

Distribution of conjunctive and disjunctive forms in Xitsonga

Seunghun J. Lee¹⁾ & Crous Hlungwani²⁾

(seunghunlee@gmail.com & crous.hlungwane@univen.ac.za)

International Christian University¹⁾ & University of Venda^{1), 2)}

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 a verb. Xitsonga follows these basic patterns observed in other Bantu languages, but previous theories cannot explain all the occurrences of the distinction between the conjunctive/disjunctive forms. In previous work, three major approaches have been proposed: the constituency approach, the focus-based approach and the information packaging approach. Xitsonga shows support as well as counter evidence for all these approaches. This paper will also reexamine 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 phenomena 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 called in different 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 realized. In Sharman (1956), whose work is concerned with prosody, the two forms were called ‘weak link’ and ‘strong link’ respectively. Employing the information structure status, Givón distinguishes the forms with respect to types of focus.

(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 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 that position. Unlike 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 neutralized. Recent study on Setswana (Creissels 2014) argues that tonal distinctions are maintained in other tenses that are not present positive. We follow his observation and will show that similar phenomena also exist in Xitsonga.

The dj form is expressed with the –a- morpheme in Xitsonga. Due to the avoidance of vowel hiatus, there is vowel deletion (/ i + a / → [a]), glide formation (/ u + a / → [wa]), or vowel fusion (/ a + a / → [a] without lengthening). In personal pronouns, the cj forms and the dj forms are as shown in (3a) and (3b), respectively.

(3) Conjunctive vs. disjunctive forms in Xitsonga personal pronouns

a. Conjunctive				b. Disjunctive			
1sg	ndzi	1pl	hi	1sg	ndzà	1pl	hà
2sg	ù	2pl	mi	2sg	wà	2pl	mà
3sg	ú	3pl	vá	3sg	wá	3pl	vá

Three major approaches aim to explain the distribution of cj versus dj forms in other Bantu languages. Van de Spuy (1993), Buell (2006) and Halpert (2016) propose a constituency-based approach, in which the dj form is argued to be realized when a verb lacks a complement. Drawing on Setswana, however, Creissels (1996) and subsequently Güldemann (2003) argue that the distribution of cj vs. dj forms is best to be analyzed as a focus-driven phenomenon. Updating the focus-based approach, Creissels (2014) argues for an information packaging approach that relies on information theory for explaining the cj/dj distribution. The last approach will also be defended in this paper.

The rest of the paper will examine each of these approaches in sections 2, 3 and 4. The non-morphological distinction of cj/dj forms in other tenses will be presented in section 5, where penultimate lengthening and tone show a non-segmental distinction.

2. Constituency-based approach

The constituency-based approach states that the cj form is used “when a verb is followed by complements within IP (van der Spuy 1993)”, while the dj form appears when “a verb is IP final (van der Spuy 1993)” (see also du Plessis et al. 1995, also Buell 2006).

2.1. Data in support of the constituency-based approach

Xitsonga has much data that show support for the constituency-based approach. As a main diagnostic, the cj form does not appear clause-finally (4b), but the dj form can appear in the clause-final position (5a). When the dj form is used with a nominal complement (5b), a clause has a meaning as if the speaker is contradicting an earlier claim or assertion. In the rest of this paper, the addition of ‘do’ before a verb will indicate such a usage. A corresponding example of (5b) in Setswana is ungrammatical unless there is an object marker.

(4) No cj form in clause-final position

- a. ú dyá nyá:ma
 he eat meat ‘He eats meat’ (cj)
- b. *u dya
 he eat

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

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

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

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

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

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

(8) The presence of a manner PP

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

The cj forms can also be used when locative phrases are present. The verb is not IP-final in all the examples in (9).

