Additive coordination, comitative adjunction, and associative plural in Tswana

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Abstract
This paper discusses the contribution of Tswana (Bantu, S31) to the typology of coordination, in particular additive coordination, with an emphasis on the relationship between additive coordination, the expression of comitativity, and plural marking. Tswana has a strict distinction between the additive coordination of NPs, attributive adjectives, and clauses, but uses the same proclitic le Ǐ- as an additive coordinator for NPs (‘and’), as an additive particle (‘also’), and as a comitative marker (‘with’). None of the constructions expressing the additive coordination of clauses lends itself to mechanisms of ellipsis comparable to those found in European languages. Inclusory additive coordination is of particular interest, since Tswana has a cross-linguistically rare type of inclusory additive coordination with the associative plural form of an individual name as the first coordinand, and the analysis of this construction suggests a possible etymology for the Tswana prefix of class 2a.

Keywords
Bantu, coordination, additive coordination, comitative adjunction, associative plural

Résumé
Cet article discute la contribution du Tswana (bantou, S31) à la typologie de la coordination, notamement de la coordination additive, avec une attention particulière à la relation entre la coordination additive, l’expression de la comitativité et le marquage du pluriel. Le tswana a une distinction stricte entre la coordination additive des groupes nominaux, des adjectifs épithètes et des phrases, mais utilise le même proclitique le Ǐ-
comme marque de la coordination additive de groupes nominaux (‘et’), comme particule additive (‘aussi’) et comme marqueur comitatif (‘avec’). Aucune des constructions exprimant la coordination additive de phrases ne se prête à des mécanismes d’ellipse comparable à ceux rencontrés dans les langues d’Europe. La coordination additive inclusive présente un intérêt particulier, du fait que le tswana a un type rare de coordination additive inclusive avec le pluriel associatif d’un nom individuel comme premier terme de la construction. En outre, l’analyse de cette construction suggère une étymologie possible du préfixe tswana de classe 2a.

Mots clés
bantou, coordination, coordination additive, comitatif, pluriel associatif

1. Introduction

The term coordination refers to syntactic constructions in which two or more units of the same type are combined into a larger unit and still have the same semantic relations with other surrounding elements... All languages appear to possess coordination constructions (or coordinate constructions) of some kind, but there is a lot of cross-linguistic variation. (Haspelmath 2007: 1)

Sub-Saharan languages have much to contribute to a general typology of coordination constructions, and to the debate on the universality or non-universality of coordination. More generally, the accumulation of cross-linguistic data on the constructions that meet the broad definition quoted above is essential for a better understanding of coordination as a general and abstract concept underlying the constructions in question.

In this perspective, the present paper describes the constructions expressing additive coordination in Tswana (Bantu, S31), with an emphasis on their relationship with the expression of comitativity and plural marking, a question on which Tswana data are particularly suggestive.

The paper is organized as follows. Section 2 aims at clarifying some basic aspects of the general notion of coordination directly relevant to the topic of this paper. Section 3 provides the necessary background information on Tswana morphosyntax. Section 4 describes the use of le li- as an additive coordinator. Section 5 describes the other uses of this morpheme. Section 6 and 7 deal with additive coordination of attributive adjectives and clauses, respectively. Section 8 describes an inclusory additive coordination construction involving an associative plural marker, and Section 9 discusses a possible etymology for this associative plural marker.

2. I am grateful to the following colleagues for comments that contributed to improve the article: Michael Daniel, Tom Güldemann, Lutz Marten, Mark Van de Velde, and the two LLA reviewers.
based on its involvement in the construction described in Section 8. Section 10 summarizes the main conclusions.

2. A succinct typology of coordination

Cross-linguistically, additive coordination (marked in English by and) is by far the most frequently occurring type of coordinate construction. Other semantic types of coordination commonly mentioned in grammars include disjunctive coordination (English or), adversative coordination (English but), 3 and causal coordination (English for). Implicational coordination (English let alone) is not commonly mentioned, but it is clearly grammaticalized for example in Manding languages and in Soninke.

Additive coordination is more commonly designated as ‘conjunctive coordination’ or ‘conjunction’, but I avoid these terms because of their potential ambiguity with other uses of ‘conjunction’ in linguistics: in many grammatical traditions, coordinators are classified as ‘conjuncts’, whatever type of semantic relationship they may encode, and subordinators are equally classified as ‘conjunctions’. Moreover, the correspondence between ‘conjunction’ as this term is used in classical logic and additive coordination is only partial, since ‘conjunction’ in classical logic refers only to the additive coordination of clauses. This means that, for example, cases of additive coordination of NPs that cannot be explained as the reduction of a sequence of coordinated clauses have nothing in common with logical ‘conjunction’.

Linguistically, there is an obvious asymmetry between additive coordination and the other semantic types of coordination. As a rule, reference grammars describe additive coordination in detail, but devote much less attention to non-additive types of coordination, which often are simply not mentioned at all. The obvious reason is that additive coordination as it is commonly delimited by linguists encodes not only relationships between events (like other types of coordination), but also the relationship between individual parts of plural individuals. 4 The point is that, semantically, whatever the commonalities that may underlie the use of the same grammatical word or clitic to encode both operations in some languages, there is no possibility of deriving the formation of plural individuals from an operation on events, or vice-versa. By contrast, nothing similar exists for other semantic types of constructions identified by linguists as coordinate constructions.

3. Subtypes of adversative coordination must be recognized in some languages: plain adversative coordination vs. rectificative coordination (Spanish pero vs. sino, German aber vs. sondern), or concessive coordination vs. opposite coordination (Russian u vs. no).

4. The notion of plural individual defined as the sum of its individual parts, crucial for a proper understanding of the semantics of plural NPs and NP additive coordination, was introduced by Link (1983). See Bach (1989: 69-84) for a discussion of this notion couched in terms more accessible to linguists.
Some decades ago, early generative grammar adopted the extreme view that all non-clausal coordination involves ellipsis, and that the corresponding non-elliptical structures all involve clausal coordination. I am aware of no decisive proof that this view would be incorrect for non-additive coordination. In other words, the reduction of all cases of non-additive coordination to clausal coordination (non-additive coordination of phrases being derived from clausal coordination via ellipsis) is a matter of taste, or of theoretical assumptions. By contrast, it is not difficult to convince oneself that derivation from clausal coordination via ellipsis cannot account for all cases of additive coordination of NPs, as illustrated by English sentences such as *John and Mary met, John met and Mary met*, *John and Peter are similar, John is similar and Peter is similar*, or *Mix the oil and the vinegar, Mix the oil and mix the vinegar*. Similarly, derivation from clausal coordination via ellipsis does not provide a simple and satisfactory account of cases of additive coordination of VPs such as *Many people like nature and live in town*.

Another clear asymmetry between additive coordination and other semantic types of coordination concerns the use of different coordinators for clausal and non-clausal coordination. It is widely recognized that languages may require different coordinators depending on the syntactic types of the coordinands, but the equally important fact that this applies only to additive coordination, not to the other semantic types of coordination, is largely ignored in the general literature on coordination.

These asymmetries between additive and non-additive coordination are consistent with the fact that the semantic specificity of the additive coordination of NPs has no equivalent with other semantic types of coordination. Non-additive coordination basically encodes relationships between events. Consequently, it is normal that non-additive coordinators are basically interclausal linkers, and that non-additive coordination of other categories, when it is possible (which is by no means universal), is encoded by the same linkers, since it can always be analyzed as resulting from the reduction of a coordination of clauses.

It is also interesting to observe that English and some other languages have constructions commonly (but misleadingly) designated simply as emphatic coordination (both ... and) and emphatic negative coordination.

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5. As observed by one of the LLA reviewers, sentences like *I didn’t buy fruit or vegetables* can be viewed as problematic for this assumption, since this sentence cannot be analyzed as *I didn’t buy fruit or I didn’t buy vegetables*. However, as rightly observed by this reviewer, a clausal coordination analysis can be rescued by deriving this sentence from NEG[NEG I bought fruit or I bought vegetables], whereas no similar analysis can be imagined for the cases of additive coordination of NPs quoted at the end of this paragraph.

6. Note that the ungrammaticality of such sentences is not absolute: uttered in the right context and with the right intonation, *Mix the oil, and mix the vinegar* may be acceptable, with however a meaning different from *Mix the oil and the vinegar*. 
(neither ... nor). The point is that such constructions do not simply add some emphatic flavor to additive coordination. Crucially, they cannot be used in cases of additive coordination of NPs that cannot be paraphrased by a coordination of clauses, as shown by the agrammaticality of *Both John and Peter greeted each other or *Neither John nor Peter greeted each other.

