‘far’

There are three points worth commenting on. First, the sample includes at least one loanword, namely *t’alá* ‘green, blue’ from Tswana *tala*. The lexeme appears to be a recent borrowing and is still identified as such by all speakers. Yet, it meets the criteria associated with genuine Ts’ixa adjectives as outlined in §3.3.2.1 above. This suggests that adjectives in Ts’ixa form an open class that may incorporate new members, e.g., loanwords. Second, while the majority of root structures featured are either C(C)VV or C(C)VCV, i.e., what would be expected for Ts’ixa lexical roots, *tsú-tsùù* ‘hot’ stands out. Reduplicated forms of the pattern C(C)V-CVV are usually found with ideophones only (H. Nakagawa, p.c., cf. §2.4.3). Hence, *tsú-tsùù* constitutes the interesting case of an ideophonic adjective which may have been derived from a “real” ideophone. Again, this may be seen as further proof for the presence of an “open” class of adjectives in Ts’ixa. Third, a specific subset of adjectives denoting PHYSICAL PROPERTY displays some peculiarities in choosing their semantic heads. *k’au* ‘tasteless’, *tòrà* ‘bitter’ and *káì* ‘nice, sweet’ specify properties of food items, and sometimes smells and other perceptive targets. With referents other than food items, they function as adverbs only, modifying (among others) the verbs *mũù-sí* ‘smell’ (vi), *||am-sí* ‘feel’ (vi) or *hum* ‘smell’. More data will be needed to decide whether the broad range of Ts’ixa lexical roots referring to taste and food texture (not included in the table above) might also be grouped with the “adjective” class. It seems possible that PROPERTIES OF FOOD ITEMS will eventually turn out to form a semantic subtype of adjectives particular to Ts’ixa and possibly other Kalahari Khoe languages as well.

3.3.2.2.2 Derived adjectives

This section discusses derivation of adjectives from nouns by means of the associative suffix *-xà* (§3.3.2.2.2.1), and use of finite verbs as adjectival modifiers (§3.3.2.2.2.2).

3.3.2.2.2.1 Adjectives derived with the associative suffix *-xà*

Ts’ixa may derive adjectives from nouns by attaching the suffix *-xà* to the lexical stem. *-xà* is an associative marker which conveys the meaning ‘be with X’; in this function, it is also used to express predicative possession (§7.2), and the associative plural (§3.4.1.2). The data does not contain derived adjectives marked by a PGN

clitic, but more research is needed to explore the morphological and syntactical restrictions placed on this particular type of adjective.

- (59) *tí kò n//gára-xà dáó ?à kúù.*
 1sg IPFV sand-ASSOC path LOC walk
 ‘I walk on a sandy path.’

Nominal adjectives derived with *-xà* may be negated by the general negation morpheme *?íté*:

- (60) *sugírí-xà ?íté tíí tí kò k’áà.*
 sugar-ASSOC NEG tea 1SG IPFV drink
 ‘I drink tea without sugar.’ (‘I drink non-sugar-y tea.’)

The data contains one example of an adjective derived from a verb by means of the associative suffix *-xà*, namely the notion of ‘fast’:

- (61) *?é.m kà kolóí=sí sá dí=sì khòná g//áì-xà ?è.*
 3SG.M:I POSS car = SG.F:I 2SG.F POSS = SG.F:I be.like run-ASSOC COP
 ‘His car is just as fast as yours.’

More data would be needed to see whether this strategy is actually productive, or whether *g//áì-xà* ‘fast’ merely constitutes a fossilised form, much like *?oré.xà* ‘small’.

3.3.2.2.2 Adjectival use of finite verbs

Finite verbs may modify nouns by preceding them in what could possibly be interpreted as a relative clause (cf. T. Güldemann, p.c.). By “finite verbs”, I here mean verbs inflected by one of the ANTERIOR / PAST suffixes *-ta*, *-?o* and *-hã ~ -ha* (cf. §4.3.2.2.2), which in this case take on the function of current relevance markers. If no reference is made to the time in which the result state was reached, relative to the time of reference, *-hã ~ -ha* is used by default. Adjectival use of finite verb forms is particularly widespread with accomplishment verbs (cf. §4.1.2 on lexical verb classes), such as *xóó* ‘to become dry’ and *tsxáá* ‘to become tired’, but it may also be used with achievements (e.g., ‘to find’), or with verbs denoting a motion towards a specific endpoint or goal, e.g.,

- (62) *gúà=sì kò àà nò ?é.sì n/gè /’é-é-tá biyé-íùà=sà ?à.*
 hyena = SG.F:I IPFV come when 3SG.F:I SEQ fall-J-PST1 zebra-child = SG.F:II ACC
 ‘When the hyena came, she saw the fallen zebra filly.’

Finite verbs acting as adjectival modifiers do not take on PGN marking, which would be the case in a canonical relative construction (cf. §3.4.6). Compare (63)a and (63)b:

- (63) a. *xóo-hà* *ìì=sà*
 dry:J-PST3 tree = SG.F:II
 ‘the dry tree’
- b. *ìì=sì* *xóo-hà=sà*
 tree = SG.F:II dry:J-PST3 = SG.F:II
 ‘the tree that has dried’

3.3.2.3 Predicative use of adjectives

Adjectives may act as complements of copula constructions, or as head of an intransitive predicate. However, there is a crucial semantic difference between both constructions. Copular clauses are restricted to the expression of states. If a change of state is implied (e.g., as ongoing, in case of result states, or past states), an intransitive predicate construction is required. When acting as head of an intransitive predicate, adjectives receive TAM marking and may even take on derivational affixes otherwise reserved for verbs. The semantic nuances of adjectives acting as copula complements or heads of intransitive predicates with various TAM-markers are summarised in Table 43:

Table 43: Adjectives as copula complements and as heads of intransitive predicates

COPULA COMPLEMENT	NP – ADJ – COP	STATE: NP is ADJ	(64)a-e
INTRANSITIVE PREDICATE	NP – IPFV – ADJ	PROCESS: NP is becoming ADJ	(65)a
	NP – ADJ-J-PST	RESULT: NP has become ADJ	(65)b
		PAST: NP was ADJ	(65)c
NP – FUT – ADJ	FUTURE: NP will be/become ADJ	(65)d	

3.3.2.3.1 Adjectives acting as copula complements

The ability to act as a copula complement is crucial for membership in the Ts’ixa adjective class. Lexemes defining properties of nominal referents that may not act as copula complements (see §3.3.2.1) are accomplishments or state verbs (cf. §4.1.2, Table 52 on lexical verb classes). (64)a-e show adjectives acting as copula complements:

- (64) a. $\dot{u}=s\grave{i}$ $\acute{i}=s\grave{i}$ $/\acute{a}u$ $?\grave{e}$.
 tree = SG.F:I DEM.REF = SG.F:I big COP
 ‘This tree is big.’
- b. $/\acute{u}\acute{a}=s\grave{i}$ $\acute{i}=s\grave{i}$ $t'\acute{u}\grave{u}$ $?\grave{e}$.
 child = SG.F:I DEM.REF = SG.F:I beautiful COP
 ‘This girl is beautiful.’
- c. $\dot{u}=s\grave{i}$ $ngy\acute{u}u$ $?\grave{e}$.
 tree = SG.M:I black COP
 ‘The tree is black.’
- d. $?\acute{e}.m$ $/q\grave{o}\grave{a}$ $?\grave{e}$.
 3SG.M:I light COP
 ‘He is fair-skinned.’
- e. $t\acute{i}$ $k\grave{a}$ $//\acute{u}\acute{u}=m$ $k\grave{a}$ $ng\acute{u}u=m$ $/\acute{a}u$ $?\grave{e}$.
 1SG POSS parent = SG.M:I POSS house = SG.M:I big COP
 ‘My father’s house is big.’

3.3.2.3.2 Adjectives as heads of intransitive predicates

All adjectives may take on TAM marking and then act as heads of intransitive predicates. However, in this function, they never express state, but encode or imply a change of state which may either be ongoing, completed, or located in the future (cf. Table 43 above).

- (65) a. $/\acute{u}\acute{a}=s\grave{i}$ $\acute{i}=s\grave{i}$ $k\grave{o}$ $t'\acute{u}\grave{u}$ $//\text{?ora}$ $k\grave{o}=s\grave{e}$.
 child = SG.F:I DEM.REF = SG.F:I IPFV beautiful grow.up IPFV = ADV
 ‘This girl is becoming beautiful as she is growing up.’
- b. $/\acute{u}\acute{a}=s\grave{i}$ $\acute{i}=s\grave{i}$ $t'\acute{u}\grave{u}-n\grave{a}-h\grave{a}$.
 child = SG.F:I DEM.REF = SG.F:I beautiful-J-PST3
 ‘This girl has become beautiful.’
- c. $/\acute{u}\acute{a}=s\grave{i}$ $\acute{i}=s\grave{i}$ $t'\acute{u}\grave{u}-n\grave{a}-h\grave{a}$ $k'\grave{o}s\grave{o}$ $k\grave{o}$ $ky\acute{i}$.
 child = SG.F:I DEM.REF = SG.F:I beautiful-J-PST3 but IPFV be.sick
 ‘This girl was beautiful, but [she] is sick (now).’
- d. $/\acute{u}\acute{a}=s\grave{i}$ $\acute{i}=s\grave{i}$ $g\acute{e}r\grave{e}$ $t'\acute{u}\grave{u}$.
 child = SG.F:I DEM.REF = SG.F:I FUT beautiful
 ‘This girl will be beautiful (when she grows up).’

Adjectives acting as intransitive predicates may even be transitivised by taking on a causative suffix (*-k\acute{a}x\grave{u}*, *-x\grave{u}*, *-k\grave{a}*):

3.3.2.4 Attributive use of adjectives

In choosing the appropriate morphosyntactic construction to modify a nominal head, the presence of PGN marking plays a decisive role. With unmarked heads, adjectives always precede their head nouns (cf. 68a-d):

- (68) a. //ʔorá nguú ʔè.
big house ID
'It is a big house.'
- b. khúm gèrè //ʔâi nguú múù [Khwai] ngià.
1DU.C FUT proper house see GN LOC
'We will find a proper house at Khwai.'
- c. tí kà kyáó = m kò kâi ʔyúú káá.
1SG POSS heart = M.SG:I IPFV good food want
'My heart wants nice food.'
- d. /áú t'úú kyxoà /'úú-kù-nà-hà.
big beautiful elephant kill-RCPR-J-PST3
'They killed a big beautiful elephant.'

This construction is also possible with PGN-marked heads. If the head noun is marked by a PGN clitic, so is every modifying adjective. Note that adjectives as elements depending on the head noun are usually marked by a PGN of paradigm 'I' while the head noun is marked according to its syntactic role in the sentence (cf. 69).

- (69) tí kà //úú = m n//ànì-nà-hà /áú = m nguú = mà ʔà.
1SG POSS parent = SG.M:I build-J-PST3 big = SG.M:I house = SG.M:II ACC
'My father built the big house.'

The adjective may also follow its head in an appositive construction:

- (70) a. nguú = m ʔoré.xà = m tí dí ʔè.
house = SG.M:I small = SG.M:I 1SG POSS COP
'The small house is mine.'
- b. nguú = m ʔoré.xà = m múú = m tí dí ʔè.
house = SG.M:I small = SG.M:I DEM.DIST = SG.M:I 1SG POSS COP
'That small house is mine.'

These examples may be considered appositional constructions because the adjective does not actually modify the head noun, but follows it as an afterthought.

Accordingly, (70)a and (70)b are more adequately translated as ‘the house, the small one’.

Although direct modification of the head noun according to the patterns outlined above is featured in texts, the preferred construction to modify nouns is by means of the attributor postposition *ka*. *ka* may either precede or follow the adjective, which is marked for the noun phrase’s syntactic role in the sentence.

- (71) a. /áú=mà nguú ká
 big = SG.M:II house ATTR
 ‘the big house’
- b. nguú ká /áú=mà
 house ATTR big = SG.M:II
 ‘the big HOUSE’

The data suggests that all adjectives may be attributed to their nominal heads by means of this construction type. It even seems that for the majority of adjectives, this is the only syntactic frame in which they may modify PGN-marked heads. For example, the adjective //ʔorá ‘big, tall, important’ may serve as a copula complement and modify unmarked heads (cf. 68a above), but it cannot modify PGN-marked heads, unless the head noun is followed by the attributor *ka* (cf. (72) below).

- (72) a. nguú //ʔorá ʔè.
 house big COP
 ‘The house is big.’
- b. n//góá kà //ʔorá=mà *//ʔorá = m n//góá = mà
 hill ATTR big = SG.M:II
 ‘the big hill’

Further research will be needed to determine which adjectives may modify PGN-marked heads by preceding them, and which require use of the attributor postposition *ka*.

3.3.3 Numerals and other quantifiers

This section discusses numeral (§3.3.3.1) and non-numeral quantifiers (§3.3.3.2).

3.3.3.1 Numerals

In this work, numerals are understood according to the definition provided by Hammarström (2009: 197), i.e., they are “(1) spoken, (2) normed expressions that are used to denote the (3) exact number of objects for an (4) open class of objects in

an (5) open class of social situations with (6) the whole speech community in question.” This definition naturally excludes gestural signs and expressions like ‘three-plus-five’ (instead of ‘eight’), as well as non-numeral quantifiers like ‘some’ and ‘many’ (see §3.3.3.2 for a discussion of those).

Following this definition, Ts’ixa has numerals up to ‘three’. In consequence, the language’s numeral system can be termed “restricted”.¹⁹ Restricted numeral systems are widespread in both the Khoe and Non-Khoe languages (Güldemann & Fehn, *forthc.*), and only Khoekhoe displays a more elaborate system (cf. Haacke 2013: 146). Numerals above three are commonly encoded by the respective terms from either English or Tswana, whereby especially younger speakers show a strong preference for English. From what could be observed in texts, grammatical behaviour of borrowed numerals is identical to the one displayed by genuine Ts’ixa numerals, but more research would be needed to confirm this.

This section first discusses the language’s cardinal numerals as adnominal modifiers (§3.3.3.1.1) before turning to ordinal numerals (§3.3.3.1.2) and the distributive usage of numerals (§3.3.3.1.3). Eventually, an additional set of non-cardinal uses of /úí ‘one’ is considered (§3.3.3.1.4).

3.3.3.1.1 Cardinal numerals

Ts’ixa has three genuine cardinal numerals:

/úí	‘one’
/ámh	‘two’
//óbé	‘three’

Numerals above three are usually borrowed from either English or Tswana. However, they may be expressed by conjoining the forms given above, e.g.,

- (73) //óbé kòrè /úí xàè
 three CONJ one CONJ
 ‘four’ (lit. three and one)

‘Five’ is sometimes expressed by the nominal compound *dziri-tshau* ‘baboon-hand’. This expression is normed in the sense that it is understood by all speakers, but it is rarely used and mostly considered to be humorous. However, it regularly appears in naturally produced language with the meaning ‘Friday’ (i.e., the fifth day of the week).

¹⁹ According to the definition provided by Comrie (2013), a restricted numeral system “does not effectively go above around 20”.

- (74) *Māú ʔò kò kúú dzírí.tshaù kà.*
 GN ALL IPFV go Friday MPO
 ‘[He] goes to Maun on Friday.’

When acting as adnominal modifiers, numerals follow the same rules as adjectives: they precede unmarked heads without overt morphological marking (cf. 75a-b), but require use of the attributor postposition *ka* (§3.3.1.2) when modifying PGN-marked heads (cf. 75c-d). In the latter case, the preferred constituent order is still head-final (cf. 75c), but the head may be fronted for reasons of emphasis (cf. 75d). The numeral most frequently used as a modifier is *||óbé* ‘three’:

- (75) a. *||óbé gòè tí kò ky’áà.xù.*
 three cow 1SG IPFV take.out
 ‘I am taking out three cows.’
- b. *||óbé n||goé ʔyúú-tà=sè*
 three month eat-IPFV.NEG=ADV
 ‘For three months, [the hyena] did not eat.’
- c. *||óbé=n |úá kà kò kúú.*
 three=PL.C:I child ATTR IPFV go
 ‘The three children are walking.’
- d. *gòè kà ||óbé=dzà ʔà tí kò ky’áà.xù.*
 three ATTR three=PL.F:II ACC 1SG IPFV take.out
 ‘I am taking out the three COWS.’ (e.g., as corrective statement made to somebody who was assuming the speaker was taking out sheep)

|ám ‘two’ is commonly used with unmarked heads only. With [+specific] heads, a dual PGN is preferred.

- (76) a. *|ám gòè tí kò ky’áà.xù.*
 two cow 1SG IPFV take.out
 ‘I am taking out two cows.’
- b. *thà ʔí=sérà nè ||ám |úá=sérà ʔà.*
 SS DEM.REF=DU.F SEQ give.birth child=DU.F ACC
 ‘Those gave birth to two girls.’

Although *|úí* ‘one’ is readily recalled and used in counting, the data does not contain any examples of *|úí* as an adnominal modifier. An attempt to trigger its use in elicitation failed, presumably because references to single entities are always considered [+specific] and therefore marked by a PGN clitic:

- (77) a. *gòè=sà ?à tí kò ky'áà.xù.*
 cow = SG.F:II ACC 1SG IPFV take.out
 'I am taking out one cow.'

If a single, albeit unidentified member is chosen from a specific class, /úú/ is used instead of /úí/.

- (77) b. *//ũ̀-̀xà=dzì n|gè mũ̀-̀à ?ã-̀té |úú=sì |úú kà*
 parent-ASSOC = PL.F:I SEQ see-J know-NEG.SEQ one.of = SG.F:I child ATTR
tè káù tà.
 NEAR.PST stay.behind COMP
 'The mothers (and their associates) did not notice one of the children had stayed behind.'

For specifying a quantity larger than one (cf. 77b above) from a specific class, the pertaining nominal referent (which may be a PGN-marked noun phrase or a pronoun) is treated like the standard NP in a comparative construction (§7.3.2.1.1), i.e., it is marked by the locative postposition ?à.

- (78) a. *//óbé gòè tí kò ky'áà.xù gòè=dzì í=dzì ?à.*
 three cow 1SG IPFV take.out COW = PL.F:I DEM.REF = PL.F:I LOC
 'I am taking out three of these cows.'
- b. *//óbé=̀n tsé ?à kũ̀-̀a-tà.*
 three = PL.C:I 1PL.C LOC go-J-PST1
 'Three of us were going.'

3.3.3.1.2 Ordinal numerals

Ordinal numerals are formed by adding the MPO *ka* to the numeral stem. Modifying ordinal numerals have to be encoded according to adnominal possession strategy outlined in §3.4.7.3, i.e., they require the head to be marked by the attributor postposition *ka* and are followed by the possessive postposition *dí*. The latter receives PGN marking according to the head's semantic and syntactic properties:

- (79) a. *|ám kà dí=sì xarín ká ?é.mà ?à |'úú-á-há.*
 two MPO POSS = SG.F:I lion ATTR 3SG.M:II ACC kill-J-PST3
 'The second lion killed him.'
- b. *//óbé kà dí=̀n dóà kà ?é.mà ?à mũ̀-̀nà-tà*
 three MPO POSS = SG.M:I kudu ATTR 3SG.M:II ACC see-J-PST1
 'The third kudu saw him.' (cf. Vossen 2013: 218, orthography and glosses adapted)

The notion of ‘first’ is not conveyed by *|úí kà, but by a suppletive form²⁰ *k’ái-ʔyàm*, literally a compound ‘face-top’:

- (80) *k’ái.ʔyàm* *dí=nà* *xúí.khòè* *kà*
 first POSS = PL.C:II San ATTR
 ‘the first San’

3.3.3.1.3 Distributive numerals

Distributive numerals are formed by the cross-linguistically most common strategy, i.e., by means of reduplication (cf. Gil 2013). The adverbialiser =sè may optionally be added to the reduplicated numeral stem (cf. 81a-b):

- (81) a. *|úá=n* *kò* *||óbé-||òbè=sè* *kúú.*
 child = PL.C:I IPFV three-three = ADV go
 ‘The children are walking three by three.’
- b. *khoe=dzì* *kò* *ʔeméré=dzà* *ʔà* *|ám-|àm=sè* *àà.kà.*
 person = PL.C:I IPFV bucket = PL.F:II ACC two-two = ADV carry
 ‘The women are carrying two buckets each.’
- c. *||óbé=n* *|úá* *kà* *kò* *k’oxú* *|ám-|àm* *k’oó.*
 three = PL.C:I child ATTR IPFV meat two-two eat.meat
 ‘The three children are eating two pieces of meat each.’

3.3.3.1.4 Additional meanings of |úí ‘one’

|úí ‘one’ displays a set of additional meanings. These include the predication of identity of two distinct items (‘same’, §3.3.3.1.4.1), restrictive focus (‘only’, §3.3.3.1.4.2) and adverbial modification of verbal predicates (‘alone’, §3.3.3.1.4.3).

3.3.3.1.4.1 Identity

Ts’ixa uses |úí to express the notion of ‘same’. (82)a is frequently heard on recordings whenever a speaker wants to express that two lexical items share the same meaning:

- (82) a. *|úí* *ʔè.*
 one ID
 ‘It is the same.’

|úí with the meaning ‘same’ is also used as an adnominal modifier:

²⁰ Use of suppletive forms for ‘first’ is cross-linguistically common and found in the majority of languages covered in the corresponding WALS sample (Stolz & Veselinova 2013).

- (82) b. /úí xíù
 one thing
 ‘same thing’

3.3.3.1.4.2 Restrictive focus

/úí may act as a restrictive focus particle meaning ‘only’. It may have scope over verbs (cf. 83) as well as over noun phrases (cf. 84):

- (83) a. g//aàkhòè = sì Pitá = mà ?à //’áń-nà-hà thì. ?à //aro-nà-xù.
 woman = SG.F:I PN = SG.M:II ACC hit-J-PST3 SS chase-J-COMPL
 ‘The woman hit Peter and chased [him] away.’
- b. ?é.mà ?à //’áń /úí hĩ-nà-hà.
 3SG.M:II ACC hit only do-J-PST3
 ‘[She] only hit him.’

- (84) a. g//aàkhòè = sì ?oréńdǐ = dzì kòrè k’oxú = mà xàè ?à
 woman = SG.F:I orange = PL.F:I CONJ meat = SG.M:II CONJ ACC
 kyũ-à-tà.
 buy-J-PST1
 ‘The woman bought the oranges and the meat.’
- b. k’oxú = ń /úí ?à
 meat = SG.M:I only ACC
 ‘[She bought] only the meat.’

Note that in (84)b, the entire noun phrase is marked for accusative, even though the head *k’oxú* ‘meat’ receives a PGN of series ‘I’. This morphological peculiarity cannot be convincingly explained at this point in time; a similar phenomenon is found with object noun phrases featuring the quantifier *?ńyè* ‘all’ (§3.3.3.2.2).

3.3.3.1.4.3 ‘Alone’

When combined with the adverbialiser =sè, /úí corresponds to the meaning of ‘alone’:

- (85) a. /úí = sè háǎ kádí ?è.
 one = ADV be.there hard COP
 ‘Living alone is hard.’
- b. ná = ń xà /úí = sè /ád = mà ?à /’ũú tà
 DEM.REF = SG.M:I SUBJ one = ADV buffalo = SG.M:ACC ACC kill COMP
 kò ??áń.
 IPFV think
 ‘He thinks he could kill the buffalo by himself.’

3.3.3.2 Non-numeral Quantifiers

The non-numeral quantifiers featured in the data are:

<i>ʔŋyè</i>	‘all’
<i>thíyà</i>	‘many, plenty, a lot of’
<i>ʃúú</i>	‘some’

There is some idiolectal variation regarding the encoding of ‘few’. The following three lexical forms occur:

<i>ʃ’orá</i>	
<i>ʔoré(.xà)</i>	
<i>thíyà-ʃúũ</i>	(lit. ‘many-DIM’)

As more research will be needed to provide sufficient data on all of the above, this discussion will limit itself to two patterns of morphosyntactic behaviour as exemplified by *thíyà* ‘many, plenty, a lot of’ (§3.3.3.2.1) on the one, and *ʔŋyè* ‘all’ (§3.3.3.2.2) on the other hand. While *thíyà* displays both noun- and verb-like characteristics without corresponding to the criteria established to identify genuine Ts’ixa adjectives (cf. §3.3.2.1), *ʔŋyè* ‘all’ does not appear to share features of either category. Both quantifiers are discussed in the subsequent sections.

3.3.3.2.1 *thíyà* ‘many, plenty, a lot of’

Although *thíyà* may directly modify a noun without attachment of one of the ANTERIOR / PAST suffixes (cf. §4.3.2.2) otherwise required to derive result states from accomplishment verbs (cf. §3.3.2.2.2.2.), it may not appear as a copula complement (cf. 86b) and thereby fails one of the two main criteria established for the word class “adjective” in Ts’ixa (cf. §3.4.2). If *thíyà* is used in a predicative context, it has to be marked by one of the ANTERIOR / PAST suffixes (cf. 86c).

- (86) a. *tí tháyà /ʔáó-xà tìkà tí xà tè kolóí kyũũ.*
 1SG many money-ADJ if 1SG SUBJ NEAR.PST car buy
 ‘If I had a lot of money, I would buy a car.’
- b. **drinkí = dzà tháyà ʔè.*
drink = PL.F:I many COP
 ‘Drinks are plenty.’
- c. *drinkí = dzi tháyà-nà-tà.*
drink = PL.F:I be.plenty-J-PST1
 ‘Drinks are plenty.’

Like adjectives, state verbs and accomplishment verbs (cf. §4.1.2, Table 52), *thíyà* may be used with the language's various TAM markers, adopting the meaning 'be(come) many'.

(87) a. *bara = ìn ?à ky'òà. ?à k'oxú = dzi géré tháyà.*
 rainy.season = SG.M:I LOC after animal = PL.F:I FUT be.many
 'After rainy seasons, animals will be plenty.'

b. *tí géré àà s'í = ìn géré tháyà ?íté kónò.*
 1SG FUT come work = SG.M:I FUT many NEG if
 'I will come if I don't have too much work.' (lit. if work is not plenty)

thíyà is sometimes used with the diminutive suffix *-/ũã* to derive the meaning 'few':

(88) *thíyà- /ũã k'áàkhòè g//aàkhòè = dzi kòrè /úá = ìn xàè*
 many-DIM man woman = PL.F:I CONJ child = PL.C:I CONJ
 'Few men, women and children'

3.3.3.2.2 ?ñyè 'all'

?ñyè is not an adjective, nor does it display properties characteristic of either nouns or verbs. The only element found in the data displaying similar morphosyntactic behaviour when modifying nominal elements is the restrictive focus marker */úí* 'only' (cf. §3.3.3.1.4). *?ñyè* always follows its head, which is either unmarked, or marked by a PGN clitic of series 'I', irrespective of the NP's syntactic role. If the head noun modified by *?ñyè* is the object of the clause, the accusative postposition *?à* follows the quantifier which itself never carries a PGN clitic. Object noun phrases with phrase-final *?ñyè* are always marked by *?à*, irrespective of their information-structural status and resulting syntactic position.

(89) a. *khoè = ìn boódì-sì-nà-hà //?aù-khòè = ìn ?ñyè /?áò-xà tà.*
 person = PL.C:I tell-REFL-J-PST3 fish-person = PL.C:I all money-ASSOC COMP
 'The people told themselves that all whites [lit. fish-people] have money.'

b. *djitáá = ìn k'oxú = dzi ?ñyè ?à kò g//ai-a-xù.*
 cheetah = SG.M:I meat = PL.F:I all ACC IPFV run-J-COMPL
 'The cheetah outruns all animals.'

c. */?úá = dzi ?ñyè ?à ?é.sì kà khoó = mí ?à nyáá.xù!*
 bone = PL.F:I all ACC 3SG.F:I POSS skin = SG.M:I LOC put
 'Put all the bones on her [the cow's] skin!'

in §3.1.3. Even the strictly adnominal endophoric demonstratives $\text{ɲĩ} \sim \text{ɲí} \sim \text{í}$ and gyãã may take on PGN marking, according to the semantic properties of their nominal referents. Along these lines, the pronoun base ʔé- , which is used to form the personal pronouns of the 3rd person (§3.1.2), may be thought of as a distance neutral demonstrative.

The endophoric demonstratives $\text{ɲĩ} \sim \text{ɲí} \sim \text{í}$, mũ and ná also combine with the discourse referential marker thà to derive discourse deictic pronouns making reference to the preceding discourse, i.e., ‘thus’ or ‘like that’ (§3.3.4.3.2.2). Pronominals used for cataphoric discourse reference were not recorded in the data. Endophoric and exophoric demonstratives act as a base for the formation of locative adverbs. This function is further discussed in §5.1.3.

3.3.4.2 Syntax

3.3.4.2.1 Pronominal demonstratives

In pronominal usage, demonstratives – much like the distance-neutral pronominal base ʔé (cf. §3.1.2) – may take on PGN and case marking, according to the semantic and syntactic properties of their referent. The demonstrative most frequently used as a pronoun – apart from the distance neutral ʔé – is the anaphoric referential ná (cf. 92a). Both $\text{n/ĩ} \sim \text{nĩ} \sim \text{ɲ}$ and mũ are used as pronouns, but only in strictly exophoric contexts (cf. 92b-c):

- (92) a. $\text{ʔé.sì} \quad \text{nè} \quad \text{yaá} \quad \text{tàh} \quad \text{thà} \quad \text{ʔé.sérà} \quad \text{nè} \quad \text{kũũ} \quad \text{ná} = \text{sérà} \quad \text{kà}$
 3SG.F:I SEQ step:J stand.up and.then 3DU.F SEQ go DEM.REF = DU.FPOSS
 $\text{||ʔáé} = \text{m} \quad \text{ʔò.}$
 home = SG.M:I ALL
 ‘She rode on it and then they went to their home.’

- b. $\text{nĩ} = \text{m} \quad \text{guni-khò} \quad \text{ɲíté.}$
 DEM.PROX = SG.M:I hunt-AG NEG
 ‘This one (here) is not a hunter.’ (Westphal, n.d.b; transcribed from recording)

- c. $\text{mũ} = \text{sí} \quad \text{tí} \quad \text{taxù} \quad \text{ʔè.}$
 DEM.DIST = SG.F:I 1SG y.sibling COP
 ‘That one (there) is my younger sister.’

Instead of a PGN clitic, the endophoric demonstratives $\text{ɲĩ} \sim \text{ɲí} \sim \text{í}$, mũ and ná may also combine with the discourse referential marker thà to achieve a “discourse deictic” reading (cf. Diessel 1999: 100-105), e.g.,

- (93) a. *ʔám-kù thí.ʔà ná=//ù gére ʔí.thà hĩ tà.*
 agree-RCPR SS DEM.REF=PL.M:I FUT thus do COMP
 ‘[They] then agreed that they would do thus [like discussed].’
- b. *mĩ.thà /úú ʔé.ñ kò k’úú=sè /úá=sì nè //ʔorá*
 thus only 3PL.C:I IPFV live=ADV child=SG.F:I SEQ grow.up
góè=sì kà túá=sà.
 cattle=SG.F:I POSS friend=SG.F:II
 ‘While they were only living like that, the girl, the cow’s friend, grew up.’
- c. *ná.thà tí kò g//àrà-sí nò kárí xúù ʔíté.*
 thus 1SG IPFV write-REFL when hard thing NEG
 ‘When I call myself like that, it is not a hard thing (to understand).’

3.3.4.2.2 Adnominal demonstratives

In adnominal usage, two construction types are available: Juxtaposition and attribution by means of the morpheme *ka*. In both construction types, the demonstrative may either act as attribute or as grammatical head, whereas the latter option is found more frequently in the data, in particular with endophoric demonstratives:

Table 45: Encoding strategies for adnominal demonstratives

#	TYPE	CONSTITUENT ORDER	GRAMMATICAL PROPERTIES
1a)	Juxtaposition	DEM (= PGN)- Head(= PGN)	optional PGN marking of both DEM and head
1b)	Juxtaposition with DEM as head	Noun(= PGN) - DEM = PGN	DEM receives PGN marking according to the NPs semantic and syntactic properties; DEM acts as grammatical head of the NP
2a)	Attributor <i>ka</i>	DEM(= PGN) Head <i>ka</i>	DEM receives PGN marking agreeing with head’s semantic and syntactic properties
2b)	Attributor <i>ka</i> with DEM as head	DEM <i>ka</i> Noun = PGN	Noun receives PGN marking according to the NPs semantic and syntactic properties; DEM acts as grammatical head of the NP

The appositive strategy found with, e.g., adjectives was not considered grammatical by the speakers. In the example below, the adjective (*gyíí* ‘fat’), but not the demonstrative was accepted in appositive usage; the apposition was specifically emphasised by using a PGN of series ‘II’, despite the noun phrase’s syntactic role as grammatical subject, to ensure that the speaker’s choice was not affected by word order restrictions (cf. §6.2.1 on PGNs of series ‘II’ marking appositive NPs):

- (94) a. *khoe = sì mĩ́ = sì gyíí = sà k'ará = mà k'óó*
 person = SG.F:I DEM.DIST = SG.F:I fat = SG.F:II impala = SG.M:II eat.meat:J
khudì-nà-tà.
 end-J-PST1
 ‘That fat woman ate all the impala meat.’
- b. **khoe = sì gyíí = sì mĩ́ = sà k'ará = mà k'óó*
 person = SG.F:I fat = SG.F:I DEM.DIST = SG.F:II impala = SG.M:II eat.meat:J
khudì-nà-tà.
 end-J-PST1
 Attempted: ‘That fat woman ate all the impala meat.’

Interestingly, what would be considered the “Khoe default”, i.e. the demonstrative preceding its head, is rarely found in modern Ts’ixa. The construction is accepted by all speakers and features in Westphal’s (n.d.b) and Vossen’s (2013b: 218) data, but it is almost absent in both elicited data and texts collected during the present author’s fieldwork. Both demonstrative and head noun remain unmarked (cf. 95a) or are marked by a PGN clitic, whereas the demonstrative receives a PGN of series ‘I’ (cf. 95b&e). If only one constituent is marked, it is usually the head noun (cf. 95c-d). More research is needed to ascertain whether different markedness patterns convey a difference in meaning.

- (95) a. *ń táákhòè kò ?áru.*
 DEM.PROX elder IPFV play
 ‘This elder is playing.’ (Westphal, n.d.b, transcribed from recording)
- b. *mĩ́²¹ = rí ?abá = mà*
 DEM.DIST = SG.M:I dog = SG.M:II
 ‘that male dog’ (Vossen 2013b: 218, orthography and glosses adapted)
- c. *ńĩ́ bóksì = mà*
 DEM.REF box = SG.M:II
 ‘this (aforementioned) box’
- d. *n/á khoe = mà*
 DEM.REF person = SG.M:II
 ‘that (aforementioned) man’

²¹ Vossen (2013b: 218) notes two demonstratives for Ts’ixa: the proximal *n/é* and the distal *mé*. While these clearly correspond to the two exophoric demonstratives noted by the present author, more extensive text data and measurements in Praat yielded that both elements are bimoraic and have a nasalised rhyme, i.e., *n/ĩ́* and *mĩ́*.

- e. *gyãá = sí* *g||óé = sí* *||úú.*
 DEM.REF = SG.F:I tortoise = SG.F:I be.lying
 ‘That (well-known) tortoise is lying there.’

The most frequent pattern in the data is for the demonstrative to follow the noun. Unlike in the examples above, this requires both demonstrative and noun to be marked by a PGN clitic. Note that the noun receives a PGN of series ‘T’, indicating its state as a dependent element, while the demonstrative receives both a PGN and case marking according to the NPs syntactic role. As will be pursued further below, this strongly indicates that in Ts’ixa, it is far more common for demonstrative modifiers to act as grammatical heads than as attributes.

- (96) a. *góè = sí* *í = sí* *|áú* *?è.*
 cattle = SG.F:I DEM.REF = SG.F:I big COP
 ‘This (aforementioned) cow is big.’
- b. *||àmà = sí* *kà* *|úá|úá = sí* *|?úú = sí* *múú = sí* *kà* *ts’urh = sí*
 beetle = SG.F:I POSS infant = SG.F:I stone = SG.F:I DEM.DIST = SG.F:I POSS tip = SG.F:I
ngùà *‡óó-é-hà.*
 LOC smear-PASS-PST3
 ‘A larvae was smeared on the tip of that stone.’

The “demonstratives as head” hypothesis is further supported by the observation that – if the attributive strategy is chosen (cf. §3.3.1.2) – the demonstrative and not the nominal referent is followed by the attributor morpheme *ka*. This construction type is attested for both *?úú ~ ?í ~ í* and *múú* in endophoric contexts, but it is less common with the latter:

- (97) a. *k’aro-|úá = m̂* *kò* *xúú = sà* *?à* *?í* *kà* *bulà-kàà*
 boy-DIM = SG.M:I IPFV thing = SG.F:II ACC DEM.REF ATTR open-VOL
?ánì = m̂ *?à* *hààà* *xúú* *kò* *káá.*
 inside = SG.M:I LOC be.there:STAT thing IPFV want
 ‘The young boy wants to open the thing; [he] wants something inside.’
- b. *múú* *kà* *bóksì = m̂* *?à* *kò* *ky’uà = xù.*
 DEM.DIST ATTR box = SG.M:I LOC IPFV exit = NMZ
 ‘Thing which comes out of that box’

3.3.4.3 The pragmatics of Ts’ixa demonstratives

In this volume, I will follow Diessel (1999: 6) who distinguishes two pragmatic uses of demonstratives: an exophoric use referencing entities in the surrounding situation,

and an endophoric use covering all other contexts. Ts'ixa has two demonstratives used in exophoric contexts (§3.3.4.3.1), and a variety of endophoric demonstratives (§3.3.4.3.2) displaying overlapping textual functions.

3.3.4.3.1 Exophoric uses

Exophoric demonstratives are characterised by three distinctive features (cf. Diessel 1999: 94). They treat 1) “the speaker (or some other person) as deictic center”, 2) “indicate a deitic contrast on a distance scale”, and 3) are “often accompanied by a pointing gesture”. Ts'ixa has two demonstratives meeting this definition: the proximal $n/\acute{u} \sim n\acute{u} \sim \acute{y}$ and the distal $m\acute{u}$. Some speakers with a more prominent Shua background regularly use $\acute{x}\acute{u} \sim \acute{x}\acute{i} \sim \acute{i}$ instead of $n/\acute{u} \sim n\acute{u} \sim \acute{y}$. However, the data does not contain any pronominal uses of $\acute{x}\acute{u} \sim \acute{x}\acute{i} \sim \acute{i}$, suggesting the form is not used in a purely gestural context. Ts'ixa therefore meets the profile of a cross-linguistically common two-term system based on the feature [\pm close to speaker]. While visibility is a salient feature with deictic adverbials (cf. §5.1.3), it is not encoded in the language's exophoric demonstratives.²²

Table 46: Contrastive features of exophoric demonstratives

PROXIMAL	$n/\acute{u} \sim n\acute{u} \sim \acute{y}$	[+ close to speaker]
DISTAL	$m\acute{u}$	[- close to speaker]

Both exophoric demonstratives may be used as pronouns and adnominal modifiers. $m\acute{u}$ also extends into endophoric contexts, in particular into reference tracking of participants mentioned in the preceding discourse (cf. §3.3.4.3.2.1 below). The data does not contain any endophoric uses of the proximal $n/\acute{u} \sim n\acute{u} \sim \acute{y}$.

3.3.4.3.2 Endophoric uses

Diessel (1999) identifies three uses for endophoric demonstratives: an anaphoric use (§3.3.4.3.2.1) in which the demonstrative is “coreferential with a noun or NP in the previous discourse” (ibd.: 95), a discourse deictic use (§3.3.4.3.2.2) in which the demonstrative refers to “elements of the surrounding discourse” (ibd.: 100f), and a recognitional use (§3.3.4.3.2.3) which invokes knowledge shared between speaker and hearer. All three uses are found with the endophoric demonstratives of Ts'ixa. They will be discussed individually in the following sections. Table 47 below

²² As is, e.g., the case in Kx'a. Compare Heine and König (forthc.: 178ff) on Ju and F. Berthold (p.c.) on the †Amkoe variety N!aqriaxe.

provides an overview of the endophoric demonstratives of Ts'ixa and their various uses. Note that a discourse-deictic use requires the demonstrative to combine with the discourse referential marker *thà*.

Table 47: Endophoric demonstratives and their uses; brackets indicate adnominal use only

	ANAPHORIC	DISCOURSE-DEICTIC	RECOGNITIONAL
<i>ʔíí~ʔí~í</i>	(✓)	✓ (- <i>thà</i>)	(✓)
<i>míí</i>	✓	✓ (- <i>thà</i>)	-
<i>n á~ná</i>	-	✓ (- <i>thà</i>)	-
<i>gyǎǎ</i>	(✓)	-	-

3.3.4.3.2.1 Anaphoric demonstratives

Anaphoric demonstratives “are used to track participants of the preceding discourse” (Diessel 1999: 96). While the referents encoded or accompanied by anaphoric demonstratives have appeared in the preceding discourse, they are “somewhat unexpected” and “not currently in the focus of attention” (ibd.). Use of anaphoric demonstratives is often linked to topic shift (e.g., in German) and the establishment of major discourse participants. To arrive at this goal, anaphoric demonstratives are used in the context of “2nd mention”, i.e., right after the introduction of a new discourse referent. This is clearly the case in Ts'ixa, where the anaphoric *ʔíí~ʔí~í* is frequently found modifying nouns the referents of which were introduced in the preceding sentence. If the topic continues afterwards, it is either encoded by a pronoun or by zero anaphor. Compare the example below which was taken from a text:

- (98) a. *gúà-nà-hà* > TOPIC INTRODUCTION
 hyena-J-PST3
 ‘There was a hyena.’
- b. *gúà = sì í = sì ||àbà-kùm-||àbà-nà-hà* > 2ND MENTION
 hyena = SG.F:I DEM.REF = SG.F:I be.hungry-INT-be.hungry-J-PST3
 ‘This hyena was very hungry’
- c. *||óbé n||goé, ||óbé n||goé ʔyúú-tà = sè* > TOPIC CONTINUATION
 three month three month eat-IPFV.NEG = ADV
 ‘as for three months, three months it had not eaten.’

To serve the function of reference tracking within the discourse as outlined above *ʔíí~ʔí~í* is always used adnominally. However, it appears in pronominal form

(albeit without a PGN marker) within the relative clause to represent heads which function as oblique arguments (cf. §3.3.6.2).

Another anaphoric demonstrative, namely *n//á~ná*, is more commonly used as a pronoun, but it also appears in adnominal contexts. *n//á~ná* mostly appears in its clickless form and frequently – although not exclusively – refers to [+human] participants. Like *ǀúú~ǀúú~ǀúú*, it has a particular affinity to the 2nd mention of previously introduced topics:

- (99) a. *thì.ʔà n/gè /úú=mà ʔà tséè ná=m̐ khoe=nà ʔà*
 SS SEQ one.of=SG.M:II ACC send DEM.REF=SG.M:I person=PL.C:II ACC
kũũ-a //ʔáé=m̐ ngùà kyíí xàbà.
 go-J village=SG.M:I LOC call so.that
 ‘[They] sent one of them so that he would go and call the people from the village.’

However, *n//á~ná* is sometimes used recurrently in what comes close to pronominal usage without a deictic component, as is illustrated by the following example which directly follows (99)a above:

- (99) b. *thì.ʔà ná=m̐ n/gè kúũ thì.ʔà sí-a boòdì ʔé.dzà ʔà.*
 SS DEM.REF=SG.M:I SEQ go SS arrive-J tell 3PL.F:II ACC
 ‘He went and told them.’

Although more text data would be needed to confirm this, it appears that *n//á~ná* may contrast with distance neutral personal pronouns. (cf. 99b above) in that it encodes a [+topical], [+human] participant which contrasts with other, less topical but nevertheless human, participants present in the discourse. In such a context, *ǀúú~ǀúú~ǀúú* is found functioning as a marker of topic shift. (99)c-d directly follow (99)b; however, now the topic shifts from the messenger to the villagers, i.e., women who have just been informed of the successful hunt:

- (99) c. *ǀúú kà g//aàkhòè=dzi ʔùè nè zũũ kà téè.*
 DEM.REF ATTR woman=PL.F:I also SEQ foot MPO stand
 ‘Those women also stood on [their] feet.’
- d. *thì.ʔà /ʔàn.sè yábà.*
 SS INT be.happy
 ‘[They] were very happy.’

Ts’ixa has a third endophoric demonstrative *gyãá* which is only used in anaphoric contexts. As data on *gyãá* is restricted to a single text, it cannot be answered at this point whether it has a pronominal form. According to information provided by the

speakers, *gyãá* could be translated as “the well-known” and appears to refer to recurring discourse participants. This is supported by examples from a narrative in which *gyãá* is only used after all participants are considered well-established, e.g.,

- (100) *gyãá = sí* *aqám = sí* *ngyúró = ñ* *ngùà* *tũ-nà*.
 DEM.REF = SG.F:I toad = SG.F:I back = SG.M:I LOC be.standing-STAT
 ‘That (well-known) toad stands in the back.’

Finally, the exophoric distal demonstrative *mĩ* is used in anaphoric contexts. It is mostly found in adnominal function, reintroducing known referents that were absent in the discourse for an extended period of time. In the example below, the speaker refers to a toad that had been introduced before, but was not mentioned in the sentences immediately preceding the utterance:

- (101) *aqám* *ká* *mĩ = sí* *||?orá = sí* *||xoró sìnà* *sĩ-a* *tũ*.
 toad ATTR DEM.DIST = SG.F:I big = SG.F:I side LOC arrive-J be.standing
 ‘That (aforementioned) big toad stands aside.’

mĩ also co-occurs with other anaphoric demonstratives, serving the same function outlined above: reference tracking of previously mentioned, but temporarily abandoned topics.

- (102) a. *xúù* *kà* *ĩ* *kà* *káé-é-hà = dzì* *mĩ = dzì*
 thing ATTR DEM.REF MPO tie-PASS-PST3 = PL.F:I DEM.DIST = PL.F:I
ná = dzì *xúrn = ñ* *?à* *||ũ-nà*.
 DEM.REF = PL.F:I ground = SG.M:I LOC be.lying-STAT
 ‘The things tying that (aforementioned) one [the box] are lying on the ground.’
- b. *gyãá = sí* *mĩ = sí* *||ũ = sì*, *aqám = sí* *kà*
 DEM.REF = SG.F:I DEM.DIST = SG.F:I parent = SG.F:I toad = SG.F:I POSS
||ũ = sì *kú.k'à* *mĩ.ngùà* *hàànà = sà* *?è*.
 parent = SG.F:I outside there be.there:STAT = SG.F:II ID
 ‘It is that (well-known) mother, the mother of the toad that is staying there outside.’

3.3.4.3.2 Discourse-deictic demonstratives

Discourse-deictic demonstratives do not refer to noun phrases, but rather to propositions, i.e., their function is to “link two discourse units” (Diessel 1999: 103). In the languages of the world, anaphoric and cataphoric reference are attested (ibid.); in Ts’ixa, only the former is found.

Ts'ixa demonstratives require further morphological modification to make reference to preceding discourse units: they combine with the discourse referential marker *thà* (<*thì.ʔà*), but do not take on PGN marking. Discourse-deictic usage is restricted to the anaphoric demonstratives *ʔíí~ʔí~í*, *n||á~ná* and *míí*. Examples are provided in (93) in §3.3.4.2.1 above.

3.3.4.3.2.3 Recognitional demonstratives

Following Diessel (1999: 105), recognitional demonstratives are defined as deictics that may only be used adnominally, and that do not have “a referent in the preceding discourse or the surrounding situation” (ibd.). Instead they are used to evoke knowledge shared between speaker and hearer. The present data only features one example of recognitional demonstrative use involving *ʔíí~ʔí~í*:

- (103) *ná=m* *kyíí-á-há* *ʔí* *kà* *||'aé-kù=mà* *ʔà*.
 DEM.REF = SG.M:I call-J-PST3 DEM.REF ATTR meet-RCPR = SG.M:II ACC
 ‘That (aforementioned) one called in that meeting (you have heard about).’

The question whether other demonstratives may be used in recognitional contexts as well remains a topic of future research.

3.3.5 Interrogative

Ts'ixa has two major interrogatives: *ní* ‘what, which’ and *maá~máá* ‘who’. *maá* further combines with postpositions, the noun *|ám* ‘time’ and the discourse referential *thà* to derive other interrogative pronouns:

Table 48: Derived and non-derived interrogative pronouns

GLOSS	INTERROGATIVE	SOURCE	SECTION
‘what’	<i>ní</i>		§3.3.5.1.1
‘who’	<i>maá~máá</i>		§3.3.5.1.2
‘where (from)’	<i>maá.ngùà</i>	< <i>maá</i> + <i>ngùà</i> (LOC/ABL)	§3.3.5.2
‘when’	<i>maá. àm</i>	< <i>maá</i> + <i> ám</i> (‘time’)	
‘how’	<i>maá.thà</i>	< <i>maá</i> + <i>thà</i> (DRM)	
‘why’	<i>ní ʔè ... ʔè</i>	< <i>ní</i> + <i>ʔè</i> (ID) ... + <i>ʔè</i> (ID)	§3.3.5.1.1

Pronominal interrogatives appear in two usage contexts: In WH-questions in which the speaker asks for a specific participant, and as relative pronouns in headless relative clauses; however, unlike default relative clauses (cf. §3.3.6), those that feature an interrogative as a relative pronoun require a referent factually unknown to the speaker. In WH-questions, interrogative pronouns as a rule appear clause-

initially, i.e., they occupy the slot before the subject, irrespective of whether their referents are core or oblique participants.

§3.3.5.1 discusses pronominal and adnominal uses of the non-derived interrogatives *ní* (§3.3.5.1.1) and *mǎǎ~maá* (§3.3.5.1.2). The derived interrogatives featuring *maá-* as an interrogative base are treated in §3.3.5.2.

3.3.5.1 Non-derived interrogatives

3.3.5.1.1 *ní* ‘what, which’

Only *ní* ‘what, which’ appears in adnominal contexts, e.g.,

- (104) *ní nguú ?è mǐǐ?*
 which house COP DEM.DIST
 ‘Which house is that?’

ní always precedes its head, and neither constituent receives PGN marking. When used pronominally, *ní* is inherently discourse-deictic (cf. also §3.3.4.3.2.2), i.e., it does not refer to a nominal referent, but to a discourse unit. In this pragmatic context, it always receives a PGN of the third person masculine singular:

- (105) a. *ní=m kò hǐǐ-sí?*
 what=SG.M:I IPFV do-REFL
 ‘What is happening?’
- b. *maá ní=mà ?à hǐǐ-à-hà?*
 who what=SG.M:II ACC do-J-PST3
 ‘Who did what?’

If reference to a nominal referent is intended, *ní* has to be used adnominally with *xúù* ‘thing’:

- (106) *ní xúù ?è mǐǐ?*
 which thing COP DEM.DIST
 ‘What is that?’ (lit. ‘Which thing is that?’)

ní is also used to express the meaning ‘why’. In the construction *ní ?è... ?è*, the discourse-deictic meaning of unmarked *ní* is invoked. This cleft construction roughly translates as ‘It is why that is X?’:

- (107) *ní ?è dué=sí ndéé.sè gyuu-a-tà ?è?*
 what ID my.mother=SG.F:I INT get.angry-J-PST1 ?ID
 ‘Why is it that Mum got so angry?’

One speaker used *ndú* ‘what’ instead of *ní* in a discourse-deictic context:

- (108) *thà ndú hũ-sí mĩ.xùà ?à?*
 and.then what do-REFL there LOC
 ‘Then what happens there?’

3.3.5.1.2 *maá~mãá* ‘who’

An interrogative pronoun **mã* ‘who’ has been reconstructed by Vossen (1997: 379f) for Proto-Khoe and is indeed found throughout the family. In Ts’ixa, it is commonly found without PGN marking, e.g.,

- (109) *maá k’oró-tá k’oxú=mà ?à.*
 who eat.meat:J-PST1 meat = SG.M:II ACC
 ‘Who ate the meat?’

mãá~maá may be marked by the accusative *?à*, as well as by oblique postpositions:

- (110) a. *mãá ?à g//ààkhòè=sì kyii-nà-tà?*
 who ACC woman = SG.F:I call-J-PST1
 ‘Whom did the woman call?’
- b. *tsá ?aná-há rè maá |xè nguú=mí í=mè n//ànì-è-hà*
 2SG.M know:J-PST3 Q who DAT house = SG.M:I DEM.REF = SG.M:I build-PASS-PST3
tà?
 COMP
 ‘Do you know whom this house was build for?’
- c. *tí |?urù-nà-tà maá ?ò tí |?ád=sà ?à khaà-nà-hà tà.*
 1SG forget-J-PST1 who ALL 1SG money = SG.F:II ACC give-J-PST3 COMP
 ‘I forgot whom I gave the money to.’

Finally, *mãá~maá* may act as possessor in a possessive construction. In this case, both possessor and possessee remain unmarked and are simply juxtaposed:

- (111) a. *dué=sí ?aná-há maá |úá tà.*
 my.mother = SG.F:I know:J-PST3 who child COMP
 ‘My mother knows whose child it is.’
- b. *tsá ?aná-há=rè maá |?ád ?é.m ts’ãã-tà tà?*
 2SG.M know:J-PST3 = Q who money 3SG.M:I steal:J-PST1 COMP
 ‘Do you know whose money he stole?’

3.3.5.2 Derived interrogatives

The majority of WH-words in Ts'ixa is derived by combining *mǎǎ~maá* with another element which may be a postposition, a noun, or a discourse marker. Thus, *mǎǎ~maá* serves as a mere interrogative base, desemanticised and bereft of its basic meaning 'who'.

The default interrogative for locative participants is *maá.ngùà* 'where (from)', a derived form consisting of the interrogative base *maá* plus the LOCATIVE / ABLATIVE postposition *ngùà* (cf. §5.3.2).

- (112) a. *n//gaú tí ?à maá.ngùà tsá kò nyúú tà.*
 show 1SG ACC where 2SG.M IPFV stay COMP
 'Show me where you live.'
- b. *maá.ngùà sá kò ky'òà?*
 where 2SG.F IPFV come.from
 'Where are you coming from?'

maá.ngùà, on its part, may be marked by the ALLATIVE / DATIVE postposition *?ò* (§5.3.3) to arrive at the meaning 'where to'. In this case, it is shortened to *maá.ngù*:

- (112) c. *maá.ngù ?ò g//aàkhòè=sì tè kúú?*
 where ALL woman=SG.F:I NEAR.PST go
 'Where did the woman go to?'

When referring to an adverbial of time, *maá* combines with the noun */ám* 'sun, time' which becomes low-toned, taking on phonological features of a suffix:

- (113) *maá./àrà tsá gére táùn=m ?ò kúú?*
 when 2SG.M FUT town=SG.M:I ALL go
 'When will you go to town?'

The meaning of 'how' is achieved by combining *maá* with the discourse referential marker *thà*:

- (114) a. *maá.thà tsé gére ?í.ngùà sí?*
 how 1PL.C FUT there arrive
 'How will we get there?'
- b. *tí kò mǎǎ-kàà maá.thà khoe=n kò //xorò tà.*
 1SG IPFV see-VOL how person=PL.C:I IPFV dance COMP
 'I want to see how the people dance.'

3.3.6 Relative clauses

In this grammar, a relative construction is understood in the terms of Lehmann (1986: 664) who provides the definition given below:

A relative construction is a construction consisting of a nominal (or a common noun phrase, in the terms of categorial grammar) (which may be empty) and a subordinate clause interpreted as attributively modifying the nominal. The nominal is called the head and the subordinate clause the RC [relative clause]. The attributive relation between head and RC [relative clause] is such that the head is involved in what is stated in the clause.

The head may act as core or oblique argument within the relative clause. Oblique arguments have to be resumed in the relative clause by means of the referential demonstrative $\tilde{n}\tilde{i} \sim \tilde{n}\tilde{i} \sim \tilde{i}$ (see also §3.3.4.3.2.1), which in this context is not marked by a PGN clitic but followed by the appropriate oblique postposition.

This is in accordance with the accessibility hierarchy of relativisation as developed by Keenan and Comrie (1977):

Subject > Direct Object > Indirect Object > Oblique > Genitive > Object of comparative

Their findings from a cross-linguistic study suggest that pronoun retention is preferred at the lower end of the hierarchy. This is confirmed by the more recent survey contained in the “Word Atlas of Language Structures”, which states that “several languages use pronoun retention for relativizing upon obliques but not for relativizing upon subjects” (Comrie & Kuteva 2013).

Ts’ixa relative clauses are externally headed and may be encoded by two major strategies:

- 1) Attributive strategy: the attributor postposition *ka* (cf. 115a-b) marks the head
- 2) Appositive strategy: the relative clause follows its head which may, but does not need to be marked by a PGN clitic (cf. 115c-d)

(115) a. [k’oxú ká [ʔé.//ù xúú-nà-hà] = dzì] khudí-nà-hà = sè ʔé.//ù kò àà.
 meat ATTR 3PL.M:I leave-J-PST3 = PL.F:I end-J-PST3 = ADV 3PL.M:I IPFV come.
 ‘When the meat they had left was finished, they would come.’

b. g//óé = sè mūū-tà [[aqám = sí kò hū = sà ʔà [xúú kà]].
 tortoise = SG.F:I see-IPFV.NEG toad = SG.F:I IPFV do = SG.F:II ACC thing ATTR
 ‘The tortoise does not see the thing the toad has done.’

- c. *thì.ʔà //ʔũā àà-kù káá=rí ʔò [jũá=sì mĩ́=sí*
 SS return:J come-RCPR search = SG.M:I ALL child = SG.F:I DEM.DIST = SG.F:I
[káu-a-tà = sà ʔà]].
 stay.behind-J-PST1 = SG.F:II ACC
 ‘[They] came back to search that child which had stayed behind.’
- d. *[khoe [mĩ́.xùà nyũ̀-nà] = mà] tí damàxù ʔè.*
 person there be.sitting-STAT = SG.M:II 1SG y.sibling COP
 ‘The man who is sitting there is my younger brother.’

Only the attributor strategy allows for post-posed heads (cf. 115b above). In general, relative clauses are preceded by their heads.

The relative clause is most commonly marked by a PGN agreeing with the semantic and syntactic properties of the head noun. In the rare case of a [-specific] head (cf. §3.2.4 on PGNs as specific articles), the relative clause is followed by the nominaliser =xù (< xúù ‘thing’), e.g.,

- (116) *//ʔorá /ú.xù burá=rí kò mĩ́-a bóksì tà kyíí=xù.*
 big something Tswana = PL.C:I IPFV QUOT box COMP call = NMZ
 ‘a big something which the Tswana call “boksi”’

In the following, the two major roles of head nouns within the relative clause will be discussed: §3.3.6.1 discusses heads acting as core arguments, while §3.3.6.2 treats cases in which they have the role of oblique arguments. §3.3.6.3 deals with headless relative clauses.

3.3.6.1 Core arguments

Following §6, subject and direct object are considered the language’s core arguments. There are no restrictions on nominal heads acting as subject or object within the relative clause. Both strategies outlined above are available: attribution by means of the postposition *ka*, as well as apposition. Whether the semantic difference between the two corresponds to the one between restricted vs. non-restricted relative clauses as suggested by B. Heine (p.c.) will require future research.

The clause-external head is not resumed within the relative clause in the form of an anaphoric pronoun if it acts as either the subject or the object. The relative clause is marked by a PGN clitic agreeing with the semantic and syntactic properties of the head, while the head itself is either marked by the attributor postposition *ka* (cf. 117a-d) or by a PGN clitic of series ‘I’ (cf. 118a-b):

SUBJECT:

(117) a. /'úú-kù-nà-hà [xarín ká [klíníkì = sì ?à kyãã-nà-hà] = sérà] ?à.
kill-PL-J-PST3 lion ATTR clinic = SG.F:I LOC enter-J-PST3 = DU.F ACC
'They killed the (two) lionesses that entered the clinic.'

b. [tsòò-khòè kà [[Khwai] ?à kò nyúú] = mà] [Omega] ngùà
medicine-person ATTR GN LOC IPFV stay = SG.M:II GN ABL
kò ky'òà.
IPFV come.from
'The healer who stays at Khwai comes from Omega.'

OBJECT:

c. [kuú ká [sá ?ãã-sí-nà-hà] = mà] t'úú ?è.
dress ATTR 2SG.F put.on-REFL-J-PST3 = SG.M:II beautiful COP
'The dress you wear (have put on?) is beautiful.'

d. [kolóí ká [?é.m kò kyúú-kàà] = sì] kò thýà /?àò káá.
car ATTR 3SG.M:I IPFV buy-VOL = SG.F:I IPFV a.lot.of money want
'The car which I want to buy is expensive.' (lit.: 'wants a lot of money')

The appositive strategy is accepted as correct by all speakers; nevertheless, it is much less frequent than the attributive strategy outlined above:

SUBJECT:

(118) a. tí tè mūú [xarín = dzi mū = dzi [dáo = mà ?à tè
1SG NEAR.PAST see lion = PL.F:I DEM.DIST = PL.F:I way = SG.M:II ACC NEAR.PST
pere-?ò] = dzà] ?à.
jump:J-PST2 = PL.F:II ACC
'I have seen those lions that jumped across the way.'

OBJECT:

b. tsá ?aná-há rè [?é.sì kà k'áàkhòè = mà ?à [?é.sì kò
2SG.M:I know:J-PST3 Q 3SG.F:I POSS husband = SG.M:II ACC 3SG.F:I IPFV
n/góá-mà] = mà] ?à.
cook:J-BEN = SG.M:II ACC
'Do you know her husband whom she is cooking for?'

3.3.6.2 Oblique arguments

Heads acting as oblique arguments require the attributor postposition *ka*. If the head acts as oblique argument of the relative clause, it needs to be resumed within the clause by the referential demonstrative $\tilde{n}\tilde{u}\tilde{~}\tilde{n}\tilde{~}\tilde{i}$ which does not receive a PGN clitic, but is still followed by the appropriate postposition, e.g.,

whole relations of inanimate referents. The latter category is included as it follows the same principles as the other two, rendering a separate label “genitive” redundant.²³ There is a considerable degree of variation in the expression of possessive relations in Ts’ixa, some of which is triggered by morphosyntactic restrictions. However, consideration of information-structural properties, such as focus marking, and idiolectal variation may influence a speaker’s choice as well.

There are three main strategies to encode adnominal possession in Ts’ixa. One simply juxtaposes possessor and possessee (§3.3.7.1) while the other two require morphological marking by either the possessive marker *ka* (§3.3.7.2) which follows the possessor, or by means of the homophonous attributor postposition *ka* (§3.3.7.3) which is placed after the possessee. The latter construction requires additional use of a possessive marker *dí* that follows the possessor and receives a PGN agreeing with the semantic and syntactic properties of the possessee (which, due to marking with the attributor *ka*, may not receive a PGN, cf. §3.2.3.2). Strategies 2) and 3) both allow for the possessee to be fronted.

Table 49: Three strategies to encode adnominal possession and their variants

1)	Juxtaposition	Possessor	Possessee
2a)	Possessive/Genitive <i>ka</i> (head-final)	Possessor(= PGN) <i>ka</i>	Possessee = PGN
2b)	Possessive/Genitive <i>ka</i> (head-initial)	Possessee = PGN	Possessor(= PGN) <i>ka</i>
3a)	Attributor <i>ka</i> (head-final)	Possessor(= PGN) <i>dí</i> = PGN.head	Possessee <i>ka</i>
3b)	Attributor <i>ka</i> (head-initial)	Possessee <i>ka</i>	Possessor(= PGN) <i>dí</i> = PGN.head

The main factor to determine which strategy to use is whether or not the possessee is marked by a PGN clitic. PGN-marked possessee do not allow for juxtaposition and therefore require strategies 2) or 3) by default. Unmarked possessee, on their part, are always placed in a possessive relation by being juxtaposed to their possessors (strategy 1)). Strategy 3) is rare, and usage patterns are not transparent within the present data. It therefore seems that – in accordance with the observation that PGN-

²³ The neighbouring language Khwe distinguishes between adnominal possessive constructions and “genitive” constructions, with the latter covering part-whole relations only (cf. Kilian-Hatz 2008: 77f).

marked nouns are the default case in Ts'ixa (cf. §3.2.3) – strategy 2) is the one most commonly used to express adnominal possession.

Interestingly, the data shows no clear alienability split. Prototypical inalienable relations (cf. Heine 1997) like kinship relations, body part relations and part-whole relations may be expressed by all three strategies. Although it seems that encoding of kinship and social relations by strategy 1) is possible even in the case of semantically specific NPs, the preferred strategy in the data remains 2). A clear preference for strategy 1) can only be observed with so-called “secondary locatives” (§5.3.8) which may be interpreted as body part or part-whole relations. However, the reason for this particular choice may be sought in loss of morphological complexity due to grammaticalisation, rather than in a true alienability split.

The preferred constituent order, irrespective of the strategy used, is for the possessor to precede the possessee. Strategies 2) and 3) allow for fronting of the possessee for reasons of emphasis.

Different strategies of adnominal possession may be combined, as the possessor noun phrase may be a possessive construction itself, e.g.,

- (121) *pímbòrò = ìn tí kà kyúú = sì ngyóró ngùà nyúú.*
 mosquito = SG.M:I 1SG POSS head = SG.F:I back LOC be.sitting
 ‘A mosquito is sitting on the back of my head.’

In (121) above, the possessor noun phrase ‘my head’ is a possessive construction encoded by means of strategy 2) which in turn modifies the noun *ngyóró* ‘back’ by means of strategy 1), i.e., juxtaposition.

In the following, all strategies will be discussed individually, including their preferred frames of usage and, if applicable, patterns of idiolectal variation.

3.3.7.1 Strategy 1 (Juxtaposition: Possessor – Possessee)

In Westphal’s (n.d.b) data, juxtaposition is the preferred strategy to encode anominal possession. Whether this is due to the idiolectal affiliation of his informant or a result of the elicitation context is hard to determine. It can however be stated with some certainty that in the present data, juxtaposition is a highly restricted strategy. The possessee must not be marked by a PGN clitic. In consequence, [+specific] nouns requiring PGN marking are commonly excluded from being modified by a possessor, making use of strategy 1). Compare (122)a and (122)b, whereas (122)b features a definite possessee which is modified by a possessor marked by the postposition *ka*:

- (122) a. *ù g/áná*
 tree leaf
 ‘a leaf of a tree’
- b. *ù = sì kà g/áná = sà*
 tree = SG.F:I POSS leaf = SG.F:II
 ‘the leaf of the tree’

There are, however, some exceptions to the above rule. One concerns kinship relations. Although the NPs given below are semantically [+specific], this can only be retrieved from context as the possessee itself is not marked by a PGN clitic:

- (123) a. *táákhòè kà [Khwai] ngùà kò nyúú = mà tí dzãákhòè ?è.*
 old.person ATTR GN LOC IPFV stay = SG.M:II 1SG relative COP
 ‘The old man who stays at Khwai is my relative.’
- b. *sá tí túá ?è.*
 2SG.F 1SG friend COP
 ‘You (f.) are my friend.’

Although use of juxtaposition to express kinship relations might suggest an alienability split, evidence for this is very faint as constructions like in (123) above are the exception rather than the rule; the majority of kinship relations in Ts’ixa is encoded by strategy 2), i.e., with the possessive marker *ka* (cf. (128)a in §3.3.7.2). Body part relations are not expressed by juxtaposition, unless the possessee is actually non-specific, i.e.,

- (124) a. *dúú |?úá*
 eland bone
 ‘a bone of an eland’ (generic ‘eland bone’)

(124)b below, in contrast, was not accepted:

- (124) b. **|úá = sí |aa*
 child = SG.F:I stomach
 Attempted: ‘the child’s stomach’

It was, however, implied that (124)b would be acceptable if the speaker was referring to an entity that had been mentioned in the discourse immediately prior to the utterance. This possibility is linked to information-structural properties, rather than to the alienability of the possessee. When asked for an example, a speaker

provided the following exchange in which the juxtaposed possessive construction is actually an exclamation:

- (125) a. *tsá kà kolóí=sí khúá-nà-tà.*
 2SG.M POSS car=SG.F:I break-J-PST1
 ‘Your car broke down.’
- b. *tí kolóí!?*
 1SG car
 ‘My car!?’

In the present data, juxtaposed possessive constructions are most frequently found with what I will call “secondary locatives”, i.e., locative relations expressed by means of a noun – most commonly a body part – and a locative postposition (see §5.3.8 for more examples), e.g.,

- (126) *xam=ń tí ngyóró ?à hààná.*
 lion=SG.M:I 1SG back LOC be.there:STAT
 ‘The lion is behind me.’ (lit.: The lion is in my back.)

Although it is of course tempting to link juxtaposition with inalienable part-whole or body part relations, lack of pertaining data outside the context of secondary locative constructions suggests that the absence of PGN marking is due to the increasingly grammaticalised character of this particular type of possessive construction, rather than to an alienability split – which, as has already been discussed above, does not appear to exist in Ts’ixa. The assumption of an ongoing grammaticalisation process is further supported by the possibility to encode secondary locative constructions by means of the possessive marker *ka*, rather than by juxtaposition (cf. (128)d in §3.3.7.2 below).

