Tone cases in Otjiherero: head-complement relations, linear order, and information structure

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Abstract

Otjiherero has a system of tonal nominal inflection, or 'tone cases', through which nouns in different syntactic contexts are distinguished, including the so-called 'complement' and 'default' cases. Complement case marked nouns are found only when immediately following the verb, and only in a subset of tense-aspects, and the set of nouns which can take complement case includes direct and indirect objects, adverbial nouns, raised subjects and inverted subjects. Complement case is thus found on different nouns irrespective of grammatical function, as long as they are placed immediately after the verb. In addition, there are two pieces of evidence to show that the tone case system is (historically) related to information structure. First, complement case is not found in relative clauses or on dislocated nouns, and second, nouns following a verb in the negative factive-habitual tense can take either default or complement case depending on whether the noun is in focus. Based on the function and distribution of complement cases, the paper proposes that there is a close parallel between tone cases and verbal conjoint-disjoint alternations such as found in Tswana. Both systems involve prosodic marking, are only found with some tenses, mark the relation between a verb and an immediately following nominal irrespective of grammatical function, are restricted to structural domains such as clauses, and are related to focus and information structure. While the paper does not present a detailed reconstruction, it proposes that both tone cases and conjoint-disjoint systems are instances of grammaticalised information structure, and that the close similarities between the systems are indicative of a common function, and possibly of common historical origin.

Keywords: Conjoint-disjoint systems, Grammaticalisation, Information structure, Otjiherero, Tonal inflection.

1. Introduction

Recent interest in the expression of information structure within general linguistics has given rise to several new studies of so-called conjoint-disjoint systems in different Bantu languages (van der Spuy 1993, Creissels 1996, Buell 2006, Van der Wal 2009, 2011). In these, parts of verbal inflectional paradigms appear to be related to information structure, for example signalling that a following complement is focused, or that the verb itself receives predicate focus. On the other hand, in languages such as Zulu, the alternation seems to be related to constituency rather than focus, that is, to the presence or absence of a following element within the same constituent. In a different research tradition, several studies have discussed a system of tonal marking of nouns found in several western Bantu languages, sometimes called 'tone cases' or nominal (tonal) inflection (Schadeberg 1986, Blanchon 1998, 1999, Maniacky 2003, Halme 2004, König 2008: 204-224). In these systems, parts of the nominal inflectional paradigm appear to be related to the syntactic function (e.g. as predicative noun) or to the position of the noun in the clause (e.g. immediately following the verb). Based on evidence from nominal inflection in Otjiherero[1], in this paper we will show that the two systems – verbal conjoint-disjoint inflection and nominal tonal 'case' inflection – are in fact quite similar. Apart from the marking of verbs as opposed to nouns, the two systems are broadly similar with respect to the use of prosodic means to express the distinctions, the availability of the marking in parts – but not the whole – of the tense-aspect paradigm, the absence of distinctions in relative clauses, and the relation of the systems to information structure and linear order/constituency. Although we have not enough detailed evidence at present to demonstrate a direct, historical link between the two systems, we show that the similarity of the systems is striking enough to assume that such a link is likely to have existed, and may eventually be found.

The article is organised as follows. In section 2, we give a more precise description of the tone inflection system, and show that nominal inflection is not phonologically determined, while in section 3, we specifically discuss nouns with complement tone pattern following verbs and provide a detailed account of the distribution and function of complement case marked nouns. In section 4, we compare the Otjiherero system with Bantu conjoint-disjoint systems and demonstrate their similarities, and in section 5 we compare Otjiherero to other tone cases in western Bantu languages. The final section 6 provides a short conclusion and implications of our findings.

2. Tonal inflection of nouns

All nouns in Otjiherero undergo tonal inflection exemplified by the example in (1). In (1) subject and object are distinguished – in addition to SVO linear order and the class 2 subject concord **v-** agreeing with the class 2 subject **òvànátjè** – by the

1. Otjiherero (or Herero) is a Western Bantu language classified as R30 in Guthrie's (1967-71) referential classification, spoken by about 160,000 speakers in Namibia and Botswana. Reference material on Otjiherero includes Möhlig and Kavari (2008), Möhlig *et al.* (2002) and Elderkin (2001, 2003), and, especially on phonology, Elderkin (1999) and Möhlig (2003). Unless indicated otherwise, all Otjiherero data in this paper are from the first-named author.

tonal marking of the nouns. The subject **òvànátjè** has what we call a default tone pattern or default case (D in our glosses below), while the object **òtjíhávérò** has a complement tone pattern or complement case (C in the glosses).[2] The difference is expressed by the different tones on the nominal prefixes: the default pattern on **òvànátjè** is shown by the two low tones on the VCV prefix (more precisely, a V pre-prefix, or augment, and a CV nominal prefix), while the complement pattern on **òtjíhávérò** is shown by a low-high tone pattern:[3]

(1)	**òvà-nátjè**	**v-á**	**mún-ú**	**òtjí-hávérò**
	2D-children	SM2-PAST	see-FV	7C-chair
	'The children saw the chair'			

Nominal inflection in Otjiherero is not restricted to the two forms found in (1). Möhlig and Kavari (2008: 92-100) list four inflectional processes in addition to default and complement patterns, namely copulative/predicative nouns, vocative case, connexive and nominal possessive. Of these, the last two involve an additional prefix in addition to prosodic alternation, while vocative case is expressed by the omission of the pre-prefix and copulative/predicative nouns are expressed by prosodic alternation only. This means that four nominal forms can be distinguished through different tonal patterns and/or modification of the VCV-prefix shape: default, complement, copulative/predicative (glossed as P) and vocative (glossed as V). As can be seen from the examples below, the tonal alternations are marked through tonal (and segmental) variation of the VCV-prefix, while the lexical tones on the noun stem **-hávérò** do not change. The example in (2) shows **òtjìhávérò** with default tone LL pattern on the prefix, while (3) shows complement LH pattern. Predicative inflection is illustrated in (4), showing a HL tone pattern. Finally, the vocative pattern is seen in (5), expressed not only by a specific tone pattern, but also by segmental change, as the initial vowel or augment of the VCV-shaped prefix is omitted. The remaining prefix vowel has a low tone. Following Möhlig *et al.* (2002) and Möhlig and Kavari (2008), we assume that the pattern in (2) is the default pattern since the distribution of the remaining patterns can be more or less exhaustively described by the syntactic contexts in which they occur, while the default pattern is found elsewhere, that is, in all remaining contexts.

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2. In the label 'complement case' both terms serve as an approximation. Although the term 'tone case' has been established in the literature to refer to tonal alternations in Western Bantu languages similar to the alternations described for Otjiherero in this paper, the relevant distinctions are quite different from typical case systems in that they are unrelated to grammatical function. Similarly, not all forms showing complement case are in fact complements, as we will show, but the term is used e.g. in Marten (2006) and Möhlig and Kavari (2008) because verbal complements (or more precisely, verbal complements immediately following the verb in the relevant tense) typically show complement case.

3. In this paper, we mark only high (H) and low (L) tone, even though Otjiherero prosody is more complex than indicated by this two-way distinction. See Möhlig and Kavari (2008), Möhlig *et al.* (2002), Elderkin (1999, 2003), and Möhlig (2003) for detailed discussion of Otjiherero prosody. All Otjiherero examples are presented in the official orthography which adopts a disjunctive system of word division. Basic assumptions about Otjiherero structure such as noun class numbering and TAM labels follow Möhlig *et al.* (2002) and Möhlig and Kavari (2008).

(2) **òtjì-hávérò** **tj-á** **ù** *Default*: LL
7D-chair SM7-PAST fall.down
'The chair fell down'

(3) **vé** **múná** **òtjí-hávérò** *Complement*: LH
SM2.HAB see 7C-chair
'They usually see the chair'

(4) **ótjì-hávérò** *Copulative/predicative*: HL
7P-chair
'It's a chair'

(5) **tjì-hávérò** *Vocative*: **Ø**L
7V-chair
'O chair!'

The majority of Otjiherero nouns have a VCV-prefix, composed of the vocalic augment (V-) and a CV nominal prefix, and nominal inflectional information is encoded on this VCV-prefix, as seen above: to the LL default form (2), a H tone is added on the prefix vowel (the second vowel) in the complement pattern (3), and a H tone is added to the augment (the first vowel) in the copulative/predicative pattern (4), while the augment is dropped in the vocative pattern (5). However, a number of nouns have a different prefix shape, for example locative nouns which only take a CV locative prefix (of classes 16-18) without an augment, and nouns of class 5 and 9 which only have a vocalic V-prefix. With these nouns, case marking is expressed in different ways, dependent on the lexical tone pattern of the noun, and a variety of surface forms result. The most irregular nouns are those without either augment or noun class prefix, i.e. those of class 1a, including mostly names, for whom the case inflections appear to be highly lexicalized. In Table 1 we compare four nouns of different prefix shape; **òtjìhávérò** 'chair' with a class 7 VCV-prefix, **òùkàmbé** 'horse' which has a class 14 VV-prefix, **òmàùtá** 'bows', which takes a VCVV-prefix consiting of an augment, a class 6 prefix and a class 19 prefix, and, finally, the class 5 noun **èrúngá** 'thief' which only takes the augment **è-** (for a fuller discussion, see Möhlig and Kavari 2008).

	VCV-Prefix	*VV-Prefix*	*VCV(C)V-Prefix*	*V-Prefix*
	'chair' (7)	'horses' (14)	'bows' (6+19)	'thief' (5)
Default	**ò-tjì-hávérò**	**ò-ù-kàmbé**	**ò-mà-ù-tá**	**è-rúngá**
Complement	**ò-tjí-hávérò**	**ò-ú-kàmbé**	**ò-má-ù-tá**	**é-rúngá**
Presentative	**ó-tjì-hávérò**	**ó-ù-kàmbé**	**ó-mà-ù-tá**	**é-rúngá**
Vocative	**tjì-hávérò**	**ú-kàmbé**	**mà-ù-tá**	**rúngá**

Table 1: Tone case marking with different prefix shapes

However, all cases of tonal surface variation can be seen as exceptions to otherwise regular paradigms, resulting from different requirements of grammatical tonal patterns, lexical tone and syllable structure (see Möhlig and Kavari 2008 for a detailed discussion of different surface forms).

