



Demonstrative and relative constructions in Ju

A diachronic account*

Florian Lionnet

University of California, Berkeley

This paper focuses on the various demonstrative and relative constructions attested in the two Ju dialectal groups for which some level of documentation is available, viz. North-Central and South-Eastern, and proposes a unified diachronic account of the diversity of properties and uses of these constructions. The main claim is that exophoric demonstratives were verbs in Proto-Ju. Demonstrative and relative constructions in modern Ju dialects are shown to derive through various grammaticalisation pathways from these Proto-Ju verbal demonstratives and a relative construction still marginally attested in modern North-Central Ju. The complexity found in North-Central lects is due to numerous innovations (in particular the depredicativisation of non-canonical verbal categories) and the co-occurrence of many historical layers in synchrony. Ju'lhoan, on the other hand underwent only minor changes, preserving most of the properties of the Proto-Ju demonstrative and relative constructions.

1. Introduction

The Ju varieties (formerly known as Northern Khoisan) form a dialect cluster spoken by small San groups in a vast area covering north-eastern Botswana, north-western Namibia and southern Angola. Heine & Honken (2010) recently showed that they form a single genetic unit with the †Amkoe language of Botswana which they call *Kx'a*. The internal classification of the *Kx'a* language family is given in Figure 1.

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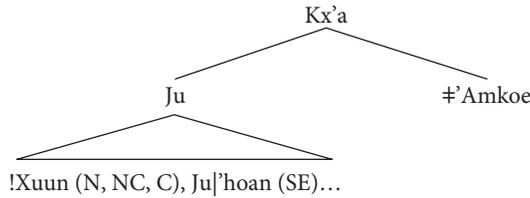


Figure 1. Internal classification of the Kx'a language family

A classification of Ju lects based on regular sound correspondences (Snyman 1997, refined by Sands & Miller-Ockhuizen 2000 and Sands 2010), including their abbreviations used henceforth in examples and tables, and their distribution are shown in Table 1 and Map 1, respectively (see Güldemann, introduction, this volume for further discussion of the terminology followed here).

König & Heine (2001, 2008) propose a classification based on grammatical features, which makes a primary distinction between ‘North-western’ (Sands’ Northern, North-Central and Central) and ‘South-eastern’ dialects.¹

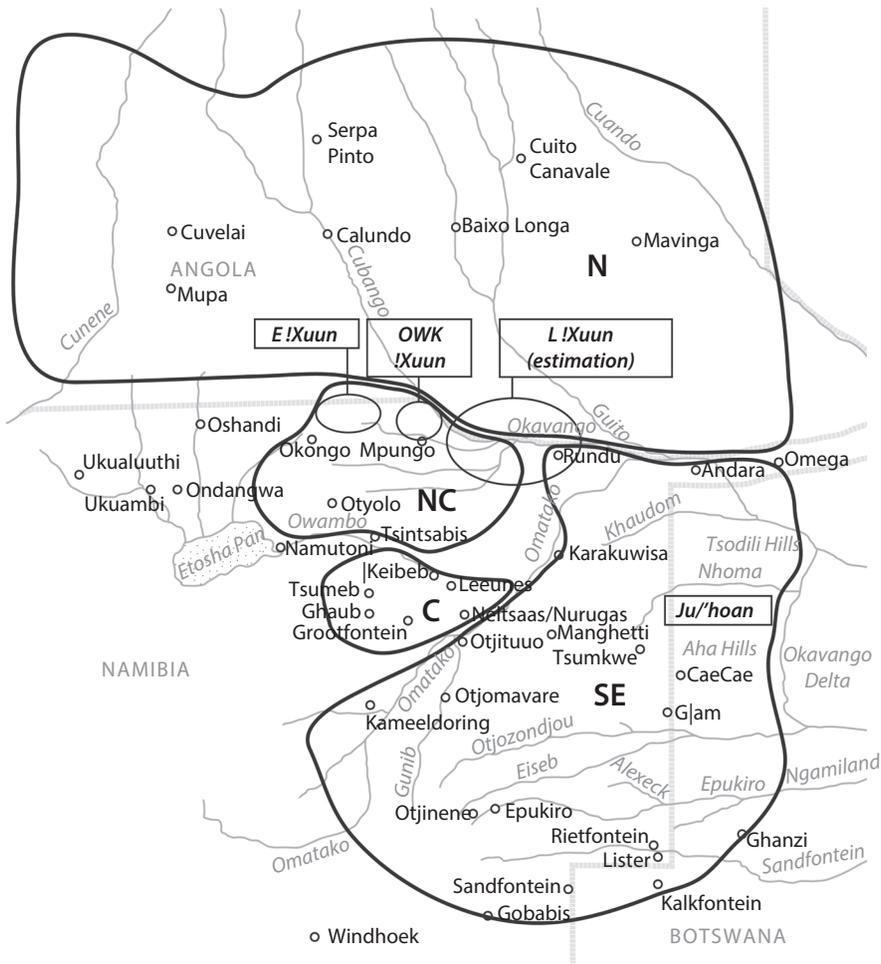
Lloyd’s ǀXuun is a North Central lect documented by Lucy Lloyd in the 1880’s (cf. Bleek & Lloyd 1911). A linguistic edition of her notebooks is underway (cf. Lionnet forthcoming). As will be shown in this paper, interesting dialectal features are attested in Lloyd’s ǀXuun that are not found in other dialects, features which shed some light on the history of the Ju language complex, and possibly of the Kx’a family as a whole (see §3.3.1 in particular).

Table 1. Classification and documentation of Ju lects

Dialectal groups	Lects with at least some documentation ²	Sources
Northern (N)	none	–
North-Central (NC)	Ekoka (E) ǀXuun Ovamboland/West-Kavango (OWK) ǀXuun Lloyd’s (L) ǀXuun	König & Heine (2001, 2008) Heikkinen (1986, 1987) Bleek & Lloyd (1911, ms.)
Central (C)	none	–
South-Eastern (SE)	Tsumkwe Juǀhoan (henceforth just Juǀhoan)	Snyman (1970, 1975) Köhler (1981a) Dickens (1991, 1994, 2005) Biesele (ed. 2009)

1. For a history of the sub-classification of Ju, see Sands (2010).

2. The only well documented Ju lect is Juǀhoan. As for the three North-Central lects listed in Table 1, the transcriptions in the available sources are only tentative and no phonological analysis is available. There are also no large text corpora for these lects.



Map 1. Ju dialectal subgroups (adapted from Sands 2010: 87)

All the data used in this paper are taken from the sources listed in Table 1. All examples are accompanied by a reference to the publication in which they were found, which consists in the author's name, followed by the date of publication and page number, as well as the name of the dialect when necessary, e.g., (Heikkinen 1987: 3; OWK !Xuun). The orthography used here for the various Ju lects respects the original source orthography, with two exceptions: I have taken the liberty to adapt Heikkinen (1986, 1987) and Lloyd's transcriptions to the unified orthography proposed by Güldemann (1998b) for South-African Khoisan languages, which is itself inspired by the practical orthography designed for Ju'hoan by Dickens (1991a, 1994). Lucy Lloyd's tone marks are most of the time inconsistent; while kept in the edition process, they are ignored in the present

Table 2. Ju class pronouns

Class	Proto-Ju	North-Central			Ju'hoan
		E !Xuun	OWK !Xuun	L !Xuun	
1	*hà	<i>hà</i>	<i>hà</i>	<i>ha</i>	<i>hà</i>
2	*si	<i>cj̃</i>	<i>sě/sǎng</i>	<i>sing</i>	<i>sì</i>
3	*yi	<i>yíí</i>	<i>yíí</i>	<i>hi</i>	<i>hì</i>
4	*ká	<i>kā</i>	<i>ká</i>	<i>ka</i>	<i>ká</i>

paper. The reference accompanying examples taken from Lloyd's data indicate the notebook number followed by the page number and the initial of the informant who contributed the example sentence (N! = N!ani, T = Tame, |'U = |'Uma, D = Daqa), e.g., (Lloyd 122: 10276; D).