3.3.7.2 Strategy 2) (Possessor(= PGN) *ka* Possessee = PGN)

This strategy, which requires a possessee marked by a PGN clitic and the postposition *ka* to follow the possessor, is the one most commonly found in the data. This is in perfect accordance with the observation that [+specific], i.e., PGN-marked nouns are the default in Ts’ixa (§3.2.3). Synchronically, the possession marker *ka* is

not to be confused with the MULTIPURPOSE OBLIQUE postposition *ka*²⁴ (§5.3.7) and the attributor *ka* (§3.3.1.2), even though all three display the same tonal behaviour, i.e., high toned after nouns with the tonal contour MH, and low toned in all other cases. The possession marker *ka* always follows the possessor, which commonly receives a PGN clitic of series ‘I’. The *ka*-marked possessor usually precedes the possessee (cf. 127a), but postposed possessors are still attested in the data (cf. 127b). If the possessor noun phrase is marked by a postposition, the postposition always follows the possessee.

- (127) a. *sá kà baa.tshaà=mà tí see-tà ?íté.*
 2SG.F POSS beer = SG.M:II 1SG take:J-PST1 NEG
 ‘I have not taken your beer.’
- b. *thà kò gyúù //úú=sì |xè ?é.sì kà.*
 SS IPFV get.angry parent = SG.F:I DAT 3SG.F POSS
 ‘[He] gets angry with her mother.’

This construction type is open to both alienable and inalienable relations as long as the possessee is marked by a PGN clitic. On the inalienable spectrum, it is found encoding kinship relations (cf. 128a), body part relations (cf. 128b) and part-whole relations (cf. 128c), including secondary locatives (cf. 128d).

- (128) a. *tí kà taxù=sì kò n/góá.*
 1SG POSS e.sibling = SG.F:I IPFV cook
 ‘My elder sister is cooking.’
- b. *|úú=sì kà |aa=m kò thúú.*
 child = SG.F:I POSS stomach = SG.F:I IPFV hurt
 ‘The child’s stomach hurts.’
- c. *|úú=ñ nguú=m kà fenstère=dzà ?à ?úè-xù-nà-hà.*
 child = PL.C:I house = SG.M:I POSS window = PL.F:II ACC break-CAUS-J-PST3
 ‘The children broke the house’s windows.’
- d. *|ú.xù ?é.m kà k’ái.ò=m ?à téè-nà.*
 something 3SG.M:I POSS face = SG.M:I LOC.PROX be.standing-STAT
 ‘Something stands in front of him.’

²⁴ However, as it is indeed cross-linguistically common for locative markers to grammaticalise into markers of adnominal possession (cf., Heine & Kuteva 2002: 204, Heine 1997: 114f), it may be suggested here that the possessive postposition *ka* goes back to locative uses of the MULTIPURPOSE OBLIQUE postposition *ka* on a phrasal, rather than on a clausal level. The Ts’ixa possessive construction ‘POSSESSOR *ka* POSSESSEE’ could therefore be circumscribed as ‘[possessee] at [possessor]’.

Alienable possession, mostly in the form of legal ownership is also expressed by this strategy:

- (129) a. *thà* *//úú* *g//aàkhòè = sì* *kà* *karáxù = sì* *?à*.
 SS be.lying woman = SG.F:I POSS bed = SG.F:I LOC.PROX
 ‘[He] is lying on the woman’s bed.’
- b. *k’aro = ì* *ná = ì* *kà* *|abá = sà* *?à* *?ãã-sí-nà-tà*.
 boy = SG.M:I DEM.REF = SG.M:I POSS hat = SG.F:II ACC put.on-REFL-J-PST1
 ‘The boy has put on his hat.’

3.3.7.3 Strategy 3) (Attribution: Possessor(= PGN) *dí* = PGN.HEAD Possessee *ka*)

This strategy is based on the general modification strategy Ts’ixa employs for PGN-marked heads (§3.3.1.2). When used to express possessive relations, the attributor postposition *ka* follows the unmarked possessee. The PGN marker agreeing with the semantic and syntactic properties of the possessee is attached to a particle *dí* that directly follows the possessor; the possessor itself is marked by a PGN clitic of series ‘I’. In unmarked constituent order, the possessor precedes the possessee:

- (130) *tí* *dí = mà* *tsóò* *kà* *séè* *tí!*
 1SG POSS = SG.M:II medicine ATTR take IMP.NEG
 ‘Do not take my medicine!’

More data would be needed to determine which syntactic or information-structural properties trigger preference of this strategy over marking of the possessor with the postposition *ka* as outlined in 2) above (§3.3.7.2). There is no reason to believe that this construction type is restricted to either alienable or inalienable possessive relations. In the present data, it is found expressing kinship relations (cf. (131)a with a pre-posed possessee), body part relations (cf. 131b) and legal ownership (cf. 131c).

- (131) a. *g//aàkhòè* *kà* *k’áàkhòè = ì* *dí = sì* *?è*.
 wife ATTR man = SG.M:I POSS = SG.F:I COP
 ‘She is the man’s wife.’
- b. *aqám = sí* *//?orá = sí* *kò* *|úá = sà* *?à* *zú* *kà* *ngyúró = ì*
 toad = SG.F:I big = SG.F:I IPFV child = sg.f:ii ACC leg ATTR back = SG.M:I
dí = ì *|xè* *xóó*.
 POSS = SG.M:I LOC hold
 ‘The big toad holds the child on the hind leg.’ (lit: on the back’s leg)

- c. *tí mū̀̀-à ʔanà-ʔò khoe kà trastí=m̂ dí=dzà ʔà*
 1SG see-J know:J-PST2 person ATTR trust = SG.M:I POSS = PL.F:II ACC
xú̀̀ kà kò ts'áá=mà ʔà.
 thing ATTR IPFV steal = SG.M:II ACC
 'I recognised the person who stole the trust's things.'

3.3.7.4 Independent possessors

Independent possessors resemble possessors in attributive constructions (cf. strategy 3) described in §3.3.7.2 above). They are followed by the postposition *dí*, which receives PGN marking according to the semantic and syntactic properties of the (absent) head.

- (132) *ʔorá=m̂ hààná, ʔáé=m̂ dí=mà.*
 big = SG.M:I be.there:STAT village = SG.M:I POSS = SG.M:II
 'There was the big one, the headman (lit. the village's).'

The independent possessor may also be a pronoun:

- (133) a. *tí dí=mà tsòd kà séè tí!*
 1SG POSS = SG.M:II medicine ATTR take IMP.NEG
 'Do not take my medicine!'
- b. *tí géré séè ʔité sá dí=mà ʔà.*
 1SG FUT take NEG 2SG.F POSS = SG.M:II ACC
 'I will not take yours.'

3.4 Nominal derivation

The first part of this section introduces three derivative affixes that attach to the Ts'ixa noun (§3.4.1). The second part addresses nominal compounding and nominalisation in more general terms (§3.4.2.1) before turning to a set of denominal affixes which may attach to a variety of hosts and thereby walk the fine line between derivation and compounding (§3.4.2.2). Male-female distinction by means of the adjective-like prefixes *k'áà-* 'male' and *g//aà-* ~ *g//aè-* 'female' is discussed in §3.4.2.3.

3.4.1 Derivative affixes

Ts'ixa nouns may combine with three derivative suffixes: the VOCATIVE suffix *-rè* (§3.4.1.1), the ASSOCIATIVE suffix *-xà* (§3.4.1.2) and the PRIVATIVE prefix *ʔóò-* (§3.4.1.3).

3.4.1.1 Vocative

Ts'ixa has a VOCATIVE suffix *-rè* which, so far, has only been found attaching to the personal pronouns of the 2nd person. The full paradigm is provided in Table 50 below:

Table 50: Vocative forms of the 2nd person pronouns

	MASCULINE	FEMININE	COMMON GENDER
SINGULAR	<i>tsá-rè</i>	<i>sá-rè</i>	
DUAL	<i>tsórò-rè</i>	<i>sórò-rè</i>	<i>khórò-rè</i>
PLURAL	<i>//ó-rè</i>	<i>só-rè</i>	<i>tó-rè</i>

It is likely the suffix may also attach to personal names and nouns used as terms of address, but more data is needed to confirm this.

3.4.1.2 Associative

The ASSOCIATIVE suffix *-xà* is used in variety of contexts; apart from the functions outlined below, it is also found deriving nominal adjectives (cf. §3.3.2.2.2.1) and deriving possessee nouns in predicative possessive constructions (§7.2).

There are two examples in the data which suggest that *-xà* may attach to nouns and derive the meaning ‘X associated with NP’, e.g.,

- (134) */ʔeé-xà* ‘associated with fire’ > ‘firewood’
 fire-ASSOC

In the second example, *-xà* attaches to a PGN-marked noun:

- (135) *//ʔáé=m-xà* ‘associated with the village’ > ‘headman, chief’
 village = SG.M:I-ASSOC

Both examples given above are obviously highly lexicalised, and there is little evidence to suggest that *-xà* productively derives nouns with the semantics suggested above.

Nevertheless, it appears that a more productive strategy is linked to this function: with [+animate] referents, *-xà* marks the associative plural (see Daniel & Moravcsik 2013 for a cross-linguistic assessment of associative plurals, and Güldemann & Fehn, *forthc.*, for a discussion of associative plurals as a typological feature of the Kalahari Basin). In a text about a group of zebras, the narrator usually refers to the ‘mothers’ plus the associative plural suffix *-xà*, thereby acknowledging the presence of other group members not necessarily relevant to the story:

- (136) //iũ̀-xà = dzi n/gè mũ̀-à ?ã̀-té /íú = sì /júá kà tè
 parent-ASSOC = PL.F:I SEQ see-J know-SEQ.NEG one.of = SG.F:I child ATTR NEAR.PST
 káú tà.
 stay.behind COMP
 ‘The mothers and their associates (i.e., the other zebras) did not notice one of the children had stayed behind.’

3.4.1.3 Privative

Vossen (1998: 293) describes a privative prefix *-ʔóò* for Ts’ixa and provides the following example:

- (137) *ʔóò-éé* ‘without ear’ > ‘deaf’ (cf. Vossen 1998: 293)
 PRIV-ear

Such a prefix is not attested in the present data. However, one lexicalised item may bear some relation to this function:

- (138) *ʔóò-tshéè* ‘day before yesterday’

3.4.2 Nominal compounding and classifier-like suffixes

3.4.2.1 Nominal compounds

It is hard to draw a clear line between possessive constructions in which possessor and possessee are merely juxtaposed (cf. §3.3.7.1), and N-N compounds. Indeed, there is some evidence to suggest that what looks like a nominal compound is in fact a possessive construction: The possessee of a juxtaposed possessive may not be marked by a PGN clitic, and although more research is needed, it appears that the same is true for the majority of nominal compounds in Ts’ixa. However, one might perceive nominal compounds to be more closely connected than juxtaposed possessives; they always form an intonation unit and even when pronounced in isolation, the second noun always appears in its lowered form if the first noun features a high tone (cf. §2.4.2.3). Most of the clearly identifiable compounds in the data denote material-object relations:

- (139) a. *kyxoà-k’oxú* ‘elephant meat’
 b. *kyxoà-khoó* ‘elephant skin’
 c. *mínì-khoò* ‘goat skin’
 d. *ʔyúm-/?èrè* ‘baobab rope’

While most N-N compounds are semantically transparent, some have become lexicalised:

- (140) a. *nguú-k'àm* 'house-mouth' > 'door'
 b. *baa-tshaá* 'father-water' > 'beer'

Nominal compounds are particularly frequent in the lexical domain of place names, e.g.,

- (141) a. *kobá-tshaà* 'Yeyi-water' (Savuti)
 b. *n||gára-tshaà* 'sand water'

With place names, we also find V-N compounds:

- (142) a. *||ám-kù-tshaà* 'whisper-RCPR-water'
 b. *gám-kù-tshaà* 'throw-RCPR-water'

More research will be needed to determine if V-N compounding is a productive strategy in Ts'ixa, and whether compounds may consist of more than two components.

3.4.2.2 Derivative suffixes and clitics of nominal origin

The present data features a subset of grammatical markers of nominal origin. These can be shown to have derived from frequent use as second element in N-N or V-N compounds. All of them display reduced morphological and/or phonological properties, compared to their nominal sources, and – with the exception of the DIMINUTIVE suffix *-||ũã* – may derive nominal referents of a particular semantic type from various hosts, including clauses. Nominal referents derived from clauses with one of the clitics listed in Table 51 below are best interpreted as headless relative clauses.

Table 51: Derivative formatives derived from nouns

FUNCTION	FORM	SOURCE	HOST TYPE		
			NOUN	VERB	CLAUSE
DIMINUTIVE	<i>- ũã ~ - oa</i>	< <i> úú</i> 'child'	✓	-	-
AGENTIS	= <i>khò(è)</i>	< <i>khoe</i> 'person'	✓	✓	✓
NOMINALISER	= <i>xù ~ =xò</i>	< <i>xúù</i> 'thing'	-	✓	✓
(LOCATIONAL) NOMINALISER	= <i>?ò</i>	< <i>*?óò</i> 'place'	✓	✓	-
LOCATIONAL NOMINALISER	= <i>xùà</i>	< <i>xúá</i> 'place'	-	-	✓
LOCATIONAL NOMINALISER	= <i> ũ ~ ò</i>	< <i> úú</i> 'land, country'	-	-	✓

The example given below suggests that some of the elements listed in Table 51 may co-occur. Whether there are restrictions on stacking of derivative formatives remains a topic of future research.

- (143) *nyúú = ʔò = xò* ‘chair’
 sit = LOC = NMZ

3.4.2.2.1 The diminutive suffix *-/ũã ~ /oa*

/ũã ‘child’ may still function as N₂ in a nominal compound without losing its original semantics, e.g.,

- (144) a. *biyé-|ũã* ‘zebra filly’
 zebra-child
- b. *xúú.khòè-|ũã* ‘San child’
 San-child

Beyond this function, *-/ũã* has grammaticalised into a productive suffix deriving diminutives from nouns. The diminutive suffix has a denasalised variant *-/oa* which is used by a subset of speakers.

- (145) a. *k’aro-|úá* ‘little boy’
 boy-DIM
- b. *nguú-|ũã* ‘small house’
 house-DIM

Some items with a diminutive suffix have become lexicalised, e.g.,

- (146) a. *dzirá-|òà* ‘bird’
 vulture-DIM
- b. *g|qú-|ũã* ‘weaver bird’
 ?-DIM
- c. *ù-|úá* ‘stick’
 tree-DIM

3.4.2.2.2 *Nomina Agentis* with = *khò(è)*

The clitic = *khò(è)* (< *khoe* ‘person’) derives *nomina agentis* from nouns (cf. 147a), verbs (cf. 147b-c) and clauses (cf. 148a-b):

- (147) a. *tsòò = khòè* ‘healer’
 medicine = AGT

- b. *xúú = khòè* ‘San’ (lit. ‘leave behind-person’)
leave.behind = AGT
- c. *guni = khò* ‘hunter’
hunt = AGT

(148)a-b clearly reveal this type of construction to derive from a relative clause, with *khoe* ‘person’ acting as the grammatical head:

- (148) a. *dará-nà-tà = khòè* ‘guest’
pay.visit-J-PST1 = AGT
- b. *tsé* [[*k’oxú = dzi* *kò* *kúù* *khònà*] = *khòè*] ?è.
1PL.C animal = PL.F:I IPFV go be.like = AGT COP
‘We are those who go like the animals go.’

3.4.2.2.3 The nominalising clitic = *xù* ~ = *xò*

= *xù* ~ = *xò* (< *xúù* ‘thing’) derives nouns from verbs (cf. 149a-c) and clauses (150a-c).

- (149) a. *ngúdí = xò* ‘lie’ (n)
lie = NMZ
- b. *tsee = xò* ‘truth’
bec.real = NMZ
- c. *xaròd-kù-xù* ‘gift’
give-RCPR-NMZ

In the examples below, the nominal referents derived by = *xù* can be analysed as headless relative clauses:

- (150) a. *k’aro-íúá = ò* *kò* [[*?áni = ò* ?à *hàànà*] = *xù*] *káá*.
boy-DIM = SG.M:I IPFV inside = SG.M:I LOC be.there = NMZ want
‘The little boy wants what is inside.’
- b. [*míí* *ká* *boksí = ò* ?à *kò* *ky’uà*] = *xù*
DEM.DIST ATTR box = SG.M:I LOC IPFV come.out = NMZ
‘what is coming out of that box’
- c. ?é.ñ *kò* *kyeé.kyeè* [[*?é.sérà* *kò* *nyúú-a* *k’uì*] = *xù*].
3PL.C:I IPFV listen 3DU.F IPFV sit-J talk = NMZ
‘They are listening to what they are talking about while sitting.’

Some Ts'ixa lexemes can be shown to derive from a construction $V = xù$:

- (151) a. *k'oxú* < *k'oo = xu
 meat eat.meat = NMZ
 b. *káxù* < *káá = xù
 knife ?cut = NMZ

3.4.2.2.4 The (locational) nominalising clitic = ?ò

The clitic = ?ò probably derives from a noun *?óó 'place' (cf. Vossen 1998) which no longer exists in modern Ts'ixa. Directly related to this etymology is its function as a clitic deriving locational nominals from nouns and verbs:

- (152) a. *tshaá = ?ò* 'river, water pan' (lit. water place)
 water = LOC
 b. *k'áí = ?ò* 'face' (lit. front place)
 front = LOC
 c. */xáá = ?ò* 'body' (lit. flesh place)
 flesh = LOC
 d. *//óó = ?ò* 'bed' (lit. resting place)
 rest = LOC

The (apparently lexicalised) examples below suggest that = ?ò may be used as a generic nominaliser deriving nouns from verbs. Whether this function is actually productive in modern Ts'ixa has to be considered a topic of future research.

- (153) a. *khudí = ?ò* 'end'
 end = NMZ
 b. *kyíí = ?ò* 'disease'
 be.sick = NMZ

3.4.2.2.5 Deriving locative referents from clauses with the clitic = xùà

= xùà derives from a noun *xúá* 'place' which still exists in modern Ts'ixa. Despite of its derivative semantics in (154)b below, the construction can clearly be identified as a juxtaposed possessive (§3.3.7.1), due to the presence of the PGN clitic on *tshaá*.

- (154) a. *ní = m̃* *kùè* *hũ-sí* *xúá = sì* *í = sì* *?à*
 what = SG.M:I IPFV do-REFL place = SG.F:I DEM.REF = SG.F:I LOC
 'What is happening in this place?'

- b. *thà ?é.̀n t̀è sí tshaá = sí xúá.*
 SS 3PL.C:I NEAR.PST reach water = SG.F:I place
 ‘They have reached the pond.’

In the present author’s data, =*xùà* is exclusively found deriving nominal referents referring to a place which may exist in the physical world (cf. 155a-b), or in the metaphorical realm (cf. 155c). All structures derived with =*xùà* are syntactically headless relative clauses.

- (155) a. *||é k̀ò [[k’oxú = dzì háà] = xùà] ?à m̀úú-à ?áá.*
 1PL.M IPFV animal = PL.F:I be.there = LOC ACC see-J know
 ‘We know (by vision) **where the animals** are.’

- b. *tsé k̀ò nyúú [[k’oxú ||?óó] = xùà].*
 1PL.C IPFV stay animal die = LOC
 ‘We stay **where the animal** died.’

- c. *tí ?áá-t̀è maá.thà tí xà khudí.khudì tà*
 1SG know-IPFV.NEG how 1SG SUBJ end:CAUS COMP
[[tí |xè kadí] = xùà] ?à.
 1SG DAT hard = LOC ACC
 ‘I don’t know how to solve this problem (**where it is hard for me**).’

Locative referents derived by =*xùà* frequently act as locative adverbials which can, but need not be marked by one of the language’s postpositions (cf. §5.2.2). They may also act as core arguments, such as the direct objects in (155)a and (155)c above which are both marked by the ACCUSATIVE postposition ?à. =*xùà* also attaches to various demonstrative bases to derive [+ distal] [+ visible] locative adverbs (cf. §5.1.3).

3.4.2.2.6 Deriving locative referents from clauses with the clitic =*ηú* ~ =*ηò*

Like in the case of =*xùà* (cf. §3.4.2.2.6), *ηúú* ‘place’, the nominal source for the clitic =*ηú* ~ =*ηò*, is still used in non-derivational contexts:

- (156) *tshaó ηúú kónò ||óé kà ||é k̀ò khań-á kúú.*
 be.plain place when knee MPO 1PL.M IPFV crawl-J go
 ‘When a place is flat, we crawl forward on our knees.’

As a clitic deriving locative referents, it is restricted to clausal hosts:

- (157) a. *[?yáá = sí k̀ò kúú] = ηò ||é k̀ò kúú.*
 wind = SG.F:I IPFV go = LOC 1PL.M IPFV go
 ‘We go where the wind goes.’

b. /árn-tså̀= dzì kò ky'òà = ηù̀
 sun-?ray = PL.F:I IPFV exit = LOC
 'where the sun comes out' (= 'east')

c. /árn-tså̀= dzì kò káè = ηù̀
 sun-?ray = PL.F:I IPFV sink = LOC
 'where the sun sinks' (= 'west')

= ηù̀ ~ = ηò appears to be synonymous with = xùà, but no idiolectal variation could be observed. Although = ηù̀ ~ = ηò is used with less frequency than = xùà, both clitics appear side by side in texts recorded with one and the same speaker.

3.4.2.3 Male-female distinction

Ts'ixa has two adjective-like prefixes, *k'áà- ~ k'áò-* 'male' and *g//aà- ~ g//aè-* 'female' which never appear on their own and never receive agreeing PGNs (as found with canonical adjectives, cf. §3.3.2.4). They may therefore be interpreted as having grammaticalised into derivative prefixes. They are usually found with [+animate] referents, but metaphorical extensions (as in (161) below) are possible. The nouns modified by these prefixes appear to become low-loned. However, this might be an effect of phrasal lowering (cf. §2.4.2)

(158) khoe 'person'

- a. *k'áà-khòè* 'man, husband'
male-person
- b. *g//aà-khòè* 'woman, wife'
female-person

(159) //ũũ 'parent'

- a. *k'áà-//ũũ̀* 'father'
male-parent
- b. *g//aà-//ũũ̀* 'mother'
female-parent

(160) góè 'cattle'

- a. *k'áò-gòè* 'bull'
male-cattle
- b. *g//aè-gòè* 'cow'
female-cattle

- (161) ||ʔúá ‘arm, side’
 a. k’áà-||ʔúá ‘right side’
 male-side
 b. g||aè-||ʔúá ‘left side’
 female-side

3.5 Noun phrase coordination

This section discusses both conjunctive (§3.5.1) and disjunctive (§3.5.2) noun phrase coordination. Coordination is understood in the sense of Haspelmath (2004: 34) as a syntactic construction “in which two or more units of the same type are combined into a larger unit and still have the same semantic relations with other surrounding elements”.

3.5.1 Conjunctive coordination

The main strategy to conjoin noun phrases involves the bipartite conjunction *kòrè... xàè*:

- (162) a. *aqám = sí kòrè ||úú = sì xàè nyúú /ám kò = sè mú.xà*
 toad = SG.F:I CONJ parent = SG.F:I CONJ be.sitting be.two IPFV = ADV there
 ‘The toad and the mother sit there together.’
 b. *ti kùè n||gáè kòrè ||xorò xàè yábà.*
 1SG IPFV sing CONJ dance CONJ love
 ‘I love singing and dancing.’

Although the two examples quoted above might suggest as much, we are not dealing with “postpositive bisyndesis” (cf. Stassen 2001) here. The particle *kòrè* is not postposed to NP₁, but rather preposed to NP₂ (and all subsequent coordinands). Hence, the following template applies:

[NP₁ [*kòrè* NP₂ *xàè*]... [*kòrè* NP_N *xàè*]]

Compare also the example below with three conjoined noun phrases in the subject slot:

- (163) [[*?abá = ñ*]_{NP1} [*kòrè g||óé = sì xàè*]_{NP2} [*kòrè k’aro = ñ xàè*]_{NP3}]
 dog = SG.M:I CONJ tortoise = SG.F:I CONJ CONJ boy = SG.M:I CONJ
kò kyeé.kyeé.
 IPFV listen
 ‘The dog, the tortoise and the boy are listening.’

If conjoined noun phrases appear as direct objects of the clause, only the first coordinand receives case marking (cf. 164 below). All subsequent ones are marked by a PGN of series ‘I’ (cf. §3.1.3). More data is needed to determine the behaviour of conjoined noun phrases that do not function as core arguments of the clause and hence require marking by a postposition.

- (164) [*ʔabá=ń* [*kòrè g/óé=sì* *xàè*]] *kò* *gàð* [[*/úá=sà* *ʔà*]
 dog = SG.M:I CONJ tortoise = SG.F:I CONJ IPFV look child = SG.F:II ACC
 [*kòrè* */úú=sì* *xàè*]].
 CONJ parent = SG.F:I CONJ
 ‘The dog and the tortoise watch the child and the mother.’

The coordination chain may be discontinuous, as can be seen in (165) below where the copula verb *hàànà* immediately follows the first coordinand. However, more data is needed to establish which syntactic elements may actually go in between the coordinands, and whether coordinands following an intervening predicate (as in the example below) become appositions.

- (165) [*ʔabá*] *hàànà* [*kòrè g/óé* *xàè*] [*kòrè aqám* *xàè*].
 dog be.there CONJ tortoise CONJ CONJ toad CONJ
 ‘There is a dog, a tortoise and a toad.’

For narrative purposes, conjoined noun phrases – like basically any type of noun phrase in Ts’ixa – may be used with TAM markers. In this case, only the first coordinand receives TAM marking:

- (166) [*khoe*]-*nà-hà* [*kòrè góè* *xàè*].
 person-J-PST3 CONJ cattle CONJ
 ‘There was a person and a cow.’

Use of *kòrè...xàè* is restricted to noun phrase coordination, i.e., the conjunction is never used with verbs. This is in accordance with Haspelmath (2004) and Welmers (1973: 305) who observe that the use of different means for expressing noun phrase and event conjunction is the majority pattern in the world’s languages.

It should be noted that in elicitation contexts and narrative texts, speakers of Ts’ixa frequently use comitative constructions when one would expect to find coordinated noun phrases. While it appears that noun phrases conjoined by *kòrè...xàè* and comitative constructions with an oblique participant marked by the postposition */xàð* display similar, if not identical semantics, they need to be distinguished in syntactical terms. Noun phrases conjoined by *kòrè...xàè* share the same structural

rank, while a comitative construction with /xòà always forces one element into an oblique position. Compare examples (167)a-b below, uttered by different speakers when asked to translate the sentence ‘Me and my sister go to Maun’:

Coordinate strategy:

- (167) a. [[*tí* [*kòrè* *tí* *kà* *kúú.k'èè=sì* *xàè*]]_{SBJ} *kò* [*Máú* *ʔò*]_{OBL} *kúú*].
 1SG CONJ 1SG POSS os.sibling = SG.F:I CONJ IPFV GN ALL go
 ‘Me and my sister go to Maun.’

Comitative strategy:

- b. [[*Máú* *ʔò*]_{OBL} [*tí* *kà* *kúú.k'èè=sì* */xòà*]_{OBL} [*tí*]_{SBJ} *kò* *kúú*].
 GN ALL 1SG POSS os.sibling = SG.F:I COM 1SG IPFV go
 ‘I go to Maun with my sister.’

It appears that speakers of Ts’ixa may also use what Payne (1985: 25-37) terms “asyndetic strategy”, i.e., simple juxtaposition of the coordinands. However, the data contains only one example which features three coordinands; the first two are conjoined by mere juxtaposition, while the last coordinand is marked by *kòrè...xàè*. More research will be needed to determine whether asyndesis is restricted to this particular context, i.e., a case of coordinator omission, or a generally productive strategy to conjoin noun phrases.

- (168) [[*thiyà-|úà* *k'áàkhòè*] [*g|aàkhoè=dzi*] [*kòrè* */úá=n* *xàè*]]
 many-DIM man woman = PL.F:I CONJ child = PL.C:I CONJ
 ‘few men, the women and the children’

3.5.3 Disjunctive coordination

In choice questions (§9.1.1.2), disjunctive coordination, i.e., the notion of ‘or’, is expressed by means of the particle *kànà* which is placed between the coordinands according to the template given below:

[NP₁ *kànà* NP₂]

Compare the following examples:

- (169) a. *//úú=sì* *kànà* *//úú=mà* *rè?*
 parent = SG.F:I DISJ parent = SG.F:II Q
 ‘Is it the mother or the father?’
- b. *dúú* *kànà* */xòò* *rè?*
 eland DISJ gemsbok Q
 ‘Is it an eland or a gemsbok?’

There is another template found in the data which might be considered used in “declarative” contexts, although it is not really clear whether the structure quoted below is actually declarative, seeing it does involve the interrogative particle *rè*:

[*xaré* NP₁ *rè* *xaré* NP₂ *rè*]

(170) *xaré* *dúú* *rè* *xaré* /*xóò* *rè* //*é* *kò* *pere* *kàmà*.
 DISJ eland Q DISJ gemsbok Q 1PL.M IPFV chase:J track
 ‘We chase and track either eland or gemsbok.’

Unlike the conjunction *kòrè...xàè*, *kàmà* and *xaré... rè* are not restricted to noun phrase coordination and may also be used with verbs and clauses (§8.1.2). This is in accordance with cross-linguistic patterns observed by Haspelmath (2007), who maintains that disjunctive coordinators are less selective with regards to the syntactic-semantic type of the coordinands they occur with.

4 Verbal morphology

Underived verb stems appear with all phonotactic patterns attested for genuine lexical roots (cf. §2.3.1): monosyllabic, bimoraic C(C)VV and C(C)VN, as well as bisyllabic, bimoraic C(C)VCV. Ts'ixa verbs may be grouped according to the number of arguments they take, and according to their inherent aspectual properties (§4.1). They may further be classified according to their behaviour with a grammatical morpheme known in the literature as “juncture” (Köhler 1981b, Kilian-Hatz 2008) or “verbal linker” (Vossen 2010). The juncture morpheme links a restricted set of derivational and TAM suffixes to the verb stem, and serves as a connecting element in a specific type of multiverbal predicate. The juncture and its interaction with the phonological properties of the verb stem are addressed in §4.2. Verbal predicates in declarative clauses are obligatorily marked by a grammeme encoding tense, aspect and/or modality (TAM), which may be a particle or a suffix (§4.3.1). They may be negated by a set of aspect-specific and generic negation particles (§4.3.2). The inherent aspectual properties of a verb may be modified by a set of derivative suffixes (§4.4). Aspectual modification is also one of the functions served by a specific type of multiverbal structure here termed “juncture-verb construction” in which two or more verbs are combined to form a complex predicate (§4.5).

4.1 Verb classes

Ts'ixa verbs can be grouped in two ways:

- a) According to the number of core arguments they may take, i.e., transitivity value (§4.1.1), and
- b) According to the way in which they interact with the different TAM markers, i.e., inherent lexical semantics (§4.1.2).

In addition, Ts'ixa has a closed class of “copula verbs” which display a specific grammatical behaviour in that they do not combine with TAM markers other than the STATIVE suffix *-nà* (§4.1.3).

4.1.1 Transitivity value

Ts'ixa has three syntactic verb classes: transitive (§4.1.1.1), intransitive (§4.1.1.2) and ambitransitive (§4.1.1.3). Ditransitive verbs, i.e., verbs with a valency frame of

three arguments, did not occur in the data. Semantically ditransitive constructions always require one participant to be treated as oblique (cf. §6.3).

4.1.1.3 Intransitive

Intransitive verbs take the core argument S. The valency of intransitive verbs may be manipulated by means of two valency-changing operations: CAUSATIVE and BENEFACTIVE; both render the initially intransitive verb monotransitive by adding an argument O. Intransitive verbs may appear with the PASSIVE suffix which triggers an impersonal reading. They may also take on the RECIPROCAL / POLYADIC suffix *-kù*; in this case, their semantics change to a collective reading.

4.1.1.4 Transitive

Transitive verbs make up the majority of verbs in Ts'ixa. They take on two core arguments A and O. However, O is frequently omitted if deemed sufficiently accessible from context. Monotransitive verbs may be rendered intransitive by means of the PASSIVE and REFLEXIVE suffixes. The RECIPROCAL / POLYADIC suffix *-kù* may trigger either a reciprocal or a collective reading. Whenever they take on suffixes to derive CAUSATIVE or BENEFACTIVE, they become semantically ditransitive. In both cases, a new O is introduced, while the original O becomes an oblique participant marked by the MPO *ka*.

4.1.1.5 Ambitransitive

Ts'ixa has at least two verbs with both transitive and intransitive semantics: *kyãã* ~ *ʔãã* 'to enter, to put into', and *yábà* 'to be happy, to love':

(171) a. *nguú = rí ʔà tí kò kyãã.*
 house = SG.M:I LOC 1SG IPFV enter
 'I am entering the house.'

b. *nguú = rí ʔà tí kò boksí = mà ʔà kyãã.*
 house = SG.M:I LOC 1SG IPFV box = SG.M:II ACC put.into
 'I am putting the box into the house.'

(172) a. *g//aàkhòè = dzì kò yábà.*
 woman = PL.F:II IPFV be.happy
 'The women are happy.'

b. *tí kà g//aàkhòè = sà tí kò yábà.*
 1SG POSS wife = SG.F:II 1SG IPFV love
 'I love my wife.'

The list of ambitransitive verbs in Ts'ixa may be more exhaustive (cf., e.g., Kilian-Hatz 2008: 133 for West Caprivi Khwe), but for the time being, this has to be considered a topic of future research.

4.1.2 Lexical verb classes

Ts'ixa verbs may be grouped into semantic verb classes, according to their behaviour with the language's various TAM markers (cf. §4.3.1). Semantic verb classifications according to aspectual criteria have been undertaken by various scholars (Vendler 1967, Dahl 1985, Sasse 1991, Van Valin & LaPolla 1997); these inherent semantic properties are sometimes called the “Aktionsart” of a verb. Sasse (1991) rejects the term “Aktionsart”, but presents a classification of states of affairs, according to their aspectual potential.

According to Sasse (1991: 3), the prototypical state of affairs has two boundaries; one marks the transition *into* the state (T_1), the other the transition *from* the state (T_2):



Figure 2: The prototypical state of affairs (cf. Sasse 1991)

He then identifies five verb classes, according to the importance they place on any of the three sub-events identified (T_1 , State, T_2), and their aspectual potential with perfective and imperfective markers. Another classification is provided by Van Valin and LaPolla (1997: 91ff), who distinguish verbs according to the features [static], [punctual], and [telic]. While it does not seem useful to try and force Ts'ixa verbs into either schema, both certainly provide a helpful frame of reference for a language-specific verb classification. The following four verb classes are based on the individual verbs' behaviour with the imperfective marker *kò* as well as with the various ANTERIOR / PAST TENSE markers (here exemplified by the GENERIC / REMOTE PAST suffix *-ha*), all of which may also encode the notion of PERFECT. This grammar will follow the terminology of Van Valin & LaPolla (1997), but equivalents from Sasse (1991) are given in Table 52 below (in brackets). Note that Ts'ixa has no real state verbs as they appear in the classifications of both Sasse (1991) and Van Valin & LaPolla (1997). Unbounded states are always expressed by means of predicative

adjectives functioning as copula complements (§3.3.2.3.1). Adjectives used with TAM markers fall into the category of accomplishments, i.e., they follow the semantic template ‘become X’.

Table 52: Lexical verb classes in Ts’ixa following Van Valin & LaPolla (1997) (with terminological counterparts from Sasse (1991))

SEMANTIC VERB CLASS	LEXICAL REPRESENTATION	FEATURES	BEHAVIOUR WITH IPFV / PST3	FURTHER EXAMPLES
Experiential state (ISTA: Inchoative- Stative)	feel’ (x, [pred’])	[+ static] [- telic] [- punctual]	<i>tí kò kyí.</i> ‘I am sick.’ <i>tí kyí-a-hà.</i> ‘I became sick.’ /‘I was sick.’	<i>yábà</i> ‘to love, to be happy’
Activity (AKTI: Activity)	do’ (x, [predicate’ (x) or (x, y)])	[- static] [- telic] [- punctual]	<i>tí kò g//áì.</i> ‘I am running.’ /‘I run.’ <i>tí g//ai-a-hà.</i> ‘I ran.’	motion verbs, perception verbs, dynamic activities, etc.
Accomplishment (GTER: Gradually Terminative)	BECOME predicate’ (x)	[- static] [+ telic] [- punctual]	<i>tí kò tsxáà.</i> ‘I am getting tired.’ <i>tí tsxáà-tà.</i> ‘I am tired.’ (> ‘I became tired.’) /‘I was tired.’	//ʔóó ‘to die’, ʔáã ‘to get to know’, //xóó ‘to become dry’, /’úú ‘to kill’
Achievement (TTER: Totally Terminative)	INGR predicate’ (x) or (x, y)	[- static] [+ telic] [+ punctual]	<i>tí //ádi-nà-hà.</i> ‘I found.’	/’éé ‘to fall down’, <i>khudí</i> ‘to end’

It should be noted that the examples given in the table above are by no means intended to be exhaustive; they merely reflect the situation as suggested by the limited amount of data this analysis is based on. Nevertheless, it must be assumed that the semantic class “activity” is indeed predominant in the language, while “experiential states” and “achievements” are only represented by a small amount of lexemes each.

4.1.3 Copula verbs

In addition to these, Ts'ixa has a further class of verbs which, following Kilian-Hatz (2008) I will call “copula verbs”: these are the three posture verbs *téè* ~ *tû* ‘to be standing’, *nyû* ‘to be sitting’, and *||óè* ~ *||û* ‘to be lying’. While *téè* ~ *tû* is still used as a full verb, *nyû* and *||óè* ~ *||û* are defective, i.e., they never appear with a TAM other than the STATIVE / CURRENT RELEVANCE suffix *-nà* (§4.3.2.6). A similar behaviour is displayed by *háà* ‘to exist’; this verb has a variant *hàànà* which most likely constitutes a grammaticalised form derived from *háà* + *nà* ‘STAT’. Copula verbs are further discussed in §4.3.2.6.

4.2 The juncture morpheme

A set of TAM and derivational suffixes are not directly attached to the verb stem but require a grammatical element here referred to as “juncture morpheme” (“verbal linker” in Vossen 2010). A similar grammeme exists in all Kalahari Khoe languages, but its exact functions and morphophonological behaviour differ between languages and even dialects. The juncture has a base form /a/ with several allomorphs (cf. Vossen 1997, 2010). Their distribution is in part predictable from the final vowel of the preceding verb stem, but some cases of /r/- and /n/-insertion have to be taken from the lexicon.

Ts'ixa is well on its way to lose its allomorphic variation in favour of a default-juncture /nà/. However, this can only be observed with the three ANTERIOR / PAST TENSE suffixes *-ta* (PST1), *-ʔo* (PST2) and *-hã* ~ *-ha* (PST3) (§4.3.2.2.2). With the derivational suffixes for COMPLETIVE *-xù*, BENEFACTIVE *-mà* and DURATIVE *-ʔì.sì*, several allomorphs appear (§4.2.1.1). The same applies to a particular type of complex predicate, called “juncture-verb construction” (JVC) in this work, in which two or more verbs are linked by the juncture morpheme (§4.5).

It is argued that the development of a default-juncture /nà/ before *-hã* ~ *-ha* and, to a lesser extent, *-ta* and *-ʔo*, mirrors a grammaticalisation process in the course of which juncture and TAM merge into a grammatical formative that should be interpreted as a particle, rather than a suffix. Especially younger speakers show a clear tendency to place other elements like subject or object between verb stem and *nàhà* / *nàtà*, indicating that in this particular role, the juncture has been reanalysed and no longer serves as a verbal linker.

4.2.1 The juncture and its allomorphs

This section deals with the behaviour of the juncture as found with derivational suffixes of verbal origin, and in multiverbal predicates. Only in this environment, the juncture generally appears with its various allomorphs. Before the TAM-suffixes *-ta*, *-ʔo* and *hã~ -ha*, phonologically triggered allomorphy may still occur, but the majority of speakers prefers use of /nà/ which appears to approach the status of a “default” juncture.

In the following, distributional patterns of juncture allomorphs in Ts’ixa (§4.2.1.1) and the morpheme’s interaction with the tonal operation termed “flip-flop” (§4.2.1.2) are discussed.

4.2.1.1 Distributional patterns of juncture allomorphs

Like other Kalahari Khoe languages, Ts’ixa has a basic juncture /a/ which may be assimilated

- to the preceding vowel
- to the preceding vowel, preceded by *r* (/r/-insertion)
- to the preceding vowel, preceded by *n* (/n/-insertion).

/nà/, which frequently appears as default juncture before the three ANTERIOR / PAST suffixes (§4.3.2.2.2), is only found after bi- and tri-syllabic stems.

Although it is not always possible to predict the juncture allomorph from the phonological properties of the preceding verb stem, Table 53 below provides an overview of the distribution of allomorphs as observed in Ts’ixa. Examples are given with the same DAY PAST SUFFIX *-ta* for reasons of convenience.

Table 53: Distribution of the juncture morpheme /a/ and its allomorphs

ALLOMORPH	AFTER	EXAMPLES
/a/	/i/	<i>g ai-a-tà</i> ‘run’ (< <i>g ài</i>)
	/ĩ/	<i>hũ-à-tà</i> ‘do’ (< <i>hũ</i>)
	/u/	<i>káu-a-tà</i> ‘stay’ (< <i>káu</i>)
	/ũ/	<i>kyũũ-à-tà</i> ‘buy’ (< <i>kyũũ</i>)
	CVN	<i> am-à-tà</i> ‘feel’ (< <i> am</i>)
zero	/e/	<i> 'eé-tá</i> ‘fall down’ (< <i> 'eé</i>)
	/a/	<i>k'aa-tà</i> ‘drink’ (< <i>k'áà</i>)
	/ã/	<i>ts'ãã-tà</i> ‘steal’ (< <i>ts'áã</i>)
	/o/	<i>ts'óro-tà</i> ‘rot’ (< <i>ts'óró</i>)
/r/-insertion	/e/	<i>pere-tà</i> ‘flee’ (< <i>péè</i>)
	/a/	<i>kharà-tà</i> ‘give’ (< <i>khaà</i>)
	/o/	<i>gàro-tà</i> ‘look’ (< <i>gàò</i>)
/n/-insertion	/ã/	<i>?aná-tá</i> ‘get to know’ (< <i>?ãã</i>)
/na/	CVCV	<i>guni-nà-tà</i> ‘hunt’ (< <i>guni</i>)
	(+ derived verbs)	<i> 'urí-nà-tà</i> ‘be dirty’ (< <i> 'urí</i>)
		<i>yaba-nà-tà</i> ‘love’ (< <i>yábà</i>)

Rules governing the allomorphy can be summed up as follows: /a/ is always predictable after the high vowels /i/ and /u/, both oral and nasal, as well as after verbs ending in a nasal consonant (either /n/ or /m/). After the mid vowels /e/ and /o/ and after the low vowel /a/, the juncture morpheme may either be assimilated, resulting in a zero-juncture, or /r/ may be inserted. /ã/ either allows for zero-juncture or for /n/-insertion. In the case of /n/-insertion, nasality of the vowel is lost.

/r/- and /n/-insertion are only found with very few lexemes, and sometimes vary with total assimilation of the vowel:

xóó ‘hold’
VARIANT 1
VARIANT 2

>
xóro-tà
>
xóo-tà

4.2.1.2 Interaction with “flip-flop”

As can be seen from the examples given in the table, the juncture and following suffix have no fixed tone pattern, but receive their tone from the preceding stem. In stems with the tonal melodies HH, HL and LL, the juncture causes a tonal phenomenon known as unilateral flip-flop (see §2.4.1), i.e., melodies *without* a mid tone change to melodies *with* a mid tone, i.e.:

Table 54: Tonal alterations in the verb stem (“flip-flop”) caused by the juncture

HH > HM		
<i>xóro-tà</i>	‘hold’	(< <i>xóó</i>)
<i>//ʔóo-tà</i>	‘die’	(< <i>//ʔóó</i>)
<i>síi-a-tà</i>	‘arrive’	(< <i>síi</i>)
<i>páa-tà</i>	‘bite’	(< <i>páá</i>)
MM > MM		
<i>dao-tà</i>	‘burn’	(< <i>dao</i>)
<i>bee-tà</i>	‘fear’	(< <i>bee</i>)
<i>//am-a-tà</i>	‘give birth’	(< <i>//am</i>)
<i>guni-nà-tà</i>	‘hunt’	(< <i>guni</i>)
LL > LM		
<i>//ʔùm-a-tà</i>	‘sleep’	(< <i>//ʔùm</i>)
<i>àa-tà</i>	‘come’	(< <i>àà</i>)
<i>gàro-tà</i>	‘look’	(< <i>gàò</i>)
<i>n//àni-nà-hà</i>	‘build’	(< <i>n//ànì</i>)
MH > MH (+ H-tone spread to suffix)		
<i>/’úú-á-tá</i>	‘kill’	(< <i>/’úú</i>)
<i>ʔyúú-á-tá</i>	‘eat’	(< <i>ʔyúú</i>)
<i>k’oró-tá</i>	‘eat meat’	(< <i>k’oó</i>)
<i>/’éé-tá</i>	‘fall down’	(< <i>/’eé</i>)
<i>ʔaná-tá</i>	‘get to know’	(< <i>ʔāā</i>)
ML > ML		
<i>kyūū-à-tà</i>	‘buy’	(< <i>kyūū</i>)
<i>kharà-tà</i>	‘give’	(< <i>khaà</i>)
<i>sīī-à-tà</i>	‘work’	(< <i>sīī</i>)
HL > MM		
<i>g//ai-a-tà</i>	‘run’	(< <i>g//ái</i>)
<i>k’aa-tà</i>	‘drink’	(< <i>k’áà</i>)
<i>yaba-nà-tà</i>	‘love’	(< <i>yábà</i>)

4.2.2 /nà/ as default juncture

Most descriptions of the juncture assume that the morpheme’s default function lies in linking a set of TAM suffixes to the verb stem (Heine 1986, Elderkin 1986, Vossen 2010). In Ts’ixa, only ANTERIOR / PAST, expressed by means of three suffixes encoding different stages of remoteness requires use of the juncture. Vossen (1997: 223) suggests that the form of the juncture in Ts’ixa depends on the TAM value of the verb, i.e., the GENERIC / REMOTE PAST suffix *-hā~ -ha* would require a different

juncture than the SAME DAY PAST suffix *-ta* (the RECENT PAST suffix *-ʔo* is not included in Vossen's data). Following Vossen's trail of thought, Ts'ixa, like Khwe and ||Ani, would have two junctures with different allomorphs each. My own data does not support this hypothesis, as variation can be explained by the ongoing transformation of /nà/ into a default-juncture (cf. Vossen 1997: 223) which seems more advanced with *-hã ~ -ha* than with *-ta* and *-ʔo*.

There even is some evidence to suggest that the juncture /nà/ and the following suffix are merging into a particle of the form *nàhà* or *nàtà*, which may be separated from the verb stem by other syntactic elements. In (173) below, appearance of *nàtà* and *nàhà* appears to be connected to fronting of the verb:

- (173) a. *tí* *||óé-nà-tà.* > *||óé* *tí* *nàtà.*
 1SG lie.down-J-PST1 lie.down 1SG PST1
 'I lay down.'
- b. *tí* *nɛúú-nà-hà.* > *nɛúú* *tí* *nàhà.*
 1SG sit.down-J-PST3 sit.down 1SG PST3
 'I sat down.'

The data contains no corresponding uses of *nàʔò*, although analogy would suggest that this suffix is affected by the same grammaticalisation process. Both *nàhà* and *nàtà* are always low-toned and do not influence the tonal pattern of the preceding element. Their morphophonological behaviour thereby differs from that of the juncture (see Table 54 above).

4.3 The finite verb

A finite verb phrase in declarative and interrogative clauses requires the presence of a grammatical formative encoding tense, aspect or modality (TAM). This formative may either be a particle preceding the verb stem²⁵, or a suffix. The majority of TAM markers are portmanteau morphemes encoding temporal and aspectual notions, as well as modality (in the case of the two future particles). Only the subjunctive particle *xà* may co-occur with other TAM markers.

The verb stem may be a verbal root, or a verbal root carrying one or more derivative suffixes. While some suffixes require use of the juncture morpheme, others do not. The negation particle *ʔíté* always follows the conjugated verb stem. The IMPERFECTIVE has a negated form, the suffix *-tã̀*, while the SEQUENTIAL *n/gè ~ nè* is negated by the

²⁵ These particles may abandon their unmarked slot and follow the verb stem for information structural reasons and / or in some subordinate clauses.

suffix *-té*, rather than by the particle *?íté*. Table 55 below schematises the formation of the finite verb in Ts'ixa with a maximum amount of possible components:

Table 55: Formation of the finite verb with a maximum amount of possible components

GLOSS	MOOD (SBJV)	TA(M)	LEXICAL ROOT-	(J)-	DERIVATIVE SUFFIX(ES)-	(J)	-TAM / NEG	-NEG
NEAR.FUT		<i>nà</i>						
SBJV	<i>xà</i>							
NEAR.PST	<i>xà</i>	<i>tè</i>						<i>?íté</i>
IPFV		<i>kò ~ kùè</i>						
FUT		<i>gère</i>						<i>?íté</i>
SEQ		<i>n/gè/nè</i>					<i>-té</i>	
PST1	<i>xà</i>					-J	<i>-ta</i>	<i>?íté</i>
PST2	<i>xà</i>					-J	<i>-?o</i>	<i>?íté</i>
PST3	<i>xà</i>					-J	<i>-hã ~ -ha</i>	<i>?íté</i>
IPFV.NEG							<i>-tã</i>	
STAT							<i>-nà</i>	<i>?íté</i>

4.3.1 Tense-Aspect-Modality

The IMPERFECTIVE particles *kò* and *kùè*, the NEAR PAST *tè*, the ANTERIOR / PAST suffixes and the two FUTURE particles *gère* and *nà* are portmanteau morphemes which combine temporal and aspectual, or temporal and modal properties. It is sometimes hard to define the primary function of a grammatical formative versus its various extensions. The glosses used in this grammar denote functional categories that should be considered approximations; their limitations in describing the full semantic range of a particular morpheme should become apparent in the following sections. Especially the ANTERIOR / PAST markers are all found encoding the aspectual notions of resultative and perfect, while the future markers are both tied to irrealis mood. Table 56 below summarises the interconnection between tense, aspect and mood in the TAM morphemes found in the present data:

Table 56: Properties of TAM morphemes

ASPECT	TENSE	MODALITY
		SUBJUNCTIVE <i>xà</i>
	NEAR FUTURE <i>nà</i>	
	FUTURE <i>gère</i>	
IMPERFECTIVE <i>kò / kùè</i>		
NEAR PAST <i>tè</i>		
SAME DAY PAST V-J- <i>ta</i>		
RECENT PAST V-J- <i>ʔo</i>		
REMOTE / GENERIC PAST V-J- <i>hã ~ -ha</i>		
SEQUENTIAL / NARRATIVE <i>n gè ~ nè</i>		
STATIVE / RESULTATIVE <i>-nà</i>		

Apart from their ability to encode the aspectual notions of resultative and perfect, the NEAR PAST *tè* and the three ANTERIOR / PAST suffixes (*-ta/-ʔo/-hã ~ -ha*) express temporal deixis to a reference point which does not necessarily coincide with the time of speech, i.e., they mark relative, rather than absolute tense and may therefore be thought of as anterior markers.²⁶

Along similar lines, the future marker *gère* is not dependent on the time of speech as reference point, hence may also refer to what is often termed “future in the past” (cf., e.g., Klein 1994, Bohnemeyer 2002). As is cross-linguistically common (cf., e.g., Comrie 1976, Dahl 1985, Sasse 1991), the reading of a particular verb marked for TAM depends on its inherent aspectual properties (sometimes referred to as “Aktionsart”, transitivity value and context (see §4.1). It should be noted that some of the grammemes listed above show overlapping functions, and may even be used interchangeably in assorted contexts (e.g., both the STATIVE suffix *-nà* and all ANTERIOR / PAST markers may express resultative / perfect). Both the overlap of temporal and aspectual readings as well as meanings shared between individual grammemes point towards a system in transition, possibly caused by contact between languages with mostly dissimilar TAM-marking strategies. In the following, the TAM markers of Ts’ixa will be discussed individually.

4.3.2.1 Imperfective

Vossen (1997) notes two “present tense” markers for Ts’ixa: *kò* and *kùè*. He further states (ibid.: 226) that *kùè* is used more frequently and mentions that *kò* appears to be used as a progressive aspect. My own data also yielded two TAM particles *kò* and

²⁶ Note that here anterior is not used in the sense of Bybee et al. (1994) who use it as a synonym for perfect.

kùè, but none of them actually functions as a present tense marker. Both encode imperfective aspect, with *kò* being a generic IMPERFECTIVE covering also progressive and habitual, while *kùè* is mostly restricted to environments in which it functions as a real progressive.²⁷ Due to their shared ability to encode progressive, *kò* and *kùè* can be used interchangeably with activity verbs (cf. 174 below):

- (174) a. *tí kò bàlà.*
 1SG IPFV read
 ‘I am reading.’
- b. *tí kùè bàlà.*
 1SG IPFV read
 ‘I am reading.’

In the data, *kò* is found denoting all kinds of unbounded events, irrespective of the relative or absolute time frame in which the state of affairs described by the predicate takes place. (175) below refers to a past event, but *kò* is still used in the subordinate clause as it draws attention to the unboundedness of the described events (reading, working) in relation to the events described in the main clause (someone entering / calling) which are punctual and telic.

- (175) a. *tí kò bàlà=sè Bilí=m kyǎǎ-nà-hà.*
 1SG IPFV read=ADV PN=SG.M:I enter-J-PST3
 ‘While I was reading, Bill came in.’
- b. *?é.m kò sǐ=sè g/aàkhòè=sì ?é.mà ?à kyíí-nà-hà*
 3SG.M:I IPFV work=ADV woman=SG.F:I 3SG.M:II ACC call-J-PST3
 ‘While he was working, the woman called him.’

More often than not, the correct interpretation of an event marked by *kò* is dependent on the context and the lexical aspect of the verb. Example (174)a above may therefore also be translated as ‘I usually read’, depending on the context. With activities, habitual readings are sometimes emphasised by use of the DURATIVE suffix *-?ù.sì* (§4.4.3.2), e.g.,

- (176) a. *tí kò balà-nà-?ù.sì*
 1SG IPFV read-J-DUR
 ‘I always/regularly read.’

²⁷ Two speakers included in the sample appear to use *kùè* as a generic IMPERFECTIVE, and it was generally accepted to replace *kò* by *kùè* and *vice versa*. I therefore suggest that *kùè* may be on its way to become a full synonym of *kò*. In this grammar, both are glossed as IMPERFECTIVE (‘IPFV’).

Use of *kò* in combination with the FREQUENTATIVE suffix *-tí* (§4.4.3.3) has a similar semantic effect:

- (176) b. *dzirí-tshaù kà ?é.̀m̀ kò sũ̀-tí.*
 Friday MPO 3SG.M:I IPFV work-FREQ
 ‘He usually works on Friday.’

With achievements – which are punctual and therefore incompatible with progressive readings – *kò* (rarely *kùè*) always encodes habitual:

- (177) *tí kò khabí ||ádì.*
 1SG IPFV ostrich.egg find
 ‘I regularly find ostrich eggs.’ (but not: ‘I find an ostrich egg.’)

Ts’ixa has very few verbs which may actually denote a state in combination with *kò*, and they all appear to be experiential states linked to a temporary body condition, e.g., ‘be sick’, ‘hurt’, ‘sweat’, ‘be cold’. In these contexts, use of *kùè* is not possible, further supporting the hypothesis that *kùè* is in fact a progressive marker and therefore subordinate to *kò*, which is a generic IMPERFECTIVE.

- (178) a. *tí kò kyíí.*
 1SG IPFV be.sick
 ‘I am sick.’
- b. *tí kò yábà.*
 1SG IPFV be.happy
 ‘I am happy.’

Inherent properties of a nominal referent are usually expressed through use of adjectives as copular complements in non-verbal predications (cf. §3.3.2.3.1). All adjectives may also be used as verbal predicates. They are then treated as accomplishments, i.e., verbs with the inherent meaning ‘become X’. Adjectives, including their predicative uses, are further discussed in §3.3.2.

- (179) a. *?é.sì kò t’ũ̀.* [+ dynamic]
 3SG.F:I IPFV bec.beautiful
 ‘She is becoming beautiful.’
 *She is beautiful.
- b. *?é.sì t’ũ̀ ?è.* [+ static]
 3SG.F:I beautiful COP
 ‘She is beautiful.’

Unlike in Vossen’s (1997) data, *kùè* is not as widely used as *kò*, and it may be assumed that the prevalence of *kùè* in his sample is either idiosyncratic or owed to the elicitation context. While *kùè* may be used as a regular TAM particle that allows for the addition of both a subject and an object, it may also appear post-verbally in cases of subject elision. This is particularly frequent in replies, e.g.,

- (180) a. *ní=mà sá kò hũ?*
 what = SG.M:II 2SG.F IPFV do
 ‘What are you doing?’
- b. *n|góá kùè.*
 cook IPFV
 ‘Cooking.’

Here, it is not possible to add a subject, i.e., **tí n|góá kùè* ‘I am cooking’ is not considered a grammatically correct sentence. If more than one agent is involved, the RECIPROCAL / SOCIATIVE suffix *-kù* may be added, i.e., *n|góá-kù kùè* ‘cooking (by more than one person)’.

4.3.2.2 Anterior / Perfect

Ts’ixa distinguishes four stages of anteriority. They encode different degrees of remoteness from a specific time of reference. Figure 3 below illustrates the different anterior categories Ts’ixa distinguishes morphologically. Three of the ANTERIOR / PAST markers are suffixes which require use of the juncture morpheme. A fourth one, the near past *tè*, is a particle that appears in the slot before the verb.

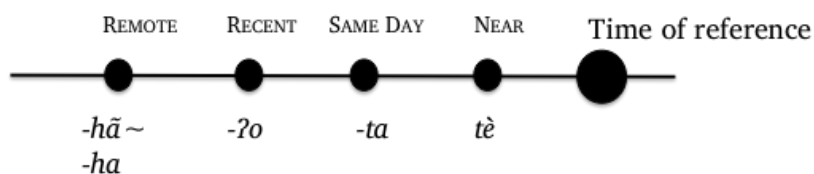


Figure 3: Morphological encoding of anteriority

Apart from marking ANTERIOR / PAST, all of the TAM markers included in the figure above may also denote the aspectual notions of perfect and resultative. The following sections describe temporal and aspectual uses of the NEAR PAST *tè* (§4.3.2.2.1), and of the three ANTERIOR / PAST suffixes *-ta*, *-?o* and *-hã~ -ha* (§4.3.2.2.2).

4.3.2.2.1 Near Past

tè denotes NEAR PAST, i.e., an event that occurred immediately prior to the time of reference. Like the three suffixes *-ta/-ʔo/-hã~ha* (§4.3.2.2.2), the NEAR PAST is actually an anterior. (181) is from a story about a group of zebras being chased by a hyena; during the course of the chase, one of the fillies falls. The immediate event goes unnoticed by the mares. Here, the main storyline – including the fall of the filly in (181)a is encoded by the SEQUENTIAL / NARRATIVE particle *n/gè* (§4.3.2.5). When the fall of the filly is referred to again in (181)b, the time of reference has moved on with the storyline; the fall, which occurred immediately prior to the time of reference, is then encoded by *tè*.

- (181) a. *thì.ʔà n/gè /'eé thòò //ũũ-xà=dzì n/gè g//áì.*
 SS SEQ fall.down DS parent-ASSOC=PL.F:I SEQ run
 ‘[The filly] fell, but the mothers (and their associates) ran.’
- b. *//ũũ-xà=dzì n/gè mĩũũ-à ʔãã-té /úú=sì /úú kà tè*
 parent-ASSOC=PL.F:I SEQ see-J know-NEG.SEQ one.of=sg.f:i child ATTR NEAR.PST
káú tà.
 stay.behind COMP
 ‘The mothers (and their associates) did not notice one of the children had stayed behind.’

Like other ANTERIOR / PAST markers, *tè* may also denote perfect. This is particularly frequent with verbs of perception and cognition, e.g.,

- (182) a. *sá kò kúrù rè?*
 2SG.F IPFV hear Q
 ‘Do you understand?’ (lit. ‘Are you hearing?’)
- b. *tí tè kúrù.*
 1SG NEAR.PST hear
 ‘I understand’ (lit. ‘I have heard.’)

In combination with the SUBJUNCTIVE *xà* (§4.3.2.4), *tè* may also denote irrealis mood, especially in conditional phrases encoding events deemed unlikely by the speaker (see Fleischmann 1989 for a cross-linguistic discussion of temporal distance as a metaphor for hypothetical modality):

- (183) *tí thýà /ʔádò-xà tíkà tí xà tè kolóí kyũũ.*
 1SG many money-ASSOC if 1SG SUBJ NEAR.PST car buy
 ‘If I had money I would buy a car.’

More research will be needed to determine the full range of aspectual properties, and the core meaning of the particle *tè*.

4.3.2.2.2 Anterior / Past

Ts'ixa has three ANTERIOR / PAST suffixes: the SAME DAY PAST *-ta*, the RECENT PAST *-ʔo*, and the GENERIC / REMOTE PAST *-hã ~ -ha*. The three suffixes display the same morpho-phonological behaviour; they are linked to the verb stem by means of the juncture morpheme, with /nà/ frequently acting as “default” juncture (§4.2.2).

- (184) a. *tí kúù-nà-tà.*
 1SG go-J-PST1
 ‘I went (today).’
- b. *tí kúù-nà-ʔò.*
 1SG go-J-PST2
 ‘I went (yesterday).’
- c. *tí kúù-nà-hã.*
 1SG go-J-PST3
 ‘I went (some time ago).’

With the “default” juncture /nà/, the suffixes are always low toned. If allomorphy occurs, the high tone of the preceding juncture morpheme may spread unto the TAM suffix after verbs with the rising contour MH (cf. §2.4.3).

The appearance of the juncture morpheme might suggest that the three suffixes are of verbal origin. Indeed, the verbal origin of the GENERIC / REMOTE PAST suffix *-hã ~ -ha* is still transparent. The suffix is found throughout the Khoe phylum and can be reconstructed as deriving from a verb **hã* ‘to be, to exist’ which still exists as a full verb in many languages, including Ts'ixa. Vossen (1997: 365) suggests its grammaticalisation from an auxiliary into a tense-aspect marker. The case of the SAME DAY PAST *-ta* is a little more complicated, as no verbal source can be reconstructed. Just like *-hã ~ -ha*, it is found throughout the Khoe family, but there is no equally widespread verb to be considered a viable donor. Köhler (1981b: 123) suggests *tàn* ‘stand up’ as a source for *-ta* in Khwe. The suffix *-ʔo* encoding RECENT PAST appears to be unique in Ts'ixa, and so far, no source could be identified. A possibility might be the DIRECTIVE / LOCATIVE *ʔò* (§4.4.2.1.3), which appears as both a derivational affix and a postposition. There is no lexeme in current Ts'ixa that would suggest a verbal origin for *-ʔo*.

With verbs belonging to the activity and achievement classes (cf. §4.1.2), the suffixes generally encode the notion of ANTERIOR / PAST:

ACTIVITY:

- (185) a. *gúà = sî* *biyéé-|ùà̃ = sà* ?à *k'óó-tá.*
hyena = SG.F:I zebra-DIM = SG.F:II ACC eat.meat:J-PST1
‘The hyena ate the zebra filly.’
- b. [*Khwai*] ?ò [*Maxwell*] = ñ *g|á̃-nà-?ò.*
GN ALL PN = SG.M:I run-J-PST3
‘Maxwell ran to Khwai (yesterday).’
- c. *tsé* *kúú̃-a kyúú̃-a-hà* *qarè = dzà* ?à.
1PL.C go-J buy-J-PST3 sweet = PL.F:II ACC
‘We went [there] to buy sweets (in the past).’

ACHIEVEMENT:

- (186) a. *xarí = m̃* *k'ará = mà* ?à *|'úú̃-nà-tà.*
lion = SG.M:I impala = SG.M:II ACC kill-J-PST1
‘The lion killed the impala (today).’
- b. *tí* *g|aro-khabí* *||á̃-nà-?ò.*
1SG ostrich-egg find-J-PST2
‘I found an ostrich egg (yesterday).’
- c. *tí* *kyxoà = mà* ?à *||áo-a-hà̃.*
1SG elephant = SG.M:II ACC shoot-J-PST1
‘I shot the elephant (some time ago).’

With experiential states and accomplishments derived from adjectives (cf. §4.1.2), both temporal and aspectual readings are possible. The suffixes may then function as perfect markers referring to the time when the result state was reached. If no such reference is intended, *-hã̃ ~ -ha* is used as a generic perfect. Whether a temporal or an aspectual reading applies can only be determined by the context:

ACCOMPLISHMENTS (DERIVED FROM ADJECTIVES):

- (187) a. *nguú = m̃* *|'urí-nà-hà.*
house = SG.M:I dirty-J-PST3
‘The house became dirty (and is dirty now) / The house was dirty’
- b. *nguú = m̃* *|'urí-nà-tà.*
house = SG.M:I dirty-J-PST1
‘The house became dirty (today, and is dirty now) / The house was dirty (today)’

- c. *nguú = m̄ /'urí-nà-ʔò.*
house = SG.M:I dirty-J-PST2
‘The house became dirty (yesterday, and is dirty now) / The house was dirty (yesterday)’

EXPERIENTIAL STATES:

- (188) a. *tí yábà-nà-hà.*
1SG be.happy-J-PST3
‘I fell in love (and am still in love) / I loved / I was happy’
- b. *ʔé.sì kyíí-nà-ʔò.*
3SG.F:I be.sick-J-PST2
‘I got sick (yesterday, and am still sick now) / I was sick (yesterday)’

With accomplishments *not* derived from adjectives, the ANTERIOR / PAST suffixes always trigger a resultative reading:

- (189) a. *táákhòè = m̄ //ʔóó-nà-hà.*
elder = SG.M:I die-J-PST3
‘The old man is dead.’
- b. *ù = s̄ Ì = s̄ //xóo-hà.*
tree = SG.F:I DEM.REF = SG.F:I dry.up:J-PST3
‘This tree is dry.’
- c. *ǎǎ.ǎǎ = m̄ tsxãã-tà.*
infant = SG.M:I bec.tired:J-PST1
‘The baby is tired.’

4.3.2.3 Posterior / Future

The main grammatical formative to mark future tense is the particle *gérè*. However, future events may also be encoded by the IMPERFECTIVE marker *kò*, or by the particle *nà*. The latter may be used interchangeably with *gérè* in utterances that refer to the near or immediate future.

- (190) a. *tí gérè Mǎú ʔò kúú.*
1SG FUT GN ALL go
‘I will go to Maun.’
- b. *tí kò Mǎú ʔò kúú.*
1SG IPFV GN ALL go
‘I go to Maun.’ (or: ‘I will go to Maun.’)
- c. *tí nà Mǎú ʔò kúú.*
1sg NEAR.FUT GN ALL go
‘I am about to go to Maun.’

nà is restricted to the near future, i.e., to events in close temporal proximity to the time of reference. It may also be interpreted as a proximative marker conveying the meaning ‘be about to’:

(191) a. *ntshéè tí nà kúú-a gòè=dzà ?à gàò.*
 today 1SG NEAR.FUT go-J cattle=PL.F:II ACC look
 ‘Today I will go and look after the cattle.’

b. *ǀí kà /íí=sà ?à tí nà //’árh.*
 DEM.REF ATTR song=SG.F:II ACC 1SG NEAR.FUT beat
 ‘I am about to play (lit. beat) that song.’

In contrast, *gérè* is a generic FUTURE tense marker. It may be used to locate events in an immediate, unspecified, or far away future. Like other tense markers, it is used in relative, rather than in absolute contexts, i.e., the time of reference may, but does not have to coincide with the time of speech.

(192) a. *?úà.kà.tshéè sá //é gérè àa sèè.*
 tomorrow 2SG.F 1PL.M FUT come:J take
 ‘Tomorrow we will come to take you (away).’

b. *khoe=//ù ?ám-kù-nà-hà thí.?à ná=//ù gérè xaán=sà ?à*
 person=PL.M:I agree-RCPR-J-PST3 SS DEM.REF=PL.M:I FUT lion=SG.F:II ACC
/’úú tá.
 kill COMP
 ‘The man agreed that they would kill the lioness.’

Due to its inherent properties as a marker of irrealis mood, *gérè* is also found in conditional clauses expressing real or potential conditions (§8.2.3.1). Irreal conditions require use of the subjunctive particle *xà* (see §4.3.2.4 below):

(193) *g//aàkhòè=dzì kò //áú.//àù-sì nò tsé gérè Mabábé ?ò kúú.*
 woman=PL.F:I IPFV straighten-REFL when 1SG FUT GN ALL go
 ‘When the women are ready, we will go to Mababe.’

4.3.2.4 Subjunctive

The SUBJUNCTIVE *xà* may appear on its own or combine with one of the ANTERIOR / PAST markers. When appearing on its own, it is a generic marker of irrealis mood. Its appearance often implies abstract or unlikely circumstances.

(194) a. *ní=mè xà hù-sí tí kò ù=sà ?à /íní./ínì nò?*
 what=SG.M:I SUBJ do-REFL 1SG IPFV tree=SG.F:II ACC shake when
 ‘What would happen if I shook the tree?’