To summarize, semantically, the notion of coordination as used by linguists encompasses a precise and well-defined operation on the referents of NPs (the construction of a plural individual having the referents of the coordinated NPs as its individual parts) and a fuzzy set of inter-clausal relationships that for some reason tend to be encoded by constructions that do not show (or show only partially) the characteristics of subordinate constructions, and often lend themselves to reduction via ellipsis. There is important cross-linguistic variation on (at least) the following three points:

1. the extension of the use of the grammatical word or clitic expressing the relationship between individual parts of a plural individual to the expression of other semantic types of relationships,

2. the reduction of coordinate constructions involving clauses to mono-clausal constructions in which the same coordinator links constituents of various categories (as in English [Do you want fish], or [do you want meat]? > Do you want [fish] or [meat]?),

3. the reduction of coordinate constructions involving clauses to constructions in which one of the coordinands only is a regular syntactic constituent (as in English [John played the piano] and [Peter the violin], 7 I sent [a letter to John] and [a postcard to Peter], or [John adores] but [Peter hates] Chinese food. 8

On these three points, the dominant tendencies in Sub-Saharan languages contrast with those observed in European languages and other languages best represented in the general linguistic literature:

– among Sub-Saharan languages, the use of the same grammatical word or clitic for the additive coordination of NPs and for the additive coordination of clauses is not common,

– the grammatical word or clitic used for the additive coordination of NPs tends to be used also as a comitative adposition, 9

– coordinate constructions analyzable as involving ellipsis mechanisms of the type mentioned in (b) above are less common than in European languages,

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7. This particular type of ellipsis in coordinate constructions is known in the literature as gapping.
8. This particular type of ellipsis in coordinate constructions is known in the literature as right periphery ellipsis or right node raising.
9. For a survey of this typological parameter in the languages of the world, see Stassen (2000).
– coordination constructions analyzable as involving ellipsis mechanisms of the type mentioned in (c) above are quite uncommon.

3. Some basic information about Tswana

Tswana (aka Setswana) is a southern Bantu language spoken in Botswana and South Africa by more than 5 million speakers. Its closest relatives are Pedi and Southern Sotho. Typologically, Tswana is in almost every respect a typical Bantu language.

3.1 Noun classes

Tswana has 12 noun classes. As a rule, noun forms that have the same agreement properties share a prefix characteristic of the class in question, but the correlation between noun prefixes and agreement classes is not perfect.

Number marking is an important function of noun classes. Some classes include singular forms, others include plural forms, and nominal lexemes can be grouped into genders on the basis of correspondences such as mosadi mʊ̄sådɪ (cl. 1) ‘woman’ / basadi bå-sådɪ (cl. 2) ‘women’. Mosadi ‘woman’ as a singular form belongs to class 1, but is also the quotation form of a nominal lexeme belonging to gender 1–2.


3.2 The structure of Tswana NPs

As illustrated by ex. (1), in which a head noun combines with two adjectives, a relative clause and a demonstrative, Tswana NPs have two very
general characteristics: noun dependents follow their head, and express class agreement with their head. 15

(1a) mosadi ya moleele yo montsho yo o opelang yole
‘that tall woman with dark complexion who is singing’
mʊ-sɒdi mʊ-lɛɛlé tjɔ mʊ-ɛntsʰʊ
CL1-WOMAN CL1.ATTR C L1-TALL CL1.ATTR CL1-BLACK
jɔ tjɔ-ɛpɛlɛ-ŋ tjɔ-ɛlɛ
CL1.ATTR CL1-SING:PRS-REL DEM CL1-DIST

(1b) lekau le leleele le lentsho le le opelang lele
‘that tall boy with dark complexion who is singing’
lɛ-kâu lɛ lɛ-ɛntsʰʊ
CL5-BOY CL5.ATTR CL5-TALL CL5.ATTR CL5-BLACK
lɛ tjɛ-ɛpɛlɛ-ŋ tɛlɛ
CL5.ATTR CL5-SING:PRS-REL DEM CL5-DIST

In Tswana NPs, the head-dependent order is not absolutely obligatory, but noun dependents preceding their head are extremely rare in spontaneous texts. 16 By contrast, the rule according to which noun dependents express agreement with their head suffers no exception. Noun dependents can be classified according to the particular sets of agreement markers by means of which they express agreement.

3.3 Canonical verbal predication

The basic constituent order in Tswana is Subject-Verb-Objects-Obliques. There is no flagging of NPs in core syntactic roles, but the indexation of arguments by means of verbal prefixes provides a firm basis for recognizing a syntactic function ‘subject’ grouping together the single core argument of intransitive verbs and the agent of prototypical transitive verbs, contrasting with a syntactic function ‘object’ including the patient of prototypical transitive verbs.

Verb forms heading independent assertive or interrogative clauses include an obligatory prefix representing the single core argument of intransitive verbs and the agent of prototypical transitive verbs, designated as subject index. 17

If a co-referent NP is present, the subject index expresses class agreement with it. In the absence of a co-referent NP, subject indexes that do not belong to 1st or 2nd person are interpreted anaphorically, triggering

15. In the presentation of the examples, the first line is the transcription in current Tswana orthography, which may unfortunately be quite misleading in a linguistic analysis of this language, since it distinguishes only 5 vowels and does not note tones at all, whereas Tswana has 9 vowel phonemes, and tones are crucial for morphological analyses. Moreover, many morphemes that are unquestionably prefixes (in particular, subject indexes and object indexes) are written as if they were separate words. The correct word division is given in the phonetic transcription (third line).

16. The anteposition of noun dependents adds emphasis, but never modifies the denotative meaning. Anteposition is equally possible (and equally rare) with all types of noun dependents.

the identification of the argument they represent to a contextually salient referent compatible with the class expressed by the subject index, ex. (2).

(2a) *Ngwana o thubile mae.*

'The child broke the eggs.'

\[
\eta^\text{-}\text{âná} \quad \text{ú-}\text{tûbîlê} \quad \text{mâr-i}
\]

CL1-child CL1-break:PREF:CJ CL6-egg

(2b) *Ngwana o tsile.*

'The child came.'

\[
\eta^\text{-}\text{âná} \quad \text{ú-tsîlê}
\]

CL1-child CL1-come:PREF:DJ

(2c) *O thubile mae.*

'He/She broke the eggs.'

\[
\text{ú-}\text{tûbîlê} \quad \text{mâr-i}
\]

CL1-break:PREF:CJ CL6-egg

(2d) *O tsile.*

'He/she came.'

\[
\text{ú-tsîlê}
\]

CL1-come:PREF:DJ

(2e) *Ngwana thubile mae.*

(2f) *Ngwana tsile.*

As illustrated by ex. (2a, 2c), the object of transitive verbs is not obligatorily indexed on the verb form, but topical objects whose precise description is considered superfluous by the speaker are represented by object indexes prefixed to verbs. Object indexes immediately precede the verb stem and may be separated from subject indexes by TAM or negation markers – ex. (3a-b).

(3a) *Ngwana o a thubile.*

'The child broke them (the eggs).'</n

\[
\eta^\text{-}\text{âná} \quad \text{ú-}\text{a-}\text{tûbîlê}
\]

CL1-child CL1-CL6-break:PREF:DJ

(3b) *Ngwana o tlaa a thuba.*

'The child will break them (the eggs).'</n

\[
\eta^\text{-}\text{âná} \quad \text{ú-}\text{tûbî-
\text{à-}\text{a-}\text{tûbà}
\]

CL1-child CL1-CL6-break:DJ

Tswana has multiple-object constructions in which the hierarchy between the objects is minimal: each object can be converted into the subject of a passive construction, or represented by an object marker. Non-derived verbs may have two non-coordinated objects, and valency-increasing derivations (causative and applicative) may result in constructions with three objects, as in ex. (4).
ADDITIVE COORDINATION, COMITATIVE ADJUNCTION...

(4a)  Ngwana o nole maši.
‘The child drank milk’
\[
\begin{array}{ccc}
\text{ŋʷ-àná} & \text{ú-nólé} & \text{mār-ʃi} \\
\text{CL1-child} & \text{CL1-drink:PFT:CJ} & \text{CL6-milk} \\
\end{array}
\]

(4b)  Ke nositse ngwana maši.
‘I made the child drink milk’
\[
\begin{array}{ccc}
\text{kī-nōsītšē} & \text{ŋʷ-àná} & \text{mār-ʃi} \\
\text{1SG-drink:CAUS:PFT:CJ} & \text{CL1-child} & \text{CL6-milk} \\
\end{array}
\]

(4c)  Ke noseditse Dimpho ngwana maši.
‘I made the child drink milk in Dimpho’s place’
\[
\begin{array}{ccc}
\text{kī-nōsēdītšē} & \text{dimphö5} & \text{ŋʷ-àná} & \text{mār-ʃi} \\
\text{1SG-drink:CAUS:APPL:PFT:CJ} & (\text{CL1} \text{Dimpho}) & \text{CL1-child} & \text{CL6-milk} \\
\end{array}
\]

As in other Southern Bantu languages (and in contrast to the situation observed in Central Bantu languages), locative phrases do not have access to the subject function. They have the internal structure of noun phrases, from which they differ only in that (a) they are headed by a locative, i.e. a nominal form to which the locative prefix go χʊ́ or the locative suffix -ng -ŋ has been added, and (b) they optionally combine with one of the three locative prepositions ko kó (relative remoteness), fu fá (relative proximity), or mo mó (interiority, contact). The choice between the locative prefix go χʊ́ and the locative suffix -ng -ŋ is entirely determined by the grammatical nature of the head of the locative-marked noun phrase. Toponyms and a handful of common nouns are used as locatives without locative marking. Neither locative affixes nor locative prepositions specify the distinction between static location, source of movement, or direction of movement.