Ju is mostly isolating and strictly SVOX. Tense, aspect and mood are (optionally) marked with preverbal particles. Nouns are grouped into four noun classes. Class membership is morphologically covert on nouns: only pronouns vary in class, and agree with their antecedent. The Ju class pronouns are used as independent, subject, object, oblique and possessive pronouns, as well as agreement markers in some cases of noun modification (which will be described further in this paper); they are given in Table 2 (the Proto-Ju forms are those proposed by König & Heine 2008: 7).³

2. Demonstratives and relative clauses in Ju

Three exophoric deictic demonstratives (i.e., demonstratives with discourse-external reference) are attested in Ju: two proximal and one distal, as illustrated in Table 3.

Table 3. Ju exophoric demonstratives

	North-Central			Ju'hoan
	E !Xuun	OWK !Xuun	L !Xuun	
PROX1	<i>ē</i>	<i>è</i>	<i>e</i>	<i>hè/kè</i>
PROX2	<i>ij̃j̃</i>	<i>àng</i>	<i>?</i>	–
DIST	<i>tòà ~ tùà ~ ndòà ~ ndùà</i>	<i>tòà ~ ndòà</i>	<i>toà ~ (n)dòà</i>	<i>tòà</i>

3. I tentatively consider Ekoka !Xuun *cj̃* [ʃj̃] to be the reflex of Proto-Ju class 2 *si (cf. Ovamboland/West Kavango !Xuun *sàng* [sɿ] beside *sě*, and Lloyd's !Xuun *sing*), which is not explicitly said in König & Heine's (2001) description.

The proximal demonstrative PROX2, being attested in only two dialects, is ignored in the present paper, which will essentially concentrate on the two demonstratives PROX1 and DIST, attested in all dialects.

Ju also has an endophoric anaphoric demonstrative ($\text{ʃ}à$, used for discourse-internal anaphora), which will be ignored here, since its syntactic properties set it apart from the exophoric demonstratives which are the object of the present paper.⁴

2.1 Demonstratives and relative clause in Ju^ʃhoan

Ju^ʃhoan has two exophoric demonstratives: *hè/kè* (PROX) and *tò`à* (DIST). PROX agrees in class with its head noun, hence the two forms it may take: *hè* with nouns of classes 1 and 3 (*hà* and *hi*), *kè* with nouns of class 4 (*ká*), as illustrated in (1) below. Note that the class 2 pronoun *sì* (human plural) may only be used as a subject, object or possessive pronoun. In all other functions, it is replaced by the class 3 pronoun *hì*, which explains the form *hè* (vs. expected *sè*) in (1d).

- (1) PROX *hè/kè*
- a. *jù* *hè*
 person.1 PROX1/3
 “This is a person” (Dickens 2005: 49)
- b. *tjù* *kè*
 house.4 PROX4
 “This is a house.” (ibid.)
- c. *sì=sà*⁵ *hè*
 PRO2=REL.P PROX1/3
 “These ones (class 2).” (Dickens 2005: 95)
- d. *hì=à* *hè*
 PRO3=REL PROX1/3
 “This one (class 3).” (ibid.)
- (2) Distal *tò`à* (no agreement)
- a. *n!`òh* *tò`à*
 orange.3 DIST
 “That is an orange.” (Dickens 2005: 49)

4. It behaves as an adnominal demonstrative: it is used only as a noun modifier, does not have verbal properties or predicative uses.

5. =*sà* (< plural suffix -*sì* + REL =*à*) is the plural form of the relative clitic =*à* in Ju^ʃhoan.

- b. *hà/hí/ká=à tǝǝ*
 PRO1/2/3/4=REL DIST
 “That one (classes 1/3/4).” (Dickens 2005:95)
- c. *sì=sà tǝǝ*
 PRO2=REL.P DIST
 “Those ones (class 2).” (ibid.)

Dickens (1991b, 2005) rightly describes these two demonstratives as verbs. Their verbal nature is indeed revealed by a set of verb- and noun-identification tests related to the two syntactic contexts of predication and noun-modification, which are defined in Table 4 (tests similar to NEG and RC in Table 4 can be found in Dickens 1991b).

Table 4. Verb and noun identification tests in Ju

Syntactic context	Test	If yes	
Predication	PRED	Can the lexical item be a predicate on its own? (or does it need copular/verbal support?)	Verbal
	TAM	Is the lexical item compatible with TAM markers?	Verbal
	NEG	Can the lexical item be directly negated by the negation / <i>óá</i> ?	Verbal
	ARG	Can the lexical item be an argument of a verb?	Nominal
Noun-modification	DIRECT	Is the lexical item directly adjacent to the NP it modifies, either before (PreNP) or after (PostNP)?	Nominal
	RC	Does the lexical item have to be used as the predicate of a relative clause when modifying a noun?	Verbal

Table 5. Noun- and verb-identification tests applied to Ju¹hoan lexical categories

Category	Part of speech	Predication				Noun-modification	
		PRED	TAM	NEG	ARG	DIRECT	RC
Verbal	Verbs e.g., <i>ũ</i> “go”, <i>lhún</i> “kill”	✓	✓	✓	no	no	✓
	Verbal Adjectives e.g., <i>gǝǝín</i> “be long”	✓	✓	✓	no	no	✓
	Demonstratives (<i>hè/kè, tǝǝ</i>)	✓	✓	✓	no	no	✓
	<i>nè</i> “(be) which”	✓	✓	✓	no	no	✓
Nominal	Nouns e.g., <i>n!hài</i> “lion”	no	no	no	✓	✓ (preNP)	no
	Nominal Adjectives e.g., <i>!hòàn</i> “real”	no	no	no	no	✓ (postNP)	no

When applied to Ju|'hoan syntactic categories (leaving aside adverbs and function words such as TAM markers, prepositions, etc.), these tests reveal two broad categories: one verbal and one nominal. The verbal category contains canonical verbs, most adjectives, which turn out to be intransitive verbs in Ju|'hoan – but also the two exophoric demonstratives *hè/kè* and *tò'à* and the interrogative word *nè* “(be) which”. The nominal category includes canonical nouns, and a handful of nominal adjectives.

(3) to (5) below illustrate three of the tests (PRED, and both noun-modification tests) applied to demonstratives, verbs and nouns: demonstratives, like verbs need to be used in a relative clause when they modify a noun, as in (3b) and (4b), otherwise the construction is a predication, as in (3a) and (4a). Contrary to verbs and demonstratives, nouns may not be used as predicates without a copula, as in (5a), and may modify directly a noun in a genitive construction, as in (5b).

(3) Demonstrative

a. *jù* *hè*
 person PROX1/3
 “This is a person.” (Dickens 2005: 49)

b. *jù=à* *hè*
 person=REL PROX1/3
 “this person” (ibid.)

(4) Verb

a. *!xó* *ú*
 elephant go
 “The/an elephant goes.” (Dickens 1991b: 111)

b. *!xó=à* *ú*
 elephant=REL go
 “the elephant that goes” (ibid.)

