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## Distribution of conjunctive and disjunctive forms in Xitsonga\*

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Seunghun J. Lee<sup>1</sup> & Crous Hlungwani<sup>2</sup>

International Christian University, Japan<sup>1</sup> and University of Venda, South Africa<sup>1,2</sup>  
E-mail: seunghunjee@gmail.com; crous.hlungwane@univen.ac.za

### Abstract

The conjunctive and disjunctive forms in Xitsonga are examined with the purpose of presenting the distribution of these forms. While verbs in the conjunctive form are followed by some elements, the disjunctive is used when no element follows the verb. Xitsonga follows these basic patterns observed in other Bantu languages, but previous theories cannot explain all of the cases in which the conjunctive and disjunctive forms are distinguished. In previous work, three major approaches have been proposed: the constituency approach, the focus-based approach, and the information packaging approach. Xitsonga supports but also provides counterevidence to all of these approaches. This paper also re-examines the claim that the presence of conjunctive/disjunctive distinctions only exists in the present tense. Following Creissels (2014), we report that the conjunctive/disjunctive dichotomy is present in other tenses as well when prosodic patterns such as penultimate lengthening are further examined.

**Keywords:** Xitsonga, conjunctive, disjunctive, information packaging theory

### 1. Introduction

The goal of this paper is to present a comprehensive picture of disjunctive and conjunctive forms in Xitsonga main clauses, which are an under-investigated phenomenon in Xitsonga. The paper will also report phonological patterns that distinguish these forms that are otherwise morphologically identical.

The disjunctive and conjunctive forms have been referred to by various names, as in (1). In descriptive work on Bantu languages, the forms are called “long form” and “short form”, based on how the morpheme is realised. In Sharman (1956), whose work is concerned with prosody, the two forms were called “weak link” and “strong link”, respectively. With reference to information structural status, Givón distinguishes the forms in terms of types of focus.

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- (1) Disjunctive (dj) vs. conjunctive (cj) forms (based on Hyman & Watters 1984:251, taken from Hyman 2013; also Halpert 2016)

Meeussen (1959)	Sharman (1956)	Givón (1972)	Givón (1975)	Doke (1927)
conjoint	strong link	[-action focus]	COMP focus	short form
disjoint	weak link	[+action focus]	VP focus	long form
	= <i>prosody</i>	= <i>information structure</i>		= <i>morphology</i>

Examples of conjunctive and disjunctive forms in Xitsonga, isiZulu, Siswati, and Setswana are shown in (2). Descriptively speaking, the disjunctive form has a morpheme [(j)a] in all these languages, while the conjunctive form does not have this morpheme.

- (2) Examples of conjunctive and disjunctive forms

a. Xitsonga

- i. Conjunctive      *hì dyá vù:swá*  
1PL eat hard porridge      ‘we eat hard porridge’      (cj)
- ii. Disjunctive      *hi-a ([hà:]) dyá*  
1PL-DJ eat      ‘we eat’      (dj)

b. isiZulu (Buell 2006)

- i. Conjunctive      *ba-cula X*  
3PL-sing      ‘they sing X’
- ii. Disjunctive      *ba-ya-cula*  
3PL-DJ-sing      ‘they sing’

c. Siswati (Klein 2008:11)

- i. Conjunctive      *Nhlanhla u-dlal-a kahle*  
Nhlanhla 1SG-play-FV well      ‘Nhlanhla plays well’
- ii. Disjunctive      *Nhlanhla u-ya-dlal-a*  
Nhlanhla 1SG-DJ-play-FV      ‘Nhlanhla plays’

d. Setswana (Creissel 2014)

- i. Conjunctive      *ke bereka le ene*  
1SG work with CL1      ‘I work with him/her’
- ii. Disjunctive      *ke a bereka le nna*  
1SG DJ work ADD 1SG      ‘I too work’

In Xitsonga, the distinction between the disjunctive (dj) and conjunctive (cj) forms appears in the present positive. In terms of distribution, the cj form cannot appear in the clause-final position, while the dj form can appear in this position. Unlike in Zulu, various types of syntactic constituents can satisfy conditions for the cj form in Xitsonga. In other tenses, the morphological distinction between cj and dj forms is neutralised. Recent work on Setswana (Creissels 2014) argues that tonal distinctions are maintained in other tenses that are not present positive. We follow Creissels’ observation and will show that a similar distribution is also found in Xitsonga.



## (5) No restriction on the distribution of the dj form

- |    |            |                   |  |                    |      |
|----|------------|-------------------|--|--------------------|------|
| a. | <i>wá:</i> | <i>dyá</i>        |  |                    |      |
|    | he-DJ      | eat               |  | ‘He eats’          | (dj) |
| b. | <i>wá:</i> | <i>dyá nyá:mà</i> |  |                    |      |
|    | he-DJ      | eat meat          |  | ‘He does eat meat’ | (dj) |

When the subject is non-pronominal, as in (6), the same distribution as in (4)/(5) is observed. The cj form cannot appear in the clause-final position.