Tswana has three non-locative prepositions: le li- (comitative), ka ká (instrumental, also used for manner and time adjuncts), and ke kī (used exclusively for obliques representing the demoted subject in passive constructions). The uses of le li- constitute the topic of Sections 4 and 5. For more details on the other prepositions and on locatives, see Creissels (2011, 2013).

4. The additive coordinator le li-

In Tswana, the additive coordination of NPs cannot be expressed by mere juxtaposition, and requires the use of le li-, which in its role of coordinator will be glossed ‘and’. Other possible uses of le li- will be described in Section 5, but its use as a coordinator is strictly limited to the additive coordination of the following types of units:

- noun phrases,
- adpositional phrases,
- adverbs syntactically equivalent to adpositional phrases,
- infinitival phrases,
4.1 Additive coordination of two noun phrases

Ex. (5) illustrates the additive coordination of two NPs. In (5b-d-f), Kitso le Mpho kítsɔ li-mpʰɔ ‘Kitso and Mpho’ refers to a plural individual whose individual parts Kitso and Mpho share the semantic roles assigned to the singular individual Kitso in (5a-c-e). Crucially, when such an NP occurs in subject function –as in (5b)–, it must be resumed in the verb form by a plural index: the subject index in (5b) (ba bá-) belongs to class 2, which in the noun class system of Tswana constitutes the regular plural of the class to which individual names such as Kitso or Mpho belong (class 1, expressed in (5a) by the subject index o ō-).

(5a)  Kitso o tsile maabane.
     ‘Kitso came yesterday.’
     kítsɔ ó-tsìlé mààbâ:mì
     (CL1)KitsoCL1-come:PFT:CJ yesterday

(5b)  Kitso le Mpho ba tsile maabane.
     ‘Kitso and Mpho came yesterday.’
     kítsɔ li-mpʰɔ bá-tsìlé mààbâ:mì
     (CL1)Kitso with-(CL1)MphoCL2-come:PFT:CJ yesterday

(5c)  Ke laleditse Kitso.
     ‘I invited Kitso.’
     kí-lálédítsɛ kítsɔ
     1SG-invite:PFT:CJ (CL1)Kitso

(5d)  Ke laleditse Kitso le Mpho.
     ‘I invited Kitso and Mpho.’
     kí-lálédítsɛ kítsɔ li-mpʰɔ
     1SG-invite:PFT:CJ (CL1)Kitsowith-(CL1)Mpho

(5e)  Ke apeetse Kitso dijo.
     ‘I did the cooking for Kitso.’
     kí-àpéétsɛ kítsɔ di:-dʒɔ
     1SG-cook:APPL:PFT:CJ (CL1)Kitso CL8/10-food

(5f)  Ke apeetse Kitso le Mpho dijo.
     ‘I did the cooking for Kitso and Mpho.’
     kí-àpéétsɛ kítsɔ li-mpʰɔ di:-dʒɔ
     1SG-cook:APPL:PFT:CJ (CL1)Kitso with-(CL1)Mpho CL8/10-food

Note that, although written as a separate word in the current orthography, the coordinator le li- is a proclitic that attaches to the second coordinand. In Tswana, the rules of tonal sandhi ensure a clear-cut distinction between word-internal boundaries and boundaries between adjacent words, and the tonal properties of le li- unambiguously identify it as a proclitic – for more precisions on this point, see Creissels & al. (1997: 15-26).
4.2 Additive coordination of prepositional phrases

Ex. (6) illustrates the possibility of using le li- to coordinate prepositional phrases. The preposition in Ex. (6) is the instrumental preposition ka ká, also used to flag adjuncts encoding the localization of an event in time. Note that le li- in coordinator function precedes the instrumental preposition ka ká, and ka ká is repeated. The same construction is possible with the other prepositions, and with locative phrases.

(6a) Ke tlaa tla gape ka Laboraro.
   ‘I’ll come again on Wednesday.’
   1SG-FUT:come:CJ again with Wednesday

(6b) Ke tlaa tla gape ka Labotlhano.
   ‘I’ll come again on Friday.’
   1SG-FUT:come:CJ again with Friday

(6c) Ke tlaa tla gape ka Laboraro le ka Labotlhano.
   ‘I’ll come again on Wednesday and Friday.’
   1SG-FUT:come:CJ again with Wednesday and-with Friday

4.3 Additive coordination of infinitival phrases and complement clauses

In Ex. (7), le li- operates on clausal constituents: infinitival phrases (7a) and finite clauses introduced by the complementizer gore χʊ̀rɩ̀ ‘that’. The coordination of infinitival phrases by means of le li- (as in 7a) is not surprising, since Tswana infinitives are basically nominal forms including the class 15 prefix go χʊ̀-, although they have some verbal properties (for example, they can have objects exactly like finite verb forms). The use of le li- to coordinate complement clauses (as in 7b) is not surprising either, since etymologically, the complementizer gore χʊ̀rɩ̀ ‘that’ is the infinitive of the quotative verb re -rɩ̀ ‘say’.

(7a) Ke itsi go bua Setswana le go se kwala.
   ‘I can speak and write Tswana’
   lit. ‘I can speak Tswana and write it.’
   1SG-know:CJ INF-speak:CJ CL7-Tswana and-INF-CL7-write:DJ

(7b) Ke itsi gore o bua maaka le gore o a utswa.
   ‘I know that he lies and steals.’
   lit. ‘I know that he lies and that he steals.’
   1SG-know:CJ that CL1-tell:CJ CL6-lie and-that CL1-DJ-steal

18. See Creissels and Godard (2005) for a description and analysis of the mixing of nominal and verbal properties that characterizes Tswana infinitives.
Note incidentally that, in Tswana, it is absolutely impossible to reduce such constructions in the same way as their English equivalents: *Ke itse go bua le go kwala Setswana or *Ke itse gore o bua maaka le o a utswa would be completely agrammatical.

4.4 Multiple additive coordination
Ex. (8) illustrates the additive coordination of NPs with more than two coordinands. In this construction, le li- must be repeated before each non-initial coordinand.

(8) Re bonye ditau le dinare le ditlou.
‘We saw lions, buffaloes, and elephants.’

4.5 The behavior of NP1 le NP2 phrases in class agreement
Since in Tswana, pronouns, subject indexes and object indexes express noun class distinctions, it is important to make explicit not only the agreement behaviour of NP1 le NP2 phrases including pronouns referring to the speech act participants – Ex. (9a-b), but also the noun class assigned to phrases in which NP1 and NP2 are ordinary NPs – Ex. (9c-d).

(9a) Nna le Kitso re tlaa sala mono.
‘Kitso and I will stay here.’

(9b) Wena le Lorato lo tlaa apaya dijo.
‘Lorato and you will do the cooking.’

(9c) Leburu le Lekula ba tsamaile mmogo.
‘The Afrikaner and the Indian left together.’

(9d) Mmiddi le mabele di jelwe.
‘The maize and the millet have been eaten.’

As can be expected, if one of the coordinands is a 1st person pronoun, NP1 le NP2 triggers 1st person plural agreement, irrespective of the na-
ture of the second coordinand. If one of the coordinands is a 2nd person pronoun, and the other is not a 1st person pronoun, \( NP_1 \text{ le } NP_2 \) invariably triggers 2nd person plural agreement.

The question of gender resolution in constructions with coordinated NPs in subject or object function occupies the major part of the literature on coordination in Bantu languages – see among others Marten (2000) on Swahili, Marten & Ramadhani (2001) on Luguru, De Vos & Mitchley (2012) on Southern Sotho. In Tswana, if none of the coordinands is a 1st or 2nd person pronouns, it is always possible to apply the following gender resolution rule (Cole 1955: 429):

– if both coordinands have human referents, \( NP_1 \text{ le } NP_2 \) governs class 2 agreement – Ex. (9c);
– if both coordinands have non-human referents, \( NP_1 \text{ le } NP_2 \) governs class 8/10 agreement – Ex. (9d).