(5) Noun

a. *n!hai* *ó* *jòmmà*
 person COP predator
 “The lion is a predator.” (Snyman 1970: 136)

b. *n!hai* *!xúí*
 lion tail
 “the lion's tail” (Dickens 2005: 35)

The nominal adjectives (last line in Table 5) are best viewed as defective modifying nouns. Their noun-hood is revealed by their compatibility with the nominal plural suffixes *-sín* and *-si* and by the tests presented in Table 5, in particular the fact that they cannot be used predicatively (with some variation among speakers, as shown in (7) and (8) below). Their defective status comes from the fact

that, unlike nouns, they may only be used as noun-modifiers, following the head noun,⁶ never as arguments.

- (6) Nominal plural suffixes *-sin* (kinship nouns) and *-si*
- a. *bá-sín / tjù-sì*
 father-P house-P
 “fathers/houses” (Dickens 2005:27)
- b. *jù dóré-sín / tjù zé-sì*
 person strange-P house new-P
 “strange people/new houses” (Dickens 1991b:112, 2005:30)
- (7) Noun-qualification
- a. *jù dóré*
 person strange
 “a different person” (Dickens 2005:30)
- b. **tcí=à dóré*
 thing=REL strange
 Intended: a thing which is strange (Dickens 1991b:112)
- (8) Predication
- a. **[tcí]_{SBJ} [[óa dóré]_{PRED}*
 thing NEG strange
 Intended: the thing is not strange (ibid.)
- b. *[tjú=à kè]_{SBJ} [zé]_{PRED}*
 house.4=REL PROX4 new
 “This house is new.” (some speakers only) (ibid., footnote 2)
- c. *[tjú=à kè]_{SBJ} [ò [ká zé]_{PRED}*
 house.4=REL PROX4 COP PRO4 new
 “This house is new.” (lit. this house is a new one) (ibid.)

In his typology of demonstratives, Dixon (2003) only lists three languages (Dyirbal, Boumaa Fijian and Ju’hoan) as having verbal demonstratives. Lionnet (2012) shows that out of those three languages, only Ju’hoan (and more generally Ju) qualifies as having real verbal exophoric demonstratives. Given the rarity of this category, analysing demonstratives as verbs may seem like an extreme and potentially unreasonable analytical choice. Why not analyse them, together with verbal adjectives and the interrogative *nè* “be which”, simply as (pro-/ad-)nominal, accompanied by a zero copula when used as predicates? This would be more in keeping with both typological and analytical expectations. (3a) above would thus be analysed as in (9).

6. Hence the label ‘second-element nouns’ chosen by Dickens (1991b), replaced by the term ‘adjective’ in Dickens (2005).

- (9) [jù]_{SBJ} [Ø hè]_{PRED}
 person COP PROX1/3
 “This is a person.”

However, this analysis poses several problems. First, there is already an overt copula in Ju’hoan: *ò*, obligatory with nominal predicates (illustrated in (5a) above). Why is this copula not used with demonstratives, adjectives and the interrogative *nè* as well? This problem is not fatal to the nominal analysis, since one could say that the overt and zero copulas are in complementary distribution. The former is used only with (pro)nouns, while the latter is used only with adnouns (demonstratives, adjectives, interrogative “which”).

The second, much more serious problem posed by this analysis is that it posits pro-/adnouns that are never used as such. For instance, while it makes sense for pro-/adnouns to be accompanied by a copula when used as predicates (e.g., adjectives in English, among many other languages) one would expect them to have adnominal syntax at least when they are used to modify a NP. We have seen that this is not the case: demonstratives, verbal adjectives and the interrogative *nè* “(be) which” must be used within a relative clause in such a context (compare (3) and (7)). This goes against the nominal analysis: why should an adnoun need to be used predicatively (more precisely as a non-verbal predicate with a zero copula inside a relative clause, cf. (10) below) when used in the very syntactic context which should define it as an adnoun, i.e., NP-modification?

- (10) Demonstrative as noun-modifier according to nominal analysis
jù=à [Ø hè]_{RC}
 person=REL COP PROX1/3
 “This person.”

There is thus strong evidence against the nominal/zero copula analysis and in support of the verbal analysis of Ju’hoan demonstratives, verbal adjectives and interrogative *nè* “be which”.

2.2 Ambicategorical demonstratives in North-Central Ju

Exophoric demonstratives in North-Central Ju offer a more complex picture, because they are ambicategorical: adnominal when modifying a NP, verbal when used as predicates.

2.2.1 Adnominal use (“this/that NP”)

In North-Central Ju, demonstratives behave as adnouns when modifying a NP, with or without an intervening class pronoun agreeing with the head noun, as in (11) and (12) respectively.

- (11) [NP_i + PRO_i + DEM]_{NP} (all dialects)
- a. *n||ðhrń yĩ tòà mǎ òhá yĩ n|áǎng.*
 message PRO3 DIST TOP COP PRO3 (be)good
 “That story is a good one.” (Heikkinen 1987:37(18); OWK !Xuun)
- b. *g|ǎhxū hǎ ē*
 chair.1 PRO1 PROX
 “This (particular) chair.” (König & Heine 2001:65; E !Xuun)
- c. *ts’oo ka e na ti n!uà.*
 sinew.4 PRO4 PROX 1s IPFV throw
 “This thread I throw far away.” (Lloyd 119:9899; T)
- (12) [NP + DEM]_{NP} (attested only in Lloyd’s !Xuun so far)
- !Xuun ti ’m tci e.*
 !Xuun IPFV eat thing.4 PROX
 “The !Xuun people eat this thing.” (Lloyd 122:10215, !’U)

2.3 Verbal use (“be here/there” ~ “be this/that”)

North-Central Ju demonstratives have verbal properties when used predicatively, as shown by their compatibility with TAM markers in (13a–b) (TAM markers are always optional in Ju). In (13b–c), the predicative demonstrative is used as an identificational marker (translated as “this/that is NP”).

- (13) [NP]_{SBJ} [(+TAM) + DEM]_{PRED}
- a. *[cǎ !úú (hǎ) m]_{TOP/SBJ} [-í ndòà]_{PRED}*
 3P place.4 P TOP -HAB DIST
 “Their places are those.” (König & Heine 2001:66; E !Xuun)
- b. *[me n|ee]_{SBJ} [ti e]_{PRED}*
 1s head IPFV PROX
 “This is my head.” (Lloyd 122:10207; !’U)
- c. *[!uru]_{SBJ} [toà]_{PRED} ta [!au]_{SBJ} [toà]_{PRED}*
 quiver DIST and arrow DIST
 “That is a quiver, and those are arrows.” (Lloyd 119:9938; T)

2.3.1 Adjectives in North-Central Ju

The dual behaviour described above is not characteristic of demonstratives only: most adjectives are also ambicategorical (adnominal and verbal) in North-Central

Ju lects. Interestingly, only the adjectives that etymologically correspond to purely verbal adjectives in Ju|’hoan show this ambicategorical behaviour (North-Central Ju lects also have, like Ju|’hoan, a handful of purely adnominal adjectives, which are not illustrated here). These North-Central Ju adjectives, like demonstratives, are adnominal when modifying a noun, as in (14a) and (15a), and verbal when used predicatively, as in (14b) and (15b).

(14) *ts(’)ema* “small”

- a. Adnominal adjective (no relative clause)

Ta /uu-a !Xuun kue [n!ue ts(’)ema]_{NP}

and put.in-VE !Xuun MPO bag small

“And (he) put the !Xuun in a little bag.”