## (6) With a non-pronominal subject

- |    |                     |                   |  |                             |      |
|----|---------------------|-------------------|--|-----------------------------|------|
| a. | <i>mùnhù ú</i>      | <i>dyá nyá:mà</i> |  |                             |      |
|    | person SBJ-CL1      | eat meat          |  | ‘The person eats meat’      | (cj) |
| b. | <i>mùnhù wá:</i>    | <i>dyá nyá:mà</i> |  |                             |      |
|    | person SBJ-CL1-DJ   | eat meat          |  | ‘The person does eat meat’  | (dj) |
| c. | <i>*munhu u dya</i> |                   |  | (intended: The person eats) | (cj) |
| d. | <i>mùnhù wá:</i>    | <i>dyà</i>        |  |                             |      |
|    | person SBJ-CL1-DJ   | eat               |  | ‘The person eats/does eat’  | (dj) |

The presence of the object pronoun is not sufficient; the cj form is still ungrammatical. The ungrammaticality of (7a) suggests that the cj form must be the rightmost element within an IP.

## (7) The object pronoun and the cj/dj forms

- |    |               |            |  |                        |      |
|----|---------------|------------|--|------------------------|------|
| a. | <i>*u yi</i>  | <i>dya</i> |  |                        |      |
|    | he it(CL9)    | eat        |  | (intended: He eats it) | (cj) |
| b. | <i>wá yí:</i> | <i>dyà</i> |  |                        |      |
|    | he-DJ it(CL9) | eat        |  | ‘He eats it’           | (dj) |

When a prepositional phrase (PP) is present, indicating that the verb is no longer in the IP-final position, the cj form can be used, as in (8a).

## (8) The presence of a manner PP

- |    |                                |  |  |                                  |      |
|----|--------------------------------|--|--|----------------------------------|------|
| a. | <i>ú yí dyà nì márhá:mbù</i>   |  |  | ‘He eats it with bones’          | (cj) |
| b. | <i>wá yí: dyà nì márhá:mbù</i> |  |  | ‘He eats/does eat it with bones’ | (dj) |

The cj form can also be used when a locative phrase is present. The verb is not IP-final in all of the examples in (9).

## (9) The presence of a locative

- |    |                       |      |                         |      |                            |
|----|-----------------------|------|-------------------------|------|----------------------------|
| a. | <i>ú dyá là:hà</i>    | (cj) | <i>wá: dyà là:hà</i>    | (dj) | ‘He eats/does eat here’    |
| b. | <i>ú dyá éhà:ndlé</i> | (cj) | <i>wá: dyà éhà:ndlé</i> | (dj) | ‘He eat/does eat outside’  |
| c. | <i>ú tírhá kò:ná</i>  | (cj) | <i>wá tí:rhà kò:ná</i>  | (dj) | ‘He works/does work there’ |

The cj form (as well as the dj form) can be used with low adverbs such as *ngopfu* ‘much’, *swotala* ‘a lot’, and *kahle* ‘well’, as in (10). This pattern is different from isiZulu and Setswana, where these adverbs cannot be used with the dj form.

(10) The presence of low adverbs

- |    |                        |      |                          |      |                          |
|----|------------------------|------|--------------------------|------|--------------------------|
| a. | <i>ú dyá ngó:pfù</i>   | (cj) | <i>wá: dyà ngò:pfù</i>   | (dj) | ‘He eats/does eat much’  |
| b. | <i>ú dyá swò tá:là</i> | (cj) | <i>wá: dyà swò tá:là</i> | (dj) | ‘He eats/does eat a lot’ |
| c. | <i>ú dyá ká:hlè</i>    | (cj) | <i>wá: dyà ká:hlè</i>    | (dj) | ‘He eats/does eat well’  |

The cj form can also be used when temporal adverbs are present, as in (11). This is another example where the verb in Xitsonga is not treated as clause-final.

(11) The presence of a temporal adverb

- ú dyá námú:ntlhà* (cj) *wá: dyà nàmù:ntlhà* (dj) ‘He eats/does eat today’

When an object NP is coupled with a co-referenced object prefix, however, it does not make the cj form grammatical, as shown in (12a). This means that the verb is clause-final, and the object NP is outside of that clause. The presence of an object prefix indicates that the object NP is not in its canonical position (Cheng & Downing 2009, Yoneda 2011 a.o.). As such, *nyama* in (12a) is seen as right-dislocated, which makes the verb *dya* clause-final; thus, the cj form is not allowed.

(12) Object prefix and object NP

- |    |                                |             |            |                           |      |
|----|--------------------------------|-------------|------------|---------------------------|------|
| a. | <i>*munhu u</i>                | <i>yij</i>  | <i>dya</i> | <i>nyama<sub>j</sub></i>  | (cj) |
| b. | <i>mùnhù wá</i>                | <i>yí:j</i> | <i>dyà</i> | <i>nyà:mà<sub>j</sub></i> | (dj) |
|    | person                         | SBJ-CL1-DJ  | OBJ-CL9    | eat                       | meat |
|    | ‘The person eats it, the meat’ |             |            |                           |      |

Both cj and dj forms are allowed in the presence of an object NP followed by an adverb or a PP in (13). The verb is not located in the clause-final position in these examples.