The semantic basis of this rule is obvious, since the generic term for ‘human’ (\( \text{motho mʊ̂-tʰʊ̂} \) pl. \( \text{batho bà-tʰʊ̂} \)) belongs to gender 1–2, and the generic term for ‘thing’ (\( \text{selo sɩ̀-lɔ̀} \) pl. \( \text{dilo dì-1ɔ̀} \)) belongs to gender 7–8/10.

According to Cole (1955), an alternative strategy is possible when the coordinands belong to the same class in the plural. In that case, the class in question can be selected instead of class 2 or class 8/10. According to my own observations, this is possible, but speakers tend to prefer the rule according to which the class assigned to \( NP_1 \text{ le } NP_2 \) phrases is selected on a purely semantic basis, regardless of the gender of the coordinands. Interestingly, in Tswana, this is the only case in which, within the limits of the clause, semantic agreement takes precedence over morphological agreement.

The resolution rule just formulated raises the following question: what could be the agreement properties of \( NP_1 \text{ le } NP_2 \) phrases with one of the coordinands human, and the other non-human? In fact, Tswana speakers simply avoid such constructions, and when asked to give a Tswana equivalent of English sentences such as ‘The hunter and his dog got lost in the bush’, they suggest translations in which the second coordinand in the English sentence is rendered as a comitative adjunct (‘The hunter got lost with his dog in the bush’).

19. Note that, in Tswana coordinate constructions involving 1st or 2nd person pronouns, the linear order must respect the following hierarchy: 1 > 2 > 3.
5. Other uses of le li-

5.1 Le li- as an additive particle

In addition to its use as a coordinator, le li- is used as an adnominal additive particle that can be rendered in English as also, too, or even – Ex. (10). 20

(10a) Le Mpho o tsile maabane.
‘Mpho too came yesterday.’

li-mpö5 ó-tsêlè mààbàñì
also-(CL1)Mpho CL1-come:PRF:CJ yesterday

(10b) Ke laleditse le Mpho.
‘I invited Mpho too.’

kî-láèdîtsè li-mpö5
1SG-invite:PRF:CJ also-(CL1)Mpho

(10c) Ke apeetse le Mpho dijo.
‘I did the cooking for Mpho too.’

kî-àpèètsî li-mpö5 di-djö5
1SG-invite:APPL:PRF:CJ also-(CL1)Mpho CL8/10-food

In this use, le li- expresses semantic role sharing in the same way as in its use as a coordinator. The difference is that the involvement of another participant with the same role in a similar event is presupposed. The use of the same grammatical word or clitic as an additive coordinator and as an additive particle is not rare in the languages of the world. The same situation is found for example in Slavic languages, and among Sub-Saharan languages, in Maba (Maban), Sar (Central Sudanic), and Sereer (Atlantic) – Creissels (2015).

5.2 Le li- as a comitative marker

Le li- can also be used as a comitative marker introducing adjuncts which semantically differ from the second coordinand in the construction described in Section 4 in that they do not necessarily share a semantic role with another term of the construction, but rather fulfill the role of companion. 21

(11a) Kitso o tsile maabane le Mpho.
‘Kitso came yesterday with Mpho.’

kîtsö ó-tsîlê mààbàñì li-mpö5
(CL1)Kitso CL1-come:PRF:CJ yesterday with-(CL1)Mpho

(11b) Kitso o opela le Mpho.
‘Kitso sings / is singing with Mpho.’

kîtsö ó-spèlà li-mpö5
(CL1)Kitso CL1-sing:PRS:CJ with-(CL1)Mpho

20. Note however that, contrary to English also, too, or even, Tswana le li- cannot be used as an additive particle with scope over the predicate (as in English We also danced).
21. On the specificity of the role of companion, and more generally on the typology of comitative constructions, see Arkhipov (2009a, 2009b) and Stolz & al. (2006).
Given that the notion of companion includes the notion of semantic role sharing as a particular case, the use of the same marker for comitative adjuncts and for the second coordinand in the additive coordination of NPs raises the following question: is it really justified to recognize a coordinate construction in which *le li*- serves as a coordinator, and a distinct construction in which the same marker is used to flag comitative adjuncts? In fact, we might have just one construction in which the NP introduced by *le li*- does not occupy a fixed position, and its interpretation is simply context-dependent.

Among Sub-Saharan languages, Manding languages (Mande) illustrate a situation in which it is not possible to recognize a construction expressing specifically that a semantic role is shared by the referents of two NPs. For example, in Mandinka, as discussed in more detail in Creissels (2016), there is nothing that could justify positing two distinct constructions in (12a) and (12b), in spite of the obvious fact that the two NPs in the *NP1 nîŋ NP2* sequence must be interpreted as sharing the same semantic role in (12a), but do not lend themselves to such an interpretation in (12b). Crucially, Mandinka does not have the agreement mechanisms that help to distinguish additive coordination from comitative adjunction in many other languages, and the Mandinka marker *nîŋ* that assigns the role of companion (in a very broad sense) to the NP it precedes, must obligatorily follow the other NP involved in the comitative relationship.

Mandinka (Creissels 2016)

(12a) 3PL *futa*-ta [Fûlândû nîŋ Kaabû] naanéw-o to.  
‘They reached the border between Fulandu and Kaabu.’

(12b) *Sûńkût-oô nîŋ kumbóo* naa-ta.  
‘The girl came in tears.’  
lit. ‘The girl with crying came.’

In this respect, Tswana illustrates the situation most commonly found among Sub-Saharan languages, in which a construction that specifically expresses the additive coordination of NPs can be distinguished from uses of the same marker that do not imply semantic role sharing between the referents of two NPs, and must rather be analyzed in terms of comitative adjunction.

In Tswana, the distinction between additive coordination of NPs and comitative adjunction is particularly clear in pairs of sentences such as (13b/c). In a *NI V le N2* sequence such as (13b), the verb expresses agreement with a subject of class 1 exactly in the same way as in (13a),
and a plural subject index would be ungrammatical. By contrast, in a *NI le N2 V* sequence such as (13d), the verb cannot express agreement with *N1* only, and a plural subject index is obligatory, which shows that the subject function is now fulfilled by the complex NP *Kitso le Mpho*.

(13a) *Kitso o tsile.*
‘Kitso came.’

\[
\begin{array}{l}
\text{kïts} \quad \text{ó-tsîlè} \\
\text{(CL1)Kitso} \quad \text{CL1-come:PRF:DJ}
\end{array}
\]

(13b) *Kitso o tsile le Mpho.*
‘Kitso came with Mpho.’

\[
\begin{array}{ll}
\text{kïts} \quad \text{ó-tsîlè} \quad \text{li-nû} \quad \text{bô} \\
\text{(CL1)Kitso} \quad \text{CL1-come:PRF:CI} \quad \text{with-(CL1)Mpho}
\end{array}
\]

(13c) *Kitso ba tsile le Mpho.*
(With a subject index of class 2, the sentence becomes agrammatical.)

(13d) *Kitso le Mpho ba tsile.*
‘Kitso came with Mpho.’

\[
\begin{array}{ll}
\text{kïts} \quad \text{li-nû} \quad \text{bô-tsîlè} \\
\text{(CL1)Kitso} \quad \text{with-(CL1)Mpho} \quad \text{CL2-come:PRF:DJ}
\end{array}
\]

Moreover, constructions similar to that illustrated in (12b) for Mandinka, in which the semantic nature of *NP2* in a sequence *NP1 le NP2 V* would preclude semantic role sharing with *NP1*, are not possible in Tswana.

Consequently, in *NP1 le NP2 V* sequences, *NP1 le NP2* can only be analyzed as a complex NP resulting from additive coordination and occupying the subject function. It would not be possible to analyze *le NP2* as a comitative adjunct that has moved from postverbal to preverbal position.

