

## *The Shona reflexive as covert anaphora\**

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### *Abstract*

This paper presents an analysis of reflexives in Shona. Taking seriously the observation that the reflexive morpheme *zvi-* is homophonous with one of Shona's object markers, I argue that this homophony is not accidental. Rather, the morpheme that emerges in reflexive contexts is object marking triggered by a covert anaphor. The analysis rests on two planks: first, establishing that *zvi-* is the default agreement form in the language generally; and second, establishing that a covert anaphor may trigger such an agreement. In so doing, a treatment of object marking as the exponence of discourse-givenness is advanced. The analysis is compatible with treatments of object marking in Shona as either an agreement affix or a clitic. Theoretical issues related to default agreement, covert anaphors, and distinctions between discourse-givenness and topicality are also discussed, along with an alternative account treating *zvi-* as a valence-reducing derivational affix.

**Keywords:** Shona, Bantu, reflexive, object marking, anaphora

### *Résumé*

Cet article offre une analyse des marques réfléchies du shona. Partant de l'observation que le morphème réfléchi *zvi-* et une des marques d'objet sont homophones, je propose que cette homophonie n'est pas accidentelle. Le morphème qui apparaît dans les contextes réfléchis est une marque d'objet autorisée par une anaphore invisible. Cette analyse repose sur deux idées: dans un premier temps, il faut établir que *zvi-* est la forme par défaut de l'accord dans cette langue; dans un second temps, il faut montrer qu'une anaphore invisible peut mener à cet accord. Ce faisant, une analyse de la marque d'objet comme l'exposant d'information donnée sera présentée. Cette analyse est compatible avec les analyses de la marque d'objet du shona comme un affixe d'accord ou un clitique. Je fournis une discussion concernant l'accord par défaut, les anaphores invisibles et la distinction entre information donnée et la

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\*Thanks to audiences at the working papers series at UBC and Yale for comments on earlier versions of this work, as well as the audience at the Bantu IV conference in Berlin. Thanks also to the three anonymous CJL reviewers whose comments have greatly improved this article. Unless otherwise indicated, all Shona data come from original fieldwork with speakers of the Karanga dialect of Shona residing in Canada and the USA. My thanks to those consultants for sharing their language with me. All errors are my own.

topicalité. Enfin, sera examinée une analyse alternative qui traite du morphème *zvi-* comme un affixe dérivationnel qui réduit la valence.

**Mots-clés:** shona, bantu, réfléchi, marque d'objet, anaphore

## 1. INTRODUCTION

This paper is concerned with Shona reflexive sentences, characterized by use of the verbal prefix *zvi-*, presented in (1) using the conventional glossing:<sup>1</sup>

- (1) a. John a-ka-zvi-pis-a.  
 John SUB.1-RPST-REFL-burn-FV  
 'John burned himself.'
- b. *pro* Nda-ka-zvi-pis-a.  
 pro.1<sup>st</sup>.SG 1<sup>st</sup>.SG.SUB-RPST-REFL-burn-FV  
 'I burned myself.'
- c. Mbudzi dza-ka-zvi-pis-a.  
 goats.10 SUB.10-RPST-REFL-burn-FV  
 'The goats burned themselves.'

As indicated in (1), the reflexive form is constant for all permutations of person, number and noun class. Such invariant mono-morphemic reflexives are well-attested within the Bantu family, for example in Chicheŵa (Mchombo 1993) and Zulu (Kunene 1975). However, there are more distantly-related Bantoid languages with a full DP reflexive that agrees with its antecedent, such as Tuki (Bilola 1991). Discussion of the Shona *zvi-* in particular has been limited to little more than noting that this morpheme emerges in reflexive sentences, with no explicit analysis given for the underlying syntactic or semantic structure. Its treatment in various grammars and other writings on the language is inconsistent, with some authors describing reflexivity as the result of a valence-reducing operation (Bellusci 1991, Brauner 1995), while others note that the *zvi-* morpheme appears in the verbal stem position of object marking, suggesting that it is a member of the set of object markers in the language (Marconnés S.J. 1931; Fortune 1980). In the case of Fortune, this claim is made within the context of acknowledging that object marking in the language is reserved for discourse-old referents. As the reflexive is

<sup>1</sup>The following abbreviations are used: APPL-applicative, ASSC-associative, AUX-auxiliary verb, CAUS-causative, FOC-focus, FV-final vowel, HAB-habitual, INDIC-indicative, INF-infinitive, LCAL-local, OBJ-object, PASS-passive, PAST-past, PL-plural, PRON-(strong) pronoun, RECIP-reciprocal, REDUP-reduplicated morpheme, REFL-reflexive, RPST-remote past, SG-singular, SUB-subject, SUBJ-subjunctive, TOP-topic, 1<sup>st</sup>-first person, 2<sup>nd</sup>-second person, 3<sup>rd</sup>-third person (non-Bantu examples only). Third person in Bantu examples is identified by bare numerals marking the relevant noun classes on all agreeing prefixes. The morpheme gloss FV refers to 'final vowel', a common convention; the status of this vowel as a mood or clause-typing morpheme is orthogonal to the arguments presented here.

by definition dependent on some prior antecedent, it will always meet this criterion, and so there is no conflict in conflating the reflexive and object markers in general.

