

Subject inversion in Changana

Jenneke van der Wal & Aurélio Simango

1. Introduction

This paper aims to provide a descriptive overview of subject inversion constructions in Changana. From earlier literature, we know that Changana has so-called Default Agreement Inversion, as illustrated in (1), where the logical subject follows the verb,¹ and the subject marker on the verb is a default class 17.

(via Zerbian 2007: 70)

- (1) a. Kú-ta-fámb-á va-lungu.
17SM-fut-go-FV 2-white.people
'There will leave the white people.' (Beuchat 1962: 121)
- b. Kú-tírh-á mú-cháyéri.
17SM-work-FV 1-driver
'There works the driver.' (Cole-Beuchat 1959: 137)

We also know that Bantu languages show much variation in different types of inversion constructions, the valency of the predicates allowing subject inversion, and the semantic-pragmatic interpretation of subject inversion. Investigating these constructions in more detail, we aim to answer the following research questions:

1. Which inversion constructions are used in Changana? (Section 2)
2. Which predicates are allowed in Changana subject inversion? (Section 4)
3. What semantic-pragmatic aspects are present in Changana subject inversion? (Sections 3 and 5)

Especially the structural and interpretational differences between DAI and AI receive our attention (Section 3), and in Section 5 we provide detailed arguments to show that transitive expletive constructions (VSO) encode exhaustive focus on the logical subject. The aim for the current paper is not to offer a theoretical analysis of subject inversion.

In the rest of this introduction, we provide some background information on Changana. Changana is a Bantu language, S53 in Guthrie's classification (Maho's 2009 update), spoken in southern Mozambique; its sister language Tsonga is spoken in South Africa. As a typical Bantu language, it shows an extensive noun class system (indicated by numbers in the glosses) and agglutinative verbal morphology. Especially relevant for the current paper is the subject marker on the verb, which may be default *ku-* as in (1), or agree with an argument that may or may not be overtly expressed, like 1PL *hi-* in (2).

- (2) Hi-chel-á má-dă:ká ka ma-karí:nya.
1PL.SM-put-FV 6-mass LOC 6-wheelbarrows
'We put the cement in wheelbarrows.'

¹ We take the logical subject to be the argument combining last with the predicate to form a proposition, following Marten & Van der Wal (2014), who refer to Cann et al. (2009), Gamut (1991).

Another relevant feature of Changana for current purposes is lengthening of the penultimate syllable of phonological phrases. Changana does not have contrastive vowel length; instead, long vowels (indicated by a colon following the vowel) on the penultimate syllable mark the right edge of a phonological phrase. This is illustrated in (3), where phonological phrases are indicated by brackets: the subject phrases separately from the verb phrase, but the object is in one phrase with the verb. Kisseberth (1994) analyses phonological phrasing in Tsonga/Changana, showing that not only penultimate lengthening is determined by phonological phrases, but so are tonal processes such as rightward spread of underlying high tones (see also Louw 1983). As tones have not been at the core of our research, we indicate surface tones as observed, but do not use them in our analysis – this will have to await further detailed investigation.

- (3) (Ndla:la) (yí-gul-é ní má-svê:ko.)
 9.hunger 9SM-pull.out-PFV.CJ and 6-cooking.stones
 ‘Hunger pulls out even the cooking stones.’

With this background, we now present our overview of subject inversion constructions in Changana.

2. Types of subject inversion

Marten & Van der Wal (2014) present an inventory of subject inversion constructions in the Bantu languages, showing 7 different types, differing primarily in verbal agreement and the preverbal element. Apart from Default Agreement Inversion (DAI), the following inversion constructions can be found across Bantu.

In Locative Inversion (LI), a locative DP precedes the verb and determines subject agreement on the verb. There are two subtypes of locative inversion: formal locative inversion and semantic locative inversion (Buell 2007). In formal locative inversion (FLI), the locative DP is formally marked as locative in a locative class, by a nominal prefix in class 16, 17 or 18 (as in (4)), or by a suffix *-ini*. In (4b), the subject marker agrees with the locative *mòngándá* ‘in the house’ and not with the postverbal logical subject.