Once this distinction has been established, the following dissymmetry can be observed between *le NP* as the second coordinand in an additive coordination of NPs, and *le NP* as a comitative adjunct. A comitative adjunct can only be converted into the second coordinand of an additive coordination if its meaning is compatible with semantic role sharing. For example, ‘Kitso brought the money’ is commonly expressed in Tswana as ‘Kitso came with the money’, but contrary to Mandinka, a construction in which ‘come’ would take a constituent ‘Kitso and/with the money’ as its subject is not possible. By contrast, it seems to be always possible to

---

22. Note that this observation is by no means trivial, since in some languages, for example Joola-Foñi (Atlantic), a singular subject is compatible with a verb expressing plural agreement, if the verb is followed by a comitative adjunct interpretable as sharing the semantic role assigned to the subject (author’s field notes). In other words, the transposition of the agrammatical Tswana sentence (13c) in Joola-Foñi would give a perfectly correct sentence.
convert the second coordinand of an additive coordination into a comitative adjunct, even when the meaning of the verb implies that the role assigned to the subject can only be assigned to a plural individual, as in Ex. (14b-c), where the verb is marked as reciprocal. 23

(14a) *Kitso o rata Lorato.*
‘Kitso loves Lorato.’

\[
\text{kitsō} \quad \text{ló-rátá} \quad \text{ló-rátō}
\]
(CL.1)Kitso CL1-love:PRS:CJ (CL.1)Lorato

(14b) *Kitso le Lorato ba a ratana.*
‘Kitso and Lorato love each other.’

\[
\text{kitsō} \quad \text{li-ló-rátā} \quad \text{bá-á-rátāmā}
\]
(CL.1)Kitso and-(CL.1)Mpho CL2-DJ-love:RECIPI:PRS

(14c) *Kitso o ratana le Lorato.*
‘Kitso and Lorato love each other.’

lit. ‘Kitso loves each other with Lorato.’

\[
\text{kitsō} \quad \text{lí-rátānā} \quad \text{li-ló-rátō}
\]
(CL.1)Kitso CL1-love:RECIPI:PRS:CJ with-(CL.1)Lorato

5.3 Potential ambiguities between the different uses of *le li-*

When a *le NP* sequence occurs in preverbal position, its interpretation suffers no ambiguity: if no NP precedes the *le NP* sequence, *le li-* can only be interpreted as an additive particle (‘also’), whereas *le li-* immediately preceded by another NP can only be interpreted as a coordinator. By contrast, in postverbal position, *le li-* immediately preceded by an NP can be interpreted as expressing additive coordination, comitative adjunction to the preceding noun, or comitative adjunction to the subject, and the choice between the three possible interpretations can only be guided by semantic considerations.

There is another case of potential ambiguity, when *le li-* followed by a pronoun occurs in clause-final position and the pronoun can be interpreted as resuming the subject. The point is that clauses with *le li-* as an additive particle attached to the subject, as in (15a), have an alternative construction in which *le li-* attaches to a resumptive pronoun in clause-final position, as in (15b). In this position, *le li-* can also be interpreted as introducing a comitative adjunct, if the pronoun is interpreted as referentially distinct from the subject of the clause, as in (15c). However, in so far as *le li-* immediately follows the verb and the clause is headed by a verb form expressing the *conjoint vs. disjoint* distinction, the ambiguity is avoided by the choice of a conjoint or disjoint verb form: the conjoint form is selected if *le li-* introduces a comitative adjunct expressed as a pronoun referentially distinct from the subject, whereas *le li-* as

23. For a detailed analysis of these two possible constructions of reciprocal verbs in Zimbabwean Ndebele (a Bantu S40 language whose behavior in this respect is quite similar to that of Tswana), see Khumalo (2014).
an additive particle followed by a pronoun resuming the subject triggers
the selection of the disjoint form. In Ex. (15), this distinction is expressed
 tonally (and consequently is not apparent in the current orthography):
\text{tsi}lè in (15a-b) is the disjoint form of the perfect of ‘come’, whereas \text{tsilé}
in (15c) is the conjoint form of the perfect of the same verb.  \textsuperscript{24}

(15a) Le Kitso o tsile.
 ‘Kitso too came.’
 \text{li}-\text{kitsó} \quad \text{ tô-tsílè}
 also-(CL1)Kitso \quad CL1\text{-come:PRF:DJ}

(15b) Kitso\textsubscript{1} o tsile le ene\textsubscript{1}.
 ‘Kitso too came.’
 lit. ‘Kitso came he too.’
 \text{kitsó} \quad \text{ tô-tsílè} \quad \text{li-ènē}
 (CL1)Kitso \quad CL1\text{-come:PRF:DJ} \quad \text{also-CL1}

(15c) Kitso\textsubscript{1} o tsile le ene\textsubscript{1}.
 ‘Kitso came with him/her.’
 \text{kitsó} \quad \text{ô-tsílè} \quad \text{li-ènē}
 (CL1)Kitso \quad CL1\text{-come:PRF:CJ} \quad \text{with-CL1}

6. The additive coordination of attributive adjectives

In Tswana, attributive adjectives are obligatorily introduced by an attributive
linker (ATTR, also used with relative clauses, expressing class agreement with
the head noun). Neither \text{ATTR1 ADJ1 le ATTR2 ADJ2}
 nor \text{ATTR ADJ1 le ADJ2} are possible ways of expressing the additive
coordination of adjectives. Two strategies are available:
– if the two adjectives refer to mutually compatible characteristics of the
   referent of the head, the adjectives are simply juxtaposed, as in (16c);
   note that the attributive linker is obligatorily repeated;
– if the two adjectives refer to mutually exclusive characteristics of the
   referent of the head noun, \text{le li-} is used, as in (17c), but the construction
   cannot be analyzed as a coordination construction, since the form
   introduced by \text{le li-} is not an adjective agreeing with the head noun: it
   is an abstract noun (characterized by the prefix of class 14) whose
   function can only be analyzed as that of a comitative adjunct.

(16a) \text{monna yo moleele}
 ‘a tall man’
 \text{mù-ânà} \quad \text{jó} \quad \text{mù-lélélè}
 CL1\text{-man} \quad CL1\text{-ATTR} \quad CL1\text{-tall}

\textsuperscript{24} The distinctive property of conjoint verb forms is that they cannot occur in clause-final position,
 whereas disjoint verb forms can be found both in clause-final and clause-internal position. For more
details on the function of the \textit{conjoint vs. disjoint} distinction in Tswana, see Creissels (1996). On the
role of tone in the expression of this distinction, see Creissels (Forthcoming 2016).
ADDITIVE COORDINATION, COMITATIVE ADJUNCTION...

(16b) **monna yo mokima**
'a stout man'

mʊ̀-nən jó mʊ́-kìmà

CL1-man CL1.ATTR CL1-stout

(16c) **monna yo moleele yo mokima**
'a tall stout man'

mʊ̀-nən jó mʊ̀-lêlêlê jó mʊ́-kìmà

CL1-man CL1.ATTR CL1-tall CL1.ATTR CL1-stout

(17a) **kobo e tshweu**
'a white blanket'

kòbè é tsʰʷèú

(CL9)blanket CL9.ATTR (CL9)white

(17b) **kobo e khibidu**
'a red blanket'

kòbè é ʰkʰibídú

(CL9)blanket CL9.ATTR (CL9)red

(17c) **kobo e tshweu le bohibidu**
'a red and white blanket'
lit. 'a white blanket with redness'

kòbè é tsʰʷèú ʰbù-híbídú

(CL9)blanket CL9.ATTR (CL9)white with-CL14-red

Interestingly, it is possible to find nouns followed by two adjectives with /le/ inserted between the two adjectives, but in such a sequence, as shown in (18), /le/ can only be interpreted as expressing the coordination of two NPs, in which the first coordinand is a noun modified by an attributive adjective, and the second coordinand is a headless NP whose unexpressed head is interpreted as lexically identical to the head of the first coordinand.

(18a) [**monna yo moleele le [- yo mokima]**]
'a tall man and a stout one'

mʊ̀-nən jó mʊ̀-lêlêlê ʰli-jó mʊ́-kìmà

CL1-man CL1.ATTR CL1-tall with-CL1.ATTR CL1-stout

(18b) [**kobo e tshweu le [- e khibidu]**]
'a white blanket and a red one'

kòbè é tsʰʷèú ʰli-ɛ ʰkʰibídú

(CL9)blanket CL9.ATTR (CL9)white with-CL9.ATTR (CL9)red

### 7. The additive coordination of clauses

#### 7.1 Introductory remarks

In the general literature on coordination and in descriptions of individual languages, the notion of additive coordination of clauses is sometimes restricted to combinations of clauses consisting of formally independent clauses to which one or more linking elements are added. However, the
definition of coordination quoted at the very beginning of this article does not imply such a restriction. According to this definition, there is no reason to exclude the constructions commonly described as clause chaining constructions from coordination, since in the constructions in question, the fact that all clauses but one (either the first or the last one) are syntactically dependent does not imply a semantic hierarchy.

As already mentioned above, the additive coordination of verbs, VPs, or clauses cannot be expressed in Tswana by means of the same operator le li- as the additive coordination of NPs.25 Tswana sentences equivalent to English sentences involving and-coordination of two verbs, VPs, or clauses obligatorily consist of two clauses, with three possibilities: the two clauses may be simply juxtaposed, they may be linked by a coordinator, or their relationship may be marked by the use of special verb forms in the second clause.

7.2 Interclausal linkers expressing additive coordination

The additive coordination of clauses can be expressed by means of e bile ibilé, whose precise meaning can be rendered as ‘and in addition to that’. Ex. (19) illustrates the complementary distribution between le li-, used to coordinate NPs but not clauses, and e bile ibilé, used to coordinate clauses, but not NPs.

