Semantic and Formal Locatives:
Implications for the Bantu Locative Inversion Typology[*]

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1.   Introduction

There is a significant body of literature concerning two types of locative inversion found in many Bantu languages.[1] In the first type, the locative expression appears in preverbal position and the verb agrees with it in the same way that a canonical preverbal subject would, while the logical subject appears in an immediate postverbal position and itself triggers no agreement on the verb. And in the second type, the locative expression is a topic and the verb bears locative "expletive" agreement. The properties of locative inversion in several different Bantu languages are brought together in Demuth and Mmusi (1997). In all of the languages discussed there, the inverted locative expression appears in locative form (such as with a preposition or locative noun class morphology) and the verb has subject agreement corresponding to locative noun class 16, 17, or 18. Any inversion of this type will be termed "formal locative" inversion. The purpose of this paper is to fit languages like Zulu (S40, South Africa) and Tharaka (E54, Kenya) into the typology. These languages have a type of locative inversion in which a noun denoting a place or space, such as "school", raises to subject position in its canonical form, without any concomitant locative morphology. Accommodation of these languages will require further refinement of other parameters of the locative inversion typology and will raise questions concerning the languages already included in it.

2.   Locative noun classes in Bantu

To understand locative inversion in Bantu languages and the analytical issues they pose, it is crucial to first understand something about Bantu noun classes, and specifically the peculiarities of the locative noun classes. Most Bantu languages have a number of different noun classes (conceptually similar to grammatical genders), each of which triggers distinctive agreement morphology on different parts of speech, such as demonstratives and verbs (as subject or object agreement morphology), as shown in these three sentences of Swahili:

(1) a. Shule   hii   kubwa   i-me-fung-wa.   [Swahili]
         9school 9this 9big   9-PERF-close-PSV
         'This big school is closed.'
     b. Kiwanja hiki   kikubwa ki-me-safish-wa.
         7field   7this   7big   7-PERF-clean-PSV
         'This big field has been cleaned.'

[1]   This literature includes Bresnan and Kanerva (1989), Buell (2005, 2003), Demuth (1990), Demuth and Mmusi (1997), Harford (1990), and Marten (2006).

As seen in the glosses, these noun classes are usually referred to with a standardised numbering system (Meinhof 1948) which allows for cross-Bantu comparisons. Some of these classes are strongly associated with particular semantic concepts. Of particular interest to us here are the locative noun classes, numbered 16 (general place or direction), 17 (specific place), and 18 (enclosed place). Some of the languages have all three of these classes, while others have only one or two of them. A peculiarity of these classes in Swahili and some other languages is that locative prepositional phrases and special locative forms of nouns can trigger class 16, 17, or 18 subject agreement on the verb:

(2)   a.   Chumba-ni   mu-li-kuwa   muzuri.   [Swahili]
            7room-LOC   18-PST-be   18nice
            'In the room was nice.'
      b.   [Nje   ya   chumba]   ku-li-kuwa   kuzuri.
            outside   9of   7room   17-PST-be   17nice
            'Outside the room was nice.'

In (2a), the locative expression refers to an enclosed place and the subject marker on the verb accordingly has class 18 agreement, while in (2b) the locative refers to a vague place and the verb agreement is with class 17.

Typically, a language also uses either class 16 or 17 as the agreement class for existential clauses, as in Swahili, where noun class 17 fulfills this purpose:

(3)   Kuna   kitu   ni-na-cho-taka   ku-ki-sema.   [Swahili]
      17with   7thing   1S-PRES-7REL-want   INF-7-say
      'There's something I want to say.'

Note that the nouns *shule* 'school' and *chumba* 'room', although they denote things that can be construed as places, do not themselves belong to one of the three locative classes. Nouns like this will be referred to as "semantic locatives". In contrast, locative forms like *chumbani* 'in the room' and locative prepositional phrases such as *nje ya chumba* 'outside the room' will be called "formal locatives", since they are locative not only in meaning but also in their grammatical form.

3.   Formal and semantic locative inversion

In the type of Bantu locative inversion most frequently described, the locative expression is in a locative form and the verb exhibits subject agreement with one of the three locative classes, as in this example from Herero, in which the word for 'house', which itself is a class 9 noun, is prefixed with a class 18 morpheme:[2]

(4)   Mò-ngàndá   mw-á-hìtí   òvá-ndù.   [Herero]
      18-9house   18-PST-enter   2-people
      'Into the house entered (the) guests.'