Herero (R30, Marten 2006)

- (4) a. Òvâ-ndù v-á-hítí mó-ngándá.
 2-people 2SM-PST-enter 18-9.house
 ‘The guests entered the house/home.’
- b. Mò-ngándá mw-á-hítí òvá-ndù.
 18-9.house 18SM-PST-enter 2-people
 ‘Into the house entered (the) people.’

In semantic locative inversion (SLI), the preverbal DP refers to a place, but is not morphologically marked as locative (5).

Zulu (S42, Buell 2007)

- (5) Lesi sikole si-fund-ela izingane ezikhubazekile.
7.this 7.school 7-study-APPL 10.children 10.handicapped
'Handicapped children study at this school.'

The preverbal DP can also be the theme or patient, resulting in Patient Inversion (PI), as illustrated in (6b). The preverbal *inzogá* 'alcohol' (and not the postverbal agent) determines the form of the subject marker *zi* in class 9.

Kinyarwanda (Ngoboka 2016: 356)

- (6) a. Abáana nti-ba-nywá inzogá.
2.children NEG-2SM-drink 9.alcohol
'Children don't drink alcohol.'
- b. Inzogá nti-zi-nywá abáana.
9.alcohol NEG-9SM-drink 2.children
'It's the children who do not drink alcohol.'
lit. 'Alcohol does not drink children.'

The same construction is found where the preverbal DP has the thematic role of instrument, as in (7), hence called Instrument Inversion (II).

Zulu (S42, Zeller 2012: 134)

- (7) a. U-John u-dla nge-sipunu.
AUG-1a.John 1SM-eat with-7.spoon
'John is eating with the spoon.'
- b. I-sipunu si-dla u-John.
AUG-7.spoon 7SM-eat AUG-1a.John
'John is using the spoon to eat.' (lit. 'The spoon is eating John.')

Even a whole CP complement can precede the verb in subject inversion. It is unclear whether the subject marker, which clearly does not agree with the postverbal logical subject, agrees with the CP or takes a default form (class 8 in (8)).

Kirundi (JD62, Kimenyi 1980: 193)

- (8) [Ko abaana b-a-gii-ye] by-iibagiw-e umugore.
COMP 2.children 2-PST-leave-PFV 8-forget-PFV 1.woman
'It is the woman (not the man) who forgot that children have left'
lit. 'That the children have left forgot the woman.'

A final subject inversion construction differs from all the others in still requiring the subject marker to agree with the postverbal subject, hence called Agreeing Inversion (AI), as illustrated in (9).

Makhuwa (P31, Van der Wal 2008: 328, 2009: 197)

- (9) a. A-náá-ttónyá maátsi.
6SM-PRS.DJ-drip 6.water
'There is water leaking out.'

- b. Oo-vára ephepélé naphúl' úule.
 1SM.PFV.DJ-grab 9.fly 1.frog 1.DEM.III
 'That frog caught a fly!'

Of these various constructions, we have found that Changana uses DAI widely, and AI in a more restricted way. All other types of subject inversion are ungrammatical. We discuss these in turn.

A semantically locative noun such as 'hospital' cannot determine subject agreement in Changana if the logical subject follows the verb, as shown in (10a). Note that the noun can indeed trigger agreement, if it is the subject of an intransitive predicate, as in (10b).

- (10) a. *Xi-bedlele xi-fik-e va-pfhumba.²
 7-hospital 7SM-arrive-PFV.CJ 2-visitors
 int. 'At the hospital arrived visitors.'
- b. Xi-bedle:le xí-bas-î:le.
 7-hospital 7SM-be.clean-PFV.DJ
 'The hospital is clean.'

Interestingly, what seems to be semantic locative inversion, as in (11a), is only possible when the postverbal DP is interpreted as the object, as indicated in the translation. For the inversion interpretation, where *vanhu* 'people' is the logical subject, speakers change the structure to DAI as in (11b).

- (11) a. Lexi xi-bedle:le xí-luz-e vá-nhu v-óta:la.
 DEM.7.PROX 7-hospital 7SM-die-PFV.CJ 2-people 2-many
 'This hospital loses many people.'
 *'In this hospital die many people.'
- b. Ká lêxi xi-bedle:le kú-luz-e vá-nhu v-óta:la.
 LOC DEM.7.PROX 7-hospital 17SM-die-PFV.CJ 2-people 2-many
 'In this hospital die many people.'