(19a) Ke bua Setswana e bile ke a se kwala.
‘I speak Tswana and in addition I write it.’

\[
\begin{array}{lll}
\text{ke}- & \text{bua} & \text{le} & \text{li} & \text{be} & \text{ke} & \text{a} & \text{se} & \text{kwala} \\
1SG & \text{say} & \text{NP} & \text{NP} & \text{NP} & \text{NP} & \text{NP} & \text{NP} & \text{Tswana}
\end{array}
\]

(19b) *Ke bua Setswana le ke a se kwala.

(19c) Ke rekile diaparo e bile ke rekile ditlhako.
‘I bought clothes and in addition I bought shoes’

\[
\begin{array}{lll}
\text{ke} & \text{rekile} & \text{di} & \text{apar} & \text{be} & \text{rekile} & \text{di} & \text{tlhako} \\
1SG & \text{buy} & \text{NP} & \text{NP} & \text{NP} & \text{NP} & \text{Tswana} & \text{NP}
\end{array}
\]

(19d) *Ke rekile diaparo e bile ditlhako.

Etymologically, e bile ibilé can be glossed as ‘this having been’. It is cognate with an auxiliary whose original meaning can be reconstructed as ‘be’.

Tswana has another interclausal linker frequently used as the equivalent of English and: mme mimi, but contrary to e bile ibilé, which is

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25. As already commented in Section 4.3, le li- can coordinate infinitives or complement clauses introduced by gore qori ‘that’, but this is consistent with the hybrid nature of infinitives (which include the noun prefix of class 15/17 go go- and can occupy typically nominal syntactic positions in which they govern class 15/17 agreement), and with the fact that, etymologically, the complementizer gore qori ‘that’ is the infinitive of ‘say’.
incompatible with an adversative reading, *mme mami* blurs the distinction between additive and adversative coordination. As illustrated by Ex. (20), *mme mami* can be found in contexts in which it unambiguously corresponds to English *and*, but also in contexts in which an adversative reading is more natural, and these two possible uses of *mme mami* are equally common in spontaneous texts.

(20a) *Koloi e thudile tonki mme go na le yo o golafetseng.*

‘The car collided with a donkey and there is an injured person.’

\[
\begin{array}{ll}
\text{kölöí} & \text{ti-tůdlélé} \\
\text{CL9-car} & \text{CL9-collide:PRF:CJ} \\
\text{mami} & \text{χó-nà} \\
\text{and/but} & \text{CL17-be with-CL1.ATTR} \\
\text{ú-χʃláfětšë-ŋ} & \text{CL1-be_injured:PRF:REL}
\end{array}
\]

(20b) *Ke rata mosetsana yo, mme o a nkgana.*

‘I love this girl but she does not like me.’

\[
\begin{array}{ll}
\text{kí-rátá} & \text{mʊ-sɪtsánà jó mami} \\
\text{1SG-love:PRS:CJ} & \text{CL1-girl CL1.DEM} \\
\text{ú-à-ŋ-ŋ²ánà.} & \text{CL17-DJ-1SG-refuse:PRS}
\end{array}
\]

It is absolutely impossible to reduce the clause sequences in which *e bile tiblé* or *mme mami* are involved, whatever elements the clauses in such sequences may have in common. This property sharply distinguishes *e bile tiblé* and *mme mami* from the linkers used for the additive coordination of clauses in European languages.

7.3 Dependent verb forms expressing the additive coordination of clauses

In Tswana, the use of special verb forms is another possible strategy to encode interclausal relationships comparable to those expressed by additive coordinators in other languages: 26

– clause sequences in which the first clause is the only one headed by an independent verb form, and the following ones include sequential verb forms, as in (21c), are a common strategy to describe successive events without further specifying their relationships;

– biclausal constructions in which the second clause is headed by a circumstantial verb form, as in (21d), are a common strategy to describe simultaneous events without further specifying their relationships. 27

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26. For a detailed description of the morphological distinction between independent indicative verb forms, sequential verb forms, and circumstantial verb forms in Tswana, see Creissels & al. (1997).

27. I use the label ‘circumstantial verb forms’ for dependent verb forms that are typically used in adverbial subordination, but show no morphological evidence of non-finiteness (they combine with subjects, express agreement with their subject and inflect for TAM exactly like independent verb forms). In the South-African Bantu grammars that follow the terminological tradition initiated by Doke, they are called ‘participles’, but this term is misleading, since in the traditional grammars of European languages, participles are non-finite forms typically used as noun modifiers, whereas the circumstantial forms of Tswana verbs have subjects exactly like independent verb forms, and by themselves (i.e. in the absence of additional morphological material) cannot be used as noun modifiers, but only as temporal adjuncts.
(21a) *Lorato o tlaa opela.*

‘Lorato will sing.’

lórátô  ı́-tlaá-ópèlà

(CL1)Lorato  CL1-FUT-sing:DJ

(21b) *Kitso o tlaa letsa katara.*

‘Kitso will play the guitar.’

kítsó  ı́-tlaá-ítsà àkatàrà

(CL1)Kitso  CL1-FUT-play:CLJ  (CL9)guitar

(21c) *Lorato o tlaa opela Kitso a letse katara.*

‘Lorato will sing, and then Kitso will play the guitar.’

ló-rátô  ı́-tlaá-ópèlà  kítsó  á-ítsì àkatàrà

(CL1)Lorato  CL1-FUT-sing:DJ  (CL1)Kitso  CL1-play:SEQ:CLJ  (CL9)guitar

(In the second clause, the future form *o tlaa letsa* ʊ́-tłaà-ítsà is replaced by the sequential form *a letse* á-ítsì.)

(21d) *Lorato o tlaa opela Kitso a letse katara.*

‘Lorato will sing, and at the same time Kitso will play the guitar.’

ló-rátô  ı́-tlaá-ópèlà  kítsó  á-ítsà àkatàrà

(CL1)Lorato  CL1-FUT-sing:DJ  (CL1)Kitso  CL1-play:CIRC  (CL9)guitar

(In the second clause, the future form *o tlaa letsa* ʊ́-tłaà-ítsà is replaced by the circumstantial form *a letsa* á-ítsá.)

Here again, as illustrated by Ex. (22), whatever elements the clauses involved in such constructions may have in common, the Tswana constructions lend themselves to no mechanism of ellipsis, contrary to the corresponding constructions in European languages.

(22) *Kitso o nwa mofine Mpho aa nwa biri.*

‘Kitso is drinking wine, and Mpho, beer.’

lit. ‘Kitso drinks wine Mpho drinking beer.’

kítsó  ı́-nⁿá mú-finé n³p⁵

(CL1)Kitso  CL1-drink:PRS:CLJ  CL3-wine  (CL1)Mpho

áà-nⁿá  bìrí

CL1-drink:CIRC  (CL9)beer

8. Inclusory additive coordination

In Tswana, when the coordinands are individual names, the construction expressing the additive coordination of nouns *NP1 le NP2* has the two optional variants *bo-NP1 le NP2* and *ba/tsa ga NP1 le NP2*.

8.1 The *bo-NP1 le NP2* construction

In the first variant of the additive coordination construction *NP1 le NP2*, illustrated in (23c), *bo-* is the prefix designated as the prefix of class

28. To the best of my knowledge, disjunctive coordination is in Tswana the only type of construction in which the same linkers (*kgotsa qʰʊ́tsà, kana kànà*) can operate at NP level and at clause level, making it possible to analyze the disjunctive coordination of NPs as originating from the disjunctive coordination of clauses via ellipsis.
2a in the Bantuist tradition: it is used as a plural prefix for the nouns that govern class 1 agreement but show no overt prefix – Ex. (23a), including proper names of persons, in combination with which this prefix expresses associative plural – Ex. (23b). Noun forms including this prefix govern class 2 agreement exactly like those including the regular class 2 prefix ba- bá-.

(23a) phiri / bophiri
   ‘a hyena’ ‘hyenas’
   pʰírí / bó-pʰírí
   (CL1)hyena CL2a-hyena

(23b) boKitso
   ‘Kitso and his companion(s)’
   bó-kítsɔ́
   CL2a-Kitso

(23c) boKitso le Mpho
   ‘Kitso and Mpho’
   bó-kítsɔ́ li-nMpʰɔ́
   CL2a-Kitso with-(CL1)Mpho

‘Kitso and Mpho’ is not the only possible interpretation of (23c). Given that boKitso alone is interpreted as ‘Kitso and its companions’, another possible reading of (23c) is ‘Kitso and its companions, plus Mpho’. But in addition to this compositional meaning, (23c) has a non-compositional interpretation in which the plural marker bo- bó- seems to make no contribution to the meaning of the construction.

