



The Syntax of Locative Inversion: The Preverbal Locative NP in Lexical Functional Grammar

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Abstract

Locative inversion construction in Setswana, as in other Bantu languages, defies straightforward analysis in the sense that the preverbal locative NP does not pass the subject hood test, while the post-verbal NP shows features atypical of objects. In the literature in locative inversion constructions, there is a predominant tendency to analyse the preverbal locative NP as the subject (Bresnan and Karneva 1989 for Chichewa, Machobane 1995 for Sesotho Demuth and Mmusi 1997 for Setswana). I argue that the preverbal locative NP in Setswana is not the subject but the topic setting the scene for the focused NP. Data is drawn from some of the findings of the study I conducted on the locative inversion constructions in Botswana in 2003. I explore an information structure analysis of the findings. I also propose an analysis within Lexical Functional Grammar (Henceforth LFG), a non-transformational theory which considers languages that are discourse-sensitive and reserve particular positions for pragmatically salient elements, such as topic and focus.

1. Introduction

There are conflicting views in the literature on locative inversion constructions. One group of researchers claim that the preverbal locative NP in locative inversion constructions is the subject of the sentence because it passes the subjecthood tests (Bresnan and Karneva 1989 for Chichewa, Machobane 1995 for Sesotho, Demuth and Mmusi 1997 for Setswana). Another group holds the view that the preverbal locative NP is an adverbial, but not a subject (Perez 1983 for Chishona and Demuth 1990 for Sesotho). Furthermore, the post-verbal noun phrase that alternates with the locative NP is viewed as the object by virtue of being in post-verbal position

(Coopman 1989, Levin and Rappaport 1995). These analyses, in which the locative inversion sentence is essentially treated as a canonical transitive sentence with a subject and an object, are not wholly tenable. The aim of this paper is to argue that the preverbal locative NP is topic setting the scene for the post-verbal focused NP. In particular, I investigate the interaction of grammatical positions with discourse functions that contribute to information structure in the phenomenon of locative inversion construction. Locative inversion constructions are those constructions in which the subject and the locative NP occurring with intransitive verbs of posture, motion and existence have alternated, resulting with the order [NP_{loc} V NP], which differs from the canonical ordering [NP V NP_{loc}], such as the English verb, *stand* in (1).

- (1) a. Tom is standing on the rock. [English
canonical word order]
b. On the rock is standing Tom. [English
marked word order]

Example (3) shows comparable constructions on the verb *nna* 'sit' in Setswana

- (2) a. Mo-nna o-nts-e mo-se-tilo-ng.
[Setswana canonical word order]
1-man 1SM-sit-M 18-7-chair-LOC
'The man is sitting on the chair.'
- b. Mo-se-tilo-ng go-nts-e mo-nna.
[Setswana marked word order]
18-7-chair-LOC 17SM-sit-M 1-man
'On the chair is sitting the man.'

The (a) sentences in (1) and (2) are the unmarked (canonical order) version of the (b) examples. (Note that Setswana, like English, has canonical SVO word order.). In (2a), the subject *monna* agrees with the subject marker 'o' (prefixed to the verb) in terms of class, number and person. In example (2b) with the preverbal locative, the verb takes the class 17 subject marker *go-*. What is interesting about the operation of locative inversion constructions in (1) and (2) is that there is neither addition nor suppression of any argument, a phenomenon common in other argument alternations, such as, the suppression of the AGENT in passivisation. This feature of locative

inversion constructions has implications for the formal theory of LFG, in that the grammatical positions in the argument structure are linked to discourse functions such as *topic* and *focus* in the f(unctional)-structure, as discussed in this paper.

1.1 Literature in locative inversion

Prior to Perez' study, many grammarians analysed the sentence initial locative in Bantu locative inversion constructions as the subject, while the post-verbal subject that alternates with this locative was considered to be the object. Perez claims that the preverbal locative noun phrase in Shona is not the grammatical subject because it fails the subjecthood criteria of reflexivisation and Equi-NP deletion. She argues that the preverbal locative NP occurs as an optionally fronted adverbial in a subjectless sentence. Perez argues that the class 17 concord is not locative in nature, but functions as impersonal concord in these constructions and marks the sentence as subjectless. According to this analysis, the class 17 concord is not conditioned by the presence of the locative NP in the sentence, but functions as a kind of expletive concord, marking the presence of a semantically empty subject.

Bresnan and Kanerva (1989 Hence forth B&K) claim that the preverbal locative NP is the subject because it passes the subjecthood test of subject-verb agreement and absence of expletive subject. B&K argue that when the locative noun phrase is not present, the subject marker is not a dummy expletive but a resumptive pronoun that refers anaphorically to the covertly expressed (topic) locative noun phrase. They observe that, unlike Shona, Chichewa has no expletive subjects impersonal passives and impersonal use of locative subject marker. Demuth (1990) argues that the preverbal locative NP is not the subject because it fails subjecthood tests of subject-verb agreement and reflexivisation. She claims that the Sesotho impersonal *ho-* is a dummy (expletive) subject since it neither has the locative meaning nor resumptive functions. Machobane (1995) claims that the locative in Sesotho displays properties of both NP and PP, argument and adjunct. According to Machobane, the preverbal locative NP in Sesotho is a subject because it satisfies the subjecthood criteria of questioning in-situ and subject raising.