(Lloyd 119:9898; T)

- b. Intransitive verb (TAM marker, no copula)

na [ti ts(’)ema]_{PRED} na ti sing Shimbari.

1s IPFV be.small 1s IPFV see Shimbari

“(When) I was little, I saw the Shimbari.”

(Lloyd 111:9164; N!, T)

(15) *djoo* “(be) black”

- a. Adnominal adjective (no relative clause)

[daa djoo]_{NP}

cloth black

“black cloth”

(Lloyd 109:8977; N!, T)

- b. Intransitive verb (TAM marker, negation, no copula)

!oro-sing !Xuun [ti /ua djoo]_{PRED}

pit-P !Xuun IPFV NEG be.black

“The Pit(-making) !Xuun are not black.”

(Lloyd 111:9177; N!, T)

This ambiguous status of both demonstratives and adjectives is an important clue to understand the history of demonstratives, and more generally predication and noun modification in Ju, as will be shown in §3.3.

Note that in no documented North-Central Ju lect are adnominal adjectives used with an agreement class pronoun placed between the head noun and the adjective.

Note also that the adnominal analysis proposed, without success, for Ju|’hoan, would be less problematic for North-Central Ju, since demonstratives and adjectives do behave like adnouns when modifying a NP. They could thus be analysed as adnouns accompanied by a zero copula when used as predicates, which would have the advantage of doing away with the notion of ambicategoriality. Those two analyses seem to be equivalent, and the choice of one over the other depends more on whether one considers positing a zero element more problematic than relying on ambicategoriality or vice-versa, than on descriptive adequacy and explanatory strength. I choose to consider ambicategoriality a less problematic option, but

this choice does not affect the claim defended in this paper, since in both cases North-Central Ju demonstratives (and adjectives) can be shown to derive from Proto-Ju verbal demonstratives (and adjectives), whether they partially retained their verbal nature, as ambicategorical elements, or lost it altogether, as ‘pure’ ad-nouns (cf. §3.3).

2.4 Relative clauses in North-Central Ju

The North-Central Ju relative marker is homophonous with the proximal demonstrative *è*, except in Ekoka !Xuun, where they are phonetically different: relative marker [è] vs. proximal demonstrative [ʔèè] (Heine & König, in preparation). König & Heine (2001, 2008) analyse these two markers as phonologically different: low-toned relative suffix *-è* vs. high-toned proximal demonstrative *é*. However, given the similarity of their phonetic form, and the comparative data from other dialects, it is more than likely that these two elements are closely related, if not the same. I choose to consider in the present paper that both are derived from Proto-Ju low-toned PROX *è (cf. §3.3), which has a low tone in all other dialects.

The relative marker *è*, like demonstratives, may be used with an intervening class pronoun agreeing with the head noun, as in (16), or without one, as in (17).

- (16) NP_i+ [PRO_i+è...]_{RC}
- a. *kùhú ||ám'-á làé-hàng wèèsè yíí è !xúún óhá.*
 road pass-VE village.3-P all PRO3 REL !Xuun COP
 “The road went through all the villages where !Xuun people live.”
 (Heikkinen 1987: 35; OWK !Xuun)
- b. *gùmì hǎ è glè má n||ǎà.*
 cow.1 PRO1 REL come TOP be.big
 “The cow that is coming is big.” (König & Heine 2001: 119; E !Xuun)
- c. *||è hi e e ti taba tsòo a*
 grass.3 PRO3 REL 1P.E IPFV make sinew/thread ?
 “grass out of which we make thread” (Lloyd 119: 9896; T)
- (17) NP+ [è...]_{RC} (unattested in Heikkinen’s OWK !Xuun data)
- a. *gùmì è glè má n||ǎà.*
 cow.1 REL come TOP be.big
 “The cow that is coming is big.” (cf. (16b))
 (König & Heine 2001: 119; E !Xuun)
- b. *||au #hii e g#a'àng !uru.*
 arrow many REL be.full.with quiver
 “many arrows, which filled the quiver” (Lloyd 119: 9938-l; T)

Another, less frequent, relative construction is attested in North-Central Ju dialects: it makes use of a class pronoun as the only relative marker, as shown in (18) below.

- (18) Agreeing class pronoun as only REL marker: $NP_i + [PRO_i \dots]_{RC}$
- a. *hà n//àhng-á ts'ù ká òhā hà gá.*
 PRO1 come.home-VE house.4 PRO4 COP PRO1 POSS4
 “He came to his home.” (lit. house which is his)
 (Heikkinen 1987: 36(6); OWK !Xuun)
- b. *//hā kā ndòà kā m-ē ghā'-ngō mā ndòà cú.*
 meat.4 PRO4 DIST PRO4 1S-PST tell TOP DIST lie.down
 “That meat that I mentioned before is the one lying there.”
 (König & Heine 2001: 119; E !Xuun)
- c. *ta !Xuun ti //ama hi kue tcii ka g!uu*
 and !Xuun IPFV buy:VE PRO3 MPO thing.4 PRO4 name
ti e saan.
 IPFV COP saan
 “And the !Xuun buy from them a thing, the name of which is saan.”
 (Lloyd 113:9377-l; T, N!)

Note that in (18c), the class pronoun *ka* could also be analysed as a possessive pronoun used anaphorically (a very common use of class pronouns in Ju). (18c) would then translate as “And the !Xuun buy from them a thing, its_i name is *saan*”. One could even surmise that this anaphoric use of class pronouns is what may have led to their grammaticalisation into relative pronouns from Pre-Ju to Proto-Ju (for a reconstruction of the Proto-Ju relative clause, cf. §3.1).

2.5 Copula (Lloyd's !Xuun only)

Lloyd's !Xuun possesses a third marker which is homophonous with PROX *e* (and argued in §3.3 to be derived from it): the copula *e*, illustrated in (19).

- (19) $NP_1 + e + NP_2 = NP_1$ is NP_2
- a. *m ba !uu ti e //Oo-|ue.*
 1s father name IPFV COP ||Oo-|ue
 “My father's name is ||Oo-|ue.” (Lloyd 122: 10211; !'U)
- b. *ma e !(h)hii ta na e |Xue.*
 2s COP hare and 1s COP |Xue
 “You are a hare, and I am |Xue.” (Lloyd 119: 9900; T)
- c. *na |ua e !(h)hii |hhua(n).*
 1s NEG COP hare real
 “I am not a mere hare.” (Lloyd 120: 9932; T)

Table 6. Demonstratives and related markers in Ju lects

	Ju'lhoan	North-Central Ju	E !Xuun	OWK !Xuun	L !Xuun
Demonstrative = predicate	NP+hè/kè/tò'à	NP(+TAM)+e/ang/to'à	✓	✓	✓
Demonstrative =NP modifier	NP=à+hè/kè/tò'à	NP+PRO+e/ang/to'à NP+ e/ang/to'à	✓ ?	✓ ?	✓ ✓
Relative marker	NP=à+RC	NP _i +PRO _i +e+RC NP+e+RC NP _i +PRO _i +RC	✓ ✓ ✓	✓ ? ✓	✓ ✓ ✓
Copula derived from PROX	-	NP ₁ +e+NP ₂	-	-	✓

2.6 Summary

The data presented above is summarized in Table 6, which shows that the North-Central Ju system is more complex than that of Ju'lhoan, due partly to the ambicategoriality of demonstratives, partly to the optional presence of the agreeing class pronoun with both adnominal demonstratives and the relative marker.