(13) The presence of an object NP and adverb/PP

- |    |            |               |              |   |      |
|----|------------|---------------|--------------|---|------|
| a. | <i>ú</i>   | <i>dyá</i>    | <i>nyámá</i> | <i>námú:ntlhà / èkà:yà / mìkàrhì yó tà:là</i> | (cj) |
|    | ‘He        | eats          | meat         | today / at home / often’                      |      |
| b. | <i>wá:</i> | <i>dyá</i>    | <i>nyámá</i> | <i>námú:ntlhà / èkà:yà / mìkàrhì yó tà:là</i> | (dj) |
|    | ‘He        | eats/does eat | meat         | today / at home / often’                      |      |

The presence of object agreement in (14) shows that the cj form is no longer grammatical, but the dj form is. Thus, the verb is clause-final. Note that penultimate lengthening patterns differ between (13b) and (14b). In (14b), the object prefix is lengthened, which furthermore suggests that the verb is clause-final. There is also a very short pause after the verb, which is not present in (13b).

## (14) Object agreement prefix with canonical word order

- a. \**u yí* *dya* *nyama* *namuntlha / ekaya / mikarhi yo tala.* (cj)  
 b. *wá yí:* *dyá* *nyá:mà* *nàmù:ntlhà / èkà:yà / mìkàrhì yó tà:là* (dj)  
 'He eats/does eat (it) meat today / at home / often'

When the object NP is right-dislocated from its canonical position, an object prefix is obligatory. As shown in (15a,b), both cj and dj forms are grammatical, which suggests that the verb is not in the clause-final position. This is consistent with other examples (8-11) in which adjuncts also license the appearance of the cj form. The pattern in (15a) contrasts with (7a), in which the cj form only has an object prefix in the absence of an NP complement. Moreover, the sentence in (15c) has the intended reading of a right-dislocated object NP in the absence of an adjunct. In such a case, the sentence is ungrammatical. The requirement of an adjunct occurring after the verb (compare (15a) with (15c)) further suggests that the verb must not be in the clause-final position when it is in the cj form.

## (15) Right-dislocated object NP

- a. *ú yí:* *dyà* *nàmù:ntlhà / èkà:yà / mìkàrhì yó tà:là* , *nyà:mà:* (cj)  
 'He eats it today / at home / often , the meat'  
 b. *wá yí:* *dyà* *nàmù:ntlhà / èkà:yà / mìkàrhì yó tà:là* , *nyà:mà:* (dj)  
 'He eats/does eat it today / at home / often , the meat'  
 c. \**u yí:* *dya* , *nya:ma:* (cj)  
 'He eats it , the meat'

In Xitsonga, sentences with a right-dislocated NP without object agreement are grammatical, unlike in many other Southern Bantu languages. As shown in (16), both the cj and dj forms are grammatical. This is different from isiZulu, in which the following sentences are reported to be ungrammatical (van der Spuy 1993:346). These sentences are ungrammatical in Setswana, too.

## (16) No object prefix and a right-dislocated NP

- a. *ú* *dyá* *námú:ntlhà / èkà:yà / mìkàrhì yó tà:là* *nyà:mà* (cj)  
 'He eats today / at home / often , the meat'  
 b. *wá:* *dyà* *nàmù:ntlhà / èkà:yà / mìkàrhì yó tà:là* *nyà:mà* (dj)  
 'He does eat today / at home / often , the meat'

In yes-no questions, the presence of the question morpheme blocks the cj form, which suggests that the verb is in the clause-final position.

(17) The question word *xana*

- a. \**u dya xana?* (cj) b. *wá: dyà xà:nà?* (dj) 'Is he eating?'

So far, the data in this section have shown that the distinction between cj and dj forms can be explained using the constituency-based approach. The following section will present data that are potentially problematic for this approach.

## 2.2 Potentially problematic data for the constituency-based approach

In the future tense and the perfect tense, there is no morphological contrast between the cj form and the dj form, as shown in (18b,d,f,h). If the verb were clause-final, we would not expect the ungrammaticality of these examples. This contrast in the distribution of the dj form has also been noted in Baumbach (1987:221). We will revisit this issue in section 5.

(18) No morphological contrast in the dj form in the future and perfect tense

- |    |                            |                          |                   |
|----|----------------------------|--------------------------|-------------------|
| a. | <i>ú tá dya múndzú:kù</i>  | ‘He will eat tomorrow’   | (cj)              |
| b. | <i>*wa ta dya mundzuku</i> |                          | (dj)              |
| c. | <i>u ta yi: dya</i>        | ‘He will eat it’         | (cj)              |
| d. | <i>*wa ta yi: dya</i>      |                          | (dj)              |
| e. | <i>ú dyílè tò:lò</i>       | ‘He has eaten yesterday’ | (cj)              |
| f. | <i>*wa dyile tolo</i>      |                          | (dj) <sup>1</sup> |
| g. | <i>u yi dyi:le</i>         | ‘He has eaten it’        | (cj)              |
| h. | <i>*wa yi dyi:le</i>       |                          | (dj)              |

In the future tense, temporal adverbs can be fronted and only the cj form is allowed (19a,b). The morphological contrast is neutralised and the dj form causes ungrammaticality, as in (19c). The same pattern is found in past tense sentences (19d-f). Note that this pattern is the opposite of the pattern observed in the present tense (19g-i).