- b. *k'aro = m̀ xà /'eé-?ò.*
 boy = SG.M:I SUBJ fall.down-DIR
 'The boy might fall off.'

xà is sometimes found combining with the NEAR PAST particle *tè* to encode a state of affairs which is considered very unlikely to happen (see §4.3.2.2.1 above). For past time reference, *xà* may co-occur with the ANTERIOR / PAST suffixes:

- (195) a. *tí xà xarh = mà ?à /'üü-á-há ?ité tíkà*
 1SG SUBJ lion = SG.M:II ACC kill-J-PST3 NEG if
tí kà túá = m̀ xà //?óó-nà-hà.
 1SG ATTR friend = SG.M:I SUBJ die-J-PST3
 'If I had not killed the lion, my friend would have died.'

- b. */'úá = sì xà //óé-nà-tà tíkà*
 child = SG.F:I SUBJ lie.down-J-PST2 if
ná = sì xà tsxáá-nà-tà ?ité.
 DEM.REF = SG.F:I SUBJ bec.tired-J-PST1 NEG
 'If the girl had rested, she would not be tired.'

The data does not include any examples of the future particles *gérè* or *nà* co-occurring with *xà*, presumably because marking irrealis mood is already part of their inherent semantics.

4.3.2.5 Narrative / Sequential

The NARRATIVE / SEQUENTIAL particle *n/gè ~ nè* is mostly found in stories where it encodes events on the main narrative line (cf. (196)a-c from a text). In these contexts, *n/gè* often co-occurs with the particle *thà* (<*thí. ?à*), which denotes subject or discourse continuity (cf. §8.1.1.2).

- (196) a. *ù-úá àà.kà = sè thà n/gè kũũ-a // 'àm gòè = sà ?à.*
 stick-DIM bring = ADV SS SEQ go-J beat cattle = SG.F:II ACC
 'Taking a stick, [she] went and beat the cow.'
- b. *thà gòè = sì n/gè tañ.*
 and.then cattle = SG.F:I SEQ stand.up
 'The cow stood up.'
- c. *?é.sì n/gè yáa tañ thà ?é.sérà n/gè kũũ ná = sérà kà*
 3SG.F:I SEQ climb:J stand.up and.then 3DU.F SEQ go DEM.REF = DU.F POSS
//?áé = m̀ ?ò.
 home = SG.M:I ALL
 'She rode on it and then they went to their home.'

n/gè ~ nè also emphasises a causal connection between two successive events:

- (197) *baa = m̄ kò //ʔóó nò tí kà damàxù = m̄ n/gè //ʔáé.m.xà.*
 my.father = SG.M:I IPFV die when 1SG POSS y.sibling = SG.M:I SEQ bec.chief
 ‘When my father died my brother became chief.’

4.3.2.6 Stative / Current relevance

Ts’ixa has a suffix *-nà* which does not require the juncture morpheme and encodes the notions of stative and current relevance. It most commonly occurs with the language’s posture verbs *téè ~ tíí* ‘to be standing’, *nyúú* ‘to be sitting’, and *//óè ~ //úú* ‘to be lying’ which act as copula verbs in locational predications (§4.1.3, §7.1.2). In the data, *-nà* occasionally occurs with other verbs and then denotes perfect or current relevance. When appearing with an accomplishment verb (cf. §4.1.2), it may be replaced by one of the ANTERIOR / PAST suffixes (§4.3.2.2.2) without an apparent change in meaning.

- (198) a. *tí ʔáá-nà.*
 1SG get.to.know-STAT
 ‘I know.’
- b. *tí ʔaná-há.*
 1SG get.to.know:J-PST3
 ‘I know.’

With activity verbs, *-nà* appears to place special emphasis on the current relevance of the state of affairs denoted by the verb. In the example below, (199)a was described by the speaker as a generic statement, while (199)b put special emphasis on the father (who is present at the time of speech) as builder of the house. However, more research will be needed to verify this assumption.

- (199) a. *baa = m̄ nguú = mà ʔà n//ànì-nà-hà.*
 my.father = SG.M:I house = SG.M:II ACC build-J-PST3
 ‘My father built the house.’
- b. *baa = m̄ nguú = mà ʔà n//ànì-nà.*
 my.father = SG.M:I house = SG.M:II ACC build-STAT
 ‘My father built the house.’

4.3.2 Verbal negation

Verbal negation in Ts’ixa is comparatively simple, with the particle *ʔíté* acting as a default negator in declarative clauses (see §7.1 for *ʔíté* in non-verbal clauses). *ʔíté* immediately follows the conjugated verb:

- (200) a. //ʔáà-kù = m̃ ǔ = m̃ gé r̃ khudí ʔíté.
 fight-RCPR = SG.M:I DEM.REF = SG.M:I FUT end NEG
 ‘This fight will not end.’
- b. tí t̃ kúr̃ñ ʔíté.
 1SG NEAR.PST hear NEG
 ‘I do not understand.’ (lit. I did not hear.)
- c. /xúú.khòè = m̃ //aṁ-à-tà ʔíté.
 diviner = SG.M:I perceive-J-PST1 NEG
 ‘The diviner did not understand (the future).’

There are, however, two important exceptions: imperfective contexts require a special negation form, the suffix *-t̃* (cf. 201a-b), and the narrative *n/gè ~ nè* is negated by the suffix *-té* (cf. 202):

- (201) a. sáò ʔà túú-t̃.
 winter LOC rain-IPFV.NEG
 ‘It does not rain in winter.’
- b. tí //ʔùṁ-t̃.
 1SG sleep-IPFV.NEG
 ‘I am not sleeping.’ (or: I do not sleep.)

- (202) //úú-xà = dzi n/gè m̃úú-à ʔáà-té
 parent-ASSOC = PL.F:I SEQ see-J know-NEG
 /úú = s̃ /úú kà t̃ káú tà.
 one.of = SG.F:I child ATTR NEAR.PST stay.behind COMP
 ‘The mothers (and their associates) did not notice one of the children had stayed behind.’

4.4 Verbal derivation

4.4.1 Introduction

4.4.1.1 Derivative affixes in Khoe

Derivative affixes are a main feature of the verbal system of the Khoe language family:

Derivative verbal extensions as semantic and/or syntactic modifiers of basic verbs are very typical of all Khoe languages. Throughout attested are causative [...], reflexive, reciprocal, and probably dative/benefactive and repetitive, too. [...] Passive in Khoekhoe occurs as a verbal extension [...]. (Güldemann & Vossen 2000: 116)

They “trigger especially semantic and/or syntactic modifications around the verbal base and are fairly common in all African language phyla” (Vossen 2010: 53). In the languages of the world, grammatical formatives modifying the verb stem compete with strategies like complex predicate formation and auxiliary constructions (cf. Blench 2010). In Kalahari Khoe, complex predicates and verbal extensions exist side by side. Indeed, as will be seen in §4.5, verbs acting as minor verbs in a juncture-verb construction may eventually grammaticalise into deverbal suffixes.

In his overview of the verbal extensions in Niger-Congo languages, Hyman (2007: 149) identifies four main categories of verb suffixes. Verbal extensions may

- a) increase valence (causative, dative, benefactive, etc.)
- b) decrease valence (passive, reflexive, reciprocal, etc.)
- c) (re-)orient action (reversive, directional, etc.)
- d) mark aspect (pluractional, inchoative, resultative, etc.)

All four categories are found in the Kalahari Khoe languages, including Ts’ixa. Blench (2010) further distinguishes between languages that permit stacking of verbal extensions (e.g., languages of the Niger-Congo sub-branches Atlantic and Bantu), and languages that do not permit stacking (e.g., the Kru languages). The Khoe languages belong to the group of African languages that permit stacking (cf., e.g., Vossen 2010). Even languages that no longer have productive derivational systems, such as the Plateau languages of Nigeria, may show traces of unproductive or fossilised extensions (cf. Blench 2010). While most of the extensions found in Khoe are productive, some seem to have become unproductive within single languages. For example, the causative suffix *-xu* is highly productive in Ts’ixa, but has become fossilised in Khwe (Kilian-Hatz 2008: 158).

4.4.1.2 Verbal derivation in Ts’ixa

For Kalahari Khoe sub-branch, Vossen (1997: 271) identifies 20 categories of “verbal derivation” which are valency changing or function as aspectual or directive modifiers. Of these 20, he lists seven for Ts’ixa, stating that the inventory is similar to that of other Shua varieties and the Kalahari Khoe languages in general (Vossen 1997: 221). The present data revealed four additional modifiers, including a frequentative suffix also found in the Khwe group (cf. Vossen 1997: 194). The table below lists all derivative strategies found in the data, including the passive suffix *-i~ -e* which is identified by Vossen (1997: 215), but not discussed along with what he calls verbal extensions (“Verbalerweiterungen”).

Table 57: Verbal derivation

FUNCTIONAL CATEGORY	GLOSS	FORM	SOURCE
Valency increase			
CAUSATIVE	CAUS	<i>-káxù</i>	
	CAUS	<i>-xu ~ -xo</i>	
	CAUS	<i>-kà</i>	
	CAUS	Reduplication	
BENEFACTIVE	BEN	<i>J-mà</i>	*mãã ‘to give’ (defective)
Valency decrease			
PASSIVE	PASS	<i>-i ~ -e</i>	
REFLEXIVE/ANTI-CAUSATIVE	REFL	<i>-si</i>	
RECIPROCAL	RCPR	<i>-kù</i>	
Orientation			
DIRECTIVE	DIR	<i>-ʔò</i>	
Aspect ²⁸			
COMPLETIVE / TERMINATIVE	COMPL	<i>J-xù</i>	<i>xúú</i> ‘to leave behind’
FREQUENTATIVE	FREQ	<i>-tí</i>	
DURATIVE		<i>J-ʔì.sì</i>	*ʔii (unknown meaning) + <i>-si</i> ‘REFL’
ITERATIVE		Reduplication	
INTENSIVE	INT	<i>-kùm-V</i>	
INTENSIVE	INT	<i>-tòtùm</i>	
Volition / Proximative	VOL	<i>-kàà</i>	<i>káá</i> ‘to want, to search’

While some of the verbal extensions in Khoe are directly suffixed to the verb stem, others are attached via the juncture morpheme. The latter are deverbal, i.e., they can be traced back to a verbal source which – as in the case of the COMPLETIVE suffix *-xù* (< *xúú* ‘to leave behind’) – may still exist as a full verb. Of the verbal extensions present in Ts’ixa, only the COMPLETIVE *-xu* and the BENEFACTIVE *-ma* require use of the juncture.

As has already been established, Khoe languages allow for stacking, i.e., a verb stem may take on more than one derivative suffix. More data would be needed to establish whether Ts’ixa allows for stacking of more than three derivative categories,

²⁸ I here follow Comrie (1976) and Sasse (1991) in using the term aspect for grammatical, derivational and lexical aspect. Another term used for lexical aspect is *Aktionsart*, which is sometimes also found covering derivational aspect (cf. Comrie 1976: 31, Dahl 1994). As there appears to be little consensus about the distinction between aspect and *Aktionsart* (cf., e.g., Dahl 1994: 240), it will not be considered in this work. The aspect category under discussion here corresponds to Dahl’s (1994) derivational aspect.

and whether those always appear in a fixed order. So far, three generalisations can be made:

- PASSIVE is always marked at the end of the derivative chain
- CAUSATIVE always precedes RECIPROCAL
- COMPLETIVE precedes REFLEXIVE

The following sections will discuss valency-changing operations (§4.4.2), morphological strategies to change the aspectual properties of a verb (§4.4.3), the volitional suffix *-kàà* (§4.4.4) and the possible use of postpositions as derivational suffixes (§4.4.5).

4.4.2 Changing valency

As has been established in §4.1.1, Ts'ixa has three verb classes that may be identified according to the clause types they may appear in: transitive, intransitive and ambitransitive. This section deals with derivations that affect the number of predicate arguments a particular verb may take. These derivations can be grouped into two main classes (cf. Dixon & Aikhenvald 2000: 6): those that increase the number of core arguments, such as CAUSATIVE (§4.4.2.1.1) and BENEFACTIVE (§4.4.2.1.2), and those that decrease the number of core arguments, such as PASSIVE (§4.4.2.2.1), REFLEXIVE (§4.4.2.2.2) and RECIPROCAL (§4.4.2.2.3).

Ts'ixa does not have ditransitive verbs in the sense of Kittilä (2006), i.e., no double object constructions are allowed (cf. §6.3). Hence, valency increasing derivations on transitive verbs commonly trigger the underived verb's O to become an oblique argument which is usually marked by the MPO *ka*. Table 58 below lists the most prototypical (cf. Dixon & Aikhenvald 2000) valency changing derivations found in the data:

Table 58: Prototypical valency changing derivations

TYPE	VERB CLASS	SEMANTIC ROLE INTRODUCED / DELETED	SEMANTIC ROLE CHANGE
Increasing valency			
CAUSATIVE	Intransitive / Transitive	A (causer)	S > O S > O, O > OBL/COMP
BENEFACTIVE	Intransitive/ Transitive	O (beneficiary)	S > A S > A, O > OBL
Decreasing valency			
PASSIVE	Transitive	A (agent)	O > S
REFLEXIVE/ANTI-CAUSATIVE	Transitive	O	A > S

It appears that PASSIVE and REFLEXIVE may also attach to intransitive verbs to arrive at an impersonal reading following the template ‘one can do X’. This is however rare and is not considered a prototypical function of the two valency decreasing derivations discussed here.

A more peripheral type of a valency-changing derivation is the RECIPROCAL *-kù*. Many languages display an association between reflexive and reciprocal (cf., e.g., Maslova & Nedjalkov 2013), i.e., they use the same derivative strategy for both valency-decreasing operations. In Ts’ixa, this is not the case. The RECIPROCAL *-kù* merely shares another cross-linguistically common polysemy in also functioning as a polyadic marker (cf. Maslova 2007, Kemmer 1993: 100). In this function, it is frequently found introducing comitative arguments. One might even argue that this is the suffix’s primary function in modern Ts’ixa. This is discussed further in §4.4.2.2.3.

4.4.2.1 Valency increasing extensions

Ts’ixa has two major valency increasing derivations: CAUSATIVE (§4.4.2.1.1) and BENEFACTIVE (§4.4.2.1.2). A possible third, DIRECTIVE / LOCATIVE, is discussed in §4.4.2.1.3.

4.4.2.1.1 Causative

Dixon and Aikhenvald (2000: 13) define causatives as a grammatical operation deriving transitive clauses from intransitive ones. A new argument A, the so-called “causer” is introduced. In this chapter, only morphologically derived causatives (cf. Comrie 1981: 158-77) will be considered. Lexical causatives, i.e., verbs like /ʔúú ‘to kill’ which combine two micro-events in a single lexical item are excluded from the discussion. Ts’ixa has four morphological strategies to derive causatives: three suffixes and full reduplication of the verb stem.

Table 59: Causative derivations

DERIVATION	EXAMPLE
<i>-xu ~ -xo</i>	ʔúè ‘to break’ (vi) > ʔúè-xù ‘to break’ (vt)
<i>-káxù</i>	ʔǎǎ ‘to get to know’ > ʔǎǎ-káxù ‘to teach’
<i>-kà</i>	ʔǎǎ ‘to get to know’ > ʔǎǎ-kà ‘to teach’
Reduplication	<i>khudí</i> ‘to end’ > <i>khudí.khudí</i> ‘to finish’

More data would be needed to ascertain in how far these strategies are allophonic variants of each other. Although evidence is slight, it appears that the inherent lexical properties of the verb stem (cf. §4.1.2 for lexical verb classes of Ts’ixa) play a

role in determining which strategy is used. The data reveals that *-xu* is preferred with activity verbs, including posture and motion verbs. *-kà* and *-kàxù* tend to appear with accomplishments, but also modify motion verbs. All suffixes may appear with achievements.

Reduplication is never found with activity verbs. One possible explanation would be that reduplication is also the strategy used to derive repeated actions (cf. §4.4.3.4). To avoid confusion, its causative-deriving function may be restricted to non-activity verbs denoting accomplishments, achievements and states. Kilian-Hatz (2008: 158f) distinguishes between direct and indirect causatives, whereas the disambiguation is based on the degree of control the causee has over the event (cf., e.g., Martin 2000: 397, Shibatani 2002: 11f). Reduplicated causatives in Khwe are restricted to direct causatives of intransitive verbs, i.e., causatives in which the causee has lost control over the event. While this may also account for Ts'ixa, Dixon (2000: 67) rightfully remarks that using directness of causation as a parameter is problematic, seeing there is no clear definition of what is actually meant by it.

Some idiolectal variation appears to exist with regards to the suffix *-kà*, which has not been noted by Vossen (1997: 221) for Shua. While causatives derived by *-kà* were generally accepted as correct, they only show up in the data of two speakers. Other speakers were more prone to use *-kàxù* instead. Use of *-kà* might be seen as a result of influence from Khwe, although the speakers in question otherwise did not appear to display close ties with speakers of this language.

4.4.2.1.1.1 *-xu* ~ *-xo*

Of the three suffixes deriving causative verbs, this is the one most frequently found in the data. It is used almost twice as much as its allomorph *-kàxù*, and with considerably higher frequency than *-kà*. It appears with activity verbs (cf. 203a-c), including posture verbs (cf. 203b) and motion verbs (cf. 203c), and with achievements (cf. 203d). The data does not contain examples of *-xu* causatives derived from accomplishments or state verbs, but more data would be needed to make sure this is not mere coincidence.

(203) a. *k'aro* = //ù ìì = sà ?à *k'áà-xù-nà-tà*.
 boy = PL.M:I tree = SG.F:II ACC drink-CAUS-J-PST1
 'They boys watered the tree.'

b. *ná* = //ù tètè //óé-xò *kyxoà* = mà ?à.
 DEM.REF = SG.M:I NEAR.PST lie.down-CAUS elephant = SG.M:II ACC
 'They had brought the elephant down.'

- c. *xarí = m̄ k'aro = //ùà ?à g//áì-xù-nà-?ò.*
 lion = SG.M:I boy = PL.M:II ACC run-CAUS-J-PST2
 'The lion made the boys run.'
- d. *tí t̄è xalásì = sà ?à ?úè-xù.*
 1SG NEAR.PST glass = SG.F:II ACC break-CAUS
 'I broke the glass.'

In addition to its use as a productive derivative suffix, *-xu ~ -xo* has also become part of lexicalised verb forms the non-causative root of which no longer exists as an independent verb. These are:

- (204) a. *ky'áà.xù* 'to take out'
 b. *nyáá.xù* 'to put down'

4.4.2.1.1.2 *-káxù / -kà*

The forms *-káxù* and *-kà* appear to be free variants of one and the same morpheme, with *-káxù* being the more common one. They preferably appear on accomplishments (cf. 205a-c), but are occasionally found with activity verbs (cf. 205d, see also Vossen 1997: 221) and achievements (cf. 205e).

- (205) a. *[Tlotlo] = m̄ kò n̄amí-káxù ?é.m̄ kà kolóí = sà ?à.*
 PN = SG.M:I IPFV bec.shiny-CAUS 3SG.M:I POSS car = SG.F:II ACC
 'Tlotlo is polishing his car.'
- b. *[Republic] = s̄ì kò tshaá |xónó-káxù.*
 PN = SG.M:I IPFV water warm.up-CAUS
 'Republic is boiling water.'
- c. *tí kò ts'íxà-dàm ?áá-kà.*
 1SG IPFV T.-tongue get.to.know-CAUS
 'I teach Ts'ixa.'
- d. *xarí = m̄ k'aro = //ùà ?à g//áì-káxù-nà-?ò.*
 lion = SG.M:I boy = PL.M:II ACC run-CAUS-J-PST2
 'The lion made the boys run.'
- e. *tí s̄í = mà ?à khudí-káxù-nà-tà.*
 1SG work = SG.M:II ACC end-CAUS-J-PST1
 'I finished the work.'

Although *-kà* is only used as a productive suffix by two speakers in the data, all speakers unanimously use it in the lexicalised form *àà.kà* 'to bring' with the still

transparent semantics *dà* ‘to come’ + CAUS. A suffix *-ka(-xu) was reconstructed by Vossen (1997: 350) for Proto Kalahari Khoe and is indeed found throughout the subgroup (ibid.: 271).

4.4.2.1.1.3 Reduplication

Full reduplication of the verb stem as means to derive a causative verb form has been identified as a typological feature of the Kalahari Basin by Güldemann and Fehn (forthc.). It sporadically appears in languages of both Non-Khoe families Tuu and Kx’a (ibid.), but was reconstructed for Proto Khoe by Vossen (1997: 350). In Ts’ixa, causative reduplication appears with accomplishment (cf. 206a-b) and achievement (cf. 206c) verbs only, possibly to avoid ambiguous readings as reduplication commonly triggers an iterative meaning with activity verbs. This latter function is hypothesised to be the more basic one by Vossen (ibid.). The reduplicated verb stem always appears in its lowered form (cf. §2.4.2), i.e., all high tones become low.

- (206) a. *nǃí ʔé.sì /úá = sà ʔà kái = sè //ʔorá.ʔorà-nà-hà tikà*
 COND 3SG.F:I child = SG.F:II ACC good = ADV grow.up:CAUS-J-PST3 if
/úá = sì xà t’úù-nà-hà.
 child = SG.F:I SUBJ bec.beautiful-J-PST3
 ‘If she had taken good care of the girl, she would have become beautiful.’
- b. *thà nè góè = sì kò góè kà /úú = dzà ʔà /úú. /ù.*
 and.then SEQ cattle = SG.F:I IPFV cattle ATTR other = PL.F:II ACC bec.one:CAUS
 ‘Then the cow assembled the other cattle.’
- c. *[Blesswell] = ì khudí.khudì-nà-hà wáinì = mà ʔà.*
 PN = SG.M:I end:CAUS-J-PST3 wine = SG.M:II ACC
 ‘Blesswell finished the wine.’

Some causatives derived by reduplication have become lexicalised to such a degree that they may even be rendered intransitive again by means of the REFLEXIVE suffix -*si* (cf. §4.4.2.2.2), e.g.,

- (207) a. *dáò = ì gère /áú.*
 road = SG.M:I FUT bec.straight
 ‘The road will become straight.’
- b. *[Tlotlo] = ì kò ʔé.ì kà kolóí = sà ʔà //áú. //àù.*
 PN = SG.M:I IPFV 3SG.M:I POSS car = SG.F:II ACC bec.straight:CAUS
 ‘Tlotlo is repairing (lit. straightening) his car.’

- c. *khoe* = *n̩* *kò* *||áú. ||àù-sì.*
 person = PL.C:I IPFV bec.straight:CAUS-REFL
 ‘The people get ready.’ (lit.: are straightening themselves)

4.4.2.1.2 Benefactive

Vossen (1997: 351) reconstructs *-ma as a dative suffix for Proto Khoe; however, in Ts’ixa, like in Khwe (Kilian-Hatz 2008: 162, Heine 1999: 50) it is solely used to introduce beneficiaries. The suffix belongs into the category of valency-changing affixes that Dixon and Aikhenvald (2000) term “applicative”. Applicatives combine with both intransitive and transitive verbs (ibid.: 13), which can also be observed for the benefactive suffix *-mà*. With intransitive verbs, *-mà* introduces a new argument, the beneficiary, which is taken into O function. The former S hence becomes A, e.g.,

- (208) a. S V
|úá = n̩ *kò* *n||gái.*
 child = PL.C:I IPFV sing
 ‘The children are singing.’
- b. A O V
|úá = n̩ *kò* *||úù = nà* ?à *n||gai-a-mà.*
 child = PL.C:I IPFV parent = PL.C:II ACC sing-J-BEN
 ‘The children are singing for the parents.’

With transitive verbs, the transitivity is maintained. However, the newly introduced beneficiary now becomes O, while the O of the non-derived verb is degraded to an oblique participant marked by the MPO *ka*, e.g.,

- (209) a. A O V
tí *kò* *k’oxú* *‡úù.*
 1SG IPFV meat buy
 ‘I buy meat.’
- b. A O T(heme) V
tí *kò* *tí* *ká* *|úá = nà* ?à *k’oxú* *kà* *‡úù-à-mà.*
 1SG IPFV 1SG POSS child = PL.C:II ACC meat MPO buy-J-BEN
 ‘I buy meat for my children.’

This type of semantically ditransitive construction displaying secundative alignment is further discussed in §6.3.

Vossen (1997: 351) suggests that the suffix *-mà* originally derived from a verb *mãã ‘to distribute, offer, give out’, which still exists in some Khoe languages. The presence of the juncture morpheme would hint at the construction deriving from a

grammaticalised juncture-verb construction (cf. §4.5), i.e., V_1 -J *mãã. Indeed, benefactives expressed through multi-verbal predicates are cross-linguistically common and are found throughout the Kalahari Basin (Güldemann & Fehn, *forthc.*). In Ts'ixa, the default rules for juncture allophony as outlined in §4.2.1.1 apply, i.e., unlike with the ANTERIOR / PAST suffixes, no unified use of /nà/ as default juncture is possible:

- (210) a. *tí kò ʔyúú=sì kà [Tshiamo]=mà ʔà n|góa-mà.*
 1SG IPFV food=SG.F:I MPO PN=SG.M:II ACC cook:J-BEN
 'I am cooking food for Tshiamo.'
- b. *tí ʔà boódi-nà-hà maá ʔà ná=m̄ g||arà-nà-mà-nà-hà tà.*
 1SG ACC tell-J-PST3 who ACC DEM.REF=SG.M:I write-J-BEN-J-PST3 COMP
 '[He] told me whom he wrote to (lit.: for).'
- c. *buká=sí kà tí ʔà xóro-mà!*
 book=SG.F:I MPO 1SG ACC hold:J-BEN
 'Hold the book for me!'

4.4.2.1.3. Directive / Locative

The present data does contain only two examples of this derivation, both with a directive meaning:

- (211) a. *k'aro=m̄ xà /'eé-ʔò.*
 boy=SG.M:I SUBJ fall.down-DIR
 'The boy might fall off [the tree].'
- b. *xarí=dzi tè dáò=mà ʔà pere-ʔò.*
 lion=PL.F:I NEAR.PST road=SG.M:II ACC ?jump:J-DIR
 'The lionesses jumped across the road.'

(211)b above is interesting for two reasons: First, it seems to suggest that the DIRECTIVE / LOCATIVE suffix requires use of the juncture. Second, it pulls a locative argument ('the road') into the core of the verb phrase, rendering it the direct object of the clause.

The suffix does not appear to be fully productive, as several attempts to trigger its use in elicitation failed. For example, the speakers did not accept *kũũ-a-ʔò 'go-J-DIR' with the meaning 'to go to' or 'to walk across'. Then, the verb *péè* if used on its own does not mean 'to jump' but 'to chase, to flee' in modern Ts'ixa; however, it is used with the meaning 'to jump, to fly' in a western variety of Danisi. Wordlist elicitation further suggests that *pere-ʔò* with the meaning 'to jump (across)' is a fully lexicalised

form used by some speakers, while others prefer //abuù ‘to fly’ to convey this particular meaning.

While use of the juncture form here remains puzzling, example (211)a, obtained by chance when eliciting sentences from a questionnaire, does not help to solve the mystery, as the juncture form of /'éé ‘to fall down’ is identical with its default appearance (cf. §4.2.1).

A final point to address concerns the apparent similarity of the suffix to the RECENT PAST suffix -ʔo (§4.3.2.2.2).²⁹ Whether there is an etymological connection between the two cannot be said with any certainty. Their tonal behaviour, however, is different, as the DIRECTIVE appears to be generally low-toned, while the RECENT PAST suffix, like other ANTERIOR / PAST suffixes that require use of the juncture, is tonally underspecified (cf. §2.4.3., §4.3.2.2.2).

Reflexes of a formative *!ʔo which has been reconstructed for Proto Kalahari Khoe (Vossen 1998: 285, 300) as a derivative suffix are found throughout the sub-group (Vossen 1997: 271, Vossen 1998: 294f). The same proto-form is probably linked to the ALLATIVE postposition ʔò found in Ts'ixa (cf. §5.3.3) and other Khoe languages (cf., e.g., Vossen 1998: 297f).

4.4.2.2 Valency decreasing extensions

Ts'ixa has three valency-decreasing derivations: the PASSIVE *-i~ -e* (§4.4.2.2.1), the REFLEXIVE *-si* (§4.4.2.2.2), and the RECIPROCAL *kù* (§4.4.2.2.3). I follow Kilian-Hatz (2008) who, in her description of West Caprivi Khwe, discusses the PASSIVE suffix with other valency-changing derivations. There is, however, reason to assume that it has a special status *viz.* the other suffixes discussed in this chapter. Nevertheless, I consider it a valency-decreasing morpheme and as such part of the language's paradigm of verbal derivation.

4.4.2.2.1 Passive

Ts'ixa, like other Khoe languages, has a PASSIVE of the form *-i~ -e* which attaches to derived and non-derived verbs. It differs from other derivational affixes in that it may never co-occur with the juncture morpheme, even when followed by one of the three ANTERIOR / PAST suffixes:

²⁹ An interpretation as recent past can be ruled out for the two examples above. The directive is clearly low toned while the recent past suffix behaves like other ANTERIOR / PAST TENSE suffixes in receiving a high tone after verbs with a rising melody. Hence, if -ʔo in (211)a above were to be interpreted as RECENT PAST, it could be expected to be high-toned.

- (212) a. [Kgalalelo] = s̀ì n//góá = s̀à ʔà gám-nà-tà.
 PN = SG.F:I stone = SG.F:II ACC throw-J-PST1
 ‘Kgalalelo threw the stone.’
- b. n//góá = s̀ì gám-è-tà.
 stone = SG.F:I throw-PASS-PST1
 ‘The stone has been thrown.’

-i and *-e* are allomorphs in complementary distribution. *-i* is used after front vowels and *-e* in all other environments. The PASSIVE does not trigger flip-flop (cf. §2.4.1), but otherwise behaves like the juncture in that it is tonally underspecified and therefore receives the tone of the preceding vowel or nasal (cf. §2.4.3). If an ANTERIOR / PAST suffix follows the passive marker, it is always low-toned.

The Ts’ixa passive is what in the literature (cf., e.g., Dixon & Aikhenvald 2000: 7, Haspelmath 1990: 27) is commonly called an agentless passive. It causes a transitive verb to become intransitive, whereas O of the transitive verb becomes S of the derived intransitive. However, while in an agentive passive, the former A could still be stated as an oblique argument, this is not possible in Ts’ixa. When asked to translate the sentence ‘I was beaten by Arnold’, speakers always insisted on using the active voice, rejecting a construction as given in (213)b below:

- (213) a. [Arnold] = m̀ tí ʔà //ám-nà-tà.
 PN = SG.M:I 1SG ACC beat-J-PST1
 ‘Arnold beat me.’
- b. *tí //ám-é-tà [Arnold] = m̀ kà.
 1sg beat-PASS-PST1 PN = SG.M:I MPO
 ‘I was beaten by Arnold.’

With all preverbal TAM particles (*kò* ‘IPFV’, *gèrè* ‘FUT’, *nà* ‘NEAR.FUT’, *tè* ‘NEAR.PST’), the passive verb phrase needs to be followed by an additional element ʔè:

- (214) a. ʔé.m̀ kò //ám-é ʔè.
 3sg.m:i IPFV throw-PASS ?PASS
 ‘He is being beaten.’
- b. n//góá = s̀ì gèrè gám-è ʔè.
 stone-sg.f:i FUT throw-PASS ?PASS
 ‘The stone will be thrown.’
- c. kyxòà = m̀ tè //áo-é ʔè.
 stone-sg.m:i NEAR.PST throw-PASS ?PASS
 ‘The elephant was shot.’

ʔè is not obligatory with the ANTERIOR / PAST suffixes, but occasionally occurs with them as well. Hence, a sentence like (215) below is considered grammatically correct:

- (215) ʔé.m̩ //ʔám-é-tà ʔè.
 3SG.M:I throw-PASS-PST1 ?PASS
 ‘He was beaten.’

As ʔè here is clearly part of the passive verb phrase, I tentatively gloss it as ‘?PASS’, although more research is required to identify its actual meaning and possible historical significance in this type of agentless passive construction.³⁰

With intransitive verbs, *-i* ~ *-e* may function as an impersonal marker (cf. also Dixon & Aikhenvald (2000: 8) on passives functioning as impersonal markers with intransitive verbs). This function was suggested to me by one speaker and accepted by others, but it does not appear to be very common:

- (216) Mǎú ʔò kò kúú-ì ʔè dzirí.tshàù kà.
 GN ALL IPFV go-PASS ?PASS Friday MPO
 ‘One can go to Maun on Fridays.’

Vossen (1997: 36) reconstructs a PASSIVE *-he for Proto Khoe, and *-e for Proto Kalahari Khoe.

4.4.2.2.2 Reflexive

The valency-decreasing suffix *-si* has four main functions in modern Ts’ixa:

- a) REFLEXIVE
- b) INTENSIVE-REFLEXIVE
- c) ANTICAUSATIVE
- d) detransitivising verbs of cognition and *verba dicendi* introducing complement clauses

-si does not require use of the juncture morpheme and is tonally dependent on its host. If the verb stem includes a high tone, *-si* becomes low-toned. If not, *-si* receives a high tone.

³⁰ It is of course tempting to speculate on the fact that the element is a clear homonym of the PRESENTATIVE / COPULA ʔè, begging the question whether the PASSIVE suffix should be interpreted historically as a morpheme deriving participles from verbs.

a) Reflexive

Expressing reflexivity seems to be the most basic function of the suffix *-si*. It is found throughout the Khoe family (cf. Vossen 1997: 352f). Vossen (ibid.) reconstructs **-sani* for Proto Khoe, Proto Kalahari Khoe and Proto Western Kalahari Khoe, and **-sin* for Proto Eastern Kalahari Khoe. A form *-si* is however found in Naro and G||ana, as well as in Vossen's Danisi. Use of *-si* as a reflexive marker is exemplified in (216)a-c below:

- (216) a. *tí kò mũũ-sí.*
1SG IPFV see-REFL
'I see myself.'
- b. *tí //ám-sì-nà-tà.*
1SG beat-REFL-J-PST1
'I hit myself.'
- c. *baa = ìn kà //ũũ = ìn kà tí kò g||arà-sí*
my.father = SG.M:I POSS parent = SG.M:I MPO 1SG IPFV write-REFL
'I am writing myself with my grandfather's name.'
(lit.: 'I am officially using my grandfather's name.')

b) Intensive / Reflexive

Related to the reflexive function of *-si* is its use in constructions encoding what Kilian-Hatz (2008: 154) terms "intensive-reflexive", i.e., S is emphasised as the initiator of action. In addition to this, S may be repeated as an oblique argument marked by the MPO *ka*, corresponding to a reading 'X by himself', e.g.,

- (217) *//xáà = ìn ?à góè = dzi nè ky'áà.xù-sì ná = dzi kà.*
morning = SG.M:I LOC cattle = PL.F:I SEQ take.out-REFL DEM.REF = PL.F:I MPO
'In the morning, the cows went out by themselves.' (lit. took themselves out)

c) Anticausative

The term "anticausative" was introduced by Nedjalkov and Sil'nickij (1969) and, amongst others, taken up by Haspelmath (e.g., 1987) and Dixon and Aikhenvald (2000). It is understood here as the inverse of a causative, i.e., O of the transitive verb becomes S of the anticausative derivation, but there remains no implication of an underlying A (Haspelmath 1987: 5). Connections between anticausative and reflexive are "particularly prominent" and are found, e.g., in Slavic, Romance and Greek (ibid.: 24). In Ts'ixa, the anticausative derivation is also used to derive the 'phenomenon' category (cf. Viberg 1983) of perception verbs (cf. 218b-d):

hũ̀ ‘to do’ > *hũ̀-sí* ‘to happen’

- (218) a. *nĩ̀=̀m̀* *hũ̀-sí-nà-tà?*
 what = SG.M:I do-REFL-J-PST1
 ‘What happened?’

mũ̀ ‘to see’ > *mũ̀-sí* ‘to look’ (vi)

- b. *táákhòè=̀m̀* *t’ũ̀-xà=sè* *mũ̀-sí-tà.*
 elder = SG.M:I bec.good-ASSOC = ADV see-REFL-IPFV.NEG
 ‘The elder does not look well.’

kúm ‘to hear’ > *kúm-sì* ‘to sound’

- c. *dum=̀m̀* *mĩ̀=̀rĩ̀* *kùè* *tí* *kà* *taxù=sì* *dí=̀m̀*
 voice = SG.M:I DEM.DIST = SG.M:I IPFV 1SG POSS e.sibling = SG.F:I POSS = SG.M:I
khònà *kúm-sì.*
 be.like hear-REFL
 ‘That voice sounds like my sister’s.’

am̀ ‘to perceive’ > *am̀-sí* ‘to feel’ (vi)

- d. *?é.m̀* *kã̀=̀sè* *kò* *am̀-sí.*
 3SG.M:I good = ADV IPFV perceive-REFL
 ‘He feels well.’

d) Detransitivising verbs of cognition and *verba dicendi*

Verbs introducing complement clauses marked by the complementiser *tà* sometimes display use of *-sì* which here clearly functions as a detransitivising suffix (cf. §8.2.1 for more examples).

- (219) *khoe=̀ǹ* *boódi-sì-nà-hà* *?aù-khòè=̀ǹ* *?nyè* *?áò-xà* *tà.*
 person = PL.C:I tell-REFL-J-PST3 fish-person = PL.C:I all money-ASSOC COMP
 ‘The people told (themselves) that all whites [lit. fish people] have money.’

4.4.2.2.3 Reciprocal

Ts’ixa has a suffix *-kù* which is best classified as a polyadic³¹ reciprocal. Since Vossen (1997: 353) reconstructs **-ku* for Proto Khoe as a verbal reciprocal suffix, I will assume this function to be its most prototypical meaning. However, apart from its reciprocal function with transitive verbs, *-kù* is frequently found assuming sociative (‘together’) and collective (‘with’) meanings. According to Kemmer (1993: 100), there is a cross-linguistic tendency for polyadic reciprocals not to subsume reflexive meanings. This is not only confirmed by Ts’ixa, but also by the Bantu languages,

³¹ Maslova (2007: 336) defines an event as polyadic if it is shared by minimally two separate participants.

which use one morpheme to encode various polyadic event types (Maslova 2007). Maslova (ibid.: 337ff) identifies three syntactic types of polyadic constructions: Those in which the polyadic role slot, in this case S, is filled by a single NP (plain), those in which it is filled by at least two coordinate NPs (coordinate), and eventually those in which it is “split into two syntactic slots with different ranks, one of which must be filled by a comitative NP” (discontinuous). When combining with other derivative affixes, *-kù* is commonly found after verb-based suffixes like the BENEFACTIVE *-mà* (cf. 220a), but before the PASSIVE suffix *-i ~ -e* (cf. 220b).

- (220) a. *khoé = sérà ?éméré = mà ?à xóo-mà-kù-nà-tà.*
 person = DU.F bucket = SG.M:II ACC hold:J-BEN-RCPR-J-PST1
 ‘Two women carried the bucket between them.’
- b. *k’oxú = m̄ kò xarò.xarò-kù-ì.*
 meat = SG.M:I IPFV give.REP-RCPR-PASS
 ‘The meat is distributed.’

The different polyadic meanings assumed by Ts’ixa *-kù* are discussed below:

a) Reciprocal

Maslova and Nedjalkov (2013) identify a reciprocal marker as a grammatical element which “signal[s] that the clause describes a reciprocal situation and not just the situation denoted by this verb, without repeating the verb for each simple situation”. *-kù* in Ts’ixa productively derives intransitive verbs from transitive ones by combining former A and O in one NP S:

- (221) a. *[[Mary] = sí]_A [[Peter] = mà ?à]_O //’ám-nà-tà.*
 PN = SG.F:I PN = SG.M:II ACC hit-J-PST1
 ‘Mary hit Peter.’
- b. *[[Mary] = sí kòrè [Peter] = m̄ xàè]_S //’ám-kù-nà-tà.*
 PN = SG.F:I CONJ PN = SG.M:I CONJ hit-RCPR-J-PST1
 ‘Mary and Peter hit each other.’

There are, however, examples which suggest that formerly transitive stems have been lexicalised in their derived form with the RECIPROCAL suffix. If agent and patient are to be expressed separately (cf. 222a), the patient has to be encoded as comitative argument (cf. 222c).

- (222) a. *khoe = ñ kò ||ʔáá-kù.*
 people = PL.C:I IPFV fight-RCPR
 ‘The people are fighting with each other.’

But not:

- b. **[Arnold] = ñ kò xam = sà ʔà ||ʔáá.*
 PN = SG.M:I IPFV lion = SG.F:II ACC fight
 Attempted: ‘Arnold is fighting the lion.’

Instead:

- c. *[Arnold] = ñ kò xam = sí |xòà ||ʔáá-kù.*
 PN = SG.M:I IPFV lion = SG.F:I COM fight-RCPR
 ‘Arnold is fighting with the lion.’

The same behaviour is displayed by the verbs *xái-kù* ‘to have sex’ and *||ʔáé-kù* ‘to meet’, which, like *||ʔáá-kù* ‘to fight’, have no non-reciprocal counterpart.

Some derived reciprocal verbs have become lexicalised as nouns, such as *sèè-kù* ‘marriage, wedding’ (< ‘take’-RCPR) and *k’uí-n||áá-kù* ‘chat, conversation’ (< ‘speak’-RCPR).

b) Sociative

As a sociative marker, *-kù* combines with both transitive and intransitive verbs to express the notion of ‘together’, i.e., the action described by the verb is carried out by more than one agent. Sociative (or “collective”, cf. Kilian-Hatz 2008: 150) uses of *-kù* are particularly frequent if a plural subject NP is omitted (cf. 223b-c).

- (223) a. *ʔé.ñ kà damaxù = ñ ngùà khoe = ñ |xuru-kù-nà-hà.*
 3SG.M:I POSS y.sibling = SG.M:I LOC.DIST person = PL.C:I crowd-RCPR-J-PST3
 ‘At his younger brother [a hill], people were coming together.’
- b. *|ʔúú-kù-nà-hà xám = sérà ʔà.*
 kill-RCPR-J-PST3 lion = DU.F:II ACC
 ‘[They] killed the (two) lionesses.’
- c. *n|góa-kù kùè rè?*
 cook-RCPR IPFV Q
 ‘Are [they] cooking (together)?’
- d. *thà nè g|ái-kù ||ʔáé = ñ ʔò.*
 SS SEQ run-RCPR home = SG.M:I ALL
 ‘Then [they] ran home together.’

c) Comitative

-*kù* is sometimes used to add a comitative participant, i.e., somebody who carries out the action described by the verb, along with the agent encoded as S/A. This function is clearly related to the suffix's sociative meaning and seen by Maslova (2007) as its expected extension along a hierarchy of polyadic meanings she defines for reciprocal suffixes in Bantu.

- (224) *biyéé = dzì n/gè g//áì-kù /úú = dzì /xòà.*
zebra = PL.F:I SEQ run-RCPR child = PL.F:I COM
'The zebras ran together with the children.'

4.4.3 Aspect-changing derivations

4.4.3.1 Completive

The COMPLETIVE suffix *-xù* goes back to the verb *xúú* 'to leave behind' acting as V_2 in a juncture-verb construction and therefore requires the juncture morpheme. This particular grammaticalisation is attested throughout Kalahari Khoe and can thus be reconstructed as **-xu* for this sub-branch of the Khoe family (Vossen 1997: 354, there called "Terminativ-Itiv"). In Ts'ixa, *-xù* changes the lexical aspect of a verb in rendering atelic states of affairs telic (cf. §4.1.2 on lexical verb classes). Verbs derived with *-xù* can often be translated into English with 'to do sth. completely'. Like achievements, i.e., inherently telic verbs, verbs derived with *-xù* cannot be used with the IMPERFECTIVE *kò*.

- (225) a. *tí kà /ʔáò = dzà tí gam-a-xù-nà-tà.*
1SG POSS money = PL.F:II 1SG throw-J-COMPL-J-PST1
'I threw my money away.'
- b. *g//aàkhòè = sì tshaá = mà ʔà //ʔúú-xù-nà-tà.*
woman = SG.F:I water = SG.M:II ACC pour:J-COMPL-J-PST1
'The woman poured the water away.'

Some verb meanings derived with *-xù* have become lexicalised, such as *tsxúm-a-xù* 'to hide' (< *tsxúm* 'to squeeze into' + COMPL 'to squeeze into completely') in (226)a. Lexicalisation may apparently include a valency change, such as with *g//ai-a-xù* 'to outrun' (< *g//áì* 'to run' (vi) + COMPL) in (226)b.

- (226) a. *k'oró-há ʔíté, tsxúm-a-xù-nà-hà.*
eat.meat:J-PST3 NEG squeeze.into-J-COMPL-J-PST3
'[She] didn't eat [it], [she] hid [it].'

- b. sé géré g//ai-a-xù gúà=sì ǐ́=sà ?à.
 1PL.F FUT run-J-COMPL hyena = SG.F:I DEM.REF = SG.F:II ACC
 ‘We will outrun this hyena.’

A completive form of the verb *ngéé* ‘to pass’, *ngéé-xù* ‘to surpass’, is frequently used in comparative constructions (cf. §7.3.2.1.2):

- (227) g//aàkhòè=dzi kò k’áàkhòè=//ùà ?à ngéé-xù-nà-hà=sè n//gáì.
 woman = PL.F:I IPFV man = PL.F:II ACC pass:J-COMPL-J-PST3 = ADV sing
 ‘Women sing better than men.’ (lit. ‘Women sing, surpassing men.’)

4.4.3.2 Durative

Ts’ixa has a DURATIVE suffix *-?ì.sì* which is of verbal origin and therefore requires use of the juncture morpheme. *-?ì.sì* itself appears to derive from a complex verb form consisting of a defective root **?ii* and what is most likely the reflexive suffix *-si*.

-?ì.sì directs the hearer’s attention to the extended duration of a state of affairs. A durative state of affairs derived by *-?ì.sì* may be ongoing (cf. 228) or completed (cf. 229a-b). *-?ì.sì* preferably combines with activities; with achievements, i.e., with inherently telic verbs, *-?ì.sì* expresses that the punctual action is carried out repeatedly over an extended period of time (cf. 228).

- (228) guni-khò=//ù kò //áro-?ì.sì.
 hunt-AG = PL.M:I IPFV shoot:J-DUR
 ‘The hunters are shooting (over an extended period of time).’

- (229) a. tí g//aè.ǐǐ-à-xà-nà-hà [Khwai] ngùà.
 1SG girlfriend-ASSOC-J-PST3 GN LOC
 ‘I had a girlfriend at Khwai.’

- b. ǐ́ kà /áń=dzi ?à tí [Khwai] ?ò kũũ-a-?ì.sì-tí-nà-hà.
 DEM.REF ATTR sun = PL.F:I LOC 1SG GN ALL go-J-DUR-FREQ-J-PST3
 ‘During this time, I repeatedly went to Khwai.’

-?ì.sì is sometimes found with the FREQUENTATIVE suffix *-tí* (see (229)b above, cf. §4.4.3.3 below) and regularly appears in the matrix clause of temporal subordinate clauses denoting the notion of ‘since’ (cf. also §8.2.4.5 for further examples):

- (230) [Mababe] ?ò àa-hà k’ài sekólé=sí ?ò xíúkhòè-ǐǐ=ń kò kũũ-a-?ì.sì.
 GN ALL come:J-PST3 since school = SG.F:I ALL San-child = PL.C:I IPFV go-J-DUR
 ‘Since [they] came to Mababe, the San children always go to school.’

4.4.3.3 Frequentative

The FREQUENTATIVE suffix *-ti* marks states of affair which are performed several times or even habitually (cf. 231b below). *-ti* displays the same tonal behaviour as the REFLEXIVE suffix *-si* (cf. §2.4.3), i.e., low-toned after stems with a high tone, and high-toned in all other environments.

Like the durative *-ʔî.sì* with which it sometimes found combining (cf. 229b above), *-ti* can refer to actions that are still being repeated at the time of reference (cf. 231a), or to actions repeated in the past (231c).

- (231) a. [Sunday] *kà ʔé.ṁ kò sũ-tí.*
 Sunday MPO 3SG.M:I IPFV work-FREQ
 ‘He often works on Sundays.’
- b. *ʔé.ṁ kò kũũ-tì ʔíté rè?*
 3SG.M:I IPFV walk-FREQ NEG Q
 ‘Doesn’t he usually walk?’
- c. [Sunday] *kà ʔé.ṁ sũ-tí-nà-hà.*
 Sunday MPO 3SG.M:I work-FREQ-J-PST3
 ‘He often worked on Sundays.’

4.4.3.4 Iterative

To express iteration of an action (‘to do sth. several times’), the verb stem is fully reduplicated. The reduplicated stem appears in its lowered form, i.e., all high tones become low. The very same derivative strategy is applied to derive causatives from accomplishment and achievement verbs (cf. §4.1.2); iterative is restricted to activities and achievements and considered to be the more basic meaning of verbs derived by means of this strategy (cf. Vossen 1997: 350).

- (232) a. *k’aro=ṁ kò k’ũũ.k’ũũ-sí.*
 boy=SG.M:I IPFV laugh:ITER-REFL
 ‘The boy is giggling to himself.’
- b. *ʔabá=ṁ kò ʔé.ṁ kà k’ám=sà ʔà nyaráé.nyaráè.*
 dog=SG.M:I IPFV 3SG.M:I POSS mouth=SG.F:II ACC lick:ITER
 ‘The dog licks his mouth (several times).’
- c. *tí kò bólò=sà ʔà ts’áá.ts’áà.*
 1SG IPFV ball=SG.F:II ACC squeeze:ITER
 ‘I am squeezing the ball (several times).’

A verb may be repeated more than once for reasons of emphasis:

- (233) *kho*e = ñ *n/gè* *ʔòrè.ʔòrè.ʔòrè.*
 person = PL.C:I SEQ go.back.and.forth:ITER
 ‘The people went back and forth (several times).’

4.4.3.5 Intensive

Ts’ixa has three strategies to intensify the meaning of a verb, two of which belong into the realm of verbal derivation:

- a) reduplication with the infix *-kùm-*
- b) the suffix *-tótùm*
- c) the derived adverbs /’*án.sè* and *xũũ.sè* ‘very’ (cf. §5.1.2)

There is no semantic difference between intensifying constructions with either *-kùm-* or *-tótùm*. Both affixes are freely interchangeable (cf. 234a-b). However, it could be observed that speakers preferred either the one or the other.

- (234) a. *k’ái.xè* //é *kò* *k’oxú=mà* *ʔà* *tsíí-tótùm.*
 first 1PL.M IPFV animal = SG.M:II ACC observe-INT
 ‘First we observe the animal intently.’
- b. *k’ái.xè* //é *kò* *k’oxú=mà* *ʔà* *tsíí-kùm-tsíí.*
 first 1PL.M IPFV animal = SG.M:II ACC observe-INT-observe
 ‘First we observe the animal intently.’

The exact meaning of verbs derived with one of the intensifying affixes depends on the verb’s inherent lexical semantics. With accomplishments (cf. 235a) and states (cf. 235b), the achieved meaning usually is ‘to be(come) sth. very much’:

- (235) a. *gúà = sì* *í = sì* *//àbà-kùm-//àbà-nà-hà.*
 hyena = SG.F:I DEM.REF = SG.F:I bec.hungry-INT-bec.hungry-J-PST3
 ‘This hyena was very hungry.’
- b. *àà-nà-hà* *ná = ì* *kyíí-tótùm-nà-hà* *k’òsò.*
 come-J-PST3 DEM.REF = SG.M:I be.sick-INT-J-PST3 although
 ‘He came although he was very ill.’

With activities, the meaning usually is ‘to do sth. very intently, very thoroughly’ (cf. 235a-b above, 236a below) or ‘to do sth. a lot’ (cf. 236b-c).

- (236) a. //ũ̀̀ = dzì n/gè k'áé-kùm-k'áè
 parent = PL.F:I SEQ cry-INT-cry
 'The mothers cried badly.'
- b. kyíí ?é.sì kò = sè ?é.sì //óé-tótùm-nà-hà.
 be.sick 3SG.F:I IPFV = ADV 3SG.F:I sleep-INT-J-PST3
 'When she was sick, she slept a lot.'
- c. ?é.̀̀ k'uí-tótùm-nà-hà tsé kò Mǎúú ?ò kúú̀̀ = sè.
 3PL.C:I speak-INT-J-PST3 1PL:C IPFV GN ALL go = ADV
 'They talked a lot while we were going to Maun.'

4.4.4 -kàà: Volition and proximative 'be about to'

Ts'ixa expresses volition (cf. 237a-b) by means of a suffix *-kàà*, which is clearly derived from a homophonous (but high-toned) verb *káá* 'to want, to search'. Despite its verbal origin, *-kàà* is attached directly to the verb stem and does not require the juncture morpheme. The same suffix may also have proximative semantics, i.e., encode the notion of 'be about to' (cf. 238a-b). In consequence, the intended meaning often has to be deduced from context.

- (237) a. tí kò k'oxú k'óó-kàà.
 1SG IPFV meat eat.meat-VOL
 'I want to eat meat.' (or: I am about to eat meat.)
- b. //é kúú̀̀-kàà-nà-?ò.
 1PL.M go-VOL-J-PST2
 'We wanted to leave.' (or: We were about to leave.)
- (238) a. /áń = sì kò ky'òà-kàà.
 sun = SG.F:I IPFV exit-VOL
 'The sun is about to rise.'
- b. //?áá-kù = ì tshéè = ì ?fiyè ?à séè-kàà-nà-hà.
 FIGHT-RCPR = SG.M:I day = SG.M:I all ACC take-VOL-J-PST3
 'The fight was about to take all day.'

4.4.5 Postpositions attaching to verbs

The data contains two examples in which a postposition otherwise marking oblique NPs (cf. §5.3) is attached directly to the verb stem. In both cases, the nominal participant (which should have been marked by the postposition in question) has been omitted due to being accessible from context. In (239) below, the hyena pounces on a zebra filly which is not referenced in the respective clause. The

locative postposition /xè (which should have headed the oblique NP) attaches to the verb /'eé 'to fall down' (here: 'to pounce') instead:

- (239) *gúà=sì kò àà nò ?é.sì n|gé /'eé-tá biyéé-|ùà=sà ?à*
 hyena=SG.F:I IPFV come when 3SG.F:I SEQ fall.down:J-PST1 zebra-DIM=SG.F:II ACC
mũù thòò n|gè /'eé-|xè thì. ?à k'óó.
 see DS [sic?] SEQ fall.down-LOC SS eat.meat
 'When the hyena came she saw the fallen zebra filly, pounced (lit. fell) on [it] and ate [it].'

In the exchange below, the 'table' (*táfóli*) evoked in the question in (240)a is omitted in the answer in (240)b. The COMITATIVE postposition now /xòà attaches to the verb *kúù* 'to go':

- (240) a. *?é.m kò táfóli=mà ?à àà.kà rè kàná kò séé?*
 3SG.M:I IPFV table=SG.M:II ACC bring Q or IPFV take
 'Is he bringing the table or is [he] taking [it away]?'
 b. *kúù-|xòà kùè.*
 go-COM IPFV
 '[He] is going with it.' (i.e., taking it away)

It cannot be said with any certainty whether this is a productive strategy in the language, and if all postpositions may be attached to the verb stem if their nominal dependent is omitted. Indeed, data from West Caprivi Khwe seems to suggest that some postpositions, such as the COMITATIVE /xòà and the INSTRUMENT *kà* are simultaneously used as productive derivative suffixes (Kilian-Hatz 2008: 163f). Due to lack of attestations in the data, it cannot be answered at this point whether this is also the case in Ts'ixa.

4.5 Juncture-verb constructions

Ts'ixa makes use of multiverbal predicates to refer to a particular set of states of affairs which are considered "complex" by the speakers. Verb serialisation has been identified a distinctive feature of the Kx'a and Tuu language families (Güldemann & Vossen 2000), and "lexically complex predicates" (cf. Güldemann 2006, Güldemann & Fehn, forthc.) are known to exist in all known Khoisan languages, including the Khoe family. Although the complex predicates found in Ts'ixa are cognate with constructions found in Khwe and †Aakhoe / Hai|om, I will not follow Kilian-Hatz (2006, 2008, 2013) and Haacke (2014) who refer to them as "serial verb

constructions” (SVC). Reasons for this are given in §4.5.1.1 below. I will refer to them as “juncture-verb constructions” (JVC) instead.

4.5.1 Features of juncture-verb constructions

This section discusses the author’s choice to distinguish the complex predicates under discussion from serial verb constructions (§4.5.1.1) and provides an overview of their structural features (§4.5.1.2).

4.5.1.1 Distinguishing juncture-verb constructions from serial verb constructions

Complex predicates of the type $V_1\text{-}J\ V_2\text{-}J\ V_3$ etc.) have been interpreted as serial verb constructions (SVC) by Christa Kilian-Hatz (2006, 2008, 2013) and – following Kilian-Hatz – Haacke (2014). Their reasoning follows Aikhenvald’s (2006) diagnostic criteria for identifying SVCs, which are the following (*italic print is mine*):

SVCs

- are monoclausal
- share prosodic properties of monoverbal predicates
- share one tense/aspect/mode/polarity value
- share at least one argument
- describe a single event
- *function as a single predicate with no overt markers of coordination or subordination*

It is the last criterion which is arguably not met by complex predicates featuring the juncture morpheme. Kilian-Hatz (2008) treats the juncture in West Caprivi Khwe as an active marker and argues that its use entails neither coordination nor subordination. The same argument is not applicable to Ts’ixa.³² If the juncture were an active marker, it would be expected to appear on any verb stem in the active voice, regardless of the shape of the TAM marker. This is clearly not the case. In Ts’ixa, only the ANTERIOR / PAST suffixes *-ta/?o/-ha~hã* are attached to the verb stem

³² Even within the Khwe group, interpretation of the juncture as an active marker is problematic. In Buga, only the past tense markers require use of the juncture. Other TAM affixes are directly suffixed to the verb stem. The situation in ||Ani is similar: although ||Ani, unlike Buga, has already developed two junctures, ‘I’ and ‘II’, juncture ‘I’ only appears with the future tense suffix *-goe*, but never with the present tense *-te* (cf. also Heine 1999).

via the juncture morpheme (§4.3.2.2.2). Other TAM markers are particles or suffixes which do not require use of the juncture.

It may therefore be assumed that synchronically, the juncture is not an active marker in Ts'ixa, and that marking of active voice is not its function in the complex predicates under discussion. Its main function appears to lie in conveying that a verb will be followed by another verbal element – either a full verb or a suffix of verbal origin. All derivative suffixes and two of the three ANTERIOR / PAST suffixes requiring use of the juncture can be shown to have grammaticalised from a verbal source. One may therefore think of the juncture as an element putting verbs into a “construct state” (T. Güldemann, p.c.). Although this function does not coincide with an outright co- or subordination marker, more prototypical SVCs, e.g., those found in Western African languages or in the Kx'a and Tuu families, feature two or more full verbs which do not require any linking element between them. Compare the examples below (from Ju|'hoan and N||ng):

Ju|'hoan (Ju, Kx'a):

- (241) a. *mí lòmà tètè /óá sé //àbà !äihn.*
 I be.short and NEG see step.over tree
 ‘I am short and cannot see over the tree.’ (Dickens 1992: 56)

N||ng (!Ui, Tuu):

- b. *ng !ae /'ee n||ng.*
 1SG run go.in house
 ‘I run into the house.’ (Ernszt 2012: 118)

I feel it is necessary to distinguish this type of complex predicate from the one found in Ts'ixa and other Khoe languages. In this grammar, I will therefore talk about “juncture verb constructions” (JVC), rather than about SVCs. Nevertheless, there are some striking similarities between complex predicates in Khoe and non-Khoe languages, whether they require the juncture as a linking element or not. These include both their functional range and the lexical semantics of the verbs involved (Güldemann & Fehn, forthc.).

4.5.1.2 Structural features of juncture-verb constructions

JVCs are formally distinct from multiclausal constructions, i.e., conjoined predicates. They do not feature a linking element which could be identified as an independent

clausal conjunction, such as the marker ʔà^{33} or the same subject/continuity particle *thì.ʔà~thà* (cf. §8.1.1.2). However, all verbs except the final one have to take on the juncture morpheme and / or display tonal flip-flop. The rules determining appearance of the various juncture allomorphs and their interaction with tonal flip-flop is discussed in §4.2.1. If the verbs are contiguous, all verbs but V_1 are lowered, i.e., high tones become low (cf. §2.4.2.2).

A JVC consists of at least two verbs, though the data shows that linking of three or more verbs is possible as well. If TAM is marked by a particle preceding the predicate, the particle has scope over the entire construction (see a) below). If TAM suffixes occur, they only attach to the final verb stem (see b) below).

- a) TAM $V_1\text{-}J$ $V_2\text{-}(-J V_{\text{final}})$
 b) $V_1\text{-}J$ $V_2\text{-}(-J V_{\text{final}})\text{-TAM}$

In summary, JVCs in Ts'ixa can be identified by the following criteria:

- They share at least one argument, usually the subject.
- They share the TAM value.
- They share their illocutionary force.
- They cannot be separately negated.
- They cannot be separately subordinated.

They denote what is considered to be a single, complex event by the speaker. What is perceived as separate events in temporal succession is expressed by means of a conjunction ʔà (§8.1.1.3) or the discourse continuity marker *thì.ʔà~thà* (§8.1.1.2). Independent, yet simultaneous events are usually expressed by subordinating one verb phrase by means of the adverbialiser = *sè* (cf. §8.2.4.2).

4.5.2 Types of juncture-verb constructions

I propose to distinguish three main types of JVC: manner, cause-effect, and path. Subtypes and distinctive features are listed in Table 59 below. All JVCs – except the unrestricted cause-effect and manner types – belong to Aikhenvald's (2006) "asymmetric" class, i.e., they involve minor verbs serving a modifying function.

³³ It is not always easy to tell a conjoined predicate from a juncture type predicate when the conjunction ʔà (cf. §8.1.1.3) is involved, as the glottal stop is often lost in fast speech; in addition, phrasal lowering (cf. §2.4.2) complicates the identification of tonal flip-flop (§2.4.1) which is one of the main criteria to identify verbs acting as V_1 in a JVC.

Table 59: Types of JVC

TYPE	RESTRICTIONS	MINOR/MODIFYING VERBS	FIXED CONSTITUENT ORDER	CONTIGUOUS	FREQUENCY OF USE	ALSO EXPRESSED THROUGH
MANNER		---				
UNRESTRICTED	none; all verbs involved belong to open classes		no	yes	rare	adverbial constructions
POSTURE	a posture verb specifies the position in which the action is performed	posture verbs, e.g., 'stand', 'sit', 'lie'	no	no	common	adverbial constructions
CAUSE-EFFECT						
UNRESTRICTED	none; all verbs involved belong to open classes			?		conjunctions <i>ʔà</i> and <i>thì.ʔà~thà</i>
END-POINT	posture verbs specify the endpoint of a movement	posture verbs, e.g., 'stand', 'sit', 'lie'	yes (posture verb follows motion verb)	?	rare	conjunctions <i>ʔà</i> and <i>thì.ʔà~thà</i>
COGNITION	the cognitive outcome of a perceptive event is indicated	<i>ʔàá</i> 'know' and <i>sád</i> 'fail, miss a target'	yes (minor verb follows perception verb)	yes	frequent	---
SWITCH-FUNCTION	only with <i>khudf</i> 'end' indicating the completion of an action, probably grammaticalised	<i>khudf</i> 'end'	yes (<i>khudf</i> always as V ₂)	yes	frequent	
PATH	motion verbs are specified by verbs with orientational semantics	verbs with orientational semantics, e.g., 'enter', 'exit'	yes (orientation verb follows motion verb)	yes	frequent	---

In addition, Ts'ixa has grammemes of verbal origin which can still be traced to V_{final} (suffixes) or V_1 (particles) of a JVC.

Table 60: JVCs conveying aspectual meanings in various stages of grammaticalisation

ASPECTUAL MEANING		STATUS OF ELEMENT	STATUS OF VERBAL SOURCE	STRUCTURAL COMPLEXITY
COMPLETIVE (intransitive)	-J-xù	suffix	full verb (<i>xúú</i> ‘to leave’)	monomoraic suffix vs. bimoraic source
DURATIVE	-J-ʔù.sì	suffix	obvious verbal source, but no meaning in isolation	derived verb with still identifiable components, i.e., -sì = REFL
BENEFACTIVE	-J-mà	suffix	verbal source no longer exists as a full verb (*māā ‘to give’)	oral, monomoraic suffix vs. nasal, bimoraic source
VENTIVE (ANDATIVE)	sí-a	particle (< V_1)	full verb (<i>sí</i> ‘to arrive, to become’)	= source-J
ITIVE	kúú-a	particle (< V_1)	full verb (<i>kúú</i> ‘to go’)	= source-J

In this chapter, only VENTIVE (< *sí* ‘arrive’) and ITIVE (< *kúú* ‘go’) will be discussed. Other grammaticalised affixes are dealt with in §4.4.

4.5.2.1 Manner

“Manner” is a subtype of SVCs identified by Aikhenvald (2006) in which “one verb may describe the way in which the action of the other verb was performed” (ibid.: 29). Ts'ixa has two types of manner JVCs: one “symmetrical” type in which two verbs from open classes may be combined to form one complex event (§4.5.2.1.1), and an “asymmetrical” posture type in which a verb from a large open class is modified by a posture verb which denotes the position in which the action is performed (§4.5.2.1.2). In both types, the verb acting as “modifier” is found in V_1 position.

4.5.2.1.1 Unrestricted manner

Manner JVCs other than the posture subtype (§4.5.2.1.2) are always contiguous, i.e., no elements may go in between V_1 and V_2 . Although the semantic difference is slight, there is evidence to suggest that V_1 modifies V_2 , e.g.,

- (242) a. *tí kò n|gái-a àà.*
 1SG IPFV sing-J come
 ‘I come singing.’

- b. *tí kò àa n//gàì.*
 1SG IPFV come:J sing
 ‘I sing coming.’

There are no restrictions on V_2 ; however, text data shows a strong preference for motion verbs. V_1 then denotes the way in which the motion is performed:

- (243) a. *tí kò pere g//àì.*
 1SG IPFV flee:J run
 ‘I run like a fugitive.’

- b. *tí kò kama-nà kùù.*
 1SG IPFV track-J go
 ‘I walk tracking.’

- c. *tshaó ηóó kónò //óé kà //é kò khañ-á kùù.*
 flat place when knee MPO 1PL.M IPFV crawl-J go
 ‘When a place is flat, we crawl on our knees.’

More research will be needed to determine whether the constituents of this type of JVC have to share transitivity value.

Use of JVCs in this context often depends on the speakers’ individual perception of two events as one complex event. Manner modification or merely two events happening simultaneously may also be expressed by means of an adverbial clause (cf. §8.2.4.2):

- (244) *tí kò àà [n//gáì kò=sè]_{ADV}*
 1SG IPFV come sing IPFV=ADV
 ‘I come while singing.’

4.5.2.1.2 Posture

In this subtype of manner JVC, V_1 is a posture verb which conveys the position (sitting, standing, lying) in which the action described in V_2 is performed. Here, the individual verbs do not have to share transitivity value, i.e., an intransitive posture verb may combine with a transitive activity verb, like in the examples below:

- (245) a. *tí kò nyúú-a //’àm katsí=sà ?à.*
 1SG IPFV sit-J beat cat=SG.F:II ACC
 ‘I am beating the cat in a sitting position.’

- b. *tí kò tī-a //’àm katsí=sà ?à.*
 1SG IPFV stand-J beat cat=SG.F:II ACC
 ‘I am beating the cat in a standing position.’

- c. *ʔabá = m̄ kòrè g//óé = s̄i xàè kyeé.kyeè kùè ʔé.sérà*
 dog = SG.M:I CONJ tortoise = SG.F:I CONJ listen IPFV 3DU.F
nyúú-a k'úi = xù.
 sit-J talk = NMZ
 'The dog and the tortoise are listening to them talking in a sitting position.'

The modifying posture verb is clearly restricted to V₁ position. Hence, (246) below was considered incorrect by the speakers:

- (246) **k'áàkhòè = //ù kò k'uí-á tèè.*
 man = PL.M:I IPFV speak-J stand
 Attempted: 'The men talk in a standing position.'

While posture JVCs occur in texts (cf., e.g., 245c above), it could be observed that in elicitation contexts, they were often rejected by speakers in favour of an adverbial clause.

- (247) a. [*nyúú-nà = sè*]_{ADV} *tí kò kúrùtòkà = sà ʔà /'úú.*
 be.sitting-STAT = ADV 1SG IPFV field.mouse = SG.F:II ACC kill
 'I kill the mouse in a sitting position.'
- b. *k'áàkhòè = //ù kò [tèè-nà = sè]*_{ADV} *k'uí.*
 man = PL.M:I IPFV be.standing-STAT = ADV speak
 'The men talk in a standing position.'

4.5.2.2 Cause-effect

This type of JVC is characterised by iconic constituent order (cf. Aikhenvald 2006: 29), i.e., V₂ expresses the outcome of an action described in V₁. According to Aikhenvald (ibid.), multiverbal predicates of the cause-effect type are symmetrical, i.e., both verbs may be chosen from large open classes. While this may also apply to Ts'ixa (§4.5.2.2.1), the majority of cause-effect JVCs found in the data can be assigned to two subtypes in which V₂ belongs to a restricted class of verbs: endpoint posture (§4.5.2.2.2) and cognition (§4.5.2.2.3). In endpoint posture JVCs, V₂ is always a posture verb, while in cognition JVCs, *ʔáá* 'to know' or (albeit rarely) *sáá* 'to miss a target, fail' appear.