(9) The presence of a locative

- a. ú dyá là:hà (cj) wá: dyà là:hà (dj) ‘He eats/does eat here’
 b. ú dyá éhà:ndlé (cj) wá: dyà éhà:ndlé (dj) ‘He eat/does eat outside’
 c. ú tírhá kò:ná (cj) wá tí:rhà kò:ná (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’, *swo tala* ‘a lot’, *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. ú dyá ngó:pfù (cj) wá: dyà ngò:pfù (dj) ‘He eats/does eat much’
 b. ú dyá swò tá:là (cj) wá: dyà swò tá:là (dj) ‘He eats/does eat a lot’
 c. ú dyá ká:hlè (cj) wá: dyà ká:hlè (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 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. The presence of an object prefix indicates that the object NP is not in its canonical position (Cheng & Downing 2009, Yoneda 2011 a.o.). We propose that *nyama* in (12a) is right-dislocated, which makes the verb *dya* clause-final; thus, the cj form is not allowed.

(12) Object prefix and object NP

- a. *munhu u yí; dya nyama; (cj)
 b. múnhù wá yí; dyà nyà:mà; (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 adverbs or PP in (13). The verb is not located in the clause-final position in these examples.

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

- a. ú dyá nyámá námú:ntlhà / èkà:yà / mikàrhì yó tà:là (cj)
 ‘He eats meat today / at home / often’
 b. wá: dyá nyámá námú:ntlhà / èkà:yà / mikàrhì yó tà:là (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 was 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:ntlhá / èkà:yà / mikàrhi 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, it is obligatory to have an object prefix. 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 count when it comes to 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 an 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 after the verb (compare (15a) with (15c)) further suggests that a verb must not be in the clause-final position when it is in the cj form.

- (15) Right-dislocated object NP
- | | | | | |
|----|--|--|----------------------------|------|
| a. | ú yí: _i dyà | nàmù:ntlhá / èkà:yà / mikàrhi yó tà:là | nyà:mà _i | (cj) |
| | ‘He eats it today / at home / often | | , the meat’ | |
| b. | wá yí: _i dyà | nàmù:ntlhá / èkà:yà / mikàrhi yó tà:là | nyà:mà _i | (dj) |
| | ‘He eats/does eat it today / at home / often | | , the meat’ | |
| c. | *u yí: _i dya | ,nya:ma _i | | (cj) |
| | ‘He eats it | , the meat’ | | |

In Xitsonga, sentences with a right dislocated NP without an object agreement are grammatical, which is different from 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:ntlhá / èkà:yà / mikàrhi yó tà:là | nyà:mà | (cj) |
| | ‘He eats today / at home / often | | , the meat’ | |
| b. | wá: dyà | nàmù:ntlhá / èkà:yà / mikàrhi 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 has shown that the distinction between cj and dj forms can be explained using the constituency-based approach. The following section will present data that is potentially be problematic for this approach.

2.2. Data that can potentially be problematic 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). If the position of a verb is at the end of a clause (i.e. clause-final position), we wouldn't expect 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 future and perfect..

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

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

(19) Temporal adverbs

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

2.3. Summary

¹ A reviewer pointed out that the *-ile* form in (18c, d) is similar to the isiZulu long form marker for the perfect tense. In isiZulu, according this 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.

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 the following constituent being an argument or an adjunct. In non-present tenses, the cj form must be used even in cases when the verb is in the clause-final position.

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

3.0. 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 disjunctive 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. Also, see Ndayiragije (1999) on Rundi and Sabel & Zeller (2006) on IsiZulu *wh*-questions. However, note that Creissels' (2014) analysis on Setswana does not ascribe to this hypothesis any more.

A competing focus-based approach is the Verb Focus hypothesis proposed in Güldemann (2003) based on a study on IsiZulu. In 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.

Based on IsiZulu data sets explored in Buell (2006), the following subsections will examine Xitsonga counterparts. As shown in Buell (2006), Xitsonga has both examples that support the focus based approaches and examples that raise questions about these approaches.