A question that arises at this point is whether bo-NP1 le NP2 in its non-compositional reading is absolutely equivalent to the ordinary additive coordination construction NP1 le NP2. An obvious observation is that bo-NP1 le NP2 is not very frequent in texts, and presumably implies some degree of emphasis. Apart from that, no hypothesis about a possible semantic contrast emerges from my observations on texts or from the comments of my consultants.

8.2 The ba ga NP1 le NP2 construction
In the ba ga NP1 le NP2 variant of the additive coordination of individual names, the first coordinand combines with a sequence of two prefixes (written in Tswana orthography as if they were distinct words).

The first prefix ba bá- is the genitival linker of class 2. This prefix basically expresses agreement of the genitival modifier to which it attaches with a head noun of class 2, but it can also be used by itself to express ‘the people of ...’, as in ba kgosi bá-qʰósi ‘the king’s people’ (servants, warriors, etc.).

29. Note that its H tone distinguishes the genitival linker of class 2 bá- from the nominal prefix of class 2 bá-.
The second prefix *ga χá*- (whose tone becomes L when it is preceded by another H-toned prefix)\(^30\) is the genitival linker of class 17. This means that *ga χá*- basically expresses agreement of a genitival modifier with a head noun of class 17, but can also be used by itself to express ‘the place of ...’, as in *ga Kitso χá-škítsó* ‘at Kitso’s’.

Ex. (24) illustrates this variant of the additive coordination of two individual names.

(24) *ba ga Kitso le Mpho*

‘Kitso and Mpho’

lit. ‘the people of Kitso’s place with Mpho’

\begin{align*}
\text{bá-χá-škítsó} & \text{ li-mpho} \\
\text{CL1.GEN-CL17.GEN-(CL1)Kitso} \text{ with-(CL1)Mpho}
\end{align*}

Here again, the construction is in fact ambiguous. Since *ba ga Kitso* alone means ‘the people of Kitso’s place’, (24) can be interpreted compositionally as ‘the people of Kitso’s place, plus Mpho’. But in addition to this compositional reading, it also has a non-compositional reading in which, according to my consultants, it is interchangeable with (23c).

8.3 The *tsa ga NP1 le NP2* construction

In traditional tales in which names of animals are used as individual names for protagonists that have an ambiguous status between humans and animals, the same construction occurs with the genitival linker of class 8/10 *tsa tsá-* instead of that of class 2. The genitival linker of class 8/10 basically expresses agreement with a head noun of class 8/10, but can also be used by itself to express ‘the things/animals of ...’ – Ex. (25).

(25) *tsa ga Podi le Lengau*

‘Goat and Cheetah’

lit. ‘the things/animals of Goat’s place with Cheetah’

\begin{align*}
\text{tsá-χá-pódi} & \text{ li-ì-ŋá} \\
\text{CL8/10.GEN-CL17.GEN-(CL9)goat} \text{ with-(CL5)cheetah}
\end{align*}

Here again, a compositional reading ‘the things/animals of Goat’s place, plus Cheetah’ is also possible.

8.4 The *bo-NP1 le NP2* and *ba/tsa ga NP1 le NP2* constructions as inclusory additive coordination constructions

In their non-compositional reading, the constructions illustrated by Ex. (23c), (24), and (25) are instances of *inclusory additive coordination*, i.e. of *NI & N2* constructions in which the first coordinand *NI* expresses a meaning that can be glossed as ‘a plural individual with a given entity

\(^30\) In the tonal morphology of Tswana, inherently H-toned prefixes, when preceded by other H-toned prefixes, may have L-toned variants analyzable in terms of H-tone domain retraction motivated by a non-adjacency constraint between H-tone domains. For example, the class 2a prefix *bo- bó-* loses its H tone when immediately preceded by *le- li- ‘with’*. Additional examples concerning verbal prefixes can be found in Creissels (Forthcoming 2016).
(Kitso, Podi) as one of its individual parts’, and the second coordinand N2 restricts this potential denotation by making explicit the individual part(s) of the referent of N1 & N2 not mentioned explicitly in the first coordinand (Mpho, Lengau).

Cross-linguistically, inclusory additive coordination is not rare. Constructions of this type can be found among others in Russian (for example *my s toboj* lit. ‘we with you’ > ‘you and me’) and in some French varieties (for example *nous deux ma sœur* lit. ‘we two my sister’ > ‘my sister and I’). However, all the examples of inclusory additive coordination I have been able to find in the literature include a pronoun as the first coordinand, and the use of pronouns is posited as a general property of inclusory additive coordination in the definition put forward by Bhat (2004: 89-90):

There is a construction called ‘inclusory conjunction’, occurring in several languages, that involves either (i) the conjunction of a personal pronoun with another nominal (in the form of a noun phrase) or (ii) the use of a personal pronoun along with a comitative argument, with the two occurring in different phrases... There are several languages that require the personal pronouns occurring in constructions of the type (1a) [*I and John went to the market*] and (1b) [*I went to the market with John*] to be used in their ‘dual’ or ‘plural’ form, in spite of the fact that they do not by themselves express a dual or plural meaning. That is, the languages appear to indicate the number of the whole phrase through those pronouns rather than the number of their own referent(s).

Ex. (23c), (24), and (25) show that Tswana illustrates an apparently rare variety of inclusory additive coordination, that has so far passed unnoticed in general discussions of coordination, and necessitates broadening the definitions of inclusory coordination found in the literature. In this subtype of inclusory additive coordination, the first coordinand is either the associative plural of an individual name, or a form that transparently means ‘the people of X’s place’.

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31. Interestingly, the Khoisan languages of Southern Africa, which are not genetically related to Tswana but are spoken in the same area, are among the languages in which inclusory coordination is common (Tom Güldemann, p.c.).

32. The only languages with this particular type of inclusory additive coordination I am aware of are Margi (Chadic), Alaskan Eskimo Yu’pik, and Koalib (Kordofanian). The first two are mentioned in Moravcsik’s article on associative plural (Moravcsik 2003: 494-495). I am grateful to Nicolas Quint for calling my attention to the case of Koalib and providing the following example:

\[
\begin{align*}
\text{Kwókkò-ŋ́} & \quad \text{Kwómmè-k-é} \\
\text{Kwókkò-apl} & \quad \text{Kwómmè-cl-com}
\end{align*}
\]

lit. ‘Kwókkò_and_others with Kwómmè’, but commonly used for ‘Kwókkò and Kwómmè’.
9. Additive coordination of NPs and associative plural

9.1 Introductory remarks

Creissels (1991: 157) mentions observations on Sara languages (Central Sudanic, Nilo-Saharan) and Basque suggesting the possibility that plural markers result from the grammaticalization of additive coordinators, and this question is addressed again in Creissels (2015). Tswana illustrates another possible type of interference between additive coordination and plural marking. Moreover, as developed in this section, the inclusory additive coordination constructions presented in Section 8 provide evidence for a possible etymology of the nominal prefix of class 2a – a question that has puzzled generations of Bantuists. However, before developing the hypothesis I am putting forward, I must refute the objections raised by one of the two LLA reviewers against very basic aspects of my analysis of the Tswana nominal prefix of class 2a bo bó-.

9.2 The nominal prefix of class 2a bo- bó-: answer to a reviewer

One of the two LLA reviewers makes suggestions about the analysis of the Tswana nominal prefix of class 2a bo bó- that are in total contradiction with my data on the phonological and morphological properties of this morpheme. I have no idea of where the data evoked by this reviewer may come from, but their suggestions most probably rely on confusions that I will try to correct in this section.

The situation is certainly different in some other Bantu languages, but in Tswana, at least in the two varieties for which I have detailed and precise phonetic data coming from my own field work (Ngwaketse and Ngwato), bo bó- is unquestionably a prefix. There is absolutely nothing that could suggest analyzing it as less tightly bound to the noun stem than the other class prefixes of nouns: it cannot be followed by a downstep, and its H tone can spread to two successive syllables, which means that the tonal properties of the boundary between bo bó- and the noun stem are typically those of a boundary between two formatives of the same word (Creissels & al. 1997: 20-23).

Moreover, the reviewer’s remark that “the vowel quality and the high tone of the prefix bo patterns with properties seen in other proclitics and in locative prefixes mo- and go- which take a prefixed noun as a complement” makes no sense, and just reveals very serious confusions. Synchronically, Tswana does not have the locative prefix of class 18 mo- mʊ-, but only frozen vestiges thereof. Tswana does have the locative prefix of class 17 go- χʊ- (as in χʊ-lb ‘place’), but like all the other class

33. In particular, the parallelism suggested by this reviewer with the locative prefixes of Shona has no value, since Shona has the locative system typical for Central Bantu languages, whereas Tswana is among the Southern Bantu languages whose locative system has been radically reorganized, as briefly explained in Section 3.3 above – for more details, see Creissels (2011).
prefixes of nouns that are obvious reflexes of Proto-Bantu noun prefixes, it has the low tone and the vowel o expected from the regular correspondences between Proto-Bantu and Tswana. Moreover, the locative prefix go- χʊ̀- does not “take a prefixed noun as a complement”, but directly attaches to the noun stem, like all class prefixes.