This type of locative inversion will be termed "formal locative inversion" in this paper, because the inverted locative expression appears in the form of a locative, that is, with locative class morphology, in a prepositional phrase, or in a special locative

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[2]   All Herero data is taken from Marten (2006).

form. I will assume that in this type of formal locative inversion, the locative expression is either in subject position or that the subject position is occupied by a trace of the locative expression or by a *pro* which agrees with the locative phrase in phi features. Each of these possibilities is schematised here (where SM is the subject marker):

(5)   a. $[_{AgrSP'}$ locative $[_{AgrS'}$ SM-V...
      b. $[_{TopP}$ locative$_i$ $[_{AgrSP'}$ t_i $[_{AgrS'}$ SM-V...
      c. $[_{TopP}$ locative$_i$ $[_{AgrSP'}$ *pro*$_i$ $[_{AgrS'}$ SM-V...

The precise position that lexical subjects occupy in Bantu languages (a topic position or a true subject position) is subject to debate and may in fact differ from language to language, but what is important in all the cases in (5) is that the subject marker agrees with the locative expression, either through a surface specifier-head relation or mediated by a trace or a *pro* which is coindexed with, and has the same phi features as, the locative expression. We can call this class of constructions *agreement constructions*. In languages such as Herero, this direct or indirect relationship between the locative expression and subject agreement is obvious, because the class of the subject agreement varies according to the three class morphemes which the locative expression bears or to the sense of the locative (enclosed, general, or specific). This direct or indirect agreement relationship contrasts with another possible situation in which a non-referential locative *pro* or expletive *pro* sits in the subject position and controls class 17 subject agreement as in (6):

(6)   a. $[_{TopP}$ locative$_i$ $[_{AgrSP'}$ *pro*$_{loc}$ $[_{AgrS'}$ SM-V...
      b. $[_{TopP}$ locative$_i$ $[_{AgrSP'}$ *pro*$_{expl}$ $[_{AgrS'}$ SM-V...

In these cases the locative topic is not coindexed with *pro*. Such constructions will be termed "non-agreeing topicalisation" (or simply "non-agreeing constructions", if there is no topic), to distinguish them from the agreeing types of inversions just discussed. This paper partially concerns itself with broadly distinguishing between constructions which can be analysed as having agreeing locative expressions as in (5), on the one hand, and non-agreeing locatives as in (6), on the other. The formal locative inversion of the type found in Swahili in (2) and Herero in (4) will be termed "agreeing formal locative inversion".

      There is another, less widely discussed, locative inversion pattern found in some Bantu languages in which the noun denoting the location surfaces in subject position. In this position, the noun appears in its canonical form, without any sort of locative morphology, and the subject marker on the verb is of the usual noun class of that noun. This construction is available in Zulu (Buell 2005), as shown in (7b), and in Tharaka (shown below in (18b)):[3]

(7)   a.   Abantu   abadala ba-hlala   ku-lezi   zindlu.   [Zulu]
           2people   2old   2-stay   at-10these   10houses
           'Old people live in these houses.'

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[3]   Semantic locative inversions are most idiomatically translated into English with pseudopassives, such as 'These houses are lived in by old people.', but active voice has been used here to avoid confusion. Buell (2003, 2005) was unaware of the availability of semantic locative inversion with unaccusatives (as in (7b)).

b. Lezi   zindlu   zi-hlala   abantu   abadala.   [Tharaka]
    10these   10houses   10-stay   2people   2old
    'Old people live in these houses.'

This type of inversion will be termed "(agreeing) semantic locative inversion", because the fronted expression, while locative from a semantic perspective, does not appear in a locative form. (The word "agreeing" will generally be omitted here, because it is redundant within the context of this discussion.)

If the subject marker varies with the sense of location (as in Swahili in (2)) or noun class (as in Zulu in (7)), it is clear that the construction involves an agreement relation and belongs to the class of configurations in (5). That is, such a construction cannot be a variant of non-agreeing locative topicalisation, because we do not expect the phi features of a non-referential locative *pro* in subject position or of an expletive *pro* to vary according to the features of a topic. Clauses like (7b) are thus clearly agreement constructions, as schematized above in (5). That is, the subject marker on the verb agrees with the locative expression, either directly via a specifier-head relation or mediated by a trace or coindexed *pro*.

What is more difficult to determine is whether a construction constitutes an agreement construction or a type of non-agreeing topicalisation if there is no variation in subject agreement. This is the case with formal locative inversion in languages like Tswana, Sotho, and Zulu, in which there is only one locative class. Zulu also has formal locative inversion of some type, as shown in (8):

(8) Ku-lezi   zindlu   ku-hlala   (khona) abantu   abadala.   [Zulu]
     at-10these 10houses   17-stay   there   2people   2old
     'In these houses live old people.'

In this paper, I will show that such sentences do not constitute formal locative inversion of the type schematised in (5), but rather that they are instances of non-agreeing locative topicalisation as in (6).