For the aim of our discussion – to show the similarity between tonal inflection and verbal conjoint-disjoint systems – we will draw on evidence from the distribution and function of nouns with complement pattern in contrast to default inflection, and so will not discuss the copulative/predicative or vocative pattern in any more detail in what follows.

3. Complement pattern

The distribution of nouns with complement inflection as in (3), above, depends on the tense, aspect or mood of the preceding verb, the linear position of the noun as immediately following the verb, and the syntactic configuration – the verb and the noun need to be in the same clause. In one specific tense – the negative factive-habitual – complement inflection is related to focus. On the other hand, nominal inflection is not related to the grammatical function, thematic role or semantic contribution of the complement inflected noun, which may be a benefactive or theme object, a derived object, a raised subject, an adverbially used or locative noun, or an inverted, post-verbal subject. However, assignment of complement inflection is blocked in two contexts: in dislocation contexts and in relative clauses. In this section we discuss the distribution of nouns with complement tone pattern in some detail, and provide examples of the different relevant structures.

3.1. Complement tone pattern as morphological inflection

Before turning to the use of nouns with complement tone pattern, we first show that the tone pattern is grammatically rather than phonologically determined. In particular, we will show that the tone pattern does not result from H tone spreading from the preceding verb, which is otherwise widely observed in Bantu languages. Under this hypothesis, the LL default pattern would be the lexical tone pattern of the prefix, and in the complement pattern, since the relevant noun is always preceded by a verb, high tone spread would be the reason for the LH pattern of this case (even though the spreading would have to 'skip' the low tone of the augment). However, we propose that the complement pattern is a grammatical tone pattern, which assigns a LH pattern to the VCV prefix (with different strategies for dealing with nouns without VCV-prefix), to encode complement inflectional information. The main evidence for this view comes from the fact that the LH pattern marking complement case is observed in all relevant contexts, irrespective of the different tonal structure of any preceding verb. Otjiherero verbs are typically formed from a CVC root to which a final vowel is attached, resulting in a CVCV verbal stem. Verbal stems have one of three lexical tone patterns, HH, LL and HL (see Köhler 1958), as illustrated by the verbs **-múná** 'see' (HH), **-tònà** 'hit/beat' (LL), and **-rísà** 'feed' (HL), a grammaticalised causative form of **-ryá** 'eat'. In the factive-habitual tense, these lexical patterns are maintained, and, in the examples below, the forms

are prefixed with the low-toned 1st person singular subject concord **mbì-**. As the examples show, the complement case of **òzòngòmbè** 'cattle' is LH on the prefix after all three verbs:

(6) **mbì** **mún-á** **òzón-gòmbè**
SM1SG.HAB see-FV 10C-cattle
'I see cattle'

(7) **mbì** **tòn-à** **òzón-gòmbè**
SM1SG.HAB beat-FV 10C-cattle
'I beat cattle'

(8) **mbì** **rís-à** **òzón-gòmbè**
SM1SG.HAB feed-FV 10C-cattle
'I feed cattle'

Similarly, the lexical tone of TAM suffixes has no influence on the form of the complement case. The TAM suffix of the remote past imperfective negative tense is the lexically high toned **-éré**, while the suffix of the recent past perfective tense is the lexically low toned **-èrè**, yet after both suffixes, the complement case is LH:

(9) **kà-tú** **hòng-éré** **òvá-nátjè**
NEG-SM1PL teach-PERF 2C-children
'We didn't teach children (long ago)'

(10) **tw-á** **hòng-èrè** **òvá-nátjè**
SM1PL-PAST teach-PERF 2C-children
'We taught children (last week)'

These examples show that the complement pattern is not the result of phonological processes such as high-tone spreading from a preceding word, since there is no (obvious) source H tone for the spreading process. The complement noun forms thus result from a regular morphological, inflectional process which assigns a LH tone pattern to nominal prefixes in the relevant grammatical environment.[4]

As noted above, the surface tone pattern of tone cases varies depending on the shape of the prefix and the lexical tone of the nominal stem. In Table 2, we present an overview of complement case noun forms with differing prefix shape and lexical tone (see Möhlig and Kavari 2008: 94-96).

4. A more complex analysis of the LH tone pattern, involving in part a phonological explanation, has been proposed by Elderkin (1999, 2003). We will discuss this analysis in more detail below.

Lexical (default) form		*Tone pattern*	*Complement form*	*Tone pattern*
òzòn-gòmbè	'cows'	LL-LL	**òzón-gòmbè**	LH-LL
òmù-tímá	'heart'	LL-HH	**òmú-tímá**	LH-HH
òtjì-tíhà	'table'	LL-HL	**òtjí-tíhà**	LH-HL
òmù-ròngá	'river'	LL-LH	**òmú-ròngá**	LH-LH
òn-gòmbè	'cow'	L-LL	**òn-gómbè**	L-HL
è-yúrú	'nose'	L-HH	**é-yúrú**	H-HH
ò-mbàpírà	'paper'	L-LHL	**ò-mbápírà**	L-HHL
Exception class 1a/2a (kinship terms)				
màmá	'my mother'	LH	**màmá**	LH
hóngázé	'paternal aunt'	HHH	**hóngázé**	HHH
òò-màmà	'my mothers'	LL-LL	**òó-màmà**	LH-LL
Exception class 16-18 (locatives)				
k-òn-djúwó	'at the house'	L-HH	**k-òn-djúwó**	L-HH
m-òn-gàndà	'in the home'	L-LL	**m-òn-gándà**	L-HL

Table 2: Complement case forms of different lexical forms

Variation in the surface manifestation of complement cases as illustrated in Table 2 has no effect on the distribution and function of nouns in complement inflection, and in the following discussion, we will illustrate these aspects by using predominantly nouns with canonical VCV-shaped prefixes.

3.2. Default and complement inflection in the TAM paradigm

As the examples discussed so far have shown, the complement tone pattern is found on nouns which immediately follow the verb. However, whether the complement pattern is used is determined by the particular tense of the verb. After verbs in some tenses, the noun shows complement inflection, while after verbs in other tenses, the noun shows default inflection. For example, when a noun follows a verb in the positive factive-habitual tense, it will be marked by the complement case (11). On the other hand, when it follows, for example, a verb in the present progressive, it will never be marked by the complement case, but will appear in the default case (12). The assignment of the appropriate tone pattern to the following noun is fully deterministic, and the use of the incorrect tone pattern leads to ungrammaticality:

(11) **vé** **mún-á** **òví-kùryá** (***òvì-kùryá**)
SM2.HAB see-FV 8C-food 8D-food
'They usually see food'

(12) **má-vé** **mún-ú** **òvì-kùryá** (***òví-kùryá**)
PRES-SM2 see-FV 8D-food 8C-food
'They are seeing food'

The strict distribution holds for all tenses, except for the negative factive-habitual tense, where either complement or default pattern is possible (a case to which we will return below). On the whole, tenses inducing the complement pattern of a following noun are past tenses, while those inducing the default pattern are present and future tenses, as well as subjunctive and optative moods. The relevant TAM distinctions are illustrated in Table 3 below (adapted from Möhlig *et al.* 2002 and Möhlig and Kavari 2008: 179-203),[5] where tenses requiring complement case on following nouns are labelled as 'C', and those requiring default case as 'D'. A summary of the sets of tenses taking different tonal inflections is provided in the following Table 4. From the examples in Table 3, it can be seen that present and future tenses do not trigger complement inflection, while all affirmative past tenses do. However, of the negative past tenses, two trigger default inflection, and two trigger complement inflection. The subsecutive/narrative tense is also divided, with the positive triggering complement inflection, and the negative default inflection. All moods (imperative, optative and subjunctive) trigger default inflection in both positive and negative polarity. The factive-habitual negative tense is the only tense which licenses following nouns with either tonal pattern (there are also tonal alternations of the verb which we discuss briefly in section 3.5).

Factive-Habitual			
Positive	**mbì múná òzóngòmbè**	'I see cattle'	C
Negative	**kátù hóngó òvánátjè** or **kátù hóngò òvànátjè**	'We don't teach children'	C or D
Present, Near Future			
Positive	**mátú ùngúrá òvìùngùrà**	'We are not working (i.e. doing) the work'	D
Negative	**kátù nàkúmúná òvàéndá**	'We don't teach children'	D
Indefinite Future			
Positive	**máàtú kóhó òzòhémà**	'We will wash shirts'	D
Negative	**kàmáàtú múnú òvàéndá**	'We will not see guests'	D

5. We have omitted two complex tenses listed in Möhlig and Kavari (2008), simultaneous and pluperfect, formed by a prefix **à-** plus the present form and the recent past imperfective respecitvely, since they behave with respect to the form of their complements exactly like the main tenses on which they are built. However, we have included the third complex tense, subsecutive, as this tense has its own pattern of complement inflection.