When a formally marked locative occurs in initial position, the subject marker is *ku-*, which is the original class 17 (12a). Changana has lost the Proto-Bantu locative classes and locatives are now marked by the prefix *a-* and/or the suffix *-ini*. As a result, the class 17 subject marker now only functions as an expletive. Agreement with the postverbal logical subject is not acceptable here, as illustrated in (12b).

- (12) a. Á-xí-bedlé:le kú-fík-é va-pfhû:mba.
 LOC-7-hospital 17SM-arrive-PFV.CJ 2-visitors
 'At the hospital arrived visitors.'

² Where no source is indicated, data come from the authors' joint fieldwork in June/July 2019 in Magude. Examples where the language is not indicated are Changana.

- b. *Á-xí-bedlé:le va-fík-é va-pfhû:mba
 LOC-7-hospital 2SM-arrive-PFV.CJ 2-visitors
 'At the hospital arrived visitors.'

In the same way, instrument inversion is not acceptable, as shown in (13b).

- (13) a. Khensa:ni á-j-á ná xi-pú:nú.
 1.Khensani 1SM-eat-FV with 7-spoon
 'Khensani eats with a spoon.'
- b. *Xi-punu xi-j-a Khensani.
 7-spoon 7SM-eat-FV 1.Khensani
 int. 'Khensani is using the spoon to eat.' (lit. the spoon eats Khensani)

When the patient occurs in a preverbal position and the logical subject is postverbal, the subject marker cannot be determined by the preverbal patient, as in (14a). It is in this case possible to agree with the postverbal subject, as in (14b) but we think this is better analysed as combined left-dislocation of the object and right-dislocation of the subject, as further discussed below.

- (14) a. #A ú:svá ri-j-é Páulu.
 A 5.shima 5SM-eat-PFV.CJ 1.Paulo
 int. 'It was Paulo who ate the shima.'
 'The shima ate Paulo.'
- b. A ú:svá, á-j-i:lé Páulu.
 A 5.shima 1SM-eat-PFV.DJ 1.Paulo
 'The shima, Paulo ate it.'

The preverbal patient *uswa* 'shima' is followed by an intonation break in (14b), indicated by the comma, which suggests a left-dislocated structure. Furthermore, the postverbal subject Paulo is not presented as the new or contrastive information, which would be typical for an inversion construction (see Marten & Van der Wal 2014 and the discussion below). Instead, (14b) can function as an answer to 'Did Paulo eat the shima?', which suggests that Paulo functions as an afterthought, or at least as backgrounded information, rather than the focus that usually accompanies inverted subjects.

3. Default agreement inversion versus Agreeing inversion in Changana

This naturally brings us to the remaining type of inversion: Agreeing Inversion (AI). As already shown in (12) above, the subject marker cannot agree with a postverbal in situ subject. This is also illustrated in (15).

- (15) *Yi-w-e mi-chu:mu.
 4SM-fall-PFV.CJ 4-things
 int. 'Things fell.'

One way to convey the intended meaning in (15) is by Default Agreement Inversion, as in (16).

- (16) Kú-w-e mí-chu:mu.
 17SM-fall-PFV.CJ 4-things
 ‘Things fell.’

A second way to improve Agreeing inversion in Changana is to change the form of the verb. Crucially, the form of the verb in (15) is the so-called conjoint form. Like many southern Bantu languages, Changana distinguishes two verb forms within one tense (see Siteo 2001 for Changana, and Van der Wal & Hyman 2017 for a Bantu overview of the conjoint/disjoint alternation). The conjoint form cannot occur in sentence-final position, whereas the disjoint form can, as shown for the Present Perfective in (17).

- (17) a. *Vá-hlê:k-e.
 2SM-laugh-PFV.CJ
 int. ‘They laughed.’
- b. Vá-hlék-î:le.
 2SM-laugh-PFV.DJ
 ‘They laughed.’

The conjoint form is used in DAI, as shown in (18a); the disjoint form with its phrase-final penultimate lengthening is not accepted (18b, but see discussion below).

- (18) a. Kú-w-é mú-ya:ki.
 17SM-fall-PFV.CJ 1-bricklayer
 ‘A bricklayer fell / There fell a bricklayer.’
- b. *Kú-w-í:le mú-ya:ki.
 17SM-fall-PFV.DJ 1-bricklayer
 int. ‘A bricklayer fell / There fell a bricklayer.’