Demuth and Mmusi (1997 Henceforth D&M) argue that the preverbal locative NP in Setswana is a grammatical subject because it passes the subjecthood tests of subject-verb agreement and subject raising. According to D&M, just as subject can raise from Spec-VP to Spec-IP, thereby triggering agreement on the verb, where the subject noun phrase and AGR are in agreement, the locative noun phrase in locative inversion constructions also raises to Spec-IP (subject) position, where it agrees in class with the subject marker. Demuth and Mmusi (1997:6) further argue that the preverbal locative noun phrase can raise from the lower to higher position in constructions occurring with verbs like *lebega* 'seem' and *solofela* 'expect'. According to Demuth and Mmusi, the fact that the verbs *lebega* 'seem' and *solofela* 'expect' can be preceded by the locative phrase, which they claim has raised from the embedded clause to the matrix clause, is an indication that the inverted locatives in Setswana can function as grammatical subject. In this case, the subjects of the embedded clause is associated with that of the matrix clause. D&M argue that, when occurring as a subject, the locative NP takes the class 17 *go-* subject marker. However, D&M observe that when the locative NP is not present, the class 17 subject marker functions as expletive agreement, because like the Chishona locative subject marker, it lacks inherent locative semantics.

In this paper, I set out which of the positions in literature I adopt with respect to Setswana. I identify some problems with some of the claims made in the literature as they apply to Setswana locative inversion constructions. With the aid of syntactic diagnostics explored in the literature, I show that the preverbal locative in Setswana locative inversion constructions cannot be the subject. The paper is organised as follows: Section 2 provides the background and the description of some aspects of structure of Setswana relevant to the topic of this paper. Section 3 shows with the aid of syntactic diagnostic explored by the previous researchers that the preverbal locative NP in Setswana locative inversion constructions cannot be the subject. Section 4 describes the data. The section provides the empirical findings of the study and develops an information structure analysis of these findings. The section explores the hypothesis that the preverbal locative NP in locative inversion constructions is topic, setting the scene for the

focused NP. Section 5 presents and illustrates the theoretical (LFG) analysis of the data described in section 4.

2. Background on the Setswana language

Setswana language is spoken in Botswana and many parts of South Africa, including the Northern Cape, central and western Free State and the Northern Province, as well as the neighbouring countries such as Namibia, Zimbabwe and Zambia (Conner 2004:). Setswana has thirteen dialects, which include Sekgatla, the dialect of investigation in this study. In total Setswana is spoken by approximately 1,070,00 people in Botswana and by over 4.4 million in all countries (Johnstone 1993, cited in SIL 2005). Setswana belongs to the Bantu branch of the Niger-Congo language family. Two well known properties of the Bantu languages are the noun class system and the fact that the Bantu languages are tone languages. Within Bantu, Setswana is a member of the South Eastern branch, falling within the Sotho language sub-group together with two closely related languages, Southern Sotho and Northern Sotho (SIL 2005).

2.1 Noun phrase

In terms of grammatical structures, Setswana shares characteristics features such as noun classes and tone with other Bantu languages. The language has a noun class system, in which every noun belongs to a specific class. The noun classes are traditionally classified according to Meinhof's (1899, cited in Cole 1955:68) numbering system of nominal classification structure for Proto-Bantu (Carstens 1993, Newmann 1999:29). Noun class subsumes number and person, i.e., if something is noun class 1, then it is necessarily singular (and 3rd person), if it is noun class 2, then it is plural, as in (3) below. Plurals of classes 11 and 12 are found in class 10 because they share the same prefixes with this class (Cole 1955:230, Mogapi 1984:97).

- | | | | | |
|-----|----|-------------|----|-------------|
| (3) | a. | mo-sadi | b. | ba-sadi |
| | | prefix-stem | | prefix-stem |
| | | 2-woman | | 2-woman |
| | | 'women' | | 'woman' |

In contrast, the class prefix 15 *go-*, which combines with stems to make infinitive verbs and the locative classes 16 (*fa-*) 17 (*go-*) and 18 (*mo-*) which are prefixed to nouns or pronouns to form locative phrase of time and place do not have plural counterparts. Noun classes play a very important role in the agreement patterning found within noun phrases and between noun phrases and verbs (and other) prefixes. Many of the Bantu languages have lost some of the Proto-Bantu classes, such as, **pa-* (class 16), **ku-*(class 17), **mu-* (class 18) (Machobane 1995:116). Conversely, Setswana makes productive use of all the three locative prefixes corresponding to Proto-Bantu prefixes, as shown in (4) below.

(4)	a. <u>fa</u> -tshe rago[locative noun phrase] 16-ground 'ground'	b. <u>go</u> -dimo 17-on top 'top'	c. <u>mo</u> - 18-back 'back'
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Another characteristic feature of the Bantu noun class system that is also found in Setswana is the agreement system in which nominal modifiers, and the verb agree with the head noun with respect to its class features. Pronouns are also marked for noun class. Greenberg (1977, 1978, cited in Bresnan and Mchombo 1995:212) hypothesises class markers in Niger-Congo as evolving historically from syntactic elements of noun phrases, such as, classifying determiners or articles, which become morphologically bound as prefixes or suffixes over time.