In this article, I examine Shona reflexive sentences, arriving at the following conclusions:

- i) Reflexive sentences in Shona retain their valence, based on the lexical semantics of the verb root and any additional valence-changing operations. *Zvi-* does not denote a reduction in valence.
- ii) The *-zvi* morpheme itself is not the locus of reflexivity. Reflexivity in this language derives from a covert bound variable anaphor, for which *zvi-* is the associated object marker.
- iii) *Zvi-* prefixed directly to the verb root is in all cases a class eight object marker; there is no dedicated reflexive affix in the language.

I argue that (1a) should be re-analysed as follows:

- (2) John; a-ka-zvi-pis-a                      *refl*<sub>i</sub>.  
 John SUB.1-RPST-OBJ.8-burn-FV REFL  
 'John burned himself.'

The post-verbal internal argument position is occupied by a covert bound variable anaphor *refl*, bound by the subject *John*. The *zvi-* morpheme which emerges in this context is simply class eight object marking, which I show to be the noun class used for elements that lack  $\varphi$ -features. The facts presented in (1) support the contention that *refl* itself has no inherent  $\varphi$ -features, as it can be bound by an antecedent with any  $\varphi$ -feature value. I argue that *refl*-binding can be treated using an analysis inspired by the treatment of the anaphor *ziji* in Chinese. Conclusions i) and ii) have clear consequences for the analysis of languages with this type of reflexive morphology: my claim is that this type of verbal-affix reflexive marking is not definitive evidence for valence reduction, and that covert anaphora is a possibility.

Conclusion iii) relates to the fact that contemporary native speaker consultants report a sentence like (1a) as ambiguous. In a discourse context where an appropriate set of referents is salient, the sentence can be interpreted as non-reflexive, describing a transitive action in which the theme is a discourse-old argument. Such cases, I will argue, should be treated in this parallel fashion.

- (3) John a-ka-zvi-pis-a                      *pro*.  
 John SUB.1-RPST-OBJ.8-burn-FV PRO.8  
 'John burned them.'

In (3), the *zvi-* object marker corresponds to a  $\varphi$ -feature valued *pro* which is discourse-referentially related to some set of class eight objects. While this ambiguity is a clear prediction following from the descriptions of the aforementioned Fortune and Brauner grammars, neither author mentions it explicitly, even while noting that the object markers and reflexive prefix appear in the same position. This leaves the sense that homophony between the reflexive *zvi-* and class eight object marking *zvi-* is accidental. Marconnès notes the ambiguity, but provides no explanation.<sup>2</sup>

<sup>2</sup>Over a succession of different texts and grammatical sketches on the language from a pan-dialectal perspective, there are conflicting accounts of whether tone acts as a disambiguating

In this article, I take the position that it is all just one morpheme, making the observed ambiguity a consequence of my analysis. This conclusion can be extended into a potential diagnostic for motivating a covert anaphora treatment: ambiguity of the morpheme used to express reflexivity. To make this maximally applicable across languages, and remaining aware of the long-standing debates on the nature of object marking across Bantu languages, I construct my analysis in such a way as to be compatible with a treatment of object marking either as an agreement process or as clitic doubling. The present analysis is, however, incompatible with treatments of object marking as incorporation.

The rest of the article is structured as follows. In Section 2, I summarize my background assumptions about the syntactic structure of the language and the nature of object marking, leading to a detailed account of cases such as (2). Section 3 presents the evidence that *zvi-* in reflexive contexts properly belongs to the set of object markers in the language, and uses passivization of reflexive sentences to build the case that reflexive sentences contain an underlying bound variable. Section 4 presents further evidence for the analysis, demonstrating that Shona reflexive sentences do not bear the trademarks of a detransitivizing reflexive. Section 5 concludes with a brief discussion of the typological questions raised by this analysis and avenues for further research, along with potential consequences for the analysis of languages with similar reflexive morphology.

## 2. UNDERLYING ASSUMPTIONS AND CORE ANALYSIS

In this section, I open with a discussion of the clausal structure I assume for Shona, followed by a survey of the possible options for analyzing object markers and the consequences those options will have for my analysis. This leads into a detailed presentation of the analysis sketched in (2).