Recent Past Imperfective			
Positive	**mbá múnú òzóngòmbè**	'I saw cattle'	C
Negative	**hì múnìnè òzòngòmbè**	'I didn't see cattle (recently)'	D
Remote Past Imperfective			
Positive	**mbà múnà òzóngòmbè**	'I saw cattle (long ago)'	C
Negative	**hì múníné òzóngòmbè**	'I didn't see cattle (long ago)'	C
Recent Past Perfective			
Positive	**mbá múnìnè òzóngòmbè**	'I saw cattle (last week)'	C
Negative	**hìmbá múnìnè òzòngòmbè**	'I didn't see cattle (last week)'	D
Remote Past Perfective			
Positive	**mbá múníné òzóngòmbè**	'I saw cattle (long ago)'	C
Negative	**hìmbá múníné òzóngòmbè**	'I didn't see cattle (long ago)'	C
Subsecutive (Narrative)			
Positive	**… náí tjàngá òmbápírà**	'... and then he wrote a letter'	C
Negative	**… náí há tjàngà òmbàpírà**	'... and then he did not write a letter'	D
Imperative			
Positive	**hòngá òvànátjè**	'Teach children!'	D
Negative	**ó hòngò òvànátjè**	'Don't teach the children'	D
Optative			
Positive	**ngàtú úngùrè òvìùngùrà**	'Let us do the work'	D
Negative	**átú ùngúrá òvìùngùrà**	'Let us not do the work'	D
Subjunctive			
Positive	**mbí hóngè òvànátjè**	'so that I should teach children'	D
Negative	**è há hòngó òvànátjè**	'so that I should not teach children'	D

Table 3: Overview of Otjiherero TAM forms and the inflection of their complements

The following Table 4 provides a summary of the tenses involved in the different inflectional patterns, divided into those tenses which trigger complement case inflection on following nouns, those which trigger default case inflection, and finally the singleton set of the negative-factual habitual tense which allows either complement or default inflection:

Tenses which trigger complement case inflection on post-verbal complements	
Factive-Habitual Positive	Recent Past Perfective Positive
Recent Past Imperfective Positive	Remote Past Perfective Positive
Remote Past Imperfective Positive	Remote Past Perfective Negative
Remote Past Imperfective Negative	Subsecutive (Narrative) Positive
Tenses which trigger default case inflection on post-verbal complements	
Present, Near Future Positive	Imperative Positive
Present, Near Future Negative	Imperative Negative
Indefinite Future Positive	Optative Positive
Indefinite Future Negative	Optative Negative
Recent Past Imperfective Negative	Subjunctive Positive
Recent Past Perfective Negative	Subjunctive Negative
Subsecutive (Narrative) Negative	
Tense which triggers either complement or default case inflection on post-verbal complements	
Factive-Habitual Negative	

Table 4: Summary of tenses taking complement and default case complements

Möhlig and Kavari (2008) note that complement inflection is related to past tenses – although they do not discuss why this should be – and that the factive-habitual tense patterns with past tenses as its temporal reference includes past reference: its meaning is timeless predication of a state rather than a bounded activity, and this extends to the past as well as to present. An alternative analysis is proposed in Elderkin (1999, 2003) where the absence of complement inflection after verbs in the future tenses is explained with reference to the different morphological structure of the two future tenses: they are more recently grammaticalised, built with the TAM prefixes **má-/máà-**, which, uncharacteristically for the rest of the Otjiherero TAM paradigm – and Bantu TAM paradigms more widely – precede, rather than follow the subject marker. Elderkin argues that in terms of tonal domains, the future forms still behave as two 'words', which prevents the assignment of a H tone on the complement (in Elderkin's analysis, the LH tone pattern of the complement inflection is explained as raising of the pitch of the complement after non-future verbs). However, both analyses do not fully address the distribution of default and complement inflections after negative verbs, where there is a less clear correlation between inflections and past/future TAM forms, and the apparent optionality of inflection after the negative factive-habitual.

As noted above, the positive factive-habitual triggers complement inflection, while the negative factive-habitual can be followed by a default noun or a complement noun. The difference between the two forms is related to focus. The sentence with the complement inflected object in (13) implies that the speakers teach or may teach other people, while the example in (14), with a default case object, does not carry this implication, and asserts that the speakers do not teach, children or anyone else. Complement inflection here thus carries exclusive term focus – it evokes and excludes alternatives (Krifka 2007) – while default inflection does not. Similarly, (15) negates the smoking of fresh tobacco specifically, but leaves open

the possibility that the speaker would smoke other kinds of tobacco, while (16) is a categorical statement that the speaker does not smoke (examples adapted from Möhlig and Kavari 2008: 230):

(13) **ká-tù** **hòng-à** **òvá-nátjè**
NEG-SM1PL teach-FV 2C-children
'We never taught *children* (but possibly other people)'

(14) **ká-tù** **hòng-à** **òvà-nátjè**
NEG-SM1PL teach-FV 2D-children
'We professionally do not teach children (nor any other people)'

(15) **hí** **nú** **òmá-káyá** **òmà-pé**
NEG.SM1SG drink 6C-tobacco 6-new
'I do not smoke *fresh tobacco*' (lit. drink fresh tobacco)

(16) **hí** **nú** **òmà-kàyá**
NEG.SM1SG drink 6D-tobacco
'I do not smoke/I never smoke' (lit. drink tobacco)

The negative factive-habitual is the only instance in the system of Otjiherero nominal inflection which is related to focus. In all other instances, the distribution of complement inflection is predictable from the TAM of the predicate and the syntactic position of the noun, which has to follow the verb immediately. Like conjoint-disjoint systems, the nominal inflection system of Otjiherero is thus sensitive to TAM distinctions, and it is related to focus, as well as – as we show in the next section – to the immediate adjacency between verb and the following noun. In section 4, we will further develop the parallel between tone cases and conjoint-disjoint alternations, and in this context will briefly return to the distribution of tenses in which complement case is found.

3.3. Immediate after verb position

As noted above, complement inflection appears on any noun which immediately follows a verb in the relevant tense. It is not related to a specific grammatical function or thematic role of the noun, and so is found on complements bearing theme or benefactive roles, on infinitival complements, on objects of causative verbs, raised subjects, on adverbially used nouns and locatives, and on inverted subjects – provided that they appear linearly immediately after the verb in the appropriate tense.

3.3.1. Theme and benefactive objects

In the examples discussed so far, complement inflection was found on theme objects of transitive verbs (e.g. (13), above). Like with transitive verbs, the object immediately following a di-transitive verb also shows complement inflection:

(17) **vé** **térék-èr-à** **òvá-éndà** **òn-yàmà**
SM2.HAB cook-APPL-FV 2C-guests 9D-meat
'They habitually cook meat for the guests'

The example shows that complement inflection is found on the noun immediately following the di-transitive (applicative) verb **-térékèrà** 'cook for'. Since only one noun can be in immediately post-verbal position, only one object in (17) – the first one – has complement inflection, the linearly second object has default inflection. Other logical possibilities of tone cases on objects are ungrammatical, as shown in (18) with two complement case marked nouns and (19) with two default case marked nouns:

(18) ***vé** **térék-èr-à** **òvá-éndà** **òn-yámà**
SM2.HAB cook-APPL-FV 2C-guests 9C-meat
Intended: 'They habitually cook meat for the guests'

(19) ***vé** **térék-èr-à** **òvà-éndá** **òn-yàmà**
SM2.HAB cook-APPL-FV 2D-guests 9D-meat
Intended: 'They habitually cook meat for the guests'

However, if the benefactive object is expressed by an object concord, leaving the theme object in immediate post-verbal position, it is the theme object which shows complement inflection, as can be seen from **ònyámà** 'meat' in (20):

(20) **vé** **vé** **térék-èr-à** **òn-yámà**
SM2.HAB OM2 cook-APPL-FV 9C-meat
'They habitually cook meat for them'

The grammatical function of the complement inflected noun, that is, whether it is a direct or an indirect object (cf. 17 and 20), its thematic role – e.g. benefactive in (17) and theme in (20) – or the presence of an object concord in (20) do not play a role for the assignment of complement inflection. All that matters is that the noun is the linearly first complement of the verb.

The same effect is seen in passives of di-transitives. Otjiherero allows the passivisation of either object of a di-transitive construction, and in both cases the remaining post-verbal object has complement inflection: the remaining theme object **òmbápírà** in (22) and the remaining benefactive object **òmítìrì** in (23).

(21) **òvà-nátjè** **v-á** **tjàng-ér-é** **ò-mítìrì** **òm-bàpírà**
2D-children SM2-PAST write-APPL-FV 9C-teacher 9D-letter
'The children wrote the teacher a letter'

(22) **ò-mìtìrì** **y-á** **tjàng-ér-w-á** **òm-bápírà**
9D-teacher SM9-PAST write-APPL-PASS-FV 9C-letter
'The teacher was written a letter'

(23) **òm-bàpírà** **y-á** **tjàng-ér-w-á** **ò-míṯìrì**
9D-letter SM9-PAST write-APPL-PASS-FV 9C-teacher
'The letter was written for/to the teacher'

The final token of evidence for the relation between complement inflection of objects and their linear position comes from pronominal object clitics. As already seen above, if the benefactive object of an applicative verb is expressed by an object concord, the remaining overt theme object is in complement inflection, as **òmbápírà** 'letter' in (24). If, on the other hand, the benefactive object is expressed by a post-verbal object clitic, the same remaining theme object is in default inflection (25).

(24) **òvà-nátjè** **vè** **mù** **tjáng-èr-à** **òm-bápírà**
2D-children SM2.HAB OM1 write-APPL-FV 9C-letter
'The children write him a letter'

(25) **òvà-nátjè** **vé** **tjáng-èr-à** **yé** **òm-bàpírà**
2D-children SM2.HAB write-APPL-FV PRON1 9D-letter
'The children write him a letter'

Since the grammatical and thematic roles of the overt noun do not differ in the two examples, and since in terms of grammatical function and semantic meaning, the object concord and the object clitic are the same, the examples further illustrate that the distribution of complement inflection depends on the position of the noun immediately after the verb.

3.3.2. Infinitival complements, derived objects and raised subjects

In addition to the examples seen so far, where complement inflection was found on (direct or indirect) objects, complement inflection is also found on infinitival objects and on what we call derived objects, that is objects of causative verbs and subjects of subordinated object clauses, provided that they immediately follow a verb in the right tense.