2.2 Grammatical functions of noun phrases

This section describes the grammatical functions of noun phrases, specifically subject and object functions, and the verbal prefixes associated with these functions, the subject markers (SM) and object markers (OM). The description of the distribution of the, SM (an agreement marker) and OM (an incorporated pronominal) is important because it is central to the distinction between subject and topic, and consequently to the analysis of the subject marker morpheme *go-* that obligatorily occurs in locative constructions.

2.2.1 Subject

The subject in Setswana immediately precedes the verb in the unmarked sentence structure and is followed by the SM, which is a

bound morpheme prefixed to the verb. The subject agrees with the SM in terms of person, class, and number. It is for this reason that the SM is usually described as an agreement marker. It is obligatory for all finite clauses to have a subject marker. For instance, in example (5) below, the class 2 *banna* ‘men’ triggers obligatory class 2 agreement in the form of the prefix *ba-* on the verb *ja* ‘eat’.

- (5) Ba-nna **ba**-j-a bo-gobe.
 [unmarked]
 2-man 2SM-eat-M 14-porridge
 ‘The men are eating porridge.’

The subject marker *ba-* in (5) agrees with the class prefix *ba-* of the noun *banna* ‘men’ in terms of number (plural), person (3rd) and class (2), as shown in the morpheme-by-morpheme translation. However, because Setswana is a ‘*pro-drop*’ language, the subject may be omitted in a context in which its referent can be recovered, as in (6). The SM *ba-* remains a grammatical agreement marker here in the sense that it shows agreement between the understood human subject (indicated by null pronominal argument *pro*) and the verb.

- (6) [pro] Ba-j-a bo-gobe.
 [no lexical subject]
 2SM-eat-M 14-porridge
 ‘They are eating porridge’

The subject may also appear in the right periphery of the sentence as a topicalised afterthought, as in (7).

- (7) [pro]Ba-j-a bo-gobe, ba-nna.
 [‘post-posed’ subject’]
 2-SM-eat-M 14-porridge 2-man
 ‘They are eating porridge, the men’

In example (7), agreement holds between the subject marker and the null pronominal (*pro*). The clause-external noun phrase *monna* ‘man’ is linked by co-reference to *pro* in the clause and hence has agreement features in common with the subject marker. Examples (5) and (6) illustrate that according to the analysis adopted here, which treats Setswana as a *pro-drop* language, the SM functions as an agreement marker on the verb regardless of whether there is a

lexicalised clause-internal subject or not. In *pro*-drop constructions, the SM carries the grammatical features that enable the hearer to retrieve the intended referent. When there is no lexicalised clause-internal subject, the null subject (*pro*) carries the thematic role associated with the subject position.

The alternative to the *pro*-drop analysis, adopted by some Bantu linguists (Bresnan and Mchombo 1987), is to argue that the SM is ambiguous between grammatical agreement marker and incorporated pronominal, so that it functions as an agreement marker when there is a clause-internal subject (a lexicalised NP or independent pronoun), and as an incorporated pronominal when the subject is absent or clause-external (topicalised).

Some historical facts suggest that the Bantu SM (and the OM, discussed below) has its roots in a pronominal/deictic system. Givón (1976, cited in Bresnan and Mchombo 1987) argues that subject and object markers evolved from resumptive subject and object pronouns that were used with topicalised subjects and objects, and that over time they cliticized to their verbs. While this historical explanation may be valid, from a synchronic perspective, the SM seems to have become completely grammaticalised as an agreement marker. Thus the view which treats Setswana as a *pro*-drop language, is adopted here because it provides a consistent analysis of the SM, regardless of whether a lexical subject is present or not. Such *pro*-drop structures are widely-attested cross-linguistically.

2.2.2 Object

In Setswana the object follows the verb and must be adjacent to it, as in (8a) below. The object cannot be left out of a transitive sentence without destroying its grammaticality (as in 8b), unless it is pronominally represented by an object marker (OM). (See examples in (9) below.). Therefore, unlike the SM, which is obligatory in all finite clauses, the OM is not always required, as shown by its obligatory absence in (8a) below. This represents the unmarked case in which the NP *bogobe* 'porridge' is interpreted as a straightforward, clause-internal object.

- (8) a. Mo-nna o-j-a bo-gobe
 [unmarked]
 1-man 1SM-eat-M 14-porridge
 'The man is eating porridge.'

- b. *Mo-nna o-j-a
 [no object]
 1-man 1SM-eat-M

When an OM occurs in a sentence, it is a bound morpheme immediately preceding the verb stem, and is preceded by the tense marker (if one occurs), which in turn is preceded by the subject marker. The object marker may be incorporated into any transitive verb and carries the same class, person and number features as the object, as in the examples in (9a) and (9b). In some cases, the OM may co-occur in the sentence with a core-referential clause-external noun phrase, in the left/right periphery, as in (9a) and (9b), respectively. The underlining shows co-referentiality between the topic and resumptive pronoun.

- (9) a. Bo-gobe, mo-nna o-a-bo-j-a.
 [pre-verbal object + OM]
 14-porridge 1-man 1SM-PRES-14OM-eat-M

‘Porridge, the man is eating it.’