Note the coexistence of two superficially identical but fundamentally different structures in North-Central Ju: the predicative structure $[NP]_{\text{SBJ}}+[e/ang/to'à]_{\text{PRED}}$ “NP is here/this, here/this is NP” (cf. (13c) above) and the NP-modifying structure $[NP+e/ang/to'à]_{\text{NP}}$ “This/that NP” (cf. (12) above), widely attested in Lloyd's !Xuun, but not in any other documented dialect.

This wide-scope presentation of syntactic categories and structures related to Ju demonstratives and relative clauses, and the issue of their verbal nature, has exposed all the data that are necessary to show what grammaticalisation pathways these verbal demonstratives may have given way to. The next section draws on those data to give a tentative account of the dialectal differences noted in this section, in particular the complexity of the North-Central Ju system, by showing that its demonstratives, relative marker *è* and copula *e* all derive from the grammaticalisation of Proto-Ju verbal demonstratives.

3. A historical account of demonstrative and relative constructions in modern Ju

3.1 Proto-Ju

In order to account for the fact that demonstratives are verbs in Ju|'hoan and ambicategorical in North-Central Ju, I propose to reconstruct them as verbs in Proto-Ju.

- (20) Proto-Ju verbal demonstratives
- a. *è = “be this/here”
 - b. *to'a = “be that/there”
 - c. NP +*è/*to'a = “NP is here/there” > “This/that is NP”

While the reconstruction of PROX as L-toned *è is highly probable (despite the Ekoka !Xuun form [ʔèè], cf. §2.3), the reconstruction of DIST *to'a is slightly less straightforward, given the correspondence *tò'à* (Ju|'hoan) vs. *tò'à ~ tú'à ~ ndò'à ~ ndù'à* (North-Central Ju lects). For the sake of simplicity, I tentatively propose here to reconstruct it as *to'a (the segmental form *tò'a* is attested in all lects), omitting the North-Central consonant and vowel alternations as well as the tones. This tentative reconstruction needs to be taken with caution. A thorough phonetic and phonological study of North-Central Ju lects would probably help cleanse the available transcriptions, thus making reconstruction an easier task.⁷

I also hypothesise that class pronouns were the only relative markers (i.e., relative pronouns) in Proto-Ju (for a hypothesis on the possible origin of this use of class pronouns in Proto-Ju, see §2.3, last paragraph).

- (21) Proto-Ju relative clause
 NP_i + [PRO_i...]RC = “NP who/which RC”

In order to modify a NP, the two verbal demonstratives *è and *to'a thus need to be used in a relative clause, like in Ju|'hoan.

7. As noted by one anonymous reviewer, the distal demonstrative *to'a is likely to be derived from the grammaticalisation of a verb meaning “to go (to)”, which survives in modern dialects (Ju|'hoan *tò'à*, Ovamboland/West Kavango !Xuun *tò'à*, Ekoka !Xuun *tú'à*) only as a suppletive imperative/hortative form (except in Ju|'hoan where it may also be used with the meaning “go to, arrive at”). Heine & Kuteva (2002: 159) mention the two following grammaticalisation paths as common: go > distal demonstrative (Ju|'hoan and Mopun) and go > proximal demonstrative (Archaic Chinese).

(22) Proto-Ju demonstrative in relative clause

$$\text{NP}_i + [\text{PRO}_i + *è/*to'a]_{\text{RC}} = \text{“NP which is here/there”} > \text{“This/that NP”}$$

The Proto-Ju system is thus hypothesised to have been structurally very close to the Ju'hoan system. North-Central Ju, on the other hand, is argued to present many recent innovations, which is reflected in the proliferation of available structures.

3.2 From Proto-Ju to Ju'hoan

3.2.1 *Demonstrative as predicate*

Since the reconstructed Proto-Ju system is very close to that of Ju'hoan, the changes from the former to the latter are only minimal. The Proto-Ju predicate structure NP +*è/*to'a is preserved in Ju'hoan (cf. (23)) (with additional fusion of the relative class pronoun with proximal è >h/k-è, cf. §3.2.3).

- (23) *jù hè / tjà kè / n!òh tò'à*
 person.1 PROX1 /3 house.4 PROX4 orange DIST
 “This is a person.” “This is a house” “That is an orange.”

(Dickens 2005:49)

3.2.2 *Relative clause*

As we have seen in §2.1 above, the relative clause in Ju'hoan is formed by the adjunction of the clitic =à to the head noun of the relative construction, followed by the relative clause, as in (24).

- (24) Relative clause in Ju'hoan: $\text{NP} = \dot{a}_{\text{REL}} [\text{RC}]$
jù = à [kú dcàá m'í tčí-sí]_{\text{RC}}
 person=REL IPFV steal 1S thing-P
 “the person who is stealing my things”

(Dickens 2005:47)

The grammaticalisation of the relative class pronoun in the Proto-Ju relative clause structure *NP_i + [PRO_i...] _{RC} into the relative clitic =à in Ju'hoan is presented in Figure 2. This hypothesis is one of the two tentative hypotheses proposed by Dickens (1991b). Note that whether the pronoun of class 2 (human plural) was used as a relative marker in Proto-Ju is still uncertain. Its uses are very restricted in all modern dialects. In particular it is most of the time replaced by the class 3 pronoun *hì* when modified, or when used as an agreement marker (with demonstratives or the relative marker è in North-Central Ju for example).

The generalisation of the class 1 pronoun *hà* is not unheard of, in particular in South African Khoisan languages: “human gender – as a salient and central

Structures	Notes
NP _{head} + [PRO + RC]	PRO1 = *hǎ, PRO3 = *yi, PRO4 = *ká
↓	
NP _{head} + [hǎ + RC]	Generalisation of the pronoun of class 1 hǎ (human + many inanimate entities) to all classes
↓	
NP _{head} + =ǎ + [RC]	Reduction of PRO1 hǎ to clitic =ǎ, which attaches to the last element of the head NP (cf. (25) below)

Figure 2. Relative clause from Proto-Ju to Ju|’hoan

category – is not an implausible target for generalization” (Güldemann 2004a: 93, referring to genealogically related ǂ’Amkoe and unrelated but typologically similar Taa).

The fact that the super-L tone of the pronoun hǎ became a simple L tone on the clitic is not necessarily a problem, given the fact that super-L tones in Ju are very often related to breathy voice, which acts as a tone depressor.⁸ The consonant *h* is used to transcribe breathy voice (/V/ and /fiV/) in Ju. It is therefore not surprising that the super-L tone should be replaced by a L tone after the depressor context has disappeared (deletion of initial /fi/).

The analysis of the relative marker =ǎ as a clitic (rather than, say, a suffix or an independent relative pronoun) rests on both its phonological characteristics (it is phonologically a suffix) and its distribution (it is a phrasal suffix, i.e., it does not suffix onto the head of the noun phrase, cf. (25) below). The absence of any word boundary between =ǎ and the preceding word is shown both by the absence of initial glottal stop (all words start with a consonant in Ju, default /ʔ/ in the case of V-initial words), and by the fact that nasalisation spreads from the preceding word onto =ǎ, a process which is not attested across word-boundaries: *tzún* [ts’ú] “nose”, *tzún=ǎ* [ts’úǎ] “nose which...”.⁹ Note that the historical scenario proposed in Figure 2 above accounts for the fact that the relative marker is an enclitic.

8. The exact nature and origin of the super-L tone in Ju languages, and the relation between the super-L tone and depressor consonants or vowel colourings (breathy voice and pharyngealisation in particular) is not well documented yet, but there seems to be a relation (if not systematic, at least very frequent) between at least super-L tones and breathy voice in Ju (note that Snyman (1975) analysed breathy voice as phonetically conditioned by the super-L tone in Ju|’hoan, an analysis that Dickens (1991a, 1994) and Miller-Ockhuizen (2001) did not follow).