Unlike in Kx'a, Tuu and Khoekhoe, it is not generally possible to form cause-effect JVCs of the switch-function type (cf., e.g., Güldemann 2006, Güldemann & Fehn, *forthc.*), i.e., subject sharing is obligatory. However, a highly grammaticalised JVC of the aspect type "completive / telic" featuring the verb *khudí* 'to end' as V₂ could

be interpreted as a switch-function cause-effect JVC in which O of the main verb becomes S of the modifying verb (§4.5.2.2.4).

4.5.2.2.1 Unrestricted cause-effect

The data contains only few examples of cause-effect JVCs in which both verbs belong to unrestricted open classes. It appears that sharing of transitivity value and of all arguments is required, but more research is needed to verify this.

- (248) a. *kúrùtòkà = sà ?à tí kò //ám-a /'ũũ.*
 field.mouse = SG.F:II ACC 1SG IPFV beat-J kill
 'I am beating the mouse to death.'
- b. */ú.xù kò kòtè gào mũũ-kàà.*
 something IPFV maybe look:J see-VOL
 'Maybe [the dog] wants to look and see something.'

4.5.2.2.2 Endpoint posture

In endpoint posture JVCs, the posture verb in V_2 denotes the position of S which is the result of a motion or action described in V_1 . Here, JVCs contrast with predicates conjoined by the conjunction *?à* (cf. §8.1.1.3) that denote independent events taking place in temporal succession (cf. 249c). It is possible that this particular type of JVC is subject to idiolectal variation in Ts'ixa. One speaker included in the sample translated (249)c as 'I have fallen into a lying position', and (249)b as 'I am restless'.

- (249) a. *tí tè /'éé nyũũ.*
 1SG NEAR.PST fall.down:J sit
 'I have fallen into a sitting position.'
- b. *tí tè /'éé //òè.*
 1SG NEAR.PST fall.down:J lie
 'I have fallen into a lying position.' (or: I am restless.)
- c. *tí tè [/'éé ?à //óé].*
 1SG NEAR.PST fall.down CONJ lie
 'I have fallen and laid down.' (or: I have fallen into a lying position.)

4.5.2.2.3 Cognition

Cognition JVCs, for the most part, have a perception verb as V_1 , and the verb *?ãã* 'to know' as V_2 . V_2 then describes the cognitive outcome of the perceptive act described in V_1 . Alternatively, V_1 could be viewed as the mode of perception through which a certain type of knowledge was obtained (cf. Brenzinger & Fehn 2013). The cognition JVC most frequently found in the data is *mũũ-à ?ãã* 'to realise' (lit. know by seeing).

- (250) a. *noxá = m̄ í = mà tí kò m̄ũ-à ʔãã.*
 snake = SG.M:I DEM.REF = SG.M:II 1SG IPFV see-J know
 ‘I recognise this snake (by vision).’

However, this combination is also possible with other perception verbs. These include the holistic / generic perception verb *||am̄-à* ‘to perceive’, which covers the sensory modalities of TOUCH, TASTE and SMELL:

- (250) b. */í = sì í = sà tí kò kúm-a ʔãã.*
 song = SG.F:I DEM.REF = SG.F:II 1SG IPFV hear-J know
 ‘I recognise this song (by hearing).’

- c. *tí kò ||am̄-à ʔãã nyúni-||'ãũ.*
 1SG IPFV perceive-J know mouse-smell
 ‘I recognise the smell of a mouse.’

The JVC *||am̄-à ʔãã* is particularly frequent in the context of divination, where a holistic understanding of various sensory stimuli may lead to knowledge about the future:

- (251) a. */xúú.khòè = m̄ kò ||am̄-à ʔãã.*
 diviner = sg.M:I IPFV perceive-J know
 ‘The diviner knows/understands the future.’
- b. */xúúkhòè = m̄ ||am̄-à ʔãã-tã.*
 diviner = sg.M:I perceive-J know-IPFV.NEG
 ‘The diviner does not know/understand the future.’

Note that cognition JVCs are only formed with perception verbs denoting the perceptive experience as such. Perceptive actions, e.g., *gàò* ‘to look’, *kyéé.kyéè* ‘to listen’, *xóó* ‘to feel, touch’, *dzaá* ‘to have a taste’ and *m̄m̄~hum̄* ‘to smell, sniff’ do not combine with *ʔãã*.

A more limited type of cognition JVC is formed with the verbs of perception and *sáá* ‘to miss a target, fail’ acting as V₂. In the examples below, *sáá* indicates that the act of perception was performed but disrupted, i.e., no real knowledge was obtained:

- (252) a. *tí tè m̄ũ-à sàà.*
 1SG NEAR.PST see-J fail
 ‘I could not see properly.’
- b. *tí tè kúm-a sàà.*
 1SG NEAR.PST hear-J fail
 ‘I could not hear properly.’ (or: I overheard.)

It is noteworthy that (252)b above may also be translated as ‘I overheard’, hinting at a culturally specific conceptualisation of knowledge which excludes information obtained in an accidental or backhanded way.

4.5.2.2.4 Switch-function with *khudí* ‘to end’

Aikhenvald (2006: 14) uses the term “switch-function SVC” for constructions in which “the object of V_1 is the same as the subject of V_2 ”. Such a construction arguably exists in Ts’ixa, albeit in a restricted context: the intransitive verb *khudí* ‘to end’ may function as a marker of completive aspect in taking the direct object of transitive V_1 as subject. (253)a below could be paraphrased accordingly as ‘The woman ate the meat; the meat ended/was no more’. However, the argument in question always receives marking for accusative case, i.e., is unambiguously treated as direct object of V_1 . *khudí* in these constructions is probably best understood as a grammaticalised aspect marker. It is still curious that the underlying construction is of the switch-function type which otherwise does not appear to feature prominently in the Khoe family (cf. Güldemann & Fehn, *forthc.*).

- (253) a. *g//aàkhòè=sì k’oró khudì-nà-tà ?é.sì kà k’oxú=mà ?à.*
 woman = SG.F:I eat.meat:J end-J-PST1 3SG.F:I POSS meat = SG.M:II ACC
 ‘The woman ate all of her meat.’
- b. *k’aro=mèn k’aa khudì-nà-tà tshaá=mà ?à thà k’oró*
 boy = SG.M:I drink:J end-J-PST1 water = SG.M:II ACC SS eat.meat:J
khudì k’oxú=mà ?à.
 end meat = SG.M:I ACC
 ‘The boy drank all the water and then ate all the meat.’

4.5.2.3 Path

This cross-linguistically attested type of multiverbal predicate (cf. Aikhenvald 2006) is frequently found in both elicited and textual data, but appears to be restricted to the notions of ‘in’ and ‘out’ on the horizontal plane (§4.5.2.3.1). Path on the vertical plane (i.e., ‘up’ vs. ‘down’) is mostly part of individual verb semantics, although limited use of the verb *tan* ‘to get up’ as path modifier has been attested (§4.5.2.3.2). Path JVCs require V_1 and V_2 to share all arguments, i.e., to share transitivity value.

4.5.2.3.1 Horizontal plane

4.5.2.3.1.1 Intransitive: *kyãã* ‘to enter’ and *ky’oà* ‘to exit’ (vi)

Both *kyãã* and *ky’oà* are used on their own as intransitive motion verbs:

(254) a. *nguú = m̐* ?à tí kò *kyãã*.
house = SG.M:I LOC 1SG IPFV enter
‘I enter the house.’

b. *nguú = m̐* ?à tí kò *ky’oà*.
house = SG.M:I LOC 1SG IPFV exit
‘I come out of the house.’

They also follow other intransitive motion verbs as V₂ in a JVC. They then indicate direction of the movement described in V₁:

(255) a. *nguú = m̐* ?à tí kò *g//ai-a* *kyãã*.
house = SG.M:I LOC 1SG IPFV run-J enter
‘I run into the house.’

b. *nguú = m̐* ?à tí kò *ts’ii-a* *kyãã*.
house = SG.M:I LOC 1SG IPFV limp-J enter
‘I limp into the house.’

(256) a. *nguú = m̐* ?à tí kò *g//ai-a* *ky’oà*.
house = SG.M:I LOC 1SG IPFV run-J exit
‘I run out of the house.’

b. *nguú = m̐* ?à tí kò *ts’ii-a* *ky’oà*.
house = SG.M:I LOC 1SG IPFV limp-J exit
‘I limp out of the house.’

This type of JVC is among the ones featured most frequently in both textual and elicited data. No alternative strategies to express this particular event type, e.g., by means of adverbial modification, have been recorded.

4.5.2.3.1.2 Transitive: *kyãã* ‘to insert’ and *ky’áà.xù* ‘to remove, take out’ (vt)

kyãã is an ambitransitive verb which covers both meanings ‘to enter’ and ‘to insert’. Hence, it may also combine with transitive verbs to form path JVCs. *ky’oà* ‘to exit’ is intransitive and therefore incompatible with transitive verbs in this particular semantic domain (cf. 257c below). Instead, *ky’áà.xù* ‘to remove, take out’ is used.

ky'áà.xù is composed of a stem *ky'áà* which no longer exists as an independent verb form, and the CAUSATIVE suffix *-xu*.

Both transitive *kyãã* and *ky'áà.xù* are used as independent verbs:

- (257) a. *nguú = m̄* ?à tí kò *boksí = mà* ?à *kyãã*.
house = SG.M:I LOC 1SG IPFV box = SG.M:II ACC insert
'I take the box into the house.'
- b. *nguú = m̄* ?à tí kò *boksí = mà* ?à *ky'áà.xù*.
house = SG.M:I LOC 1SG IPFV box = SG.M:II ACC take.out
'I take the box out of the house.'
- c. **nguú = m̄* ?à tí kò *boksí = mà* ?à *ky'oà*.
house = SG.M:I LOC 1SG IPFV box = SG.M:II ACC exit
Attempted: 'I take the box out of the house.'

When used as directional modifiers in a JVC, *kyãã* and *ky'áà.xù* appear as V_2 after a transitive verb which denotes a movement or action towards or away from a local participant:

- (258) a. *nguú = m̄* ?à tí kò *boksí = mà* ?à *khadí-nà* *kyãã*.
house = SG.M:I LOC 1SG IPFV box = SG.M:II ACC push-J insert
'I push the box into the house.'
- b. *nguú = m̄* ?à tí kò *boksí = mà* ?à //háí-á *kyãã*.
house = SG.M:I LOC 1SG IPFV box = SG.M:II ACC pull-J insert
'I pull the box into the house.'
- (259) a. *nguú = m̄* ?à tí kò *boksí = mà* ?à *khadí-nà* *kyàà.xù*.
house = SG.M:I LOC 1SG IPFV box = SG.M:II ACC push-J remove
'I push the box out of the house.'
- b. *nguú = m̄* ?à tí kò *boksí = mà* ?à //háí-á *kyàà.xù*.
house = SG.M:I LOC 1SG IPFV box = SG.M:II ACC pull-J remove
'I pull the box out of the house.'

This particular type of JVC is contiguous, i.e., the object of the clause may not be inserted between V_1 and V_2 . The two verbs form one intonation unit:

- (260) * *nguú = m̄* ?à tí kò *khadí-nà* *boksí = mà* ?à *kyãã*.
house = SG.M:I LOC 1SG IPFV push-J box = SG.M:II ACC insert
Attempted: 'I push the box into the house.'

4.5.2.3.2 Vertical plane

The notions of ‘up’ and ‘down’ are mostly a semantic part of monoverbal predicates of varying transitivity value. Ts’ixa has two verbs *//ãã* ‘to ascend’ and *//ũá* ‘to descend’ which, in their underived forms, are not used with other verbs of either transitivity value in a JVC. While *//ãã* ‘to ascend’ is clearly a transitive verb, the data contains transitive as well as intransitive uses of *//ũá* ‘to descend’. In (261)b below, *//ũá* is used as a transitive verb, with the geographical name †Án-!óò functioning as its direct object. In (261)c, however, the locative source ‘tree’ is encoded as oblique, rather than as core argument. More data would be needed to determine whether the transitivity value of *//ũá* is subject to idiolectal variation, or if other factors, such as the semantic nature of the locative argument, are pivotal here.

- (261) a. *ù=sà tí kò //ãã.*
 tree = SG.F.II 1SG IPFV ascend
 ‘I climb up the tree.’
- b. *ʔí.xùà ʔà ky’oà tsé kónò n|gé †Án-!óò=mà ʔà //ũá.*
 LOC.REF LOC exit 1PL.C when SEQ GN = SG.M:II ACC descend
 ‘When we leave there, [we] climb down †An-!oo [a hill near Savuti].’
- c. *ù=sì ʔà tí kò //ũá.*
 tree = SG.F.I LOC 1SG IPFV descend
 ‘I climb down the tree.’

Neither *//ãã* nor *//ũá* was accepted as path modifier in a JVC:

- (262) **ù=sì ʔà tí tè |’eé //ũá.*
 tree = SG.F.I LOC 1SG NEAR.PST fall.down:J descend
 Attempted: ‘I fell down the tree.’

Sometimes, a lexicalised JVC *yaà-tañ* ‘to climb, step up’ is used to encode the notion of ‘ascend’. It is composed of the verbs *yaà* ‘to step’ and *tañ* ‘to get up’, with *V₂* expressing the directional component. However, *tañ* does not productively derive directional JVCs with other motion verbs. Although both verbs are intransitive, they appear to form a transitive predicate when used as a JVC. This may be indicative of the high degree of lexicalisation of this particular JVC.

- (263) *ù=sà tí kò yaà tañ.*
 tree = SG.F.II 1SG IPFV step:J get.up
 ‘I climb the tree.’

Transitive verbs with a direct object other than the locative source or goal may also possess inherent directional semantics, e.g., *khúí* ‘to lift up’:

- (264) *katsí=sà tí kò khúí ?à nyáá.xù ù./óò=m ?à kolóí=sí kà.*
 cat = SG.F:II 1SG:I IPFV lift.up CONJ put.down top = SG.M:I LOC car = SG.F:I POSS
 ‘I lift up the cat and put it down on top of the car.’

A transitive activity verb ‘to take down’ can be derived from *||úá* ‘to descend’ by means of a CAUSATIVE suffix:

- (265) *boksí=mà tí kò kolóí=sí /óò ?à ||úá-xù.*
 box = SG.M:II 1SG IPFV car = SG.F:I top LOC descend-CAUS
 ‘I take the box down from the car.’

In summary, JVCs are not productive means to add directional semantics to motions and activities on the vertical plane. Unlike on the horizontal plane, these are often an inherent lexical part of individual verb stems.

4.5.2.4 Aspect

4.5.2.4.1 Deictic: Itive and ventive

Ts’ixa has grammaticalised two verbs *kúú* ‘to go’ and *síí* ‘to arrive, reach’ into markers for itive and ventive. Both forms originated from the respective verbs acting as V_1 in a JVC, which can still be seen by the application of tonal flip-flop and the juncture morpheme. They may combine with transitive and intransitive verbs, whereas the object of a transitive V_2 or even oblique participants may be entered between V_1 and V_2 . This is impossible with the contiguous JVC types outlined above and may therefore be considered evidence for the grammaticalised state of this particular construction.

Both verbs still exist as independent verbs in modern Ts’ixa:

- (266) a. *Mabábè ?à [Tshiamo]=m síí-nà-tà.*
 GN LOC PN = SG.M:I arrive-J-PST1
 ‘Tshiamo arrived at Mababe.’
- b. *Mabábè ?ò [Tshiamo]=m kúú-a-tà.*
 GN ALL PN = SG.M:I go-J-PST1
 ‘Tshiamo went to Mababe.’

síí ‘arrive’ denotes the physical movement toward a deictic center, which may be openly stated as a locative argument, but more often than not is simply implied by

the context. The messenger in (267)a below leaves the hunting camp and then goes **towards the village** (unstated) to tell the women about the successful hunt:

- (267) a. *thì.ʔà ná = m n/gè kúú̀ thì.ʔà sí-a bòdì ʔé.dzà ʔà.*
 SS DEM.REF = SG.M:I SEQ go SS arrive-J tell 3PL.F:II ACC
 ‘He [the messenger] went and told them.’

In (267)b below, the ALLATIVE adverbial of the first clause is also the deictic center of *sí*.

- (267) b. *thì.ʔà kyxoà = m ʔò kúú̀-kù*
 SS elephant = SG.M:I ALL go-COLL
thì.ʔà sí-a kare /ám tshéè.
 SS arrive-J make.biltong two day
 ‘[The women] went to the elephant and made biltong for two days.’

As grammaticalised V_1 of a JVC, *kúú̀* ‘to go’ contrasts with *sí* in that it refers to a deictic center the subject of the clause is moving away from. In (268)a below, the deictic center of *kúú̀* is openly stated and marked by the DISTAL LOCATIVE / ABLATIVE postposition *ngùà*:

- (268) a. *góè = sì nè kúú̀-a sù túà = sì kà //ʔáé = m ngùà.*
 cattle = SG.F:I SEQ go-J arrive friend = SG.F:I POSS home = sg.m:i ABL
 ‘The cow arrived from her friend’s home.’

In (268)b below, *kúú̀* adds an ABLATIVE adverbial to the main verb *kyíí* ‘to call’:

- (268) b. *guni-khò = //ù khoe = nà ʔà kúú̀-a //ʔáé = m ngùà kyíí-á-há.*
 hunt-AG = PL.M:I person = PL.C:I ACC go-J village = SG.M:I ABL call-J-PST3
 ‘The hunters called the people from the village.’

However, like with *sí*, the deictic center which acts as a point of reference for *kúú̀* does not have to be stated openly:

- (268) c. *thà nè kúú̀-a //ám góè = sà ʔà.*
 SS SEQ go-J beat cattle = SG.F:II ACC
 ‘[She] went [from home] to beat the cow.’

4.5.2.4.2 Succeed

The verb *sí* ‘to arrive, reach’ has another, cross-linguistically more common grammaticalisation (cf. Heine & Kuteva 2002: 46), namely the notion of ‘succeed’ which is mostly found with verbs denoting achievements like /’úú ‘to kill’ or //ádì ‘to

find'. It may, however, also derive achievements from other verb classes (cf. §4.1.2 on lexical verb classes).

- (269) *ná = //ù* *gérè* *sí-a* *kyxoà = mà* *?à* *káá*.
DEM.REF = PL.M:I FUT succeed-J elephant = SG.M:II ACC want
'They will succeed at finding an elephant.'

5 The Adverbial Phrase

Adverbials modify verbs, adjectives and sentences and can roughly be described as characterising a particular state of affairs with regards to location, time and manner. Ts'ixa only has a very small number of non-derived forms which may be interpreted as constituting members of an actual word class “adverb” (§5.1.1). The majority of manner adverbs is derived from adjectives by means of the adverbialising clitic =sè (§5.1.2). A sub-class of derived adverbs is constituted by locative pronouns which, for the most part, are composed of a demonstrative plus a locative formative (§5.1.3). Other adverbials may be bare noun phrases (§5.2.1), locative noun phrases derived with the nominaliser =xùà (§5.2.2), or adpositional phrases (§5.3).

5.1 Adverbs

This section introduces the language’s few non-derived adverbs (§5.1.1), adverbs derived by means of the adverbialising clitic =sè (§5.1.2), and locative adverbs derived from demonstrative pronouns (§5.1.3)

5.1.1 Non-derived adverbs

Ts'ixa has a limited number of elements which may be classified as being part of a word class “adverb”. All of them convey aspectual or modal concepts. With the exception of /úí ‘only’, which goes back to the numeral ‘one’ (cf. §3.3.3.1.4.2), none of them can be traced back to a still existing verbal, nominal or adjectival source.

The adverbs *thũũ* ‘already’ and *xàwèè* ‘still’ preferably appear right before the subject of the clause (cf. 270a-c, 271a). In case of subject elision, they either appear before the TAM-particle (cf. 271b) or after the finite verb (cf. 270d).

thũũ ‘already’

- (270) a. *ʔabá=mà thũũ ʔé.ñ gàro-tà rè kànà xàwèè kò*
 dog=SG.M:II already 3PL.C:I look:J-PST1 Q or still IPFV
ʔé.mà ʔà gàò?
 3SG.M:II ACC look
 ‘Have they already looked at the dog or are they still looking?’

- b. *subàrà=dzà thũũ tí sàmbà-nà-tà.*
 clothes=PL.F:II already 1SG wash-J-PST1
 ‘I have already washed the clothes.’

- c. àà ʔé.dzi kónò **thũũ** gúà = sì k'oró khudì-nà-tà
 come 3PL.F:I when already hyena = SG.F:I eat.meat:J end-J-PST1
 /úá = sà ʔà.
 child = SG.F:II ACC
 'When they came, the hyena had already finished eating the child.'
- d. k'oró-tá **thũũ**
 eat.meat:J-PST1 already
 '[She] has eaten [it] already.'

xàwèè 'still'

- (271) a. **xàwèè** ʔé.sì kò k'óó rè k'oxú = mà ʔà?
 still 3SG.F:I IPFV eat.meat Q meat = SG.M:II ACC
 'Is she still eating the meat?'
- b. **xàwèè** kò k'òò.
 still IPFV eat
 '[She] is still eating.'

Unlike *thũũ* and *xàwèè*, *ʔùè* 'also, as well' always follows the subject:

- (272) a. aqám = sí **ʔùè** mĩ ʔè.
 toad = SG.M:I also DEM.DIST COP
 'The toad is also there.'
- b. ná = sì **ʔùè** kò ʔání = ì ʔà gàò.
 DEM.REF = SG.F:I also IPFV inside = SG.M:I LOC look
 'It is also looking inside.'
- c. g//óé = sì **ʔùè** k'áì-à-hà.
 tortoise = SG.F:I also laugh-J-PST3
 'The tortoise also laughed.'

The data contains two instances of underived adverbs which can be traced back to roots from Tswana: *koòtè* 'maybe' (from Tsw. *kóòteńg*, cf. Snyman et al. 1990: 289) and *thàtà* 'mostly' (from Tsw. *thata* 'very', cf. ibd.: 293). Whether they are used regularly with a wide range of speakers and hence constitute proper loanwords, or whether they are merely the result of linguistic interference has to be considered a topic of future research.

- (273) a. /ú.xù kò **koòtè** gào mĩũ-kàà.
 something IPFV maybe look:J see-WANT
 'Maybe [he] wants to look and see something.'

- b. *ná = m̄* *kà thàtà tsé* *kà kúù = sì*
 DEM.REF = SG.M:I MPO mostly 1PL.C POSS trip = SG.F:I
kò kúù-sì.
 IPFV go-REFL
 ‘In that one [the month], our trips mostly started.’

5.1.2 Adverbials derived with =sè

Ts’ixa has an adverbialiser clitic =sè which derives adverbs and adverbial clauses. This section deals with the derivation of adverbs from adjectives. =sè as a clausal subordination marker is discussed in §8.2.

Adverbs derived by =sè commonly belong to the domain of manner modification:

- (274) a. *g/àà* *kà tí* *gúm-nà-tà = m̄* *thí.ʔà t’úù = sè* *sèè-tà.*
 dagga ATTR 1SG smoke-J-PST1 = SG.M:I SS good = ADV take-IPFV.NEG
 ‘The dagga I smoked was not good.’ (lit. ‘did not take well’)

- b. */ʔeé = m̄* *kò tabù* *nò xarín = dzi* *géré /úù = sè* *àà ʔité.*
 fire = SG.M:I IPFV burn when lion = PL.F:I FUT near = ADV come NEG
 ‘While the fire burns the lions will not come near.’

- c. *kádí = sè* *xóó!*
 hard = ADV hold
 ‘Hold [it] tightly!’

The adverbs most frequently found in the data are /’áñ = sè and xúù = sè, both meaning ‘badly’.

- (275) a. *tsáá = m̄* *xúù = sè* *hurín-nà-hà.*
 broth = SG.M:I bad = ADV smell-J-PST3
 ‘The soup smelled bad.’
- b. *àà-nà-hà* *ná = m̄* */’áñ = sè* *kyíí-nà-hà* *k’òsò.*
 come-J-PST3 DEM.REF = SG.M:I bad = ADV be.sick-J-PST3 although
 ‘[He] came although he was gravely ill.’

Both are used as intensifier adverbs. However, while xúù.sè is always used with a negative connotation (cf. 276a), /’áñ.sè has been completely desemanticised and functions as a generic intensifier (cf. 276b-c):

- (276) a. *xínú* *kùè* *xúù.sè* *//ʔùm-a-tà* *kòndò.*
 snore IPFV INT sleep-J-PST1 when
 ‘He snored loudly while sleeping.’

b. //é /'áñ.sè /áú kyxoà mĩũ-nà-tà.
 1PL.M INT big elephant see-J-PST1
 'We saw a very big elephant.'

c. thì.ʔà n/gè /'áñ.sè yábà.
 SS SEQ INT be.happy
 '[They] were very happy.'

The intensifier *ndeé.sè* is equally derived by the adverbialising clitic. However, unlike in the cases cited above, the source *ndeé* is no longer used as a full verb or adjective.

(277) ní.ʔè *ndeé.sè* sá tsxáà-nà-tà ʔè?
 why INT 2SG.F tired-J-PST1 ?ID
 'Why are you so tired?'

Another example for a lexicalised adverbial with the formative =*sè* is //ʔarí.sè 'usually, commonly'. Again, no occurrences of //ʔarí as a full verb have been recorded:

(278) //ʔarí.sè k'áó.thuú ʔà kò kũũ k'oxú //é kò
 usually early.morning LOC IPFV go animal 1PL.M IPFV
 kámà.
 track
 'An animal that passed early in the morning we usually track.'

Sometimes, =*sè* is preceded by the ASSOCIATIVE suffix -*xà*, which also derives adjectives from verbs (cf. §3.3.2.2.2). On inquiry, speakers agreed that in adverbial contexts, -*xà* may be left out without any change in meaning. Its presence may be a hint to the verbal character of some adjectives.

(279) a. t'ũũ-xà=sè tí kò mĩũ.
 good-ASSOC=ADV 1SG IPFV see
 'I see well.'

b. kái-xà=sè sá kò n/gái.
 nice-ASSOC=ADV 2SG.F IPFV sing
 'You sing nicely.'

5.1.3 Locative adverbs

Locative adverbs (or: locative pronouns) align with other pronominal forms in Ts'ixa in that they involve one of the language's demonstrative bases (cf. §3.3.4). The demonstrative base may either appear on its own or combine with an additional

formative. Like demonstrative pronouns, locative pronouns may be referential or gestural. Gestural pronouns are commonly accompanied by a pointing gesture, which is highly codified with regard to hand shape and arm position (Fehn 2012a). Unlike with demonstrative pronouns, [visibility] is a salient feature in gestural locative adverbials:

Table 61: Locative adverbs with a demonstrative base

	GESTURAL	REFERENTIAL
NEUTRAL	<i>mĩ́(.è)</i> (+ PP)	<i>ĩ́.xùà~ĩ́.xùà~ĩ́.xùà</i> <i>n/á.xùà~ná.xùà</i>
PROX +	<i>nĩ́.è</i> ³⁴	
PROX	<i>ĩ́.xùà</i> (+ PP)	
DIST [+ VISIBLE]	<i>mĩ́.xùà</i> (+ PP)	
DIST [-VISIBLE]	<i>mĩ́.ngùà</i> <i>mĩ́.sìnà</i> ‘beyond’	<i>ĩ́.ngùà~ĩ́.ngùà~ĩ́.ngùà</i> <i>n/á.ngùà~ná.ngùà</i>

Abbreviation: PP = postposition

All locative adverbs – with the notable exception of the bare demonstrative stem *mĩ́* – can be analysed as being derived from one of the following elements:

- A formative *è* of unknown origin³⁵ which combines with the proximal demonstrative *nĩ́* and the distal demonstrative *mĩ́* to derive the meanings ‘right here’ and ‘right there’
- The nominaliser clitic =*xùà* (<*xúá* ‘place’, cf. §3.4.2.2.5 and §5.2.2 below) which derives neutral, proximal and [+visible] adverbs
- The LOCATIVE / ABLATIVE postposition *ngùà* (cf. §5.3.2) which derives the the [-visible] distal *mĩ́.ngùà*
- The LOCATIVE postposition *sìnà* (§5.3.5) which combines with the distal demonstrative *mĩ́* to derive the meaning ‘beyond’

mĩ́.è ‘right there’ and *nĩ́.è* ‘right here’ are only used in strictly predicative contexts. It is notable that they are the only locative predicates which may appear with the

³⁴ It is possible that *nĩ́.è* parallels *mĩ́.è* in having an alternate form *nĩ́*. However, use of the bare demonstrative stem as locative adverb is not attested in the present data.

³⁵ A similar element is found on emphatic proximal demonstratives in West Caprivi Khwe (Kilian-Hatz 2008: 220).

copula *ʔè*. Other locative predicates, including local adverbs, require use of one of the language’s copula verbs (§7.1.2, see, e.g., (282)a below).

- (280) a. *sá kà /úá= sì ní.è ʔè.*
 2SG.F POSS child = SG.F:I right.here COP
 ‘Your daughter is right here (on my lap).’
- b. *sá kà /úá= sì mí.è ʔè.*
 2SG.F POSS child = SG.F:I right.there COP
 ‘Your daughter is right there (playing at the playground).’
- c. *kyxoà= ì mí.è ʔè.*
 elephant = SG.M:I right.there COP
 ‘The elephant is right there.’

Judging from the present data, it seems that the distal demonstrative base *mí* can appear on its own with the locative reading ‘there’. However, like *mí.è*, it is restricted to predicative contexts:

- (281) a. *g/óé= sì mí ʔè.*
 tortoise = SG.F:I there COP
 ‘The tortoise is there.’
- b. *ʔabá= ì mí mí téè-nà.*
 dog = SG.M:I DEM.DIST there be.standing-STAT
 ‘That dog is standing there.’

Other locative adverbs can appear in both predicative (cf. 282a) and attributive (cf. 282b) contexts:

- (282) a. *mí.nguà k’aro= //ù hàànà= sè khoe= //ù kò àà*
 there boy = PL.M:I be.there = ADV person = PL.M:I IPFV come
gòè= dzà kò k’oó= //ùà.
 cattle = PL.F:II IPFV eat = PL.M:II
 ‘While the boys were there, the people came, the ones who eat cattle.’
- b. *tí kà //à.//úú= sì mí.nguà ʔábà-ì-hà.*
 1SG POSS grandparent = SG.F:I there give.birth-PASS-PST3
 ‘My grandmother was born there.’

Only local adverbs derived with the denominal clitic =*xùà* may receive additional marking by one of the language’s locative postpositions:

(283) a. *thà ndú hũ̀-sí mĩ̀.xùà ʔà?*
 and.then what do-REFL there LOC
 ‘Then what happens there?’

b. *nĩ̀=̀m kò hũ̀-sí ʔ.j.xùà |xè.*
 what = SG.M:I IPFV do-REFL here LOC
 ‘What is happening here?’

As shown by the example below, the semantic difference between the appearance of postpositional marking and lack thereof is not always transparent. More research will be needed to tackle the question whether marking is triggered by syntactic or by pragmatic factors:

(284) a. *ʔĩ̀.xùà kò háà-nà-hà //ʔorá=nà xíú.khòè kà.*
 LOC.REF IPFV be.there-J-PST3 big = PL.C:II San ATTR
 ‘[They] stayed there, the ancestors (lit. ‘the big San’).’

b. *tsé ʔĩ̀.xùà |xè nyúú-nà-hà thúú kà.*
 1PL.C LOC.REF LOC stay-J-PST3 past MPO
 ‘We stayed there in the past.’

The form *mĩ̀.sìnà* ‘beyond’ (cf. 285 below) and *mĩ̀.ngùà* ‘there’ (cf. 282 above) are similar in that they both constitute adverbials which derive from the distal demonstrative *mĩ̀* plus a locative postposition. They form an intonation unit and display a high degree of lexicalisation:

(285) a. *tí mĩ̀.sìnà tee-hà.*
 1SG beyond stand:J-PST3
 ‘I stood behind/beyond it.’

b. *[Chobe] [Mababe] kà mĩ̀.sìnà háà.*
 GN GN POSS beyond be.there
 ‘Chobe is beyond Mababe.’

The LOCATIVE / ABLATIVE postposition *ngùà* also combines with the referential demonstratives *n//á~ná* and *ʔĩ̀~ĩ̀~ĩ̀* (cf. §3.3.4.3.2). The derived adverbs contrast with the distance neutral referential forms derived with = *xùà* (cf. 283 above) and appear to be used when the speaker wants to emphasise that the reference concerns a place which is distant from where the conversation is taking place.

(286) a. *ná.ngùà háà.hàà tsé kò nò [...]*
 LOC.REF.DIST be.there:INT 1PL.C IPFV when
 ‘When we had been there for some time [...].’

- b. *n//á.ngùà tsé ʔyũú-á-há.*
 LOC.REF.DIST 1PL.C eat-J-PST3
 ‘There we ate.’
- c. *k’oxú = dzà ʔí.ngùà tsé n//garù-nà-hà.*
 meat = PL.F:II DEM.REF.DIST 1PL.C ?obtain-J-PST3
 ‘We ?obtained meat (from) there.’

5.2 Adverbials not headed by postpositions

This section discusses bare noun phrases (§5.2.1) as well as nominal referents derived with the clitics =xùà and =ŋũ ~ =ŋò (§5.2.2) acting as adverbials of location and time.

5.2.1 Bare noun phrases acting as adverbials of location and time

Bare noun phrases may function as adverbials. In Ts’ixa, this mostly concerns adverbials of time, which preferably appear sentence initially or finally.

- (287) a. *//óbé n//goé, //óbé n//goé ʔyũú-á-há ʔté.*
 three month three month eat-J-PST3 NEG
 ‘For three months - three months! - [it] had not eaten.’
- b. *thì.ʔà sī-a kare /ám tshéè //óbé tshéè.*
 SS arrive-J make.biltong two day three day
 ‘[They] made biltong for two, three days.’
- c. *ní = m̄ hũ-sí-nà-tà ʔúà.ká.tshéè?*
 what = SG.M:I do-REFL-PST1 yesterday
 ‘What happened yesterday?’
- d. *ŋ.tshéè tobóló //é káá-tà.*
 today gun 1PL.M want-IPFV.NEG
 ‘Today we do not want [to use] a gun.’
- e. *ʔé.//ù nyúú thì.ʔà ʔé.//ù xàbè sãá tshéè-//ù.*
 3PL.M:I sit.down SS 3PL.M:I so.that rest day-DIM
 ‘They should sit down, so that they can rest for a little while [a small day].’
- f. *ʔòð.tshéè //óbé = sè //é kũũ-a-hà.*
 day.before.yesterday three = ADV 1PL.M go-J-PST3
 ‘The day before yesterday, the three of us went.’

5.2.2 Adverbials derived with =xùà and =ηù ~ =ηò

Nominals derived with the clitics =xùà and =ηù ~ =ηò (cf. 3.4.2.2.5-6) may act as locative adverbials without requiring support from a locative postposition:

- (288) a. *thì.ʔà [ʔé.sì tè k'oo-é=xùà] kò àà nò*
 SS 3SG.F:I NEAR.PST eat-PASS=LOC IPFV come when
//ũ̀̀=dzì n|gè /'àn.sè k'aé.
 parent=PL.F:I SEQ INT cry
 'When [they] came to where it had been eaten, the mothers cried badly.'
- b. *[ʔyáá=sì kò kúù=xò] //é kò kúù.*
 wind=SG.F:I IPFV go=LOC 1PL.M IPFV go
 'We go where the wind goes.'

=xùà also combines with /úú 'some' to form the lexicalised adverbial /ú.xùà 'sometimes, somewhere'. The preferred position of /ú.xùà is the slot right before the clausal subject.

- (289) a. */ú.xùà tsé kò nyúú-a ky'òà kúù.*
 somewhere 1PL.C IPFV stay-J exit:J go
 'We stay somewhere and then we go away.'
- b. */ú.xùà tsé kò sí-a gaà.*
 somewhere 1PL.C IPFV arrive-J camp
 'We would set up camp somewhere.'
- c. *G/óó.xà=ń ngùà /ú.xùà tsá kò khóé ʔà kúń*
 GN=SG.M:I LOC sometimes 2SG.M IPFV person ACC hear
k'uí kò=sè.
 speak IPFV=ADV
 'At G|oxa-Hill, you can sometimes hear people speaking.'
- d. *ʔʔÁń-!óò ʔà /ú.xùà tsé kò //óbé n||goé séè.*
 GN LOC sometimes 1PL.C IPFV three moon take
 'At ʔʔAn-!oo, we would sometimes take three months.'
- e. */ú.xùà //é kò //óbé=sè kúù /ú.xùà /ám=sè kúù.*
 sometimes 1PL.M IPFV three=ADV go sometimes two=ADV go
 'Sometimes we would go in (groups of) three, sometimes in (pairs of) two.'

=xùà is also the major formative to derive locative adverbials from the language's various demonstrative bases. This is discussed in §5.1.3.

5.3 Postpositional phrases

Ts'ixa employs a variety of postpositions to assign semantic roles to oblique participants. Except for some cross-linguistically common extensions (e.g., ALLATIVE → DATIVE), the postpositions have a fixed semantic profile. Only *ka* may be considered an exception as it has extended its scope from marking locative and temporal participants as well as instruments to marking the theme of semantically ditransitive constructions (cf. §6.3). Although it is not the most frequently used postposition in Ts'ixa, its functions resemble what Güldemann (e.g., 2014) dubs “non-semantic participant flagging” by means of a “multipurpose oblique” marker in the Non-Khoe families Tuu and Kx'a. It will therefore be glossed accordingly ('MPO'), while other postpositions with a more limited semantic scope will be glossed according to the semantic roles they assign. Table 62 below lists all postpositions found in the data. The final column provides reference to the chapters in which the individual postpositions are discussed.

Table 62: Oblique-marking postpositions

POST-POSITION	SEMANTIC FUNCTION	GLOSS	CHAPTER
?à	LOCATIVE (proximal), TEMPORAL	LOC	§5.3.1
ngùà	LOCATIVE (distal, ablative)	LOC, ABL	§5.3.2
?ò	LOCATIVE (allative, distal), DATIVE	ALL, DAT	§5.3.3
/xè	ADESSIVE (allative, 'be near, next to', 'on'), DATIVE-BENEFACTIVE (with [+animate] referents only)	LOC, ALL, DAT	§5.3.4
sìnà	LOCATIVE	LOC	§5.3.5
/xòà	COMITATIVE	COM	§5.3.6
<i>ka</i>	MULTIPURPOSE OBLIQUE (locative, temporal, instrument, theme)	MPO	§5.3.7

Note that the syntactic position of oblique arguments will not be discussed in this chapter (see §6.1.3). The same applies to the marking of noun phrases headed by postpositions (other than the ACCUSATIVE ?à) by a PGN clitic of series 'I' (see §3.2). The tonal behaviour of postpositions does not require a more in-depth treatment, as they are all low-toned, save for the MPO *ka*, which receives a high tone if the preceding noun is unmarked and carries the rising contour MH. In all other environments, it is low-toned (cf. §2.4.3)

In addition to the primary postpositions listed above, Ts'ixa has a set of secondary postpositions, which consist of a locative expression headed by a primary postposition. These “secondary locatives” are discussed in §5.3.8.

5.3.1 The LOCATIVE ?à ('in', 'at')

The LOCATIVE ?à is the postposition most frequently attested in the data. It is not to be confused with the homophonous ACCUSATIVE marker ?à, which displays different syntactic behaviour in co-occurring with PGNs of series 'II', rather than of series 'I' (cf. §6.2.2). Although the two may be etymologically related (see Kilian-Hatz 2008: 55 and §10.3.2.1 on West Caprivi Khwe for a grammaticalisation path that derives both the locative postposition and the accusative marker from a COPULA / PRESENTATIVE ?à), they synchronically differ in Ts'ixa.

?à is the generic locative postposition of Ts'ixa (cf. 290a) and also marks temporal relations (cf. 290b).

(290) a. *kolóí = sí //?áé = ìm ?à téè.*
 car = SG.F:I village = SG.M:I LOC be.standing
 ‘The car stands in the village.’

b. *túú = ìm tuù-tà sáo ?à.*
 rain = SG.M:I rain-IPFV.NEG winter LOC
 ‘It does not rain in winter.’

When contrasted with the LOCATIVE / ABLATIVE *ngùà*, ?à is used to mark proximal locality, i.e., closer to the speaker than another location encoded by *ngùà*:

(291) a. **[Mababe]** ?à tí kò nyúú.
 GN LOC 1SG IPFV stay
 ‘I live in Mababe.’

b. **Máú ngùà** tí kà /úá = ìm kò nyúú.
 GN LOC 1SG POSS child = SG.M:I IPFV stay
 ‘My son lives in Maun.’

A more peripheral function of ?à lies in marking the standard NP in comparative constructions (see “Locational comparatives” in §7.3.2.1.1).

(292) *tí kà nguú = ìm //?orá ?è tí kà //úú = ìm dí = ìm ?à.*
 1SG POSS house = SG.M:I big COP 1SG POSS parent = SG.M:I POSS = SG.M:I LOC
 ‘My house is bigger than my father’s.’

5.3.2 The LOCATIVE / ABLATIVE *ngùà* ('in', 'at', 'from')

ngùà denotes locations far from the speaker (cf. 293), or at least further away than another location marked by *?à* (cf. 291 above).

- (293) //óbé tshéè /úxùà /ám tshéè kare kò dzeè
 three day sometimes two day make.biltong IPFV spend.time
gaà.ʔò = m ngùà hàànà = sè.
 camp = SG.M:I LOC be.there = ADV
 'Three, sometimes two days [they] spent out in the camp, making biltong.'

In addition, it is used to mark ABLATIVE 'from':

- (294) k'òsò khoe = ñ k'uí-nà-hà ?é.m, //ʔorá = m ngùà.
 but person = PL.C:I speak-J-PST3 3SG.M:I big = SG.M:I ABL
 'But the people spoke from him, the big one (talking about a hill).'

5.3.3 The ALLATIVE / DATIVE *ʔò*

The ALLATIVE postposition *ʔò* marks the goal of any movement. This goal may be a location (cf. 295a) or a state of affairs (cf. 295b), i.e., a purpose (see §8.2.5 on purpose clauses):

- (295) a. thà nè g/âi-kù //ʔáé = m ʔò.
 SS SEQ run-COLL home = SG.M:I ALL
 'Then [they] ran home together.'
- b. k'oxú #ũũ ʔò ?é.m kũũ-a-tà.
 meat buy ALL 3SG.M:I go-J-PST1
 'He went to buy meat.'

Vossen (1998: 295) analyses *ʔò* in examples like (295)b above as verbal extension. This analysis is not adopted here because the verb expressing the purpose of the movement is sometimes explicitly nominalised by a PGN as in (295)c below.

- (295) c. thì.ʔà //ʔũũ àà-kù káá = m ʔò /úá = sì mĩ = sì
 SS return:J come-RCPR search = SG.M:I ALL child = SG.F:I DEM.DIST = SG.F:I
káu-a-tà = sà ?à.
 stay.behind-J-PST1 = SG.F:II ACC
 '[They] came back to search that child which had stayed behind.'

ʔò is sometimes found contrasting with the ADESSIVE postposition /xè (cf. §5.3.4 below). It then triggers a distal reading.

- (296) a. *tí kò nguú=ń /xè kúú.*
 1SG IPFV house = SG.M:I ALL go
 ‘I walk towards the (visible) house.’
- b. *tí kò nguú=ń ʔò kúú.*
 1SG IPFV house = SG.M:I ALL go
 ‘I walk to the house.’

When used with *khaà* ‘to give’ and *xarò* ‘to give food’, ʔò marks the recipient, i.e., receives a DATIVE reading:

- (297) *tí gèrè sá ʔò khaà tsòd.*
 1SG FUT 2SG.F DAT give medicine
 ‘I will give medicine to you.’

5.3.4 The ADESSIVE /xè

The postposition /xè has already been shown to express ALLATIVE (cf. 296a above), i.e., the notion of ‘toward’, in particular when contrasting with the postposition ʔò. However, the full range of meanings covered by /xè appears to be more similar to what is sometimes referred to as ADESSIVE case; /xè will therefore be termed an ADESSIVE postposition in this grammar. It may be used with the meanings ‘on’ or ‘on top’, but is also found with the connotation ‘near, next to’. It also marks BENEFACTIVE and DATIVE with [+human] referents, in particular when they are the target of emotion or aggression.

Table 63 provides an overview of the range of meanings covered by /xè:

Table 63: Semantic range of /xè

BENEFACTIVE-DATIVE			
BENEFACTIVE	<i>ǰúá=ń</i> child = SG.M:I	/xè	(buy sth.) ‘for the child’
DATIVE	<i>ǰúá=ń</i> child = SG.M:I	/xè	(sth. happened) ‘to the child’ (be angry) ‘at the child’ (be hard/difficult) ‘for the child’
LOCATIVE-ALLATIVE			
NEXT TO/NEAR	<i>tshaá</i> // <i>xoró=ń</i> water side = SG.M:I	/xè	(stand) ‘next to the lake’
ON	<i>ì-óò=ń</i> tree-top = SG.M:I	/xè	(sit) ‘on the tree’
TOWARDS	<i>nguú=ń</i> house = SG.M:I	/xè	(walk) ‘towards the house’
(PROXIMATIVE)	// <i>ʔóó-xùà</i> die-LOC	/xè	‘close to dying’

In the following, the **BENEFACTIVE / DATIVE** (§5.3.4.1) and **LOCATIVE** (§5.3.4.2) functions of /xè will be discussed.

5.3.4.1 BENEFACTIVE / DATIVE

/xè marks [+human] referents in both texts and elicited phrases. Although this use is rather uncommon, it is found with two speakers and accepted as grammatical by everyone. The role of /xè in this functional range is best described as **BENEFACTIVE** expanding into **DATIVE** territory.

BENEFACTIVE

/xè may be used to mark [+human] beneficiaries:

- (298) a. *tsá ?aná-há rè maá /xè nguú=rí n//àni-nà-hà tà?*
 2SG.M:I know:J-PST3 Q who BEN house=SG.M:I build-J-PST3 COMP
 ‘Do you know whom the house was built for?’
- b. *?yúú /úá=sì /xè tí kò kyúú.*
 food child=SG.F:I BEN 1SG IPFV buy
 ‘I buy food for the child.’

A more common way to express **BENEFACTIVE** is by means of verbal derivation, i.e., with the affix *-mà*, which is attached to the verbstem by means of the juncture morpheme (§4.4.2.1.2):

- (299) */úá=sà ?à tí kò ?yúú kà kyúú-à-mà.*
 child=SG.F:II ACC 1SG IPFV food MPO buy-J-BEN
 ‘I buy food for the child.’

DATIVE

BENEFACTIVE does not cover the entire range of functions /xè exhibits as a postposition marking [+human] referents. It appears that /xè, in this particular domain, is expanding its semantics to cover those of a **DATIVE** marker. In (300)a and (300)b below, /xè functions as a marker of general affectedness:

- (300) a. *tí ?āá-tà maá.thà tí xà khudí.khudì tà tí /xè*
 1SG know-IPFV.NEG how 1SG SUBJ end:CAUS COMPL 1SG DAT
kádí=xùà ?à.
 hard=LOC ACC
 ‘I do not know how to solve this problem.’
 (lit. I do not know how to put an end to where it is hard for me.)

- b. *ní=̀m hũ̀-sí-nà-tà [Peter]=́m /xè?*
 what = SG.M:I do-REFL-J-PST1 PN = SG.M:I DAT
 ‘What happened to Peter?’
- c. *g/óé=sì gyúù kùè //̀porá=sí /xè.*
 tortoise = SG.F:I get.angry IPFV big = SG.F:I DAT
 ‘The tortoise gets angry with the big one.’

Example (300)c above could be interpreted as a metaphorical extension of the ALLATIVE meaning of /xè, i.e., the notion of ‘toward’. B. Heine (p.c.) suggests a causal reading, i.e., ‘because of him’.

5.3.4.2 ADESSIVE / ALLATIVE

Encoding locative arguments is by far the most common function of the postposition /xè in the data. The notions commonly expressed are ‘toward’, ‘next to, past’ and ‘on’, but idiolectal intersections with other local postpositions – especially with the generic locative ?à (§5.3.1) – have been observed.

‘toward’

/xè in Ts’ixa is clearly distinct from the ALLATIVE ?ò (§5.3.3). The basic difference between ?ò and /xè is that with /xè, the goal of the movement needs to be [+ visible], whereas with ?ò, the distance between the deictic center and its goal is completely irrelevant (cf. (296) in §5.3.3 above).

‘next to’, ‘past’

It appears that the notions of ‘next to’ or ‘past’ cannot be conveyed by mere use of /xè. All of the examples found in the data included an additional element to arrive at this particular meaning, like the verb *ngéé* ‘pass’ in (301)a or the noun //xoró ‘side’ in (301)b.

- (301) a. *g/ínì=sì tè xalásí=́m /xè //abuù-à ngèè.*
 fly = SG.F:I NEAR.PST glass = SG.M:I LOC fly-J pass
 ‘The fly flew past the glass.’ (lit. passed next to the glass in a flying manner)
- b. */ám mókòrò tí múù-à-tà tshaá=́m //xoró /xè.*
 two canoe 1SG:I see-J-PST1 water = SG.M:I side LOC
 ‘I saw two canoes next to the river.’

‘on’

Only one example in the data featured /xè expressing ‘on’:

- (302) *dzirá = sí ìì-óò = ì ì/xè nyúú.*
bird = SG.F:I tree-top = SG.M:I LOC be.sitting
‘The bird sits on top of the tree.’

(303) below looks conceptually related, but closer inspection reveals the expression ìì-óò /xè ‘above, upwards’ to derive from the notion of ‘toward’, rather than from ‘on’ as found in (302) above. The direction of the movement is encoded by ìì-óò ‘tree top’, which is also used to convey the notions of ‘sky’ and ‘above’.

- (303) *?e.ì kò xóó ìì-óò /xè.*
3SG.M:I IPFV hold tree-top ALL
‘He holds [the toad] up.’ (lit. towards the tree-top)

PROXIMATIVE (‘be about to’)

In Ts’ixa, PROXIMATIVE is usually expressed by means of the NEAR FUTURE particle *nà* (§4.3.2.3), often combined with the adverbial phrase *n/gè xáé* ‘now’, or a construction in which *-kàà* (< *káá* ‘want’) is used as a PROXIMATIVE suffix (§4.4.4). In addition, it is possible to express the meaning ‘be about to X’ by combining the verb, the locative nominaliser clitic = *xùà* and /xè in the sense of ‘be near, be close to’.

- (304) *n/í.ná.è nè aqám = sí nà //?óó = xùà /xè ?è.*
now SEQ toad = SG.F:I NEAR.FUT die = LOC LOC ?ID
‘The toad is on the verge of dying!’

5.3.5 The LOCATIVE *sìnà*

The postposition *sìnà* has, to my knowledge, no cognate in any Khoe language described so far and is limited to a very specific frame of usage. It preferably appears after the following three lexical elements: *n//áà* ‘other side’, *//xoró* ‘side’ and *múú* ‘there, that’. It is also accepted after *ngyóró* ~ *n/góró* ‘back’, and after *?ád* ‘back of head’. For the most part, *sìnà* is found with so-called “secondary locatives”, i.e., locatives derived from a juxtaposed possessive construction (cf. §5.3.8) in which one of the elements mentioned above acts as head.

- (305) a. *g//óé = sì bóksi = ì n//áà sìnà téè.*
tortoise = SG.F:I box = SG.M:I side LOC be.standing
‘The tortoise is standing next to the box.’ (lit. on the other side of the box)

- b. *gòè = sì nguú = mí //xoró sìnà tée.*
 cattle = SG.F:I house = SG.M:I side LOC be.standing
 ‘The cow stands next to the house.’

The element [si] in *sìnà* might easily be mistaken for the PGN feminine singular. However, PGN marking is not accepted on the head noun of juxtaposed possessive constructions (§3.2.3.2), and *sìnà* actually does occur with a preceding PGN, as shown in (306).

- (306) *xarín = mí nguú = mí kà kú-nyùrù = m̃ sìnà háà.*
 lion = SG.M:I house = SG.M:I POSS LOC-back = SG.M:I LOC be.there
 ‘The lion is behind the house.’

When following the distal demonstrative / adverb *mĩ*, *sìnà* triggers the meaning ‘behind, beyond’.

- (307) [*Chobe*] [*Mababe*] *kà mĩ sìnà háà.*
 Chobe Mababe POSS DEM.DIST LOC be.there
 ‘Chobe is beyond Mababe.’

There certainly is a semantic connection between *sìnà* and the meanings ‘behind, beyond’ and ‘next to, on the side’, but it is hard to pinpoint its exact semantics.

5.3.6 The COMITATIVE /xòà

The COMITATIVE postposition /xòà marks both adjuncts (cf. 308) and obligatory arguments (cf. 309a-c).

- (308) *k’aro = //ù nè kúù gòè = dzi /xòà.*
 boy = PL.M:I SEQ go cattle = SG.F:I COM
 ‘The boys went out with the cattle.’

Addition of an oblique argument marked by /xòà is obligatory after the reciprocal stems //ʔáá-kù ‘fight’, //’áé-kù ‘meet’, and *xã-kù* ‘have sex’:

- (309) a. *thòò //ũũ-xà = dzi n/gè //ʔáá-kù ʔé.sì /xòà.*
 DS parent-ASSOC-PL.F:I SEQ fight-RCPR 3PL.F:I COM
 ‘The mothers (and their associates) fought with it.’
- b. *thà /úú tshéè sũ-a biyé = dzi /xòà //’áé-kù.*
 SS one day arrive-J zebra = PL.F:I COM meet-RCPR
 ‘One day [the hyena] came to meet zebras.’

- c. *ʔé.m kà g//ààkhòè=sì kò táá=//ù |xòà xāi-kù.*
 3SG.M:I POSS wife=SG.F:I IPFV other=PL.M:I COM have.sex-RCPR
 ‘His wife is cheating on him (sleeping with others).’

Sometimes addition of an optional argument marked by *|xòà* is accompanied by the addition of the RECIPROCAL / COLLECTIVE suffix *-kù* to the verb stem (cf. 310 below).

- (310) *biyé=dzi n|gè g//ái-kù |úá=dzi |xòà.*
 zebra=PL.F:I SEQ run-COLL child=PL.F:I COM
 ‘The zebras ran together with the children.’

5.3.7 The multipurpose oblique postposition *ka*

The marker *ka* is the only postposition in Ts’ixa which is tonally underspecified. It is generally low-toned, but receives a high tone if it follows a (non PGN-marked) noun with the rising contour MH. Although this postposition exists throughout the Kalahari Khoe branch as a marker for LOCATIVE and INSTRUMENTAL obliques, it has a somewhat special status in Ts’ixa because it has come to mark the theme of semantically ditransitive clauses (cf. §6.3), thereby adopting the function of a desemanticised MULTIPURPOSE OBLIQUE marker.

(311)a-c illustrate use of *ka* as a marker of instrumental obliques:

- (311) a. *sexái kà kò |ʔuí-é ʔè.*
 spear MPO IPFV kill-PASS ?PASS
 ‘[The steenbok] is killed with a spear.’
- b. *tshaó ʔóó kónò //óé kà //é kò khaí-nà kiù.*
 plain place when knee MPO 1PL.M IPFV crawl-J go
 ‘When there is a flat place, we crawl on the knees.’
- c. *baa=m kà //úù=m kà tí kò g//arà-sí.*
 my.father=SG.M:I POSS parent=SG.M:I MPO 1SG IPFV write-REFL
 ‘I am writing myself with my grandfather’s name.’
 (lit.: ‘I am officially using my grandfather’s name.’)

Emphatic reflexives, i.e., ‘by oneself’ constructions are also marked by *ka* and might be considered conceptually related to the postposition’s instrumental function:

- (312) *|xáà=m ʔà ʔe.dzi nè ky’áà.xù-sì ná=dzi kà.*
 morning=SG.M:I LOC 3PL.F:I SEQ take.out-REFL DEM.REF=PL.F:I MPO
 ‘In the morning the cattle went out by themselves.’

The idiomatic expression *tseè.xù kà* ‘really, actually’ (< ‘truth’+MPO ‘with truth’) should also be interpreted as deriving from *ka* functioning as an instrumental postposition:

- (313) *thì.ʔà n/gè tseè.xù kà kúú.*
 SS SEQ truth MPO go
 ‘[They] actually went.’

Adverbials conveying the meaning ‘in language X’ are commonly marked by *kà*:

- (314) *tí kà dām kà tsòò ʔè.*
 1SG POSS language MPO taboo ID
 ‘In my language, it is taboo.’

ka further marks temporal adjuncts. This function is rare and mostly restricted to what appear to be idiomatic expressions like ‘in the past’ in (315) below:

- (315) *thúú kà tsé kò ɲóó=m ʔà àà nò [...]*
 past MPO 1PL.C IPFV land=SG.M:I LOC come when
 ‘In the past, when we came to this land [...].’

Ts’ixa may use *ka* with the connotation of ‘about’ (topic) after *verba dicendi* and perception verbs, e.g.,

- (316) *tsé kyeé.kyéè nà kúm ʔí kà xúú=sì kà.*
 1PL.C listen-J CONJ hear DEM.REF ATTR thing=SG.F:I MPO
 ‘Let us listen and hear about that thing.’

Finally, *ka* is used to mark the theme of semantically ditransitive constructions. These are discussed more extensively in §6.3; hence, only one example is given here:

- (317) *tsá ʔà tsé géré khaà ʔyúú kà.*
 2SG.M ACC 1PL.C FUT give food MPO
 ‘We will give you food.’

The postposition *ka* is homophonous with the attributor *ka* and the possessive marker *ka*. While it is likely that the possessive marker goes back to the MPO functioning as a locative marker (§3.3.7.2), the historical source of the attributor *ka* remains unclear and cannot convincingly be shown to be diachronically related to the MPO.

5.3.8 Secondary locatives

In addition to the various postpositions introduced in the sections above, Ts'ixa has what I will term “secondary locatives”, i.e., locative expressions headed by a postposition. They most commonly involve a body part or location noun acting as possessee in a possessive construction. The secondary locatives of Ts'ixa, along with their lexical sources and the postpositions they appear with, are given in Table 64 and illustrated in (318).

Table 64: Secondary locatives and their lexical sources

LEXICAL SOURCE	GLOSS	LOCATIVE USE (WITH POSTPOSITION)	MEANING
<i>ngyóró</i>	‘back (of body)’	<i>ngyóró ?à / ngùà</i>	‘behind’
<i>k'áí.ò</i>	‘face’	<i>k'áí. ?ò ?à</i>	‘in front of’
<i> xoró</i>	‘side’	<i> xoró ?à / xè / sìnà</i>	‘next to’
<i>n áà</i>	‘other side’	<i>(mū) n áà sìnà</i>	‘beyond’
<i>?áni</i>	‘interior’	<i>?áni ?à</i>	‘inside, in the middle, below’
<i>?ám</i>	‘surface’	<i>?ám ?à</i>	‘on top’
<i> óò</i>	‘top’	<i> óò ?à</i>	‘on top, above’

(318) a. *xarí = m tí ngyóró ?à hààná.*
 lion = SG.M:I 1SG back LOC be.there:STAT
 ‘The lion is behind me.’ (lit.: The lion is in my back.)

b. *kolóí = sí ||?áé = m ?áni ?à hàà.*
 car = SG.F:I village = SG.M:I inside LOC be.there:STAT
 ‘The car is in the middle of the village.’

c. *dzirá. /ùà = sì ù = sì |óò ngùà nyúú.*
 bird = SG.F:I tree = SG.F:I top LOC be.sitting
 ‘The bird sits on top of the tree.’

6 Grammatical relations

The encoding of grammatical relations is determined by a complex interplay between clausal constituent order and morphological marking. Morphological marking occurs on two levels: through case-sensitive PGN clitics (cf. §3.2) on the one, and through postpositions on the other hand. Postpositions and PGN clitics can, but do not have to co-occur (cf. §3.2.3.1).

One major distinction is made between arguments that may occur without morphological marking of any kind or be marked by a PGN only, and those that always require a postposition. I will follow, e.g., Dixon (2010) and König (2008) in labelling the subject of intransitive predicates S and the subject of transitive predicates A. The direct object of a monotransitive clause will be referred to as O. In the following, S, A and O will be referred to as the language's "core arguments". If S and A receive PGN marking, it is always by a clitic of series 'I' (cf. 319a-b), while O requires a PGN of series 'II' (cf. 319b). PGN-marked arguments therefore display accusative alignment.

- (319) a. S
khoe = ñ *kò* *ts'û*.
 person = SG.M:I IPFV limp
 'The man limps.'
- b. A O
khoe = ñ *kò* *kyxoà-k'oxú = mà* *?à* *k'oo*.
 person = SG.M:I IPFV elephant-meat = SG.M:II ACC eat.meat
 'The man eats elephant meat.'

Ts'ixa has no syntactically ditransitive constructions in the sense of Kittilä (2006) who defines ditransitive predicates as verbs with two arguments coded like the patient of a monotransitive verb (O). Semantically ditransitive constructions always require either theme ('T', cf. 320a) or recipient ('R', cf. 320b) to be marked by a postposition, i.e., one argument must be treated like an "oblique participant" (cf. Dixon 2010).

- (320) a. A R(=O) T(=OBL)
?é.mà *?à* *tí* *gyirà-nà-ta* *?e.ñ* *tí* *?à* *k'oxú* *ká* *#ũũ-à-mà* *tà*.
 3SG.M:II ACC 1SG ask-J-PST1 3SG.M:I 1SG ACC meat MPO buy-J-BEN COMP
 'I asked him to buy meat for me.'

	A		R(=OBL)		T(=O)
b.	<i>tí</i>	<i>géré</i>	<i>sá</i>	<i>ʔò</i>	<i>khaà tsòd.</i>
	1SG	FUT	2SG.F	DAT	give medicine
	'I will give medicine to you.'				

Ts'ixa has a wide assortment of semantically distinct postpositions to mark oblique participants (cf. Table 62 in §5.3 above). Amongst them, the postposition *ka* has undergone a particular kind of semantic bleaching and covers such diverse functions as marking TEMPORAL and LOCATIVE relations, INSTRUMENT as well as the theme of ditransitive constructions (cf. 320a above).

Apart from the locative postposition *ʔà* (§5.3.1), Ts'ixa has yet another postposition of exactly the same form. However, the two do not display the same syntactic behaviour. The LOCATIVE/TEMPORAL postposition *ʔà* is the oblique-marking postposition used most frequently in the present data and behaves like other postpositions in that it may only follow unmarked nouns, or nouns marked by a PGN of series 'I'. The ACCUSATIVE postposition *ʔà*, on the other hand, does not mark oblique participants, but the direct object of the clause. It occurs with unmarked nouns or with nouns marked by a PGN of series 'II' (cf. 319b above). Appearance of the ACCUSATIVE *ʔà* is obligatory in some contexts, but optional in others. *ʔà* interacts strongly with PGN marking and word order, and may therefore be thought of as being determined by pragmatic considerations.

This chapter first provides a general introduction to clausal constituent order in Ts'ixa (§6.1) and then proceeds to discuss the morphological marking of core participants (§6.2) by means of the case-sensitive PGN clitics (§6.2.1) and the ACCUSATIVE postposition *ʔà* (§6.2.2). The problem of semantically ditransitive constructions and their markedness patterns is addressed in §6.3.

6.1 Clausal constituent order

The order of clausal constituents in Ts'ixa is determined by the following three factors:

- information structure
- subordination and coordination
- marking of core participants

Due to the ready availability of morphological marking, constituent order only plays a peripheral role in marking clausal participants. However, as syntactically or pragmatically determined constituent order, in turn, impacts morphological

marking, the interdependency between participant marking and clausal constituent order is a major topic in Ts'ixa grammar.

Constituent order in Ts'ixa is highly flexible. While the constituent order of intransitive clauses (with the exception of certain subordinate clauses, see §6.1.1) is mostly SV, there are three patterns available for transitive clauses: AOV, AVO and OAV, with the latter occurring less frequently than the other two. Although the dominant word order of the Khoe languages is thought to be AOV (cf. Heine 1976, Güldemann 2014), AVO is just as frequent.

It appears that one constituent is always “emphasised” by means of word order, i.e., there is a syntactic position for pragmatically marked constituents. In Ts'ixa, like in West Caprivi Khwe and other Khoe languages, this position is right in front of the subject (cf. also Haacke 2006 on Khoekhoe, Haacke 2010 on Naro for an interpretation of the slot before the subject PGN as focus position). It may be occupied by core as well as by oblique participants and conveys a close pragmatic connection to argument focus. The connection between information structure and constituent order as well as the problems arising from the present analysis are discussed in more depth in the following sections.

This sub-chapter discusses constituent order variation for intransitive (§6.1.1) and transitive (§6.1.2) predicates, as well as the position of oblique participants (§6.1.3). A summary will be provided in §6.1.4.

6.1.1 Constituent order in intransitive clauses

The majority of predicates in Ts'ixa texts are intransitive. A survey of four Ts'ixa texts yielded 55 transitive vs. 114 intransitive predicates, 85 of which displayed the word order pattern SV, e.g.,

(321) a. *thà gòè=sì nè tañ.*
 SS cattle = SG.F:I SEQ stand.up
 ‘Then the cow stood up.’

b. *khoe=sì í=sì tsxãã-hà.*
 girl = SG.F:I DEM.REF = SG.F:I bec.tired:J-PST3
 ‘This girl was tired.’

The same pattern is also found with PASSIVE OR REFLEXIVE / ANTICAUSATIVE constructions:

- (322) a. *tí* //ʔáń-é-tà.
1SG beat-PASS-PST1
'I was beaten.'
- b. *síí=m̄* *hū̀-śí-nà-tà*.
work=SG.M:I do-REFL-J-PST1
'The work has been done.'

Oblique participants may precede (cf. 323a-b), follow (cf. 323b) or come in between subject and verb (cf. 323c):

- (323) a. ***Mǎú*** *ʔò* *ʔé.m̄* *kū̀-á-tà*.
GN ALL 3SG.M:I go-J-PST1
'He went to Maun.'
- b. *ʔé.sì* /xòà *ní=sì* *kú̀* *ʔé.//ù* *kà* //ʔáé=m̄ *ʔò*.
3SG.F:I COM DEM.PROX=SG.F:I go 3PL.M:I POSS village=SG.M:I ALL
'This one was going with her to their village.'
- c. *thà* g//aàkhòè=sì *nè* //xáà *ʔà* *tañ*.
SS woman=SG.F:I SEQ morning LOC stand.up
'Then in the morning, the woman got up.'

The subject of an intransitive clause may be omitted if the speaker thinks it is accessible to the addressee without needing explicit mention. An intransitive clause may hence consist of a finite verb only. Note that in these cases, TAM markers always follow the verb (cf. 324a-b) if it is not preceded by another element (like the DISCOURSE REFERENTIAL / SAME SUBJECT marker *thì.ʔà~thà*, an adverbial, etc.; cf. 324c).

- (324) a. *ʔé.m̄* *kò* *sí* *rè* *kàná* //ʔùm̄ *rè?*
3SG.M:I IPFV work Q or sleep Q
'Is he working or sleeping?'
- b. *sí* *kùè*³⁶
work IPFV
'[He] is working.'
- c. *túá=sì* *ʔò* *kò* *kú̀*.
friend=SG.F:I ALL IPFV go
'[She] was going to her friend.'

³⁶ The IMPERFECTIVE particle *kò* is rarely used post-verbally. In these contexts, speakers generally prefer its allomorph *kùè*. The only exception are subordinate clauses where the TAM is followed by the subordination marker *nò* 'when' or by the adverbialiser =sè. Here, *kò* is preferred again.

In texts, the discourse referential marker *thì.ʔà ~ thà* (§8.1.1.2) is frequently used to indicate subject continuity. While this marker does not require omission of the subject (cf. 324a & 323c above), it has a tendency to co-occur with elliptic subjects (cf. 324d below):

- (324) d. *thà nè mĩt-a:*
 SS SEQ say-J
 ‘Then [he] said.’

If the speaker is not sure whether the addressee managed to keep track of the participants involved, the omitted subject NP may be stated as apposition (cf. 325). It no longer acts as the grammatical subject and does not receive a PGN clitic of series ‘I’ but of series ‘II’ (cf. §6.2). Afterthought constructions connected to reference tracking frequently co-occur with the endophoric demonstrative (ʔ)ĩ ‘the aforementioned’ (§3.3.4.3.2).

- (325) *k’ã.k’ã-sì kò, ʔĩ kà xúù-ʔũ= m̀.*
 smile-REFL IPFV DEM.REF ATTR thing-DIM = SG.M:II
 ‘[He] is smiling to himself, **that (aforementioned) little one.**’

The only instances in the data that have a grammatical subject follow the verb with some regularity are subordinate clauses with the subordination marker (*kó*)nò ‘when’.