4.   The Bantu locative inversion typology

Demuth and Mmusi (1997, henceforth D&M) develop a typology, most recently extended by Marten (2006), in which Bantu languages are classified by the range of postverbal arguments which can appear in locative inversion constructions (all either of the agreeing or non-agreeing formal locative type). The typology can be described as an implicational hierarchy. If the language has any locative inversion at all, it will be of the type where the verb is unaccusative, with the theme being the highest postverbal argument allowed. If a language allows transitive verbs in locative inversions with both an agent and an object following the verb, then it will also allow intransitive verbs with the agent following the verb. And so forth. In this section I will argue that semantic locative inversion fits naturally into this typology, suggesting that semantic and formal locative inversions are essentially equivalent, but that a language may have either one or the other. The typology is reproduced here from Marten (2006):

(9)

	Constituent Structure			Thematic Structure	
Language	Locative Morphology	SM Morphology	Grammatical Function of SM	Highest Thematic Role	Verb Type
Chewa	16/17/18	16/17/18	locative	theme	unaccusative
Chaga	-	17/18	locative	theme	unaccusative
Shona	16/17/18	16/17/18	locative	-agent	all except agent actives
	-	17	expletive		
Tswana	16/17/18	17	expletive	*(agent + theme)	all except active transitives
Sotho	-	17	expletive	*(agent + theme)	all except active transitives
Herero	16/17/18	16/17/18	locative	*(agent + theme)	all except ditransitives
	-	16	expletive		

This table preserves the original terms *locative* and *expletive*.[4] Within the terminology used in this paper, these can be understood, respectively, as "agreement with the locative expression" (as in (5)) and "agreement with an expletive or non-referential locative" (as in (6)). *Locative morphology* indicates the range of noun class distinctions available within the locative expression itself, and *SM Morphology* indicates the range of locative classes available for the subject marker.

It will be noted that Shona and Herero have both an agreement construction (locative subject marker function) and a non-agreeing topic construction (expletive subject marker function). In this table, the *highest thematic role* property and *verb type* property seem to be identical for the two constructions in these two languages. It will be shown here that in Zulu and Tharaka these properties actually differ somewhat for the two constructions. The remainder of this paper will discuss the plausibility and implications of including Zulu, and to a lesser extent Tharaka, into this typology.

5.   Semantic locative inversion in Zulu

I am proposing that semantic locative inversion fits into the locative inversion typology shown above in (9). The grammatical function of the subject marker for Zulu semantic locative inversion would be "agreement with the locative expression", and the main difference between the Zulu inversion and, say, the Chewa one is that the locative expression in Zulu is of a canonical class (that is, a non-locative one) and thus controls non-locative subject agreement on the verb. Setting aside issues of thematic structure, the entry for Zulu semantic locative inversion in the table would look like this:

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4   I have avoided using the term "expletive" for existential-type clauses, because it is unclear whether locative pronouns or *pro* are truly expletive. In some Bantu languages, a true expletive (such as the subject of SEEM) is distinct from a locative "expletive" (they are expressed with class 9 and class 17 agreement, respectively), in the same way as *it* and *there* in English. In Zulu, these two types of expletives are both expressed with class 17 agreement.

(10)

	Constituent Structure			Thematic Structure	
Language	Locative Morphology	SM Morphology	Grammatical Function of SM	Highest Thematic Role	Verb Type
Zulu	-	all non-locative classes	locative	?	?

The rationale for including this type of locative inversion in the typology stems from several properties that semantic locative inversion in Zulu has in common with agreeing formal locative inversion in other Bantu languages. The two most obvious of these are word order and agreement: the locative raises to an immediately preverbal position and the verb agrees with it.

      A more interesting parallel between semantic and agreeing formal locative inversion involves the ability to drop the agent. This property has been discussed for Zulu semantic locative inversion in Buell (2003, 2006), but it is also mentioned in Marten (2006) for Herero, a language which clearly has agreeing formal locative inversion (because of the way that the subject marker varies). Example (11) is such an inversion. The formal locative expression occurs in subject position, the verb agrees accordingly, yet the usual postverbal agent is missing:[5]

(11) Pò-ngàndá   pé-térék-à.   [Herero]
        16-9house   16HAB-cook-FV
        'At home there is usually cooking going on/being cooked.'

Now observe in (12) that Zulu also allows suppression of the agent in semantic locative inversion:

(12) a.   Lesi   sikole   si-fund-ela   izingane   ezikhubazekile.   [Zulu]
           7this   7school   17-study-APPL   10children   10handicapped
           'Handicapped children study at this school."
      b.   Lesi sikole   si-ya-fund-ela.
           7this 7school 17-DJ-study-APPL
           'This school is studied at. (It hasn't been closed down.)'

In both examples, the resulting construction yields an impersonal interpretation, that is, one with a general or arbitrary agent (like English impersonal *they*) rather than an elided specific agent (a *pro*-drop-like interpretation).

      In contrast with the ability to suppress an agent, Herero and Zulu both disallow suppression of the theme of an unaccusative verb. This is shown for Herero in (13) and for Zulu in (14), where the (a) examples show that an inversion with an unaccusative verb is available, while the (b) examples show that the theme cannot be suppressed.