9. Dickens analyses =ǎ as a suffix, and consistently writes it as part of the word to which it attaches. [ts’ú=ǎ] is thus written as one word (*tzúǎn*) (Dickens 2005: 47).

- (25) [jú n/úí]_{headNP} =à [mí !hàn]_{RC}
 person a.certain =REL 1s know
 “A certain person whom I know.” (Dickens 2005: 47)

3.2.3 *Demonstrative used in a relative clause*

This structure underwent the same changes as the relative clause described above, with a few more steps for proximal *è, as shown in Figure 3.

A summary of the changes from Proto-Ju to Ju|’hoan is given in Table 7 (the bolded cells contain the structures attested in Ju|’hoan).

3.3 From Proto-Ju to North-Central Ju

3.3.1 *Demonstrative as predicate*

The Proto-Ju predicate structure NP +*è/*to’a is only marginally preserved in North-Central Ju dialects, very often with an identificational use (cf. (13) above).

In Lloyd’s !Xuun, the proximal demonstrative *è used in this predicate structure additionally grammaticalised to a copula. In this process, the verbal PROX *è first grammaticalised to a presentative/identificational predicator (“this/it is X”), as shown in Figure 4.

- (26) m taqi ti e
 1s mother IPFV PROX
 “my mother was here” (Lloyd 111:9217; T)

Table 7. From Proto-Ju to Ju|’hoan

	Proto-Ju	>Fusion PRO+è	>Generalisation of PRO1 hǎ + reinterpr. of hè/kè (+ analogy with RC)	>Fusion =à in rel. clause
Predication	NP	*è/*to’a	NP hè/kè/tò’à	
Relative clause	NP { *hǎ *yi *ká }	rel. clause	NP hǎ clause	NP=à rel. clause
Relative clause with DIST	NP { *hǎ *yi *ká }	*to’a	NP hǎ tò’à	NP=à tò’à
Relative clause with PROX	NP { *hǎ *yi *ká }	*è	NP /h/k- è NP hǎ hè/kè	NP=à hè/kè

Structures	Notes
NP _{head} + [*hã/yi/ká + [*è] _{PRED}] _{RC}	
↓	
NP _{head} + [h-/h-/k- + [*è] _{PRED}] _{RC}	Phonological elision: the relative class pronouns are elided and contracted into *è, but are still interpreted as REL markers. (NB: Proto-Ju PRO3 *yi > hi > h-)
↓	
NP _{head} + [hã + [hè/kè] _{PRED}] _{RC}	Grammatical reanalysis: h- and k- are not analysed as relative pronouns anymore: they are reanalysed as mere agreement markers. The demonstrative is still a verb, a relative clause is thus still needed, hence the introduction of the generalized relative pronoun hã, by analogy with the relative clause structure (at this stage, the erosion of hã to =à might already have taken place).
↓	
NP _{head} =à [hè/kè] _{RC}	General erosion of hã in all relative constructions, cf. above.

Figure 3. From Proto-Ju NP+[PRO+*è]_{RC} to Ju]’hoan NP=*à*+*hè/kè*

Structures	Translation
a. NP (+TAM)+ <i>e</i>	“NP is here/this” (cf. (26) below)
↓	
b. NP (+TAM)+ <i>e</i>	“This is NP” (presentative use, cf. (27) below)
↓	
c. NP (+TAM)+ <i>e</i>	“It is NP” (<i>e</i> = identificational predicate, cf. (28) below)

Figure 4. From Proto-Ju verbal PROX *è to Lloyd’s !Xuun identificational *e* “it is NP”

- (27) *m baa e*
 1s father PROX
 “Here/this is my father. (Showing 1st finger of left hand)” (Lloyd 119: 9894; T)
- (28) *!a(h)ng ti e*
 tree IPFV PROX
 “This/it is a tree.” (Lloyd 122: 10207; !’U)

The grammaticalisation of the presentative/identificational predicator to a copula (NP₁ *is* NP₂) could have followed two different paths, explained in the following and schematized in Figure 5.

Structures	Translation
a. NP (TAM)+*è ↓	“It is NP” (*è = identificational predicator, cf. (13b) above)
b. [NP ₁ (+TAM)+*è] [NP ₂] b': ↓	“It is NP ₁ , NP ₂ ” (afterthought structure) or analogy with copula <i>o(ha)</i>
c. NP ₁ (+TAM)+e+NP ₂	“NP ₁ is NP ₂ ” (cf. and (19a) and (19c) above)

Figure 5. Lloyd’s !Xuun from monovalent (NP *e* “it is NP”) to copula (NP₁ *e* NP₂ “NP₁ is NP₂”)

Hypothesis 1 (step b in Figure 5): the presentative/identificational structure NP (+TAM)+*e* “it is NP”, used in an afterthought construction with a following NP added “for the sake of specifying additional detail to an already essentially complete utterance” (Downing & Noonan 1995: 173) was reanalysed as a copula.¹⁰

Hypothesis 2 (step b’ in Figure 5): the presentative/identificational predicator *e* was reanalysed as a copula by analogy with the existing copula *oha* (cognate with the Ju|’hoan copula *ò*, illustrated in (5a) above).

Note that the afterthought hypothesis and the analogy hypothesis are not mutually exclusive: the reanalysis of the afterthought construction may well have occurred by analogy with the copula *oha*. This analogical change might explain the structural change from the identificational structure NP *e* “it is NP”, where the predicate is the first NP, to the copular structure NP₁ *e* NP₂ “NP₁ is NP₂”, where the predicate is not NP₁ anymore but NP₂. Compare (19a) above with (29), found on the same notebook page.

- (29) *m ta(q)i !uu ti o(ha) ||Abe-n||aà.*
 1s mother name IPFV COP ||Abe-big
 “My mother’s name is Big ||Abe.” (Lloyd 122: 10211; |’U)

Heine & Honken (2010) have proposed that the Proto-Ju proximal demonstrative, which they reconstruct as *è with a mid-tone, is cognate with the presentative/identificational predicator in the †Hoan variety of †’Amkoe, transcribed as ’è*n* in their adaptation of Gruber’s original transcription (è*e* in Collins’ 2001 transcription in (30) below). According to their hypothesis, they both derive from the same Proto-Kx’a ‘deictic particle’ meaning “here”, reconstructed as *è(n).

10. See Derbyshire (1981, 1985), Downing & Noonan (1995), Heath (1978), Simon (1989) among other references on afterthought constructions.

- (30) $\text{ɕ}^{\text{h}}\text{amkoe } k\text{í } \text{ʔmun-qa } \text{ʔe.}$
 person *kí* head-P **PRES**
 “Here are the person’s heads.”