3.1. Postverbal Term Focus Hypothesis

3.1.1 In support of Postverbal Term Focus Hypothesis

The response (R) to the *wh*-question (Q) and response (R) 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. ú dyá kwì:hi? | 'Where does he eat?' | (cj) |
| | R. ú dyá éhà:ndlé. | 'He eats OUTSIDE' | (cj) |
| b. | #wá: dyà éhà:ndlé | (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) Post-verbal logical subjects
- | | | | |
|----|-----------------|----------------------------|------|
| a. | kù dyá mú:nhù | | (cj) |
| | INF eat person | 'There is a person eating' | |
| b. | *ku a dya munhu | | (dj) |

The distribution of *wh*-words such as *yini* 'what' and *rini* 'when' is restricted to the post-verbal 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 post-verbal position, and the cj form is obligatory (cf..
- ù tà n’wì nyíká **yí:nì** nsòvò mündzù:kù? (cj)
‘What will you give Nsovo tomorrow?’
 - *wa ta n’wi nyika yini nsovo mundzuku? (dj)
 - ù tà n’wì nyíká **rí:nì** nsòvò bú:kù? (cj)
‘When will you give the book to Nsovo?’
 - *wa ta n’wi 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.

3.1.2 Potential problems for 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 is not a salient response as in (23c).

- (23) Neutral context question
- Q. kù éndléká yí:nì? ‘What happens?’
 - R. ú dyá nyá:mà ‘He eats meat.’ (cj)
 - 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 like IsiZulu (Buell 2006: 18).

- (24) Resumptive pronoun *rona*
- ndzì yímbélélélá Bálòyì risì:mù ‘I sing Baloyi a song’ (cj)
I sing Baloyi song
 - ndzì n’wì yímbélélélá rísì:mù ‘I sing her a song’ (cj)
I her sing song
 - ì rísì: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)
 - *i risimu leri **ndza** n’wi 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 is required, but not the dj form.

- (25) Locative and temporal relatives
- mùgàngá ló:wù ndzì tlàngèké éká wò:ná ‘the village where I played’ (cj)
village that I played at it (=village)
 - *muganga lowu ndza tlangeke eka *wona* (dj)
 - nkárhí ló:wù ndzì tlàngèké hí wò:ná ‘the time when I played’ (cj)
time that I played by it (=time)
 - *nkarhi lowu ndza tlangeke hi *wona* (dj)

3.2. Verb Focus Hypothesis

3.2.1 In support of 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 disjunctive form, while the verb is not in focus in its conjunctive form (i.e. elements other than the verb is in focus). As it is shown in (26), the dj form has two meanings. One is a non-focus meaning, the other is a focus meaning.

- (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 in (27b). In IsiZulu, sentences with *kahle* ‘well’ must have the cj form (cf. Buell 2006: 18-19).

- (27) Verbal focus and *kahle* ‘well’
- | | | |
|---------------------------------|------------------|------|
| a. ndzi yimbélélá ká:hlè | ‘I sing well’ | (cj) |
| b. ndzá yimbélélá 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 emphasizes the event of singing itself.

- (28) Contrastive focus on verb
- | | | |
|---|------|--|
| a. à ndzi cíní ká:hlè, kàmbé ndzi yimbélélá ká:hlè | | |
| ‘I don’t dance well, but I sing well’ | (cj) | |
| b. à ndzi cíní ká:hlè, kàmbé ndzá yimbélélá ká:hlè | | |
| ‘I don’t dance well, but (when I do sing) I sing well’ | (dj) | |

3.2.2 A potential problem for Verb Focus Hypothesis

Buell (2006) also identifies a potential problem for 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 *nyikilé* ‘gave’. Unlike the prediction of 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 máli lé:yí à ndzi n’wì nyikilé yò:ná | ‘It’s the money that I gave him’ | (cj) |
| top money that PST I him gave it (=money) | | |
| b. *i mali leyì a ndza n’wi nyikile yona | | (dj) |

3.3. Summary

An examination of focus-based approaches with 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 provide non-trivial cases that need further explanation.