(19) Temporal adverbs

- |    |                            |                         |      |
|----|----------------------------|-------------------------|------|
| a. | <i>ú tá dya múndzú:kù</i>  | ‘He will eat tomorrow’  | (cj) |
| b. | <i>mùndzù:kù ú tá: dya</i> | ‘Tomorrow, he will eat’ | (cj) |
| c. | <i>*mundzuku wa ta dya</i> |                         | (dj) |
| d. | <i>ú dyílè tò:lò</i>       | ‘He ate yesterday’      | (cj) |
| e. | <i>tòlò ú dyi:lè</i>       | ‘Yesterday, he ate’     | (cj) |
| f. | <i>*tolo wa dyile</i>      |                         | (dj) |
| g. | <i>ú dya éhà:ndlé</i>      | ‘He eats outside’       | (cj) |
| h. | <i>wá: dya éhà:ndlé</i>    | ‘He does eat outside’   | (dj) |
| i. | <i>*ehandle u dya</i>      |                         |      |

## 2.3 Summary

So far, we have seen the cj and dj forms in Xitsonga that support the constituency-based approach. In Xitsonga, the cj form cannot be used when a verb is in the clause-final position. The cj form can be used regardless of whether the following constituent is an argument or an adjunct. In non-present tenses, the cj form must be used, even when the verb is in the clause-final position.

<sup>1</sup> A reviewer points out that the *-ile* form in (18c,d) is similar to the isiZulu long-form marker for the perfect tense. In isiZulu, according to the reviewer, the cj perfect takes the *-e* suffix, while the dj perfect takes the *-ile* suffix. In Xitsonga, the *-e* suffix and the *-ile* suffix are variants of the perfect form; the *-e* suffix is mostly used in colloquial Xitsonga. As such, the morphological contrast observed in isiZulu does not occur in Xitsonga.

The basic patterns of *cj* versus *dj* will be extended in the following section, where the distinction between the *cj* form and the *dj* form is taken to be focus-driven. Two competing hypotheses will be compared.

### 3. Focus-based approaches

#### 3.1 Two hypotheses

Buell (2006) presents two hypotheses from earlier studies on the *cj/dj* distinction. The Postverbal Term Focus hypothesis is based on a study on Setswana (Creissels 1996). Under this hypothesis, the element following a *cj* form is in focus, while the element following a *dj* form is not in focus. As such, if the *cj* form is not followed by any other elements, the absence of focused elements is the source of ungrammaticality (see also Ndayiragije (1999) on Rundi and Sabel and Zeller (2006) on isiZulu *wh*-questions).

A competing focus-based approach is the Verb Focus hypothesis proposed in Güldemann (2003) and based on a study of isiZulu. Under this hypothesis, it is the verb itself that is in focus when the verb is in its *dj* form, while the verb is not in focus in its *cj* form.

The following subsections will examine Xitsonga counterparts to the isiZulu datasets explored in Buell (2006). As shown in Buell (2006), Xitsonga has both examples that support the focus-based approaches and examples that raise questions about these approaches.

#### 3.2 The Postverbal Term Focus hypothesis

##### 3.2.1 In support of the Postverbal Term Focus hypothesis

The response (R) to the *wh*-question (Q) in (20a) shows an example of postverbal focus. The postverbal adverb *ehandle* ‘outside’ is focused, and only the *cj* form is allowed (see also van der Wal (2014) for morphosyntactic encoding of focus in Makhuwa and other Bantu languages). The *dj* form is not a possible response to the *wh*-question (20b).

(20) *Wh*-question and response

- |    |  |                      |      |
|----|--|----------------------|------|
| a. | Q: <i>ú dyá kwì:hì?</i>                                  | ‘Where does he eat?’ | (cj) |
|    | R: <i>ú dyá éhà:ndlé.</i>                                | ‘He eats OUTSIDE’    | (cj) |
| b. | # <i>wá: dyà éhà:ndlé</i> (not a possible response to Q) |                      | (dj) |

It is also the case that when the postverbal subject is the logical subject of the verb, the *dj* form is not allowed, as shown in (21b).

(21) Postverbal logical subjects

- |    |                         |                            |      |
|----|-------------------------|----------------------------|------|
| a. | <i>kù dyá mú:nhù</i>    |                            | (cj) |
|    | INF eat person          | ‘There is a person eating’ |      |
| b. | * <i>ku a dya munhu</i> |                            | (dj) |



The distribution of *wh*-words such as *yini* ‘what’ and *rini* ‘when’ is restricted to the postverbal position (22). As reported in Setswana (Creissels 2014:7), the use of *wh*-words requires the cj form of the verb.

- (22) The position of *wh*-words ‘what’, ‘when’, etc. is restricted to the postverbal position, and the cj form is obligatory
- a. *ù tà n ’wì nyiká yí:nì nsòvò mùndzù:kù?* (cj)  
 ‘What will you give Nsovo tomorrow?’
- b. *\*wa ta n ’wì nyika yini nsovo mundzuku?* (dj)
- c. *ù tà n ’wì nyiká rí:nì nsòvò bú:kù?* (cj)  
 ‘When will you give the book to Nsovo?’
- d. *\*wa ta n ’wì nyika rini nsovo buku?* (dj)

Xitsonga examples so far support the Postverbal Term Focus hypothesis. The cj form is required in examples where the element after the verb is focused.

### 3.2.2 Potential problems for the Postverbal Term Focus hypothesis

As in Buell’s (2006) work on isiZulu, when other contexts are examined, Xitsonga also has examples that are problematic for the Postverbal Term Focus hypothesis. In (23a), the neutral-context question does not require an answer with focus. Even so, the cj form is required as a response (23b). The dj form (23c) is not a salient response.