- b. Mo-nna o-a-bo-j-a,
bo-gobe. [post-verbal object + OM]
 1-man 1SM-PRES-14OM-eat-M 14-porridge
 ‘The man is eating it, porridge.’

- c. Mo-nna, o-a-bo-j-a.
 [OM]
 1-man 1SM-PRES-14OM-eat-M
 ‘The man, he is eating it.’

- d. *Mo-nna o-a- *bo-gobe j-a,
 [no object NP in OM position]
 1-man 1SM-PRES 3-porridge eat-M

Prosodic features (for example, a pause, which is indicated by the comma in these examples) distinguish constructions like (8a) with a clause-internal object from constructions like (9b), in which the nominal expression *bagobe* ‘porridge’ is in the clause-external right periphery. In (9a) and (9b), the nominal occurring outside the clause, performs the topic/afterthought function, respectively. The

OM is co-referential with the topics, and therefore functions as a clause internal resumptive pronoun.

2.3 Adverbials of place and time

In this section, I describe the locative adverbial nouns of place and time in Setswana since they are central to the locative inversion constructions. The Setswana adverbial can be defined as a word or phrase that modifies qualificatives (modifiers of nouns), verbs or other adverbs with respect to manner, place, or time (Cole 1955:64), as in (10a) and (10b). They are important because they occur with the intransitive and passivised transitive verbs that are capable of undergoing locative inversion constructions that are explored in this paper (Bresnan and Kanerva 1989:17). Conversely, adverbials expressing concepts such as manner or reason do not receive treatment in this section since they do not occur in locative inversion constructions. Examples (10a) and (10b) below show how locative noun phrases are used in sentences in an adverbial way.

(10) a. Mo-nna o-il-e mo-rak-eng.

1-man 1SM-go-M 3-cattlepost-LOC
'The man has gone to the cattlepost.'

b Mo-sadi o-nts-e mo-ntlo-ng.
1-woman 1SM-sit-M 18-9.house-LOC
'The woman is sitting in the house.'

Examples, (10a) shows the noun *moraka* 'cattlepost' with the locative suffix *-eng*, while (10b) shows the noun *ntlo* 'house' with the locative prefix *mo-* and the locative suffix *-ng*.

2.4 Argument structure

Argument structure is a specification of the lexical entry of each predicator. In Setswana, as is in other languages, each verb that heads the clause requires a specific number of arguments that must be satisfied in the syntax. For instance, the Setswana verb *reka* 'buy' in (11a) normally takes two arguments, which take the semantic roles of AGENT and PATIENT. The number of arguments that the verb takes (its valency) may be modified by morphosyntactic processes. For instance, Setswana, as is the case with other Bantu languages, has a set of affix-driven rules that alter

the verb's argument structure in very specific ways. For instance, the verb *reka* 'buy' usually takes two arguments, but in (11b) it has the applicative suffix *-el-* attached to its root resulting in the introduction of an additional, BENEFACTIVE argument to the clause. The most common arguments structures in Setswana, as in other languages, are: i) monotransitive, ditransitive, and intransitive. The monotransitive structures are those that take one argument that is internal to the verb phrase in addition to the external argument (i.e., the subject) as in (11a). The ditransitive constructions are those that take two internal arguments in addition to the external AGENT, as in (11b).

- (11) a. Mo-nna o-rek-a mo-sese.
[unmarkd verb]
1-man 1SM-buy-M 3-dress
'The man is buying a dress'
- b. Mo-nna o-rek-el-a ngwa-na mo-sese
[marked]
1-man 1SM-buy-APPL-M 1.child 3-dress
'The man is buying a dress for the child'

The intransitive constructions are those that take one external argument. Intransitive constructions include unaccusative, ergative, and unergative constructions. Unaccusative constructions are those in which the grammatical THEME object of the verb typically surfaces as subject. Semantically, this subject lacks the AGENT properties that are normally ascribed to subjects. Ergative constructions are the type in which the verb can be used either transitively by virtue of having the grammatical object or intransitively when the grammatical object becomes the THEME subject argument of the same verb, as in (12b). Unergatives are constructions in which the grammatical subject of the clause is the AGENT argument, as in (12c).

- (12) a. Mo-nna o-a-gorog-a
[unaccusative]
1-man 1SM-PRES-arrive-M
'The man is arriving.'

- b. Le-swana le-a-rob-eg-a
[ergative]
5-spoon 5SM-PRES-break-STA-M
'The spoon is breaking.'
- c. Pudi e-a-rot-a [unergative]
9.goat 9SM-PRES-urinate-M 'The goat is urinating.'

3. Problems identifies

The analyses of the contrasting view about the preverbal locative NP and the class 17 subject marker in locative inversion constructions discussed in section 1.1 rest upon various subjecthood criteria that are used to determine the status of the preverbal locative NP. In this section, I set out which of the positions in the literature are adopted in this paper with respect to Setswana. I identify some of the problems with some of the claims made in the literature as they apply to Setswana locative inversion constructions. With the aid of syntactic diagnostic used in the literature, I show that the preverbal locative NP in Setswana locative inversion constructions cannot be the subject. However, some analyses in Chishona, Chichewa and Sesotho and Setswana are convincing in light of properties of locative inversions constructions, while others cannot be upheld in the case of Setswana locative inversion construction. First, in Chishona (Perez 1983) and Sesotho (Demuth 1990), the Setswana inverted locative shows properties typical of an adverbial rather than a subject. The claim that the class 17 subject marker is a form of 'expletive agreement' that marks semantically empty subject in Chishona (Perez 1983), Sesotho (Demuth 1990) and Setswana (D&M 1997) can indeed be upheld for Setswana.