4. Information packaging approach

4.1. Information packaging

In a recent study, Creissels (2014:10) proposes that the cj/dj distinction can be best understood with the information packaging theory. The cj form is used whenever the comment or verb phrase 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 verb phrase is strictly head-initial. The dj form is used whenever the comment / verb phrase includes no other element 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 theory

Creissels (2014: 8) suggests a diagnostic for separating the cj form from the dj form². The *na*-construction has two meaning: ‘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 there is no penultimate lengthening in the cj form (see section 5 for more discussion).

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

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

As in Creissels’ diagnostics, the *na*-construction in Xitsonga can be disambiguated when the cj form or the dj form are 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. | Nsòvò ú tírha ná yè:ná | ‘Nsovo works with her’ | (cj) |
| b. | Nsòvò wá tí:rhà ná yè:ná | ‘Nsovo works too’ | (dj) |

In Setswana, Creissels (2014) reports 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 analyzes *hinkwerhu* as a comment about the topic *hi* ‘we’. Thus, the cj form (in addition to the dj form) is allowed.

² 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 in this paper. A detailed tonal study of Xitsonga, however, is beyond the scope of the current paper.

- (32) ‘too’ versus ‘all’
- | | | | |
|----|----------------------|------------------|------|
| a. | *hi tirha na hina | | (cj) |
| b. | há tí:rhà ná hi:ná | ‘we work too’ | (dj) |
| c. | hì tírhà hínkwè:rhù | ‘we all work’ | (cj) |
| d. | hà tí:rhà hínkwè:rhù | ‘we all do work’ | (dj) |

The second author provided contexts to disambiguate the sentences in (32). For example, let’s assume that an inspector came to a workplace and found people who were lounging. The inspector asks them, *xana na n’wina mi tirha laha* ‘Do you(pl.) work here too (=are you employed here too)?’. Then the lounging people can protest and reply *ha tirha 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 tirhaka* ‘Are you the only ones who work?’ then the lounging people would respond with *E-e, hi tirha hinkwerhu* ‘No, we all work’ with the cj form. Note that the response *E-e, ha tirha hinkwerhu* ‘No, we work too’ with the dj form is also possible.

The inversion construction further supports the information packaging theory. In (33b), for example, Nsovo is not a topic, but it is included in a verb phrase. Thus, it is the cj form in (33a) that is grammatical, but 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. | kú tírhá Nsò:vò | ‘There works Nsovo’ | (cj) |
| b. | *ku a tirha Nsovo | | (dj) |
| c. | *u tirha, Nsovo | | (cj) |
| d. | wá tí:rhà, Nsò:vò | ‘She works, Nsovo that is’ | (dj) |

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

4.2. Potential problem for the information packaging theory

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

- (34) Manner adverbs
- | | | | | | |
|----|-----------------|------|-------------------|------|--------------------------|
| a. | ú dyá ngó:pfù | (cj) | wá: dyà ngò:pfù | (dj) | ‘He eats/does eat much’ |
| b. | ú dyá swò tá:là | (cj) | wá: dyà swò tá:là | (dj) | ‘He eats/does eat a lot’ |
| c. | ú dyá ká:hlè | (cj) | wá: dyà ká:hlè | (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 for this distinction. In van der Spuy (1993: 348-349), it has been reported that

penultimate lengthening can be used in the distinction of 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

- a. The penultimate vowel of the dj form is obligatorily lengthened.
- b. 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 plays also 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 form vs. the dj form.

5.1. Perfect and past

There is no morphological distinction between the cj form and the dj form in perfect and past tenses. 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 perfect and past tense.