- (23) Neutral-context question
- a. Q: *kù éndléká yí:nì?* ‘What happens?’
- b. R: *ú dyá nyá:mà* ‘He eats meat’ (cj)
- c. R: *#wá: dyà nyà:mà* (dj)

Resumptive pronouns are required in Xitsonga relative clauses. In (24c), the resumptive pronoun *rona* is used. A resumptive pronoun is not a focused element, but it is the cj form that is required in relative clauses. Moreover, the dj form is ungrammatical. In this sense, Xitsonga patterns with isiZulu (Buell 2006:18).

- (24) Resumptive pronoun *rona*
- a. *ndzì yímbélélélá Bálòyì rìsì:mù* ‘I sing Baloyi a song’ (cj)  
 I sing Baloyi song
- b. *ndzì n ’wì yímbélélélá rìsì:mù* ‘I sing her a song’ (cj)  
 I her sing song
- c. *ì rìsì:mù lèrì ndzì n ’wì yímbélélélá:-kà rò:ná* ‘It’s the song that I sang for her’ (cj)  
 COP song that I her sing.for-REL it (=song)
- d. *\*i risimu leri ndza n ’wì yimbelelelaka rona* (dj)

Locative and temporal relatives also require resumptive pronouns in Xitsonga. Although there is no focused element following the verb, the cj form and not the dj form is required.

## (25) Locative and temporal relatives

- a. *mùgàngá ló:wù ndzì tlàngèké éká wò:ná* ‘the village where I played’ (cj)  
 village that I played at it (=village)
- b. \**muganga lowu ndza tlangeke eka wona* (dj)
- c. *nkárhí ló:wù ndzì tlàngèké hí wò:ná* ‘the time when I played’ (cj)  
 time that I played by it (=time)
- d. \**nkárhí lowu ndza tlangeke hi wona* (dj)

## 3.3 The Verb Focus hypothesis

## 3.3.1 In support of the Verb Focus hypothesis

Under the Verb Focus hypothesis, it is the verb itself that is argued to be in focus when the verb is in its dj form, while the verb is not in focus in its cj form (i.e. elements other than the verb are in focus). As shown in (26), the dj form has two meanings: one focused; one non-focused.

## (26) The dj form with a verbal focus

- a. *ú tlángá éhà:ndlé* ‘He plays outside’ (cj)
- b. *wá tlá:ngà éhà:ndlé* ‘He plays/does play outside’ (dj)

In Xitsonga, *kahle* ‘well’ can co-occur with the dj form, which suggests that the preceding verb is focused (27b). In isiZulu, sentences with *kahle* ‘well’ must have the cj form (cf. Buell 2006:18-19).

(27) Verbal focus and *kahle* ‘well’

- a. *ndzì yímbélélá ká:hlè* ‘I sing well’ (cj)
- b. *ndzá yímbélélá ká:hlè* ‘I do sing well’ (dj)

Contrastive focus on the verb is also possible when sentences occur with *kahle*. While the cj form in (28a) means that the person sings better than he dances, in (28b), there is an additional focal meaning that emphasises the event of singing itself.

## (28) Contrastive focus on verb

- a. *à ndzì cíní ká:hlè, kàmbé ndzì yímbélélá ká:hlè*  
 ‘I don’t dance well, but I sing well’ (cj)
- b. *à ndzì cíní ká:hlè, kàmbé ndzá yímbélélá ká:hlè*  
 ‘I don’t dance well, but (when I do sing) I sing well’ (dj)

## 3.3.2 A potential problem for the Verb Focus hypothesis

Buell (2006) also identifies a potential problem for the Verb Focus hypothesis. If the dj form signifies the verb focus, the cj form should not be allowed in verb focus cases. In (29), a relative resumptive pronoun is used, which suggests that the focused element in the sentence must be

the verb *nyíkílé* ‘gave’. Contrary to the prediction of the Verb Focus hypothesis, the cj form is used in (29a). Moreover, the dj form is ungrammatical.

(29) Relative resumptive pronoun and verb focus

- a. *í málì lé:yí à ndzì n'wì nyíkílé yò:ná* ‘It’s the money that I gave him’ (cj)  
 top money that PST I him gave it (=money)
- b. *\*i mali leyi a ndza n'wi nyikile yona* (dj)

### 3.4 Summary

An examination of focus-based approaches in light of Xitsonga data shows that some but not all distributional facts of the cj/dj forms can be accounted for. As Buell (2006) points out, the examples involving resumptive pronouns as well as the examples in non-focused contexts are non-trivial cases that require further explanation.

## 4. The information packaging approach

### 4.1 Information packaging

In a recent study, Creissels (2014:10) proposes that the cj/dj distinction can be best accounted for by information packaging theory. The cj form is used whenever the comment or verb phrase (VP) includes at least one element other than the verb itself, which implies that a cj verb form is followed by at least one phrase forming part of the comment, since the VP is strictly head-initial. The dj form is used whenever the comment/VP includes no element other than the verb itself, which implies that a dj verb form can only be followed by extraposed phrases that do not form part of the comment. This proposal is a departure from the structure-based approaches (section 2) and the focus-based approaches (section 3).