3.1 Subjecthood criteria

B&K (1989), Machobane (1995) and D&M (1997) argue that the preverbal locative NP has raised from VP-internal position to the (Spec IP) position in front of the verb and therefore triggers agreement. Observe that this position rests upon the premise that the locative originates in verb-internal position. However, the Setswana locative phrase shows properties more typical of an adjunct than a subject, suggesting an analysis along the lines of Perez's (1983) analysis, which treats the class 17 subject marker as

an expletive. That the locative is an adjunct is indicated by the fact that it has positional mobility in the sentence in which it occurs. It can occur post-verbally and preverbally, as in (13a) and (13b), respectively. Examples (13a) and (13b) show the locative phrase occurring external to the argument structure of the clause. Example (13c) shows that the locative can occur immediately before the verb and the predicate ‘there is standing the man’, which shows that the apparent locative concord is not dependent on the presence of the locative phrase in the clause. In these constructions, the preverbal locative is not a subject and therefore cannot control subject agreement, which predicts that the agreement is controlled by something else (empty subject), as can be shown by the examples without the locative phrase (see examples 14 below).

- (13) a. Mo-nna [o-em-e] mo-le-tlape-ng.
[post-verbal locative]
1-man 1-stand-M 18-5-rock-LOC
‘The man is standing on the rock.’
- b. Mo-le-tlape-ng mo-nna o-em-e
[preverbal locative & NP]
18-5-rock-LOC 1-man 1-SM-stand-M
‘On the rock the man is standing.’
- c. Mo-le-tlape-ng go-em-e mo-nna.
[preverbal locative & post-posed NP]
18-5-rock-LOC 17SM-stand-M 1-man
‘On the rock is standing the man.’

B&K’s (1989) view that locative agreement markers in Chichewa have locative meaning does not hold for Setswana. Recall B&K’s view that when the locative noun phrase is not present, the class 17 subject marker is not an expletive but has meaning in the sense that it refers anaphorically to the covertly expressed locative phrase. In contrast, Setswana constructions with locative markers pattern with those of Chishona (Perez 1983). Like the Chishona locative subject markers, the Setswana locative subject markers are semantically empty, as shown in the occurrence of *go-* with inverted locatives, weather verbs, and impersonal passive constructions illustrated by examples in (14a) through (14d), respectively.

The syntax of locative inversion:.....

- (14) a. Go-nts-e mo-nn-a.
 (locative verb)
 17SM-sit-M 1-man
 'There is sitting the man.'
- b. Go-tsididi.
 (weather verb)
 17SM-be.cold
 'It is cold.'
- c. Go-n-a pula. (weather verb)
 17SM-fall-M rain
 'It is raining.'
- d. Go-a-je-w-a. (impersonal passive verb)
 17SM-PRES-eat-PASS-M
 'There is being eaten.'

None of the class 17 subject marker in (14) have locative meaning. The morpheme *go-* in the examples in (14) represents expletive concord, which occurs with an empty subject but does not represent an absent locative. Unlike Chichewa, the full range of locative markers is no longer available in Setswana. The class 17 subject marker has been grammaticalised as an expletive and 16 and 18 have been lost as locative subject markers.

Also problematic is the argument advanced by B&K (1989; Chichewa), Machobane (1995; Sesotho) and D&M (1997; Setswana) that the preverbal locative NP is the subject because it can raise in the way subjects do. The preverbal locative NP in Setswana does not behave like a subject in the context of raising verbs like *lebeqa* 'seem'. The raising verbs require subject NPs to raise from the finite or non-finite complement clause to the matrix subject position, as illustrated by, (15) and (16).

The syntax of locative inversion:.....

the distribution of the locative NP in a clause containing the raising verb *lebega* ‘seem’.

- (17) a. Mo-se-tilo-ng_i go-lebeg-a ----t_i go-nts-e mo-nna.
 18-7-chair-LOC 17SM-seem-M 17SM-sit-M
 1-man
 ‘On the chair seems to be sitting the man.’
- b. Go-lebeg-a go-nts-e mo-nna (mo-se-tilo-ng).
 17SM-seem-M 17SM-sit-M 1-man 18-7-chair-LOC
 ‘There seems to be sitting the man on the chair.’
- c. Go-lebeg-a mo-se-tilo-ng go-nts-e
 mo-nna.
 17SM-seem-M 18-7-chair-LOC 17SM-sit-M
 1-man
 ‘It seems on the chair is sitting the man.’