In fact, rather than the locative class prefixes mo mʊ̀- and go χʊ̀-, the reviewer probably has in mind fa fá, ko kó, and mo mó. However, synchronically, as demonstrated in Creissels (2011), fa fá, ko kó, and mo mó are prepositions completely devoid of the properties that could justify analyzing them as prefixes, and they have no possible involvement in class agreement. The tonal processes operating at their boundary with the noun that follows them are typically those operating at the junction between words (they can be followed by a downstep, and their H tone cannot spread to more than one syllable). Diachronically, they are not the reflexes of Proto-Bantu prefixes, but former demonstratives of locative classes that have grammaticalized as prepositions.

There is also a possible confusion with the locative marker go- χʊ̀-, which marks locative phrases in complementarity with the locative suffix -ng -ŋ (and like -ng -ŋ, is not involved in class agreement). Like bo bó- (and contrary to fa fá, ko kó, and mo mó), go- χʊ̀- has the tonal properties typical for affixes, and it has a H tone, but its vowel is different, and it probably originates from the grammaticalization of a dependent form of the copula – Grégoire (1975).

Suggestions relying on such confusions cannot have any value, and I will not consider them in the analysis that follows.

9.3 Inclusory additive coordination and the origin of the nominal prefix of class 2a bo- bó-

It is widely acknowledged that it is not possible to reconstruct a class 2a marker in Proto-Bantu, and the question of the possible origins of the class 2a markers found across Bantu languages remains an unsolved problem.

Van de Velde (2006) tackles the question of the origin of the marker commonly designated as class 2a prefix with reference to Eton (A71). The analysis I propose here, although different, does not contradict Van de Velde’s analysis. The point is that there are important differences between the Eton and Tswana data. In particular, in Eton, the class 2a marker is not a prefix, whereas in Tswana, as mentioned in Section 9.2, its behavior as concerns the tone sandhi rules is unambiguously that of a prefix. Consequently, it seems reasonable to posit that the class 2a prefixes found across the Bantu family do not result from a grammaticalization path shared by all Bantu languages, but rather from different grammaticalization paths whose only common point is that their input included some marker or pronoun belonging to class 2.
The analysis put forward in the remainder of this section implies absolutely no claim about the possible extension of the etymology I propose for the Tswana prefix of class 2a to a greater or lesser proportion of Bantu languages.

The only obvious thing about the Tswana prefix of class 2a bo- bó-(and the same can be said about the class 2a markers of many other Bantu languages) is that it cannot be the reflex of a reconstructed Bantu prefix. Its high tone is not normal, and its vowel is problematic too, since no Proto-Bantu vowel has [o] as its regular reflex in Tswana. As discussed in Creissels (2005), in present-day Tswana, /o/ is a phoneme distinct from both /ʊ/ and /ɔ/, and /e/ is a phoneme distinct from both /u/ and /e/, but the vowels [o] and [e] emerged in the history of Tswana as the result of various processes, and cannot be straightforwardly identified as the reflexes of Proto-Bantu vowels in certain contexts.

However, the fact that the Tswana prefix of class 2a bo- bó- occurs in one of the two variants of inclusory additive coordination, the other variant being etymologically transparent, suggests a possible grammaticalization scenario.

The hypothesis I propose to explore is that both variants of inclusory additive coordination in Tswana have ‘the people at X’s place with Y’ as their etymology, and consequently, the original meaning of the class 2a prefix is ‘the people at X’s place’. Semantically, there is no difficulty in imagining a grammaticalization path by which an expression whose original meaning was ‘the people at X’s place’ grammaticalized first as an associative plural marker with individual names and kinship terms, and the use of the associative plural marker was subsequently extended to other nouns as a plain plural marker.

According to this hypothesis, in the ba ga X le Y variant of the inclusory additive coordination construction, the element carrying the meaning ‘the people of’ and the locative element have remained distinct and can be identified without any problem, whereas in the bo-X le Y variant, they have fused into a synchronically unanalyzable morpheme. And precisely, it is not difficult to find a locative marker whose fusion with the genitival linker of class 2 ba bá- may have given the class 2a prefix bo- bó-. Tswana has a locative prefix go χʊ- used in particular with individual names. The forms resulting from the prefixation of the genitival linker of class 17 ga χá- and of the locative marker go χʊ- to individual names are not entirely synonymous, but both of them basically encode that the person referred to fulfills the function of ground in a

34. In the remainder of this section, square brackets are systematically used in order to emphasize that e and o must not be understood with their value in the current orthography of Tswana, but with their precise IPA value [e] (not [ɪ] or [ɛ]) and [o] (not [a] or [ɔ]). Slashes are used when it is important to emphasize their phonemic status. This precision is crucial for a proper evaluation of the hypothesis I am putting forward.
spatial relationship with another entity in the role of figure.

Consequently, there is no difficulty (either from the phonetic or semantic point of view) in imagining that the prefix of class 2a bo- bó-, still used with individual names as an associative plural marker, may have resulted from the contraction of a sequence *ba ga bó-χó- (genitival linker of class 2 + locative marker) whose etymological meaning (‘the persons at X’s place’) was not very different from that of the sequence ba ga bó-χá-, which in present-day Tswana is interchangeable with bo bó-in inclusory additive coordination.

Table 1. Tswana demonstratives (classes other than 1 and 15/17)

<table>
<thead>
<tr>
<th>Class</th>
<th>DEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>[ba]</td>
</tr>
<tr>
<td>3</td>
<td>[o]</td>
</tr>
<tr>
<td>4</td>
<td>[e]</td>
</tr>
<tr>
<td>5</td>
<td>[le]</td>
</tr>
<tr>
<td>6</td>
<td>[a]</td>
</tr>
<tr>
<td>7</td>
<td>[le]</td>
</tr>
<tr>
<td>8/10</td>
<td>[tse]</td>
</tr>
<tr>
<td>9</td>
<td>[e]</td>
</tr>
<tr>
<td>11</td>
<td>[lo]</td>
</tr>
<tr>
<td>14</td>
<td>[dʒo]</td>
</tr>
</tbody>
</table>

This analysis is further supported by the fact that, in Tswana historical phonology, the contraction of originally dissyllabic sequences is a major source of [o] and [e]. For example, Tswana demonstratives in their simplest form are monosyllabic. However, they result from the fusion of a class prefix with another formative, and with the exception of classes 1 and 15/17, which are problematic in several respects, they can be straightforwardly described as having a vowel [a], [e], or [o], depending on the vowel normally found in the prefixes characteristic of each class (see Table 1): in the classes which in other contexts are expressed by prefixes including an [a], the vowel of the demonstrative is [a], it is [e] in

35. The demonstrative of class 1 yo [jó] shows an initial [j] that has no obvious explanation. The variants of the demonstrative of class 15/17, namely fa [fá], ko – kwa [kó – kwá], and mo [mó] are vestiges of the former distinction between three distinct locative classes, which has been lost in Tswana – see Creissels (2011).
the classes normally expressed by prefixes including an [a] or an [i], and
finally, it is [o] in the classes whose prefixes normally include an [u].

The reasonable hypothesis is therefore that, in the demonstratives, [e] and [o] resulted from the contraction of sequences that initially included a close vowel and an [a], which makes very plausible the explanation proposed above about the origin of the nominal prefix of class 2a.

10. Conclusion
In this paper, I have tried to show how the additive coordination constructions found in Tswana can contribute to a general typology of coordination. Tswana has a strict distinction between the additive coordination of NPs, attributive adjectives, and clauses, but uses the same proclitic le li- as an additive coordinator for NPs (‘and’), as an additive particle (‘also’), and as a comitative marker (‘with’). None of the constructions expressing additive coordination in Tswana lends itself to mechanisms of ellipsis comparable to those found in European languages. Inclusory additive coordination is of particular interest, since Tswana has a cross-linguistically rare type of inclusory additive coordination, with the associative plural form of an individual name as the first coordinand. Moreover, the comparison of the two variants of inclusory additive coordination suggests that the nominal prefix of class 2a bo- bó-, used in particular with individual names as an associative plural marker, may result from the contraction of the sequence *ba go bá-χó- (genitive linker of class 2 + locative marker).

Abbreviations

References


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CREISSELS, Denis. Forthcoming 2016. The conjoint-disjoint distinction in the tonal morphology of Tswana.