### 4.2 In support of the information packaging approach

Creissels (2014: 8) suggests a diagnostic for separating the cj form from the dj form.<sup>2</sup> The *na*-construction has two meanings: ‘with’ and ‘as well’. The distribution is shown in (30). The ‘with’ meaning of *na* can be used with both the cj and the dj form, whereas the ‘as well’ meaning can only be used with the dj form. There is also a difference in penultimate lengthening. The main verb shows penultimate lengthening in the dj form, but not in the cj form (see section 5 for more discussion).

(30) *na*-construction as a diagnostic (see Creissels 2014:8)

- a. *ndzì tìrhà ná yè:ná* ‘I work with him’ (cj)
- b. *ndzá tí:rhà ná yè:ná* ‘I do work with him’ (dj)
- c. *\*ndzi tìrha na mina* (cj)
- d. *ndzá tí:rhà ná mì:ná* ‘I work as well’ (dj)

<sup>2</sup> As pointed out by a reviewer, in Sesotho-Tswana languages, the full paradigm regarding tonal distinctions between cj and dj forms is much more complicated than the penultimate lengthening diagnostics explored here. A detailed tonal study of Xitsonga, however, is beyond the scope of the current paper.

As in Creissels' diagnostics, the *na*-construction in Xitsonga can be disambiguated when the cj form or the dj form is used. When the cj form is used (31a), the 'with' interpretation is assigned. When the dj form is used (31b), the 'as well, too' meaning is assigned.

(31) The choice between cj and dj

- |    |                                 |                        |      |
|----|---------------------------------|------------------------|------|
| a. | <i>Nsòvò ú tírha ná yè:ná</i>   | 'Nsovo works with her' | (cj) |
| b. | <i>Nsòvò wá tí:rhà ná yè:ná</i> | 'Nsovo works too'      | (dj) |

In Setswana, Creissels (2014) reports that there is a distinction between 'too' and 'all'. In Xitsonga, this distinction is also found: (32b) *na hina* 'too' and (32c,d) *hinkwerhu* 'all'. Creissels analyses *hinkwerhu* as a comment about the topic *hi* 'we'. Thus, the cj form (in addition to the dj form) is allowed.

(32) 'too' versus 'all'

- |    |                             |                  |      |
|----|-----------------------------|------------------|------|
| a. | <i>*hi tírha na hina</i>    |                  | (cj) |
| b. | <i>há tí:rhà ná hì:ná</i>   | 'we work too'    | (dj) |
| c. | <i>hì tírha hínkwè:rhù</i>  | 'we all work'    | (cj) |
| d. | <i>há tí:rhà hínkwè:rhù</i> | 'we all do work' | (dj) |

The second author provided contexts to disambiguate the sentences in (32). For example, let us assume that an inspector came to a workplace and found people who were lounging around. The inspector asks them *xana na n'wina mi tírha laha* 'Do you(pl.) work here too (=are you employed here too)?'. Then the addressees can protest and reply *ha tírha na hina* 'we work too' and use the dj form; the cj form is not available. However, if the inspector looks at the people who are working and asks them *xana hi n'wina ntsena mi tírhaka* 'Are you the only ones who work?', then the addressees people would respond with *E-e, hi tírha hinkwerhu* 'No, we all work' with the cj form. Note that the response *E-e, ha tírha hinkwerhu* 'No, we work too' with the dj form is also possible.

The inversion construction further supports the information packaging approach. In (33b), for example, 'Nsovo' is not a topic, but it is included in the VP. Thus, it is the cj form in (33a) that is grammatical, not the dj form. In (33c,d), the right-dislocated subject is an afterthought. As such, the cj form is ungrammatical (see also Creissels 2014:15).

(33) Inversion construction

- |    |                          |                             |      |
|----|--------------------------|-----------------------------|------|
| a. | <i>kú tírhá Nsò:vò</i>   | 'There works Nsovo'         | (cj) |
| b. | <i>*ku a tírha Nsovo</i> |                             | (dj) |
| c. | <i>*u tírha, Nsovo</i>   |                             | (cj) |
| d. | <i>wá tí:rhà, Nsò:vò</i> | 'She works, Nsovo, that is' | (dj) |

A constituency analysis would explain why (33c) is ungrammatical: the right-dislocated subject is outside of a clause in (33d). However, it would have difficulty explaining why the dj form is not possible in (33b).

### 4.3 A potential problem for the information packaging approach

The information packaging approach predicts that only the cj form should be used with adverbs such as *ngopfu* ‘much’, *swo tala* ‘a lot’, and *kahle* ‘well’, because these adverbs are part of the VP and they cannot be topicalised (à la Creissels 2014:12). In Xitsonga, the dj form appears with these adverbs as well, which requires some updates to the information packaging approach.