Although the clause-initial position of the locative phrase in (17a), together with class 17 subject marker, might initially suggest a raising analysis of the locative phrase, observe that the remainder of the examples in (17) call this analysis into question. Example (17b) shows that the verb *lebega* ‘seem’ displays class 17 concord when the locative phrase is clause-final, or when the locative phrase is absent altogether. Example (17c) shows that the verb *lebega* ‘seem’ shows class 17 concord when the locative inversion construction is embedded. The examples in (17) therefore show that the class 17 subject marker is best viewed as expletive. And thus there is no evidence that the preverbal locative is a subject. Instead, it displays properties characteristic of an adverbial, particularly with respect to its optionality and its positional mobility.

D&M (1997) claim that the preferred occurrence of the relativised locative NP without the resumptive pronoun *teng* ‘there’ is an indication that it patterns like a subject. This is not the strongest evidence available, since locatives show some inconsistency with respect to resumption in relative clauses. In cases of non-locative relativisation, subject relatives do not allow resumptive morphemes

and non-subject relative requires them. Yet *teng* is grammatical (although according to D&M, levels of speaker preference vary) whether or not the relativised locative occurs in preverbal or post-verbal position. The speaker preferences that D&M rely upon are consistent with a position that locatives are, in Perez's terms, 'pseudo-subjects'. That is, it may be the case that they are perceived by speakers at the surface as being subject. But the fact that they are not bound by the restriction on resumptive pronoun for subject and object relatives indicates that locatives are not true subjects or objects.

Machobane holds that locatives are subjects because questions about the preverbal locative phrases in Sesotho are formed, as for subjects, by clefting. However, this is not a compelling argument for Setswana since this is not the only strategy used for questioning locative phrases, the fact that Setswana can have constructions such as one in (18) is an indication that locatives can also be questioned in situ.

(18) a. Ke-eng se-se-je-w-a-ng ke
mo-sadi ? [object wh-cleft]
COP-what 7REL-7OM-eat-PASS-M-RLby 1-woman
'What is it that is eaten by the woman?'

b. Mo-sadi o-tsw-a kae?
[locative questioned in situ]
1-woman 1SM-come-M where
'The woman has arrived where?'

c. Mo-sadi o-tsw-a Gaborone

1-woman 1SM-come-M Gaborone
'The woman comes from Gaborone'

As these examples demonstrate that, the syntactic strategy for question formation does not establish the locative phrase as a subject, because while subjects questions are restricted to the clefting strategy, functions other than subjects also have access to this strategy.

Perez's (1983) uses the test of conjoinability, in which locative NPs in Chishona cannot be conjoined with non-locative (genuine) subjects because they are in complementary distribution.

This argument also applies to Setswana. The pre-verbal locative phrases in Setswana locative inversion constructions cannot be conjoined with non-locative subject noun phrases because these are empty subject constructions in which the THEME argument ('post-posed subject') remains in VP-internal position. Consider example (19), in which the locative (adjunct) *mo setilong* 'on the chair' cannot be conjoined with a subject *mosadi* 'woman' in a regular construction because they need to share the same functions.

- (19) *Mo-sadi le mo-se-tilo-ng go-nts-e.
 1-woman and 18-7-chair-LOC 17SM-sit-M

Furthermore, recall Perez's (1983) observation that the test of **reflexivisation** does not establish the subject of the Chishona locative phrase, since reflexives are incompatible with the abstract meanings of locative phrases. This argument can also be upheld for Setswana. The preverbal locative in a locative inversions construction cannot be the antecedent of the reflexive because locative inversion is restricted to occurring with intransitive verbs, while reflexivisation requires that the verbs be transitive. The preverbal locative does not satisfy the requirements of reflexivisation, according to which the antecedent should be a C-commanding argument in a co-referential relation with the reflexive pronoun within the same basic sentence. Further, the preverbal locative is a non-argument occurring external to the sentence, and lacks the semantic properties required of the antecedent of a reflexive pronoun, expressing place rather than (animate) entity. Example (20) demonstrates the incompatibility of the locative phrase with reflexivisation.

- (20) *Mo-tshimo-ng [go-a-i-tom-a]
 18-9.field-LOC 17SM-PRES-REFL-bite-M

4 Data collection

Data in this study were collected from Sekgatla, a Setswana dialect spoken in the village of Moshupa in Botswana in 2003. Three methods were used for the study: (i) story telling, (ii) picture discussion, and (iii) questionnaire. The combination of these methods proved useful in providing the required data for the study.

Although it relies upon formal elicitation rather than spontaneous discourse, the questionnaire method was necessary as a 'back-up' method in order to ensure that complete locative inversion constructions were elicited, since speakers often produce incomplete (elliptical) sentences in everyday spontaneous speech. Questions were formulated from pictures reflecting locative activities. This was necessary so as to examine whether the preverbal locative constituents show properties of a *topic*, thus corresponding to old/given information that has already been established in the discourse context. The objective of this paper is to present empirical support from spontaneous discourse data for the claims that (a) the preverbal locative NP is a *topic*, and (b) the class 17 subject marker is an instance of 'expletive agreement'. I propose a descriptive analysis of locative inversion in Setswana that is somewhat different from that proposed by Demuth and Mmusi (1997), who analysed locative inversion constructions from a primarily syntactic perspective. In particular, I examine the discourse contexts in which this construction type occurs with one main objective: to explore the hypothesis that the preverbal locative NP in locative inversion constructions functions as *topic*, setting the scene for the focused THEME argument.