Attempting the CJ form in AI results in ungrammaticality, as in (15) above, or an interpretation of the postverbal argument as the object, as in (19) below.

- (19) Tí-vúkúl-á tí-mbzwa:na.
 10SM-bark-FV 10-dogs
 ‘They (class 10) bark at dogs.’
 *‘There bark dogs.’/‘Dogs are barking.’

However, it seems that what looks like agreeing inversion is possible with the DJ form, as in (20)-(22).

- (20) (We know there are thieves around, it’s night, and the dogs don’t bark for nothing.)
 T-á-vúkúl-a tí-ndzwa:na.
 10SM-DJ-bark-FV 10-dogs
 ‘The dogs are barking!’

(21) (Announcement, indicating we have to get up.)

W-á-r^língá nku:ku.
 3SM-DJ-crow-FV 3.rooster
 ‘The rooster crows.’

(22) (Answer to ‘Where is the shima?’, when it was left in the kitchen and it’s gone when you come back.)

Á-j-ilé Páulu.
 1SM-eat-PFV.DJ 1.Paulo
 ‘Paulo ate (it).’

There are (at least) two interesting observations to be made here. First, there is no penultimate lengthening on the verb. If penultimate length indicates the right edge of a phonological phrase, this means that the verb and the postverbal subject are in one phonological phrase. Second, as indicated in brackets preceding each example, the contexts in which these phrases occur are typicalthetic contexts. That is, the whole sentence is presented as one piece of information, rather than establishing a topic and then commenting on that topic (see Sasse 1996, 2006 for discussion oftheticity). The AI constructions with a dj verb form can thus be seen as expressing the non-topicality of the logical subject. The same construction with the same interpretation was found in Makwe (Devos 2008) and Makhuwa (Van der Wal 2009), for example.

Comparing AI and DAI in Changana, we find that AI is only used with athetic interpretation and cannot express narrow subject focus, whereas (intransitive) DAI is underspecified and can be used with either athetic interpretation or focus on the postverbal logical subject. To illustrate the differences, we check four diagnostics for narrow focus: answers to wh questions, the exhaustive focus particle ‘only’, inherently focused wh words, and corrective focus environment (see Van der Wal 2016). The AI sentence in (21) above cannot be used as an answer to ‘Who crows?’; the postverbal subject can occur with the exhaustive focus particle ‘only’ in DAI but not AI (23); and the postverbal subject can be an (inherently focused) wh word in DAI but not AI (24). Furthermore, AI cannot be used with corrective focus on the postverbal subject (25b); instead speakers indicated that DAI should be used (25a).

(23) a. Kú-lúz-e ntsé:ná kókwa:na. DAI
 17SM-lose-PFV.CJ only 1.grandparent
 ‘Only grandpa passed away.’

b. *T-á-vúkul-a tí-ndzwa:na ntse:na. AI
 10SM-DJ-bark-FV 10-dogs only
 int. ‘Only the dogs are barking.’

(24) a. Kú-luzé ma:ni? DAI
 17SM-lose-PFV.CJ who
 ‘Who passed away?’

b. *A-fik-ile mani? AI
 1SM-arrive-PFV.DJ who
 ‘Who arrived?’

As for DAI, whereas some Bantu languages restrict subject inversion constructions to a smaller subset of predicates, Changana DAI allows unaccusatives, as in (24a) above, unergatives, as in (29), and transitives, as in (30).³ Note that DAI only allows VSO order for transitive predicates, not VOS (31).

- (29) (Hearing a noise on top of the mini-bus.)
 Kú-tsútsúm-á hu:ku.
 17SM-run-FV 9.chicken
 ‘There is a chicken running.’
- (30) (Describing a video of a woman measuring flour.)
 Kú-pím-él-á mu-xávísí rha:li.
 17SM-measure-APPL-FV 1-seller tapioca
 ‘The seller is measuring tapioca.’
- (31) Kú-lúm-á xí-khô:va ti-nyó:xí.
 17SM-bite-FV 7-owl 10-bees
 ‘The owl bites the bees.’
 *‘The bees bite the owl.’

Two of our speakers also sometimes accepted inversion with a ditransitive as in (32) and (33), which one speaker rejected, characterising it as ‘you’re saying the same but walking backwards’. Further investigation with another 7 speakers in an online questionnaire shows a mixed picture as well.