#### (34) Manner adverbs

- |    |                        |      |                          |      |                          |
|----|------------------------|------|--------------------------|------|--------------------------|
| a. | <i>ú dyá ngó:pfù</i>   | (cj) | <i>wá: dyà ngò:pfù</i>   | (dj) | ‘He eats/does eat much’  |
| b. | <i>ú dyá swò tá:là</i> | (cj) | <i>wá: dyá swò tá:là</i> | (dj) | ‘He eats/does eat a lot’ |
| c. | <i>ú dyá ká:hlè</i>    | (cj) | <i>wá: dyá ká:hlè</i>    | (dj) | ‘He eats/does eat well’  |

### 5. The cj/dj distinction in other tenses: the role of prosody

As shown earlier, the dj form is not compatible with the perfect or the future tense. We maintain that the cj/dj distinction is still present, and we use penultimate lengthening as evidence of this distinction. In van der Spuy (1993:348-349), it has been reported that penultimate lengthening can be used to distinguish the cj and dj forms. Recall that van der Spuy’s main proposal was based on syntactic constituency.

#### (35) Penultimate lengthening and the cj/dj forms

- The penultimate vowel of the dj form is obligatorily lengthened.
- The penultimate vowel of the cj form may not be lengthened.

Creissels (2014) also reports tonal distinctions between cj and dj in some tenses in Setswana. In Xitsonga, penultimate lengthening also plays an important role in the distinction between the cj and the dj forms, but tonal distinctions play a relatively minor role. Examples in this section will use the Creissels test (‘with him’ vs. ‘too’) to determine the presence of the distinction between the cj and dj forms.

#### 5.1 Perfect and past

There is no morphological distinction between the cj form and the dj form in the perfect and past tenses. If we adopt the Creissels’ test with *na*, the penultimate lengthening of the verb, however, distinguishes the cj form from the dj form: penultimate lengthening in the dj form (36b,d) vs. no such lengthening in the cj form (36a,c).

#### (36) The cj/dj form in the perfect and past tenses

- |    |                                |                          |      |                                |
|----|--------------------------------|--------------------------|------|--------------------------------|
| a. | <i>ndzì tìrhílé ná yè:ná</i>   | ‘I have worked with him’ | (cj) |                                |
| b. | <i>ndzì tìrhí:lé ná mì:ná</i>  | ‘I have worked too’      | (dj) | * <i>ndza tìrhile na mina</i>  |
| c. | <i>ndzì tshàmílé ná yè:ná</i>  | ‘I have stayed with him’ | (cj) |                                |
| d. | <i>ndzì tshàmí:lé ná mì:ná</i> | ‘I too have stayed’      | (dj) | * <i>ndza tshamile na mina</i> |

Other forms in the perfect and past tenses also show the same distribution: perfect negative in (37), past in (38), and past negative (39).

## (37) Perfect negative

- |    |                                  |                              |      |
|----|----------------------------------|------------------------------|------|
| a. | <i>à ndzì tírhángí ná yè:ná</i>  | ‘I have not worked with him’ | (cj) |
| b. | <i>à ndzì tírhá:ngì ná mì:ná</i> | ‘I have not worked either’   | (dj) |

## (38) Past

- |    |                               |                          |      |
|----|-------------------------------|--------------------------|------|
| a. | <i>á ndzí tírhá ná yè:ná</i>  | ‘I was working with him’ | (cj) |
| b. | <i>á ndzí tí:rhà ná mì:ná</i> | ‘I was working too’      | (dj) |

## (39) Past negative

- |    |                                   |                              |      |
|----|-----------------------------------|------------------------------|------|
| a. | <i>á ndzí ngá tírhí ná yé:nà</i>  | ‘I was not working with him’ | (cj) |
| b. | <i>á ndzí ngá tí:rhì ná mì:ná</i> | ‘I was not working either’   | (dj) |

**5.2 Future**

Future tense also maintains the same distinction with penultimate lengthening. The cj form in (40a) has a single penultimate lengthening in the final element of the sentence, while the dj form in (40b) has two. Note that the morphological dj form of the subject pronoun *ndza* creates an ungrammatical sentence (40c). Recordings of the sentences with the dj form also show a pitch resetting at *mi:na* ‘me’, as in Figure 1. This distinction is also found in future negative (41), continuative future positive (42), and continuative future negative (43).

## (40) Future tense

- |    |                                |                        |      |
|----|--------------------------------|------------------------|------|
| a. | <i>ndzì tà tírhà ná yè:ná</i>  | ‘I will work with him’ | (cj) |
| b. | <i>ndzì tá tí:rhà ná mì:ná</i> | ‘I will work too’      | (dj) |
| c. | <i>*ndza ta tirha na mina</i>  |                        |      |

## (41) Future negative

- |    |                                   |                            |      |
|----|-----------------------------------|----------------------------|------|
| a. | <i>á ndzí ngá tírhì ná yé:nà</i>  | ‘I will not work with him’ | (cj) |
| b. | <i>á ndzí ngá tí:rhì ná mì:ná</i> | ‘I will not work either’   | (dj) |

(42) Continuative future positive (*a ha ta*)

- |    |                                   |                              |      |
|----|-----------------------------------|------------------------------|------|
| a. | <i>ndzà há tá tírhà ná yè:ná</i>  | ‘I will still work with him’ | (cj) |
| b. | <i>ndzà há tá tí:rhà ná mì:ná</i> | ‘I will still work too’      | (dj) |

## (43) Continuative future negative.

- |    |                                      |                                     |      |
|----|--------------------------------------|-------------------------------------|------|
| a. | <i>à ndzí ngá há tírhì ná yé:nà</i>  | ‘I will not work with him any more’ | (cj) |
| b. | <i>à ndzí ngá há tí:rhì ná mì:ná</i> | ‘I will not work either any more’   | (dj) |