5. Findings of the study

Data that were yielded from the three methodologies described above is presented below. The methods meant to establish the link between the structural properties of syntax and the structural properties of information structure. The findings show data in which the locative NP exhibits topic properties by occurring either preverbally, post-verbally or not at all. Out of the 170 topic constructions, 35% of topics were preverbal constituents, 21% were post-verbal locative noun phrases, 13% were preverbal double locative NP constructions, 19% were the existential constructions, while 12% were impersonal constructions, as illustrated in figure 1 below, which expresses proportions of topic-related constituents.

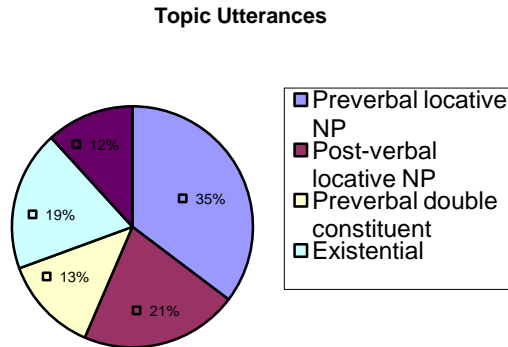


Figure 1: Topic utterances in locative inversion

In figure 1, the preverbal locative NP constitutes the largest percentage, followed by the post-verbal locative NP since they were commonly used in discourse. The existentials and the impersonal are the least used since they occur when a background (topic) has already been established in discourse. The findings therefore provide support for my hypothesis that the clause external locative NP functions as *topic*. Example (21) was collected from a story about an hawk that was flying down threatening to snatch a chick. Examples (22) and (23) were asked from the story in which the Bakgatla build houses and settled in the village of Moshupa.

- (21) Kwa-tlase go-fof-el-a **se-godi**. [Loc-NP V XP]
 17-down 17SM-fly-APPL-M7-hawk
 'Down is flying the eagle.'
- (22) Go-ag-il-w-e **ma-tlo**. [V XP]
 17SM-build-APPL-PASS-M 3-house
 'There have been built houses.'
- (23) Go-thibel-el-w-a.
 17SM-settle-APPL-PASS-M
 Lit. 'There were being settled.'
 'There were settled.'

Example (24Q), in which the topic locative NP *fa-ditlhareng* ‘by the trees’ occurs preverbally was provided by speaker B following question (a) from speaker A.

- (24) a. Q. Go-em-e eng fa-di-tlhare-ng? [V XP Loc-NP]
17SM-stand-M 9.what 16-10-tree-LOC
‘What is standing by the trees?’
- b. A. Fa di-tlhare-ng go-em-e **di-kgokong**. [Loc-NP V XP]
16-10-tree-LOC 17SM-stand-M 10-buffalo
‘By the trees are standing the buffalo.’

Example (25A) shows the class 17 subject marker occurs preverbally as expletive.

- (25) Q. Go-nts-e mang fa-le-ngau-ng?[V Wh-XP Loc-NP]
17SM-sit-M 1-who 18-5-leopard-LOC
Lit: There is sitting who by the leopard?
‘Who is sitting by the leopard?’
- A. Go-nts-e mo-nna fa-le-ngau-ng. [V XP Loc-NP]
17SM-sit-M 1-man 18-5-leopard-LOC
Lit: There is sitting who by the leopard?
‘The man is sitting by the leopard.’

5.1 Discussions

5.1.1 Expletive Agreement

The data collected include a range of constructions that take the class 17 expletive subject marker *go-*. Some have a preverbal locative NP and others start with the verb, marked by the class 17 subject marker *go-*. These constructions have two important features in common, (a) empty subject and (b) class 17 SM, which can be analysed as expletive agreement. The constructions starting with the *go-* marked verb fall within the category of existential and impersonal constructions (see section 4.3-4) on the class 17 subject marker *go-*. The impersonal and the existential constructions differ in that the impersonal constructions constitute only the predicate starting with the expletive *go-*, except for rare cases such as example (26a) to be shown below, which takes the locative NP, while the existentials have not only the expletive subject marker *go-* but also the focused THEME argument that provides new

information in verb-internal position. The existential and the impersonal constructions share information structure properties in the sense that they are both frequently uttered in a context where a locative NP is already understood by both the speaker and the hearer as topic. The behaviour of the existential and the impersonal constructions is interesting as something going on in information structure, in the sense that they both start with the class 17 subject marker as an expletive subject in subjectless clauses in which the THEME argument occurs in post-verbal position for focus. All the instances that I found in the data for this study are consistent with what I found in the literature, where the class 17 subject marker occurs sentence initially as an expletive subject because the THEME subject is focused in post-verbal position (see section 1.1 (Perez 1983: Chishona; and Demuth and Mmusi 1997: Setswana)).