- | | | | | | | | |
|---------------------|------------|----------------------------|-----------------|-----------|-------------|-----------|-----------|
| V | S | | | | | | |
| (326) [<i>kare</i> | <i>tsé</i> | <i>kónò</i> _{sub} | <i>kúí.k’èè</i> | <i>kà</i> | <i>khoé</i> | <i>dí</i> | <i>kò</i> |
| cut.meat | 1PL.C | when | sister | ATTR | person | POSS | IPFV |
| <i>ʔxábà = m̀</i> | <i>ʔà</i> | <i>k’oó.</i> | | | | | |
| back = SG.M:II | ACC | eat.meat | | | | | |
- ‘When we cut meat, the sisters of the people eat the back-part.’

More research will be needed to determine whether pragmatic considerations may influence the constituent order of intransitive clauses. In elicitation contexts, fronting of the verb in order to express predicate focus was not accepted by the speakers. However, (327) from a text recorded with one of the community elders suggests that predicate fronting may after all be possible in non-subordinate clauses.

- (327) *pere kàmà ʔé kò.*
 chase:J track 1PL.M IPFV
 ‘We chase and track.’

6.1.2 Constituent order in transitive clauses

Khoe languages are commonly thought to be AOV languages, which sets them apart from the languages surrounding them: Bantu languages of the area as languages of the Kx'a and Tuu families are AVO languages (cf., e.g., Heine 1976, Güldemann 2014). In Ts'ixa, AOV is one of three possible constituent order patterns for transitive verbs. Other possibilities are AVO and OAV, whereas A is frequently omitted if considered accessible in the ongoing discourse. Table 65 breaks down the quantitative relationship between the three patterns in three different contexts: 1) in narrative texts, 2) in elicited sentences, and 3) in two questionnaires on information structure where sentences were elicited within a certain contextual frame. For this overview, only declarative sentences were included, but no difference was made between independent and subordinate clauses.

Table 65: Word order patterns in three different data sets

	# OF TRANSITIVE PREDICATES	AOV	AVO	OAV
1) NARRATIVE TEXTS	37	13	21	3
2) ELICITED SENTENCES	50	34	10	6
3) IS QUESTIONNAIRE	70	31	31	8
TOTAL:	158	80	61	17

While AOV clearly is the dominant constituent order, a closer look reveals that this situation was brought about by the inclusion of a data set that merely consisted of random sentences the speakers were asked to translate. Only in this data set, AOV features more prominently than AVO. In sentences produced within a given discourse context, like in 1) and 3), AOV and AVO are fairly evenly distributed, with AVO being the dominant constituent order in narrative texts. OAV is peripheral in all three data sets and mostly restricted to object focus and 2nd person addresses (see below).

The predominance of AOV in elicitation contexts suggests it is indeed the unmarked constituent order of Ts'ixa. This is also supported by the fact that AOV is generally used in answers to unrestricted Wh-questions, as in (328) below.

- (328) a. *ní = m̃ hĩ-sí-nà-tà?*
 what = SG.M:I do-REFL-J-PST1
 ‘What happened?’

- | | | | |
|----|--|----------------------|------------------------|
| | A | O | V |
| b. | <i>[Maxwell] = m̂</i> | <i>[Joseph] = mà</i> | <i>ʔà //’ám-nà-tà.</i> |
| | PN = SG.M:I | PN = SG.M:II | ACC hit-J-PST1 |
| | ‘Maxwell hit Joseph’ or ‘MAXWELL hit Joseph’ | | |

Kilian-Hatz (2008: 48) found that in West Caprivi Khwe, AOV emphasises the verb while the subject is emphasised by AVO. This does not appear to be true for Ts’ixa. (328)b is also the appropriate answer to the question asked in (328)c; subject focus therefore seems to be encoded by AOV, rather than by AVO.

- (328) c. *maá [Joseph] = mà ʔà //’ám-nà-tà?*
 who PN = SG.M:II ACC hit-J-PST1
 ‘Who hit Joseph?’

AOV is also the preferred pattern for nominal objects not marked by a PGN clitic (cf. 329a), and the only word order pattern accepted if both A and O are unmarked nouns (cf. 329b). In the latter case, constituent order actually serves to assign participant roles along a neutral alignment pattern.

- | | | | |
|----------|---------------------------------|-----------------|------------------|
| | A | O | V |
| (329) a. | <i>xúúkhòè = //ù kò</i> | <i>//xóo-hà</i> | <i>k’oxú hũ.</i> |
| | San = PL.M:I | IPFV dry-J-PST3 | meat do |
| | ‘The San (m.) make dried meat.’ | | |

- | | | | |
|----|-------------------------|----------------|-------------|
| | A | O | V |
| b. | <i>!xaò</i> | <i>kò ʔabá</i> | <i>péè.</i> |
| | hippo | IPFV dog | chase |
| | ‘A hippo chases a dog.’ | | |

As AVO is not the pattern used for subject focus (cf. 328 above), one might wonder what its pragmatic implications are. One possible interpretation links AVO to objects already known within the discourse. In (330) below, *Peter* is introduced in the question (cf. 330a) and then appears post-verbally as an anaphoric pronoun in (330)b:

- (330) a. *ní = m̂ hũ-sí-nà-tà [Peter] = m̂ |xè?*
 what = SG.M:I do-REFL-J-PST1 PN = SG.M:I DAT
 ‘What happened to Peter?’
- b. *[Mary] = sì //’ám-nà-tà ʔé.mà ʔà !ʔãã = sì ʔà.*
 PN = SG.F:I hit-J-PST1 3SG.M:II ACC face = SG.F:I LOC
 ‘Mary hit him in the face.’

If post-verbal O were indeed linked to the discourse salience of their referents, one would expect objects represented by an anaphoric pronoun to display a preference for AVO. Although more data is needed, a preliminary analysis of the available material appears to confirm this hypothesis:

Table 66: Distribution of AOV and AVO with nominal and pronominal objects

		AOV	AVO
1) Narrative texts	nominal O	11	16
	pronominal O	2	5
2) Information structure questionnaire	nominal O	26	20
	pronominal O	5	11

AVO is also found in conjoined clauses in which O of the first clause acts as S of the second clause. Here, the preferred pattern in the first clause is AVO whereas A is frequently omitted in the second clause. In (331)a, the discourse referential marker *thòdò* indicates change of subject.

- (331) a. [g/aàkhòè = sî kyí-nà-hà k'áàkhòè]_{cl1} [thòdò nè àà ?à
 woman = SG.F:I call-J-PST3 man DS SEQ come CONJ
 k'oró khudì k'oxú = mà ?à]_{cl2}
 eat.meat:J end meat = SG.M:II ACC
 'The woman called a man and then [he] came and ate all the meat.'

The same applies if the second clause is not an independent but a subordinate clause:

- (331) b. [tí k'oo-tà k'oxú = mà ?à]_{MATRIX} [ts'oró-há ?yòdò]_{SUB}
 1SG eat-IPFV.NEG meat = SG.M:II ACC rot:J-PST3 because
 'I don't eat the meat because it is rotten.'

OAV is the least frequent constituent order pattern in transitive clauses (cf. Table 65 above). It is first and foremost used to express object focus, as exemplified by (332):

- (332) a. O A V
 ní = mà ?à ?é.ñ gére àà.kà?
 what = SG.M:II ACC 3PL.C:I FUT bring
 'What are they going to bring?'
- b. O A V
 kyxoà-k'oxú ?é.ñ gére àà.kà.
 elephant-meat 3PL.C:I FUT bring
 'They will bring ELEPHANT MEAT.'

It should be noted here that the above analysis is not exhaustive. The data also includes examples for AVO and OAV that do not necessarily fit into one of the categories outlined above. Even the patterns observed are merely tendencies and not rules, i.e., a sentence that does not conform to them could still be considered correct. Especially AVO displays a rather broad range of usage, and there is reason to assume that some post-verbal objects are in fact appositions, which were added by the speaker as afterthoughts for the purpose of reference tracking. Another factor to consider, namely the impact of language contact on word order patterns, is discussed further in §10.3.4.

6.1.3 The syntactic position of oblique participants

In this grammar, oblique participants are all participants other than S, A and O. They are usually marked by a postposition (cf. §5.3), the only exception being some adverbials of time like *ntshéè* ‘today’, or *?úà.kà.tshéè* ‘tomorrow’. The position of oblique participants is not fixed. They may appear clause-initially, clause-finally, or immediately before the verb. Of 93 oblique participants surveyed, only 2 were found in a different position, i.e., between TAM-marker and object. A quantitative overview is provided in Table 67:

Table 67: Position of oblique participants in transitive and intransitive clauses (for glosses, see Table 62)

POSTPOSITION	GLOSS	TOTAL	INITIAL	PREVERBAL	FINAL	OTHER
<i>?à</i>	LOC	31	5	16	9	1
<i>ngùà</i>	LOC, ABL	14	4	3	7	
<i>?ò</i>	ALL, DAT	19	2	11	6	
<i>/xè</i>	ALL, DAT	5		1	4	
<i>/xòà</i>	COM	11	3	4	4	
<i>Ka</i>	MPO	13		7	5	1
		93	14	42	35	2

As can be seen from this overview, the preferred position for oblique participants is immediately before the verb or clause-finally. It is hard to determine which is the pragmatically unmarked position for oblique participants, especially if more than one adverbial is involved. In an attempt to elicit the unmarked position of oblique participants in intransitive clauses, an unrestricted Wh-question yielded a pre-verbal position with the [+animate] participant preceding the place name (cf. 336). There are, however, numerous exceptions to this tendency.

- (336) a. *ní=̀m hũ-sí-nà-tà?*
 what = SG.M:I do-REFL-J-PST1
 ‘What happened?’
- b. *[Maxwell]=̀m [Joseph]=̀m /xòà [Khwai] ngùà //’áé-kù-nà-tà.*
 PN = SG.M:I PN = SG.M:I COM GN LOC meet-RCPR-J-PST1
 ‘Maxwell met Joseph at Khwai.’

Adverbials of location and time tend to be placed clause-initially or clause-finally.

- (337) a. *[Mababe] ?ò ?é.m kò kũũ.*
 GN ALL 3SG.M:I IPFV go
 ‘He goes to Mababe.’
- b. *?é.m kũũ-à-?ò [Khwai] ?ò.*
 3SG.M:I go-J-PST2 GN ALL
 ‘He went to Khwai.’
- c. *[Sunday] kà ?é.m sũ-tí-nà-hà.*
 Sunday MPO 3SG.M:I work-FREQ-J-PST3
 ‘He often worked on Sunday.’
- d. *tsé ky’òà-hà tshéè ?ũyè.*
 1PL.C go.out:J-PST3 day all
 ‘We went out every/all day.’

If a clause occurs with both an adverbial of location and an adverbial of time, the locative adverbial tends to be placed clause-initially, while the temporal adverbial is placed clause-finally (cf. 338a); however, exceptions to this tendency are not uncommon (cf. 338b).

- | | | | | |
|----------|-------------------------------|-----------------|-------------------|----------------------|
| | LOC | | | TEMP |
| (338) a. | <i>[Khwai] ?ò</i> | <i>?é.m</i> | <i>kũũ-a-hà</i> | <i>?úà.kà.tshéè.</i> |
| | GN ALL | 3SG.M:I | go-J-PST3 | yesterday |
| | ‘Yesterday he went to Khwai.’ | | | |
| | | LOC | | TEMP |
| b. | <i>?é.m</i> | <i>kũũ-a-hà</i> | <i>[Khwai] ?ò</i> | <i>?úà.kà.tshéè.</i> |
| | 3SG.M:I | go-J-PST3 | GN ALL | yesterday |
| | ‘Yesterday he went to Khwai.’ | | | |

The clause-initial position may also encode emphasis or focus, especially with oblique participants that are not temporal adverbials.

- (339) a. *maá |xòà sà ||'áé-kù-nà-tà [Khwai] ngùà?*
 who COM 2SG.F meet-RCPR-J-PST1 GN LOC
 'Whom did you meet at Khwai?'
- b. *[Joseph] = m̄ |xòà tí ||'áé-kù-nà-tà.*
 PN = SG.M:I COM 1SG meet-RCPR-J-PST1
 'I met JOSEPH.'
- c. *maá.xùà sá ?é.m̄ |xòà ||'áé-kù-nà-tà?*
 where 2SG.F 3SG.M:I COM meet-RCPR-J-PST1
 'Where did you meet him?'
- d. *[Khwai] ngùà tí ?é.m̄ |xòà ||'áé-kù-nà-tà.*
 GN LOC 1SG 3SG.M:I COM meet-RCPR-J-PST1
 'I met him AT KHWAI.'

As has already been remarked, the unmarked position of oblique participants (other than adverbials of location and time) in transitive clauses is hard to determine, as it varies even in elicitation contexts making use of unrestricted Wh-questions. The same accounts for the arguments of semantically ditransitive predicates (cf. 340 below; R = recipient, T = theme).

- (340) a. *ní = mà ?à tsá hũ-à-tà?*
 what = SG.M:II ACC 2SG.M do-J-PST1
 'What did you do?'
- R (= O) T (= OBL) A V
- b. *Polítíkí = mà ?à |?ádò kà tí khaà-nà-tà.*
 PN = SG.M:II ACC money MPO 1SG give-J-PST1
 'I gave money to Politics.'
- R (= OBL) A T (= O) V
- c. *tí kà taxù = sì ?ò tí |?ádò ?à khaà-nà-tà.*
 1SG MPO sibling.e = SG.F:I ALL 1SG money ACC give-J-PST1
 'I gave money to my elder sister.'
- T (= OBL) R (= O)
- d. *kuú = m̄ mĩ = m̄ kà tí kà kũ.k'èè = sà ?à*
 dress = SG.M:I DEM.DIST = SG.M:I MPO 1SG GEN sister = SG.F:II ACC
 A V
tí kyũ-à-mà-nà-tà.
 1SG buy-J-BEN-J-PST1
 'I bought that dress for my sister.' (Situation: You went to town and came back with a dress for your sister, which you are now showing to me.)

In 14 instances of the sentence ‘I gave money to Politics’ as answer to an unrestricted Wh-question, recorded with 4 speakers, 9 displayed the word order Recipient-Theme-Agent-Verb, no matter whether Recipient, Theme or both were encoded as oblique. The variation in marking the arguments of semantically ditransitive constructions is discussed in more detail in §6.3.

6.1.4 Clausal constituent order – a summary

Despite the extreme flexibility Ts’ixa displays in the ordering of clausal constituents, some generalisations can be made.

1) Information structural properties are the main trigger for word order variation

The clause-initial slot is clearly linked to argument focus in Ts’ixa, leading to patterns like OAV and OBL-AOV/VO. Haacke made similar observations on the slot before the subject PGN in Khoekhoe (2006) and Naro (2010), and one may assume that Kilian-Hatz’s (2008, 2009) conclusions about “emphasis” convey a similar phenomenon in West Caprivi Khwe. So while argument focus is not the sole motivation for fronting in Ts’ixa, it certainly is the most transparent one, and one found throughout the Khoe family. The information structural properties of the slot after the verb are less obvious; there appears to be a link with appositional constructions, and possibly with new vs. known information, but more text data would be needed to form a conclusive hypothesis on this syntactic position. Right dislocation of topical elements – if the appropriate analysis – would have to be considered a cross-linguistically rare phenomenon (cf. Gundel’s (1988: 229) “given before new” principle). Table 68 below summarises the information structural implications of the three main constituent order patterns:

Table 68: Information structural properties of constituent order patterns

PATTERN	IMPLICATION
AOV	thetic, subject focus
AVO	known object (?), afterthought
OAV	object focus, direct address (2 nd person pronoun)

2) Marking of grammatical relations is an extremely peripheral function of clausal constituent order

Grammatical relations are only encoded by means of word order if both A and O are unmarked nouns. This case appears to be extremely rare and had to be triggered in

elicitation because no example featured in my text data. If it occurs, the only constituent order accepted is AOV. Variation is accepted if A is a pronoun and O an unmarked noun. However, text data reveals that unmarked objects generally prefer to appear before rather than after the verb.

3) Ts'ixa displays features indicative of a verb-final language in contact with a verb-medial language

OV languages tend to have postpositions and display a modifier-head order, while VO languages tend to display the opposite properties (cf., e.g., Heine 1976). Ts'ixa, like other Khoe languages, has postpositions and places adjectives, possessive attributes and adverbs before their heads. However, things get a little blurry if one considers that relative clauses and adnominal demonstratives tend to follow their heads (§3.3 on nominal modification). The latter, along with the high frequency of VO predicates in the data, might imply contact influence (cf. §10.3.4).

6.2. Morphological marking of core participants

Ts'ixa heavily relies on morphological marking in encoding grammatical relations. While constituent order may assign roles to core participants, this strategy is extremely limited and only occurs if both S and O are not marked by a PGN clitic; in this case, clausal constituent order in transitive clauses is restricted to AOV (§6.1.4 above). If a nominal referent acting as core participant is marked by a PGN clitic, its syntactic role is determined by the PGN. PGN clitics in Ts'ixa display accusative alignment in singular and plural, but also define relations within the noun phrase in marking dependent nouns and nominal modifiers. The case marking function of the PGN clitics will be discussed in §6.2.1.

In addition, Ts'ixa has a postposition ?à that occurs with the clausal object only and is therefore interpreted as 'ACCUSATIVE'. It is obligatory in some contexts, and optional in others; ?à interacts heavily with information structural properties and the word order patterns that arise from them (cf. Table 68 in §6.1.4 above). It further interacts with PGN marking, displaying differing functional properties, depending on whether its host is marked or unmarked. The accusative marker ?à will be discussed in §6.2.2.

6.2.1 Case-marking properties of PGN clitics

Blake (2004: 1) defines case as follows:

Case is a system of marking dependent nouns for the type of relationship they bear to their heads. Traditionally the term refers to inflectional marking, and, typically, case marks the

relationship of a noun to a verb at the clause level or of a noun to a preposition, postposition or another noun at the phrase level.

Case is a phenomenon to be found in languages all over the world. An overview of case systems found in African languages is provided by König (2008) who adds to Blake's definition:

Inflectional systems are expressed by affixes, tone, accent shift, or root reduction; adpositional systems are included only insofar as they encode core participants such as S, A, and O. [...] languages which fulfil this definition will be treated as having grammaticalized case. (König 2008: 5)

Ts'ixa clearly fulfils these requirements, following a case-marking pattern that matches König's definition of an accusative system:

In an accusative system (accusative in short), S and A are treated the same and simultaneously different than O (in short: S=A≠O). [...] The case which covers S and A in an accusative system is called nominative and the case covering O the accusative. (König 2008:7)

As has already been established, Ts'ixa distinguishes two paradigms of PGN clitics (in singular and plural), which indicate a case distinction; nominative is encoded by series 'I', and accusative by series 'II' (cf. Table 36, §3.1). So definite noun phrases as well as third person pronouns in singular or plural are always morphologically marked: the subject / agent is marked for nominative case, and the object for accusative case, whether it receives additional marking by the postposition ?à (cf. 341a-b) or not (cf. 341c).

	NOM	ACC			
(341) a.	<i>g//aàkhòè = sì</i>	<i>[Peter] = mà</i>	<i>?à</i>	<i>//'áń-nà-tà.</i>	
	woman = SG.F:I	PN = SG.M:II	ACC	hit-J-PST1	
	'The woman hit Peter.'				

	NOM		ACC		
b.	<i>mbutáá = ń</i>	<i>kò</i>	<i>g//ai-a-xù</i>	<i>g//óé = sà</i>	<i>?à.</i>
	hare = SG.M:I	IPFV	run-J-COMPL	tortoise = SG.F:II	ACC
	'The hare outruns the tortoise.'				

	ACC	NOM			
c.	<i>buká = sà</i>	<i>ń</i>	<i>kò</i>	<i>balà.</i>	
	book = SG.F:II	1SG:I	IPFV	read	
	'I read the book.'				

S of an intransitive predication and A of a transitive predication are both marked for nominative (cf. 342a-b), thereby fulfilling the requirement for accusative alignment, as O is marked differently (namely with a PGN of series ‘II’):

- (342) a. *ʔé.sì kà k’áàkhòè=m̂ k’aa-tà.*
 3SG.F:I POSS husband = SG.M:I drink:J-PST1.
 ‘Her husband has been drinking.’

- b. *[Arnold]=m̂ khoe=mà ʔà ||’ám-nà-tà.*
 PN = SG.M:I person = SG.M:II ACC beat-J-PST1.
 ‘Arnold beat the man.’

The PGN clitics used for nominative case, i.e., series ‘I’, are formally identical with the ones used to mark oblique participants headed by a postposition other than the accusative *ʔà* (cf. 343a-b), dependent nouns in adonominal possessive constructions with and without the particle *ka* (cf. 343c), and agreeing nominal modifiers preceding their heads (cf. 343d):

- (343) a. *|ʔúá=dzà ʔâyè ʔé.sì kà k’hoó=m̂ ʔà nyáá.xù.*
 bone = PL.F:II all 3SG.F:I POSS skin = SG.M:I LOC put
 ‘Put all the bones on her skin.’
- b. *klinikí=m̂ ʔò tí kò kúú.*
 clinic = SG.M:I ALL 1SG IPFV go
 ‘I go to the clinic.’
- c. *|úá=sì |aa kò thúú.*
 child = SG.F:I stomach IPFV hurt
 ‘The child’s stomach hurts.’
- d. *||é |áú=m̂ k’ará=mà ʔà guni-nà-hà.*
 1PL.M big = SG.M:I impala = SG.M:II ACC hunt-J-PST3
 ‘We hunted the big impala.’

The PGN clitics used for accusative case, i.e., series ‘II’, also mark appositions (cf. 344a) and predicate noun phrases in identificational and copular constructions (cf. 344b).

- (344) a. *tsxáà n|gè, biyé-/ùà kà |úú=sà.*
 bec.tired SEQ zebra-child ATTR one.of = SG.F:II
 ‘[It] got tired, one of the zebra fillies.’

- b. *ʔé.sì khoe = sà ʔè.*
 3SG.F:I person = SG.F:II COP
 ‘She is a woman.’

Case marking is not morphologically overt with noun phrases marked for dual (cf. 345a) and personal pronouns other than those of the third person singular and plural (cf. 345b).

- (345) a. *n||góá = sèrà tí mûù-à-tà.*
 hill = DU.F 1SG see-J-PST1
 ‘I see the two (female) hills.’

- b. *Sá tí kò yábà.*
 2SG.F 1SG IPFV love
 ‘I love you.’

Although none of the core arguments in (345)a is marked for case, deviation from AOV – OAV in this case – is still allowed because one argument is a pronoun. As the correct reading of the sentence is attainable from world knowledge and context, no additional marking is needed.

An overview of the functional properties of the PGNs and personal pronouns of the 3rd person, singular and plural, is provided in Table 69 below:

Table 69: Functional properties of series ‘I’ and ‘II’

	SERIES ‘I’	SERIES ‘II’ (“-a” series)
CLAUSE-LEVEL	<ul style="list-style-type: none"> • nominative (S, A) 	<ul style="list-style-type: none"> • accusative (O) • appositions • predicate nouns
NP-LEVEL	<ul style="list-style-type: none"> • NPs headed by a postposition • dependent nouns • nominal modifiers 	

6.2.2 The ACCUSATIVE postposition ʔà

Ts’ixa does not obligatorily mark the direct object of a transitive predication. As has been shown in §6.1.2, an object not marked by a case-sensitive PGN clitic may be marked by its syntactic position (AOV) only, or be identifiable as O only by means of context (cf. §6.1.4). The same applies to personal pronouns other than those of the third person singular and plural and dual PGNs, none of which display a case distinction. The fact that Ts’ixa has a postposition ʔà which is restricted to direct objects and may hence be interpreted as an ACCUSATIVE marker operating

independently from PGN marking might suggest that objects not marked by a case-sensitive PGN would simply receive *ʔà*-marking to indicate their object status. However, this is not the case. For example, *xarín* ‘lion’ is the direct object in (346) below, yet it remains morphologically unmarked. As a generic, it is neither marked by a PGN (cf. §3.2.3.1.1), nor does it occur with the postposition *ʔà*.

- (346) *ù.óó=mè ʔò tí kò kúú=sè tí xarín mūú-à-tà.*
 bush = SG.M:I ALL 1SG IPFV go = ADV 1SG lion see-J-PST1
 ‘When I went to the bush, I saw lion.’

ʔà rarely co-occurs with indefinite objects, but obligatorily appears with PGN-marked objects in AOV³⁷ and AVO predications (cf. 347). Note that unlike the other postpositions, the accusative *ʔà* follows nouns marked by a PGN of series ‘II’.

- (347) a. *ʔé.ù xarín=sérà ʔà //áo-hà.*
 3PL.M:I lion = DU.F ACC shoot:J-PST3
 ‘They shot the (two) lionesses.’
- b. *g//aàkhòè=dzì khudí-káxù-nà-tà k’oxú=mà ʔà.*
 woman = PL.F:I end-CAUS-J-PST1 meat = SG.M:II ACC
 ‘The women finished the meat.’

In OAV clauses, *ʔà*-marking is optional with definite objects:

- (348) a. *xarín=mà ʔé.ù /’úú-á-tá.*
 lion = SG.M:II 3PL.M kill-J-PST1
 ‘They killed the lion.’
- b. *xarín=mà ʔà ʔé.ù /’úú-á-tá.*
 lion = SG.M:II ACC 3PL.M kill-J-PST1
 ‘They killed the lion (and not something else).’

As the translations provided for (348)a and (348)b imply, optional *ʔà*-marking with definite, clause initial objects causes a change in meaning. The applies to *ʔà*-marking with indefinite objects, no matter whether they occur clause-initially (cf. 349) or in their preferred position right before the verb (cf. 350). *ʔà*-marking with indefinite objects occurring clause-finally was not accepted.

³⁷ In AOV predications, the glottal stop is sometimes omitted, causing the final *-a* of the PGN or pronoun to be lengthened.

- (349) a. *ní=mà ʔé.ʔù /'ũú-á-ʔó?*
 what = SG.M:II 3PL.M:I kill-J-PST2
 ‘What did they kill?’
- b. *k'ará ʔé.ʔù /'ũú-á-ʔó.*
 impala 3PL.M:I kill-J-PST2
 ‘They killed an impala.’
- c. *k'ará ʔà ʔé.ʔù /'ũú-á-ʔó.*
 impala ACC 3PL.M:I kill-J-PST2
 ‘They killed an impala (and not something else).’

- (350) a. *!xaò kò ʔabá péè.*
 hippo IPFV dog chase
 ‘A hippo is chasing a dog.’
- b. *!xaò kò ʔabá ʔà péè.*
 hippo IPFV dog ACC chase
 ‘A hippo is chasing a dog (and not something else).’

From the examples above, we may infer that ʔà-marking triggers a reading as contrastive focus when appearing with PGN-marked fronted Os, and with unmarked Os in AOV or OAV predications. This hypothesis gains further support from (351) below, provided by a speaker when asked to create an exchange where ʔà-marking contrasts with lack thereof:

- (351) a. *maá ʔà tsá //’ám-nà-tà?*
 who ACC 2SG.M beat-J-PST1
 ‘Whom did you beat?’
- b. *k'aro=mà tí //’ám-nà-tà.*
 boy = SG.M:II 1SG beat-J-PST1
 ‘I beat the boy.’
- c. *ʔabá=mà tsá //’ám-nà-tà?*
 dog = SG.M:II 2SG.M beat-J-PST1
 ‘Did you beat the dog?’
- d. *ʔĩ, ʔabá=mà tí //’ám-nà-tà ʔíté, k'aro=mà ʔà tí //’ám-nà-tà.*
 no dog = SG.M:II 1SG beat-J-PST1 NEG boy = SG.M:II ACC 1SG beat-J-PST1
 ‘No, I did not beat the dog, I beat the boy.’

We may summarise the pragmatic implications of ʔà-marking as follows:

Table 70: Pragmatic implications of marking with the postposition ?à on definite and indefinite NPs

	O = NP[+ PGN] or PERSONAL PRONOUN	O = NP[-PGN]
A O ?à V	Obligatory	contrastive focus
A V O ?à	obligatory	---
O ?à A V	contrastive focus	contrastive focus

Looking at Table 70 above, two observations can be made:

1. ?à obligatorily occurs when it is not actually needed to identify the argument's syntactic role as O, namely when the noun phrase is already marked by a case-sensitive PGN of series 'II'.
2. If ?à co-occurs with syntactically marked arguments (OAV, AOV for indefinite nouns), it triggers a reading as contrastive focus.

It therefore appears that the main function of the postposition ?à lies not solely with the encoding of a particular grammatical relation; instead, the postposition interacts with certain properties of the direct object, such as definiteness and focality. This behaviour is strikingly similar to that of object markers in languages displaying a phenomenon known as “differential object marking” (cf. Bossong 1985, 1991; Aissen 2003; Dimmendaal 2010, and other authors cited in their works). A substantial part of all accusative languages only marks a subset of their objects, while morphological marking of the remainder is either optional or does not occur at all.

Following Aissen (2003), it is mainly pragmatic characteristics of the object that determine whether it is obligatorily or optionally case marked, or whether case marking does not occur at all. Aissen (2003: 437) considers prominence the main criterion for a direct object being case marked. Prominence is assessed by means of an animacy- and a definiteness-scale:

a) Animacy:

Human > Animate > Inanimate

b) Definiteness:

Personal pronoun > Proper name > Definite noun phrase > Indefinite specific noun phrase > Non-specific noun phrase

The higher in prominence a direct object is, the more likely it is to be morphologically case-marked. Following a similar train of thought, Næss (2007, quoted in Dimmendaal 2009) states that the accusative should be regarded as a marker of affectedness of objects, while the latter may be influenced by definiteness

and / or animacy. In terms of animacy, she argues that the affectedness of a particular situation is altered by the significance it has for the affected participant. Hence, a transitive situation is most significant for human beings, and least significant for inanimate items.

These observations hold for Ts'ixa insofar as the objects most likely to be marked by *?à* are the ones marked by a PGN clitic, i.e., [+specific] nouns. *?à* marking is incompatible with argument focus, leading to a semantic shift to contrastive focus which appears to be its main function with unmarked, i.e., [-specific] nouns. Only indefinite [+human] nouns appear to be marked with some degree of regularity without the speaker aiming for a contrastive reading:

(352) *G|óóxà = m̃ ngùà /ú.xùà tsá kò khoe ?à kúrín k'uí kò = sè.*
 GN = SG.M:I LOC sometimes 2SG.M IPFV person ACC hear speak IPFV = ADV
 'At G|oxa-Hill, you can sometimes hear people speak.'

This would be in line with the animacy scale presented above, which ranks [+human] nouns highest.

In this grammar, I will continue to gloss *?à* as ACCUSATIVE because of its limitation to this particular grammatical role. The above should however be seen as proof that the function of *?à* is not primarily a case marking one, but of a pragmatic nature which – like the constituent order patterns it interacts with – requires further research.

6.3 Semantically ditransitive constructions

Ts'ixa does not have verbs that accept three arguments as part of their valency frame. Only one argument at a time may be treated like O of a transitive predication, the other has to be encoded as oblique – either by the ALLATIVE / DATIVE postposition *?ð*, or by the MULTIPURPOSE OBLIQUE postposition *ka*. I will therefore speak of semantically ditransitive constructions, to avoid the implication that Ts'ixa has ditransitive verbs in the sense of Kittilä (2006), i.e., verbs with two arguments coded like the object (O) of a monotransitive verb.³⁸

Malchukov et al. (2010) approach the subject from a predominantly semantic perspective in defining a ditransitive construction as having an agent (A), a recipient argument (R) and a theme argument (T); however, they state that all of those should

³⁸ The dataset of one single speaker included double object constructions. They were understood by other speakers, but deemed “not proper Ts'ixa”. As both Shua and Khwe do have “real” ditransitive constructions, contact interference may be assumed.

be part of the valency frame of the verb, which cannot be shown convincingly for Ts'ixa.

In the following, I argue that Ts'ixa – like Ju (König & Heine 2010) – has no real ditransitives, as either recipient or theme has to be coded as oblique. In some cases – despite of obvious preferences, especially with the verb *khaà* ‘to give’ – it is even left to the speaker whether they want to code recipient or theme as oblique. In (353)a, the recipient of the verb *khaà* ‘to give’ is coded like the object of a transitive predication, while the theme ‘money’ is coded as oblique. In (353)b, the recipient of the same verb is coded as oblique, while the theme is treated like O.

	R (=O)		T (=OBL)	S	V
(353) a.	[Arnold] = <i>mà</i>	<i>ʔà</i>	<i>/ʔáò</i>	<i>kà tí</i>	<i>khaà-nà-tà.</i>
	PN = SG.M:II	ACC	money	MPO 1SG	give-J-PST1
	‘I gave money to Arnold.’				

	R (=OBL)		S	T (=O)	V
b.	<i>tí kà taxù = sì</i>	<i>ʔò</i>	<i>tí</i>	<i>/ʔáò ʔà</i>	<i>khaà-nà-tà.</i>
	1SG POSS e.sibling = SG.F:I	DAT	1SG	money ACC	give-J-PST1
	‘I gave money to my elder sister.’				

Note that different postpositions are used, depending on whether the recipient or the theme is treated as oblique. The only oblique-marking postposition accepted for the theme of semantically ditransitive predicates is the MULTIPURPOSE OBLIQUE marker *ka* (cf. §5.3.7), while the recipient receives the ALLATIVE-DATIVE postposition *ʔò*. With the verbs *xarò* ‘to give food’ and *khaà* ‘to give’, it is generally preferred to treat the recipient as oblique. However, it is still common to find the theme marked by *ka*. According to the speakers, there is no semantic difference between one or the other solution; whether this is actually true requires further research.

Other verbs cross-linguistically linked to ditransitivity, like ‘tell’, ‘sell’, ‘buy’, ‘teach’, etc. all require one argument – in most cases the theme – to be marked as oblique; however, recipients and beneficiaries frequently allow marking by either *ʔò* or */xè* as well.

(354) a.	<i>dué = sí</i>	<i>tí</i>	<i>ʔà</i>	<i>storí</i>	<i>ká</i>	<i>boódi-nà-hã.</i>
	mother = SG.F:I	1SG	ACC	story	MPO	tell-J-PST3
	‘Mother told me a story.’					

b.	<i>tsá</i>	<i>k'aro = //ù</i>	<i>kò</i>	<i>kyxoà-k'oxú</i>	<i>ká</i>	<i>kyũù-xù.</i>
	2SG.M	boy = PL.M:I	IPFV	elephant-meat	MPO	buy-CAUS
	‘The boys are selling elephant meat to you.’					

If the valency frame of a transitive verb is increased by means of the BENEFACTIVE suffix *-mà* (cf. §4.4.2.1.2), the beneficiary is treated as O while the theme is obligatorily marked by *ka*:

(355) *tsá kò àà nò ?ùì ?à tsá ?à tí gérè k'oxú ká*
 2SG.M IPFV come when evening LOC 2SG.M ACC 1SG FUT meat MPO
n/góa-mà.
 cook:J-BEN
 'When you come in the evening I will cook for you.'

An alternative benefactive construction without the suffix *-mà* is introduced in §5.3.4.1. In this construction type, the beneficiary is treated as oblique and marked by the postposition */xè*, while the theme is coded as O.

Avoiding the question whether semantically ditransitive constructions in Ts'ixa meet the definition of Malchukov et al. (2010), one may still observe that for the most part, they display what is called “secundative alignment”, i.e., the recipient is treated like O of a transitive predication, and differently from the theme. In the WALS-sample (Haspelmath 2013), indirect object constructions (i.e., T is treated like O and differently from R) and double object constructions outnumber what is termed “secondary object constructions” on a cross-linguistic scale. What is even more striking is that according to the sample, most cases of secondary objects concern verb-indexing and not adpositional marking. Thus, Ts'ixa, like Ju, constitutes the cross-linguistically rare case of a language in which secondary objects align with adpositional marking.

7 Special clause types

This chapter discusses clauses with non-verbal predicates (§7.1) and addresses two semantic clause types: predicative possession (§7.2) and comparative constructions (§7.3).

7.1 Non-verbal predication

Morphosyntactically, Ts'ixa distinguishes between two types of non-verbal predication. These correspond to what Stassen (1997, 2013a) calls “nominal predication” and “locational predication”. In his terms, Ts'ixa therefore constitutes a “split-language”, i.e., the two types are encoded differently. The distinction between nominal and locational predication roughly corresponds to what in other semantic classifications of non-verbal predication (e.g., Hengenveld 1990, 1992) has been described as “specificational” and “predicational” clauses.

Under “nominal predication” (§7.1.1), I subsume EQUATIONAL and PRESENTATIVE constructions of the type ‘X_{ARG} Y_{PRED} COP’, i.e., ‘NP_X is Y’. The predicate Y may be a noun phrase or an adjective. This type of copula construction has a monovalent subtype which I call IDENTIFICATIONAL. It corresponds to the schema ‘X_{ARG} ID’, i.e., ‘It is NP_X’. The standard COPULA / IDENTIFICATION marker of Ts'ixa is *ʔè*. *ʔè* has a counterpart *nàà* which is only used with referents that have left the realm of physical existence by the time of speech.

Under “locational predication” (§7.1.2), I subsume EXISTENTIAL and LOCATIONAL constructions of the type ‘X_{ARG} Y_{PRED} EXIST’, i.e., ‘NP_X is at Y’. The predicate Y may be a locative adverb or an adverbial phrase headed by a locative postposition. The corresponding monovalent subtype is ‘X_{ARG} EXIST’, i.e., ‘There is NP_X’. Ts'ixa uses a defective verb *háà* ‘to be there’ as standard marker of (locative) existence. In addition, both animate and non-animate referents may be located in space by means of three defective state verbs: *tî~têè* ‘to be standing’, *nyîî* ‘to be sitting’ and *||îî~||óè* ‘to be lying’. All four verbs do not combine with TAM markers other than the CURRENT RELEVANCE / STATIVE suffix *-nà* (cf. §4.3.2.6).

7.1.1 Nominal predication

To encode nominal predication, Ts'ixa has two grammatical formatives *ʔè* and *nàà*. They are used in monovalent and bivalent constructions according to the following schema:

- a) monovalent: $X_{\text{ARG}} \text{?è} / \text{nàà}$ → identificational use
 b) bivalent: $X_{\text{ARG}} Y_{\text{PRED}} \text{?è} / \text{nàà}$ → copular use

The argument (X_{ARG}) of monovalent predications and the predicate (Y_{PRED}) of bivalent predications may be either a noun or an adjective (cf. §3.3.2.3.1).

In interrogative sentences, X_{ARG} is frequently postposed (cf., e.g., 357a below), whereas Y_{PRED} is an interrogative pronoun (cf. §3.3.5), i.e.,

- bⁱ) bivalent-interrogative: $Y_{\text{PRED}} \text{?è} / \text{nàà} X_{\text{ARG}}$

?è and nàà are glossed according to the valency of the predication. In bivalent predications, they are glossed as ‘COP’ (copula). In monovalent predications, they are glossed as ‘ID’ (identification marker):³⁹

- (356) a. $\text{góè} = \text{sì}$ $\text{múí} = \text{sí}$ tí túà ?è bivalent (‘COP’)
 cattle = SG.F:I DEM.DIST = SG.F:I 1SG friend COP
 ‘That cow is my friend.’
- b. buká ?è monovalent (‘ID’)
 book ID
 ‘It is a book.’
- (357) a. $\text{ní} = \text{xù}$ nàà múí? bivalent (‘COP’)
 what = NMZ COP DEM.DIST
 ‘What was that?’ (referring to the remains of a house)
- b. nguú nàà monovalent (‘ID’)
 house ID
 ‘It was a house.’ (after house has collapsed)

[+specific] X_{ARG} of monovalent predications (cf. 358a) and Y_{PRED} of bivalent predications (cf. 358b) always receive a PGN of series ‘II’ (cf. §3.1.3):

- (358) a. tí kà $\text{nguú} = \text{mà}$?è .
 1SG POSS house = SG.M:II ID
 ‘It is my house.’

³⁹ This distinction is not generally made (cf., e.g., Kilian-Hatz 2008 on West Caprivi Khwe), but deemed important by the present author, as the term “copula” here is understood as linking two elements, an argument and a predicate, which is clearly not the case in $X_{\text{ARG}} \text{?è} / \text{nàà}$ clauses (T. Güldemann, p.c.).

- b. *ʔé.sì khoe = sà ʔè.*
 3SG.F:I person = SG.F:II COP
 ‘She is a woman.’

X_{ARG} of bivalent predications receives a PGN of series ‘I’:

- (359) a. *dóà = ì k’oxú ʔè.*
 kudu = SG.M:I animal COP
 ‘The kudu is an animal.’

- b. *ʔé.ì Ts’ixà ʔè.*
 3SG.M:I Ts’ixa COP
 ‘He is a Ts’ixa.’

ʔè is restricted to time-stable predications (cf. Givón 1979, 1984), i.e., predications that neither indicate nor imply a change of state. It does not make reference to any specific time frame:

- (360) a. *maá //ám-a-tà n//á khoe = mà ʔà?*
 who beat-J-PST1 DEM.REF man = SG.M:II ACC
 ‘Who hit that man?’

- b. *[Maxwell] = mà ʔè.*
 PN = SG.M:II ID
 ‘It was Maxwell.’

- (361) a. *ní = mà ʔà ʔé.//ù géré n//àni?*
 what = SG.M:II ACC 3PL.M:I FUT build
 ‘What are they going to build?’

- b. *nguú ʔè.*
 house ID
 ‘A house.’

nàà does not imply a change of state either, but is found with nominal predicates that have left the realm of physical existence. It therefore implies termination of existence of X_{ARG} of monovalent and Y_{PRED} of bivalent constructions and does not constitute an explicit past tense IDENTIFICATION MARKER / COPULA. Compare (362) below:

- (362) a. *maá /’ũũ-á-há khoe = mà ʔà?*
 who kill-J-PST3 person = SG.M:II ACC
 ‘Who killed the man?’

- b. *g//aàkhòè = sà ?è.*
 wife = SG.F:II ID
 ‘It was the wife.’ (if wife is still alive)
- c. *g//aàkhòè = sà nàà.*
 wife = SG.F:II ID
 ‘It was the wife.’ (if wife has passed away)

Tense in Ts’ixa only exists in the domain of verbal morphology. Hence, if explicit reference to a future or past time frame is intended, the predicate has to be verbalised. In this case, verbalisation does not involve inflectional marking, but simple use with a TAM particle or suffix which may locate a state of affairs on a timeline.

- (363) a. *níí xúù gèrè ní ?è?*
 DEM.PROX thing FUT what COP
 ‘What will this thing be?’
- b. *nguú gèrè.*
 house FUT
 ‘It will be a house.’

Use of nominal predicates with the GENERIC / REMOTE PAST suffix *-hã~-ha* is particularly frequent in texts and might be considered a narrative device to introduce the story’s main participants. In this context, the TAM suffix always appears with the default juncture /*nà*/ and the verbalised nouns never display flip-flop (cf. §2.4.1).

- (364) a. *khoe-nà-hà kòrè gòè xàè.*
 person-J-PST3 CONJ cattle CONJ
 ‘There was a person and a cow.’
- b. *gúà-nà-hà.*
 hyena-J-PST3
 ‘There was a hyena.’

When used in verbal predications, adjectives correspond to the accomplishment type (cf. §4.1.2 on semantic verb classes). Predicative adjectives in verbal predications are discussed in §3.3.2.3.2.

Nominal predication is negated by means of the standard negation particle *?íté* which then replaces the IDENTIFICATION MARKER / COPULA *?è*:

- (365) a. *ʔé.sà ʔíté, mǐ́=sà ʔè.*
 3SG.F:II NEG DEM.DIST=SG.F:II ID
 ‘Not her, that one.’
- b. *g//aà-kyxoà ʔíté, k’ád-kyxoà ʔè.*
 female-elephant NEG male-elephant ID
 ‘It is not a female elephant, it is a male elephant.’
- c. *sá tí tǔ̀à ʔíté.*
 2SG.F 1SG friend NEG
 ‘You (f.) are not my friend.’
- d. *mbúru=m noxá ʔíté.*
 monitor=SG.M:I snake NEG
 ‘The monitor lizard is not a snake.’

Whether the same negation pattern is used with *nàà* cannot be answered at this point.

7.1.2 Locational predication

7.1.2.1 Monovalent existential:

The physical existence of an indefinite referent in an unstated location is expressed by means of the existential marker *hàà̀nà* which on its part derives from the copula verb *háá̀* ‘to be there’ plus the STATIVE / CURRENT RELEVANCE suffix *-nà̀*:

X_{ARG} *hàà̀nà* ‘There is X.’

hàà̀nà has a negative counterpart, the negative existential marker *hàà̀tè*:

X_{ARG} *hàà̀tè* ‘There is no X.’

In elicited examples of monovalent existentials, the argument of *hàà̀nà* / *hàà̀tè* is always an inanimate noun phrase not marked by a PGN clitic (cf. 366 below). However, one type of equative construction suggests that *hàà̀nà* does not generally suppress PGN marking; this is discussed in §7.3.1.

- (366) a. *tshaá hàà̀nà.*
 water be.there:STAT
 ‘There is water.’
- b. *nguú hàà̀nà.*
 house be.there:STAT
 ‘There is a house.’

- c. *tshaá hààtè.*
 water be.there:NEG
 ‘There is no water.’

Like any argument of a transitive or intransitive verb, the argument of *hààná / hààtè* may be postposed. It then functions as an apposition and receives a PGN of series ‘II’ (cf. §6.2.1), i.e.,

- (367) *ntshéè hààtè tíú = mà.*
 today be.there:NEG rain = SG.M:II
 ‘Today there is no rain.’

Speakers referring to themselves as “Danisi”⁴⁰ sometimes use *háà* instead of *hààná*:

- (368) *guí háà.*
 snare be.there
 ‘There is a snare.’

The majority of speakers uses *háà* in bivalent predications only (see below).

7.1.2.2 Bivalent existential / locational:

Ts’ixa uses both the copula verb *háà* ‘to be there’ and the more strongly grammaticalised existential marker *hààná* (see §7.1.2.1 above) in bivalent locational predications. The unmarked locational predication therefore looks as follows:

$X_{\text{ARG}} Y_{\text{PRED}} \text{háà} / \text{hààná}$

Both variants are negated by the formative *hààtè*, which has already been established as a negative existential marker in monovalent predications (see §7.1.2.1 above):

$X_{\text{ARG}} Y_{\text{PRED}} \text{hààtè}$

Y_{PRED} in both affirmative and negative predications may be a locative adverb (cf. §5.1.3) or a locative adverbial headed by one of the four postpositions given in the table below:

⁴⁰ The Shua dialect cluster has a defective copula verb *háà* functioning as existential marker in monovalent predications. The negated counterpart of *háà* is *hàm* throughout the Shua cluster. *hàm* is never used in Ts’ixa; the negative counterpart of the monovalent existential *háà* is still *hààtè*.

Table 71: Postpositions heading locative adverbials in locational predications

POSTPOSITION	ENGLISH TRANSLATION	ADDITIONAL SEMANTIC PARAMETERS	FURTHER DISCUSSION IN:
ʔà	‘in, at, on’, (generic, proximal)	[-distal], generic	§5.3.1
ngùà	‘at’ (distal)	[+ distal]	§5.3.2
/xè	‘on’, ‘above’		§5.3.4
sìnà	‘beyond’	[-visible]	§5.3.5

Like oblique participants in verbal predications (§6.1.3), Y_{PRED} may be placed in the clause initial slot, i.e., before X_{ARG} . There are no examples in which it follows the copula verb, but more data will be needed to further explore this possibility. (369)a below illustrates the unmarked locational predication, whereas (369)b displays a preposed adverbial. Locative adverbs are preferably placed in the slot before the argument noun phrase, as shown by (369)c:

- (369) a. *n//á khoe = ì nguú = ì ʔáni ʔà háá.*
 DEM.REF man = SG.M:I house = SG.M:I inside LOC be.there
 ‘That man is inside the house.’
- b. *nguú = ì ʔà tí hààtè, nguú = ì ngùà tí háá.*
 house = SG.M:I LOC 1SG be.there:NEG house = SG.M:I LOC 1SG be.there
 ‘I am not inside the house, I am at the house.’
- c. *mǐxúà tí kà nguú = ì hàànà.*
 there 1SG POSS house = SG.M:I be.there:STAT
 ‘There is my house.’

The data did not yield enough material to establish a semantic difference between predications with *háá* and those with *hàànà*. However, since both variants occur in texts recorded with one and the same speaker, future research might reveal a pattern. A quantitative assessment of their distribution in one text is given in Table 72 below.

Apart from the generic *háá~hàànà* ‘to be there’ discussed above, Ts’ixa uses three additional copula verbs in locational predications: *tî~tè* ‘to be standing’, *nyû* ‘to be sitting’, and *//û~//óè* ‘to be lying’. The latter two are defective, i.e., they are never used as full verbs and may not combine with any TAM marker except the *STATIVE / CURRENT RELEVANCE* suffix *-nà* (§4.3.2.6). When used in locational predications, they serve the spatial positioning of referents in what Kuteva (1999: 198ff) terms a “figure-based” approach. Unlike the generic *háá~hàànà*, these copular verbs make

special reference to the position of the nominal referent here referred to as X_{ARG} . Their semantics thereby extend from animate to inanimate referents along the following pattern:

- ‘to be standing’ → upright; vertical
 ‘to be lying’ → horizontal
 ‘to be sitting’ → too small to be considered horizontal or vertical; shapeless

This distribution matches the use of the very same copula verbs in West Caprivi Khwe as described by Kilian-Hatz (2002: 319).

Locational predications with defective posture verbs used as what Stassen (e.g., 2013a) refers to as “locational support verbs” follow the same syntactic patterns that have been described for the generic existential marker *háá~háànà*. They appear with and without the *STATIVE / CURRENT RELEVANCE* suffix *-nà*, but the data does not allow for any decisive statements about their contextual distribution. It could however be observed that they tend to appear more frequently with the *STATIVE / CURRENT RELEVANCE* suffix when used with animates.

Below, examples for all posture verbs both with and without the suffix *-nà* are provided:

tî ~ tî-nà

- (370) a. *xalási = m̄ sitl̄ló = sí kà ngyóró = m̄ sinà tî.*
 glass = SG.M:I chair = SG.F:I POSS back = SG.M:I LOC be.standing
 ‘The glass is standing behind the chair.’
- b. *góè = sì ?é. m̄ k’áí. ?ò nguà tî-nà.*
 cattle = SG.F:I 3SG.M:I front LOC be.standing-STAT
 ‘The cow is standing in front of him.’

||óè (||úú) ~ ||úú-nà

- (371) a. *n||á khoe = m̄ nguú = m̄ ?à ||óè.*
 DEM.REF man = SG.M:I house = SG.M:I LOC be.lying
 ‘That man is laid up in the house.’
- b. *noxá ká mĩxúà ||úú-nà = m̄ kò /’úú.*
 snake ATTR there be.lying-STAT = SG.M:I IPFV kill
 ‘The snake which is lying there kills.’

nyúú ~ nyúú-nà

(372) a. dzirá-|úú=sì ù=sì /óò=m ?à nyúú.
 vulture-DIM = SG.F:I tree = SG.F:I top = SG.M:I LOC be.sitting
 ‘The bird is sitting on top of the tree.’

b. /úú=n nguú=m k’ái. ?ò ngùà nyúú-nà.
 child = PL.C:I house = SG.M:I front LOC be.sitting-STAT
 ‘The children are sitting in front of the house.’

The posture verbs are never used in negative contexts which require use of the generic negative existential marker *hààtè*.

Table 72 below details the quantitative distribution of all copula verbs with and without the STATIVE / CURRENT RELEVANCE suffix *-nà* in a text with a particular high frequency of locational predications. The most frequently used copula verbs are the generic *háà* ‘to be there’ and the horizontal *túú~téè* ‘to be standing’. The frequency of copula verbs with the suffix *-nà* is more than double, compared to unmarked stems:

Table 72: Quantitative distribution of copula verbs with and without the STATIVE / CURRENT RELEVANCE suffix in a text with a high frequency of locational predications

	STEM ONLY	+ <i>-nà</i> ‘STAT’
<i>háà</i>	3	9
<i>túú~téè</i>	4	10
<i>nyúú</i>	2	4
<i> úú~ óè</i>	3	2
	12	25

7.2 Predicative possession

Ts’ixa expresses predicative possession in a way that corresponds to Stassen’s (2013b) “adjectivalization” pattern, i.e., the possessee noun phrase is treated as an adjectival predicate. The possessee noun phrase is adjectivalised by means of the associative⁴¹ suffix *-xà* which is generally used to derive adjectives from nouns (cf. §3.3.2.2.2.1) and attaches to the final element of the noun phrase. Unfortunately, the data only contains examples of unmarked nouns acting as possesses. More research is needed to ascertain whether nouns with a PGN marker may be adjectivalised as well.

⁴¹ Encoding of predicative possession through associative or comitative strategies is dominant in sub-Saharan Africa (cf. Stassen 2013) and also found in West Caprivi Khwe (cf. Kilian-Hatz 2008).

- (373) a. *tí tshaá-xà ?è.*
 1SG water-ASSOC COP
 ‘I have water.’
- b. *tí taxù-xà ?è.*
 1SG e.sibling-ASSOC COP
 ‘I have an elder brother.’
- c. *tí kolóí-xà tíkà Namíbià ?ò tí xà tè kúù.*
 1SG car-ASSOC if GN ALL 1SG SUBJ NEAR.PST go
 ‘If I had a car, I would go to Namibia.’

The construction is negated by means of the generic negation morpheme *?íté*:

- (374) a. *tí tshaá-xà ?íté.*
 1SG water-ASSOC NEG
 ‘I have no water.’
- b. *tí xà kyūù ?íté kolóí tí |?ádò-xà ?íté ?òò.*
 1SG SUBJ buy NEG car 1SG blood-ASSOC NEG because
 ‘I can’t buy a car because I have no money.’

As predicative possession is encoded by what is syntactically a bivalent nominal predication with an adjectival copula complement, no temporal reference is possible (cf. §7.1.1). To make reference to a specific timeframe in the past or future, the derived adjectival predicate has to be verbalised through use with a TAM marker:

- (375) *tí gérè kolóí-xà nò tí gérè Namíbià ?ò kúù.*
 1SG FUT car-ASSOC when 1SG FUT GN ALL go
 ‘When I have a car, I will go to Namibia.’

7.3 Comparative constructions

In the literature (cf., e.g., Stassen 1984, 1985, 2013c), comparative constructions are defined as constructions which have “the semantic function of assigning a graded (i.e. non-identical) position on a predicative scale to two (possibly complex) objects” (Stassen 1984: 145). As the term “non-identical” already implies, Stassen’s definition refers to the “comparison of inequality”, i.e., to the encoding of relative and absolute superiority.

In this section, I will discuss comparative constructions in the sense of Stassen, but also include equative and similitive constructions, i.e., all constructions in which two objects are graded on a semantic scale, whether they are identical or not. I will

apply the terminology suggested by Stassen (1984, 1985, 2013c, cf. also Leyew & Heine 2003) and refer to the object of comparison as “comparée NP” and to the parameter of comparison as “standard NP”. The predicate which forms the semantic scale along which the objects of comparison are placed may be a noun phrase, an adjective, or a verb.

§7.3.1 discusses equative and similitive constructions, as they both involve use of the defective verb *khòná* ‘to be like’. §7.3.2 deals with the “comparison of inequality”, i.e., with relative (§7.3.2.1) and absolute (§7.3.2.2) superlatives. As will be seen, Ts’ixa employs the two comparative strategies prevalent on the African continent (cf. Stassen 2013c), namely “locational comparatives” and “exceed comparatives” (or “action schema”, cf. Leyew & Heine 2003).

7.3.1 Equative / Similitive

Ts’ixa expresses equative and similitive in the same way. The construction employed is composed of two predications: One is always nonverbal and consists of the standard NP which functions as argument of a defective verb, the EQUATIVE / SIMILATIVE marker *khòná* ‘be like’. The other predication may either be verbal or nonverbal and consists of the comparée NP and the predicate. The predicate may be an adjective or a verb. In a special type of comparative construction which encodes the semantic pattern ‘NP is NP’, the comparée NP functions as argument of the EXISTENTIAL marker *hààná* ‘to be there’.

The predication involving the standard NP and the EQUATIVE / SIMILATIVE marker *khòná* ‘be like’ usually disrupts the second predication by immediately preceding the predicative adjective or verb. It may however be placed before the comparée NP if special emphasis on the standard NP is intended by the speaker.

Below, syntactic templates for all three types of EQUATIVE / SIMILATIVE constructions in Ts’ixa are given.

predicate = adjective

[NP_{COMPAREE} [NP_{STANDARD} *khòná*] PRED ?è]
 or [NP_{STANDARD} *khòná*] [NP_{COMPAREE} PRED ?è]

predicate = verb

[NP_{COMPAREE} [NP_{STANDARD} *khòná*] PRED]
 or [NP_{STANDARD} *khòná*] [NP_{COMPAREE} PRED]

‘NP is NP’

[NP_{COMPAREE} [NP_{STANDARD} *khònà*] *hàànà*]
 or [NP_{STANDARD} *khònà*] [NP_{COMPAREE} *hàànà*]

Whether an equative or a similitive reading is intended depends on the context and on the nature of the standard NP:

(376) a. *tí kà taxù = m̃ tí khònà |áú ?è.*
 1SG POSS e.sibling = SG.M:I 1SG be.like big COP
 ‘My elder brother is as tall as me.’

b. *tí kà taxù = m̃ nguú khònà |áú ?è.*
 1SG POSS e.sibling = SG.M:I house be.like big COP
 ‘My elder brother is as tall as a house.’

As is generally the case with nominal predications involving the IDENTIFICATION MARKER / COPULA *?è*, these constructions do not make reference to a specific time frame. If temporal reference is intended, the predicate has to be verbalised, e.g.,

(376) c. *tí kà nguú = m̃ tsá dí = m̃ khònà |áú-nà-hà.*
 1SG POSS house = SG.M:I 2SG.M POSS = SG.M:I be.like bec.big-J-PST3
 ‘My house was as big as yours.’

To convey the similitive meaning ‘look like’, an adjective *?ì* with the approximate semantics ‘identical, of the same looks’ is used. It appears to be restricted to this particular type of similitive construction and speakers found it hard to pinpoint its exact meaning. Like any adjective, it may be verbalised if reference to a specific temporal frame is intended.

(377) a. *ù = sí m̃ú = sí |éé khònà ?ì ?è.*
 tree = SG.F:I DEM.DIST = SG.F:I wildebeest be.like look.like ID
 ‘That tree looks like a wildebeest.’

b. *tí kà taxù = m̃ khònà tí ?ì ?íté.*
 1SG POSS e.sibling = SG.M:I be.like 1SG look.like NEG
 ‘My brother does not look like me.’

c. *dué = sí tí khònà ?ì-nà-hà.*
 my.mother = SG.F:I 1SG be.like look.like-J-PST3
 ‘My mother looked like me.’

Verbal predicates in similitive constructions display a completely regular behaviour in terms of TAM compatibility and negation patterns:

- (378) a. *k'ará* *ʃqáí* *khòná* *ʃí-tà.*
 impala springbok be.like call-IPFV.NEG
 'An impala does not call like a springbok.'
- b. *wótò* *khòná* *dzirá.ǀùǎ=sì* *mǐí=sí* *kò* *k'ǎ.*
 hornbill be.like bird = SG.F:I DEM.DIST = SG.F IPFV cry
 'That bird cries like a hornbill.'
- c. *tsǎǎ=m̂* *dobé* *khòná* *ǁam̂-à-tà.*
 soup = SG.M:I salt be.like perceive-J-PST1
 'The soup tasted of (lit. like) salt.'
- d. *khoe=sì* *mǐí=sí* *kyxoà* *khòná* *kúú-nà-hà.*
 woman = SG.F:I DEM.DIST = SG.F:I elephant be.like go-J-PST3
 'That woman walked like an elephant.'

In a special type of EQUATIVE / SIMILATIVE construction, two noun phrases are equated. No reference is made to the nature of their similarity, i.e., there is no adjectival or verbal predicate acting as parameter for comparison. Unlike in generic monovalent existential predications (cf. §7.1.2.1), no negated form *hààtè* appears; instead, the standard negation particle *ʔíté* is used (cf. 379b). If temporal reference is intended, the verb *háǎ* 'to be there' is used as a full verb (cf. 379c).

- (379) a. *baa=m̂* *khòná* *tí* *hààná.*
 my.feather = SG.M:I be.like 1SG be.there
 'My father is like me.'
- b. *ts'íxà=m̂* *ǁam̂.dzirá.khòè=m̂* *khòná* *hààná* *ʔíté.*
 Ts'ixa = PL.C:I Bugakhwe = PL.C:I be.like be.there NEG
 'The Ts'ixa are not like the Bugakhwe.'
- c. *tí* *kà* *ǁúú=m̂* *tí* *túú* *khòná* *hana-hà.*
 1SG POSS parent = SG.M:I 1SG friend be.like be.there:J-PST3
 'My father was like a friend to me (lit. was like my friend).'

7.3.2 Comparison of inequality

This section discusses constructions in which comparee NP and standard NP are assigned non-identical positions on a predicative scale. Semantically, Ts'ixa distinguishes between relative (§7.3.2.1) and absolute (§7.3.2.2) superlatives, whereas there does not appear to be codified way to express the latter.

7.3.2.1 Relative superlatives

Ts'ixa uses two cross-linguistically attested strategies to express unequal comparative relations. Both belong to Stassen's (1985) "fixed-case" subtype, i.e., the case of the standard NP does not depend on the case of the comparee NP. The "locational" strategy (§7.3.2.1.1) is used with adjectival predicates only, whereas the "exceed" strategy (§7.3.2.1.2) is found with both adjectival and verbal predicates

7.3.2.1.1 Locational comparatives

If the predicate is an adjective, the locational schema (cf. Stassen 1985, 2013c; Leyew & Heine 2003) applies, i.e., the standard NP is treated like a locative adverbial. Among the subtypes identified for locational comparatives ('at' vs. 'to' vs. 'from', cf. Stassen 1985, 2013c), Ts'ixa adheres to the 'at'-type, i.e., the standard NP is encoded as a location which is at rest. In the limited amount of examples found in the data, the locative adverbial always follows the nominal predication marked by the copula *ʔè*:

- (380) a. *tí kà nguú = m̄ ʔorá ʔè tí kà ʔũũ = m̄ dí = m̄ ʔà.*
 1SG POSS house = SG.M:I big COP 1SG POSS father = SG.M:I POSS = SG.M:I LOC
 'My house is bigger than my fathers.'
- b. *tí kà gʔaàkhòè = sì t'ũũ ʔè tsá dí = sì ʔà.*
 1SG POSS wife = SG.F:I beautiful COP 2SG.M POSS = SG.F:I LOC
 'My wife is more beautiful than yours.'

7.3.2.1.2 Exceed comparatives

Stassen's (1985, 2013c) "exceed comparatives" correspond to Leyew & Heine's "action" (2003) schema. This strategy is found with both adjectival and verbal predicates. The standard NP acts as direct object of a verb *ngéé* 'to pass' in an adverbial clause, according to the following semantic schema (cf. Leyew & Heine 2003):

'NP_{COMPAREE} is PREDICATE, surpasses NP_{STANDARD}'

The adverbial clause usually follows the predication which includes the standard for comparison, be it an adjective (cf. 381a) or a verb (cf. 381b-c). The data includes one example in which the adverbial phrase precedes the main predicate (cf. 381d).

- (381) a. *gʔóé = sì |xurí ʔè mbutá = mà ʔà ngéé-nà-hà = sè.*
 tortoise = SG.F:I clever COP hare = SG.M:II ACC pass-J-PST3 = ADV
 'The tortoise is cleverer than the hare.' (lit.: The tortoise is clever, surpassing the hare.)

- b. *khoe = mà ?à tí ?ǎǎ-nà /áú = sè*
 man = SG.M:II ACC 1SG get.to.know-STAT big = ADV
tsá ngée-hà = sè.
 2SG.M pass:J-PST3 = ADV
 ‘I know the man better than you do.’ (lit. ‘I know the man well, surpassing you.’)
- c. *k’oxú tsá k’oó-nà-tà tí ?à ngée-hà = sè*
 meat 2SG.M eat.meat-J-PST1 1SG ACC pass:J-PST3 = ADV
 ‘You ate more meat than I did.’ (lit. ‘You ate meat, surpassing me.’)

Sometimes *ngée* ‘to pass’ receives the completive suffix *-xù*:

- d. *g//ààkhòè = dzì kò k’áàkhòè = //ùà ?à ngée-xù-nà-hà = sè*
 woman = PL.F:I IPFV man = PL.M:II ACC pass:J-COMPL-J-PST3 = ADV
n//gáì.
 sing
 ‘Women sing better than men.’ (lit. ‘Women sing, surpassing men.’)

7.3.2.2 Absolute superlatives

Absolute superlatives differ from the cases discussed above in that they lack and overtly stated standard NP. Ts’ixa has no distinct morphological means to express this type of superlative; data elicited with several speakers suggests that the preferred strategy is to nominalise the predicative adjective in combination with the referential demonstrative *n//á~ná* which supposedly identifies the comparee NP as unique in a specific context:

- (382) a. *tí kà g//ààkhòè = sì ná t’úú = sà ?è.*
 1SG POSS wife = SG.F:I DEM.REF beautiful = SG.F:II COP
 ‘My wife is the most beautiful.’ (lit. ‘My wife is that beautiful one.’)
- b. *tí kà nguú = m ná //?orá = mà ?è //?áé = m ?à*
 1SG POSS house = SG.M:I DEM.REF big = SG.M:II COP village = SG.M:I LOC
 ‘My house is the biggest in the village.’ (lit. My house is that big one in the village.)

8 Clause linkage: Coordination and subordination

This chapter discusses clausal coordination (§8.1) and subordination (§8.2). Coordination here is understood as a syntactic link between two independent clauses, i.e., clauses that are not in any kind of hierarchical relationship (cf., e.g., Haspelmath 2004). Lehmann (1988), who rejects the term coordination, calls this a “paratactic” relationship. Subordination, on the other hand, is considered to be a hierarchical relationship between clauses in which at least one clause is treated as syntactically subordinate to a matrix clause (cf., e.g., Haspelmath 1995, Van Valin & LaPolla 1997). Following Lehmann (1988), subordination is perceived as a continuum along which the relationship between matrix and subordinate clause is defined by different parameters.

Figure 4 below provides a continuum of syntactic dependency between two or more clauses in Ts’ixa clause linkage constructions. The loosest type of clause linkage is simple asyndesis of independent clauses, while in its most extreme case, subordination may lead to desentialisation of the clause which is then embedded as a nominal participant. In between stand various forms of morphological marking, which may go hand in hand with restrictions in the domains of TAM usage, constituent order and argument sharing.

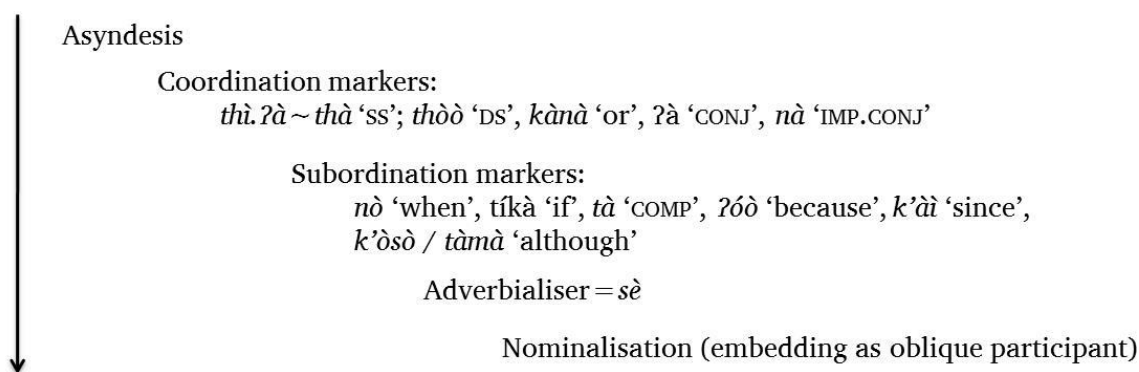


Figure 4: Continuum of syntactic dependency in clause linkage constructions

For reasons of convenience, the discussion of clausal “subordination” will be structured along semantic, rather than syntactic categories. As will be seen, some meanings (like, e.g., the notion of ‘after’, cf. §8.2.4.2) may be expressed by more than one syntactic type. Note that relative clauses in Ts’ixa are a sub-type of nominal modifier and therefore treated as part of the noun phrase in §3.3.6.

Lehmann (1988) also considers affixes grammaticalised from the main verb of the matrix clause in a clause linkage construction to be part of his continuum. In Ts'ixa, this would include the affix *-kàà* (< *káá* 'to want') expressing INTENTION and VOLITION since it actually encodes one type of purpose clause. For structural reasons, *-kàà* is discussed along with other verbal suffixes in §4.4.4.

8.1 Coordination

This section discusses clause coordination in Ts'ixa. Coordination of noun phrases is discussed in §3.5 and only mentioned here whenever a connection is deemed relevant. §8.1.1 discusses conjunction of clauses, in particular by means of the particle *thì.ʔà~thà* (§8.1.1.2) which marks thematic continuity on a discourse level, and, contrasting with *thòò*, subject continuity on the clause level. Disjunctive coordination is represented by the particle *kànà* 'or' (§8.1.2). Adversative contrasts are identical with concessive clauses and fall into the domain of subordination. They are discussed in §8.2.6.

8.1.1 Conjunction

This section discusses different strategies of clause coordination: a morphologically unmarked strategy in which the coordinands are simply juxtaposed (§8.1.1.1), coordination with the discourse marking particle *thì.ʔà~thà* (§8.1.1.2), and coordination with the conjunction *ʔà* and its imperative counterpart *nà* (§8.1.1.3). §8.1.1.4 contrasts conjoined clauses with complex predicates.