- a. ndzi tĩrhílé ná yè:ná 'I have worked with him' (cj)
- b. ndzi tĩrhí:lé ná mì:ná 'I have worked too' (dj) *ndza tĩrhile na mina
- c. ndzi tshàmílé ná yè:ná 'I have stayed with him' (cj)
- d. ndzi tshàmí:lé ná mì:ná 'I too have stayed' (dj) *ndza tshamile na mina

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

(37) Perfect negative

- a. à ndzi tĩrhángí ná yè:ná 'I have not worked with him' (cj)
- b. à ndzi tĩrhá:ngì ná mì:ná 'I have not worked either' (dj)

(38) Past

- a. á ndzí tĩrhá ná yè:ná 'I was working with him' (cj)
- b. á ndzí tí:rHà ná mì:ná 'I was working too' (dj)

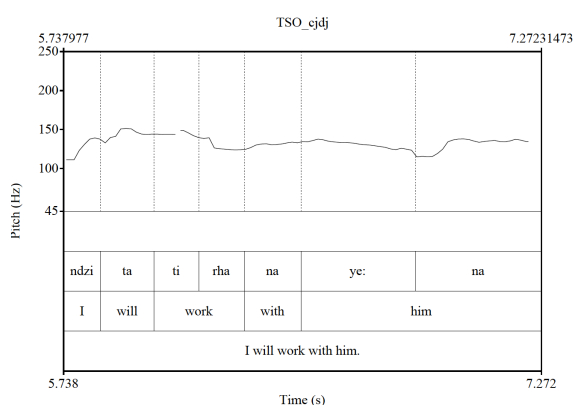
(39) Past negative

- a. á ndzí ngá tĩrhí ná yé:ná 'I was not working with him' (cj)
- b. á ndzí ngá tí:rHì ná mì:ná 'I was not working either' (dj)

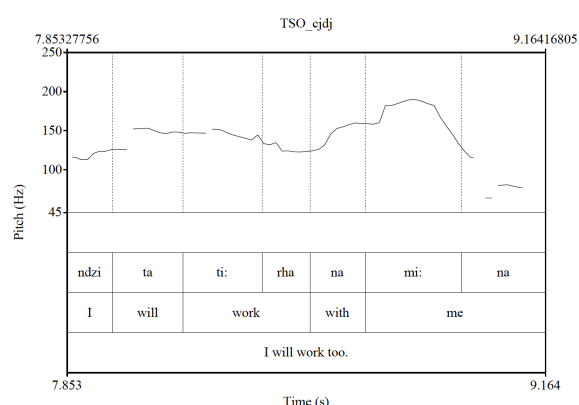
5.2. Future

Future tense also maintains the same distinction. 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 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
- ndzi tà tìrhà ná yè:ná ‘I will work with him’ (cj)
 - ndzi tá tí:rhà ná mì:ná ‘I will work too’ (dj)
 - *ndza ta tìrha na mina
- (41) Future negative
- á ndzí ngá tìrhì ná yé:ná ‘I will not work with him’ (cj)
 - á ndzí ngá tí:rhì ná mì:ná ‘I will not work either’ (dj)
- (42) Continuative future positive (*a ha ta*)
- ndzà há tá tírhà ná yè:ná ‘I will still work with him’ (cj)
 - ndzà há tá tí:rhà ná mì:ná ‘I will still work too’ (dj)
- (43) Continuative future negative.
- à ndzí ngá há tìrhì ná yé:ná ‘I will not work with him any more’ (cj)
 - à ndzí ngá há tí:rhì ná mì:ná ‘I will not work either any more’ (dj)



(40a)



(40b)

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 final syllable of the verb has different tone between the cj and the dj forms. Continuative present in (45) and (46) show the same distribution.

- (44) Present progressive
- ndzi lé kú tìrhèni ná yè:ná ‘I am working with him’ (cj)
 - ndzi lé kú tìrhè:nì ná mì:ná ‘I am working too’ (dj)
- (45) Continuative present positive
- ndzà há tírhà ná yè:ná ‘I am still working with him’ (cj)
 - ndzà há tí:rhà ná mì:ná ‘I am still working too’ (dj)
- (46) Continuative present negative
- à ndzá há tìrhì ná yé:ná ‘I am not working with him any more’ (cj)
 - 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. | à ndzi tírhí ná yé:nà | ‘I don’t work with him’ | (cj) |
| b. | à ndzi tí:rhi ná mì:nà | ‘I don’t work either’ | (dj) |
| c. | à ndzi tsútsúmí ná yé:nà | ‘I don’t run with him’ | (cj) |
| d. | à ndzi tsútsú:mì ná mì:nà | ‘I don’t run either’ | (dj) |
| e. | à ndzi fámbí ná yé:nà | ‘I don’t walk with him’ | (cj) |
| f. | à ndzi fá:mbì ná mì:nà | ‘I don’t walk either’ | (dj) |