Infinitives in Otjiherero, as in many other Bantu languages, are class 15 nouns and have a nominal class prefix **òkù-**. Infinitives/class 15 nouns have both verbal and nominal properties, and can function as subject and objects (see Möhlig *et al.* 2002: 31, Möhlig and Kavari 2008: 88/89). When infinitives are used as objects, they show nominal inflection like other nouns, and so have complement inflection when immediately following a verb in the appropriate tense. Example (26) shows the infinitive **òkùrárà** 'to sleep' as subject, with default inflection, while in (27) **òkúmúná** 'to see' is the object of **-vàngà** 'want' and shows complement inflection:

(26) **òkù-rárà** **má-kú** **ndjí** **hìhám-ìs-à** **òtjì-ùrú**
15D-sleep PRES-SM15 OM1SG pain-CAUS-FV 7D-head
'Sleeping gives me a headache'

(27) **mbì** **vàngà** **òkú-múná**
SM1SG.HAB want 15C-see
'I want to see'

Complement inflection is also found on objects of causative verbs. In (28), **òvánátjè** 'children' shows complement inflection after the causative verb **-tjàngìsà** 'make write':

(28) **ò-mìṯìrì** **ì** **tjàng-ìs-à** **òvá-nátjè** **òzòm-bàpírà**
9D-teacher SM9.HAB write-CAUS-FV 2C-children 10D-letter
'The teacher makes the children write letters'

Finally, complement inflection is also found within complex sentences, when the subject of the lower clause follows a matrix verb in the relevant tense directly. The relevant data involve an optional subordination construction in which the lower clause subject is raised across the complementiser. In canonical sentences with a subordinate clause, the verb is followed by the complementiser **kùtjà**, a grammaticalised form of the verb **-tjà** 'say', and so the subject of the subordinate clause is seen in default case: **òvànátjè** 'children' in (29) and **òvàéndá** 'guests' in (30):[6]

(29) **ò-mìṯìrì** **í** **váng-à** **kùtjá** **òvà-nátjè** **vé** **tjáng-é**
9D-teacher SM9.HAB want-FV that 2D-children SM2 write-SBV
òm-bàpírà
10D-letter
'The teacher wants that the children should write a letter'

(30) **mb-á** **tjíw-à** **kùtjá** **òvà-éndá** **v-á** **rì** **m-òn-gándà**
SM1SG-PAST know-FV that 2D-guests SM2-PAST be 18-9C-home
'I knew that the guests were in the house'

However, there is an alternative construction in Otjiherero, in which the subject of the subordinate clause can be placed before the complementiser, resulting in emphasis on the lower subject, which assumes object properties with respect to the matrix clause and follows the verb immediately. It thus has complement case:[7]

6. The complementiser **kùtjà**, as a nominal-like infinitive, also appears in the complement case, as the low toned verb stem becomes H after the L prefix.

7. These constructions look odd as the lower subject seems to come before the complementizer **kùtjà**. One way of thinking about these examples is to assume that the relevant noun phrase has (some) object properties with respect to the matrix clause, and that the lower subject is grammatically expressed by the subject concord, corresponding to something like 'The teacher wants the children, (so) that they should write a letter'.

(31) **ò-mi̱ti̱rì** **í** **váng-à** **òvá-nátjè** **kùtjà** **vé** **tjáng-é**
9D-teacher SM9.HAB want-FV 2C-children that SM2 write-SBV
òm-bàpírà
10D-letter
'The teacher wants that the children should write a letter'

(32) **mb-á** **tjíw-à** **òvá-éndà** **kùtjà** **v-á** **rì**
SM1SG-HAB know-FV 2C-guests that SM2-HAB be
mò-n-gándà
18-9C-home
'I knew that the guests were in the house'

In these examples, the noun in complement inflection is the logical subject of the subordinate clause, but assumes object properties with respect to the matrix verb: an apparent instance of subject-to-object raising, but without the lower clause verb being infinitival. In these examples, the complement inflected noun could be analysed as the object of the matrix verb, and thus receiving complement case due to its structural role or grammatical function. However, evidence from object marking shows that this analysis cannot be extended to all relevant examples, as we will show next.

In all cases of raised subjects discussed so far the raised subject could have been replaced by an object concord, as shown for the last example in (33).

(33) **mb-é** **vé** **tjíw-à** **kùtjá** **v-á** **rì** **mò-n-gándà**
SM1SG-HAB OM2 know-FV that SM2-HAB be 18-9C-home
'I knew that they were in the house'

However, this is not always the case, as complement inflection is also found on nouns which cannot be replaced by an object concord. The predicate **-múníká** is similar to the verbs in the examples above in that it can be followed either by the complementiser **kùtjà** or by the subject of the lower clause, i.e. **òváéndá** in (35). However, although **òváéndá** in (35) appears in complement inflection, (36) shows that it cannot be analysed as primary object of **-múníká** as it cannot be replaced by an object concord:[8]

(34) **p-á** **múník-á** **kùtjá** **òvà-éndá** **vè** **rí**
SM16-HAB be.seen-FV that 2D-guests SM2.HAB be
m-òn-gándà
18-9C-home
'It was seen that the guests are at home/in the house'

8. There is some discussion about the grammatical status of different objects in Bantu (e.g. Hyman and Duranti 1982, Bresnan and Moshi 1990, Baker 2008, Riedel 2009). In the present context, we refer as 'primary object' to those complements which can be replaced by an object concord.

(35) **p-á** **múník-á** **òvá-éndá** **kùtjà** **vè** **rí** **m-òn-gándà**
SM16-PAST be.seen-FV 2C-guests that SM2.HAB be 18-9C-home
'It was seen that the guests are at home/in the house'

(36) ***p-é** **vé** **múník-á** **kùtjá** **vè** **rí** **m-òn-gándà**
SM16-PAST OM2 be.seen-FV that SM2.HAB be 18-9C-home
Intended: 'It was seen that they are at home'

The fact the object marking in (36) is not possible is (presumably) related to the predicate. The verb **-múníká** is (historically) derived from **-múná** 'see' and the neutro-passive extension **-ik**, thus resulting in an intransitive predicate, and so not licensing a direct object. But this means that complement inflection in (35) cannot be analysed as resulting from primary objecthood of **òváéndá** 'guests', as was possible in (32). Rather, complement inflection is found in (35) because the noun follows the predicate immediately, in terms of linear order, and not because of its grammatical function or structural configuration.

The examples in this section thus show that complement inflection is sensitive to linear order and the tense of the predicate, but not to the thematic role of the NP, nor to its structural role as grammatical (primary) object.

3.3.3. Adverbially used nouns and locatives

The conclusion of the previous section, that complement inflection is independent of objecthood, is further confirmed by evidence from adverbially used nouns. In Otjiherero, a number of nouns can be used adverbially, for example **òngùróvà** 'evening' or **òmùhùká** 'morning'. Although these nouns are not primary objects of the verb, they receive complement case when following the verb immediately. When adverbially used nouns precede the verb, or follow an object, they receive default inflection (37, 38) as expected. However, in (39) **òngúróvà** 'evening' follows the verb directly, and, because of this, it surfaces with complement inflection, as do **òmúhùká** 'morning' and **érèró** 'yesterday' in (40) and (41), for the same reason:

(37) **mbì** **ryá** **òn-yámà** **òn-gùróvà**
SM1SG.HAB eat 9C-meat 9D-evening
'I usually eat meat in the evening'

(38) **òn-gùróvà** **mbì** **ryá** **òn-yámà**
9D-evening SM1SG.HAB eat 9C-meat
'In the evening I usually eat meat'

(39) **mbì** **ryá** **òn-gúróvà**
SM1SG.HAB eat 9C-evening
'I usually eat in the evening'

(40) **mbì** **ryá** **ò-múhùká**
SM1SG.HAB eat 9C-morning
'I usually eat in the morning'

(41) **Kàtènáà** **w-è** **y-èrè** **é-rèró**
1.Katenaa SM1-PAST come-PERF 5C-yesterday
'Katenaa came yesterday'

In terms of their semantic function and thematic roles, **òngùróvà, òmùhùká** and **érèró** are not objects of the verb, and cannot be replaced by an object concord, and so the examples confirm that the set of nouns taking complement inflection includes, but is wider than, primary objects. As would be expected from this, locative nouns, which typically are more object-like than adverbially used nouns, can take complement inflection as well. In (42) the locative **kòngándà** 'to/at the house/home' shows complement inflection, while **èrèrò** 'yesterday', now no longer following the verb immediately, shows default inflection:

(42) **Kàtènáà** **w-è** **y-èrè** **k-òn-gándà** **è-rèrò**
1.Katenaa SM1-PAST come-PERF 18-9C-house 5D-yesterday
'Katenaa came home yesterday'

3.3.4. Post-verbal subjects

The final environment where complement inflected nouns follow a verb is the case of post-verbal logical subjects in locative inversion structures, where a locative complement of a non-inverted clause such as (43) becomes the grammatical subject of a corresponding locative inversion structure as in (44) (see Marten 2006). As the contrast between (43) and (44) shows, the logical subject **òvàndù** 'people' has default inflection when used as pre-verbal grammatical subject (43), but complement inflection in post-verbal position (44), while, conversely, the locative has complement inflection in (43), and default inflection in (44):

(43) **òvà-ndù** **v-á** **hìt-í** **m-òn-gándà**
2D-people SM2-PAST enter-FV 18-9C-house
'People entered into the house'

(44) **m-òn-gàndà** **mw-á** **hìt-í** **òvá-ndù**
18-9D-house SM18-PAST enter-FV 2C-people
'Into the house entered people'

The post-verbal noun in locative inversion constructions partly retains its status as subject, as it cannot be replaced by an object concord (45), although it can be replaced by a post-verbal (object) clitic (46):

(45) ***m-òn-gàndà** **mw-é** **vè** **hìt-í**
18-9C-house SM18-PAST OM2 enter-FV
Intended: 'Into the house entered they'

(46) **m-òn-gàndà** **mw-á** **hìt-í** **vò**
18-9C-house SM18-PAST enter-FV PRON2
'Into the house entered they'

Furthermore, while the locative noun can be omitted, as shown in (47), the post-verbal logical subject is mandatory, as the ungrammaticality of (48) demonstrates:

(47) **mw-á** **hìt-í** **òvá-ndù**
SM18-PAST enter-FV 2C-people
'There entered people'

(48) ***m-òn-gàndà** **mw-á** **hìt-í**
18-9D-house SM18-PAST enter-FV
Intended: 'Into the house entered'

It could be argued that the logical subject attracts complement inflection because it originates in an underlying object position. For example, based on evidence from Chichewa, Bresnan and Kanerva (1989) argue that locative inversion is only possible with unaccusative predicates, that is, intransitives with only a theme argument, and that locative inversion is not possible with agent arguments, so that the post-verbal NP originates in object position, and that the locative agreement fulfils grammatical requirements for a subject, similar to English **there** insertion (see also Demuth and Mmusi 1997). However, Otjiherero differs from Chichewa in that locative inversion is not restricted to unaccusative predicates, but is also available with predicates which require both an agent and a theme argument:

(49) **p-òn-gàndà** **pé** **kávàrùr-ìr-à** **òvá-nátjè** **òvà-éndà**
16-9D-house SM16.HAB visit-APPL-FV 2C-children 2D-guests
'The children visit the guests at home'

The example shows that locative inversion is possible with a transitive predicate such as **-kávàrùrìrà** 'visit'.[9] Here the immediate post-verbal noun expresses an agent role and introduces the logical subject of the proposition, and could thus not have originated in an underlying object position. The data thus show that post-verbal, inverted subjects need to be included in the structural description of the distribution of complement inflection, together with theme, benefactive, and infinitival complements, raised subjects, adverbial nouns and locatives.