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[5]   For the sake of uniformity, the glosses in some examples reproduced from other sources have been slightly modified.

(13) a. Mò-ngàndá mw-á-hìtí   òvá-ndù.   [Herero]
          18-9house   18-PST-enter 2-people
          'Into the house entered people.'

      b. *Mò-ngàndá   mw-á-hìtí.
           18-9house   18-PST-enter

(14) a. Lezi   zindlu   zi-hlala abantu   abakhubazekile.   [Zulu]
          10these 10houses 10-live   2people   2handicapped
          'Handicapped people live in these houses.'

      b. *Lezi   zindlu   zi-(ya)-hlala.
           10these 10houses 10-DJ-live
          Intended: 'These houses are lived in.'

Herero agreeing formal locative inversion and Zulu semantic locative inversion thus
share at least four different syntactic properties and one semantic one: word order,
subject agreement that varies according to the preposed locative, ability to suppress
an agent, inability to suppress an unaccusative theme, and an impersonal reading
when the agent is suppressed. These five points of commonality are taken as
sufficient evidence that the two constructions are essentially "equivalent", warranting
them the same type of slot in the locative inversion typology.
     Let's now consider the range of arguments and verb types that are compatible
with such constructions in Zulu, so that the remaining parameters of Zulu locative
inversion can be filled in. Assuming the implicational hierarchy, in which
unaccusatives occupy the lowest position, unaccusative verbs yield grammatical
results as expected, as shown with *hlala* 'stay, sit, live' and *ma* 'stand' in (15):

(15) a. Lezi   zindlu   zi-hlala abantu   abadala.   [Zulu]
          10these 10houses   10-live   2people   2old
          'Old people live in these houses.'

      b. Ipulatifomu i-ma   abantu   aba-win-ile.
          9platform   9-stand 2people REL:2-win-PERF
          'The winners stand on the platform.'

The examples in (16) show that unergative (agentive intransitive) verbs are also
available in semantic locative inversions, but only when the applicative suffix is
added to the verb:[6]

(16) a. *Le   fektri   i-sebenza izingcweti eziningi.   [Zulu]
           9this   9factory 9-work   10experts 10many
          'Many experts work at this factory.'

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

This is the highest argument valence and verb type that can participate in semantic
locative inversion, as seen in (17), which shows that transitives cannot participate in
semantic locative inversion, whether or not the verb is applicative:

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[6]   Some Zulu speakers consistently accept applicative unergatives in semantic locative inversions,
while others vacillate. Inversion is very robust for non-motion unaccusatives.

(17) a. *Lesi   sikole   si-funda   izingane   izilimi   ezahlukene.
          7this 7school 7-study   10children 10languages 10different
     b. *Lesi   sikole   si-fund-ela   izingane   izilimi   ezahlukene.
          7this 7school 7-study-APPL 10children 10.languages 10.different
          'Children study different languages at this school.'   [Zulu]

The same is true of ditransitives: semantic locative inversion is ungrammatical whether or not the verb is applicative.

     The distribution of Zulu semantic locative inversion resembles those previously found for agreeing formal locative inversion in other languages. While unaccusatives and unergatives can participate in agreeing inversion, verbs of a more complex nature, such as transitives and ditransitives cannot. However, unergative verbs in Zulu require use of an applicative suffix to make the construction possible. This is also the case in Tharaka, another language that exhibits semantic locative inversion:

(18) a. Twana   tû-thom-ag-(îr-)a   kanisa-ni.   [Tharaka]
          13children   13-study-HAB-APPL-FV   9church-LOC
     b. Kanisa   i-thom-ag-îr-a   twana.
          9church   9-study-HAB-APPL-FV   13children
     c. *Kanisa   i-thom-ag-a   twana.
          9church   9-study- HAB-FV   13children
          'The children study at the church.'

While semantic locative inversion with this agentive verb in its applicative form is shown in (18b) to be possible, the analogous non-applicative sentence in (18c) is ungrammatical. Marten shows that, in Herero, agreeing formal inversion allows locative applicative morphology, but does not require it. This suggests that the obligatory nature of the applicative with agentive verbs is a characteristic of semantic locative inversion (as opposed to formal locative inversion), and modification of the implicational hierarchy *per se* is hence not necessary. But more languages need to be tested to see if this is so.

     Unaccusative verbs bring another complication to the typology. Although it was shown in (15) that Zulu allows semantic locative inversion with unaccusatives, this is actually the case only with a certain class of unaccusatives, namely those which don't denote motions. This type of inversion with unaccusatives of motion, such as of coming and going, is ungrammatical, as shown here:

(19)   ?*Le   ndawo   i-za   izivakashi eziningi.   [Zulu]
         9this   9place 9-come 10visitors 10many
         'Many visitors come to this place.'