5.5. Summary

Using the Creissels’s test, we maintain that tenses with no morphological distinction between the cj form and the dj form, however, still distinguish them using other prosodic cues. The additional presence of penultimate lengthening and pitch rising in the dj form functions for such a 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 follows patterns described in the work of other southern Bantu languages (but not always): 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 needs to be incorporated in future studies when it comes to further exploring the nature of the distribution of the cj/dj forms.

The dj form in Xitsonga have a different distribution from 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) the 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.

References

- Baumbach, E. J. M. (1987) *Analytical Tsonga Grammar*. Pretoria: UNISA.
- Buell, Leston (2006) The Zulu conjoint/disjoint verb alternation: focus or constituency? *ZAS Papers in Linguistics* 43: 9-30.
- Cheng, Lisa & Laura Downing (2009) Where is the topic in Zulu? *The Linguistic Review* 26.2-3: 207-238.

- Creissels, Denise (1996) Conjunctive and disjunctive verb forms in Setswana. *South African Journal of African Languages* 16(4): 109-115.
- Creissels, Denise (2014) Conjoint and disjoint verb forms in Tswana and other Bantu languages. ms.
- Cuenod, R. (1967) *Tsonga-English dictionary*. Sasavona.
- Doke (1997) [1927] *Textbook of Zulu Grammar*. Cape Town: Longman, sixth edition.
- du Plessis, J. A., N.E. Nxumalo & M. Visser (1995) *Tsonga Syntax*. Stellenbosch Communications in African Languages.
- Givón, T. (1972) Studies in ChiBemba and Bantu grammar. *Studies in African Linguistics*, Supplement 5.
- Givón, T. (1975) Focus and the scope of assertion: some Bantu evidence. *Studies in African Linguistics* 6: 185-205.
- Güldemann, Tom (2003) Present progressive vis-à-vis predication focus in Bantu: a verbal category between semantics and pragmatics. *Studies in Language* 27(2): 323-360.
- Halpert, Claire (2016) *Argument Licensing and Agreement*, Oxford University Press.
- Hyman, L. (2013) Disentangling conjoin, disjoint, metatony, tone cases, augments, prosody, and focus in Bantu. UC Berkeley Phonology Lab Annual Report.
- Klein, Udo (2008) Conjunctive and disjunctive verb forms in Siswati. University of Stuttgart. ms.
- Meeussen, A.E. (1959) *Essai de grammaire rundi*. Tervuren: Musée Royal de l'Afrique Centrale.
- Ndayiragije, J. (1999). Checking economy. *Linguistic Inquiry* 30(3), 399-444.
- Sabel, J. and J. Zeller (2006). Wh-question formation in Nguni. In *Selected Proceedings of the 35th Annual Conference on African Linguistics*, ed. J. Mugane et al., 271-283. Somerville, MA: Cascadilla Proceedings Project.
- Sharman, J.C. (1956) The tabulation of tenses in a Bantu language (Bemba: Northern Rhodesia). *Africa* 25: 393-404.
- van der Spuy, Andrew (1993) Dislocated noun phrases in Nguni. *Lingua* 90: 335-355.
- van der Wal, Janneke (2014) Subordinate clauses and exclusive focus in Makhuwa. In: Rik van Gijn, Jeremy Hammond, Dejan Matic, Saskia van Putten and Ana Vilacy Galucio (eds.) *Information structure and reference tracking in complex sentences*. John Benjamins. pp. 45-70.
- Yoneda, Nobuko (2011) Word order in Matengo (N13): Topicality and informational roles, *Lingua* 121.5: 754-771.