3.4. Blocking of complement inflection: Dislocation and relative clauses

So far we have shown that any noun immediately following a verb in the right tense shows complement inflection irrespective of its thematic or grammatical status. The distribution of complement inflection is thus related to the TAM information of the verb, and to linear order – complement inflection requiring the noun to linearly follow the verb immediately. However, there are exceptions to this generalization: dislocated nouns and nouns in relative clauses do not show complement inflection.

9. As the glosses indicate, **kávàrùrìrà** in (49) has an applicative morpheme, which we assume is used here to introduce the locative phrase. However, the use of applicative forms in locative inversion is more complex than can be discussed on the present occasion.

Subject and object markers in Otjiherero behave like incorporated pronouns since they cannot be used in conjunction with an overt co-referring noun in the same clause, and any such nouns can thus be analysed as dislocated topics (Marten 2011). Topics agreeing with an object marker can appear before or after the verb, and the sequence between the dislocated noun and the remaining clause is typically marked by an intonation break, indicated here by a comma:[10]

(50) **òvà-nátjè,** **mb-é** **vé** **mún-ù**
2D-children SM1SG-PAST OM2 see-FV
'The children, I saw them'

(51) **mb-é** **vé** **mún-ù,** **òvà-nátjè**
SM1SG-PAST OM2 see-FV, 2D-children
'I saw them, the children'

In both (50) and (51), **òvànátjè** 'children' appears in default inflection. While this is unsurprising in (50), where the noun precedes the verb, in (51), it follows the verb and thus might be expected to show complement inflection. The absence of complement inflection indicates that the relevant noun not only has to follow the verb immediately, but also has to be in the same syntactic domain – the verb phrase or the clause, depending on the analysis of the elements which do take complement inflection. Given that this set includes temporal adverbs, raised and inverted subjects and derived objects, the clause seems to be the appropriate domain. Elements outside of the clause, even if they are following the verb linearly, thus receive default inflection. Complement inflection is thus sensitive to tense, linear order and syntactic configuration – immediately after the verb within the clause. Further evidence for this characterisation comes from dislocated subjects, which like dislocated objects have default inflection. In contrast to inverted subjects with locative subject agreement, discussed above, right-dislocated subjects with agreeing subject marking do not show complement inflection. As with dislocated objects, the post-posed subject is typically marked by an intonation break between verb and noun (52), although this is not always necessary, as in (53) where the presence of an object marker reduces any potential ambiguity of the post-verbal noun phrase between object and post-verbal topic, and so prosodic marking seems less important.

(52) **v-á** **hìt-í,** **òvà-ndù**
SM2-PAST enter-FV 2D-people
'They entered, the people'

(53) **vé** **zè** **rís-à,** **òvà-éndá**
SM2.HAB OM10 feed-FV 2D-guests
'They habitually feed them (e.g. cows), the visitors'

10. In (50) and (51) the past tense marker **-á-** appears in the variant form **-é-** which is used before object concords.

A second context where a relevant verb fails to trigger complement inflection is in the context of relative clauses. The contrast between (54) and (55) shows the object **òmbàpírà** 'letter' with complement inflection (54) and default inflection (55). The difference results from the fact that (54) is a main clause, and since the immediately preceding verb is in the recent past perfective, the object receives complement inflection. In contrast, (55) is a cleft sentence, with the head of the cleft, **érérò** 'yesterday', in predicative/copulative inflection and the relative clause introduced by the class 5 relative marker **òndí**. In this context, assignment of complement inflection is blocked, and the noun appears in default inflection, even though the verb is in the recent past perfective as in the non-clefted sentence in (54). The same effect occurs with objects in subject relatives (56), inverted subjects in object relatives (57), and adverbial nouns (58), showing that the absence of complement inflection in relative clauses is consistent across different noun functions.

(54) **è-rérò** **mb-á** **mún-íné** **òm-bápírà**
5D-yesterday SM1SG-PAST see-PERF 9C-letter
'Yesterday I received a letter' (Möhlig and Kavari 2008: 235, adapted)

(55) **é-rérò** **òndí** **mb-á** **mún-íné** **òm-bàpírà**
5P-yesterday REL5 SM1SG-PAST see-PERF 9D-letter
'It was yesterday when I received a letter'
(Möhlig and Kavari 2008: 235, adapted)

(56) **òvà-nátjè** **mbà** **vàk-à** **òtjì-hávérò** **v-à** **tùpùk-à**
2D-children REL2.PAST steal-FV 7D-chair SM2-PAST run-FV
'The children who stole the chair ran away'

(57) **òzòn-gòmbè** **nd̲à** **y-á** **mún-ú** **ò-mìt̲ìrì** **ó-zèngì**
10D-cows REL10. PAST SM1-PAST see-FV 9D-teacher 9P-many
'The cattle which the teacher saw are many'

(58) **mé** **páh-á** **òn-gòmbè** **ndjá** **pándjár-ere**
SM1SG.PRES look-FV 9D-cow REL9.PAST get.lost-PERF
è-réró
5D-yesterday
'I am looking for a cow which got lost yesterday'
(Möhlig and Kavari 2008: 260, adapted)

3.5. Summary

In this section we have provided a detailed discussion of complement inflection of Otjiherero nouns. We have proposed that complement case is not a phonological process triggered by, for example, high tone spread, but that it is a grammatically determined, inflectional pattern. The assignment of complement case to a noun depends on three factors.

1) Complement case is only found with particular tenses. These are essentially past tenses, but the set also includes the factive-habitual positive tense. Furthermore, there are a few past tenses which trigger complement case in the positive, but default case in the negative. The factive-habitual negative tense licenses complements with either complement inflection or default inflection, and the choice is related to focus.
2) Complement case is only assigned to nouns which follow the verb (in the appropriate tense) immediately. We have shown that assignment of complement case does not depend on the grammatical function or structural relation of the noun to the verb, nor on the thematic role of the noun. The set of complement inflected nouns includes direct and indirect objects, infinitival complements, raised and inverted subjects, and adverbially used nouns. This set is difficult to characterise grammatically, and so we have proposed that the key condition for the assignment of complement case is immediate adjacency to the verb, and so related to linear order rather than grammatical function.
3) However, the verb and the following noun have to be in the same clause. This third condition shows that complement case is not entirely independent of structural relations, as complement case is not assigned to dislocated nouns or nouns in relative clauses, even in cases where the first two criteria (adjacency to a verb in the right tense) are met. In addition to these three factors, we have also noted a link between tone case inflection and information structure, notably in the factive-habitual negative tense, where the choice of noun inflection is related to focus.

Before we develop our argument further, and show the similarities between tone cases and conjoint-disjoint verb forms, we briefly note here that in Otjiherero, in addition to tonal inflection on nouns, prosodic marking also plays a role in verbal inflection. In particular, in many tenses, tonal alternations are related to complementation. For example, as already observed by Köhler (1958), in infinitives a verb-final high tone is found in verbs with complement, but not in isolation (variation exists in this respect depending on the tonal shape of the verb; see Möhlig and Kavari 2008: 88). Thus the low toned verb **-hòngà** 'teach' (59a) has a final H when followed by the complement **òvànátjè** 'children' (59b). Note that the complement itself shows default inflection:

(59) a. **òkù-hòngà**
15-teach
'to teach'

b. **òkù-hòngá** **òvà-nátjè**
15-teach 2D-children
'to teach children'

A similar effect is seen, for example, in present/near future tense, where in (60) **-hóngò** 'teach' has a HL pattern when clause final, but a LH pattern when followed by a complement (61) (Möhlig and Kavari 2008: 184):

(60) **má-tú** **hóng-ò**
PRES-SM1PL teach-FV
'We are teaching'

(61) **má-tú** **hòng-ó** **òvà-nátjè**
PRES-SM1PL teach-FV 2D-children
'We are teaching children'

Since **-hòngà** is lexically an LL verb, the presence of the H tone in (60) and (61) might be related to the preceding H-toned subject marker **-tú**, although this explanation does not extend straightforwardly to the infinitive in (59). However, we have not enough information at present to ascertain to what extent verbal prosody results exclusively from phonological processes such as H spreading and its interaction with phonological domains, and to what extent its distribution is, like tone cases, grammatically determined. We will thus leave verbal prosody to one side in the present paper, while noting its potential similarity with processes of metatony, discussed in the next section in relation to conjoint-disjoint alternations, to which we now turn.

4. Complement case, conjoint-disjoint verb forms and grammaticalised information structure

In our discussion of Otjiherero tone cases we have already highlighted potential similarities with conjoint-disjoint systems as found, for example, in Tswana or Zulu. In this section we address these similarities more directly. The section starts out with a detailed comparison of the two systems, based mainly on evidence from Tswana. We then consider tone cases and conjoint-disjoint systems as grammaticalised systems which historically had a more direct link to information structure, and conclude, based on general tendencies in the grammaticalisation of information structure (Lehmann 2008), that the Otjiherero tone case system is more grammaticalised. We then turn to further prosodically marked alternations in Bantu grammar which are related to constituency, linear order and/or information structure. Finally we conclude that, even though no direct and clear relationship between these systems has yet been established, a number of close similarities in terms of function and distribution can be shown.

4.1. Comparison with conjoint-disjoint alternation

The discussion in the preceding sections has highlighted some properties that are also found in the conjoint-disjoint alternation. As mentioned in the introduction, there are several southern and eastern Bantu languages that have an alternation between two conjugational forms known as the conjoint verb form and the disjoint verb form. These forms do not differ in their TAM semantics, but in the relation with the following element. More specifically, this is in many cases the relation between the verb and the element that *immediately* follows the verb, just like the tone cases in Otjiherero. The most obvious difference between tone cases and conjoint-disjoint verb forms is the morphological marking: tone cases mark the element following the verb – the dependent – by tone, whereas in the conjoint-disjoint alternation the verb itself – the head – is marked by tonal and/or segmental morphology. Another difference is the geographical distribution of the two systems: languages with tone cases are found on the western Atlantic coast of the Bantu-speaking area, from Namibia to Gabon, while conjoint-disjoint systems are found in southern and eastern Bantu, with clusters in southern Bantu, the Bantu languages

of Mozambique, and around the Great Lakes (see Appendix for a map of the distribution of the two systems).