While sentences like (19) are occasionally judged as grammatical, they usually are not, and whatever the precise status of unaccusatives of motion, it is clear that they form a class separate from unaccusatives like STAY and STAND, which are consistently accepted in inversions. This differential treatment of motion and non-motion unaccusatives does not seem to be a property of semantic locative inversion itself, because Tharaka does allow unaccusatives of motion in such inversion:

(20) a. Twana   tûûgî   i-tû-thij-ag-a   kanisa-ni.   [Tharaka]
         13children 13smart FOC-13-go-HAB-FV 12church-LOC
     b. Kanisa   i-ka-thij-ag-a   twana   tûûgî.
         12church FOC-12-go-HAB-FV 13children 13smart
         'The smart children go to the church.'

This concludes our discussion of semantic locative inversion, and we turn our attention now to non-agreeing locative topicalisation in Zulu.

6.   Non-agreeing locative topicalisation in Zulu

As mentioned above, it is difficult to establish whether or not a given structure is an agreement construction if no variation in subject agreement is observed. The following inversion (repeated from (8)) is such a structure:

(21) Ku-lezi   zindlu   ku-hlala (khona) abantu   abadala.   [Zulu]
     at-10these 10houses 17-stay there   2people 2old
     'In these houses live old people.'

It will be argued here that such clauses in Zulu are instances of non-agreeing topicalisation rather than agreement constructions. This will be done by reconsidering D&M's arguments to the contrary (for Tswana) and introducing two additional arguments.

     Before considering these arguments, though, we will first briefly examine the status of the locative classes in Zulu. Unlike some Bantu languages, Zulu does not have an active morphological contrast between classes 16, 17, and 18. Classes 16 and 18 have disappeared altogether, although vestiges of class 16, identifiable from the morpheme *ph(a)*, can be found in lexical items such as *lapho* 'there' and *phakathi* 'inside'. Only class 17 is active in the agreement system, where it serves several non-locative purposes alongside its arguably locative ones. The most important of the clearly non-locative uses will be illustrated here. First, class 17 is used for all expletive constructions (even those which do not involve location):

(22) Ku-bonakala   ukuthi ba-zo-fika   kusasa.   [Zulu]
     17-appear   that   2-FUT-arrive tomorrow
     'It appears that they'll arrive tomorrow.'

Class 17 is also used in a variety of non-locative impersonal expressions:

(23) U-phendule   kahle! Kw-a-kuhle   bo!   [Zulu]
     2s-answer   well   17-PST-17good really
     'You answered correctly! Great!/Well done!'

Class 17 subject agreement can be used when the subject is a conjunction of two noun phrases of different noun class (Nyembezi 1990):

(24) Izinkuni   n-amalahle ku-phelile.   [Zulu]
     10firewood   and-6coal   17-finish:PERF
     'The firewood and coal is finished.' (Nyembezi 1990)

'This' and 'that' appear as class 17 *lokhu* and *lokho* when they refer to a situation or to something not of a particular class (like the *esto/eso/aquello* forms of the demonstratives in Spanish), and *konke* "everything" is also class 17:

(25) Uthandi   u-n-amanga.   A-ngi-ku-thand-i   lokho.   [Zulu]
     1Thandi   1-with-6lies   NEG-1S-17-love-NEG 17that
     'Thandi lies. I don't like that.'

(26) S-enz-a   konke   oku-semandle-ni   ethu.   [Zulu]
     1P-do-FV 17all   REL:17-LOC:6power-LOC 6our
     'We're doing everything in our power.'

And finally, class 17 can also be used as the subject concord for inverse copulas:

(27) Inkinga   kw-a-ku-ngu-wena.   [Zulu]
     9problem   17-PST-17-COP-you
     'The problem was you.'

As for cases in which class 17 is arguably locative, the strongest case is *khona* 'there', a non-deictic locative, which, morphologically speaking, is transparently a class 17 pronoun:

(28) B-enza-ni   ku-leli   kamelo? Ba-senbenz-el-a khona.   [Zulu]
     2-do-what in-5this 5room   2-work-APPL-FV   there
     'What do they do in that room? They work there.'

In addition, there are a variety of constructions in which class 17 subject agreement could be argued to involve agreement with either a locative or a non-locative expletive. These include existentials with *na* (as in (29b)), impersonal passives (as in (30)), verb/subject inversions of various types (such as in the quotative inversion in (31)), and the formal locative inversions in question in this paper:

(29) a. Ngi-n-esinkwa.   [Zulu]
         1S-with-7bread
         'I have bread.'
     b. Ku-n-esinkwa   lapho ekhabethe-ni.
         17-with-7bread   there   LOC:5cupboard-LOC
         'There is bread there in the cupboard.'

(30) Ku-ya-dans-w-a.   [Zulu]
     17-DJ-dance-PSV-FV
     'There is dancing.'