(Collins 2001: 459)

While it is indeed likely that Proto-Ju PROX and the $\text{ɕ}^{\text{h}}\text{Amkoe}$ predicator are cognates, the reconstructions proposed by Heine & Honken (2010) are not entirely satisfying. We have seen in §2.3 and §3.1 that there are good reasons to reconstruct Proto-Ju PROX as low-toned $\text{*}\text{è}$. Moreover the $\text{ɕ}^{\text{h}}\text{Amkoe}$ predicator is actually also low-toned: it is transcribed as $[\text{è}\text{è}]$ in Gruber’s original field notes on $\text{ɕ}^{\text{h}}\text{Hoan}$ (Gruber, p.c.), and $[\text{ʔ}\text{è}]$ (orthographically *èn*) by the team currently working on the documentation of the N!aqriaxe variety (Gerlach & Berthold, p.c.). The Proto-Kx’a form is thus most probably to be reconstructed as low-toned as well. Since it is not clear what vowel should be reconstructed in the Proto-Kx’a form, I tentatively adopt Heine & Honken’s (2010) reconstruction, only changing the mid-tone to low $\text{*}\text{è(n)}$.¹¹

The syntax of the $\text{ɕ}^{\text{h}}\text{Amkoe}$ predicator *èn* illustrated in (30) above might be a good indication that demonstratives may also have been verbal in Proto-Kx’a: if Proto-Kx’a $\text{*}\text{è(n)}$ were to be reconstructed as a verbal deictic (either locative “be here” or exophoric proximal demonstrative “be this”), $\text{ɕ}^{\text{h}}\text{Amkoe } \text{èn}$ could be said to have followed the grammaticalisation pathway described in Figure 4 above, but not the additional changes illustrated in Figure 5, attested only in Lloyd’s !Xuun.

3.3.2 *Relative clause*

We have seen that the Proto-Ju relative construction $\text{NP}_1 + [\text{Cl}_1 \dots]_{\text{RC}}$ is marginally preserved in North-Central Ju lects (cf. (18) above). It has been replaced by an innovative structure derived from the grammaticalisation of verbal demonstratives used in a relative clause, as shown in the next section.

3.3.3 *Verbal demonstrative used in a relative clause*

Proto-Ju demonstratives used in a relative clause (in order to modify a noun) are the source of most of the structures involving (former) demonstratives in North-Central Ju. The hypothesis proposed here is that the relative clause in

11. Reconstructing the vowel /e/ is not a problem, since the Southern African Khoisan phonotactic constraint that V1 in lexical roots may only be a back vowel (/a/, /o/ or /u/) does not hold for grammatical words. However, reconstructing nasalised /ē/ is problematic, since nasalised mid-vowels are not attested in Ju (apart from a rare nasalised pharyngealised oqn, as pointed out by one anonymous reviewer) and more generally in Southern African Khoisan (with the exception of /ō/ in Khoekhoe). While nasalised mid-vowels (/ē/ and /ō/) are phonetically attested in $\text{ɕ}^{\text{h}}\text{Amkoe}$, their phonological status is not clear yet, and more work needs to be done on $\text{ɕ}^{\text{h}}\text{Amkoe}$ vowels before any solid hypothesis can be put forth.

Structures	Translation
a. $*NP_i + [PRO_i + DEM_V]_{RC}$	“NP which is this” = “this NP”
↓	
b. $NP_i + (PRO_{i,AGR}) + DEM_{Adn}$	“This NP” (cf. (12) above)
↓	
c. $[NP(+PRO) + e]_{TOP} + Clause$	$[This\ NP]_{TOP} + Clause$ (cf. (11c) above)
↓	
d. $NP_i + [(PRO_{i,AGR}) + DEM_{REL} + RC]_{RC}$	“NP which...” (cf. (16c) and (17b) above)

Figure 6. From verbal DEM to adnominal DEM to relative marker

the structure $NP + [PRO + *è/*to'a]_{RC}$ was first reanalysed as an adnominal demonstrative structure, the class pronoun being reinterpreted as a simple class agreement marker (optional in Lloyd’s !Xuun). This reinterpretation is related to the reduction of the extension of the verbal category in North-Central Ju: non-canonical verbs such as verbal adjectives and demonstratives are in a process of depredicativisation, as evidenced by their hybrid status, and the rarity of the predicative structure $NP\ e/to'a$ (“NP is here” > “this is NP”).

The depredicativisation of demonstratives and the optionality of class agreement is thus responsible for the coexistence, in Lloyd’s !Xuun, of the two superficially similar but fundamentally different structures exemplified in (12) and (13) c above.

Once the verbal demonstratives are not analysed as verbs anymore but as adnominal demonstratives, the proximal demonstrative $è$ may (with or without the agreement class pronoun) be reinterpreted as a relative marker, as illustrated in Figure 6.

Interestingly, only after being reanalysed as adnominal may a verbal demonstrative grammaticalise into a relative marker, which is a confirmation that only (ad-/pro-)nominal demonstratives may grammaticalise into relative markers, as previous typological studies have shown (cf. Diessel 1999, Heine & Kuteva 2002).

It was noted in §2.2.3 that North-Central Ju adnominal adjectives are never, in the available data, used with an agreement class pronoun placed between the head noun and the adjective. This is very different from adnominal demonstratives, with which the agreement class pronoun seems to be obligatory in Ekoa and Ovamboland/West Kavango !Xuun, and optional in Lloyd’s !Xuun, as shown in (11) and (12). This could constitute a problem for the present analysis, which, if extended to North-Central Ju ambicategorical adjectives, would derive them from

Table 8. The hypothesised loss of the agreement class pronoun with ADJ and DEM from Proto-Ju to North-Central Ju

	Demonstratives	Adjectives
1. PRO = REL marker	*NP _i + [PRO _i + Vb.DEM] _{RC}	*NP _i + [PRO _i + Vb.ADJ] _{RC}
2. Deverbalisation, PRO = agreement	*[NP _i + PRO _i + Adn.DEM] _{NP}	*[NP _i + PRO _i + Adn.ADJ] _{NP}
3. PRO becomes optional	[NP _i + (PRO _i) + Adn.DEM] _{NP}	*[NP _i + (PRO _i) + Adn.ADJ] _{NP}
4. PRO is totally dropped	–	[NP _i + Adn.ADJ] _{NP}

Proto-Ju verbal adjectives exactly like ambicategorical demonstratives derive from Proto-Ju verbal demonstratives.¹²

The available North-Central Ju data are relatively limited, and more fieldwork needs to be done on these lects in order to test whether [NP_i + PRO_i + adnominal ADJ]_{NP} is a possible structure, and whether the class pronoun is obligatory or may be elided with adnominal demonstratives in Ekoka and Ovamboland/West Kavango !Xuun. In the meantime, this slightly problematic difference between adjectives and demonstratives may either indicate that the present analysis needs to be revised, or that North-Central Ju adjectives are further down the grammaticalisation pathway than demonstratives. This scenario is illustrated in Table 8 above, where the starred structures represent different reconstructed steps, and the framed cells the synchronically attested patterns in North-Central Ju.

3.4 A potential problem for the present analysis

Two North-Central Ju structures, which have not been presented yet, seem to pose a serious problem to the present analysis. The first one is illustrated in (31).

- (31) NP_i + PRO_i + *e/ang/toà*, usually translated as “NP is this/that”
or “this/that is NP”
- a. *dàbà dì mǎ hà tòà*
child.1 naughty TOP PRO1 DIST
“The naughty child is that one.”¹³ (Heikkinen 1987: 74; OWK !Xuun)

12. However, as noted by an anonymous reviewer, this asymmetry between adnominal demonstratives (which agree with their head noun) and adnominal adjectives (which do not) is attested in many languages.

13. Heikkinen’s original translation (“That is a naughty child”) is incompatible with her analysis of *mǎ* as a topic marker.