The basic formal and distributional properties of the conjoint-disjoint alternation are illustrated by the Tswana (S31) examples in (62). The conjoint form (CJ) cannot appear in sentence-final position, i.e., it must always be followed by some element (62a).[11] The disjoint form (DJ) can appear sentence-finally (62b), although it does not need to (62d). In Tswana, the alternation is marked in the present tense by the prefix **-a-** on the disjoint form (62b), but in other tenses the same difference is expressed in the tonal pattern of the verb, compare (62c) and (62d) (data from Creissels 1996: 109).[12]

(62) a. CJ **dikgomó** **dí-fúla** **kwa** **nokeng**
10.cows SM10-graze at river
'The cows graze/are grazing at the river'

b. DJ **dikgomó** **dí-á-fúla**
10.cows SM10-PRES.DJ-graze
'The cows are grazing'

c. CJ **bá$_i$-tsamá-íle** **lé** **boné$_k$**
SM2-go-PERF with PRON2
'They have gone with them'

d. DJ **bá$_i$-tsáma-ile** **lé** **boné$_i$**
SM2-go-PERF with PRON2
'They too have gone'

There are some striking similarities between the Otjiherero system and the conjoint-disjoint system, specifically between the use of the complement case and that of the conjoint form. As we will show in more detail below, similarities are found in 1) the occurrence in a limited number of tenses; 2) the relation between the verb and the element immediately after the verb; 3) the absence of grammatical criteria (in terms of grammatical function or thematic role) defining the set of post-verbal elements which trigger nominal complement or verbal conjoint inflection; and 4) the link with focus. To illustrate our case, we compare the Otjiherero tone cases with the conjoint-disjoint alternation as present in Tswana.

Similar to the complement case, which is found in a subset of tenses, the conjoint-disjoint alternation is restricted to a limited number of tenses.[13] In

11. Relative verb forms, which are identical to the conjoint form, are allowed to occur sentence-finally.

12. Tswana examples are adapted from Creissels (1996) with slightly simplified representation, as we do not give a phonetic transcription. Glosses are ours, but translations are from the original. Note that in Tswana, additive focus ('too, also') is expressed by a complex construction involving a preposition **lé** 'and/with' and a pronoun coreferential with the topic, as in (62d).

13. The forms are cross-linguistically organised as pairs, with Matengo as an exception (Yoneda 2009).

Tswana, these are the present (affirmative and negative), perfective (affirmative and negative), future, and potential tenses, and infinitives (Chebanne *et al.* 1997). The cross-linguistic tendency is that if a language has the alternation, it is more likely to be present in the 'basic' or primary tenses (affirmative, non-relative, with relatively neutral aspect and mood). Although this is not an exact parallelism, the distribution seems to resonate with observations made earlier about the tenses in which complement cases are found in Otjiherero.[14]

Furthermore, like in the Otjiherero tone case system, conjoint verb forms are found when they are followed by any kind of nominal element, including objects, adverbs as in (63), and inverted subjects, seen in (64) (Creissels 1996: 109, 113, glosses added).

(63) CJ **Ke** **já** **tháta**
SM1SG eat much
'I eat a lot'

(64) CJ **gó** **tsàmá-ílé** **Mphó**
SM17 go-PERF.CJ Mpho
'There has gone Mpho'

The example in (64) is an impersonal/expletive construction, a construction to some extent similar to some uses of locative inversions in Otjiherero (see Creissels 2011) as, for example, in (44) above, and in both constructions the subject follows the verb and provides new information. The tonal pattern of the verb in (64) shows that it is a conjoint form, marking the close relation with the following noun **Mphó**. As seen above, in a corresponding situation, the post-verbal subject would receive complement case in Otjiherero.

The absence of the conjoint form also parallels the absence of Otjiherero complement case: conjoint verb forms are not found with dislocated nouns. In (65), the verb is in the disjoint form of the perfect positive, which is chosen when nothing follows the verb. In (66), the post-verbal subject is co-referenced with the subject concord and functions as an afterthought topic. In this case, the verb form is disjoint, showing that post-posed subjects stand in a different relationship to the verb (Creissels 1996: 113).

(65) DJ **Mphó** **ó** **tsámà-ìlè**
Mpho SM1 go-PERF.DJ
'Mpho has gone'

(66) DJ **ó** **tsámà-ìlè** **Mphó**
SM1 go-PERF.DJ Mpho
'He has gone, Mpho that is'

14. See Hyman and Watters (1984) and Hyman (1999) for a formulation in terms of 'marked syntactic status', where negation is marked polarity and subjunctive and imperative are marked moods etc.

Because conjoint forms are not found with dislocated subjects or objects (that is, in the presence of a co-referential subject or object concord), Creissels (1996) proposes for Tswana that the distinction between conjoint and disjoint forms is related to information structure, namely that conjoint forms mark the following element as contributing new information or focus (see similar observations by Meeussen 1959, who coined the terms 'conjoint' and 'disjoint', and Sharman 1955 for Bemba). Conjoint forms are thus not found with (dislocated) old information.

Evidence for the relation between the conjoint-disjoint distinction and information structure also comes from the requirement that question words, which are inherently focused, must follow the conjoint verb form, and from examples where the verb is followed by a complement which cannot be co-indexed with a subject or object concord. In that case, the choice of conjoint versus disjoint verb form is, according to Creissels, the only indication for the status of the following element as old or new information. In (67), with a conjoint verb form, the adverb **gómpíènó** 'today' is the focus of the sentence, while in (68), with a disjoint verb form, it presents old information (Creissels 1996: 114).

(67) **Kítsó ó bóà gómpíènó**
Kitso SM1 come.back today
'Kitso is coming back *today*' (conjoint)

(68) **Kítsó ó à bóá gómpíènó**
Kitso SM1 DJ come.back today
'Kitso is *coming back* today' (disjoint)

While such an analysis based on information structure has been proposed for some of the languages with the conjoint-disjoint alternation (e.g. Makhuwa, Van der Wal 2011 and Kirundi, Ndayiragije 1999), there is an alternative analysis which has been proposed for Zulu (Buell 2006) and which may well be extendable to further Nguni and Sotho-Tswana languages. This analysis is based on constituency: whether or not the verb forms one constituent with the following element determines which form the verb takes, and information structural effects are secondary (Buell 2006, 2007). The constituency analysis proposes that, unlike the conjoint form, the disjoint verb form is always final in its constituent, and any element following a disjoint verb form is dislocated outside that constituent. Buell (2006) summarises the constituency approach in the example and schematic representation in (69), taking the Inflectional Phrase (IP) as the relevant constituent.

Zulu (S42, Van der Spuy 1993: 347, 348, adapted)

(69) a. CJ **[si-bon-e izi-tshude:ni]** $_{IP}$
SM1PL-see-PERF.CJ 10-students
'we saw the students'

b. DJ **[si-zi-bon-i:le]** $_{IP}$ **izi-tshude:ni**
SM1PL-OM10-see-PERF.DJ 10-students
'we saw them, the students'

This account provides an explanation of the data on object marking and the alternation. The object marker in Zulu (and Tswana) functions as an incorporated pronoun and can hence never be doubled by the full noun in the same constituent. This means that when the object marker is present, the full noun must be dislocated from the constituent (70b). Hence, when the object marker is present, the verb is final in its constituent and requires the disjoint form to be used, shown by the grammaticality of (70b) and the ungrammaticality of (70c) (Creissels 1996: 112, 113, adapted):

(70) a. CJ **[re-thusa** **Kitso]**
SM1PL-help Kitso
'we help, we are helping Kitso'

b. DJ **[re-a-mo-thusa]** **Kitso**
SM1PL-PRES.DJ-OM1-help Kitso
'we help, we are helping him, Kitso that is'

c. CJ * **[re-mo-thusa** **Kitso]**
SM1PL-OM1-help Kitso
Intd.: 'we help him, Kitso'

d. DJ * **[re-a-thusa]** **Kitso**
SM1PL-PRES.DJ-help Kitso
Intd.: 'we help Kitso'

In this analysis, the appearance of the disjoint form thus follows from the fact that the verb is constituent-final. The afterthought interpretation of the object following the disjoint verb form follows not from the form of the verb, but from its dislocated position. Although there is a link between the information structure and the form of the verb, this is only an indirect one, rather similar to the facts found in Otjiherero: an element has complement case because of its appearance directly after the verb, within the clause/constituent.

In summary, the use of the complement case of Otjiherero shows parallels with the conjoint-disjoint system of Tswana in several respects: 1) Both tone case distinctions and conjoint-disjoint distinctions are found in some, but not all tenses; 2) both are found with a large group of post-verbal constituents, not restricted to particular phrases or grammatical functions; 3) both conjoint forms and complement cases are linked to the element immediately linearly adjacent to the verb within a certain constituent; and 4) neither conjoint forms nor complement cases are found with afterthoughts/dislocated subjects or objects.

There are, of course, also differences. As we noted earlier, conjoint-disjoint systems are head-marking, while tone cases are dependent-marking. Furthermore, tone cases are always expressed through tonal distinctions, while conjoint-disjoint distinctions are expressed by segmental and/or tonal marking. Another important difference is the flexibility in choice for one or the other form and the associated differences in interpretation. Although in the Otjiherero tenses which allow

complement case, nouns take default case when the postverbal element is presupposed and hence dislocated outside the relevant constituent, it is only in the negative factive-habitual that we see clear information structure related effects of the complement case. By contrast, the choice for the conjoint or disjoint verb form always implies a certain information structure: a postverbal element within the same constituent as the verb has a focused interpretation, as was illustrated in (67) and (68) above. Such flexibility in the choice between the one or the other form is absent for the tone cases in Otjiherero.