5.1.2 The preverbal locative noun phrase

In section 5.1.1, I have demonstrated that the class 17 subject marker *go-* is an expletive subject in subjectless clauses. I now show how the locative NP exhibits discourse properties by occurring clause externally as *topic*. When the locative noun phrase in Setswana locative inversion constructions occurs preverbally with locative intransitive (unaccusative) verbs or passivised transitive verbs, it performs *topic* discourse function. This is evident in part because the locative NP occurs external to the core sentential structure. The fact that the locative NP is not integrated into the basic argument structure of the sentence is indicated by the use of the expletive subject marker *go-*. In the data that I collected, 23% of the three hundred discourse constituents are constructions that occurred in the context in which the locative NPs occurred as established information in the discourse, known to both the speaker and the hearer, and as such correspond to old information. The topicalised locative NP is used to capture the attention of the hearer and turn it to some identifiable object in the discourse where upon something new about the object is asserted in the comment clause, in which the post-verbal THEME argument is contained (Aissen 1992:50). The locative NP is pragmatically connected to the clause following it through the sentential comment in which the focused THEME argument is contained. The question-answer exchange in (26b) shows the preverbal locative NP as *topic* followed by a comment.

(26) Q: *Mo-tlhage-ng go-robets-e eng?* [Loc-NP V Wh-XP],
 'What is sleeping on the grass?'

A: *Mo-tlhage-ng go-robets-e tau.* [Loc-NP V XP]
 18-9.grass-LOC 17SM-sleep-M 9-lion
 'On the grass is sleeping the lion.'

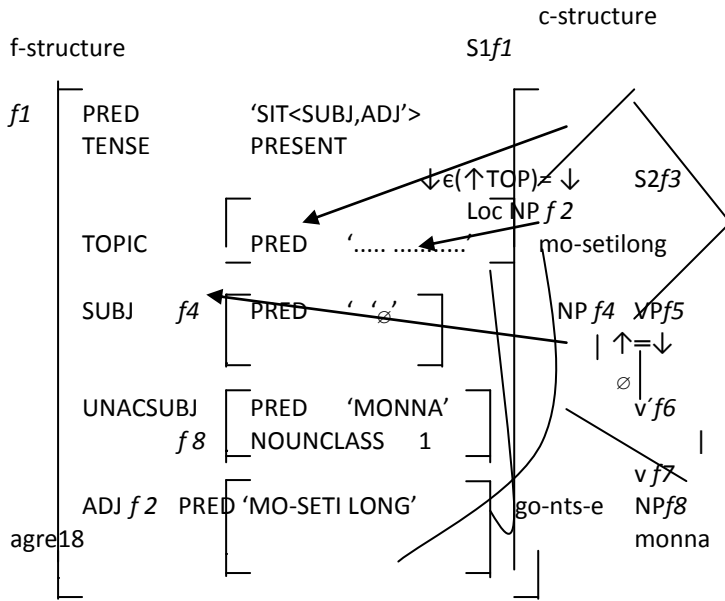
Sentence (26b) is uttered in the context in which the informants are looking at the picture, and speaker Q is unable to identify the animal. The topicalised locative noun phrase *mo tlhageng* 'on the grass' in the left periphery of the sentence is topicalised because it is old information that has already been established in the context. The locative is already old information to both speaker and hearer before the question is asked. The preverbal NP as topic is followed by a comment clause that begins with the expletive class 17 subject marker *go-*, marking a thematically empty subject position. The locative NP is followed by an interruption to the prosodic flow of the utterance, a characteristic feature of *topics*. The pause after the locative NP was a consistent feature of the locative *topics* I found in the data.

5.1.3 Theoretical account

I develop an LFG account of the empirical findings described in section 5, and argue that the *topic* function is linked to the locative NP, which performs the non-argument function of ADJUNCT, and is not generated by the S rule. Hence, the pre-verbal locative NP in S1 is bound since it is functionally identified with the ADJUNCT function, which has an oblique thematic role in the sentence. It is connected to the clause functionally through the PRED attribute, as shown by the c-structure for example (27). The mapping from c-structure to the corresponding f-structure is shown graphically with arrows.

(27) *Mo-se-tilo-ng go-nts-e mo-nna.*
 18-7-chair-LOC 17SM-sit-M 1-man
 'On the chair is sitting the man.'

The syntax of locative inversion:.....



expressed in the *f*-structure, the *f*-structure would still be complete because the subcategorisation of the verb *nna* 'sit' does not require that an ADJUNCT with a *OBL_{loc}* role.

The mapping from *c*-structure to the *f*-structure in example (27) has been achieved through functional annotations on the syntactic nodes (Mchombo and Morimoto 2003:16). The annotated $\downarrow\epsilon$ ($\uparrow\text{TOP}$)= \downarrow , on the locative NP in S1 states that the *f*-structure of this node is an element of TOPIC function. It also means that the TOPIC function is inside the *f*-structure of the mother node (S1), as indicated by the up arrow \uparrow which refers to the immediately dominating node. The features (up \uparrow and down arrow \downarrow) that are carried by the topicalised noun phrase *mo-setilong* 'on the chair' indicate that the topicalised noun phrase *mo-setilong* 'on the chair' also belongs to the sentence (S1). The *f*-structure for (27) is represented in the form of feature-value pairs, such as, SUBJ-'MAN', *OBL_{loc}* 'ON THE CHAIR'. The *OBL_{loc}* is graphically linked to the TOP function.

6. Conclusion

I showed that the locative NP cannot be the subject as claimed in the literature since it does not satisfy the subjecthood criteria. Rather the preverbal locative is topic since it occurs externally. I also demonstrated the adverbial status of the preverbal locative from LFG theory, where the preverbal locative is mapped to the discourse function of topic.

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