- (32) (There are four geckos and all happen to have caught a mosquito.)
 %Kú-j-á mí-kólombza hínkwá:-yu tí-nsu:na.
 17SM-eat-FV 4-geckos all-4 10-mosquitos
 ‘All geckos eat mosquitos.’
- (33) ??Ku-nyik-e kokwa:na va-tsongwa:na mi-ma:nge.
 17SM-give-PFV.CJ 1.grandparent 2-children 4-mangos
 ‘Grandma gave the children mangoes.’

The same expletive agreement is also used in impersonal constructions such as the passive of an intransitive, illustrated in (34), although this of course does not qualify as a subject inversion construction, as there is no postverbal logical subject.

- (34) (What’s happening on the football field?)
 Namúntlá k-á-tsútsúm-î:w-a.
 today 17SM-DJ-run-PASS-FV
 ‘Today there is running.’

³ The same expletive agreement is also used in impersonal constructions such as the passive of an intransitive, illustrated in (i), although this of course does not qualify as a subject inversion construction, as there is no postverbal logical subject.

- (i) (What’s happening on the football field?)
 Namúntlá k-á-tsútsúm-î:w-a.
 today 17SM-DJ-run-PASS-FV
 ‘Today there is running.’

As an interim summary, we know that AI only allows intransitive predicates, requires the disjoint verb form, and expresses athetic sentence, whereas DAI allows transitive predicates as well, features the conjoint verb form, and is underspecified in expressing theticity or narrow focus on the postverbal logical subject. There is, however, a restriction in the interpretation of transitive DAI, to which we turn now.

5. Transitive DAI for exhaustive subject focus

As noted for other southern Bantu languages, with a transitive predicate, DAI is less flexible in its interpretation.⁴ Ndayiragije (1999) demonstrates this for Kirundi, Zerbian (2006) for Northern Sotho, and Carstens & Mletshe (2015) for Xhosa, among others. Furthermore, all show that in VSO order, athetic interpretation is no longer available, and focus is narrowly on the postverbal logical subject. Furthermore, the type of focus seems to be exclusive focus. In this section, we use various diagnostics to show that in Changana, too, transitive expletive constructions express narrow subject focus. We present the arguments for this analysis in turn.

First, the idiomatic reading is retained for the object in VSO order (35), but not for the subject (36). We know that parts of idioms are not compatible with focus, as it is impossible to find a set of alternatives to the idiomatic interpretation. Therefore, the fact that the idiomatic reading is lost forms evidence that the subject in VSO order is in focus.

- (35) Kú-khav-é vá-yí:ví párá:ti.
 17SM-kick-PFV.CJ 2-thieves 5.plate
 idiomatic: '(the) Thieves died.'
 non-idiomatic: '(the) Thieves kicked the plate.'

- (36) Kú-phukw-é kondlo nce:le.
 17SM-fail-PFV.CJ 5.mouse 9.hole
 idiomatic: *'The thief was caught.'
 non-idiomatic: 'The mouse failed (to reach) the hole.'

Second, when forming a subject wh question in this construction as in (37), the speakers indicated that this suggests a choice between alternatives, as indicated in the translation.

- (37) Kú-kók-á 'má:ni xí-tu:lu?
 17SM-pull-FV who 7-chair
 'Who (of these people) is pulling the chair?'

Third, whereas an indefinite non-specific reading is possible for intransitive DAI (38), this reading is excluded for transitive DAI – instead, the word 'person' is interpreted as a type, 'human being' (39). In order to arrive at the intended non-specific reading, a presentational DAI construction as in (40) must be used. These facts can be understood if the subject in VSO order requires the exclusion of alternatives: indefinite non-specific 'someone' does not allow exclusion of anyone, whereas the type 'human being' allows for the exclusion of other types, such as cats or monkeys.

⁴ Transitive DAI is also known as a transitive expletive construction.

(38) (You shouldn't have sprayed the water on the road, it's muddy now and...)
 Kú-tá-w-á mû:nhu.
 17SM-FUT-fall-FV 1-person
 'Someone will fall.'

(39) (Imagine we're on a different planet where cats can also cook.)
 Kú-svék-á mû:nhu mpû:nga
 17SM-cook 1-person 3.rice
 'A human being is cooking rice.'
 *'Someone is cooking rice.'