8.1.1.1 Juxtaposition

The simplest way to conjoin clauses is by juxtaposing them. In general, their ordering is iconic in that it mirrors the temporary succession of events. If arguments are shared, zero anaphora may occur. However, since Ts'ixa is a pro-drop language in which participants accessible from the context are frequently omitted, this is not a distinctive feature of this particular conjunction type. Constituent order is not affected in either clause, i.e., all known patterns (cf. §6.1) are available for all clausal coordinands. Sharing of TAM value does not occur.

- (383) [*khoe* = *ṇ* *k'oxú* *ká* *k'ũũ-nà-hà*]_{cl.1} [*k'áó* = *dzì* *kà* *guni-nà-hà*
 person = PL.C:I meat MPO live-J-PST3 arrow = PL.F:I MPO hunt-J-PST3
/ádò = *dzà* *ʔà*]_{cl.2}
 animal = PL.F:II ACC
 'The people lived on meat and hunted buffalos with arrows.'

The conjunction of juxtaposed clauses may be reinforced by the adverbial *ʔùè* ‘also’:

- (384) [*thà nè xúù*, *gòè=sà*]_{CL1} [*khoè=sì nè ʔùè xúù*]_{CL2}
 and.then SEQ get.pregnant cow = SG.F:II person = SG.F:I SEQ also get.pregnant
 ‘[It] got pregnant, the cow, and the woman got also pregnant.’

8.1.1.2 *thì.ʔà~thà*: Switch reference⁴² and discourse continuity

Clauses may be conjoined by means of the particle *thì.ʔà*, which also occurs in its compressed form *thà*. When two clauses are conjoined by *thì.ʔà~thà*, it is intonationally linked to the second clause, i.e., it is a clause-initial particle:

[CL₁] – INTONATION BREAK – [*thì.ʔà~thà* CL₂]

thì.ʔà~thà connects predicates and clauses, but may also function on a discourse level. It then signals thematic continuity. In the idiolects of some speakers, it forms a paradigm of discourse markers with the particles *thòò* and *thònòxáé*. Table 73 below summarises occurrences of the three markers in four narrative texts, considering same vs. different and explicit vs. non-explicit subjects:

Table 73: Distribution of *thì.ʔà~thà*, *thòò* and *thònòxáé* in four narrative texts

	<i>thì.ʔà~thà</i>				<i>thòò</i>				<i>Thònòxáé</i>			
	SS		DS		SS		DS		SS		DS	
	+ ex	-ex	+ ex	-ex	+ ex	-ex	+ ex	-ex	+ ex	-ex	+ ex	-ex
#1)	1	9	10	3	-	-	-	-	-	1	1	2
#2)	5	4	8	-	-	-	-	-	-	-	-	-
#3)	2	5	-	1	-	1	4	-	-	1	-	1
#4)	4	11	1	2	-	-	2	-	-	-	-	-
	10	29	19	6	-	1	6	-	-	2	1	3

SS = same subject; DS = different subject; + ex = explicit S; -ex = omitted S; - = not found in data

thòò only occurs in texts 3) and 4. Incidentally, both were recorded with the same speaker. However, it was also recognised by the assistant with whom the data was transcribed and occurs in grammatical elicitations involving a variety of speakers with no apparent geographical or ethnic bias. From both textual and elicited data, it seems clear that whenever they co-occur, *thì.ʔà~thà* and *thòò* are specifically connected to the marking of switch reference, i.e., subject retention vs. change. In

⁴² In this grammar, switch reference is understood as the marking of same vs. different subject. The constructions found in Ts’ixa bear no similarity to clause chaining involving medial and final verbs as in the languages of Papua-New Guinea (cf. Bickel 1991).

texts 3) and 4) which display a clear contrast between clauses marked by *thòò* and clauses marked by *thì.ʔà~thà*, the latter was found marking subject continuity in roughly 85% of all instances, while the former marked different subjects in all but one case which may be ascribed to the speaker changing his mind mid-sentence. Texts 1) and 2) show no contrast between *thì.ʔà~thà* and *thòò*; rather, the former is found marking both same and different subjects in almost equal measure. However, roughly 86% of the 21 instances in which *thì.ʔà~thà* appeared with a different subject involved explicit mentioning of said subject, while 68% of all occurrences with subject continuity featured omitted subjects. Depending on whether a particular text marks switch reference by means of *thì.ʔà~thà* and *thòò*, the former is alternately glossed as ‘ss’ (same subject) or ‘and.then’. The latter option is also chosen for elicited phrases without any kind of narrative context.

There is not enough data on the particle *thònòxáé* to make a more definite statement on its distribution. *thònòxáé* is clearly linked to the pragmatic domain of counter-expectation, i.e., it marks clauses the predicate of which describes an unexpected or sudden event. Although it appears with both continued and changed subjects, a speaker’s comment that it might be replaced by *thòò* suggests that it is more closely linked to different subjects. T. Güldemann (p.c.) put forward the hypothesis that *thònòxáé* could be traced to a phrase **thòò nè xáé*, involving the different subject marker and the sequential particle *nè* which, by means of regressive assimilation, became *nò*. A formative *xáé* is also found in other constructions, such as in the bipartite noun phrase conjunction *kòrè...xàè* (cf. §3.5.1).

Syntactically, *thì.ʔà~thà* and *thòò* are strictly clause-initial particles that introduce all coordinands but the first in a coordination chain (which creates the frame of reference for all subsequent ones).

- (385) a. [/úú.khòè k’aa khudì-nà-tà tshaá=mà ʔà] [**thà** k’oró
 someone drink:J end-J-PST1 water = SG.M:II ACC SS eat.meat:J
 khudì k’oxú=mí ʔâyè ʔà].
 finish meat = SG.M:I all ACC
 ‘Someone drank all the water and then ate all the meat.’

- b. [g/aàkhòè=sì kyíí-nà-hà k’áàkhòè] [**thòò** nè àà ʔà
 woman = SG.F:I call-J-PST3 man DS SEQ come CONJ
 k’oró khudì k’oxú=mà ʔà].
 eat.meat:J end meat = SG.M:II ACC
 ‘The woman called a man and then [he] came and ate all the meat.’

thònòxáé may appear clause-initially, but also right in front of the verb. As this is the slot in which adverbials and focus particles are found, one might consider *thònòxáé* to have an affinity to both categories.

- (386) [tí tè g/aro-khabì //ádì] [**thònòxáé** mágêimì = //ù nè
 1SG NEAR.PST ostrich-egg find C.EXP wildlife.guard = PL.M:I SEQ
 àà].
 come
 ‘I found an ostrich egg, [but] suddenly the wildlife guards came.’

thòò and *thònòxáé* may co-occur. Note that in (387)b below, the matrix clause is interrupted by a subordinate clause. *thòò* therefore does not refer to the pronoun *?é.sì*, but to the omitted subject ‘the mothers (and their associates)’ which is considered accessible from the context as it appeared as subject of the complement clause in the preceding sentence (387)a.

- (387) a. [[súú.súú = sè n/gè k’oó] [[//úú-xà = dzi gérè àà tà]
 fast:INT = ADV SEQ eat.meat parent-ASSOC = PL.F:I FUT come COMP
 [thì. ?à n/gè #?ań ?òò]].
 SS SEQ think because
 ‘[The hyena] ate very fast because [she] thought that the mothers (and their associates) would come.’
- b. [[**thòò** n/gè [?é.sì tè k’oró khudì = sè] **thònòxáé** mūú-à ?āā]
 DS SEQ 3SG.F:I NEAR.PST eat.meat:J end = ADV C.EXP see-J know
 [júú. /jūā kà /úú = sì káu-a-tà tà]].
 child ATTR one.of = SG.F:I stay.behind-J-PST1 COMP
 ‘When she was done eating, [the mothers] realised one of the young ones had stayed behind.’

Predicates connected by *thì. ?à~thà* may share one or both core arguments; they may also share TAM value (marked on V₁ or on V₂). In fluent speech, speakers usually add a clearly audible intonation break before *thì. ?à~thà*, reinforcing the particle’s syntactic affiliation to the second clause.

- (388) a. [lebótìlì = m /’eé] [**thì. ?à** ?ure-tà].
 bottle = SG.M:I fall SS break:J-PST1
 ‘The bottle fell and broke.’
- b. [xań = m kò péè] [**thì. ?à** xóó k’ará].
 lion = SG.M:I IPFV chase SS hold impala
 ‘The lion chases and catches an impala.’

- c. [tí balà-nà-hà buká=sà ?à] [thì.?à [kũũ-a //òè]].
 1SG read-J-PST3 book=SG.F:II ACC SS go-J sleep
 ‘I read the book and then I went to sleep.’

A shared subject may be expressed (cf. 389), just like a different subject may be omitted if deemed accessible from the context (cf. 385 above):

- (389) [//xáà ?à tí Mǎú ?ò kũũ-a-hà] [thì.?à
 morning LOC 1SG GN ALL go-J-PST3 SS
 ?úì ?à tí //?ũũ-nà-tà].
 evening LOC 1SG return-J-PST1
 ‘I went to Maun in the morning and I returned in the evening.’

thì.?à~thà frequently appears with the sequential marker *n/gè~nè*, independently of whether it marks same subject or simply discourse continuity. In case of subject omission, the TAM particle (mostly *kò* or *n/gè~nè*) follows *thì.?à~thà* (or *thòò*):

- (390) [?é.//ù nè xúù n//gáè kò=sè kúrín]
 3PL.M:I SEQ thing sing IPFV=ADV hear
 [thà nè g//áì-kù //?áé=m ?ò].
 SS SEQ run-PL home=SG.M:I ALL
 ‘They heard something singing and ran home together.’

When marking discourse continuity, *thì.?à~thà* may trigger appearance of the sequential marker *n/gè~nè*, even when the predicate itself is controlled by a different TAM operator:

- (391) thà nè góè=sì kò góè kà /úú=dzà ?à /úú-//ù.
 and.then SEQ cattle=SG.F:I IPFV cattle ATTR other=PL.F:II ACC collect
 ‘Then the cow would collect the other cattle.’

Beyond its use as a conjunction, the short form *thà* may combine with the referential demonstratives *?úú*, *ná* and *múú* (cf. §3.3.4.3.2.2). It then acts as a discourse referential adverbial meaning ‘thus’. It also combines with the interrogative base *maá* to express the meaning ‘how’ (cf. §3.3.5.2). Both uses probably relate directly to *thì.?à~thà* as a marker of discourse continuity.

8.1.1.3 The conjunctions ?à and nà

In contexts where *thì.?à~thà* connects two clauses sharing the same subject, it may be replaced by the conjunction *?à*. However, it appears that – unlike with *thì.?à~thà* – repetition of the subject in the second clause is not possible with *?à*, and no

regularly occurring intonational break could be observed before the particle. It may therefore be considered as occurring in between the coordinands, which are mostly verbs, but may also be transitive predicates plus their respective objects, as in (392)c below:

- (392) a. [xarín = n̄ kò [péè ?à xóó] k'ará]
 lion = SG.M:I IPFV chase CONJ hold impala
 'The lion chases and catches an impala.'
- b. [ʔé.sì kò [séè ?à tsxúm.a-xù-nà-tà] síyò = mà ?à]
 3SG.F:I IPFV take CONJ hide:J-COMPL-J-PST1 cigarette = SG.M:II ACC
 'She took and hid the cigarette.'
- c. [thà [ìì = mà xúu-a-tà ?à kyúú = mà xóó]]
 and.then pole = SG.M:II let.go-J-PST1 CONJ head = SG.M:II hold
 '[The boy] lets go of the pole and grabs his head.'

In imperative clauses, predicates are conjoined by *nà* (cf. §9.2). Like with *?à*, no intonational break occurs:

- (393) àà nà dzaá!
 come IMP.CONJ have.a.taste
 'Come and taste!'

8.1.1.4 Contrasting conjoined clauses with complex predicates

Predicates conjoined by *?à*, *thì.ʔà~thà* and *nà* contrast with so-called juncture-verb constructions (JVC, cf. §4.5), which are complex predicates. In Ts'ixa, JVCs generally denote an event that is perceived as complex by the speakers, vs. a sequence of independent events, which is commonly marked by *?à*, *nà* or *thì.ʔà~thà*:

- (393) a. [tí tè [/'eé //òè]].
 1SG NEAR.PST fall:J lie.down
 'I fell into a lying position.'
- b. [tí tè [/'eé ?à //óé]].
 1SG NEAR.PST fall:J CONJ lie.down
 'I fell and lay down.'
- c. [tó [[k'úí-á kùù tíí], nà kyeé.kyeè]]!
 2PL.C talk-J go IMP.NEG IMP.CONJ listen
 'Don't you (pl) walk talking and listen!'

Although conjunction with *thì.ʔà~thà* allows for sharing arguments and even TAM-value, I argue that these constructions are conjoined clauses with omitted arguments (zero anaphora) and operators, rather than complex predicates. This is supported by the intonational break commonly occurring before the particle, as well as by the observation that all coordinands have to be subordinated independently. While the three conjoined predicates in (394) below all require the adverbialiser =*sè* in order to be subordinated to the main predicate, the predicate in (395) is clearly complex as the verbs involved may not be subordinated independently:

- (394) [[ʔúà.kà.tshéè ʔé.mà tí müü-nà-hà] [ʔé.m kò [sámbà = sè]
 yesterday 3SG.M:II 1SG see-J-PST3 3SG.M:I IPFV wash = ADV
 [thì.ʔà n+amí-káxù = sè] [thì.ʔà //áú.//àù = sè] ʔé.sà ʔà]]
 SS shine-CAUS = ADV SS straighten = ADV 3SG.F:II ACC
 ‘Yesterday, I saw him while he was washing, then polishing, then repairing it [the car].’

Compare:

- (395) [[míí.thà ʔé.n kò [ʔũũ kũũ = sè]]
 thus 3PL.C IPFV return:J go = ADV
 [g//óé = sè ʔám ngùà thòndòxáé /júá = sà ʔà nè ʔ?fi]]
 tortoise = SG.F:I top ABL C.EXP child = SG.F:II ACC SEQ kick
 ‘When they return, [the toad] suddenly kicks the child off the tortoise.’

Unlike JVCs, conjunction with *thì.ʔà~thà* or *thòò* neither requires TAM nor argument sharing:

- (396) [xam = mí pèè-nà-hà ʔé.mà ʔà] [thì.ʔà ʔé.m nè //ʔóó].
 lion = SG.M:I chase-J-PST3 3SG.M:II ACC and.then 3SG.M:I SEQ die
 ‘The lion chased him and then he died.’

8.1.2 Disjunction

8.1.2.1 kànà ‘or’

The particle *kànà* is used to express both nominal (cf. §3.5.3) and clausal disjunction in interrogative sentences (cf. §9.1). It is generally placed between the coordinands, but intonationally linked to the second clause, i.e.:

CL₁ – Intonation break – [kànà CL₂]

Clauses connected by *kànà* may share arguments and TAM-value.

(397) a. [ʔé.̀m̀ kò sũ̀ r̀è]_cl1 [kà̀nà ʔ̀ù̀m̀ r̀è]_cl2?
 3SG.M:I IPFV work Q or sleep Q
 ‘Is he working or sleeping?’

b. [k'aro = ʔ̀ù̀ kò ʔ̀qá̀ní kyũ̀.̀à.̀xù̀ r̀è]_cl1 [kà̀nà kyũ̀.̀ r̀è]_cl2?
 boy = PL.M:I IPFV raisin sell Q or buy Q
 ‘Are the boys selling or buying raisins?’

A shared argument may, but does not have to be omitted in the second clause.

No omission:

(398) a. [ʔ̀é.̀m̀ g//aí-a-xù-nà-tà r̀è /úú = nà ʔ̀à]_cl1 [kà̀nà ʔ̀é.̀m̀
 3SG.M:I run-J-COMPL-J-PST1 Q other = PL.C:II ACC or 3SG.M:I
 g//aí-a-xù-è-tà ʔ̀áru = m̀ ngùà]_cl2?
 run-J-COMPL-PASS-PST1 game = SG.M:I LOC
 ‘Did he win or lose the game?’ [Did he outrun the others or was he outrun in the
 game?]

Omission of S and O:

(398) b. [xàwèè ʔ̀é.̀sì kò k'óó r̀è k'oxú = mà ʔ̀à]_cl1 [kà̀nà k'oró-tá]_cl2?
 still 3SG.F:I IPFV eat.meat Q meat = SG.M:II ACC or eat.meat:J-PST1
 ‘Is she still eating the meat or has [she] eaten [it already]?’

Omission of S (but not O):

(398) c. [ʔ̀abá = mà thũ̀ ʔ̀é.̀ǹ garò-tà r̀è]_cl1 [kà̀nà xàwèè kò
 dog = SG.M:II already 3PL.C:I look:J-PST1 Q or still IPFV
 ʔ̀é.̀m̀ ʔ̀à gàò]_cl2?
 3SG.M:II ACC look
 ‘Have they already looked at the dog or are [they] still looking at it?’

kà̀nà may be a loan from Kalanga (S. Nyota, p.c.), but also appears in Ju (cf. Dickens 1994: 224); it does not appear in either Khwe or Shua.

8.1.2.2 *xaré... r̀è xaré... r̀è xaré.kà*

The data contains only one example for clausal disjunction in a (semantically) non-interrogative context. However, the occurrence of the interrogative particle *r̀è* sheds some doubt on the declarative nature of the clause. A slightly divergent strategy is found in the domain of noun phrase disjunction (§3.5.3). In the sentence below, a formative *xaré* precedes both coordinands, which are also marked by the interrogative particle *r̀è* (cf. §9.1). The second coordinand is followed by *xaré.ká* which presumably constitutes an adverbial composed of the aforementioned particle *xaré* plus the MPO *ka*.

(399) [xaré //xáà ?à kũũ-a-tà rè]_{CL1} [xaré thuú ?à kũũ-a-tà rè xaré.ká]
 DISJ morning LOC go-J-PST1 Q DISJ night LOC go-J-PST1 Q DISJ
 ‘[They] either went in the morning, or they went at night.’

8.2 Subordination

Clausal subordination is perceived along a continuum (cf. Lehmann 1988, see also Figure 4 above). The loosest form of two clauses in a hierarchical relationship involves a particle, which preferably follows the predicate of the subordinate clause. The subordination markers found in the data are listed in Table 74 below. The final column lists the sections in which they are discussed.

Table 74: Subordination markers

FORM	ENGLISH GLOSS	CLAUSE TYPE	SECTION
<i>tà</i>	COMPLEMENTISER	complement clauses	§8.2.1
<i>k’òsò / tàrà</i>	‘but, although’	concessive / adversative clauses	§8.2.6
<i>(kó)nò</i>	‘when’	temporal / conditional clauses	§8.2.3.1 & §8.2.4.1
<i>(n/í)...tíkà</i>	‘if’	conditional clauses	§8.2.3.2
<i>?(y)òò</i>	‘because’	causal clauses	§8.2.2
<i>k’ài</i>	‘since’	temporal clauses	§8.2.4.5

Some constructions expressing subordinate relations involve verbs which are either on their way to grammaticalise into subordination markers (like the quotative *tíí* ‘to be thus’, cf. §8.2.1.2), or which modify the basic meaning of one of the subordination markers provided in Table 74 above (like *ky’oà* ‘to go out, exit’, cf. §8.2.4.3).

A major strategy to derive subordinate clauses involves the adverbialiser =*sè* which is attached to the finite main verb of the clause, thereby rendering it a dependent of the predicate of the matrix clause. Subordinate clauses derived with =*sè* only accept marking for IMPERFECTIVE or STATIVE as they basically cover the notion of ‘while’, i.e., they refer to events or states which are ongoing during the time frame of the event or state described in the matrix clause. From this most basic meaning, the notion of ‘instead of’ is derived by negating the main verb of the subordinate clause with the imperfective negation suffix *-tã*. This construction may be circumscribed as [while X is not happening, Y happens]. A negated imperfective also features in the expression of ‘before’, which in addition requires use of the focus particle *xàwèè* ‘yet’ to arrive at the meaning [while X is not happening yet, Y happens].

Table 75: Constructions with the adverbialiser =sè as marker of clausal subordination

FORM	ENGLISH GLOSS	CLAUSE TYPE	SECTION
V=sè	‘while’	temporal clauses	§8.2.4.2
V-tà=sè	‘instead of’	concessive / adversative clauses	§8.2.7
xàwèè V-tà=sè	‘before’	temporal clauses	§8.2.4.4

Finally, subordinate clauses may be nominalised and embedded as oblique arguments. This is the strategy employed with purpose clauses (§8.2.5). Here, the main verb is nominalised and headed by the ALLATIVE postposition ?ò (§5.3.3). The notion of ‘after’ may also be expressed as an oblique argument, featuring a nominalised form of the verb *ky’òà* ‘to go out’ (which itself acts as the possessum of the nominalised main verb of the subordinate clause) and the LOCATIVE / TEMPORAL postposition ?à (§5.3.1).

Subordinate clauses display certain tendencies in terms of constituent order (see §6.1 for a general discussion of constituent order in Ts’ixa). In a comparison of 30 independent and 30 subordinate clauses from a narrative text, post-verbal objects were less frequently found in subordinate clauses. In contrast, fronted objects appear to be more common than in independent clauses.

Table 76: Constituent order of transitive clauses

	INDEPENDENT CLAUSES	SUBORDINATE CLAUSES
AOV	50%	60%
AVO	43,3%	13,3%
OAV	6,7%	26,7%

(Sample: 60 clauses (30 each), chosen from a narrative text)

8.2.1 Complement clauses

In the following discussion, complement clauses with the complementiser *tà* (§8.2.1.1) as well as direct and indirect speech (§8.2.1.2) will be considered. In §8.2.1.3, alternative constructions to express the notion of ‘how to’ will be addressed.

8.2.1.1 Complement clauses with the complementiser *tà*

Verbae dicendi as well as verbs of perception and cognition may take on complement clauses marked by the complementiser *tà*.⁴³

- (400) a. *ʔám-kù [thì.ʔà ná=//ù gére ʔí.thà hũ tà]_{COMP.CL}*
 agree-RCPR SS DEM.REF=PL.M:I FUT thus do COMP
 ‘[They] agreed that they would do thus [like discussed]’
- b. *tsá ʔaná-há rè [maá ʔà tí kò n/goa-mà tà]_{COMP.CL}*
 2SG.M know:J-PST3 Q who ACC 1SG IPFV cook:J-BEN COMP
 ‘Do you know whom I am cooking for?’
- c. *tí ʔà boódi-nà-hà [maá ʔà ná=m g//arà-nà-mà-nà-hà tà]_{COMP.CL}*
 1SG ACC tell-J-PST3 who ACC DEM.REF=SG.M:I write-J-BEN-J-PST3 COMP
 ‘[He] told me whom he wrote to.’

tà usually follows the main verb of the complement clause (cf. 400a-c above), but may also follow the post-verbal object (cf. 401a) or even an oblique participant, such as the THEME *kuú=m kà* ‘the dress’ in (401)b below. Still, analysis of *tà* as a strictly clause-final particle is rendered difficult by examples such as (401)c where *tà* is inserted into the complement clause between verb and locative adverbial.

- (401) a. *[ná=m xà /úí=sè /'úú /áò=mà ʔà tà]_{COMP.CL}*
 DEM.REF=SG.M:I SUBJ one=ADV kill buffalo=SG.M:II ACC COMP
ʔé.m ʔyaá-nà-hà k'òsò ʔé.mà ʔà kyáá-kàxù-nà-tà.
 3SG.M:I think-J-PST3 but 3SG.M:II ACC wound-CAUS-J-PST1
 ‘He thought he could kill the buffalo all by himself but was wounded.’
- b. *tí /ʔurù-nà-tà [maá ʔà tí kyũũ-à-mà-nà-hà kuú=m kà tà]_{COMP.CL}*
 1SG forget-J-PST1 who ACC 1SG buy-J-BEN-J-PST3 dress=SG.M:I MPO COMP
 ‘I forgot for whom I bought the dress.’
- c. *thà /úú=m kò ʔóà-sì:*
 and.then child=SG.M:I IPFV ask-REFL
[ní=m kùè hũ-sí tà xúà=sì í=sì ʔà?]_{COMP.CL}

⁴³ A speaker with whom the data was discussed suggested that *tà* is actually a contracted form of *tí ʔà*, with *ʔà* being an oblique postposition otherwise found marking adverbials of location and time (cf. §5.3.1). As will be seen in the cases of *ky'òà ʔà* ‘after’ (§8.2.4.3) and NP *ʔò* ‘PURPOSE’ (§8.2.5), Ts’ixa may embed desententialised subordinate clauses as oblique nominal participants. I therefore suggest that *tà* derives from *tíí* ‘be thus’ (see §8.2.1.2) plus the postposition *ʔà* ‘LOC, TEMP’ (*tà* < **tíí ʔà*). The particle would hence constitute a grammaticalised form of a nominalised verb heading a clause embedded as an oblique participant.

what = SG.M:I PROG do-REFL COMP place = SG.F:I DEM.REF = SG.F:I LOC
 ‘Then the boy asks himself: “What is happening in this place?”’

(401)a above constitutes an unusual case insofar as the complement clause precedes the matrix clause. Although this example might suggest that the referential demonstrative *ná* (cf. §3.3.4.3.2) is used to encode participants of subordinate clauses (vs. the distance neutral pronoun base *?é*), this is not confirmed by the data. There is, however, a tendency for the referential *ná* to encode participants of subordinate clauses that are co-referential with participants of the matrix clause. Backward anaphora do occur, i.e., a full noun phrase or pronoun in the second clause may be co-referential with a pronoun or zero anaphora in the first clause, e.g.,

(402) *tí ?à boódi-nà-hà [ná=sì kò ?Àmériká mǔù-kàà tà]*_{COMP.CL}
 1SG ACC tell-J-PST3 DEM.REF = SG.F:I IPFV GN see-VOL COMP
 ‘[She] told me that she wants to see America.’

There are no TAM restrictions on complement clauses. Only the sequential particle *n/gè~nè* (§4.3.2.5) does not appear in the corpus, presumably because there rarely – if ever – exists a sequential or cause-effect relationship between a matrix clause and its complement clause. Complement clauses appear in indicative and subjunctive mood (cf. 401a above), whereas mood sharing with the matrix clause is not required. The data does not contain examples which would be indicative of restrictions on illocutionary force and negation. Based on (408) in §8.2.1.2 below, it seems likely that complement clauses do not need to share illocutionary force with their matrix clauses and can be separately negated.

Very few speakers – mostly youngsters and those with a more pronounced Shua ancestry – use the Tswana complementiser *xòrè*, which precedes, rather than follows the complement clause:

(403) *||?arí.sè k’áo.thuù ?à kò kǔù k’oxú ||é kò kámà*
 usually early.morning LOC IPFV go animal 1PL.M IPFV track
*||é ?aná-há ?yòò [xòrè ||é gére sí-a saò.//èè]*_{COMP.CL}
 1PL.M know:J-PST3 because COMP 1PL.M FUT arrive-J catch.up
 ‘An animal that passed early in the morning we usually track, because we know that we will be able to catch up.’

8.2.1.2 Direct and indirect speech:

Direct and indirect speech follow *verbae dicendi* and verbs of cognition like *??arí* ‘to think’; most frequently, direct and indirect speech are introduced by the verb *mǔí* ‘to

say’. Verbs introducing direct or indirect speech usually appear with the juncture morpheme which signals that the predicate is still incomplete, i.e., they require the presence of a finite verb. It appears, however, that the form *mũ-a* ‘say-J’ has already grammaticalised into a quotative marker which may introduce direct speech without further morphological marking or a subsequent finite verb form, e.g.:

- (404) [thà ʔé.//ù nè mũũ ʔé.sà ʔà] [//ʔáé=̀m dí=̀m
 and.then 3PL.M:I SEQ see 3SG.F:II ACC village=SG.M:I POSS=SG.M:I
 nè **mũ.a** [sá t’ũũ ʔè].
 SEQ QUOT 2SG.F beautiful COP
 ‘And then they saw her and the headman [lit. the village’s] said: “You are beautiful.”’

The data still contains several examples in which direct or indirect speech are introduced by *verbae dicendi* and immediately followed by a finite form of the verb *tíí* which may be translated as ‘to be thus’, yielding the following template:

[V_{dicendi}-J [COMP.CL] *tíí*_{finite}]_{MATRIX.CL}

Consider the examples below:

- (405) a. [ʔé.sì mũ-a [ì=sì //aró khùm-è-tà] tíí-nà-tà].
 3SG.F:I say-J tree=SG.F:I chop:J cut-PASS-PST1 be.thus-J-PST1
 ‘She said that the tree was cut down.’
- b. [//úá=̀m kòrè ʔabá=̀m xàè kòrè g//óé=sì xàè
 child=SG.M:I CONJ dog=SG.M:I CONJ CONJ tortoise=SG.F:I CONJ
 kò ≠ʔań-á [ní=̀m kò hũ-sí ŋ.xúà /xè] tíí].
 IPFV think-J what=SG.M:I IPFV do-REFL here LOC be.thus
 ‘The boy, the dog and the tortoise think: “What is happening here?”’
- c. [//ʔáé.̀m.xà=̀m kò mũ-a
 headman=SG.M:I IPFV say-J
 [//áé-kù gérè háã] tíí ʔúà.kà.tshéè].
 meet-REC FUT be.there be.thus tomorrow
 ‘The headman says that there is going to be a meeting tomorrow.’

In (406) below *tíí* has been inserted into the subordinate clause, in between main verb and object. Main verb and *tíí* form an intonation unit, with no audible pause between them. This might be considered a hint that *tíí* is on its way to grammaticalise into a suffix marking the main verb of complement clauses quoting indirect speech.

- (406) a. [dué=sí mǔ-a tí ?à [//áà [tíí-nà-tà] súbàrà=dzà ?à]
 my.mother = SG.F:I say-J 1SG ACC wash be.thus-J-PST1 clothes = PL.F:II ACC
 k'òsò tí //ána-tà ?íté.
 but 1SG wash:J-PST1 NEG
 'Mother told me to wash the clothes but I have not washed them.'
- b. [dué=sí tí kà mǔ-a tí ?à bè
 my.mother = SG.F:I 1SG POSS say-J 1SG ACC EMPH
 [heélà [tíí-nà-tà] nguú=mà ?à] k'òsò tí hǔ-à-tà ?íté.
 sweep be.thus-J-PST1 house = SG.M:II ACC but 1SG do-J-PST1 NEG
 'My mother told me to sweep the room, but I did not do it.'

If the verb introducing direct or indirect speech is finite, the subordinate clause may be marked by the standard complementiser *tà*.

- (407) a. ?é.mà tí boódì-nà-tà [?é.mà ts'áà tà].
 3SG.M:II 1SG tell-J-PST1 3SG.M:I steal COMP
 'I told him that he steals.'
- b. thà nè k'aro = //ù sí-a boódì khoe = nà ?à
 SS SEQ boy = PL.M:I arrive-J tell person = PL.C:II ACC
 [ná = //ù tè kúrín xúù kò n//gáè = sè tà].
 DEM.REF = PL.M:I NEAR.PST hear thing IPFV sing = ADV COMP
 'The boys told the people that they had heard something singing.'

The illocutionary force of the quoted speech does not depend on the matrix clause, and the same is true for negation. This is exemplified by the negated imperative in the subordinate clause below. To facilitate understanding of this complex example, matrix clause (red) and subordinate clause (blue) have been colour-coded:

- (408) *dué=sí* *tí* *kà* *mǔ-a* *ná=sì* *dí=mà* *tsòò*
 my.mother = SG.F:I 1SG POSS say-J DEM.REF = SG.F:I POSS = SG.M:I medicine
kà *tí* *?à* *bè* *k'áà-tíí* *tíí-nà-tà*.
 ATTR 1SG ACC EMPH drink-IMP.NEG be.thus-J-PST1
 'Mother told me not to drink her medicine.'

It is interesting to note that in this example, the subordinate clause is interlaced with the matrix clause to such a degree that the object of the matrix clause (*tí ?à*) disrupts the subordinate clause by coming between its object and verb.

8.2.1.2 Manner: ‘how to’

Complement clauses consisting of a headless relative clause with an interrogative pronoun were already introduced in §8.2.1.1 above (cf. (400)b-c, (401)b). They behave like standard complement clauses in that they are morphologically marked by the clause-final complementiser *tà*. The notion of ‘how to’ may be expressed in the same way, i.e., by means of the interrogative pronoun *maá.thà* ‘how’ (cf. §3.3.5.1.2) and the complementiser *tà*:

- (409) a. *tí ʔǎǎ-tǎ [maá.thà tsé xà ʔí.ngùà síi tà].*
 1SG know-IPFV.NEG how 1PL.C SUBJ LOC.REF arrive COMP
 ‘I don’t know how to get there.’
- b. *tí kò Gyémèni ʔò kúú nò tí géré khoe=nà ʔà ʔǎǎ-káxù*
 1SG IPFV Germany ALL go when 1SG FUT person=PL.C:II ACC know-CAUS
[maá.thà tí kà k’uí=sí kò k’uí-é tà].
 how 1SG POSS language=SG.F:I IPFV speak-PASS COMP
 ‘When I go to Germany I will teach people how to speak my language (lit. how my language is spoken).’

There are, however, other strategies to express the very same meaning. The one most frequently found in the data requires nominalisation of the subordinate clause. This is achieved by repetition of the main verb of the subordinate clause, which then comes to act as a clause-final nominaliser (cf. (410) and (411) below). The nominalised form is generally realised with a low tone, but more data would be needed to ascertain whether this might simply be a result of phrase-final lowering (cf. §2.4.2).

- (410) *tí kò [Ts’ixà-dàm kò g//arà-è ʔé =g//àrà] ʔǎǎ-kà.*
 1SG IPFV T.-MANNER IPFV write-PASS ?PASS =writing know-CAUS
 ‘I teach the way of writing Ts’ixadam (lit. ‘Ts’ixadam being written’-writing).’

The data contains one example in which a complement clause of this kind was introduced by a particle *ngòrè*.

- (411) *g//aàkhòè=sì kò /úú=sà ʔà n//gaú [ngòrè khobá*
 woman=SG.F:I IPFV child=SG.F:II ACC show ?how porridge
kò n//góa-é ʔè =n//gòà].
 IPFV cook-PASS PASS =cook
 ‘The woman shows the girl how to cook porridge (lit. ‘porridge is cooked’-cooking).’

Another nominalisation-strategy involves the clitic = *dàm* (< *dám* ‘tongue’) which is found throughout the Kalahari Khoe languages to derive nouns referring to languages, e.g., *Ts’ixà = dàm* ‘Ts’ixa language’ or *Xúúkhòè = dàm* ‘San language’. In Ts’ixa, = *dàm* has grammaticalised into a manner clitic, i.e., it attaches to nouns and verbs to derive the meaning ‘the way of doing X’:

- (412) a. *tí kò [Ts’ixà = dàm g/arà = dàm] ?ãá-kà.*
 1SG IPFV T.- MANNER write-MANNER know-CAUS
 ‘I teach the way of writing Ts’ixadam.’
- b. *tí kò [xòrò-é kò //xòrò = dàm xúúkhòè dī] ?ãá-kà*
 1SG IPFV dance-PASS IPFV dance- = MANNER San POSS know-CAUS
 ‘I teach the San’s way of dancing (lit. how the San’s dance is danced).’

8.2.2 Causal clauses

The notion of ‘because’ is expressed by means of the clause-final particle *?òò~?yòò* which, in fast speech, is frequently shortened to *?ò*. Although the palatalised onset pronounced by some speakers suggests a replacement of [ʔ], i.e., a form *ʔoo as a source, no convincing candidate could be found in any living Khoe or Kx’a language. Causal clauses preferably follow the matrix clause (cf. 413a), but may be preposed for reasons of emphasis (cf. 413b):

- (413) a. [*tí xà kyũũ ?ité kolóí*]_{MATRIX} [*tí /?áò-xà ?ité ?òò*]_{SUB}
 1SG SUBJ buy NEG car 1SG money-ASSOC NEG because
 ‘I can’t buy a car because I have no money.’
- b. [*tí /?áò-xà ?ité ?òò*]_{MATRIX} [*tí xà kyũũ ?ité kolóí = sà ?à*]_{SUB}
 1SG money-ASSOC NEG because 1SG SUBJ buy NEG car = SG.F:II ACC
 ‘Because I have no money, I cannot buy the car.’

Causal clauses may, albeit rarely, interlace with their matrix clauses. In the example below, the subordinate clause directly follows subject and TAM of the matrix clause and is then followed by oblique arguments, object and verb:

- (414) [*thòò /úú = m̄ n/gè [tshéè = m̄ ?ũyè ?à séè-kàà-nà-hà*
 DS one.of = SG.M:I SEQ day = SG.M:I all ACC take-be.about-J-PST3
?òò]_{SUB} [*habí = sí kà /úú = sè ?é.mà ?à //áo*
 because breast = SG.F:I MPO be.near = ADV 3SG.M:II ACC shoot
k’áo = m̄ kà /ám-?oro.kù]_{MATRIX}
 arrow = SG.M:I MPO two-times
 ‘Because it was about to take all day, one (of them) shot it twice with an arrow, in a place near the breast.’

Argument sharing between subordinate and main clause does occur and may, but does not have to lead to zero anaphora in the second clause:

- (415) a. [/*úá* = *sì* *kò* *t'úú*]_{MATRIX} [/*ʔorá* *kò* *ʔòò*]_{SUB}
 child = SG.F:I IPFV bec.beautiful grow.up IPFV because
 ‘This girl is becoming beautiful because [she] is growing up.’
- b. [*tí* *k'oo-tà* *k'oxú = mà* *ʔà*]_{MATRIX} [*ts'oró-há* *ʔyòò*]_{SUB}
 1SG eat.meat-IPFV.NEG meat = SG.M:II ACC rot:J-PST3 because
 ‘I don’t eat the meat because [it] is rotten.’
- c. [*ʔé.m̄* *kò* *kyí* *ʔòò*]_{SUB} [*ʔé.m̄* *àa-tà* *ʔíté*
 3SG.M:I IPFV be.sick because 3SG.M:I come:J-PST1 NEG
síí = m̄ *ʔò*]_{MATRIX}
 work = SG.M:I ALL
 ‘Because he was sick he didn’t go to work.’

Backward anaphora are possible, i.e., a full noun phrase or pronoun in the second clause may be coreferential with a pronoun or zero anaphora in the first clause, e.g.,

- (416) *kyxoà = m̄* *kò* [/*ʔóó* *nò* [/*ʔàn.sè* *n/gè* *yábà*]_{MATRIX} [*ná = //ù* *tè*
 elephant = SG.M:I IPFV die when INT SEQ be.happy DEM.REF = PL.M:I NEAR.PST
 /*úú* *ʔé.mà* *ʔà* *ʔòò*]_{SUB}
 kill 3SG.M:II ACC because
 ‘When the elephant died, [they] were very happy because they had killed it.’

Younger speakers, but also older speakers with a pronounced Shua ancestry tend to use the Tswana loan *kaxórè* ‘because’. Unlike *ʔòò*~*ʔyòò*, *kaxórè* precedes the subordinate clause:

- (417) [*kárí* *ʔíté* *xúú*]_{MATRIX} [*kaxórè* *ʔé.m̄* *ʔùè* *tí* [/*úú* *ʔè*]_{SUB}
 be.hard NEG thing because 3SG.M:I also 1SG parent COP
 ‘It is not a problem [a hard thing] because he is also my father.’

Sometimes, *kaxórè* and *ʔódò~ʔyòdò* also co-occur:

- (418) *thuú ʔà kũũ-a-tà kónò [ʔé kámà-tà]_{MATRIX}*
 night LOC go-J-PST1 when 1PL.M track-IPFV.NEG
[kaxórè ʔé géré sũ-a hitèrà ʔité tà ʔé ʔaná-há
 because 1PL.M FUT arrive-J find NEG COMP 1PL.M know:J-PST3
ʔyòdò]_{SUB}
 because
 ‘When [the animals] passed at night, we do not track [them], because we know that we will not find them.’

8.2.3 Conditional clauses

Ts’ixa distinguishes between real (or at least potential) conditions on the one (§8.2.3.1), and unreal conditions on the other hand (§8.2.3.2). This is reflected in the choice of subordination markers as well as in the presence of subjunctive marking in both subordinate and matrix clause.

8.2.3.1 Real conditions

“Real” conditions are usually marked by the clause-final particle *nò* or its allomorph *kónò~kònò*; both allomorphs also function as default subordination markers in temporal clauses. We may therefore say that *nò* covers functions similar to English ‘when’. Clauses subordinated by *nò* usually precede the matrix clause (cf. 419a-b), but they may be postposed as well (cf. 419c). Conditional clauses with *nò* mostly appear with the IMPERFECTIVE *kò* or the FUTURE *géré*. However, unlike with temporal uses of *nò*, other TAM values may appear, such as the SAME DAY PAST *-ta* in (419)d below. When co-occurring with *kónò~kònò*, the IMPERFECTIVE may either be omitted (cf. 419b) or repeated in its expected slot before the verb (cf. 419c).

- (419) a. [*ti géré kolót-xà nò]_{SUB} [ti géré Namíbià ʔò kúú]_{MATRIX}*
 1SG FUT car-ASSOC when 1SG FUT GN ALL go
 ‘When I have a car, I will go to Namibia.’
- b. [*túú kónò]_{SUB} [ti géré nguú=rí ʔà nyúú]_{MATRIX}*
 rain when 1SG FUT house=SG.M:I LOC stay
 ‘When it rains I will stay in the house.’
- c. [*tí géré ʔyúú sá ʔò khaà]_{MATRIX} [sá kà tshaú=sérà*
 1SG FUT food 2SG.F LOC give 2SG.F POSS hand=DU.F
sá kò sámbà kònò]_{SUB}
 2SG.F IPFV wash when
 ‘I will give you food when you wash your (two) hands.’

- b. [ʔí.thà khoe hũ-nà-tà kónò]_{SUB} [ʔád=̀m ʔà kò kyãã]_{MATRIX}
 thus person do-J-PST1 **when** blood = SG.M:ILOC IPFV enter
 ‘When one has done like that, [the larvae] enters the blood.’

8.2.3.2 Irreal conditions

Irreal conditions are most commonly marked by the clause-final particle *tíkà* ‘if’. The conditional clause usually precedes the matrix clause (cf. 420a), but may be postposed (cf. 420b):

- (420) a. [tí kolóí-xà **tíkà**]_{SUB} [Namíbià ʔò tí xà tè kúú]_{MATRIX}
 1SG car-ASSOC if GN ALL 1SG SUBJ NEAR.PST go
 ‘If I had a car, I would go to Namibia.’
- b. [tí xà tè Namíbià ʔò kúú]_{MATRIX} [tí kolóí-xà **tíkà**]_{SUB}
 1SG SUBJ NEAR.PST GN ALL go 1SG car-ASSOC if
 ‘If I had a car, I would go to Namibia.’

Conditional clauses with *tíkà* obligatorily trigger use of the subjunctive *xà* (§4.3.2.4) in the matrix clause. *xà* either appears on its own or combines with one of the three ANTERIOR / PAST suffixes *-ta*, *-ʔo* and *-hã~ -ha*, the STATIVE suffix *-nà* as well as with the NEAR PAST *tè*. However, as is suggested by the examples above and below, NEAR PAST does not seem the only meaning of *tè* in these contexts (cf. also §4.3.2.2.1). The subjunctive *xà* may be marked in the matrix clause only (cf. (421a), or in both the matrix and the conditional clause (cf. 421b):

- (421) a. [nyúńí=sì kyúú-í-hà **tíkà**]_{COND} [tí **xà** tè k’oó]_{MATRIX}
 mouse = SG.F:I roast-PASS-PST3 if 1SG SUBJ NEAR.PST eat.meat
 ‘If the mouse had been roasted, I would have eaten it.’
- b. [xarń=ń |xòà tí **xà** ʔ’áé-kù-nà-tà **tíkà**]_{SUB}
 lion = SG.M:I COM 1SG SUBJ meet-REC-J-PST1 if
 [tí **xà** ʔé.mà ʔà /’úú-á-tá]_{MATRIX}
 1SG SUBJ 3SG.M:II ACC kill-J-PST1
 ‘If I had met the lion, I would have killed it.’

Some speakers use a clause-initial particle *nǎí* in combination with *tíkà* without a notable semantic difference:

- (422) a. [nǎí ʔé.sì xà dàro-hà ʔíté **tíkà**]_{SUB} [ì=sì xà ʔ’orá
 COND 3SG.F:I SUBJ burn:J-PST3 NEG if tree = SG.F:I SUBJ grow
 ntshéè kà]_{MATRIX}
 today MPO
 ‘If it had not burned down, the tree would be grown today.’

- b. [n]í ʔé.sì xà kyíí-nà-hà ʔíté tíkà]SUB [ʔé.sì xà t'úú]MATRIX
 COND 3SG.F SUBJ be.sick-J-PST3 NEG if 3SG.F:I SUBJ bec.beautiful
 'If she had not been ill, she would have become beautiful.'
- c. [n]í ʔé.sì xà //ʔóó-nà ʔíté tíkà]SUB [ʔoré = sè
 COND 3SG.F:I IRR die-STAT NEG if young = ADV
 /úú = sè xà t'úú-nà ntshéè]MATRIX
 child = SG.F:I SUBJ beautiful-STAT today
 'If she had not died young, the girl would be beautiful today.'

Backward anaphora are possible, as is exemplified by (422)a and (422)c above. The data does not contain examples of zero anaphora of shared participants in either matrix or subordinate clause, but this may be coincidence as all examples were elicited. Zero anaphora is extremely frequent in texts, but occurs rarely in elicited data.

8.2.4 Temporal clauses

Temporal meanings are expressed by a variety of different strategies, which cover all the subordination types discussed in §8.2 above.

Table 77: Temporal clauses

FORM	SOURCE / LITERAL MEANING	ENGLISH GLOSS	SECTION
(kó)nò ~ kònò	n/a	'when'	§8.2.4.1
= sè	adverbialiser	'while'	§8.2.4.2
asyndesis (iconic) ky'oà ky'oà nò ky'oà ʔà ngyúró ʔà	'to go out' + 'when' + LOC 'in the back'	'after'	§8.2.4.3
asyndesis (iconic) xàwèè V-tà = sè	'while X is not happening yet'	'before'	§8.2.4.4
k'àì	'first'	'since'	§8.2.4.5
nò /úú (?)	'only when' (?)	'until'	§8.2.4.6

8.2.4.1 'When'

The notion of 'when, as soon as, by the time' is expressed by the particle *nò*, which preferably follows the predicate of the subordinate clause:

- (423) a. [tsá hana-hà rè]MATRIX [ʔé.m kò /úú nò xam = mà ʔà]SUB
 2SG.M be.there:J-PST3 Q 3SG.M:I IPFV kill when lion = SG.M:II ACC
 'Were you there when he killed the lion?'

- b. [tsá kò àà nò ?úì ?à]_{SUB} [tsá ?à tí géré n/goa-mà]_{MATRIX}
 2SG.M IPFV come when evening LOC 2SG.M ACC 1SG FUT cook:J-BEN
 ‘As soon as you come in the evening I will cook for you.’
- c. [thà góè=dzà kò k’oó=||ù kò àà nò]_{SUB}
 SS cattle=PL.F:II IPFV eat.meat=PL.M:I IPFV come when
 [?é.sì kò n-úú]_{MATRIX}
 3.SG.F:I IPFV whistle
 ‘When those who eat cattle come, she whistles.’
- d. [/?eé=rí kò tabù nò]_{SUB} [xam=dzi géré /úú ?íté]_{MATRIX}
 fire=SG.M:I IPFV burn when lion=PL.F:I FUT get.near NEG
 ‘While (as long as) the fire burns the lions will not get near.’

nò has an allomorph *kónò~kònò* which is likely to derive from a combination of *nò* with the IMPERFECTIVE particle *kò*. *kónò~kònò* is most frequently found in verb-initial clauses and usually does not require additional TAM marking, as *nò*-clauses in temporal usage generally demand the IMPERFECTIVE aspect (but compare *nò* in conditional clauses, cf. §8.2.3.1 above). Clause-initial predicates followed by both subject and TAM are only possible in subordinate clauses with *nò* and the adverbialiser =*sè* (see §8.2.4.2 below).

- (424) a. [àà ?é.dzi kónò]_{SUB} [thòò gúà=sì k’oró khudì-nà-tà
 come 3PL.F:I when DS hyena=SG.F:I eat:J end-J-PST1
 /úú=sà ?à]_{MATRIX}
 child=SG.F:II ACC
 ‘By the time they came, the hyena had finished eating the child.’
- b. [/?úú-é kónò]_{SUB} [tsóó=xò háá]_{MATRIX}
 kill-PASS when taboo=NMZ be.there
 ‘When [the animal] is killed, there is taboo.’
- c. [káré tsé kónò]_{SUB} [kúú.k’èè khoe dí kò ||xábà=mà ?à
 cut.meat 1PL.C when sister person POSS ipfv back=SG.M:II ACC
 k’oó]_{MATRIX}
 eat.meat
 ‘As soon as they cut meat, the sisters of the people eat the back-part.’

Although exceptions appear to be possible, the great majority of temporal clauses with *nò* precede the matrix clause. Argument sharing does occur, but zero anaphora in either matrix or subordinate clause are rare.

8.2.4.2 ‘While’

The notion of events taking place simultaneously is expressed by encoding one of them as an adverbial which modifies the verb denoting what is considered to be the main event. The adverbialiser =sè is attached to either the finite main verb of the subordinate clause, or to the postposed TAM particle (cf. 425b). Although there is some functional overlap with the particle *nò* ‘when’, the perceived connection between the events encoded by this type of subordinate construction is much tighter.

- (425) a. [ʔé.ṅ k’uí-tótùṁ-nà-hà]_{MATRIX} [tsé kò Mǎú ʔò kúú̀= sè]_{SUB}
 3SG.C:I speak-INT-J-PST3 1PL.C IPFV GN ALL go = ADV
 ‘They talked a lot while we were going to Maun.’
- b. [kyí ʔé.sì kò= sè]_{SUB} [ʔé.sì //óé-tótùṁ-nà-hà]_{MATRIX}
 be.sick 3SG.F:I IPFV = ADV 3SG.F:I sleep-INT-J-PST3
 ‘While she was sick, she slept a lot.’
- c. [tí kò g//áì= sè]_{SUB} [tí tè /’eé]_{MATRIX}
 1SG IPFV run = ADV 1SG NEAR.PST fall
 ‘While I was running, I fell.’

Adverbial clauses with =sè are highly restricted with regards to the TAM markers they accept. Only the IMPERFECTIVE particle *kò* and the STATIVE suffix *-nà* appear.

Unlike temporal clauses with *nò*, adverbial clauses with =sè appear both before and after the matrix clause with almost equal frequency, presumably because temporal iconicity or causal dependency is not considered relevant. If they disrupt the matrix clause, =sè clauses most commonly appear after the subject and directly before the main predicate. =sè clauses preceding the predicate of the matrix clause are particularly frequent if both clauses share one or all of their arguments. Arguments shared between =sè clause and matrix clause are usually not repeated in the subordinate clause, which might imply a particularly tight interlacing between the two clauses.

- (426) [tí kò [n//gáè kò= sè]_{SUB} kúú̀]_{MATRIX}
 1SG IPFV sing IPFV = ADV go
 ‘I walk while singing.’

Subordinate predicates with =sè form a semantic paradigm with juncture-verb constructions (JVC; cf. §4.5) and predicates conjoined with *thì.ʔà~thà / ʔà* (§8.1.1.2).

n + 1 events in temporal succession	→	<i>thì.ʔà~thà / ʔà</i>
n + 1 events taking place simultaneously	→	= <i>sè</i>
n + 1 events forming one complex event	→	JVC

Especially the choice between an adverbial clause with =*sè* and a JVC may depend on the speakers' unique perception of the way in which two events are connected. (427)a and (427)b below both express that an action is carried out in a sitting position, but they differ in whether they encode the act of sitting as an independent, but simultaneous event (cf. (427)a), or as modifying part of the main event, thereby rendering it complex (cf. (427)b).

- (427) a. [nyúú-nà = sè]_{SUB} [tí tè /íí = sà ʔà kyeé.kyeè]_{MATRIX}
 be.sitting-STAT = ADV 1SG NEAR.PST song = SG.F:II ACC listen
 'I listened to the song while sitting.'
- b. tí kò [nyúú-a // 'àm]_{JVC} katsí = sà ʔà.
 1SG IPFV sit-J beat cat = SG.F:II ACC
 'I am beating the cat while sitting.'

8.2.4.3 'After'

The notion of 'after' is rarely found in texts and could only be identified via elicitation. Two successive events are usually connected by means of the conjunction *thì.ʔà~thà* 'and then' (cf. §8.1.1.2) which in this context may not only signal a shared subject, but also thematic continuity. Hence, a construction like in (428) below will generally be preferred over use of a subordinate clause:

- (428) [xaró.xàrò-kù]_{CL1} [thì.ʔà tsé kò kare]_{CL2}
 distribute-RCPR SS 1PL.C IPFV make.biltong
 '[We] distribute [the meat] and then we make biltong.'

There is, however, a way to express 'after' by means of the verb *ky'òà* 'to go out, exit'. Constructions with *ky'òà* most frequently occur if the subordinate clause can be reduced to a simple noun. The noun becomes a locative argument of *ky'òà*, whereas the subordinate clause becomes a locative / temporal argument of the matrix clause. We are therefore dealing with a subordinate clause which has been desentialised to take on the functions of a nominal argument:

- (429) a. OBL S V
 [[ʔyúú = mí ʔà ky'òà ʔà]_{SUB} [khúm géè kúú-a sù]_{MATRIX}
 eat = SG.M:I LOC exit LOC 1DU.C FUT go-J work
 'After eating we will go to work.'

- b. [kyí.ò = ì ?à ky'òà] ?à] _{SUB} [ʔé.sì nè mĩũ-té] _{MATRIX}
disease = SG.M:I LOC exit LOC 3SG.F:I SEQ see-SEQ.NEG
‘Following the disease, she could not see (i.e., went blind).’

If the clause cannot be reduced to a simple noun, its predicate is nominalised to act as a locative argument of *ky'òà*, while *ky'òà* itself acts as main verb of the clause. The clause may then be subordinated by means of the particle *nò* ‘when’ (cf. 430a), or it is simply juxtaposed to the matrix clause (cf. 430b).

- (430) a. [[ʔé.dzi kò tántè = mà ?à //áú.//aù = ì ?à] _{OBL} ky'òà nò] _{SUB}
3PL.F:I IPFV tent = SG.M:II ACC clean = SG.M:I LOC exit when
[[ʔaù nè kyãã] _{MATRIX}
fish SEQ enter
‘After they have cleaned the tent, the whites come in.’

- b. [xúá = ì gére /'urí] _{MATRIX} [[kyxoà = mà ʔé.//ù kò
place = SG.M:I FUT bec.dirty elephant = SG.M:II 3PL.M:I IPFV
/áá = ì ?à] _{OBL} ky'òà] _{SUB}
skin = SG.M:I LOC exit
‘The place will be dirty after they have skinned the elephant there.’

Although clauses with *ky'òà* denoting ‘after’ appear to require the IMPERFECTIVE *kò*, there are not enough examples in the data to assess whether this is a tendency or a rule. The above examples suggest that the subordinate clause may both precede and follow the matrix clause, although, again, there is not enough data to put this observation into context.

One speaker used the adverbial phrase *ngyúró ?à* ‘in the back’ to express ‘after’:

- (431) [[thà ngyúró ?à ɲ = dzi n|gè mĩũ-à ?ãã]
SS back LOC DEM.PROX = PL.F:I SEQ see-J know
[thà //ʔáá-kù = ì mú = í gére khudí ʔité tà] _{SUB}
SS fight-REC = SG.M:I DEM.DIST = SG.M:I FUT end NEG COMP
[xĩũ.sè g//ai-a-hà] _{MATRIX}
INT run-J-PST3

‘After these ones [the zebras] realised that fight was not going to end, (they) ran badly.’

8.2.4.4 ‘Before’

To express the notion of ‘before’, the verb of the subordinate clause is negated and rendered a dependent of the predicate of the matrix clause by means of the adverbialiser = *sè*. As = *sè* clauses only accept the IMPERFECTIVE *kò* and the STATIVE *-nà* (cf. §8.2.4.2 above), the verb is negated by means of the IMPERFECTIVE NEGATION

suffix *-tǎ̀*. The negated verb (or the subordinate clause as such) is then preceded by the focus particle *xàwèè* ‘still, yet’. If taken literal, (432)a could be translated as ‘While the sun had not risen yet, we went’. Evidently, argument sharing is possible, but not required. (432)c is an example for backward anaphora, i.e., the pronoun in the subordinate clause is coreferent with zero anaphora in the preceding matrix clause. Like *=sè* clauses in general, this type of subordinate clause may precede or follow the matrix clause.

- (432) a. [*á. tsǎ̀ = sǐ* *xàwèè* *ky’oà-tǎ̀ = sè*]_{SUB} [*tsé* *kũũ-a-tà*]_{MATRIX}
 sun = SG.F:I yet exit-IPFV.NEG = ADV 1PL.C go-J-PST1
 ‘We went out before sunrise.’
- b. [*xàwèè* *tsé* *kũũ-tǎ̀ = sè*]_{SUB} [*nguú = mà* *ʔà* *||áú. ||àù* *kùè*]_{MATRIX}
 yet 1PL.C go-NEG-IPFV = ADV house = SG.M:II ACC straighten IPFV
 ‘Before we go [we] clean the house.’
- c. [*t’ũ̀- nà- hà*]_{MATRIX} [*xàwèè* *ʔé. sǐ* *kyí-tǎ̀ = sè*]_{SUB}
 bec.beautiful-J-PST3 yet 3SG.F:I get.sick-IPFV.NEG = ADV
 ‘[She] was beautiful before she got sick.’

8.2.4.5 ‘since’

The meaning ‘since’ is expressed by means of a particle *k’ài* following the subordinate clause. Not enough examples are available for a reliable analysis, but it appears that it is also necessary for the predicate of the matrix clause to be followed by the durative suffix *-ʔù. sǐ* (cf. §4.4.3.2). The subordination particle *k’ài* is most likely a grammaticalised form of the adverb *k’ái* ‘first’. In both of the examples below, the subordinate clause precedes the matrix clause. The subject is shared between subordinate and matrix clause, and omitted in the latter.

- (433) a. [*ʔé. m* *krisén-nà- hà* *k’ài*]_{SUB} [*keréké = m* *ʔò* *kò* *kũũ-a-ʔù. sǐ*]_{MATRIX}
 3SG.M:I bec.christian-J-PST3 since church = SG.M:I ALL IPFV go-J-DUR
 ‘Since he became a Christian [he] always goes to church.’
- b. [*Áfrikà* *ʔò* *ʔé. sǐ* *àa- hà* *k’ài*]_{SUB} [*kyí-a-ʔù. sǐ* *kùè*]_{MATRIX}
 GN ALL 3SG.F:I come:J-PST3 since get.sick-J-DUR IPFV
 ‘Ever since she came to Africa, [she] has been ill.’

8.2.4.6 ‘until’

There is no conclusive pattern for the expression of ‘until’ in the data. In the one example found, the temporal subordinators *nò* is followed by the adverbial */úí* ‘only’ (< */úí* ‘one’, cf. §3.3.3.1.4.2).

- (434) [tí géré tee-mà ?é.nà ?à]_{MATRIX} [ʔé.ñ kò àà nò /úú]_{SUB}
 1SG FUT stand:J-BEN 3PL.C:II ACC 3PL.C:I IPFV come when ?only
 ‘I will wait for them until they come.’

8.2.5 Purpose clauses

If the purpose clause expresses the goal of a movement specified in the main predicate, it is commonly embedded as an oblique argument headed by the ALLATIVE postposition *ʔò* (cf. §5.3.3). For this purpose, the main verb of the subordinate clause is nominalised, but may keep all of its arguments. Like oblique participants in general (cf. §6.1.3), purpose clauses embedded as nominal dependents of an ALLATIVE postposition may appear clause-initially, clause-finally (cf. 435b-c), or immediately before the main verb (cf. 435a).

- (435) a. [k'áàkhòè = /ù kò [guni = ì ʔò]_{SUB} kúú nò]_{MATRIX} [g//aàkhòè = dzi kò
 man = PL.M:I IPFV hunt = SG.M:I ALL go when woman = PL.F:I IPFV
 [//xáá = ì ʔò]_{SUB} kúú]_{MATRIX}
 gather = SG.M:I ALL go.
 ‘When the men go to hunt, the women go to gather.’
- b. [k'oxú #úú ʔò]_{SUB} [ʔé.ñ kúú-a-tà]_{MATRIX}
 meat buy ALL 3SG.M:I go-J-PST1
 ‘He went to buy meat.’
- c. [thì.ʔà //ʔúá àà-kù]_{MATRIX} [káá = ì ʔò /úá = sì mǐ = sí
 SS return:J come-RCPR search = SG.M:I ALL child = SG.F:I DEM.DIST = SG.F:I
 káu-a-tà = sà ʔà]_{SUB}
 be.long-J-PST1 = SG.F:II ACC
 ‘[They] came back to search for that child which had stayed behind.’

One speaker used the postposition /xè (cf. §5.3.4) instead of *ʔò*:

- (436) [thì.ʔà //áú.//àù-sì]_{MATRIX} [//ʔáé = ì ʔò //ʔúá /xè]_{SUB}
 SS straighten-REFL village = SG.M:IIALL return ALL
 ‘[... and then they] got themselves ready to return to the village.’

Another way to express purpose is to juxtapose purpose clause and matrix clause. In the examples available, purpose clause and matrix clause share the subject which is only expressed once (in the matrix clause). TAM is not expressed in the purpose clause which generally displays a high degree of interlacing with the matrix clause. In (437)b below, the direct object of the subordinate verb *khúí* ‘lift’ directly follows the TAM particle of the matrix clause and is followed by the main verb //ʔúá ‘return’.

To facilitate the understanding of this peculiar construction, the matrix clause has been coded red, and the purpose clause has been coded blue.

- (437) a. [*ʔabá = m̄* // *abù-à kùè⁴⁴ ʔí* *boksí = m̄ ʔà tee-tà*]_{MATRIX}
 dog = SG.M:I jump-J PROG DEM.REF box = SG.M:I LOC stand:J-PST1
*ʔáni = m̄ ʔà gàdò*_{SUB}
 inside = SG.M:I LOC look
 ‘It jumped and stood on the box to look inside.’
- b. *k’aro-|ùá = m̄ kò |úú = dzà ʔà xúú-|ùá kà tshaá = m̄*
 boy-DIM = SG.M:I IPFV some = PL.F:II ACC thing-DIM ATTR water = SG.M:I
ù. |óò ʔà // ʔúá khúí ʔà káá |úá = sà ʔà.
 top LOC return lift CONJ search child = SG.F:II ACC
 ‘The boy returns to lift little things above the water and search for the child.’(?)

Finally, purpose may be expressed by means of the particle *xàbè* ‘so that’. Unlike other subordination markers (cf. §8.2), *xàbè* does not follow the main verb or the last core argument of the subordinate clause, but holds the slot right before the main verb, which is normally occupied by focus particles and adverbials. Like other purpose clauses, clauses with *xàbè* appear without TAM marking.

- (438) a. [*thì. ʔà n|gè |úú = mà ʔà tséè*]_{MATRIX} [*ná = m̄ xàbè khoe = nà*
 SS SEQ one.of = SG.M:II ACC send DEM.REF = SG.M:I so.that person = PL.C:I
kúú-a // ʔáé = m̄ ngùà kyíí]_{SUB}
 go-J village = SG.M:I ABL call
 ‘[They] sent one [of them] so that he would go and call the people from the village.’
- b. [*ʔé. // ù nyúú*]_{MATRIX} [*thì. ʔà ʔé. // ù xàbè sãá tshéè-|ùá*]_{SUB}
 3PL.M:I sit.down SS 3PL.M:I so.that rest day-DIM
 ‘They sit down, so that they can rest for a little while [a small day].’

8.2.6 Concessive and adversative clauses

The notion of adversative (‘but’) may be expressed by simple juxtaposition of the clauses to be contrasted. It is then assumed that the addressee can detect the adversative meaning from the context:

⁴⁴ A verb followed by the juncture morpheme, the IMPERFECTIVE / PROGRESSIVE particle *kùè* and another finite verb is unique in the data and seems reminiscent of converb constructions in Khwe. These are multiverbal predicates of which all but the last verb are marked by a converb marker *-kò* that is attached to the verb stem via the juncture morpheme (cf., e.g., Kilian-Hatz 2008: 308ff).

- (439) a. [k'oró-tá ?íté k'oxú=mà ?à]_{CL1} [tshaá=mà ?à
eat.meat:J-PST1 NEG meat = SG.M:II ACC water = SG.M:II ACC
k'aa-a-tà]_{CL2}
drink-J-PST1
'[She] didn't eat the meat [but] drank the water.'
- b. [j'úá=sì t'úú ?è nítshéè]_{CL1} [/'áñ-nà-hà thuú ká]_{CL2}
child = SG.F:I beautiful COP today, bec.ugly-J-PST3 past MPO
'The girl is beautiful [now], [but] she was ugly in the past.'

If morphological marking occurs, Ts'ixa does not distinguish between concessive and adversative clauses. Both contrasts are usually expressed by means of *k'òsò*. However, it appears that adversative contrasts usually have the subordinate clause precede the matrix clause, so that the particle comes in between the two clauses, much like the coordinators *kàrà* 'or' and *thì. ?à~thà* (and its counterpart *thòò*) 'and then'. Unlike with those coordinators, the data does not include any examples of TAM sharing between the clauses to be contrasted. Argument sharing does occur, but zero anaphor in the second clause is less frequent than with the coordinators discussed above.

- (440) a. [j'úá=sì t'úú-nà-hà] [k'òsò kò kyíí]
child = SG.F:I bec.beautiful-J-PST3 but IPFV be.sick
'The girl was beautiful, but [she] is sick [now].'
(or: 'Although the girl was beautiful, [she] is sick [now].')
- b. [xúá=sì /'urí-nà-hà] [k'òsò //áà-nà-hà]
place = SG.F:I bec.dirty-J-PST3 but wash-J-PST3
'The place was dirty, but [they] have washed [it].'
- c. [Mabábè ?ò ?é.m kò kúú] [k'òsò Sankóyó ?à
GN ALL 3SG.M:I IPFV go but GN LOC
?é.m nyúú-a-?ò]
3SG.M:I stay-J-PST2
'He was going to Mababe, but stayed at Sankoyo.'
(or: 'Although he was going to Mababe, he stayed at Sankoyo.')
- d. [tí kúú-kàà-nà-?ò] [k'òsò tí nè lífì mūú-té]
1SG go-VOL-J-PST2 but 1SG SEQ lift find-NEG.SEQ
'I wanted to come, but I could not find a lift.'
(or: 'Although I wanted to come, I could not find a lift.')

k'òsò may also express an adversative contrast between predicative adjectives; in this function, it is interchangeable with a particle *tàmà*:

- (441) a. *ʔé.m ʔoré.xà k'òsò |xurí ʔè.*
 3SG.M:I young but clever COP
 'He is young but clever.'
- b. *ʔé.m ʔoré.xà tàmà |xurí ʔè.*
 3SG.M:I young but clever COP
 'He is young but clever.'

Both *k'òsò* and *tàmà* are also used to convey the concessive notion of 'although'. The examples below suggest that both particles are in fact clause-final subordination markers, aligning with *nò* 'when', *ʔòò* 'because', *tìkà* 'if' and the complementiser *tà*:

- (442) a. [*kyí kò tàmà*]_{SUB} [*sékólè=sì ʔò kũũ-a-tà*]_{MATRIX}
 be.sick IPFV but school = SG.F:I ALL go-J-PST1
 'Although [he] was sick, [he] went to school.'
- b. [*àà-nà-hà*]_{MATRIX} [*ná=m kyí-totúm-nà-hà k'òsò*]_{SUB}
 come-J-PST3 DEM.REF = SG.M:I be.sick-INT-J-PST3 but
 '[He] came although he was very ill.'

Young speakers mostly use the particle *mè*, a loan from Tswana, to express adversative contrasts:

- (443) a. [*tí tsxãã-hà*] [*mè tí nà àà*]
 1SG bec.tired:J-PST3 but 1SG NEAR.FUT come
 'I was tired, but I will come now.'
- b. [*tí /'urí-nà-tà*] [*mè tí t'ũũ ʔè*]
 1SG bec.dirty-J-PST1 but 1SG clean COP
 'I was dirty, but I am clean now.'

8.2.7 'Instead of'

The notion of 'instead of' is expressed through a negated adverbial clause marked by the adverbialiser =*sè* which follows the finite main verb of the subordinate clause (cf. §8.2.4.2). As =*sè* clauses only accept the IMPERFECTIVE *kò*, negation is expressed by means of the NEGATIVE IMPERFECTIVE suffix *-tã*. The adverbial clause may either follow (cf. 444a-b) or precede (cf. 444c) the matrix clause. In all examples found in the data, matrix clause and subordinate clause share the same subject. The subject is

either expressed in one clause only (cf. 444a), or not at all because it is deemed accessible from the context (cf. 444b-c).