(31) "Ngi-ya-ku-thanda." Ku-sho uSipho.   [Zulu]
     S-DF-2S-love   17-say 1Sipho
     'I love you,' said Sipho.

The fact that Zulu has both locative and non-locative uses of class 17 makes it important to carefully consider whether or not a given construction using 17 as

subject agreement is really a locative construction, let alone whether it is an *agreeing* locative construction.

D&M note that in locative inversions in Tswana, a referential locative interpretation is possible only when an overt locative phrase is present. In other words, if no overt locative phrase is present, a non-referential (expletive) locative is the only reading possible. This is also the case in Zulu and Tharaka. I propose sentence pairs like the Zulu example in (32) to test for this property:

(32)   Ngi-zi-bon-ile   [lezo   zindlu.]$_i$ [Zulu]
       1S-10-see-PERF   10these   10houses
       'I saw those houses.'

       a.   *pro*$_i$ A-zi-hlal-i   muntu.
                    NEG-17-stay-NEG   1nobody
             'Nobody lives there.
       b.   # *pro*$_{expl/*I}$ A-ku$_{expl/*i}$-hlal-i   muntu.
                    NEG-17-stay-NEG   1.nobody

While the *pro* in the semantic locative inversion in (32a) is coindexed with *lezo zindlu* 'those houses' of the previous sentence, the locative *pro* in (32b) cannot be coindexed with anything. Rather, it must be non-referential or "expletive".[7]

Results from their tests for subjecthood lead D&M to conclude that inversions are agreement constructions when the locative phrase is overt, but that the class 17 subject marker agrees with an expletive in the absence of such a phrase. This is a very unusual conclusion, as they themselves note; because Tswana is a *pro*-drop language, we would expect a locative *pro* in subject position to be able to be referential just like a non-locative *pro*, given the correct context. This fact should thus be taken as the first argument that formal locative inversions in Zulu and Tharaka (and indeed also in Tswana) are non-agreeing topicalisations. This section argues that Zulu constructions in which a formal locative precedes a verb with class 17 subject agreement (such as in (21)) are in fact instances of non-agreeing locative topicalisation rather than agreeing formal locative inversions, and it will suggest that D&M's conclusions about Tswana should be reconsidered.

Let's first consider the two main arguments that D&M use to argue that locatives can be subjects controlling class 17 subject agreement in Tswana. The first of these is subject raising, such as in (33a), in which the verb *gothiba* 'be cloudy' is a complement infinitive of the raising verb *bonagala* 'seem' (the counterpart of the non-raising Zulu verb *bonakala* 'appear' shown above in (22)):

(33)   a.   [Kwá-noké-ng]$_i$ gó- bónágala t_i go-thíba.   [Tswana]
                   17-9river-LOC   17-seem   15-cloudy
             'At the river it seems to be cloudy.'
       b.   [Kwá-noké-ng] *pro*$_i$ gó-bónágala t_i go-thíba.

D&M assume that *kwánkéng* 'at the river' must have moved to the subject position of the higher clause. But this type of example seems equally amenable to the alternative analysis in (33b), in which an expletive *pro* has raised to subject position, preceded by

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7   The grammaticality judgements are the same if the locative in the first sentence is embedded in a prepositional phrase, as in "I went to those houses." The same tests were used for Tharaka.

the overt locative phrase, as indeed is the case in English in (34), except that in English, the word *it*, which is moved, is overt:

(34)   [At the river] it$_i$ seems t_i to be cloudy.

Furthermore, non-referential ("expletive") locatives are known to undergo raising, as in (35) in English:

(35)   [In my soup] there$_i$ appears t_i to be a fly.

The availability of an analysis in which a non-referential locative or a class 17 expletive raises to subject position seems to render cases like (33) inconclusive for locative subjecthood.

Let's consider locative resumption in Zulu. Resumptive pronouns are not tolerated in semantic locative inversion. This is shown in (36a), where both a pronoun of the canonical class of the noun (*zona*, class 10) and the locative pronoun *khona* 'there' are used. This contrasts with putative formal inversions as in (36b), where the resumptive *khona* is possible and actually preferred:

(36)   a.   Lezi   zindlu   zi-hlala (*zona / *khona) abantu   abakhubazekile.
              10these   10houses 17-stay 10PRON   there   2people   2handicapped
              'These houses are lived in by handicapped people.'   [Zulu]
        b.   Ku-lezi   zindlu   ku-hlala (khona) abantu   abakhubazekile.
              in-10these 10houses 17-stay   there   2people   2handicapped
              'In these houses live handicapped people.'