- b. *hà khō má yī ĩĵ*
 PRO1 place.3 TOP PRO3 PROX2
 “His place is this one/here.” (König & Heine 2001:65; E !Xuun)

In (31), the predicate (headed by a verbal demonstrative) contains an agreement class marker, which at first sight poses a serious problem to our analysis, because it is impossible to derive such a structure from the Proto-Ju reconstructions and grammaticalisation pathways proposed above. The presence of an agreement class pronoun is only possible with adnominal demonstratives derived from a Proto-Ju relative construction of the form [NP_i] [PRO_{i,REL} DEM]. In order to derive the structures in (31), one would have to assume a subsequent reverse process reanalysing the adnominal demonstrative as predicative, which is very unlikely and has very little motivation.

The examples in (31) are however reminiscent of a paratactic construction very commonly found in North-Central Ju, and I propose that they be analysed as such: compare (31) above with (32) below.

- (32) NP_i+PRO_i+ *e/ang/toà*: paratactic topicalisation
[hà má] [!xúún]_{NP}
 PRO1 TOP !Xuun
 “He is a !Xuun.”¹⁴ (König & Heine 2001:106; E !Xuun)

The marker *mǎ* is analysed as a topic marker by Heikkinen (1987) and König & Heine (2001, 2008). It is unattested in many dialects (including Ju’hoan and Lloyd’s !Xuun), optional in Ovamboland/West Kavango !Xuun (Heikkinen 1987) and grammaticalised into an obligatory subject marker in Ekoka !Xuun according to König & Heine (2001) and König (2008). As already noted in Note 14, Heikkinen’s translation of (31) above is not compatible with an analysis of *mǎ* as a topic marker. A few other examples taken from Heikkinen (1987), such as the question in (33) below, suggest that the properties of the marker *mǎ*, at least in this paratactic construction, may be more complex than previously thought. Since the exact nature of *mǎ* is beyond the scope of the present paper and does not bear on the analyses proposed here, it will be left aside.

- (33) *tsǐsè mǎ ká è*
 what ? PRO4 PROX
 “What is this?” (Heikkinen 1987:75; OWK !Xuun)

14. The copula *ðhà* may be used in the same context: *hà mǎ ðhà !xúún*.

The second problematic structure is illustrated in (34) below.

- (34) NP_i + TAM + PRO_i + *e/ang/to'a*, (same as above, with TAM marker, attested only once in Lloyd's notebooks)

//*haa !huu ti ka e*
meat thorn.4 IPFV PRO4 PROX

Lloyd's original translation: "A meat thorn (i.e., horn) this is."

(Lloyd 122: 10286; D)

The presence of the TAM marker *ti* clearly shows that the pronoun *ka* in (34) is part of the predicate; this is incompatible with an analysis in terms of parataxis. This example, however, should be taken with caution. Only one such example has been found so far, in Lloyd's !Xuun notebooks, and it was contributed by Daqa, the youngest of Lloyd's four consultants, who was probably no more than seven years old. The chances that it be a faulty *hapax* or a mistranscription are too important for this example to constitute a serious threat to the present analysis. Other instances of this structure would have to be found in North-Central Ju lects, which the present analysis predicts to be impossible.

4. Conclusion

Analysing Proto-Ju proximal *è and distal *to'a (as well as proximal *ang if it is to be reconstructed in Proto-Ju) as deictic verbs allows one to arrive at a unified diachronic account of demonstrative and relative structures in all documented modern Ju varieties, which is summarised in Figure 7.

The proposed changes from Proto-Ju to Ju|'hoan are relatively limited and straightforward. From Proto-Ju to modern North-Central Ju lects, on the other hand, the picture is less clear: several layers of history are still attested, some structures are superficially identical (in terms of word order) but their actual properties are different, because they originate in radically different Proto-Ju structures (predication vs. modification), which is related to the depredicativisation of non-prototypical verbs (verbal adjectives, demonstratives) at work in North-Central Ju, but not in Ju|'hoan, as summarised in Table 9.

Ju|'hoan in turn appears to be morphologically more innovative and syntactically more conservative than North-Central Ju, as illustrated in Table 10.

One could hypothesise that the differences between Ju|'hoan and North-Central Ju are due to contact: the depredicativisation of non-canonical verbal categories in North-Central Ju may have been influenced by neighbouring Bantu languages which do not have such categories (as pointed out by an anonymous

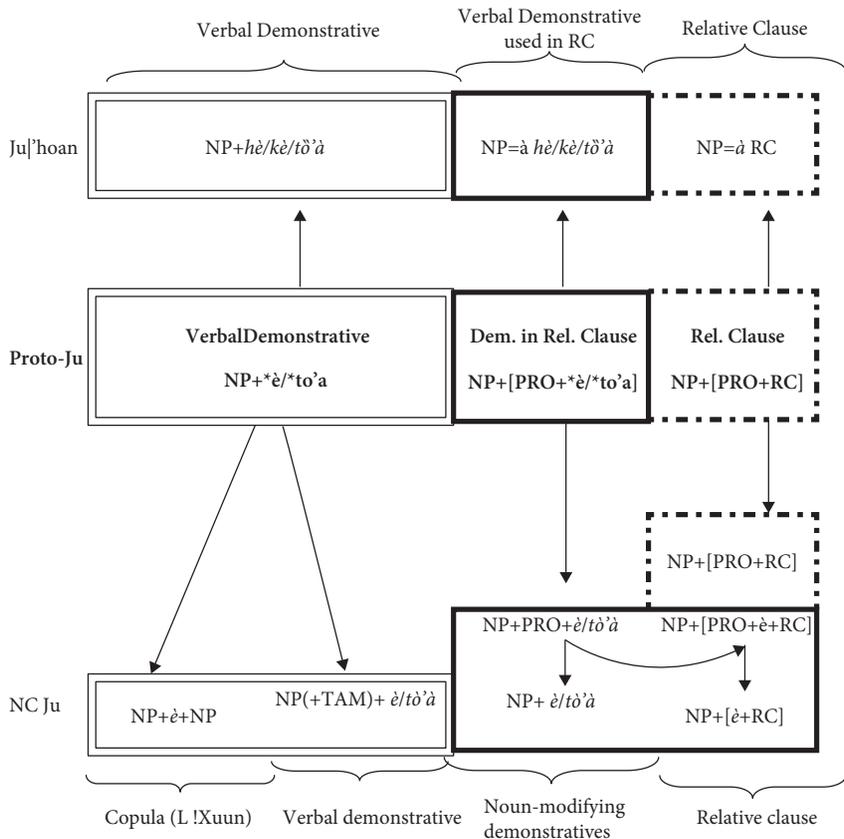


Figure 7. A summary of the grammaticalisation of demonstratives in Ju

reviewer). Ju|'hoan, on the other hand, which is spoken in more remote and less densely populated areas, has probably been subject to less intensive uneven language contact situations, which could explain why it has remained more conservative on this particular point. The language contact situations in the respective

Table 9. The result of depredicativisation in North-Central Ju

	Adjectives	Demonstratives
Proto-Ju (and Ju 'hoan)	Verbal adjectives (e.g., “be black”, “NP which is black”)	Verbal demonstrative (“be this/that”, “NP which is this/that”)
NC Ju	Ambicategorical adjective: – adnominal (“black NP”) – verbal (“be black”)	Ambicategorical demonstrative: – adnominal (“this/that NP”) – verbal (“be this/that”)

Table 10. Conservative vs. innovative features in modern Ju lects

	Syntax	Morphology
Ju 'hoan	Conservative (demonstratives are still verbs)	Some innovation (PRO+ *è > hè/kè)
NC Ju	Innovative (depredicativisation leading to various grammaticalisation pathways)	Conservative (demonstratives and elements derived from them still have the same form)

areas are still very poorly documented, and more research needs to be done to allow for a better understanding of the language change dynamics in this part of Africa.