(444) a. [ʔé.sì táùn = m̄ ʔò kũũ-nà-hà]_{MATRIX} [tí /xóà sũ-tâ = sè]_{SUB}
 3SG.F:I town = SG.M:I ALL go-J-PST1 1SG COM work-IPFV.NEG = ADV
 ‘She went to town instead of working with me.’
 (lit.: Not working with me, she went to town.)

b. *khoë = ñ t’eré ʔè. [ʔũm̄ kúè]_{MATRIX} [kũũ-a //harà-tâ = sè]_{SUB}*
 person = PL.C:I lazy COP sleep IPFV go-J plough-IPFV.NEG = ADV
 ‘People are lazy. [They] sleep instead of going to plough.’
 (lit.: Not going to plough, they sleep.)

c. [súkà = mà kyũũ-tâ = sè]_{SUB} [ʔé.sì nè kũũ-a gyiráá kyũũ]_{MATRIX}
 sugar = SG.M:II buy-IPFV.NEG = ADV SG.F:I SEQ go-J dress buy
 ‘Instead of buying sugar, [she] went to buy a dress.’
 (lit.: Not buying sugar, she bought a dress.)

Note that the expression of ‘instead of’ and ‘before’ only differs in that the latter involves the focus particle *xàwèè* ‘yet’ (cf. §8.2.4.4).

9 Interpersonal functions

This section discusses the expression of interpersonal functions in Ts'ixa. As more data from natural conversation is needed to provide a more conclusive overview of this domain, I will restrict myself to two sentence types deviating from the declarative norm: interrogative (§9.1) and imperative and hortative (§9.2).

9.1 Interrogative

Ts'ixa distinguishes between two main types of interrogative sentences: polar questions (§9.1.1), i.e., questions that may be answered by 'yes' or 'no', and content questions (§9.1.2), i.e., questions requiring use of one of the language's interrogative pronouns (cf. §3.3.5). Responses to both types of questions will be discussed in §9.1.3.

9.1.1 Polar questions

This section discusses all types of interrogative clauses that require use of the question particle *rè*. This includes prototypical yes / no questions (§9.1.1.1) as well as choice questions (§9.1.1.2). In verbal clauses, the particle *rè* generally follows the conjugated verb. Non-verbal clauses with the IDENTIFICATION MARKER / COPULA *?è* can be transformed into questions by replacing *?è* with *rè*. If a clause is negated by the general negation particle *?íté*, *rè* follows *?íté*.

9.1.1.1 yes / no questions

The data suggests that Ts'ixa uses morphological means only to transform a declarative sentence into a yes / no question. Although more research will be needed to confirm this, it appears that no additional prosodic marking occurs. In all transitive examples found in the data, the direct object follows the conjugated verb (cf. §6.1 on constituent order). Whether this is mere coincidence or a characterising feature of this particular sentence type cannot be answered conclusively at this point.

- (445) a. *tsá kà /úá = sì kò //?ùm rè?*
sleep POSS child = SG.F:I IPFV sleep Q
'Is your daughter sleeping?'

- b. *g//aàkhòè=sì k'oró-há rè k'oxú=mà ?à.*
 woman = SG.F:I eat.meat:J-PST3 Q meat = SG.M:II ACC
 'Did the woman eat the meat?'
- c. *ts'ãã-hà rè bekè=sà ?à?*
 steal-J-PST3 Q bag = SG.F:II ACC
 'Did [they] steal the bag?'
- d. *sá tè mūũ rè xarín=dzà ?à.*
 2SG.F NEAR.PST see Q lion = PL.F:II ACC
 'Have you seen the lions?'
- e. *tsá ?aná-há rè ?é.sì kà k'áàkhòè=mà ?à.*
 2SG.M get.to.know:J-PST3 Q 3SG.F:I POSS man = SG.M:II ACC
 'Do you know her husband?'
- f. *?é.sì xíúkhòè rè?*
 3SG.F:I San Q
 'Is she a San?'

Polar questions may also be formulated as negative questions:

- (446) a. *ts'áá-ì-hà ?íté rè?*
 steal-PASS-PST3 NEG Q
 'Wasn't [it] stolen?'
- b. *?é.//ù ts'ãã-hà ?íté rè?*
 3PL.M:I steal:J-PST3 NEG Q
 'Didn't they steal [it]?'
- c. *?é.m //áú.//àù-nà-hà ?íté rè ?é.sà ?à?*
 3SG.M:I straighten-J-PST3 NEG Q 3SG.F:II ACC
 'Didn't he repair it?'

Ts'ixa makes productive use of tag questions, i.e., the truth value of a statement is questioned by a tag clause following the main clause. The tag question may either be affirmative or negative, depending on the statement made in the main clause. The tag questions contained in the data follow three different patterns:

- a. full repetition of the predicate in the tag clause (cf. 447a-c)
- b. anaphoric representation of the predicate by the discourse referential marker *?í.thà* (§3.3.4.3.2.2) in the tag clause (cf. 447d)
- c. a tag clause featuring the noun *tseè.xù* 'truth' (cf. 447e)

Below, examples for all three patterns are given. Note that a) and b) may be combined (cf. 447f):

- (447) a. *g//aàkhòè=sì k'oró-há k'oxú=mà ?à k'oró-há ?íté rè?*
 woman = SG.F:I eat.meat:J-PST3 meat = SG.M:II ACC eat.meat:J-PST3 NEG Q
 'The woman ate the meat, didn't she?'
- b. *ts'ãã-hà ?íté, ts'ãã-hà rè?*
 steal:J-PST3 NEG steal:J-PST3 Q
 '[They] didn't steel [it], did [they]?'
- c. *//?ùm kùè, //?ùm-tà rè?*
 sleep IPFV sleep-IPFV.NEG Q
 '[He] is sleeping, isn't [he]?'
- d. *ts'û-nà-hà, ?í.thà ?íté rè?*
 limp-J-PST3 thus NEG Q
 '[He] limped, didn't [he]?'
- e. *ts'û-nà-hà tseè.xù ?íté rè?*
 limp-j-pst3 truth NEG Q
 '[He] limped, didn't [he]?' (lit. isn't that the truth?)
- f. *g//aàkhòè=sì k'oró-há k'oxú=mà ?à k'oró-há*
 woman = SG.F:I eat.meat:J-PST3 meat = SG.M:II ACC eat.meat:J-PST3
?í.thà ?íté rè?
 thus NEG Q
 'The woman ate the meat, didn't she eat [it]?'

9.1.1.2 Choice questions

Choice questions are treated as a subtype of polar question, i.e., they require use of the question particle *rè*. The particle usually follows both predicates which are conjoined by *kànà* 'or' (cf. 448a). However, the data contains few examples in which only the first predicate is followed by *rè* (cf. 448b), suggesting that conjunction with *kànà* allows for sharing of illocutionary force (cf. §8.1.2.1 for further examples).

- (448) a. *?é.m sambà-nà-hà rè kànà //áú.//àù-nà-hà rè ?é.sà ?à?*
 3SG.M:I wash-J-PST3 Q or straighten-J-PST3 Q 3SG.F:II ACC
 'Did he wash or repair it [his car]?'

- b. *xàwèè ?é.sì kò k'óó rè k'oxú=mà ?à kàná*
 still 3SG.F:I IPFV eat.meat Q meat = SG.M:II ACC or
k'oró-tá?
 eat.meat:J-PST1
 'Is she still eating the meat or has [she] eaten [it already]?'

9.1.2 Content questions

This section addresses content questions with the derived and non-derived interrogative pronouns discussed in §3.3.5. The interrogative pronoun commonly occupies the clause initial slot, irrespective of whether it functions as subject, object, or oblique argument of the clause (cf. §6.1 on constituent order). However, as is shown by (449) below, this does not appear to be strictly necessary.

- (449) *Marí=sí ní=mà ?à hĩ-nà-hà maá ?à?*
 PN = SG.F:I what = SG.M:II ACC do-J-PST3 who ACC
 What did Mary do to whom?

More data from natural conversation will be needed to gain a fuller picture of the syntactic behaviour of interrogative pronouns.

ní 'which, what'

- (450) a. *ní=m hĩ-sí-nà-tà?*
 what = SG.M:I do-REFL-J-PST1
 'What happened?'
 b. *ní=mà ?à ?é.sì k'uí-á-tá.*
 what = SG.M:II ACC 3SG.F:I speak-J-PST1
 'What did she say?'

mãã ~ *maá* 'who'

- (451) a. *maá k'oró-tá k'oxú=mà ?à.*
 who eat.meat:J-PST1 meat = SG.M:II ACC
 'Who ate the meat?'
 b. *maá ?à g//ààkhòè=sì kyíí-nà-tà?*
 who ACC woman = SG.F:I call-J-PST1
 'Whom did the woman call?'

maá.ngùà 'where'

- (452) a. *maá.ngùà sá kò ky'òà?*
 where 2SG.F IPFV come.from
 'Where are you coming from?'

- b. *maá.ngù ?ò sá kò kíùù?*
 where ALL 2SG.F IPFV go
 ‘Where are you going to?’

maá./àh ‘when’

- (453) *maá./àh sá sí-nà-hà?*
 when 2SG.F arrive-J-PST3
 ‘When did you arrive?’

maá.thà ‘how’

- (454) *maá.thà tsé géré ?í.ngùà sí?*
 how 1PL.C FUT LOC.REF arrive
 ‘How will we get there?’

The notion of ‘why’ is expressed by means of *ní* ‘which, what’ followed by what looks like the IDENTIFICATION MARKER / COPULA *?è*. This construction might be interpreted as a cleft sentence, i.e., ‘why is it that...’. It is however not possible to explain at this point why another particle *?è* appears in the clause final slot:

ní ?è... ?è ‘why’

- (455) *ní ?è ?é.ù ||?orá k’oxú káá-tà ?è?*
 what ?ID 3PL.M:I big animal search-IPFV.NEG ?ID
 ‘Why don’t they search a big animal?’

All content questions may also appear as indirect questions in complement clauses (cf. §8.2.1.1), e.g.,

- (456) a. *tsá ?aná-há rè [maá ?à tí kò n/goa-mà tà]_{COMP.CL?}*
 2SG.M know:J-PST3 Q who ACC 1SG IPFV cook:J-BEN COMP
 ‘Do you know whom I am cooking for?’

- b. *tsá ?aná-há rè [maá /?ád ?é.m ts’ãã-tà tà]_{COMP.CL}*
 2SG.M know:J-PST3 Q who money 3SG.M:I steal:J-PST1 COMP
 ‘Do you know whose money he stole?’

- c. *n//gaú tí ?à [maá.ngùà tsá kò nyúú tà]_{COMP.CL}*
 point 1SG ACC where 2SG.M IPFV stay COMP
 ‘Show me where you live.’

- d. *tí ?ãã-tà [maá.thà tsé xá ?í.ngùà sí tà]_{COMP.CL}*
 1SG know-NEG.IPFV how 1PL.C SUBJ LOC.REF arrive COMP
 ‘I don’t know how I should get there.’

9.1.3 Responses

Responses to questions may range from complete narratives to simple yes / no replies. This subsection briefly outlines common patterns found in responses to polar questions (§9.1.3.1), and in responses to content and choice questions (§9.1.3.2).

9.1.3.1 Responses to polar questions

Although speakers always responded in full sentences during elicitation, it could be observed in natural conversation that when used on their own, *ʔeè* ~ *ʔiĩ* ‘yes’ and *nyá* ‘no’ constitute adequate responses to polar questions:

(457) a. *ʔé.//ù ts'ãã-hà ʔíté rè kolót=sà ʔà?*
3PL.M:I steal:J-PST3 NEG Q car = SG.F:II ACC
‘Didn’t they steal the car?’

b. *ʔeè, (ts'ãã-hà).*
yes steal:J-PST3
‘Yes, ([they] stole [it]).’

c. *nyá, (ts'ãã-hà ʔíté).*
no steal:J-PST3
‘No, ([they] did not steal [it]).’

9.1.3.2 Responses to choice and content questions

Responses to choice and content questions are often elliptic sentences, which may consist of a noun or verb only. Responses that consist of a single noun require use of either the IDENTIFICATION MARKER / COPULA *ʔè* or of the postposition they would appear with in a full sentence:

(458) a. *ní ʔè mĩ mĩ.ngùà?*
what COP DEM.DIST there
‘What is that over there?’

b. *nguú ʔè.*
house ID
‘It is a house.’

(458) a. *maá k'oró-tá k'oxú=mà ʔà.*
who eat.meat:J-PST1 meat = SG.M:II ACC
‘Who ate the meat?’

b. *g//aàkhòè=sà ʔè.*
woman = SG.F:II ID
‘The woman.’

- (459) a. *maá.ngù ?ò g//aàkhòè=sì tè kúú?*
 where ALL woman = SG.F:I NEAR.PST go
 ‘Where did the woman go to?’
- b. *[Khwai] ?ò.*
 GN ALL
 ‘To Khwai.’

If the response consists of a verb only, the verb is always finite, i.e., marked by a TAM morpheme. As is generally the case with ellipsed subjects, all TAM particles follow the verb:

- (460) a. *g//aàkhòè=sì k’oxú=mà ?à k’oró-tá rè kànà*
 woman = SG.F:I meat = SG.M:II ACC eat.meat:J-PST1 Q or
kyeé-xù-nà-tà rè?
 throw:J-COMPL-J-PST1 Q
 ‘Did the woman eat the meat or did she throw it away?’
- b. *k’oró-tá.*
 eat.meat:J-PST1
 ‘[She] ate [it].’
- (461) a. *k’aro=//ù kò //qaní ÷úú kànà kyúú rè?*
 boy = pl.m:i ipfv raisin eat or buy Q
 ‘Are the boys eating or buying raisins?’
- b. *kyúú kùè.*
 buy IPFV
 ‘[They are] buying.’

9.2 Imperative and hortative

As far as morphological marking is concerned, Ts’ixa does not formally differentiate between imperative and hortative. Both allow for use of a verbal predicate without any kind of morphological TAM marking.

Imperative clauses are generally used in the 2nd person. No example in the data contained an openly stated subject pronoun:

- (462) a. *k’oxú=mà tí ?à kyúú-à-mà!*
 meat = SG.M:II 1SG ACC buy-J-BEN
 ‘Buy meat for me!’

- b. *sekólè* *ʔò* *kúú!*
 school ALL go
 ‘Go to school!’

In contrast, hortative clauses are used in the 1st person dual or plural and do not seem to appear without a subject pronoun:

- (463) a. *súm* *||xorò!*
 1DU.F dance
 ‘Let’s dance!’

- b. *||é* *guni* *ʔò* *kúú!*
 1PL.M hunt ALL go
 ‘Let’s go on a hunt!’

Both imperative (cf. 464a-b) and hortative (cf. 464c) are negated by means of a specially designated formative, the imperative negation particle *tí*, which follows the finite verb:

- (464) a. *tinégèrè* *kyũũ* *tí!*
 candy buy IMP.NEG
 ‘Don’t buy candy!’

- b. *drinkí = dzà* *k’áà* *tí!*
 drink = PL.F:II drink IMP.NEG
 ‘Don’t drink!’

- c. *khúrn* [*Khwai*] *ʔò* *kúú* *tí* *ń.tshéè!*
 2DU.C GN ALL go IMP.NEG today
 ‘Let’s not go to Khwai today!’

Ts’ixa also has a verb conjunction *nà* which is used in imperative sentences only. This element is discussed further in the context of clause coordination in §8.1.1.3.

- (465) *gàò* *nà* *mũũ!*
 look CONJ see
 ‘Look and see!’

Obligation is sometimes expressed by a verb *tsónèlà ~ tsónàlà* which is obviously a loan from Tswana. *tsónèlà ~ tsónàlà* is treated as an accomplishment (cf. §4.1.2 on lexical verb classes), i.e., its unmarked meaning is ‘to become obliged’. In current relevance clauses, it therefore requires use of the STATIVE / CURRENT RELEVANCE suffix -*nà* (cf. 466a) or of the GENERIC / REMOTE PAST -*hã ~ -ha*. *tsónèlà ~ tsónàlà* is treated like

a suffix; it attaches to the verb stem and does not require use of the juncture morpheme or trigger flip-flop. The resulting verb phrase resembles volitional constructions with the suffix *-kàà* (< *káá* ‘to want’, cf. §4.4.4):

(466) a. *tsá tí ʔà k'oxú kà kyũ̀-à-mà-tsonèlà-nà.*
 2SG.M 1SG ACC meat MPO buy-J-BEN-OBLG-STAT
 ‘You must buy meat for me!’

b. *tsá kũ̀-tsonàlà-nà-hà Mǎú ʔò.*
 2SG.M go-OBLG-J-PST3 GN ALL
 ‘You must go to Maun.’

c. *sá ʔyúú=sà ʔà n/gòà-tsonàlà-nà-hà.*
 2SG.F food=SG.F:II ACC cook-OBLG-J-PST3
 ‘You must prepare the food!’

10 Comparative outlook

Although any attempt at placing Ts'ixa into an areal and genealogical context is limited by a severe lack of comparative data, an assessment of selected phenomena from both a historical and a typological perspective is of particular interest to the study of the Khoe languages and of the Kalahari Basin Area 'Sprachbund'. Vossen (e.g., 1991, 1997, 2011) presents a well-argued case for Ts'ixa as a Shua variety influenced by the Buga dialect of Khwe. However, the present study as well as a steadily increasing corpus of Shua data call for a reconsideration of this classification, particularly based on evidence from the domains of nominal morphology and participant marking. In the following sections, phonology (§10.1), nominal modification (§10.2) and grammatical relations (§10.3) will be dealt with from a comparative perspective, and it will be argued that morphosyntactic evidence might not support a classification of Ts'ixa as a dialect of Shua, despite of a clear lexical link to this cluster (cf. §10.4 on lexical comparison). While no conclusive argument for Ts'ixa as a dialect of Khwe can be made at present, a tentative link to ||Ani might be acclaimed for by existing data.

Ts'ixa further exhibits typological features that hint at contact influence from a language of the Kx'a family. This language – most likely a dialect of Ju – is no longer spoken in the area and not remembered by the present inhabitants of Mababe. Nevertheless, the domain of nominal modification in particular displays features best explained by linguistic convergence (cf. §10.2.6).

A concluding assessment of non-linguistic material (§10.5), in particular from cultural and molecular anthropology supplements the data presented in this chapter. If not indicated otherwise, data from languages other than Ts'ixa comes from a 2013 corpus collected by W.B. McGregor and the present author during a survey of the Khoe languages of northern Botswana (cf. Table 6 in §1.3).

10.1 Phonology

In the following, three selected sub-categories of Ts'ixa phonology, namely the phoneme inventory (§10.1.1), the phonotactic structure (§10.1.2) and the tonal profile (§10.1.3) will be discussed from a cross-Khoe perspective. The focus will be on the varieties of Shua and Khwe geographically closest to Ts'ixa, i.e., Danisi (Shua) as well as Buga and ||Ani (Khwe). Data from West Caprivi Khwe and Nata-Shua is

also considered, as these two varieties appear to represent opposing ends of a continuum of features spanning across northern Namibia and Botswana.

Additional data used comes from H. Nakagawa (p.c.) on G|ui, and from A. Traill's (n.d.) unpublished fieldnotes on Ts'ixa and ||Ani.

10.1.1 Phoneme inventory

The phoneme inventory noted for Ts'ixa in the present study is considerably larger than what was yielded by Vossen's (1997) research (see also §2.2). This is due to the establishment of ejective clicks as phonemic consonants distinct from clicks with a glottal stop accompaniment as well as to the discovery of two uvular stops /q/ and /gq/, which are also found as click accompaniments in clusters /click/+ /q/ and /click/+ /gq/.⁴⁵ The phonemic status of the palatal click, however, is a lot less clear than what might be suggested by Vossen's data (1997). Although a [+click] realisation is accepted for the great majority of lexemes featuring a palatal click in Khwe, 100% retention could not be observed with any speaker. Use of the palatal click is subject to idiolectal variation and ranges from full replacement to partial retention of 25-30% (cf. Table 12 in §2.1.3, and §2.2.2.3.1). The alveolar click has been fully replaced and is only found in relic forms which are not subject to variation. However, lexemes featuring an alveolar click are still more prominent than expected, and retention can even be observed in a number of lexemes which show replacement in the Khwe group (cf. also Vossen 2011).

The status of the palatal and alveolar clicks, as well as the presence of a voiced uvular stop are among the features considered for comparison across languages and language varieties. Other features included have been observed to be subject to variation both within Ts'ixa as well as across the Khoe languages of northern Namibia and Botswana. A summary is given in Table 78 below:

⁴⁵ This cluster was noted by Vossen (1997), but not identified as a voiced uvular click accompaniment. He notes <[x̣]> and <[x̣̥]> as phonemic sounds for both Ts'ixa and ||Ani.

Table 78: Comparison of selected features observed in the phoneme inventories of assorted dialects of Khwe, Ts'ixa and Shua

LANGUAGE	KHWE				SHUA	
DIALECT	West Caprivi K.	Buga	Ani	Ts'ixa	Danisi	Nata S.
alveolar click retention	relic forms	relic forms	partial retention	relic forms	relic forms	relic forms
palatal click retention	full retention	full retention	full retention	partial retention, idio. var.	relic forms	relic forms
voiced uvular stops and click accompaniments	no	one ex.	yes	yes	one ex.	no
affricated ejective stops	yes	idio.var. in Khwai	yes	idio.var.	No	no
ejective clicks or click accompaniments	yes	yes	yes	yes	southern variety only	no
lenition of the velar fricative [x] > [h]	no	no	no	idio. var.	idio.var.	yes

Abbreviations: idio.var. = idiolectal variation, ex. = example

As was already observed by Vossen (1997, 2011), Ts'ixa aligns with some, but by no means all features of the Shua cluster. Complete loss of the palatal click, as observed in all Shua varieties considered during our survey, cannot be confirmed for Ts'ixa. Vossen (1991, 1997, 2011) ascribes this to a reintroduction of the palatal click in contact with a Khwe variety – presumably the geographically close Buga spoken at Khwai. However, a closer investigation of other features not considered by Vossen, such as the phonemic status of voiced uvular stops suggests that Ts'ixa aligns closer with ||Ani. It may therefore be suggested that – if Ts'ixa did indeed reintroduce the palatal click – it happened in contact with ||Ani, rather than with Buga. This would also explain the presence of alveolar clicks in lexemes where this click has already been replaced in Buga (e.g., *!xaò* 'hippo', *!ʔáni-ngùù* 'ankle', *!ʔãã* 'face').

Ts'ixa displays a considerable degree of idiolectal variation with regards to other features observed mainly in the Shua cluster, such as loss of affricated ejectives and lenition of the velar fricative [x] to a glottal fricative [h] (§2.1.3, Table 12). Although many speakers show a clear leaning towards the phonologically simpler Shua variant, this may be accounted for by rather recent developments, such as more widespread bilingualism in Tswana, loss of linguistic competence and intermarriage with speakers of Shua dialects.

10.1.2 Phonotactic structure

The phonotactic appearance of Ts'ixa strongly points to the majority of lexical roots being bimoraic, which matches the description for Khoekhoe (Haacke 1999) and Western Kalahari Khoe languages like G|ui (Nakagawa 2006) and West Caprivi Khwe (Kilian-Hatz 2008). Although we still lack in-depth descriptions for any Eastern Kalahari Khoe language, material from Nata Shua (W.B. McGregor, p.c.) and Tshwao (J. Wills, p.c.) suggests a different surface structure that in the past has sometimes been interpreted as trimoraic lexical roots (e.g., Chebanne 2000, Snyman 2000). However, an ongoing study by T. Mathes (2014, p.c.) links the appearance of three tone levels to tonal depression not attested in Ts'ixa. More research will be needed to tackle the question whether bimoraic roots can be considered a cross-Khoe feature.

10.1.3 Tonal profile

As already mentioned in §2.4, all evidence points towards Ts'ixa having three phonemic tone levels (and not two, as suggested by Vossen 1997). Tone systems based upon three register tones have also been described for G|ui (Nakagawa 2006) and West Caprivi Khwe (Kilian-Hatz 2008), and appear to be the default case in all Khwe and Shua dialects recorded by the present author and W.B. Mc Gregor in 2013. Ts'ixa, safe for a number of exceptions, displays regular tone correspondences with G|ui (H. Nakagawa, p.c.) and West Caprivi Khwe (cf. Kilian-Hatz 2003). A very preliminary analysis of data samples from Buga, ||Ani and Danisi yielded tone patterns which are identical or at least very close to what is found in Ts'ixa. There still appears to exist some variation within ||Ani und Buga which might be interpreted along an east-west continuum, i.e., a continuum spanning from dialects displaying the Ts'ixa-type tone pattern to dialects displaying the Khwe-type tone pattern (or some variation thereof). Nata Shua and eastern varieties of Danisi, as mentioned above, appear to be affected by the same depressor effects also found in the Tshwa variety Tsua (T. Mathes 2014, p.c.).

As this pattern deviates from what has been found in Ts'ixa, it is not considered in Table 79 below.

Table 79: Tonal correspondences between G|ui (H. Nakagawa, p.c.) and Khoe languages of northern Namibia and Botswana (West Caprivi Khwe data from Kilian-Hatz 2003, page numbers in brackets)

		G UI		WEST CAPRIVI K.		ANI		BUGA		TS'IXA		DANISI
'village'	HH	ʔáé	HH	ʔáé (206)	HH	ʔáé	HH	ʔáé	HH	ʔáé ~ ʔéé	HH	ʔáé
'springhare'	LM	g#òo	LM	g#òo (187)		?	MM	g#oo	MM	gyoo	HL	djòò
'short'	LL	àà	MH	yaá (204)	MH	yaá	LL	yàà	LL	àà	LL	àà(bé)
'lion'	HM	xám	LH	xàrn (142)	MH	xarñ	MH	?	MH	xarñ	MH	?
'to fall down'	HH	/qx'áé	HH	/x'áé (172)		/x'áé		/x'áé		/'aé ~ /'eé		/'aé
'drink'	HL	k'áà	HL	k'áà(126)	HL	k'áà	HL	k'áà	HL	k'áà	HL	k'áà
'elephant'	MM	‡xoá	HM	‡xóá (195)	ML	‡xoà	ML	‡xoà	ML	kyxoà ~ ‡xoà	ML	tcxoà

Generally, there is some evidence to suggest that the northern Khoe languages spoken in the Caprivi Strip, northern Botswana and Zimbabwe can be grouped into three tonal zones which transcend language boundaries. While the western zone appears to consist solely of western dialects of Khwe, the central zone is the most diverse, encompassing eastern dialects of Khwe, Ts'ixa, and western dialects of Shua (see Table 79 above). The eastern zone appears to be affected by tonal depressor effects that create a tonal profile quite distinct from its western neighbour. Although not much is known about Tshwa and Khoe languages spoken in Zimbabwe, recent research carried out by J. Wills (p.c.) suggests that not only eastern dialects of Shua, but also Ganadi and Tshwao are part of this group.

10.1.4 Phonology as an indicator for the genealogical affiliation of Ts'ixa

So far, the phonological profile of Ts'ixa does not provide a definite answer to the question whether the language should be treated as genealogically closer to either Khwe or Shua. While loss of the palatal click, so far, has only been reported for Eastern Kalahari Khoe languages (see Vossen 1997, Traill & Vossen 1997), the process in Ts'ixa appears to be rather recent and ongoing, compared to recorded Shua varieties. Furthermore, the phenomenon of click loss as such is also found in Western Kalahari Khoe languages spoken on the periphery of the core area (i.e., the Central Kalahari).⁴⁶ Khwe has already largely lost the alveolar click series, and the process has been initiated in ||Ani and G||ana (Traill & Vossen 1997). It would therefore not seem implausible for Ts'ixa to lose its palatal click series in contact with a Shua variety, rather than re-introduce it in contact with Khwe.

Other features considered – including the tonal profile of the language – are not pervasive as indicators of genealogical relationship, as they are either subject to

⁴⁶ Recent research on the Angolan !Xun variety spoken in Mupa National Park carried out by the present author in August 2014 also attests click loss in a peripheral Ju dialect.

idiolectal variation in both Ts'ixa and its neighbouring varieties, or constitute phenomena transcending language boundaries.

The one feature worth paying closer attention to is the voiced uvular stop and click accompaniment /gq/. While this sound is comparatively rare in Ts'ixa, it appears to be completely absent in West Caprivi Khwe and only featured in one lexeme recorded with speakers of Danisi. In contrast, it seems quite well represented in wordlists collected with speakers of eastern ||Ani. A link between Ts'ixa and ||Ani therefore does not seem implausible, but again it is difficult to say whether similarities in the phoneme inventories of both languages are more indicative of contact or of close genealogical relationship.

10.2 Nominal modification

In this section, the patterns of nominal modification discussed in §3.3 of this study will be considered from a cross-Khoe, and ultimately from a cross-Khoisan perspective. The focus will remain on Khwe and Shua, Ts'ixa's closest geographical and arguably genealogical neighbours, but other Khoe languages will be considered whenever it is deemed relevant for the phenomena observed. In addition, languages of the Kx'a family – especially data from southeastern Ju'hoan – will be included in the discussion as it is argued here that a substantial part of the irregularities observed in the domain of nominal modification may be traced to language contact and eventually to substrate influence from a yet unknown Kx'a variety.

In the following, selected aspects will be approached from a comparative perspective: these are relative clauses (§10.2.1), adjectival modification (§10.2.2), demonstratives (§10.2.3), interrogatives (§10.2.4) and adnominal possession (§10.2.5). Numerals and non-numeral quantifiers will not be addressed, both due to lack of data and to a rather broad internal coherence found within the Kalahari branch of the Khoe family.

This section closes with a discussion of the striking similarities found between Ts'ixa and languages of the Kx'a family in the domain of nominal modification (§10.2.6). It is then suggested that Ts'ixa – like the Kalahari Khoe language G|ui – was substantially influenced by a Non-Khoe substrate, which led to a restructuring of its modification patterns.

10.2.1 Relative clauses

The Khoe languages display some variation in the relative clause structures they display. Most Khoe languages make use of the “appositive strategy”, i.e., they

juxtapose relative clause and head without use of a relative marker (§3.3.6). However, the G||ana dialect G|ui and an unclassified Kalahari Khoe variety dubbed “Kua” by its speaker (F. Berthold, p.c.) have been recorded to have a strategy involving an attributor morpheme corresponding to Ts’ixa *ka*. The Shua cluster differs from both types described above by employing a relative marker *e~i* which follows the relative clause.

As will be remembered, the constituent order in Khoe modifying constructions has the modifier preceding its head. In Khoekhoe, this pattern also applies to relative clauses (Hagman 1977). However, while most Kalahari Khoe languages appear to allow for fronted relative clauses, the more common constituent order for this particular type of nominal modification is, like in Ts’ixa, head-initial.

This section will provide an overview of relative constructions in Khwe (§10.2.1.1), Shua (10.2.1.2) and G|ui (§10.2.1.3), the latter being the only language recorded so far which appears to have a schema similar to, but not identical with the one found in Ts’ixa. The concluding paragraphs will discuss possible implications of this finding, especially with reference to an assumed Kx’a substrate in Ts’ixa.

10.2.1.1 Khwe

Khwe relative constructions are described extensively in Kilian-Hatz (2008: 337ff) for West Caprivi Khwe and in Heine (1999: 70f) for ||Ani. The default construction is, like in Ts’ixa, head-initial and corresponds to the appositive strategy, i.e., the relative clause follows its head and is marked by a PGN agreeing with the head’s syntactic and semantic properties. This strategy is applicable to core arguments, i.e., the subject and the object of the relative clause. If not stated otherwise, all examples below are for West Caprivi Khwe, but the same strategy is applicable to ||Ani:

- (467) a. *g||èen.g#òà-hè Ófa ki ||ʔan-e-ko té-è-||òè-hè |x’àn tcàá-tè.*
 old.woman-3SG.F GN LOC live-J-CONV stay-J-HAB-3SG.F very be.sick:J-PRS
 ‘The old woman who is living in Omega is very sick.’ (Kilian-Hatz 2008: 339, orthography and glosses adapted)
- b. *tí djékéti-hè †ũú-ca yávà-à-tè-hè (?è) |x’àn díro-a-tè.*
 1SG jacket-3SG.F buy-VOL want-J-PRS-3SG.F ACC very be.expensive-J-PRS
 ‘The jacket that I want to buy is very expensive.’ (Kilian-Hatz 2008: 340, orthography and glosses adapted)

Unlike in Ts’ixa, this strategy also allows for fronting of the relative clause:

- (467) c. *tcá múú-a-tà rè.kare tí //ʔám-á-tà-m khóé-mà?*
 2SG.M see-J-PST2 Q 1SG beat-J-PST2-3SG.M person-3SG.M
 ‘Have you seen the man which I have beaten very hard?’ (Kilian-Hatz 2008: 342,
 orthography and glosses adapted)

An additional strategy found only in ||Ani involves the possessive postposition *dì* following the relative clause. Whether this strategy also applies to oblique arguments cannot be answered at this point.

- (468) *há má.kà mú-à-hà pǒ yǐ yâ dì ʔà?*
 2SG.F where see-J-PRF jackal tree climb POSS ACC
 ‘Where have you ever seen a jackal climbing a tree?’ (Heine 1999: 72, orthography and glosses adapted)

Like in Ts’ixa, oblique arguments in the relative clause are resumed by an anaphoric pronoun. For this purpose, Khwe employs the same pronouns used in interrogative contexts. Unlike in Ts’ixa, the respective oblique postposition does not follow the anaphoric pronoun, but is immediately suffixed to the verb stem:

- (469) [*khó-mà [mà-má /ʔào ʔà tí ʔxàá-o-ro-tà-mà]_{REL.CL} kúú-a-xu-a-hã*
 person-3SG.M who-3SG.M money ACC 1SG give-LOC-J-PST2-3SG.M go-J-COMP-J-PST1
óxérioro.
 forever
 ‘The man whom I gave the money has gone away forever.’ (Kilian-Hatz 2008: 343,
 orthography and glosses adapted)

10.2.1.2 Shua

Only a limited amount of data is available for Shua. Hence, any survey of relative constructions is bound to be incomplete. Nevertheless, the available material suggests that core arguments in all varieties are treated in the following way: the head precedes the relative clause which in turn is followed by a relative marker *i~e*.

Nata Shua:

- (479) a. *k’ao.tcáá ke Nátá kà nyúú=ì tí dzãã.khòè ʔè.*
 elder IPFV GN LOC stay=REL 1SG relative COP
 ‘The old man who lives at Nata is my relative.’

Deti:

- b. *g//á-khóé tá múú-á-há=è.*
 female-person 1SG see-J-IPFV=REL
 ‘The woman whom I have seen’ (Vossen 2013c: 407, orthography and glosses adapted)

Cara:

- c. *màí tsá tá ?à khàà-à-tá=é kùrí.ha.*
egg 2SG.M 1SG ACC give-J-IPFV=REL finish
'The eggs which you gave me are finished.' (Vossen 2013c: 407, orthography and glosses adapted)

More data would be needed to establish possible rules for fronting of the relative clause and behaviour of oblique arguments in the relative clause.

10.2.1.3 G|ui

In G|ui, both the appositive and the attributive strategy appear (Nakagawa 2013: 397). However, appositive relative constructions are linked to a modifier-head constituent order (cf. 480a), which is not the case in Ts'ixa.

APPOSITIVE:

- (480) a. *khòè=m̂ qx'ó múù=m̂ dzérá=mà*
person = 3SG.M.GEN REMOTE.PST see = 3SG.M.GEN bird = 3SG.M.ACC
'the bird which the man saw' (Nakagawa 2013: 397, orthography and glosses adapted)

ATTRIBUTIVE:

- b. *dzérá kà khòè=m̂ qx'ó múù=mà*
bird REL person = 3SG.M.GEN REMOTE.PST see = 3SG.M.ACC
'the bird which the man saw' (Nakagawa 2013: 397, orthography and glosses adapted)
- c. *khòè kà xáátsì=sì wà xúu-a-há=mà tyìrè tyhú*
person REL GN = 3F.SG.GEN LOC leave-PRF = 3SG.M.ACC 1SG.NOM PST
múù.
see.
'Yesterday I saw a man who is from Ganzi.' (H. Nakagawa, p.c.; orthography and glosses adapted)

In the data available, there is only one example for a head acting as oblique argument in the relative clause. The relativised possessor is represented in the relative clause by an anaphoric element ?é. This suggests that G|ui might again be corresponding to the Ts'ixa model:

- (481) *íúá-gú kà ?é màã háã-tyìè=mà ?é.sì kì múù.*
monster-DIM REL its head exist-NEG = 3M.SG.ACC 3SG.F TODAY.PST see
'She saw a monster (story-character) whose head is missing.' (H. Nakagawa, p.c.; orthography and glosses adapted)

10.2.1.4 Discussion: Relative constructions

Among the languages surveyed, Ts'ixa displays a profile corresponding to neither of its neighbouring languages, but similar to the G||ana dialect G|ui. The only notable difference between Ts'ixa and G|ui is the connection between appositive constructions and head-final constituent order displayed by the latter. While relative constructions involving the attributor morpheme *ka* appear to be identical in Ts'ixa and G|ui for heads acting as both core and oblique arguments, the use of appositive constructions in Ts'ixa follows the Khwe model. This might, of course, be explained by contact between Ts'ixa and the Khwe group.

The close similarities between Ts'ixa and G|ui are more curious, as a contact scenario between them is hard to account for. G|ui, like Ts'ixa, may use the attributor *ka* to link the head with other modifiers like adjectives, demonstratives and interrogatives. While it is possible that Ts'ixa and G|ui have both retained a historically older feature of the Khoe family that has been lost in other languages, another hypothesis is that both languages developed this construction type independently in analogy with languages of the Kx'a family. As Kx'a languages have verbal modifiers (cf. Heine & König 2013, Heine & König, *forthc.*), including verbal demonstratives (Lionnet 2014), these are linked to the head noun by means of a relative construction. Compare the examples from southeastern Ju given below, which exemplify use of the relative marker *-à* with verbal modifiers:

Dialect E1:

- (482) a. *jú-s-à mi kx'óá*
people-PL-REL 1SG look.for
'The people I am looking for' (Heine & König, *forthc.*: 340)

Dialect E2:

- b. *dz'háú-à /hm*
woman-REL be.pretty
'a pretty woman' (Heine & König, *forthc.*: 197; glosses adapted)
- c. *!ha-s-à /xórò-mfí*
animal-PL-REL few-DIM.PL
'few animals' (Heine & König, *forthc.*: 199; orthography and glosses adapted)

Dialect E1:

- d. *jù-à h-è*
person-REL N1-DEM.PROX
'this person' (Heine & König, *forthc.*: 180; glosses adapted)

- e. *n!óré-à nè ré à !xóáná?*
 area-REL which Q 2SG live.at
 ‘Which area do you live in?’ (Dickens 2005: 78; glosses adapted)
- f. *dà’ábí(-s- à) ó Kx’ào hí-sì*
 children.N3-(PL-REL) COP PN POSS.N3-PL
 ‘Kx’ao’s children’ (Dickens 2005: 68; glosses adapted)

If we assume that Ts’ixa and G|ui developed their attributor strategy in analogy with languages of the Kx’a family (≠’Amkoe in the case of G|ui), use of the attributor *ka* in relative constructions could actually be seen as the morpheme’s most basic function, with all other uses (e.g., adjectival modification, with demonstratives and in possessive constructions; see below) being secondary extensions which were triggered by contact.

10.2.2 Adjectives

In the Khoe family, modifiers – including adjectives – precede their heads. Constructions in which adjectives are following their heads are considered marked or “emphatic” (cf., e.g., West Caprivi Khwe, Kilian-Hatz 2008: 195). Both Khwe and Shua are no exceptions to this rule:

West Caprivi Khwe:

- (483) a. *|éú táfòrà ?à.*
 be.big table ID
 ‘It is a big table.’ (Kilian-Hatz 2008: 196; orthography and glosses adapted)

Nata Shua:

- b. *g//óò bè ké tá ts’aò.*
 big cattle IPFV 1SG milkk
 ‘I milk a big cow.’ (Westphal, n.d.c, glosses by present author)

However, while Kilian-Hatz (2008: 195) interprets all adjectives of West Caprivi Khwe as “pure verb stems that precede the head noun”, both ||Ani (Heine 1999: 39) and Shua (Vossen 2013b: 217) are thought to possess a genuine word class “adjective”. While this discrepancy may be the result of differing definitions of the term “adjective”, it should be noted that while adjectives in West Caprivi Khwe and Shua never display PGN agreement with their heads, this appears possible in ||Ani (cf. Heine 1999: 39). Furthermore, neither the Shua nor the Khwe cluster display use of an attributor morpheme as an alternate strategy to link adjectives to their heads. From the data available, the attributive strategy featuring a morpheme *ka* is only found in G|ui:

- (484) a. *khòè=bì* *|xáa* *kà* *glúri=sà* *glám.*
 person = 3M.SG.NOM meat REL big = 3F.SG.ACC put.heavily
 ‘The man heavily put a big portion of meat.’ (H. Nakagawa, p.c.; orthography and glosses adapted)

However, unlike in Ts’ixa, modifiers featured in this specific kind of attributive construction appear to be regular state verbs, rather than members of a word class “adjective”. In the example below, *glúri* ‘be big’ is clearly used as a state verb which does not require use of a TAM marker:

- (484) b. *khòè=m̃* *mã-è* *glúri*
 person = 3.M.SG.GEN head-SUBJ be.big
 ‘The man’s head is big.’ (H. Nakagawa, p.c.; orthography and glosses adapted)

Adjectival modification by means of a relative construction is also found in languages of the Kx’a family (Ju: Heine & König, forthc.: 190ff; †Amkoe: F. Berthold, p.c.). These are known to have only a restricted class of “real” adjectives that may immediately follow their heads. The majority of adjectival modifiers are, in fact, state verbs that require use of a relative construction (see §10.2.6 below). Below is an example from southeastern Ju, which distinguishes between attributive (adjectives) and predicative (state verbs) modifiers:

ATTRIBUTIVE:

- (485) a. *!òè* *!a:*
 sandal old
 ‘an old sandal’ (Köhler 1973: 68, quoted from Heine & König, forthc.: 196; orthography adapted)

PREDICATIVE:

- b. *dz’háú-s-à* *|x’áú*
 woman-PL-REL be.bad
 ‘bad women’ (Köhler 1973: 21, quoted from Heine & König, forthc.: 197)

Even though it has been established that a genuine class of adjectives can be identified for Ts’ixa by applying language-internal criteria (cf. §3.3.2), the use of a construction possibly rooted in relativisation is remarkably similar to what is found in G|ui and the Kx’a languages, both of which use state verbs as adjectival modifiers. What is more (at least with regards to [+definite] NPs), the division between adjectives that may precede their heads and those requiring use of the attributor morpheme *ka* appears to reflect the split between “real” adjectives and state verbs found in Kx’a.

It is therefore suggested here that the irregular behaviour of Ts'ixa in the domain of adjectival modification should be considered a contact feature; a similar argument could possibly be made for G|ui, which has reportedly been in close contact with the †'Amkoe branch of Kx'a (Traill & Nakagawa 2000).

10.2.3 Demonstratives

10.2.3.1 Form and Function

The data yielded five distinct demonstratives for Ts'ixa: one strictly exophoric demonstrative ($n/\tilde{u} \sim n\tilde{u} \sim \eta$), three strictly endophoric demonstratives ($\tilde{u} \sim \tilde{u} \sim \tilde{u}$, $n/\tilde{a} \sim n\tilde{a}$, $gy\tilde{a}\tilde{a}$), and one found in both domains ($m\tilde{u}$). In addition, Ts'ixa has a pronoun base \tilde{e} that is used to form the personal pronouns of the third person and hence could be interpreted as a distance-neutral demonstrative.

A similar number of demonstratives have been reported for other Khoe languages. Kilian-Hatz (2008: 188ff) lists six demonstratives for West Caprivi Khwe, comprising two exophoric and four endophoric demonstratives. Hagman (1977: 38ff) lists also six demonstratives for Khoekhoe which – according to his description – display an overlap between exophoric and endophoric uses. It appears however that Khoekhoe, unlike Khwe and Ts'ixa, has a three-term system in the domain of exophoric demonstratives, comprising terms for [+near speaker] and [-near speaker] plus a contrastive form 'farther from speaker than X'. There is no form-function correspondence between Ts'ixa and any other described Khoe language, safe for the proximal demonstrative $n/\tilde{u} \sim n\tilde{u} \sim \eta$, which is shared between Ts'ixa and the Khwe cluster. Due to lack of data, it is hard to say whether the pragmatics of demonstrative use in Shua display similarities with the situation found in Ts'ixa. Formally, the endophoric demonstrative $\tilde{u} \sim \tilde{u} \sim \tilde{u}$ corresponds to the proximal demonstrative of the Shua group $\tilde{u} \sim \tilde{u} \sim h\tilde{u}$ (cf. Vossen 2013b: 218), but more data would be needed to obtain information on a functional overlap. An endophoric demonstrative \tilde{u} , albeit with contrastive semantics, is also found in West Caprivi Khwe (Kilian-Hatz 2008: 189). A form n/\tilde{a} or $n/\tilde{a}\tilde{a}$ is shared between Ts'ixa, Khwe and Khoekhoe. In Khoekhoe, it appears as a distal demonstrative [-near speaker] (Hagman 1977: 38), in West Caprivi Khwe, it serves as an anaphoric demonstrative referencing an aforementioned referent whose identity is not known to the hearer (Kilian-Hatz 2008: 189), and in Ts'ixa, it is related to reference tracking of topical participants, sometimes in contrastive contexts.

For two of the demonstratives found in Ts'ixa – the distal $m\tilde{u}$ and the anaphoric $gy\tilde{a}\tilde{a}$ – no known Khoe cognates exist.

10.2.3.2 Syntax

It is in this domain that Ts'ixa differs significantly from other Khoe languages. In both Shua and Khwe, demonstratives appear as prenominal modifiers; they do not follow their heads, or adopt themselves the status of grammatical heads. Furthermore, they do not appear with an attributor morpheme or in a relative construction, neither as adnominal attributes, nor as heads. Ts'ixa demonstratives, in contrast, may

- follow the referent noun
- be attached to their heads by means of an attributor morpheme
- act as grammatical heads

Demonstratives following their heads or requiring use of a relative construction are the default case in the Kx'a family. However, the Kx'a languages are well-known for constituting the cross-linguistically rare case of a language family with verbal demonstratives (Dickens 2005; Heine & König, *forthc.*; Lionnet 2014), which is clearly not the case in Ts'ixa. Nevertheless, calquing should be considered a possibility, especially since it may even have a parallel within the Khoe family: G|ui, like Ts'ixa, may link demonstrative modifiers to their heads by means of an attributor morpheme *kà* which H. Nakagawa (p.c.) interprets as a relative marker. What is more, dialects of Ju feature a referential demonstrative *||ʔan which precedes, rather than follows its head (Heine & König, *forthc.*: 185). As will be remembered (cf. §3.4.4.2.2), Ts'ixa also prefers for endophoric demonstratives to precede the noun – either as head or as attribute. One could therefore assume that Ts'ixa is effectively calquing the syntax of demonstrative use as found, e.g., in the Ju languages of the Kx'a family.

However, this does not explain why Ts'ixa may treat demonstratives as heads, which is a phenomenon neither found in Ju nor in G|ui. It may be speculated that phrase-final demonstrative use arose in a contact situation in which speakers were following the constituent order pattern of the Kx'a family; these phrase-final demonstratives might have been subsequently reinterpreted as heads, according to the rules of the head-final OV languages of the Khoe family. Still, as we do not have any information on Kx'a languages in contact with Ts'ixa, nor on patterns of bilingualism and language change, it seems futile to give in to further speculations. It is still maintained here that language contact appears to be the most likely scenario to explain the irregular patterns of demonstrative use as found in Ts'ixa.

10.2.4 Interrogatives

Vossen (1997) considers the interrogative pronouns of Khoe to be diagnostic features for the differentiation between Western and Eastern Kalahari Khoe. He thereby considers forms for ‘who’, ‘what’ and ‘which’, i.e., for what have been shown to be non-derived interrogative stems. Table (80) below provides an overview of the interrogative pronouns in Khwe, Ts’ixa and Shua:

Table 80: Interrogative pronouns in Khwe, Ts’ixa and Shua (Danisi, Deti, Cara: Vossen (1997: 265), West Caprivi: Kilian-Hatz (2008: 193), Buga: (Vossen 1997: 262), ||Ani: Heine (1999: 66))

	KHWE			TS’IXA	SHUA		
	West Caprivi	Buga	Ani		Danisi	Deti	Cara
‘who’	<i>màa</i>	<i>ma</i>	<i>Má</i>	<i>maá</i>	<i>má~máé</i>	<i>má~má = n(à)</i>	<i>má~ná</i>
‘which’	<i>màa</i>	<i>ma~na</i>	<i>Má</i>	<i>maá</i>	<i>má~máé</i>	<i>má~má = n(à)</i>	<i>má~ná</i>
‘what’	<i>ndé(ú)</i>	<i>ndú</i>	<i>ní, né, ná</i>	<i>ní</i>	<i>ndú</i>	<i>dú</i>	<i>ndú</i>

The above table suggests that the form for ‘what’ is of particular interest here, seeing Ts’ixa and ||Ani share a form *ní~ní~né* not found in other varieties of Khwe or Shua. The origin of this form is not clear, as it does not appear to have cognates in other Khoe languages. A possible origin could be sought in the Kx’a language Ju which has a form **nè* ‘which’ (Heine & König, *forthc.*: 289f) that might have been borrowed into both ||Ani and Ts’ixa. The nasalisation found in Ts’ixa but not in ||Ani could then be considered the result of nasalisation spread from the preceding nasal consonant. It must however be noted that Ju **nè* is not a pronoun but a verbal modifier which in several dialects of Ju requires use of a relative construction to modify its nominal head (cf. (482)e above for southeastern Ju). A connection between this element and the corresponding form in Ts’ixa and ||Ani is therefore highly speculative and would involve a shift in word class and meaning.

10.2.5 Adnominal possession

A survey of the available data suggests that the encoding of adnominal possession is one of the features that set Ts’ixa apart from both the Khwe and the Shua clusters. This section outlines the encoding of adnominal possession in Khwe (§10.2.5.1) and Shua (§10.2.5.2) before giving a more general outline on patterns found in the Khoe family (§10.2.5.3). Ultimately, Ts’ixa will be contrasted with both its geographical and genealogical neighbours, and a tantalising parallel between Ts’ixa and the Kx’a languages will be drawn (§10.2.5.4).

10.2.5.1 Khwe

Khwe has a rather complex system that, like Ts'ixa, distinguishes between definite and indefinite possessives (Kilian-Hatz 2008: 69 on West Caprivi Khwe, Heine 1999: 40 on ||Ani). However, the morphological encoding appears to differ between dialects and also from what is found in Ts'ixa.

10.2.5.1.1 Indefinite possessee

In West Caprivi Khwe, indefinite, i.e., non PGN-marked possessives require the postposition *dì* to follow the possessor:

West Caprivi Khwe:

- (486) a. /ú dī kyéří, té g//èù-á-tè.
 country POSS difficulty 1PL.C suffer-J-PRES
 ‘The difficulties of this country - [today] we are suffering (because of them).’
 (Kilian-Hatz 2008: 70; orthography and glosses adapted)

In ||Ani – like in Ts'ixa – indefinite possessives are simply juxtaposed with their possessors:

||Ani:

- b. ní/-m̄ ngú-m̄ //á-fi
 DEM-SG.M house-SG.M chair
 ‘a chair of this house’ (Heine 1999: 40; orthography and glosses adapted)

The limited amount of data available for Buga suggests that the variety has both variants, i.e., marking with *dì* or one of its allomorphs (cf. 486c), or simple juxtaposition (cf. (486d):

Buga:

- (486) c. #ʔúú nǐ tí júá tí #úú-mà-tè.
 food DEM.PROX 1SG child 1SG buy-BEN-PRES
 ‘I buy this food for my child.’
- d. tí #ʔúú #úú-tè tí dà júá ʔà.
 1SG food buy-PRES 1SG POSS child ACC
 ‘I buy food for my child.’

10.2.5.1.2 Definite possessee

In both West Caprivi Khwe and ||Ani, definite possessives are linked to their possessors by means of the postposition ʔù or one of its variants ʔò and -ù (Kilian-Hatz 2008: 69, Heine 1999: 41):

West Caprivi Khwe:

(487) a. *tí ʔù hèútu-mà*
1SG POSS car-3SG.M

‘It is my car.’ (lit. the car of mine) (Kilian-Hatz 2008: 71, orthography and glosses adapted)

||Ani:

b. *tí-ù /õã-hè*
1SG-POSS child-SG.F

‘my daughter’ (Heine 1999: 41, orthography and glosses adapted)

Heine (1999: 41) interprets *-ù* as a variant of the locative marker *ʔò*, which might correspond to a possible interpretation of the Ts’ixa possessive postposition *ka* as the multipurpose oblique in a locative function (§3.4.8.5.4).

The more common strategy in ||Ani is to have the postposition *dì* (*~ri*) follow the possessor:

||Ani:

(487) c. *tí dì /õã-hè*
1SG POSS child-SG.F

‘my daughter’ (Heine 1999: 41, orthography and glosses adapted)

Our data yielded an additional possessive marker *||ù~kù* for ||Ani:

||Ani:

d. *tí ||ù /úá=hè tí ʔúú-á-mà-sì-tè ʔúú kà.*
1SG POSS child = SG.F 1SG buy-J-BEN-SG.F-PRES buy MPO

‘I buy food for my daughter.’

In both West Caprivi Khwe and ||Ani, the possessor may be postposed. In West Caprivi Khwe, this strategy requires for the possessive postposition *dì* to be followed by the copula *ʔà*. In the example below, the possessor receives the genitive suffix *-à* which does not appear to have a corresponding form in either ||Ani or Ts’ixa.

West Caprivi Khwe:

(488) a. *yaá-kà tí ki tcápì à ngú-à dì ʔà!*
come-CAUS 1SG LOC key OBJ house-GEN POSS COP

‘Bring me the keys of the house!’ (Kilian-Hatz 2008: 75; orthography and glosses adapted)

||Ani:

b. *||á-fù-hè ní/-m ngú-m dì*
chair-SG.F DEM-M.SG house-SG.M POSS

‘the chair of this house’ (Heine 1999: 41, glosses adapted)

10.2.5.2 Shua

As Vossen (2013b: 219) observes, the preferred construction in the Shua group is juxtaposition. This is confirmed by our data:

Nata-Shua:

- (489) a. *tí báà khài g//óò ǀ̀*
 1SG father house big COP
 ‘My father’s house is big.’

The possessee may be fronted; in this case, the possessor is marked by the postposition *dí*:

Danisi:

- (489) b. *g//akhoe tsam dí kũũ-a-ha yi ʔo.*
 wife 1DU.M POSS go-J-PST field LOC
 ‘Our wives have gone to the field.’ (Westphal, n.d.d, orthography adapted)

Danisi, like Ts’ixa, also has a postposition *ka* that follows the possessor. However, in my data, this strategy seems to be limited to kinship relations and only features after pronominal possessors:

Danisi:

- (489) c. *tí kà //ũũ = m̃ //ũũ = mà Sedanísánà kè k’uí.*
 1SG POSS parent = SG.M parent = SG.M Danisi IPFV speak
 ‘My father’s father speaks Danisi.’

In Vossen’s data from Danisi, *ka* is also used for alienable possessive relations:

Danisi:

- (489) d. *dòngí = mà tsá kà ~ tsá kà dòngí = mà*
 donkey = SG.M 2SG.M POSS 2SG.M POSS donkey = SG.M
 ‘your donkey’ (Vossen 2013b: 219, orthography adapted)

It should however be kept in mind that all of Vossen’s Danisi was recorded in Mababe – with an informant who considered himself a speaker of Ts’ixa. Even if one assumes that he was actually speaking Danisi, the fact he had spent his life surrounded by speakers of Ts’ixa might suggest that his use of *ka*, as well as his frequent use of PGN marking, was the result of contact, rather than a dialectal feature of Danisi. However, more research on Danisi and the Shua cluster as a whole would be needed to confirm this assumption.

10.2.5.3 Other Kalahari Khoe languages

All Khoe languages have at least one construction to express adnominal possession that involves the postposition *di*. Vossen (1997: 349) therefore reconstructs a form **di* for Proto-Khoe. A possessive marker *ka* is less widespread, but appears in Naro and the G||ana cluster. In Naro, its use is restricted to interpersonal relationships:

Naro:

- (490) a. *Tsebe-s ka lōè-sè-sà*
PN-SG.F POSS younger.sister-?-SG.F
'Tsebe's younger sister' (Visser 2013: 185, orthography and glosses adapted)

In G||ana, *kà* alternates with *dì* which – unlike *kà* – agrees with the possessee in person, gender and number.

G||ana:

- (490) b. *kí dì-m̃ ηúú-mà*
1SG POSS-M.SG house-M.SG
'my house' (Vossen 2013d: 210)
- c. *kí kà ηúú-mà*
1SG POSS house-M.SG
'my house' (Vossen 2013d: 210)

In addition, both Naro (Visser 2013: 184) and G||ana (Vossen 2013d: 210) make use of juxtaposition – albeit to differing degrees – to encode adnominal possession.

10.2.5.4 Discussion

As we have seen, the two main strategies used by speakers of Ts'ixa to encode adnominal possession are also found with other members of the family. However, none appears to use them with exactly the same distribution Ts'ixa does.

It is especially hard to offer a convenient explanation for what here has been labelled strategy 3), i.e., the encoding of adnominal possession by using the attributor postposition *ka* (cf. §3.3.7.3). Such a postposition also exists in G|ui (H. Nakagawa, p.c.), but it is not known at this point whether it may also be used to encode adnominal possession, and which are the factors that trigger its use. To my knowledge, no description of a Khoe language mentions a similar strategy, so it might be assumed that it is unique or at least not very common within the family.

It is however interesting to note that the Ju languages of the Kx'a family also distinguish three types of adnominal possession, one of which involves a

relativisation strategy similar (but not identical) to what can be observed in Ts'ixa (Heine & König 2013: 310f). Compare the example below from southeastern Ju (E3):

- (491) *lúm-a o ts̄rì ga*
leg.N4-REL COP chair POSS.N4
'The leg of the chair' (Heine & König, *forthc.*: 205; orthography adapted)

If the Ts'ixa construction is interpreted along similar lines, one would come to an underlying meaning of '[possessee], which is [possessor]'s'. This would be in accordance with the identical encoding of independent possessors (§3.3.7.4) and the possessor in constructions featuring the attributor morpheme *ka*, i.e., in both cases, the possessor is followed by a morpheme *di* which displays grammatical agreement with the stated or unstated possessee. Although more data would be needed, especially on the distribution of this particular construction type, it seems tempting to hypothesise that the extension of the attributor strategy to adnominal possessive constructions is rooted in language contact.

10.2.6 Kx'a influence on nominal modification in Ts'ixa

Nominal modification in Ts'ixa displays no clear affinity to structures found in either the Khwe or the Shua cluster. Like in the field of participant marking (cf. §10.3), both display a rather high internal coherence that Ts'ixa does not concur with. Again, similarities exist between Ts'ixa and the Kalahari Khoe language G||ana, here mostly exemplified through data from G|ui. These can only be explained through either inheritance of ancient Kalahari Khoe features, or through a shared contact profile, as direct contact between Ts'ixa and G||ana can most likely be excluded.

It is tentatively suggested here that contact with a Kx'a language, as can be shown for G|ui (Traill & Nakagawa 2000), might also account for features found in Ts'ixa, in particular for use of relative-like constructions to encode various types of modifiers, such as adjectives, demonstratives and quantifiers. Further evidence might be sought in the order of modifiers in the noun phrase. Here, Ts'ixa clearly follows a pattern different from other languages of the Khoe family, but fully in line with what is found in Ju. Note that in Ts'ixa, the *ka*-marked head may either precede or follow its modifiers, whereas an unmarked head is restricted to the phrase-final position.

Table 81: Order of modifiers in Ts'ixa, Khwe (Kilian-Hatz 2008: 195), Shua (McGregor 2014) and Ju (Heine & König, forthc.)

Ts'ixa:	ADJECTIVE -	NUMERAL -	DEMONSTRATIVE -	RELATIVE
Ju:	ADJECTIVE -	NUMERAL/QUANTIFIER -	DEMONSTRATIVE -	RELATIVE
Khwe:	DEMONSTRATIVE-	NUMERAL/QUANTIFIER-	ADJECTIVE	
Shua:	DEMONSTRATIVE-	NUMERAL/QUANTIFIER-	ADJECTIVE	

If the Ts'ixa strategy to encode various kinds of nominal attribution by means of a morpheme *ka* indeed constitutes a calque from an unknown Kx'a language, the question of the origin of this particular formative is raised. As has already been established, *ka* is completely homophonous with the MPO and the possessive marker. However, while the MPO and the possessive marker may convincingly be traced to a common historical source (cf. §3.3.7.2), this is not easily possible for the attributor *ka*. While the MPO – which may be the source for the possessive marker via its locative function – marks the inherently clausal role of oblique participants, the attributor *ka* marks the head of a NP with one or more modifiers, hence operates on a phrasal level. Both morphemes also display different behaviour with regards to markedness-restrictions on the nouns they follow: while the MPO follows both marked and unmarked nouns, the attributor *ka* does not allow for PGN marking on the preceding noun. Judging from available data (H. Nakagawa, p.c.), the same differences between oblique postposition and attributor morpheme can be observed for *kà* in G|ui. Indeed, Nakagawa (2013) interprets *kà* in its attributive function as a relative marker, thereby implying that adjectival and demonstrative attribution involving the formative are actually relative constructions and hence require verbal modifiers. This of course matches the picture as found in Kx'a, where modifiers are, for the most part, state verbs.

However, no reported Kx'a language has a relative marker *ka*; in the southeastern dialects of Ju, the relative marker is a suffix *-à*, and in †'Amkoe a particle *kì*. Since †'Amkoe – the language in contact with G|ui – also uses a tonally distinct morpheme *ki* as MPO and possessive marker, it could be assumed that G|ui simply extended one of its semantically most diverse oblique postpositions to cover the function of a relative marker in what might be considered formal (albeit superficial) analogy.

Table 82: Formatives for relative, possessive and oblique in two Kx'a languages (Ju|'hoan: Dickens 1994; N!aqriaxe: F. Berthold, p.c.), in G|ui (H. Nakagawa, p.c.) and Ts'ixa

	JU 'HOAN (SE-JU)	N!ARIAXE (ǀ'AMKOE)	G UI	TS'IXA
RELATIVE	-à	ki	kà	ka
POSSESSIVE	-	kí	kà	ka
OBLIQUE	-a	kì	kà	ka

However, this scenario fails to explain why Ts'ixa uses exactly the same morpheme with exactly the same grammatical restrictions in the same way G|ui does. It might therefore be suggested that a relative marker *ka* indeed exists in the Khoe family and was extended individually by both G|ui and Ts'ixa to cover the domain of nominal modification, in analogy to the relative constructions required by verbal modifiers in Kx'a.

Table 83 below provides an overview of features considered from a comparative perspective that might shed some light on both genealogical affiliation and contact patterns of Ts'ixa:

Table 83: Features considered from a comparative perspective

	KHWE	TS'IXA	SHUA	KHOE OTHER	JU
<i>Use of same morphological marker for modification by</i>					
relative clause	-	✓	-	✓ (G ui)	✓
adjective	-	✓	-	✓ (G ui)	✓
quantifier	-	✓	-	✓ (G ui)	✓
demonstrative	-	✓	-	✓ (G ui)	✓
interrogative	-	-	-	?	✓
possessive	-	✓	-	?	✓
nǀ~nǀ~né 'what'	✓ (Ani)	✓	-	?	(✓) *ne 'be which'
ka 'POSS' (< 'LOC')	-	✓	✓ (Danisi)	✓ (G ui, Naro)	-
?ǀyè 'all'	-	✓	✓	?	-
nǀǀ~nǀǀ~ǀ 'DEM.PROX'	✓	✓	-	✓	(✓) *ǀǀ

In the rather vast domain of nominal modification, similarities between Ts'ixa and the Khwe and Shua clusters barely exceed inherited features of the Khoe family. Only the quantifier ?ǀyè 'all' provides a clear link between Shua and Ts'ixa, and the proximal demonstrative nǀǀ~nǀǀ~ǀ is the one obvious connection between Ts'ixa and

the Khwe group. The interrogative pronoun *ní~ní* ‘what’ is shared between Ts’ixa and ||Ani, but might in the end turn out to be a loan from an unknown Ju dialect.

The feature dominating nominal modification in Ts’ixa is the wide use of relative-like constructions featuring an attributor morpheme with a clear cognate form in G|ui. It is therefore suggested here that both Ts’ixa and G|ui extended a genuine (Kalahari) Khoe relative marker of the form *ka to cover other types of modification in a way similar to languages with verbal modifiers.

In consequence, nominal modification in Ts’ixa is considered a domain strongly shaped by language contact.

10.3 Grammatical relations

This chapter considers selected aspects of participant marking in Ts’ixa from a comparative perspective. As has been established in §6.2.1, the most salient way of distinguishing core participants is via the language’s case-sensitive PGNs. While all Kalahari Khoe languages distinguish at least two series of PGN clitics in singular and plural – one ending in *-à* and one lacking *-à* – their functional distribution differs across languages. The NOMINATIVE~ACCUSATIVE disambiguation found in Ts’ixa does not feature in the neighbouring languages Khwe and Shua, but is attested for the G|ui dialect of G|ana (H. Nakagawa & H. Ono, p.c.). The implications of this finding for the genealogical affiliation of Ts’ixa within Kalahari Khoe are discussed in §10.3.1.

A marker found across the Khoe family that strongly interacts with participant and also PGN marking is the accusative postposition *?à*. The cross-Khoe variation displayed by this grammatical marker is discussed in §10.3.2.

While Ts’ixa follows the genuine Khoe pattern in displaying characteristics of an AOV language (cf. Heine 1976), other features are attested areally for the Kalahari Basin, but not throughout the Khoe family; these are the appearance of non-semantic participant flagging (cf., e.g., Güldemann 2014), the complete absence of double object constructions as well as secundative alignment with semantically ditransitive verbs (cf. König & Heine 2010). It will be argued here that they may have entered Ts’ixa through contact with a language of the Kx’a family (§10.3.3).

10.3.1 PGN marking

Vossen (1997: 349) reconstructs the PGN markers of the 3rd person for Proto-Khoe:

Table 84: Vossen's (1997: 349) reconstruction of the PGN markers of the 3rd person for Proto-Khoe

	SINGULAR	DUAL	PLURAL
MASCULINE	*.ba	(*tsada)	(* ua)
FEMININE	*.sa	*.sada	-
COMMON	-	*.khada	*.na

As can be seen from his reconstruction, he chose to treat the paradigm ending in *a* as the more basic one⁴⁷; however, it appears he was only partly aware of the functional distribution of multiple series of PGN markers in the Kalahari Khoe languages. In the case of Ts'ixa, he assumed =*sà* to be the genuine form for singular feminine, and =*si* to be a borrowing from Buga (Vossen 1997: 343).

Winter (1981) tried to explain the forms ending in a high front vowel by reconstructing a singular marker *-i; discussing this reconstruction, Vossen (1997: 343) suggests to treat them as agreement markers, rather than as singular markers. Although this does not cover the whole range of contexts in which *a*-lacking forms appear, he was still correct in his assumption that their appearance is linked to dependent nouns (e.g., Kilian-Hatz 2008 for Caprivi Khwe, Nakagawa 1993 for G|ui).

Vossen (1997) was apparently unaware of PGN markers consisting of a nasal consonant only, e.g., =*m* 'SG.M' and =*n* 'PL.C' of series 'I' in Ts'ixa. However, they have been noted by other researchers for Kalahari Khoe languages of both subgroups, paradigmatically aligning with the PGNs ending in *i* (Kilian-Hatz 2008 for West Caprivi Khwe, Heine 1999 for ||Ani, Nakagawa 1993 for G|ui, W.B. McGregor, p.c. for Nata Shua). It may therefore be assumed that the existence of at least two series of PGN markers for the 3rd person singular and plural is a feature found across Kalahari Khoe. For the languages examined with closer scrutiny, it can further be argued that these series are not free variants but exist in complementary distribution. However, the functional range they cover differs across languages.

Shua and Khwe both show a clear distinction between PGNs that mark arguments of the clause (*a*-series) and PGNs marking nominal dependents (*a*-lacking series); this scenario aligns with Vossen's (1997: 343) interpretation of PGNs ending in *i* as dependent forms which is not surprising insofar as he uses data from Khwe to argue

⁴⁷ This is rejected by Güldemann (2004).

his case. The functional distribution of the *à*-series in Nata Shua, West Caprivi Khwe⁴⁸ and Ts'ixa is summarised in Table 85 below.

Note that Shua, like other Eastern Kalahari Khoe languages, only marks few selected nouns (personal names) for nominal gender; hence, the two paradigms are predominantly visible in the language's personal pronouns of the 3rd person singular and plural.

Table 85: Functional distribution of the *à*-series in Nata Shua (W.B. McGregor, p.c.), West Caprivi Khwe (cf. Kilian-Hatz 2008), and Ts'ixa

	TS'IXA	WEST CAPRIVI KHWE	NATA SHUA
S/A	-	+	+
O	+	+	+
S/A in subordinate/ embedded clauses	-	+	-
Dependent nouns	-	-	-
Nouns headed by postpositions other than the ACCUSATIVE ?à	-	-	-
Nouns headed by the ACCUSATIVE ?à	+	(-) ⁴⁹	+
Predicate nouns	+	+	+
Appositions	+	?	?