(40) Kú-ní mû:-nhu a-svek-á=ká mpû:nga?
 17SM-with 1-person 1SM-cook=REL 3.rice
 'Is there someone preparing rice?'

Fourth, transitive DAI can felicitously be used to restrict the set of referents for which the proposition is true. When in the context of (41) an "overcomplete" question is asked, incorrectly referring to more than one referent, the corrective reply can be a transitive DAI as in (41). Considering that it is not necessary to add 'only' in this construction, we conclude that the transitive DAI here expresses exhaustive focus.

(41) (Did Aurelio and Quinito cultivate the field?)
 î:hj́, kú-rím-é Auréliu (má-si:mu).
 no 17SM-cultivate-PFV.CJ 1.Aurelio 6-fields
 'No, Aurelio cultivated (the fields).'

Finally, a remarkable interpretation is encountered when testing the scope of negation. The first interpretation given by our speakers for (42) negates the *exhaustivity* of the subject (the subject is not the only referent for which the statement is true), as given in translation a), rather than the *truth* of the statement for the subject, as in b), which was also accepted as a possible interpretation.

(42) A-ku-phúz-áng-á mpfúndlá mâ:ti
 PST-17SM-drink-NEG-FV 3.hare 6.water
 a. 'It wasn't only the hare who drank water.' (other animals drank too)
 b. 'It wasn't the hare who drank water.'

One example is in line with a focus function, but argues against an inherently exclusive interpretation: the subject VSO order is accepted when modified by 'even', as in (43). This is unexpected under the hypothesis that the postverbal logical subject in transitive DAI expresses exclusive focus, because 'even cats' includes all the other relevant referents and does not exclude any of them (therefore being incompatible with an exclusive reading).

(43) Kú-svéká ní sví-pi:xi mpu:nga.
 17SM-cook-FV and 8-cats 3.rice
 'Even cats are cooking rice.'

This suggests that the postverbal logical subject in a transitive DAI (VSO order) is in narrow focus, but the exclusive interpretation that surfaced with the other tests does not seem to be inherent to the meaning of transitive DAI, but rather pragmatically associated with it.

6. Summary

In this paper we have for the first time systematically surveyed the subject inversion constructions found in Changana. Changana does not show evidence for patient inversion, instrument inversion, and locative inversion (formal and semantic), although it would be interesting to further investigate the types of (transitive) predicates that allow a preverbal locative as a true subject, as in (11a).

Agreeing Inversion, whereby the subject marker agrees with the postverbal subject, is accepted with intransitive predicates only, takes the disjoint verb form, and is associated with athetic interpretation. Default Agreement Inversion, on the other hand, is accepted with all valencies, takes the conjoint form, and can be used forthetic expressions as well as focus on the postverbal logical subject. This can be simple focus (for example in question-answer pairs), or exclusive focus. However, transitive DAI, which shows VSO order, does not allow athetic interpretation, and the focus on the postverbal subject is sensed to be exclusive.

Further research should investigate the underlying syntactic structure of either inversion construction, especially in the light of the restriction to subject focus in VSO order and questions about argument licensing. For Xhosa, Carstens and Mletshe (2017) argue that Focus licenses the postverbal logical subject in transitive expletive (VSO) constructions (and see Halpert 2016 for Zulu DAI). The data from Changana might bring further insight into this issue.

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Abbreviations and symbols

We follow Changana orthography, but we write vowel length with a colon following the vowel, nasalised vowels with a tilde under the vowel, and we have added surface tone marking. High tones are indicated by an acute accent, low tones are unmarked, downstep is indicated by a superscript exclamation mark.

*	ungrammatical
#	infelicitous in given context
%	accepted by some speakers but not all
!	downstep
AI	agreeing inversion
APPL	applicative

AUG	augment
CJ	conjoint
COP	copula
DAI	default agreement inversion
DEM	demonstrative
DJ	disjoint
FLI	formal locative inversion
FUT	future tense
FV	final vowel
II	instrument inversion
int.	intended meaning
NEG	negation
OM	object marker
PASS	passive
PFV	perfective aspect
PI	patient inversion ('OVS')
PROX	proximal
PRS	present
PST	past
REL	relative
SLI	semantic locative inversion
SM	subject marker
STAT	stative

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