As just mentioned, the fact that a resumptive pronoun is not obligatory, but only possible, in Tswana is taken by D&M as evidence that the preverbal locative expression is in subject position. However, no other construction is known or discussed in which something which has raised to subject position can leave behind a resumptive pronoun. Indeed, at least in Zulu, use of the resumptive is characteristic of A-bar-moved locatives.[8] Appearance of *khona* is required in certain A-bar contexts, such as in topicalisation and in locative relative clauses, as in (37):[9]

(37)   a.   Ku-le   ndlu   a-ngi-sa-hlal-i   *(khona).   [Zulu]
              at-9this   9house   NEG-1S-DUR-stay-NEG there
              'At this house I don't live anymore.'
        b.   indawo lapho ngi-hlala   *(khona)
              9place there 1S-stay   there
              'the place where I live'

The fact that resumption is not independently possible for an argument that moves to subject position, while, in contrast, locative resumption is a robust phenomenon in A-bar contexts, makes it much more natural to assume that the possibility of

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[8]   For a more general discussion of resumption in Zulu, see Zeller (2004).
[9]   In these examples, *khona* is obligatory (and not merely optional) because, in addition to the syntactic configuration, no additional material follows the verb. In Zulu, a locative resumptive pronoun is often optional, just as in Tswana. Its optionality seems to be related to how much other material appears after the verb.

resumption in formal locative inversion indicates that the locative has *not* raised to subject position, but rather that it is a non-agreeing topic.[10]

It has been suggested here that D&M's argument concerning raising verbs is inconclusive, while their observation about the obligatory non-referential interpretation of locative *pro* and their argument concerning resumptive pronouns were reinterpreted as supporting a non-agreeing topic analysis for formal locative inversion. At this point two additional arguments against a locative agreement analysis will be presented.

The first argument involves relative clauses of the type known as Strategy 1 relatives in Zulu (Poulos 1982). Note in (38) that an overt subject in a non-subject relative of this type usually intervenes between the head noun and the verb:

(38) umnumzane isitha   es-a-bulala   izinkomo zakhe.   [Zulu]
       9gentleman   7enemy   REL:7-PST-kill 10cows   10his
       'The man whose cows the enemy killed.'

Now, if the locative in a formal locative inversion were a subject in the same way that *isitha* 'the enemy' is in (38), we would expect it to intervene between the head noun and the verb in the same way, but this is not the case, as shown in (39b):[11]

(39) a.   umnumzane okwabulawa   izinkomo zakhe ensimi-ni   [Zulu]
            9gentleman REL:17-PST-kill.PSV 10cows   10his   LOC:9field-LOC
            'The man whose cows were killed in the field'
      b.   *umnumzane ensimi-ni   okwabulawa   izinkomo zakhe.
             9gentleman LOC:9field-LOC   REL:17-PST-kill.PSV 10cows   10his

The most obvious conclusion to be drawn here is that preposed formal locative phrases are topics, which are independently disallowed from Strategy 1 relative clauses, as shown by the locative topic *esikoleni* 'at school' in (40):

(40) Nasi   isithombe (*esikole-ni)   engi-si-dweb-ile   izolo. [Zulu]
       7here.is. 7picture   LOC:7school-LOC   REL:1S-7-draw-PERF.DF yesterday
       'Here is the picture that (at school) I drew yesterday.'

A second argument against an agreement analysis for formal locative inversion in Zulu, though admittedly a relatively weak one, comes from coordination facts. The examples in (41) both use two pronouns, *lokhu* 'this', a class 17 pronoun which can refer to a general thing or situation, and the locative demonstrative *lapho* 'there'. Sentence (41a) shows that either of them can precede an adjectival predicate, and that

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[10]   My argument here would be most clearly invalidated by exhibiting a language in which subject agreement in a formal locative inversion varied with the sense of location or distinction in locative class of the preposed locative and in which a locative resumptive pronoun is also allowed. Furthermore, if it were found in Herero or another language with agreeing formal locative inversion that locative resumption were allowed in A-bar contexts but disallowed in locative inversions, this would constitute an additional argument that formal and semantic agreeing locative inversions are equivalents.

[11]   Space considerations do not allow us to discuss evidence presented in Buell (2005) that the locative in semantic locative inversion is in a subject position rather than a topic position. One of these arguments is that the semantic locative can serve as the subject of a Strategy 1 relative, unlike the formal locative in (39b).

they can even be contrasted in this way, but (41b) shows that these two pronouns cannot be conjoined in this position:

(41) a.   Lokhu kuhle,   kodwa lapho kubi.   [Zulu]
           17this 17good but   there   17bad
           'This is good, but there is bad.'
      b.   *Lokhu na-   lapho kuhle.
           17this and- there 17good
           'This and there is/are good.'

One possible explanation for this is that *lokhu* 'this' and *lapho* 'there' in (41a) are in different positions: *lokhu* in a true subject position (such as spec-AgrSP) and *lapho* in a topic position. If *lapho* cannot serve as a subject, then it is not surprising that it cannot be coordinated with *lokhu*, which, in contrast, is in subject position in (41a).