+ = *à*-series, - = *à*-lacking series

What is most notable here is that neither Nata Shua nor West Caprivi Khwe have case sensitive PGN markers. Although accusative and nominative may be distinguished by means of morphological marking with the ACCUSATIVE postposition ?à, the distinction as such is not inherent to the PGN paradigm. However, Ts'ixa is not the only Kalahari Khoe language to use their PGN series for the marking of grammatical relations. The G||ana dialect G|ui has three series of 3rd person PGN markers; one marks NOMINATIVE, one marks ACCUSATIVE, and one marks what

⁴⁸ I have chosen to use West Caprivi Khwe for this particular comparison because it is the best documented Khwe idiom. It should however be kept in mind that both Buga and ||Ani might display a different functional distribution of PGN markers. The same is of course true for Shua lects to the west of Nata for which only limited text data is available.

⁴⁹ The situation is not clear in West Caprivi Khwe. According to Kilian-Hatz (2008: 61), the ACCUSATIVE/FOCUS marker ?à causes the 3rd person singular masculine PGN *-mà* to shorten to *-m̃*, and the 3rd person plural common gender PGN *-nà* to shorten to *-ñ*. However, it does not cause the 3rd person singular feminine *-hè* to shift to the expected *-s̃i*, as would be the case before other postpositions.

Nakagawa (1993) labels GENITIVE, i.e., dependent nouns. The 3rd person PGN markers of G|ui are listed in Table 86 below:

Table 86: Case-sensitive PGN markers of the 3rd person in G|ui (adapted from Nakagawa 1993)

		NOMINATIVE	ACCUSATIVE	GENITIVE
SG	m	-bì	<i>-mà</i>	-m̃
	f	<i>-sì</i>	<i>-sà</i>	<i>-sì</i>
DU	m	<i>-tsèra</i>	<i>-tsèra</i>	<i>-tsèra</i>
	f	<i>-sèra</i>	<i>-sèra</i>	<i>-sèra</i>
	c	<i>-khòra</i>	<i>-khòra</i>	<i>-khòra</i>
PL	m	<i>-//ù</i>	<i>-//òa</i>	<i>-//ù</i>
	f	<i>-zì</i>	<i>-zì</i>	<i>-zì</i>
	c	-rì	<i>-nà</i>	-ñ

Note how NOMINATIVE and GENITIVE series are almost identical, the only exceptions being SG.M and DU.C. Functionally, Nakagawa’s GENITIVE series corresponds to the *à*-lacking series in Khwe and Shua; his ACCUSATIVE series corresponds to the *à*-series ‘II’ in Ts’ixa. Ts’ixa displays the same case distinction as G|ui, although the functions of Nakagawa’s GENITIVE and NOMINATIVE are carried out by one and the same series (formally corresponding to his NOMINATIVE).

Due to the geographical distance between both groups, contact influence of G|ui on Ts’ixa may be excluded. It must therefore be assumed that the case distinction found in both languages is either an older Khoe feature or the result of independent innovations. Interestingly, our data from the eastern dialect of ||Ani suggests a distinction of three PGN series similar to what has been outlined for G|ui in Table 86 above. Due to the small data sample, only the PGN markers for the 3rd person singular are given.

Table 87: Case-sensitive PGN markers of the 3rd person singular in Eastern ||Ani

		NOMINATIVE	ACCUSATIVE	GENITIVE
SG	m	<i>-ba</i>	<i>-ma</i>	<i>-m</i>
	f	<i>-sì</i>	<i>-hε</i>	<i>-sì</i>

Note that the above paradigm – if correct – differs from G|ui in the form for masculine singular nominative, which is *-bi* in G|ui, but *-ba* in Eastern ||Ani. Such a distinction is not suggested by Heine’s (1999) description of ||Ani, nor does it feature in all of the data sets recorded by W.B. McGregor and the present author in 2013. Nevertheless, the existence of case-sensitive PGN markers in the idiolects of speakers

of ||Ani – a Khwe dialect originally spoken in the eastern Okavango Delta, close to modern-day Mababe – might be indicative of an areal phenomenon.

10.3.2 The ACCUSATIVE postposition ?à

The ACCUSATIVE .?à~.à is the only case marker Vossen (1997: 349) reconstructs for Proto-Khoe. He considers it a suffix, rather than a postposition and notes that it is optionally used to code subject-object relations in a number of Khoe languages. He (ibid.: 174) further considers the element to be etymologically related to a suffix -à marking “subordinate” noun phrases in Khoekhoe (Hagman 1977: 56f).

Hagman (1977: 57) lists the following usage contexts for -à in Khoekhoe:

- Equational Predicate NP à
- Direct or Indirect Object NP à
- Temporal NP à
- NPà before a Subordinating Post-position
- Deposed Subject NP à
- Interrogative Subject NP à
- Imperative-Hortative Subject NP à

It is of course tempting to link the suffix -à in Khoekhoe to the PGN series of the 3rd person ending in à. However, some of the contexts mentioned above – such as usage of -à before a subordinating postposition, with temporal NPs or with subjects of selected sentence types – do not align with the à-series in any Kalahari Khoe language. Furthermore, if the suffix -à does indeed go back to the same source as the accusative ?à (as suggested by Vossen’s reconstruction), one might wonder why the majority of Kalahari Khoe languages have both a PGN series ending in à and an accusative marker ?à~à. The situation is further complicated by the existence of another postposition ?à which is often found marking temporal and local relations. It is of course possible that these synchronically distinct elements – the final vowel à of one series of PGNs, the ACCUSATIVE ?à and the postposition ?à – share one and the same etymological source, but this cannot be convincingly argued at this point. I will therefore limit myself to the discussion of the particle ?à synchronically marking the object of the clause.

Such a particle is attested in several Kalahari Khoe languages, including Khwe (Kilian-Hatz 2008, 2010 for West Caprivi Khwe; Heine 1999 for ||Ani), G||ana (H. Ono, p.c. for G|ui) and Shua (W.B. McGregor, p.c. for Nata Shua).

10.3.2.1 Khwe

Kilian-Hatz (2008: 55) suggests a grammaticalisation path which allows her to treat the accusative postposition $\grave{a} \sim ?\grave{a}$ as etymologically related to a number of formally similar elements found in West Caprivi Khwe: a focus marker ($?\grave{a}$), a postposition predominantly marking temporal relations which she glosses as OBLIQUE ($?\grave{a}$), a genitive marker ($-\grave{a}$), and the COPULA/PRESENTATIVE ($?\grave{a}$):

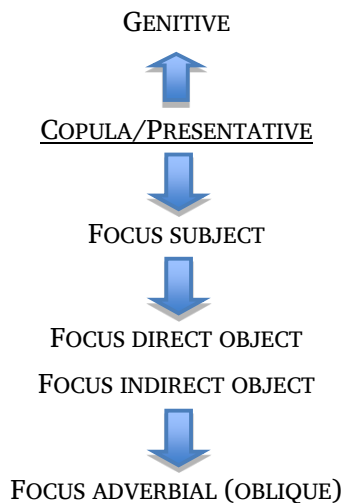


Figure 5: Grammaticalisation of a formative $?\grave{a} \sim \grave{a}$, suggested for West Caprivi Khwe by Kilian-Hatz (2008: 55)

According to the grammaticalisation path suggested in Figure 5 above, all grammatical formatives of the form \grave{a} or $?\grave{a}$ in Khwe go back to focus constructions involving the COPULA / PRESENTATIVE. Kilian-Hatz (2008: 59) notes that only indefinite subjects may receive the focus marker $?\grave{a}$, while $?\grave{a}$ occurs with both marked and unmarked objects. In West Caprivi Khwe – unlike in Ts’ixa – object marking with $?\grave{a}$ is never obligatory; still, two thirds of all direct objects are marked. Kilian-Hatz (2008: 59) summarises that “on the one hand it [the accusative $?\grave{a}$] contrasts possible referents in object position”, on the other it helps to “avoid disambiguity of syntactic roles of core participants”. Note that the latter function is not relevant in Ts’ixa, as the PGN clitics – unlike in West Caprivi Khwe – have an inherent NOMINATIVE-ACCUSATIVE distinction.

Of course, the grammaticalisation path drawn above for West Caprivi Khwe cannot be mapped onto Ts’ixa. It is still interesting to note that $?\grave{a}$ in this dialect is linked to both argument focus and contrastive focus (Kilian-Hatz 2008: 54). It will be remembered that the accusative $?\grave{a}$ in Ts’ixa is obligatory with PGN-marked objects in AOV and AVO predications, but otherwise marks contrastive focus (§6.2.2). We

can therefore infer that Ts'ixa and West Caprivi Khwe share usage contexts in which ?à is a “pure object marker” (cf. Kilian-Hatz 2008: 59), and contexts in which ?à marks contrastive focus. Although its focus-marking function, in Ts'ixa, is limited to the direct object of the clause, subject focus may be expressed by what is most likely a cleft-construction involving the COPULA/IDENTIFICATION marker ?è:

(492) *tí ?è sá ?à ||ádì-nà-hà ?è.*
 1SG ?ID 2SG.F ACC find-J-PST3 ?ID
 ‘It was me who found you.’

This is interesting insofar as the COPULA / PRESENTATIVE ?à, in West Caprivi Khwe, is assumed to be the source for both the subject focus marker and the object marker ?à (cf. Figure 5 above). Still, Kilian-Hatz’s (2008) analysis of the accusative ?à as a generic focus marker identical with a number of formally similar elements makes it somewhat difficult to compare its functions to those found with the obviously cognate element in Ts'ixa.

Similar to Kilian-Hatz (2008), Heine (1999: 30f) treats ?à (and its allomorphic variants) in ||Ani as an object marker related to the COPULA / PRESENTATIVE and what he dubs a “topic marker”. Like in Ts'ixa and West Caprivi Khwe, use of ?à with direct objects is not obligatory in ||Ani, although Heine (1999) does not specify the contexts in which marked and unmarked objects occur.

Despite obvious differences between Ts'ixa and Khwe, in particular when it comes to obligatory contexts for ACCUSATIVE marking with ?à, one might still observe that use of ?à in both languages relates to the information structural context of an utterance.

10.3.2.2 Shua

?à-marking occurs, but appears to be optional in Nata Shua. The object ‘Shua’ in (493)a is unmarked, while the pronominal object of the main clause in (493)b is marked, just like the recipient (but not the theme) of the ditransitive subordinate clause:

(493) a. *taá ke fúádà̀m̀ ng||áe.ng||àè.*
 1SG IPFV Shua teach
 ‘I teach Shua.’

b. *taá ?é.mà ?à djára-hà xòrè ?é.m tá (?)à k’òhú ||?áì-à-mà.*
 1SG 3SG.M ACC ask.for:J-PRF COMP 3SG.M 1SG ACC meat buy-J-BEN
 ‘I asked him to buy meat for me.’

The above examples might suggest that [+human] referents or known referents represented by anaphoric pronouns are more likely to be marked, than inanimate or abstract referents, but there is not enough data available to substantiate this claim. Still, the limited data available for Shua strongly suggest that like in Ts'ixa and Khwe, information structural properties govern use of ?à, with the case-marking function being of secondary importance.

10.3.2.3 G|ui

Ono (2011) faces similar challenges with ?à-marking in G|ui; in verbal clauses, ?à only appears with objects, but is used rarely and only by older speakers. It is also found with right or left dislocated NPs and clauses, with extraposed elements, and with appositive repeated objects. Ono however states that ?à is neither a topic nor a focus marker (which has been suggested for ?à in Khwe; see above). She further notes that a copula-like element ?à is used in equational constructions [DEM NP ?à], but not in others.

Although this picture does not appear to match either Ts'ixa or Khwe, it is still notable that when used with clausal arguments, ?à in G|ui is restricted to the object. Like in Ts'ixa, it appears with unmarked nouns, or with nouns marked by a PGN of the ACCUSATIVE series (cf. Table 86 above). The occurrence of ?à with extraposed elements and appositions might further suggest a link to information structural properties, even though Ono (2011) does not consider ?à to mark topic or focus.

10.3.3.4 Summary

Summarising the above findings from Ts'ixa, Khwe, Shua and G|ui, we can say the following about (?):

- A postposition ?à (plus its allomorphs) is linked to the direct object of a transitive clause.
- All languages examined also display other uses of an element ?à, e.g., marking of oblique participants (Ts'ixa, Khwe), and subject focus (Khwe).
- A copula or copula-like element ?à is attested in Kalahari Khoe (Khwe, G|ui).
- All Khoe languages have a PGN-series ending in -à.

Although it has been suggested that some or all of the elements quoted above are etymologically related (Vossen 1997; Heine 1986, 1999; Kilian-Hatz 2008), data from Ts'ixa does not support this hypothesis. In fact, use of the COPULA / IDENTIFICATION marker ?è for cleft-constructions (cf. 492 above) similar to what is found featuring an element ?à in Khwe might suggest that there are at least two

elements ?à in Kalahari Khoe that should not be confused. Indeed, the low degree of distinctiveness of a grammatical formative consisting of a vowel à as well as the lack of descriptive accuracy when it comes to the question whether or not this element appears with an initial glottal stop (especially in Kilian-Hatz 2008) renders historical reconstruction on a cross-Khoe level a difficult undertaking, at least at this point in time.

If we limit the discussion to a marker ?à appearing with direct objects only, we can say that it is

- found in all of the languages examined.
- not obligatory in all contexts.
- linked to the information structural properties of the direct object.

All questions relating to the etymological origin and semantic core of ?à will require more research and more data from both Ts'ixa and other Kalahari Khoe languages, in particular from the severely under-documented Eastern Kalahari Khoe subgroup.

10.3.3 Ditransitive verbs

Ts'ixa has no ditransitive verbs in the strictest sense (cf. Kittilä 2006), i.e., no verbs that allow for double object constructions. Ts'ixa does not even appear to have ditransitive verbs in the narrower sense, as at least one participant – recipient/beneficiary OR theme – has to be encoded as oblique; which one is left to the speaker and displays considerable variation in my data (§6.3). The majority of Khoe languages, in contrast, do have “real” ditransitives, i.e., verbs allowing for double object constructions (e.g., Khoekhoe: Hagman 1977; West Caprivi Khwe: Kilian-Hatz 2008; G|ui: H. Nakagawa, p.c.; Shua: own data; Tshwao: Jeffrey Wills, p.c.).

10.3.3.1 Khwe

In West Caprivi Khwe, both recipient and theme may be marked by the object marker ?à (494)a, no referent is marked (494)b, or only the recipient is marked (494)c.

- (494) a. *Màtiaci-ṁ* ?à /?áà ?à tí xàró-á-tà.
 Matthew-3SG.M ACC money ACC 1SG give-J-PST2
 ‘I gave money to Matthew.’ (Kilian-Hatz 2008: 63, orthography and glosses adapted)

- b. *ʔá ʔé-hè xà-má ʔáta ʔhùáxu-i-hã nò.*
 DEM fire-3SG.F DEM-3SG.M thus take.away-PASS-PST1 CONJ
 ‘One (of us) has taken that fire away from him.’ (Kilian-Hatz 2008: 63, orthography and glosses adapted)
- c. *týò nʔíkà tí yà-à-tá nò, tcá tí-è kwéε xó vé!*
 then there 1SG come-J-PST2 CONJ 2SG.M 1SG-ACC refuse thing NEG
 ‘You can’t refuse this to me, when I come here.’ (Kilian-Hatz 2008: 63, orthography and glosses adapted)

As indicated in §10.3.2.1 above, ʔà-marking relates to information structural properties of the direct or indirect object, which Kilian-Hatz (2008) identifies as focus. She further notes (*ibid.*: 65f) that West Caprivi Khwe does not have many verbs in which the indirect object is treated as a core participant. Like in Ts’ixa, the recipient or addressee is frequently marked by a LOCATIVE / DIRECTIONAL postposition (*ki* in West Caprivi Khwe):

- (495) *khó-mà tí ki ʔxà-rá-tà make-hè ʔè.*
 man-SG.M 1SG LOC give-II-PST2 cigarette-SG.F O
 ‘The man gave me a cigarette.’ (Kilian-Hatz 2008: 63, orthography adapted)

Unlike in Ts’ixa, there are no examples for the theme of a semantically ditransitive construction being treated as oblique.

The situation in ʔAni appears to be different. Although again, only a limited range of data is available, Heine’s (1999) description does not include an example in which both theme and recipient are marked by the same postposition, or are both left unmarked. In (496) below, the recipient ‘family’ (lit. your house’s) is marked by the accusative postposition ʔà while ‘honey’ is left unmarked.

- (496) *ts’ípá tsá khó-mâ-sì-tè tsá di ngú-si dí-ʔà.*
 honey SG.M collect-BEN-3SG.F-PRES 2M.SG POSS house-SG.F POSS-O
 ‘Are you collecting honey for your family?’ (Heine 1999: 31, orthography adapted)

Another strategy found in ʔAni is quite similar to the non-semantic participant flagging attested for Ts’ixa. Incidentally, it is again the postposition *ka* which is used to mark the theme of the semantically ditransitive predication.

- (497) a. *tí ʔúú-à-mâ ʔʔú kà khó-mâ ʔà.*
 1SG buy-J-BEN food LOC person-SG.M O
 ‘I bought food for him.’ (Heine 1999: 32, orthography adapted)

- b. *ʃʒúrí-è xórò tí àʒà |úú ʃʒuru |õã-m ká!*
 dove-IMP give 1SG o one dove child-SG.M LOC
 ‘Dove, give me one of your eggs!’ (Heine 1999: 31, orthography adapted)

Note that Heine (1999: 31) interprets *(o)kà* as a LOCATIVE in complementary distribution with the LOCATIVE / ALLATIVE *ʒò* or *ʒòanà*, with the latter marking recipients located closer to the deictic centre than those marked by *(o)kà*. This interpretation is not adopted here, as *kà* clearly marks the theme, not the recipient in (497) above. Nevertheless, like in Ts’ixa and West Caprivi Khwe, the recipient may be marked by an ALLATIVE postposition:

- (498) [...] *ʃxá-tè* [...] *poó-m ʒò.*
 give-PRS jackal-SG.M LOC
 ‘she (the dove) gave [...] to the jackal.’ (Heine 1999: 32, orthography adapted)

Generally, it can be summarised that \parallel Ani behaves almost exactly like Ts’ixa, the only exception being that \parallel Ani may have ditransitive constructions in which neither theme or recipient is coded as oblique (cf. 496 above).

3.3.5.3.2 Shua

Nata-Shua appears to follow a pattern similar to West Caprivi Khwe. In (499)a, both theme and recipient object go unmarked, whereas in (499b), only the recipient is marked.

- (499) a. *tsám ke hũ.à tca ʒyúú khaà.*
 1DU.M IPFV FUT 2SG.M food give
 ‘We will give you food.’
- b. *aa na taa ʒa tshao khaa.*
 come CONJ 1SG ACC hand give
 ‘Come and give me a hand.’ (W.B. McGregor, p.c.)

Samples from other Shua dialects obtained during a survey in 2013 also yielded examples in which neither theme nor recipient were morphologically marked, e.g. (499)c below from a western dialect of Danisi:

- (499) c. *|úú tí dī tè tá k’òòxú ||ʒã-à-mà.*
 child 1SG POSS IPFV 1SG meat buy-J-BEN
 ‘I buy food for my child.’

Note, however, that the recipient is fronted and placed before the imperfective marker *tè*. The recipient therefore is clearly marked syntactically and treated

differently from the theme, which occupies the canonical direct object slot before the verb. This word order pattern was found in 5 of 6 samples from Danisi; in the remaining one, the theme was fronted and the recipient occupied the slot before the verb. In one sample from Deti, both recipient and theme were fronted, while another one followed the Danisi-pattern.

For (499)c above, marking of the theme by the postposition *ka*, as encountered in Ts'ixa and ||Ani with the same example, was explicitly rejected by speakers of various Shua dialects.

10.3.3.3 Kx'a

As has already been noted (cf. König & Heine 2010), ditransitive verbs are absent in the Kx'a family where either recipient or theme is marked with an oblique marker *kV*. Note that *kV* precedes, rather than follows the NP (cf. 500a-b):

Ju|'hoan

- (500) a. *Dà'ámá jàn /'àn ha bá kò màrì.*
 child good give N1/2 father PART money
 'The good child gave his father money.' (Dickens 2005:40)

N!aqriaxe (≠'Amkoe)

- b. *āri||à'í yā g|ōò āqri zààn kì dzòò.*
 woman PROG give man OBL water
 'The woman gives the man water.' (F. Berthold, p.c.)

According to König and Heine (2010), it is up to the speaker whether theme (cf. 501a) or recipient (cf. 501b) is treated as oblique. The oblique marker appears to be tied to the syntactic position of the argument⁵⁰, more than it is to its semantic role. Compare the examples below (from Northwestern !Xun):

- (501) a. *mí má kē /à'ā dābà kē cāūn.*
 1SG TOP PST give child.N1 TR porridge.N4
 'I gave the child porridge.' (König & Heine 2010: 7)
- b. *mí má kē /à'ā cāūn kē dābà.*
 1SG TOP PST give porridge.N4 TR child.N1
 'I gave the child porridge.' (König & Heine 2010: 7)

The situation is of course different in Ts'ixa and ||Ani in that different postpositions are used to mark either recipient or theme, but it is still remarkable that the

⁵⁰ Word order in Kx'a is a lot less flexible than in the Khoe family. The pattern adhered to is AVOX (cf. Güldemann 2014), with X denoting any participant other than A and O.

variation exists in the first place (compare §6.3 for Ts'ixa, and (497)b and (498) above for ||Ani). The implications of the fact that both languages apparently desemanticised a LOCATIVE / INSTRUMENTAL postposition to obtain a MULTIPURPOSE OBLIQUE marker similar to the kV markers of the Kx'a family will be further discussed in the summary below.

10.3.3.4 Summary

While Ts'ixa does not appear to have any ditransitive verbs at all (cf. §6.3), other Khoe languages possess at least a small number of verbs which allow for double object constructions, i.e., constructions in which both recipient and theme are treated like O of a transitive predication. While it appears to be more widespread to find the recipient marked by an ALLATIVE postposition (e.g., Ts'ixa, Khwe), only Ts'ixa and the Khwe dialect ||Ani display a cross-linguistically rare phenomenon in having secondary object constructions, i.e., semantically ditransitive constructions in which the recipient and not the theme is treated like O of a transitive predication. This phenomenon is neither found in West Caprivi Khwe nor in any dialect of Shua, and also appears to be absent in the G||ana lect G|ui (H. Nakagawa & H. Ono, p.c.). We may therefore assume that it is not a genuine feature of Kalahari Khoe, much less of Khoe, as it is not found in Khoekhoe either (Hagman 1977, Haacke 2013).

It is however common in the Non-Khoe languages, including languages of the Kx'a family (Dickens 2005 on Ju|'hoan, König & Heine 2010 on Northwestern !Xun, F. Berthold, p.c. on †'Amkoe) which are known to mark oblique participants with a MULTIPURPOSE OBLIQUE preposition of the form kV.

While the Khoe languages, including Ts'ixa, have a semantically distinctive range of postpositions for flagging oblique participants, Ts'ixa and ||Ani extended the use of the LOCATIVE / INSTRUMENTAL postposition *ka* to cover functions beyond its semantic range, such as marking the theme of semantically ditransitive constructions. One may therefore consider an ongoing desemanticisation process during the course of which *ka* is becoming more similar to the MULTIPURPOSE OBLIQUE markers of the Non-Khoe languages.

As has already been established, no similar examples exist within the Khoe family, so contact may be assumed a possible explanation for this development in Ts'ixa and ||Ani. Coming back to the genealogical affiliation of Ts'ixa within Kalahari Khoe, one may also wonder whether the process was triggered independently in the two languages in question, adopted by either Ts'ixa or ||Ani in contact with the other, or

constitutes an indicator for genealogical relationship, i.e., the existence of a common ancestor which was influenced by contact with a Kx'a language.

10.3.4 Some concluding remarks on genealogical affiliation and contact

Table 88 below summarises the features discussed in this section by comparing Ts'ixa with Khwe and Shua, as well as other languages of the Khoe family, and finally the Kx'a family. The symbol < + > indicates that the feature is shared between Ts'ixa and the language/family in question. If a particular language or dialect is put into brackets, this indicates that the feature is not attested in the entire grouping or language but is restricted to the member indicated.

Table 88: Participant marking in Ts'ixa from a comparative perspective

	KHWE	SHUA	KHOE OTHER	KX'A
Default AOV	+	+	+	-
OV ~ VO	+	-	?	-
Case-sensitive PGNseries	+ (Ani East?)	-	+ (G ui)	
Accusative ?à	+	+	+	-
Semantically transparent postpositions	+	+	+	-
Secundative alignment	+ (Ani)	-	-	+
Non-semantic participant flagging	+ (Ani)	-	+ (-a in Khoekhoe)	+

Ts'ixa clearly aligns with the Khwe group, in particular with the dialect ||Ani. What is interesting here is that features not otherwise attested in the Khoe family, like secundative alignment in semantically ditransitive clauses and non-semantic participant flagging are not only shared between Ts'ixa and ||Ani, but also have an obvious pendant in the Kx'a family. The only features shared between Ts'ixa and Shua are cross-Khoe features, such as basic / unmarked AOV word order, use of a postposition ?à with a subset of the language's direct objects, and a range of semantically transparent postpositions.

The variation between OV and VO in Ts'ixa and Khwe might constitute another contact-induced feature, seeing AVO is the basic constituent order in all Non-Khoe languages. As some Khoe languages – among them Ts'ixa – have flexible clausal word order, one might consider a scenario in which a previously marked pattern, such as AVO, became more “basic” through contact with an AVO language (see also

Heine & Kuteva 2005 on word order borrowing). However, since not only the languages of the Tuu and Kx'a families, but also the Bantu languages are inherently AVO languages, it is not easy to establish which language triggered the process in the first place. However, since Ts'ixa also displays other features found in Kx'a and typologically tied to constituent order (cf. Heine 1976, Dryer 2013), such as a preference for some modifiers like demonstratives and relative clauses to follow, rather than precede the noun, it is maybe not too far-fetched to assume that the almost even distribution of OV and VO clauses in Ts'ixa (cf. §6.1) emerged within the same contact scenario as other features discussed above.

In general, we may summarise that typological patterns found with Ts'ixa participant marking hint at both a genealogical affiliation with Khwe as well as substrate influence from a Non-Khoe language, most likely of the Kx'a family. The data surveyed also strengthens the hypothesis already brought forward in the preceding sections, namely the possible existence of particularly close ties between Ts'ixa and the eastern branch of ||Ani.

10.4 Lexicon

A superficial lexical comparison based on a list of 282 lexemes shows that Ts'ixa displays a higher degree of cognation with Shua – especially with western and central varieties of Danisi – than with with neighbouring varieties of Khwe. The number of 282 lexemes corresponds to the total number of lexical items on the word list used during our survey. As not all items were obtained for all dialects considered (see Table 6 in §1.3), the number of lexical items available for comparison between individual dialects is given in superscript in the tables below. Lexical items were considered cognates when they could be traced to a common proto-form by establishing regular sound correspondences. Phenomena such as click loss were not taken into account, i.e., e.g., *kyũũ* and *ʃũũ* 'to buy' were considered cognates.

A lexical affinity of Ts'ixa to the Shua cluster can not only be shown for the complete list (Table 89), but also to individual semantic fields, such as “activity verbs” (Table 90), “state verbs and adjectives” (Table 91), “animals” (Table 92), “body parts” (Table 93), “nature and time” (Table 94), and “domestic activities and subsistence” (Table 95).

Tabelle 89: Lexical comparison, based on a list of 282 lexemes (in %)

DETI						
80,44 ²²⁵	DANISI NORTH					
86,34 ²²⁷	90,34 ²³⁸	DANISI CENTRAL				
80,97 ²²⁶	81,25 ²⁴⁰	93,28 ²³⁸	DANISI WEST			
68,42 ²²⁸	70,95 ²⁴¹	80,75 ²³⁹	81,25 ²⁴⁰	Ts'IXA		
60,18 ²²⁶	62,18 ²³⁸	66,95 ²³⁹	69,46 ²³⁹	71,78 ²⁴¹	BUGA	
59,83 ²²⁹	60,08 ²⁴³	66,67 ²⁴⁰	70,66 ²⁴²	70,49 ²⁴⁴	82,23 ²⁴²	ANI

superscript: total number of lexical items compared

Tabelle 90: Semantic field “activity verbs”

DETI						
85,92 ⁷¹	DANISI NORTH					
92,96 ⁷¹	95,89 ⁷³	DANISI CENTRAL				
88,57 ⁷⁰	91,67 ⁷²	97,20 ⁷²	DANISI WEST			
81,69 ⁷¹	86,49 ⁷⁴	89,04 ⁷³	93,06 ⁷²	Ts'IXA		
70,42 ⁷¹	69,86 ⁷³	73,97 ⁷³	79,17 ⁷²	84,93 ⁷³	BUGA	
69,01 ⁷⁰	67,57 ⁷⁴	71,23 ⁷³	77,78 ⁷²	81,08 ⁷⁴	91,78 ⁷³	ANI

Tabelle 91: Semantic field “state verbs and adjectives”

DETI						
70,97 ³¹	DANISI NORTH					
83,87 ³¹	85,29 ³⁴	DANISI CENTRAL				
68,57 ³²	68,57 ³⁵	88,57 ³⁵	DANISI WEST			
62,50 ³²	50,00 ³⁴	76,47 ³⁴	65,71 ³⁵	Ts'IXA		
34,38 ³²	37,14 ³⁵	57,14 ³⁵	52,78 ³⁶	62,86 ³⁵	BUGA	
53,13 ³²	51,43 ³⁵	68,57 ³⁵	63,89 ³⁶	65,71 ³⁵	69,44 ³⁶	ANI

Tabelle 92: Semantic field “animals”

DETI						
80,65 ³¹	DANISI NORTH					
87,50 ³²	91,43 ³⁵	DANISI CENTRAL				
75,00 ³²	82,86 ³⁵	100,00 ³⁵	DANISI WEST			
46,88 ³²	51,43 ³⁵	63,89 ³⁶	74,29 ³⁵	Ts'IXA		
53,13 ³²	51,43 ³⁵	58,30 ³⁶	60,00 ³⁵	58,30 ³⁶	BUGA	
50,00 ³²	48,57 ³⁵	58,30 ³⁶	62,86 ³⁵	61,10 ³⁶	75,00 ³⁶	ANI

^{superscript}: total number of lexical items compared

Tabelle 93: Semantic field “body parts”

DETI						
84,21 ³⁸	DANISI NORTH					
94,60 ³⁷	94,74 ³⁸	DANISI CENTRAL				
89,47 ³⁸	73,20 ⁴¹	94,74 ³⁸	DANISI WEST			
78,95 ³⁸	68,30 ⁴¹	89,47 ³⁸	85,37 ⁴¹	Ts'IXA		
69,40 ³⁶	69,23 ³⁹	75,70 ³⁷	74,36 ³⁹	76,92 ³⁹	BUGA	
71,05 ³⁸	68,30 ⁴¹	76,32 ³⁸	78,05 ⁴¹	68,30 ⁴¹	79,50 ³⁹	ANI

Tabelle 94: Semantic field “nature and time”

DETI						
69,67 ³³	DANISI NORTH					
71,43 ³⁵	81,08 ³⁷	DANISI CENTRAL				
70,59 ³⁴	78,38 ³⁷	86,84 ³⁸	DANISI WEST			
55,88 ³⁴	77,78 ³⁶	75,68 ³⁷	85,37 ⁴¹	Ts'IXA		
55,88 ³⁴	66,67 ³⁶	64,86 ³⁷	67,57 ³⁷	81,08 ³⁷	BUGA	
45,71 ³⁵	54,05 ³⁷	59,46 ³⁷	65,79 ³⁸	67,57 ³⁷	83,78 ³⁷	ANI

Tabelle 95: Semantic field “domestic and subsistence”

DETI						
85,71 ²¹	DANISI NORTH					
76,19 ²¹	85,17 ²¹	DANISI CENTRAL				
85,00 ²⁰	85,00 ²⁰	85,00 ²⁰	DANISI WEST			
66,67 ²¹	76,19 ²¹	80,95 ²¹	85,00 ²⁰	Ts'IXA		
66,67 ²¹	75,00 ²⁰	61,90 ²¹	75,00 ²⁰	66,67 ²¹	BUGA	
57,14 ²¹	61,90 ²¹	57,14 ²¹	70,00 ²⁰	66,67 ²¹	85,70 ²¹	ANI

The result of the lexicostatistical analysis supports Vossen's (1997) classification of Ts'ixa as a dialect of Shua. What is more, it contradicts an outspoken link between Ts'ixa and the Khwe dialect ||Ani, as suggested in previous sections. Lexical similarities between Ts'ixa and ||Ani do not significantly outnumber those between Ts'ixa and Buga, suggesting that in a contact scenario, either Khwe dialect could be considered a possible candidate.

(502)a below lists the lexical isoglosses identified in the data that link Ts'ixa unanimously to the Shua cluster, i.e., they do not have cognates in any of the surveyed dialects of Khwe, but were recorded for at least one dialect of Shua.

(502) a.	'axe'	<i>yibe ~ hibe</i>
	'brother, older'	<i>taxu</i>
	'brother, younger'	<i>damaxu</i>
	'crocodile'	<i>ʔqona ~ tyona ~ tcona</i>
	'dirty'	<i>ʔuri ~ ʔuri</i>
	'family'	<i>dzããkhoe</i>
	'fear'	<i>bee</i>
	'finger'	<i> xunu ~ xono</i>
	'foot'	<i>dzũ</i>
	'friend'	<i>tũã</i>
	'give'	<i>khaa</i>
	'God'	<i>tora</i>
	'headman'	<i>ʔayakhoe</i>
	'hornbill'	<i>hoto ~ woto</i>
	'neck'	<i>gyano</i> (Danisi only)
	'penis'	<i>ts'aa</i>
	'play'	<i>ʔaru</i>
	'root'	<i>tobe</i>
	'rope'	<i> ʔere</i>
	'rub'	<i> xaa ~ haa</i>
	'scratch'	<i>xore(-xore)</i>
	'shoulder'	<i> an</i>
	'sing'	<i>n gai ~ n ai</i>
	'smell'	<i>(h)mm ~ hum</i>
	'squeeze'	<i>ts'aa</i>
	'tell'	<i>boodi</i>
	'think'	<i>ʔʔan ~ ʔyan</i>

(502)b below lists the lexical isoglosses identified in the data that are shared between Ts'ixa and at least one dialect of Khwe, but not found in the surveyed dialects of Shua:

(502) b.	'big'	/au
	'breathe'	tsãã-/ʔum
	'buy'	ʔũũ ~ kyũũ
	'cattle'	goe
	'cold'	/xono
	'dove'	ʔuru
	'face, forehead'	!ʔãã ~ ʔãã
	'feather, wing'	//aboo
	'head'	ʔuu ~ kyuu
	'hot'	tsu-tsuu
	'house'	nguu
	'love'	yaba
	'push'	khadi
	'seed'	ʔaro ~ ʔyaro
	'stone'	n//goa ~ n//oa
	'vagina'	nʔgui ~ ngyui

At first glance, it does not seem as if the lexicon of Ts'ixa contains a significant amount of borrowings from a dialect of Ju; however, more research might produce a different outcome. (503)a below provides a preliminary list of lexemes not shared between Ts'ixa and either Khwe or Shua, but with a possible source in Kx'a:

(503)a.	'basket'	!aũ	<	!aũh	(Ju 'hoan, Ju; Dickens 1994: 38)
	'bend'	!óbé	<	!óbe	(N!aqriaxe, ʔ'Amkoe; F. Berthold & L. Gerlach, p.c.)
	'camelthorn'	ʔànà	<	ʔ'ànà	(Ju 'hoan, Ju; Dickens 1994: 50)
	'cover'	//òbà	<	//òbà	(Northwestern !Xun, Ju; Heine & König 2008: 121)
	'find sth. lost by sb. else'	//áđì	<	//áré	(Ju 'hoan, Ju; Dickens 1994: 79)
	'hawke'	dzuku.tsama	<	tzàmà	('bird'; Ju 'hoan, Ju; Dickens 1994: 42)
	'mother'	dué	<	taqè	(Ju 'hoan, Ju; Dickens 1994: 116)
			<	dyéé	(N!aqriaxe, ʔ'Amkoe; F. Berthold & L. Gerlach, p.c.)

In addition to these, Ts'ixa has a small number of lexemes of possible “Khoisan” origin which do not appear to have cognates in any Khoe language. However, they also cannot be shown to originate from a language of the Kx'a family:

(503) b.	‘breast’	<i>habí</i>
	‘grass’ (gen.)	<i>/hóó</i>
	‘mucus’	<i>//umi</i>
	‘parent’s sibling’	<i>//aà-//ũũ</i> (?-‘parent’)
	‘red-crested bustard’	<i>//qam</i>
	‘rodent sp.’	<i>kúrùtòkà</i>
	‘small’	<i>?oré(-xà)</i>
	‘wild cat’	<i>gluń</i>

Finally, Ts'ixa has loan words from a Bantu language no longer spoken by anyone in the present speakers’ immediate environment. J. Wills (p.c.) suggests that the donor language of the lexemes given below might have been a dialect of Kalanga (S.10), a Bantu language spoken in eastern Botswana and Zimbabwe.

(504)	‘aardvark’	<i>gúmbá</i>
	‘courtyard’	<i>bándà</i>
	‘honey badger’	<i>mbírí</i>
	‘monitor lizard’	<i>mbùrù</i>
	‘necklace’	<i>ndábè</i>
	‘plain’	<i>handá</i>
	‘ruin’ (n.)	<i>dóngò</i>
	‘wash’	<i>sámbà</i>
	‘wild cat’	<i>díńà</i>

10.5 Overview of non-linguistic evidence

In the sections above, selected lexical and morphosyntactic features of Ts'ixa were assessed from both a genealogical and from an areal perspective. The lexicon and some grammatical features discussed in Vossen (1997) clearly support a link between Ts'ixa and the Shua cluster. However, the way in which the PGN system of Ts'ixa affects the domains of nominal morphology and participant marking is more reminiscent of Western Kalahari Khoe languages, as is the highly flexible constituent order and some patterns of nominal modification. The latter also hint at contact influence from a language of the Kx'a family. In conclusion, the present data strongly suggests that Ts'ixa is the result of linguistic convergence between both

languages of the Kalahari branch of the Khoe family, and between unrelated languages of the “Khoisan” *Sprachbund*.

In the following sections, non-linguistic evidence for the contact scenario suggested above will be presented. As the population makeup of present-day Mababe, including links with Danisi and Buga, was already discussed in §1.2, I will now focus on the involvement of ||Ani speakers (§10.5.1) and then discuss available evidence for Kx'a speakers in northeastern Botswana (§10.5.2). §10.5.3 briefly addresses the relationship between Ts'ixa and Bantu speakers in past and present, and §10.5.4 summarises results from a molecular anthropological survey which included speakers of Ts'ixa.

10.5.1 Links between Ts'ixa and ||Ani

From a linguistic point of view, a link between Ts'ixa and ||Ani does indeed look promising, as the two languages share grammatical features that set them apart from both dialects of Khwe and Shua (see §10.3). In a text recorded by Matthias Brenzinger in 1999, the late ||Ani speaker Michael Baise recounted a story according to which Ts'ixa and ||Ani lived together in the Okavango Delta, downstream from where the present-day ||Ani-settlements are located:

Yes, those living in Mababe, the people living in Mababe, those come from downstream, they were living there. When the tsetse fly killed those people downstream, they fled the tsetse and went to Mababe. Recently, I met the other old man called Tanekhoe and asked him about that thing. When I asked Tanekhoe, (he) told (me) he was the only one who had stayed behind downstream with the Bayeyi. In the past, only ||Ani stayed downstream. While the Ts'ixa were staying (there), the tsetse fly came in, and when the tsetse bit them, their bellies swelled. Many people died. They escaped, the others that had stayed behind, they escaped and went to Mababe. Only he and his children stayed behind. Tanekhoe told me like that.
[M. Baise, recorded by M. Brenzinger in 1999; translation by the present author]

This story is strikingly similar to an account given by Hans-Joachim Heinz (n.d.) in his survey of the peoples of the Okavango Delta, according to which the Ts'ixa were severely affected by tsetse-related diseases⁵¹ before they came to settle in modern-day Mababe. Whether this refers to only part of the present-day population makeup (e.g., the Handakhoe, cf. §1.1.2), or to an offshoot of the ||Ani which became assimilated to an already existing group is up to debate. However, the involvement of ||Ani in the contact scenario as such is not disputed by the people of Mababe. One

⁵¹ It seems strange that here as well as in oral histories, reference is made to the tsetse fly, even though the described symptoms do not appear to resemble those of sleeping sickness.

of the major family clans trace their origins to ||Ani ancestors, and several villagers were able to name at least one ||Ani relative in their immediate family tree.

One woman identifying as Handakhoe pointed me to her mother's family, all ||Ani residing in Maun. Although none of them retained their ancestral language, they confirmed the existence of family ties between ||Ani formerly residing in the eastern Delta and the Ts'ixa of Mababe.

10.5.2 Links between Ts'ixa and Ju

To state the most obvious first: there is no indication for the presence of Kx'a speakers in the area presently (or formerly) inhabited by Ts'ixa-speakers. While Ts'ixa does indeed display some striking linguistic features possibly indicative of linguistic interference (§10.3.3.3), actual evidence for contact between Ts'ixa and Kx'a speakers is hard to come by. Although one family in Mababe claims to be of "Kaukau", i.e., Ju|'hoan, ancestry, the link is easily traced to a single individual who came to Mababe with a cattle track, about two generations back. However, there is a well-known story in the village, said to refer to the above-mentioned Ju|'hoan-speaker, which goes as follows:

When Kgosi Itsele (a former leader of the Ts'ixa and the present headman's grandfather) and his people were camping by a water hole, they were joined by an enigmatic stranger who called himself Tcuntcau. While Tcuntcau was living with them, lions started to harass the group. The people set up traps, but they never caught a single lion. Having gotten suspicious, Kgosi Itsele stayed up late one night to see what Tcuntcau was up to. As it turned out, the stranger was not only able to talk to lions, he even informed them of the traps the Ts'ixa had set up for them. On the next day, Kgosi Itsele approached Tcuntcau on the matter. When asked to stop his scheme with the lions, Tcuntcau agreed, but asked Kgosi Itsele for his daughter's hand. Kgosi Itsele agreed, Tcuntcau and the Ts'ixa woman got married, and the lions disappeared, never to be seen again.

[obtained during an interview with a community elder, retold by T. Kebuelemang]

While this story is commonly thought to be about the one intermarriage with a Ju speaker that people can remember, it is interesting to note that the man's name was not Tcuntcau, and his wife was not Kgosi Itsele's daughter. Furthermore, the ability to transform into lions is commonly associated with the Ju|'hoan of Sehitwa, who are sometimes referred to as "lion people". It seems therefore not too far of a stretch to assume that the original story might have referred to a clash between groups, rather than between individuals, which was eventually resolved through intermarriage.

However, a scenario like this would still require the presence of Kx'a speakers in the area of modern-day Chobe National Park, which is accounted for by a number of places presumably carrying Ju|'hoan names (cf. Table 2 & Map 2 in §1.2). An additional hint might be found in Passarge's (1907) account of his travels in Botswana 1896-1898:

It seems that the {Schikére} tribe lives in the Mababeveld. We know nothing about them, and I am naming them hesitantly because I only heard about them through a word of mouth report. (Passarge 1997 [1907]: 143)

According to Schapera (1930: 34), “they [the Angola !Kung, or !O Kung] are sometimes referred to by the names applied to them by the Bantu: [...], and VaShekeli in the east”. Note that this would suggest that the people Passarge was referring to were !Xun from Angola, rather than Ju|'hoan, unless the term – unbeknownst to Schapera – was also applied to other Kx'a-speakers. Furthermore, Wilmsen, in his comment to the re-edition of Passarge's writings, simply assumes that Passarge's informant was wrong when he talked about !Xun inhabiting the Mababe Depression:

This may be Sekele, a Kaukau-Bushman group; these people do not live in the Mababeveld, and Passarge is properly cautious. (Wilmsen, ed., in Passarge 1997 [1907]: 143, fn 94)

This seems reasonable, considering that no other traveller, not even Dorothea Bleek, ever reported of Kx'a-speakers in northeastern Botswana. There were neither Ju|'hoan nor !Xun in the Mababe area when Westphal, Köhler and Heinz travelled there during the 1950s and 1960s, so if they were there only half a century earlier, their disappearance must have been sudden and cannot really be explained at this point in time. An account according to which Kebuelemang Kgosi Itsele, the former chief of Mababe told Arthur Albertson (p.c.) about a yet undiscovered group of “wild Bushmen” still dwelling in the southern Chobe also has to be taken with a grain of salt. There is nothing to substantiate his claim and Mababe villagers repeatedly insisted that they are the only remaining dwellers of the area that is now Chobe National Park.

The remaining point worth expanding on concerns the Ts'ixa's proclaimed resemblance to the San peoples of the Central Kalahari. This has already been noted by Selous (1907), who does not specifically talk about Ts'ixa, but about “Masarwa Bushmen living near the Mababi river”:

I have, however, occasionally seen men amongst them of a distinctly Korana type, short and stout built in figure, very light in colour, with small black glittering eyes, high cheek-bones, and hair growing in small tufts. There were two young men of this type amongst the Masarwa

Bushmen living near the Mababi river in 1884. They reminded me very forcibly of the life-sized figure of a Cape Colony Bushman in the Museum of the Jardin des Plantes in Paris, though they were, I think, nearly if not quite five feet in height. (Selous 1907: 337)

A similar statement was made by German anthropologist H.-J. Heinz (n.d.), who visited the Ts'ixa during the 1960s and commented on their “more marked Bush features”. Along the same lines, the Buga of Khwai claim to call their eastern neighbours *ts'í-xà* ‘having buttocks’ because of their phenotypical resemblance to what is stereotypically considered a “San” appearance (see also §1.1.1).

10.5.3 Links between Ts'ixa and Bantu

The last point to be discussed in this context concerns the relationship between the Ts'ixa and the various Bantu-speaking groups they contacted. Following Selous, the people of the Mababe depression had some knowledge of Tswana as early as the late 19th century:

As most of the men spoke Sechwana, I was able to converse with them, and found them very intelligent companions [...]. (Selous 1907: 345)

Nowadays, all Ts'ixa speakers are bilingual in Tswana and use a whole range of Tswana expressions in everyday speech. However, only few lexemes from Tswana can be considered real loanwords vs. mere results of code-switching. The same is true for grammemes; indeed, there are virtually no grammatical elements from Tswana regularly used by any speaker of Ts'ixa. The only Tswana speakers the Ts'ixa interact with on a regular basis are the government employees at the local clinic, police station and school, none of whom actively participate in village life. Relationships between Tswana and Ts'ixa happen, but are infrequent and rarely result in marriage.

The Yeyi of Sankoyo, a village some 40 kilometres to the south of Mababe, are considered the Ts'ixa's cousins. They claim to uphold a joking relationship which frequently entails sexual relations and even marriage. Relationships happen both between Ts'ixa men and Yeyi women, and between Yeyi men and Ts'ixa women. In general, Yeyi and Ts'ixa appear to be on good terms, although sometimes conflicts over child support and childcare arise.

Heinz (n.d.) further mentions joking relationships with Subia and Njua. These do not appear to be remembered by anymore, presumably because speakers of both groups who had once entered the Mababe area due to the Matabele raids had already left a long time ago.

The presence of totemic groups⁵² as well as some loanwords which cannot convincingly be traced to any Bantu language still spoken in the area (cf. (504) in §10.4 above) certainly point towards both cultural and linguistic interaction with Bantu-speaking groups. However, presumably due to the remoteness of the Ts'ixa's place of residence, there are no established contact or dominance patterns as found elsewhere, e.g., between the Khwe and Mbukushu in parts of Botswana and Namibia.

10.5.4 Molecular anthropological evidence

Within the frame of the project “The Kalahari Basin: a ‘Sprachbund’ on the verge of extinction”, genetic samples were collected from “Khoisan” and Bantu speakers of southern Africa (see, e.g., Pickrell et al. 2012, Barbieri et al., 2013). While three of four samples obtained from unrelated Ts'ixa speakers revealed admixture with Bantu speaking groups in the maternal line, a fourth sample revealed a lineage common in some east African populations (cf. Rosa & Brehm 2011 on the lineage L4b2) which was also found in Ju, Hai||'om and Naro. None of the Ts'ixa samples included the prototypical “Khoisan” maternal DNA lineages L0d and L0k, or provided a conclusive link with either Khwe or Shua.

⁵² All speakers of Ts'ixa consider themselves to be part of a clan which is connected to a totemic animal, such as wild dog, zibet cat, or monkey (cf. also Taylor 2000). Totemic clans are passed on from father to son and are often used to trace family relationships. Totemic clans are found amongst all Shua-speaking groups and may be considered a feature from the east.

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Appendix: Texts

The hyena and the zebras

- (1) *gúà-nà-hà.*
hyena-J-PST3
'There was a hyena.'
- (2) *gúà = sî í = sî //àbà-kùm-//àbà-nà-hà*
hyena = SG.F:I DEM.REF = SG.F:I bec.hungry-INT-bec.hungry-J-PST3
//óbé n//goé, //óbé n//goé ?yũí-tà = sè .
three month three month eat-IPFV.NEG = ADV
'This hyena was very hungry as for three months – three months! – [she] had not eaten.'
- (3) *thà /úú tshéè sū-a biyé = dzi /xòà //’áé-kù.*
SS one day arrive-J zebra = PL.F:I COM meet-RCPR
'One day [the hyena] came to meet zebras.'
- (4) *thòndóxáé n/gè xóó-kàà biyé-//ũá = sà ?áni = m̄ ?à.*
C.EXP SEQ grab-VOL zebra-child = SG.F:II inside = SG.M:I LOC
'Suddenly it wanted to grab a zebra filly from amongst (them).'
- (5) *thòdò //ũ-xà = dzi n/gè //?áá-kù ?é.sì /xòà.*
DS parent-ASSOC-PL.F:I SEQ fight-RCPR 3PL.F:I COM
'The mothers (and their associates) fought with it.'
- (6) */áú //?áá-kù-nà-hà.*
big fight-RCPR-J-PST.3
'It was a big fight.'
- (7) *thà ngyúró ?à í = dzi n/gè múù-à ?áá*
SS back LOC DEM.PROX = PL.F:I SEQ see-J know
thà //?áá-kù = m̄ ?míí = m̄ gère khudí ?ité tà.
SS fight-REC = SG.M:I DEM.DIST = SG.M:I FUT end NEG COMP
xũũ.sè g//ai-a-hà.
INT run-J-PST3
'After these ones [the zebras] realised that fight was not going to end, (they) ran badly.'
- (8) *sé gère g//ai-a-xù gúà = sî í = sà ?à.*
1PL.F FUT run-J-COMPL hyena = SG.F:I DEM.REF = SG.F:II ACC
'We will outrun this hyena.'

- (9) *biyé = dzi n/gè g/âi-kù /úá = dzi /xòà.*
 zebra = PL.F:I SEQ run-RCPR child = PL.F:I COM
 ‘The zebras ran together with the children.’
- (10) */áú = sè g/ai-a-hà.*
 big = ADV run-J-PST3
 ‘[They] ran greatly.’
- (11) *káô-kùm-kàò = sè g/ai-a-hà.*
 long-INT-long = ADV run-J-PST3
 ‘[They] ran for a long time.’
- (12) *tsxáà n/gè, biyé-|úá kà /úú = sà.*
 bec.tired SEQ zebra-child ATTR one.of = SG.F:II
 ‘[It] got tired, one of the zebra fillies.’
- (13) *thì.ʔà n/gè /'eé thòò //úú-xà = dzi n/gè g/áí.*
 SS SEQ fall.down DS parent-ASSOC = PL.F:I SEQ run
 ‘[It] fell, but the mothers (and their associates) ran.’
- (14) *//úú-xà = dzi n/gè mūú-à ʔáà-té*
 parent-ASSOC = PL.F:I SEQ see-J know-NEG
/úú = sì /úá kà tè káú tà.
 one.of = SG.F:I child ATTR NEAR.PST stay.behind COMP
 ‘The mothers (and their associates) did not notice one of the children had stayed behind.’
- (15) *gúá = sì kò àà nò ʔé.sì n/gé /'eé-tá biyé-|úá = sà ʔà*
 hyena = SG.F:I IPFV come when 3SG.F:I SEQ fall.down:J-PST1 zebra-DIM = SG.F:II ACC
mūú thòò n/gè /'eé-xè thì.ʔà k'óó.
 see DS [sic?] SEQ fall.down-LOC SS eat.meat
 ‘When the hyena came she saw the fallen zebra filly, pounced (lit. fell) on [it] and ate [it].’
- (16) *súú.sūú = sè n/gè k'óó] //úú-xà = dzi gére àà tà*
 fast:INT = ADV SEQ eat.meat parent-ASSOC = PL.F:I FUT come COMP
thì.ʔà n/gè ʔʔań ʔòò.
 SS SEQ think because
 ‘[The hyena] ate very fast because [she] thought that the mothers (and their associates) would come.’
- (17) *thòò n/gè ʔé.sì tè k'oró khudì = sè thòndoxáé mūú-à ʔáà*
 DS SEQ 3SG.F:I NEAR.PST eat.meat:J end = ADV C.EXP see-J know
/úá./úá kà /úú = sì káú-a-tà tà.
 child ATTR one.of = SG.F:I stay.behind-J-PST1 COMP
 ‘When she was done eating, [the mothers] realised one of the young ones had stayed behind.’

- (18) *thì.ʔà //ʔũã àà-kù káá=ń ʔò /úá=sì mú=sí*
 SS return:J come-RCPR search = SG.M:I ALL child = SG.F:I DEM.DIST = SG.F:I
káu-a-tà=sà ʔà.
 stay.behind-J-PST1 = SG.F:II ACC
 ‘[They] came back to search that child which had stayed behind.’
- (19) *àà ʔé.dzì kónò thũũ gúà=sì k’oró khudì-nà-tà /úá=sà ʔà.*
 come 3PL.F:I when already hyena = SG.F:I eat.meat:J end-J-PST1 child = SG.F:II ACC
 ‘When they came, the hyena had already finished eating the child.’
- (20) *thì.ʔà ʔé.sì tè k’oó-é=xùà kò àà nò //ũũ=dzì n/gè /’án.sè k’aé.*
 SS 3SG.F:I NEAR.PST eat-PASS=LOC IPFV come when parent = PL.F:I SEQ INT cry
 ‘When [they] came to where it had been eaten, the mothers cried badly.’
- (21) *gúà=sì n/gè //’ãã-tà.*
 hyena = SG.F:I SEQ be.satiated:J-PST1
 ‘The hyena was full.’
- (22) *thì.ʔà n/gè khudí.*
 and.then SEQ end
 ‘Then [it] ends.’

The girl and her cow

- (1) *khoe-nà-hà kòrè góè xàè.*
 person-J-PST3 CONJ cattle CONJ
 ‘There was a person and a cow.’
- (2) *thà nè xúù, góè=sà, khoe=sì nè ?ùè xúù.*
 and.then SEQ get.pregnant cow=SG.F:II person=SG.F:I SEQ also get.pregnant
 ‘[It] got pregnant, the cow, and the woman got also pregnant.’
- (3) *thà ?í=sérà nè ||àn |úú=sérà ?à.*
 and.then DEM.REF=DU.F SEQ give.birth child=DU.F ACC
 ‘Those gave birth to two girls.’
- (4) *||xáà ?à góè=dzi kò ky’áà.xù-ì ?è.*
 morning LOC cattle=PL.F:I IPFV take.out-PASS ?PASS
 ‘In the morning, the cows are taken out.’
- (5) *míí.nguà k’aro=||ù hàànà=sè khoe=||ù kò àà*
 there boy=PL.M:I be.there=ADV person=PL.M:I IPFV come
góè=dzà kò k’oó=||ùà.
 cattle=PL.F:II IPFV eat=PL.M:II
 ‘While the boys were there, the people came, the ones who eat cattle.’
- (6) *míí.thà |úú ?é.ñ kò k’úú=sè |úú=sì nè ||?orá*
 thus only 3PL.C:I IPFV live=ADV child=SG.F:I SEQ grow.up
góè=sì kà túú=sà.
 cattle=SG.F:I POSS friend=SG.F:II
 ‘While they were only living like that, the girl, the cow’s friend, grew up.’
- (7) *thà |úú=sì nè míí-a: η.tshéè tí nà kúú-a góè=dzà ?à gàò.*
 SS child=SG.F:I SEQ say-J today 1SG NEAR.FUT go-J cattle=PL.F:II ACC look
 ‘Then the girl said: Today I will go and look after the cattle.’
- (8) *thà góè=dzà kò k’oó=||ù kò àà nò*
 SS cattle=PL.F:II IPFV eat.meat=PL.M:I IPFV come when
?é.sì kò nyúú.
 3SG.F:I IPFV whistle
 ‘When the cattle-eaters came, she would whistle.’
- (9) *thà nè góè=sì kò góè kà |úú=dzà ?à |úú.ù.*
 and.then SEQ cattle=SG.F:I IPFV cattle ATTR other=PL.F:II ACC bec.one:CAUS
 ‘Then the cow assembled the other cattle.’

- (10) *thà ?é.//ù nè mǔù ?é.sà ?à //?áé=m dí=m*
 and.then 3PL.M:I SEQ see 3SG.F:II ACC village = SG.M:I POSS = SG.M:I
nè mǔ.a: sá t'úú ?è. sá tí kò yábà.
 SEQ QUOT 2SG.F beautiful COP 2SG.F 1SG IPFV love
 'And then they saw her and the headman [lit. the village's] said: "You are beautiful. I love you".'
- (11) *thà nè mǔ-a: ?úà.kà.tshèè sá //é gèrè àa sèè.*
 SS SEQ say-J tomorrow 2SG.F 1PL.M FUT come:J take
 'Then [he] said: "Tomorrow we will come to take you (away)".'
- (12) *//xáà ?à ?é.sì kò sǔ-a góè=dzà ?à ky'áà.xù nò*
 morning LOC 3SG.F:I IPFV arrive-J cattle = PL.F:II ACC take.out when
//?orá +?áá nè àa ?é.sà ?à séè.
 big wind SEQ come:J 3SG.F:II ACC take
 'In the morning, when she arrived to take out the cattle, a big wind came to take her away.'
- (13) *?é.sì /xòà ní=sì kúú ?é.//ù kà //?áé=m ?ò.*
 3SG.F:I COM DEM.PROX = SG.F:I go 3PL.M:I POSS village = SG.M:I ALL
 'This one was going with her to their village.'
- (14) *//xáà=m ?à góè=dzì nè ky'áà.xù-sì ná=dzì kà.*
 morning = SG.M:I LOC cattle = PL.F:I SEQ take.out-REFL DEM.REF = PL.F:I MPO
 'In the morning, the cows went out by themselves.' (lit. took themselves out)
- (15) *góè=sì nè kúú-a kàà túú=sà ?à //úú=sì kà*
 cattle = SG.F:I SEQ go-J want friend = SG.F:II ACC parent = SG.F:I POSS
//?áé=m ngùà.
 home = SG.M:I ABL
 'The cow wanted her friend and departed from her mother's home.'
- (16) *thà góè=sì nè dáò=m ?à ky'áà n//gáè kò=sè.*
 SS cattle = SG.F:I SEQ way = SG.M:I LOC enter sing IPFV = ADV
 'The cow went on the way, singing.'
- (17) *túú=sì ?ò kò kúú.*
 friend = SG.F:II ALL IPFV go
 'She was going to her friend.'
- (18) *k'aro =//ù nè kúú góè=dzì /xòà.*
 boy = PL.M:I SEQ go cattle = SG.F:I COM
 'The boys went out with the cattle.'

- (19) *ʔé.//ù nè xúù n//gáè kò=sè kúrín thà nè g//áì-kù //ʔáé=m ʔò.*
 3PL.M:I SEQ thing sing IPFV=ADV hear SS SEQ run-PL home=SG.M:I ALL
 ‘They heard something singing and ran home together.’
- (20) *góè=sì nè kũũ-a sù tíá=sì kà //ʔáé=m ngùà.*
 cattle=SG.F:I SEQ go-J arrive friend=SG.F:I POSS home=SG.M:I ABL
 ‘The cow arrived from her friend’s home.’
- (21) *thà nè k’aro=//ù sũ-a boòdì khoe=nà ʔà*
 SS SEQ boy=PL.M:I arrive-J tell person=PL.C:II ACC
ná=//ù tè kúrín xúù kò n//gáè=sè tà.
 DEM.REF=PL.M:I NEAR.PST hear thing IPFV sing=ADV COMP
 ‘The boys told the people that they had heard something singing.’
- (22) *góè=sì kò sí nò thà nè góè=sì kà tíá=sì*
 cattle=SG.F:I IPFV arrive when and.then SEQ cattle=SG.F:I POSS friend=SG.F:I
kà k’áà.khòè=m nè mĩ-a: góè=sì í=sì /áú ʔè.
 POSS husband=SG.M:I SEQ say-J cattle=SG.F:I DEM.REF=SG.F:I big COP
tí kò /’ũú nò tsé kà //ʔáé=m dí nè ʔñyè kò //’áá.
 1SG IPFV kill when 1PL.C POSS home=SG.M:I POSS SEQ all IPFV be.sated
 ‘When the cow arrived, the cow’s friend’s husband said: “This cow is big. If I kill it, we all in the village will be satisfied”.’
- (23) *thà g//aà.khòè=sì nè mĩ-a: góè=sì mĩ=sí tí tíá ʔè.*
 and.then wife=SG.F:I SEQ say-J cattle=SG.F:I DEM.DIST=SG.F:I 1SG friend COP
/’ũú-í-tà ʔè.
 kill-PASS-IPFV.NEG ?PASS
 ‘The wife said: “That cow is my friend. [She] cannot be killed”.’
- (24) *ngyúró ngùà ʔé.sì nè ʔám thà mĩ-a:*
 back LOC 3SG.F:I SEQ agree SS say-J
tó kò k’oó nò ʔé.sì kà k’oxú=mà ʔà
 2PL.C IPFV eat.meat when 3SG.F:I POSS meat=SG.M:II ACC
/ʔúú=dzà ʔñyè ʔé.sì kà khoó=rín ʔà nyáá.xù.
 bone=PL.F:II all 3SG.F:I POSS skin=SG.M:I LOC put
 ‘Later she agreed and said: “When you eat her meat, put all the bones on her skin”.’
- (25) *í.thà ʔé.//ù nè hũ*
 thus 3PL.M:I SEQ do
 ‘They did accordingly.’
- (26) *thà g//aàkhòè=sì nè //xáá ʔà tañ.*
 SS woman=SG.F:I SEQ morning LOC stand.up
 ‘Then in the morning, the woman got up.’

(27) *ì-íúá àà.kà=sè thà nè kúú-a //àm góè=sà ?à.*
 tree-DIM bring=ADV SS SEQ go-J beat cattle=SG.F:II ACC
 ‘Bringing a stick, [she] went to beat the cow.’

(28) *thà góè=sì nè tañ.*
 and.then cattle=SG.F:I SEQ stand.up
 ‘Then the cow stood up.’

(29) *?é.sì nè yáa tañ thà ?é.sérà nè kúú ná=sérà kà*
 3SG.F:I SEQ step:J stand.up and.then 3DU.F SEQ go DEM.REF=DU.F POSS
//?áé=m ?ò.
 home=SG.M:I ALL
 ‘She rode on it and then they went to their home.’

(30) *khudí-?ò=sà ?è.*
 finish-NMZ=SG.F:II ID
 ‘This is the end.’

Curriculum Vitae

Personal

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Education

1991-1995 Primary School Bad Steben
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2004-2010 University of Cologne (African Studies/Oriental Studies/Egyptology)
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Career

2007-2008 Student assistant at the Institute for Egyptology, Univ. of Cologne
winter 2007 Internship with Dr. Helma Pasch: Organisation of the workshop “5000 Jahre Schrift in Afrika” (“5000 years of writing in Africa”)
2008-2010 Student assistant at the Institute for African Studies at the Univ. of Cologne: Secretary and organisation of the World Congress of African Linguistics WOCAL6-Cologne with Dr. Matthias Brenzinger
2012-2014 Research assistant at the “Seminar für Afrikawissenschaften” of the Humboldt University, Berlin (coordination of the “Kalahari Basin Area” project; project leader: Tom Güldemann)
2014-present Researcher in the project “Towards a multidisciplinary population profiling of southern Angola” (project leader: Jorge Rocha), hosted by CIBIO, University of Porto

Scholarships

2010-2012 Scholarship of the a.r.t.e.s. graduate school at the Univ. of Cologne
November 2010 Scholarship of the a.r.t.e.s. graduate school to visit the archives of the University of Cape Town, South Africa
February-May 2011 DAAD-scholarship to do fieldwork in Mababe, Botswana
March-June 2012 Scholarship of the a.r.t.e.s. graduate school to do fieldwork in Mababe, Botswana
17-21 June 2013 DAAD-scholarship to take part in the “Annual meeting of the SLE 2013” in Split, Croatia

Publications

- Berthold, Falko & Anne-Maria Fehn (eds.), in preparation. *Khoisan Languages and Linguistics. Proceedings of the 4th International Symposium, Riezlern 2011*. Cologne: Rüdiger Köppe.
- Brenzinger, Matthias & Anne-Maria Fehn. (eds.), 2012. *Proceedings of the 6th World Congress of African Linguistics, Cologne, 17-21 August 2009*. Cologne: Rüdiger Köppe.
- Brenzinger, Matthias & Anne-Maria Fehn. 2013. "From Body to Knowledge: Perception and Cognition in Khwe-|Ani and Ts'ixa". In: Aikhenvald, Alexandra Y. & Anne Storch (eds.) *Perception and cognition - A cross-linguistic investigation*. Leiden: Brill.
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- Fehn, Anne-Maria, forthcoming. "Nominal gender marking and case in Ts'ixa". In: Berthold, Falko & Anne-Maria Fehn (eds.), *Khoisan Languages and Linguistics. Proceedings of the 4th International Symposium, Riezlern 2011*. Cologne: Rüdiger Köppe.
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- Güldemann, Tom & Anne-Maria Fehn (eds.), 2014. *Beyond Khoisan: Historical relations in the Kalahari Basin*. Amsterdam & Philadelphia: Benjamins
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- Heine, Bernd & Anne-Maria Fehn, forthcoming. "An areal view of Africa." In: Hickey, Raymond (ed.), *The Cambridge Handbook of Areal Linguistics*. Cambridge: Cambridge University Press.

Talks

- "That no man had power of the liberty of another. Sklaven und Piraten in der Karibik des 17. und 18. Jahrhunderts." KANT II - 2. Kölner Afrikawissenschaftliche Nachwuchstagung, 17-19 October 2008.
- "The semantics of the Middle Passage." 3rd European Conference on African Studies. ECAS, Leipzig, 4-7 June 2009.

- „Die perzeptiven Verben des Zentralkhoisan.“ (mit Marilena Thanassoula) KANT III - 3. Kölner Afrikawissenschaftliche Nachwuchstagung, 5-7 November 2010.
- „Perception and knowledge in Central Khoisan languages.“ (with Matthias Brenzinger) Perception and Cognition - a cross-linguistic investigation, 26-28 November 2010. Institute for African Studies, University of Cologne.
- „Documenting speech-with-gesture in a Central Khoisan language. A description of Ts'ixa with a focus on deictic gestures and motion events.“ International Workshop on Speech Acts, University of Bayreuth, 9-11 December 2010.
- „An instance of case-marking? Preliminary notes on nominal gender marking in Ts'ixa.“ 4th International Symposium on Khoisan Languages and Linguistics, Riezlern, 11-14 July 2011.
- „The body in motion: Pointing as an example for the interaction of speech and gesture in Ts'ixa (Kalahari Khoe)“ The Body in Language: Lexicon, Metaphor, Grammar and Culture. University of Warsaw. 21-22 October 2011.
- „Is Ts'ixa a case language? Preliminary results from an ongoing documentation project.“ Max Planck Institute for Evolutionary Anthropology, Leipzig. February 2012.
- „Informationsstruktur in Ts'ixa (Kalahari Khoe). Vorläufige Ergebnisse eines laufenden Forschungsprojektes.“ Afrikanistisches Kolloquium Frankfurt, 13 July 2012.
- „The particle *nlgè* in Ts'ixa - a narrative aspect?“ SLE conference, Split, Coatia, 17-21 September 2013.
- „Remembering Kwadi. Preliminary notes on fieldwork among the Kwepe of southwestern Angola.“ 5th International Symposium on Khoisan Languages and Linguistics, Riezlern, 14-17 July 2014.
- „A Kwadi perspective on Khoe juncture-verb constructions.“ (with Tom Güldemann) 5th International Symposium on Khoisan Languages and Linguistics, Riezlern, 14-17 July 2014.

Posters

- T. Güldemann & A.-M. Fehn. 2013. The Kalahari Basin Area. A 'Sprachbund' on the verge of extinction. ALT conference, Leipzig, 15-18 August 2013.

Teaching

2010/2011	Language policy in Africa (University of Cologne)
2011/12	Phonetics und Phonology (University of Cologne)
2012/13	Introduction to Khoisan Studies (University of Cologne)

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