4.2. Grammaticalised information structure

Considering the more obligatory character of the Otjiherero tone case system relative to the Tswana conjoint-disjoint alternation, we propose that the Otjiherero tone case system is a more grammaticalised system, which is sensitive to linear adjacency and constituency, but mainly historically related to information structure distinctions. As such it contrasts with the conjoint-disjoint system found in Tswana, which is more productively exploited for the encoding of pragmatic information, such as the indication of focus.

Logically speaking, the fact that there is a choice related to information structure for only one tense (the negative factive-habitual) in Otjiherero can be due to two reasons: either it is an innovation, or it is retained from an older stage in which such a choice was more generally present in the system. We argue for the second possibility, even if we do not propose a reconstruction and there is no historical evidence that the tone case system was indeed more related to information structure. The reasons for nevertheless thinking this is a plausible idea are the following. First, we may ask why such a specific tense like the negative factive-habitual would develop the distinction, while the less specific and more frequently used tenses like present or past tenses occur in the same context (with respect to information structure), but have not developed this interpretation. This suggests that the negative factive-habitual retained rather than started the encoding of information structure.

Second, one might consider as further relevant evidence the distribution of tenses in which complement case marked nouns appear. While, as pointed out above, there is no straightforward explanation for the division of tenses into those which do and those which do not take complement case marked nouns, it is nevertheless suggestive in the present context that what we have called non-primary tenses in section 4.1, that is, imperatives, subjunctives, narratives etc., do not take complement case marked nouns. Since the pragmatic import of these non-primary tenses is often determined by the choice of the form itself (e.g. as command, wish, etc.), the marking of new information does not play a major role in their use. A similar argument could also be made with respect to the present tense, which equally does not trigger complement case, since this is typically interpreted as progressive, an aspect which has sometimes been regarded as pragmatically marked (Hyman and Watters 1984). The fact that no complement case is found with these forms is thus not surprising on the assumption that complement case, in opposition to default case, used to encode the information structural status of the noun, and that the marked, focused form became grammaticalised as the only grammatical option.

A third motivation for the grammaticalised status of a system that used to more productively encode information structural distinctions are Lehmann's (2008) generalisations on information structure and grammaticalisation. He suggests that, like any other linguistic items, constructions expressing information structure are also subject to grammaticalisation. In the course of the grammatical change over time, the information structure which originally motivated a construction is levelled out. Hence, if we find aspects of use related to information structure in an otherwise grammaticalised system, it is more likely that the information structure component used to be stronger, rather than weaker.

The grammaticalisation of the Otjiherero tone cases can be seen in some of Lehmann's (2002) core parameters of grammaticalisation. Paradigmatic variability is one of these: the more grammaticalised a linguistic item is, the less choice there is to use or not use a member of a paradigm (obligatorification – another parameter in grammaticalisation), and the less choice there is between different members of a paradigm. In both the conjoint-disjoint alternation and the tone case system, a speaker must make a choice between one or the other form, which shows that both are grammaticalised systems. However, as discussed above, the tone cases display much less choice and are more determined by formal considerations. An increasing paradigmatisation means a decrease in the freedom with which a speaker uses a sign according to the communicative purpose. Thus, while both tone cases and the conjoint-disjoint verb forms are arguably grammaticalised, the more restricted paradigmatic variability suggests that the tone case system is further grammaticalised.

4.3. Other phenomena related to focus and constituency

In a wider Bantu context, there are (at least) two other phenomena which could be related. The first is the so-called predicative lowering in Ekoti, described by Schadeberg and Mucanheia (2000), which is a change in the tonal pattern of nouns, whereby the first underlying high tone is deleted. This tonal pattern occurs when a noun is predicative (71), or when it is in focus (72).

Ekoti (P311, Schadeberg and Mucanheia 2000: 124,129)

(71) a. **siípá** 'lion'
b. **siipa** 'it is a lion'

(72) a. **ka-mú-uzány-él-a** **laázu**
SM1SG-OM1-buy-APPL-FV bananas
'I bought her bananas'

b. **ka-mú-uzány-él-a** **laazu**
SM1SG-OM1-buy-APPL-FV bananas
'I bought *bananas* for her'

Interestingly, predicate lowering is only allowed in a restricted number of tenses, and can be seen as an extremely impoverished type of tone case, displaying only the

predicative case. The same phenomenon is present in Makhuwa, where it exists in cooperation with the conjoint-disjoint alternation (Van der Wal 2006).

A second tonal process sometimes discussed in relation to tone cases or the conjoint-disjoint alternation is metatony (Schadeberg 1995). In metatony a verb-final vowel is underlyingly non-H when utterance-final (73), but H when followed by a complement (74).

Songye (L23, Stappers 1964: 157)

(73) **ku-sep-á** **m-fumu** (cf. **kusepa** = 'to laugh')
15-laugh-FV 1-chief
'to laugh at the chief'

Kibeembe (H11, Jacky Maniacky, p.c.)

(74) **ku-laand-á** **mu-utu** (cf. **kulaanda** = 'to pursue')
15-pursue-FV 1-person
'to pursue a person'

The examples are very similar to the Otjiherero examples in (59), above, and it is interesting to note that metatony has in common with predicative lowering, tone cases and conjoint-disjoint verb forms that the forms occur in a restricted number of tenses, they indicate the nature of the relation between the verb and the object, are sensitive to constituency and there is an association with focus (see Nurse 2008: 204).

Although it is beyond the scope of this paper to suggest an analysis of these phenomena,[15] all these systems show characteristics which are typical of the interaction of tone and focus as discussed in Hyman (1999), who presents more examples of similar tonal alternations. In all these alternations, the structural configuration and linear order play a role in defining it. Based on evidence from Luganda and other languages he discusses, Hyman argues that the relation between tone and focus in Bantu quite generally is indirect, mediated by the grammatical system, and the Otjiherero tone case system seems to provide another example of this overall characteristic of Bantu languages.

4.4. Summary

In this section we have pointed out a number of parallels between Otjiherero tone cases and conjoint-disjoint systems as found in Tswana or Zulu. While there are differences between the systems – and more detailed analysis may increase our

15. The link between these tonal alternations may be sought in the augment. Dimmendaal (1995: 32) and Schadeberg (1995) suggest a relation between the augment and metatony and Van der Wal (2006) argues for a relation between the augment and predicative lowering. In both processes the segmental part of the historically present augment was lost, but the tone remained. However, Hyman and Lionnet (2011) show that metatony in Abo cannot be traced back to the augment. Thanks to Jacky Maniacky and Maud Devos for earlier discussion of the relation with the augment.

understanding of them – there are also similarities which are difficult to attribute to chance. Both systems are expressed at least to some extent by tonal marking; both mark the immediate relation between a verb and a following nominal irrespective of grammatical function, are restricted to structural domains such as clauses, occur only in a limited number of tenses, and are related to focus and information structure. Having drawn out these parallels, we then proposed that both systems are grammaticalised, and that the Otjiherero tone case system is more grammaticalised than the conjoint-disjoint systems. While this argument was not supported by a specific reconstruction, it is based on recurrent processes in grammaticalisation, and offers a potential explanation for the fact that a choice between default and complement case is available only in the factive-habitual tense, and for the distribution of tone cases across different tenses. Finally, we have drawn attention to processes of predicate lowering and metatony, both of which involve prosodic marking related to the verb and a following nominal constituent. The evidence presented in this section is admittedly suggestive rather than conclusive, but, on the other hand, the similarities between the different phenomena surveyed appear striking enough to at least warrant further investigation into their common function and origin, especially considering their complementary geographic distribution (see the map in the Appendix).

Before we present some wider conclusions of the study, we will provide in the following section an overview of tone cases systems in other Bantu languages, to provide a wider comparative context of the Otjiherero system.

5. Tone cases in other western Bantu languages

Tone case systems have been described for a number of western Bantu languages, especially those on the Atlantic coast, including Umbundu (Schadeberg 1986), Kwanyama (Halme 2004) and several languages of the B 40 group which includes Yisire, Isaangu and Ipunu (Blanchon 1999). All these systems, including the Otjiherero one, have in common that nouns are systematically distinguished by different tone patterns. All of the Bantu languages in which tone cases have been described are spoken in the west of the Bantu domain, that is, in Namibia, Angola, the Republic of Congo and Gabon (see Appendix), and this geographic proximity has often been taken to be indicative of a common historical origin of tone case systems. For example, Blanchon (1998, 1999) proposes that tone case systems result historically from the tonal marking of definiteness and specificity. On the other hand, in terms of function, different tone case systems are rather different from each other, although they may be found to share overall characteristics with conjoint-disjoint systems and other prosodic marking unrelated to the tonal marking of nouns, as we have proposed for Otjiherero above.

Within the languages which exhibit tone cases, the Otjiherero system is most similar to the system of Umbundu (Schadeberg 1986). Like in Otjiherero, default case, complement case, and predicative/presentative case can be distinguished – although the tonal patterns are less explicitly distinguished for nouns with augment than in Otjiherero – and there is considerable parallelism in how the cases function. In particular, complement case is found on the first noun following a relevant verb

irrespective of grammatical function, as in Otjiherero. On the other hand, the set of tenses in which verbs are followed by complement case marked nouns appears to be more clearly structured in Umbundu: complement case is found after affirmative, non-subordinated verbs, while in Otjiherero, as shown above, complement case is also found after some, but not all, negative verbs. Like in Otjiherero, complement case in Umbundu is not found after progressive verb forms, but it appears to be found after future tenses in Umbundu, whereas future verbs do not show complement case in Otjiherero. Overall the two systems are fairly similar, and although there are differences in detail, the Umbundu system can, like the Otjiherero system, be characterized as a grammaticalised system of information structure coding.

In contrast, the tone case system of Kwanyama is not as easily compared with the Otjiherero system. Halme (2004) distinguishes nine different tone cases, of which only the presentative case correlates with predicative case in Otjiherero. There is no clear correlate to the complement case as found in Otjiherero or Umbundu. Instead, a 'special case' is found after imperatives and hortatives as well as after 'focused verbs'. Focused verbs are found in specific environments and can be formally identified by the absence of the initial vowel – a feature which is not present in Otjiherero. Special case is not found after 'polarised' verbs, which seem to be found in subordinate or backgrounded contexts. There is, as far as we can see, no direct parallel to those focus-related special cases in Otjiherero. Thus, while it seems that the Kwanyama system is, like the Otjiherero system, sensitive to information structure, perhaps even more so, the details of the system are rather different, and require a more detailed comparison.