A final argument against the subjecthood of preverbal locative expressions in Zulu is that the arguments tolerated in postverbal position actually differ between semantic locative inversion constructions (in which the subjecthood of the locative is clear) and preverbal formal locatives. This contrast is seen with unergative and transitive applicative verbs, as shown in (42) and (43), respectively:

(42) a.   Ku-le   fektri   ku-sebenza (khona) izingcweti eziningi.   [Zulu]
           at-9this 9factory 17-work   there   10experts 10many
      b.   *Le   fektri   i-sebenza izingcweti eziningi.
            9this 9factory 9-work   10experts 10many
           'Many experts work at this factory.'

(43) a.   Ku-lesi sikole   ku-fund-ela   (khona) izingane   izilimi
           at-7this 7school 17-study-APPL there   10children 10languages
           ezahlukene.   [Zulu]
           10different

      b.   *Lesi   sikole   si-fund-ela   izingane izilimi   ezahlukene.
            7this   7school 17-study-APPL there   10children 10different
           'Children learn different languages at this school.'

The same facts hold in Tharaka. If semantic and formal inversion in Zulu and Tharaka involved the same type of movement, we would expect the same type of argument structure to be licit in both. The fact that the argument structure tolerated in the two constructions is different thus can be taken as evidence that a different type of movement is involved.

7.   Implications for the typology

It has been shown that in some Bantu languages, such as Zulu and Tharaka, semantic locative inversion bears enough similarities to agreeing formal locative inversions in other Bantu languages to warrant being treated roughly as equivalents in the locative inversion typology. Including this variety of locative inversion has certain implications for the typology and raises certain questions.

First, it was also shown that accommodation into the typology requires refinement of at least one parameter. Specifically, Zulu (but not Tharaka) requires

distinguishing between motion and non-motion unaccusatives, because they behave differently with respect to semantic locative inversion. This problem complicates the notion of implicational hierarchy ("highest thematic role") for the argument structure allowed in inversion. Furthermore, while both Zulu and Tharaka allow unergative verbs to participate in this type of inversion, this is only allowed when mediated by applicative morphology. It might thus also be necessary to specify the obligatory/optional status of applicative morphology for verb types more complex than unaccusatives, unless it becomes clear that the obligatory nature of the applicative is a property inherent of the semantic locative variant of inversion.

Second is the issue of whether it is possible for a language to have two kinds of agreeing locative inversion: formal and semantic. Zulu was argued to have only the latter, and the limited data available suggests that this is also the case in Tharaka. Languages which transparently have agreeing formal locative inversion such as Herero (that is, supported by varying locative subject morphology) are assumed not to also have semantic locative inversion, but it is not clear whether this has actually been tested for. This would suggest that a given language could only have one of the two constructions. It is in relation to this question that it is so important to know the correct analysis of Tswana. D&M argue that Tswana does have agreeing formal locative inversion. But Creissels (2004) notes that Tswana also has a sort of semantic locative inversion, shown in (44), for instrumentals which he describes as dependent on a spatial relation:

(44) a. Mosadi o ne a tshol-el-a bogoba mo megopo-ng.
      1woman 1 AUX 1 dish.out-APPL-FV 14porridge PREP 4bowls-LOC
      'The woman dished out the porridge into the wooden bowls.'
   b. Mogopo o tshol-el-a bogobe.
      3bowl 3 dish.out-APPL-FV 14porridge
      'The wooden bowl is used to dish out porridge.'   [Tswana]

If D&M's analysis is adopted, then Tswana may be just such a language having both formal and semantic inversion. However, it was suggested here that formal inversions in Tswana are actually instances of non-agreeing topicalisation. Which of the analyses of Tswana is the correct one has consequences for the subsequent line of investigation. If Tswana has both semantic and formal locatives, what is their relative distribution and how do they differ in terms of interpretation and discourse properties, the types of verbs which can be used, and the types of arguments which can follow the verb? (For example, in (44b) there is no overt agent. Is this also possible in Tswana formal inversion?) Conversely, if Tswana has only the semantic variety of locative inversion then it appears that a language can only have one type of locative inversion. And if this is so, then it also remains to be explored what feature or parameter this choice can be reduced to.

A final question concerns the uniformity between the verb and argument types allowed in agreeing locative inversions and non-agreeing locative topicalisation. In the languages in the chart in (9) (in all of which the agreeing inversions are of formal locatives), the claim seems to be that the verb and argument types are identical for the agreeing and non-agreeing inversions. However, in Zulu and Tharaka, languages in which agreeing inversions are of formal locatives, the verb types are divergent. More languages must be studied to learn whether this uniformity or divergence is predictable, depending on whether the agreeing inversion is of the formal or semantic type, or whether this is an artifact of the small number of languages in the sample.

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