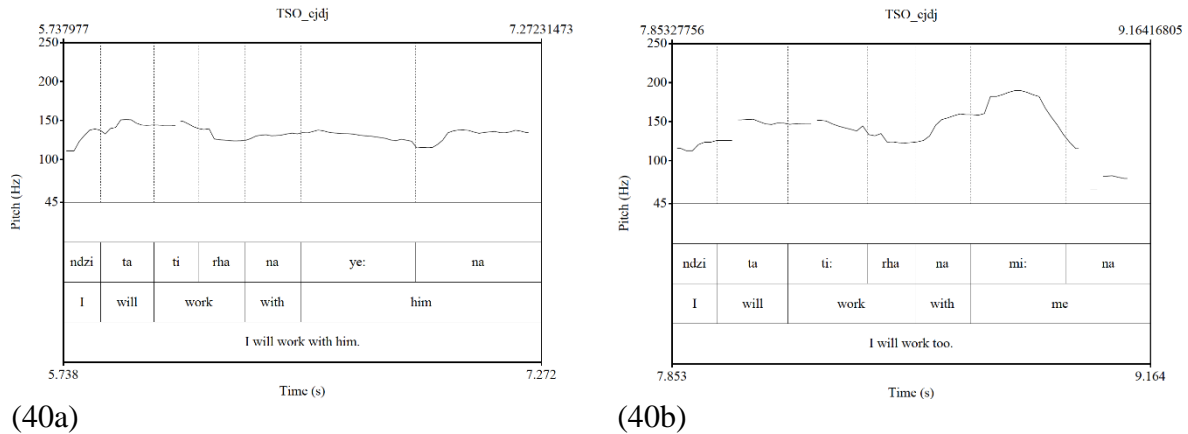


Figure 1: Pitch track of examples (40a) and (40b)

### 5.3 Progressive (*le ku V-eni*) and continuative (*a ha V*)

The present progressive in (44) shows the difference in penultimate lengthening as well. Due to the tonal spreading in Xitsonga, the tone of the verb’s final syllable differs in the cj and the dj forms. The continuative present in (45) and (46) shows the same distribution.

(44) Present progressive

- a. *ndzì lé kú tìrhèni ná yè:ná* ‘I am working with him’ (cj)
- b. *ndzì lé kú tìrhè:nì ná mì:ná* ‘I am working too’ (dj)

(45) Continuative present positive

- a. *ndzà há tírhà ná yè:ná* ‘I am still working with him’ (cj)
- b. *ndzà há tí:rhà ná mì:ná* ‘I am still working too’ (dj)

(46) Continuative present negative

- a. *à ndzá há tìrhì ná yé:nà* ‘I am not working with him any more’ (cj)
- b. *à ndzá há tì:rhì ná mì:ná* ‘I am not working either any more’ (dj)

### 5.4 Present negative

Unlike the present positive tense, the present negative does not have a morphological dj form. The absence of the dj form does not mean that there is no distinction between the cj form and the dj form. The dj form has an additional penultimate lengthening on the verb (47b,d,f), while the cj form does not have such lengthening (47a,c,e).

(47) The present negative also shows differences in penultimate lengthening

- |    |                                  |                         |      |
|----|----------------------------------|-------------------------|------|
| a. | <i>à ndzì tírhí ná yé:nà</i>     | ‘I don’t work with him’ | (cj) |
| b. | <i>à ndzì tí:rhì ná mì:ná</i>    | ‘I don’t work either’   | (dj) |
| c. | <i>à ndzì tsútsú mí ná yé:nà</i> | ‘I don’t run with him’  | (cj) |
| d. | <i>à ndzì tsútsú:mì ná mì:ná</i> | ‘I don’t run either’    | (dj) |
| e. | <i>à ndzì fámbí ná yé:nà</i>     | ‘I don’t walk with him’ | (cj) |
| f. | <i>à ndzì fá:mbì ná mì:ná</i>    | ‘I don’t walk either’   | (dj) |

## 5.5 Summary

Using Creissels’ test, we maintain that tenses with no morphological distinction between the cj form and the dj form may still distinguish these forms using other prosodic cues. The additional presence of penultimate lengthening and pitch-raising in the dj form serves to make this distinction. We agree with a reviewer who pointed out that these prosodic cues could be a function of the pause that is found after the dj form. A deeper understanding of the nature between the cj/dj distinction and prosody in Xitsonga will be pursued in subsequent studies.

## 6. Conclusion

The distribution of the cj form and the dj form in Xitsonga mostly (but not always) follows patterns described in work on other Southern Bantu languages: the constituency approach, the focus-based approaches, and the information packaging approach.

However, none of these approaches provides a full explanation with respect to the distribution of Xitsonga cj/dj forms. It seems to us that one of the most reliable cues for the cj/dj forms might be penultimate lengthening. We suggest that issues regarding the module of prosodic structure formation need to be incorporated in future studies on the nature of the distribution of the cj/dj forms.

The dj form in Xitsonga has a different distribution than in other Southern Bantu languages: (a) the dj form can be used in sentences where the object NP is not right-dislocated (see 5b), and (b) constructions with a right-dislocated NP do not require an object prefix (see 16). As suggested by a reviewer, these differences will be clarified in future studies.

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