While the Kwanyama system appears to be more transparently pragmatically motivated, the tone case systems found in the B40 languages (Blanchon 1999) appear, in contrast, to be more influenced by purely phonological processes. Several different nominal tone patterns can be distinguished in these languages; up to eight different ones, for example, in Yisire. Although the tone cases are related to syntactic position in a similar way as in the Otjiherero system, they are also, in contrast to Otjiherero, dependent on the immediate phonological environment. Thus, for example, in Isaangu, the second object of a di-transitive construction shows different tone cases depending on the tonal melody of the preceding object. In Otjiherero, as shown above, second objects always have default case, and quite generally, tone cases are not sensitive to the tonal quality of preceding constituents. According to Blanchon's analysis, different tonal patterns on nouns in B40 languages used to express a difference between definite and indefinite in the past, but their distribution is now governed purely by the phonological environment. Tonal marking of definiteness and specificity is in fact found in several languages of group H (Blanchon 1998), and Blanchon argues that this system is related to tone case languages. In a diachronic analysis he proposes that different tonal melodies of nouns in languages such as Yoombi, Suku, and Zoombo result from the interaction of high tone marking of definiteness and low tone marking of predication, and often a pattern involving a pre-domain sequence of floating L and H tones results, which is reminiscent of the LH sequence found in the complement case in Otjiherero. In fact, Blanchon argues that, while the languages of his study are not tone case languages, the system of H and L marking found there is historically related to tone case

languages, in that the tone case system, for example of Umbundu, is a development of the marking of definiteness and referentiality as found in languages of group H. This diachronic analysis may well be applicable to the Otjiherero system as well, especially in view of the similarities of the Otjiherero and the Umbundu systems. On the other hand, it is not clear how the analysis extends to the parallelism between tone case systems and systems which do not – at least transparently – involve tonal marking on nouns, such as the Tswana system, but which share functional qualities with the Otjiherero system. A possible hypothesis would be to say that definite H and/or the predicative L after losing their segmental base attached rightwards to the following noun in tone case languages, but leftwards to the preceding verb in conjoint-disjoint languages.[16] However, we leave a detailed discussion of the diachronic aspects of the Otjiherero system for a future occasion.

From our short survey of tone case systems in western Bantu it appears that all systems are comparable at some level, but that each system has its own specific details. In particular, while all systems relate distinct tonal melodies of nouns to syntactic positions – and indeed sometimes similar specific tonal melodies to comparable positions, although we have not illustrated this here – the overall systems appear to be quite diverse and, even though possibly related historically, present synchronically distinct systems. Furthermore, as we have pointed out above, the Otjiherero system exhibits in terms of function a number of parallelisms with information-structure sensitive aspects of the grammar of Bantu languages like Tswana which do not have tone cases, which in our view provide important evidence for the analysis of the tone case systems of western Bantu languages in a wider context.

6. Conclusion

In this paper, we have shown how the distribution of Otjiherero complement cases and default cases results from an interaction of tense-aspect distinctions, linear order (in that only the immediately following noun receives complement case), syntactic constituency (in that complement case assignment is a clausal phenomenon), and information structure (notably in the negative factive-habitual tense).

Like other information structure sensitive grammatical systems in Bantu, the tone case system of Otjiherero provides a challenge for grammatical theory, where neither aspects of linear order, such as the position of ‘immediately following’, nor the set of syntactic relations in which nouns which receive complement case – including adverbially used nouns, post-verbal and raised subjects as well as direct and indirect objects – are easily formalised. However, we have proposed that the tone case system is similar in a number of respects to conjoint-disjoint systems such as that found in Tswana. In both systems, the marking is related to a verb and the immediately following noun, is restricted to a subset of tense distinctions, and is not found in dislocation contexts or relative clauses.

Although we have not provided a detailed analysis of the relation between tone cases and conjoint-disjoint systems, we have highlighted the striking similarities

16. We are grateful to Thilo Schadeberg for discussion of this point.

between the tone case system – and in particular the distribution and function of complement cases – and conjoint-disjoint systems, and suggested that these might be indicative of shared underlying functions and historical origin. We have also proposed that the tone case system of Otjiherero is more grammaticalised than the conjoint-disjoint system as found in Tswana. We have further proposed that the Otjiherero tone case system is an instance of grammaticalised information structure, and as such provides further evidence for Hyman's (1999) observation that the relation between tone and information structure or focus in Bantu is mediated by the grammatical system of the relevant language.

From a comparative perspective of western Bantu languages, we have shown that the Otjiherero system is similar to tone case systems found in other western Bantu languages, but that there are considerable differences with respect to the details of the different tone case systems.

From a broader and more theoretical perspective, this paper has merely indicated the similarities between the tone case system and other alternations marking the relation between the verb and the following element. It would be good to examine this relation in more detail and to further explore the (indirect and/or historical) relation with information structure, with the aim to better understand this multiply entangled web of constituency, linear order, prosodic marking, subject and object agreement and information structure, which somehow all seem to converge.

Abbreviations

1,2,3, ..	Noun class number
1/2 SG/PL	1/2 person singular/plural
APPL	Applicative
C	Complement case
CAUS	Causative
CJ	Conjoint
D	Default case
DJ	Disjoint
FV	Final vowel
HAB	Habitual
NEG	Negative
OM	Object marker
P	Predicative case
PASS	Passive
PERF	Perfect
PRES	Present
PRON	Pronominal form
REL	Relative
SM	Subject marker
SBV	Subjunctive
V	Vocative case

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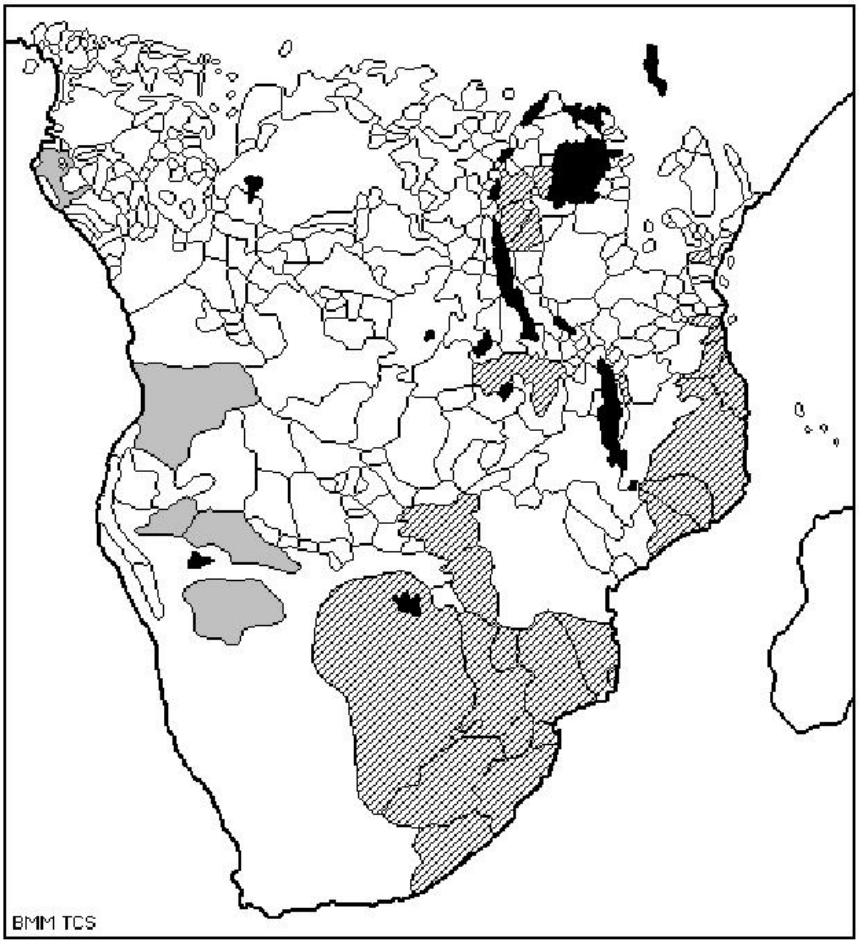
Appendix

Map of the Bantu languages, indicating the west-east divide of languages with tone cases (grey) and conjoint-disjoint (pattern). Created using Bantu Map Maker.



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Résumé

L'otjiherero a un système de flexion tonale du nom appelé 'cas tonals'. Ce système permet de différencier les noms selon le contexte syntaxique, notamment les cas qu'on appelle 'complément' et 'par défaut'. Les noms marqués comme cas 'complément' ne se trouvent qu'immédiatement après le verbe et seulement dans un sous-ensemble d'aspects verbaux. Le groupe de noms qui peuvent prendre le cas 'complément' inclut des objets directs et indirects, des noms adverbiaux, des sujets anticipés et des sujets postposés au verbe. On rencontre donc le cas 'complément' avec différents noms, indépendamment de leur fonction grammaticale, du moment qu'ils sont placés immédiatement après le verbe. Il existe deux arguments qui permettent de montrer que le système est (historiquement) lié à la structure informative. Tout d'abord, on ne trouve pas de cas 'complément' dans les propositions relatives ou avec les noms déplacés par dislocation. Ensuite, les noms qui suivent un verbe au négatif factitif-habituel peuvent être marqués, soit comme cas 'complément', soit comme cas 'par défaut', selon qu'ils sont focalisés ou non. À partir de la fonction et de la distribution des cas 'complément', l'article suggère qu'il existe un parallélisme étroit entre le système de cas tonals et le système d'alternances conjoint-disjoint

qu'on trouve en tswana. Les deux systèmes impliquent un marquage prosodique, ne s'observent qu'à certains temps, marquent la relation entre un verbe et le nom qui le suit immédiatement indépendamment de sa fonction grammaticale, sont limités à un domaine structurel comme la proposition et sont liés à la focalisation et à la structure informative. L'article ne propose pas de reconstruction détaillée, mais il suggère que les deux systèmes, celui des cas tonals et celui de l'alternance conjoint-disjoint, sont des exemples de structure informative grammaticalisée. L'étroite similarité entre les deux systèmes permet de penser qu'ils ont une fonction commune et peut-être même une origine historique commune.