### 2.1 The clausal syntax of Shona

I follow Bliss and Storoshenko (2008) in assuming that the pre-verbal subject position in Shona is actually the reflex of information-structure-driven  $\bar{A}$  movement to a Topic Phrase.<sup>3</sup> The language shows a strong discourse-sensitivity in the subject position, to the extent that all consultants reject the simple declarative (4a)

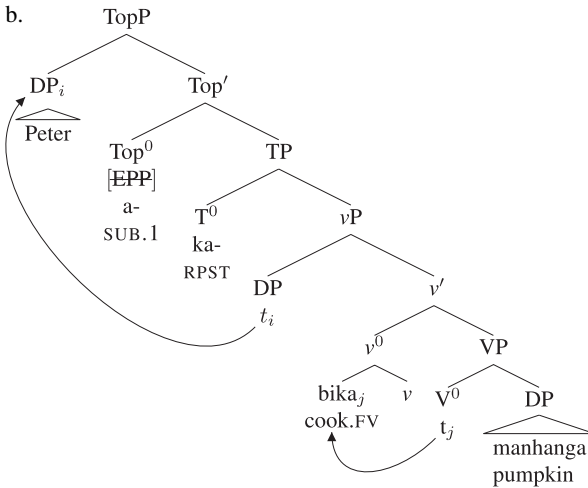
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factor for reflexives, with the suggestion that ambiguity may emerge only when the verb root contains no vowel (Fortune 1955, 1967, 1980). However, Brauner provides tone-annotated data indicating complete homophony between reflexive and object agreement cases on verbs with vowels. In my elicitations with Karanga speakers (the same dialect for which Marconnès reports ambiguity), tone was not found to play a role, and is thus not marked on the data.

<sup>3</sup>The subject here does not pass through [Spec, TP]. This is proposed in conjunction with the analyses of [Harford-Perez(1985)] and [Diercks(2012)] who claim that case marking is not present, or is at least parametrized across Bantu languages. With agreement surfacing on a higher functional head bearing its own EPP feature, and no case to check, there is no need to posit a landing site in TP.

below as the answer to a subject *wh*-question *Who cooked the pumpkins?* The implementation is similar to existing accounts for Kinande in which the subject position is argued to be an information-structure-sensitive head in an augmented CP-domain rather than in TP (Baker and Collins 2006, Schneider-Zioga 2007). Based on this, I adopt (4b) as the basic architecture of the Shona clause:

- (4) a. Peter a-ka-bik-a ma-nhanga.  
 Peter SUB.1-RPST-COOK-FV 6-pumpkin  
 ‘Peter cooked pumpkins.’



The *v*-head, which is also the spellout location of the passive voice suffix *-w* in the original Bliss and Storoshenko analysis, here introduces the external argument in its specifier. In the active voice, *v* has no overt exponents in their analysis. The external argument checks a topic EPP, and the class one  $\varphi$ -features of the proper name *Peter* are spelled out as agreement on the Topic head.

### 2.2 Object marking in Shona

The nature of object marking in Bantu languages has been a subject of considerable debate over several decades of research. In brief, three positions have been advanced:

- Object markers are incorporated pronouns moving from argument positions
- Object markers spell out agreement between a head at the edge of the *vP* domain and an internal argument
- Object markers are clitics associated with a DP in the relevant argument position

The only one of these positions that is incompatible with my proposal is the first; my contention is that there is a covert anaphor in the argument position of a reflexive sentence, not that *zvi-* itself is an anaphor originating in the argument position which is subsequently incorporated. A potential counter-argument to the incorporation analysis is the fact that object markers in Shona can co-occur with a full DP object:

- (5) Mufaro a-Ø-ri-bik-a                      bota.  
 Mufaro SUB.1-PAST-OBJ.5-cook-FV porridge.5  
 ‘Mufaro cooked porridge.’

In Sikuku (to appear), it is asserted that if such doubling is possible, then the object marking is agreement-based, with the full DP in the argument position. However, the analysis for Chicheŵa presented in Bresnan and Mchombo (1987), where object markers are taken to be incorporated, contains parallel examples with the object marker and the full DP object, so doubling in itself may not be a solid argument against the incorporation analysis. Bresnan and Mchombo observe that in Chicheŵa, a DP argument (subject or object) which is also marked on the verb may be freely positioned in the sentence, essentially acting as an adjunct. As subject marking is obligatory in the language, two base word orders are always possible:

- (6) a. Njũchi zi-ná-lúm-a                      alenje.  
       bees    SUB-PAST-bite-INDIC hunters  
       ‘The bees bit the hunters.’  
 b. Zínálúma alenje njũchi.    (Bresnan and Mchombo, 1987: 744–745)

(6a) represents the canonical SVO word order of the language; VOS order is derived by treating the subject marking as an incorporated pronominal, with the subject DP adjoining to the right of VP. When an object marker corresponding to *alenje* ‘the hunters’ is added to the inflected verb, all six logically possible permutations of S-V-O are attested.

The evidence for Shona is somewhat different. Among my consultants, VOS order with no object marker is judged inconsistently (some consultants accept the order, others reject it). This suggests that in Shona, at least for some consultants, subjects cannot be taken to be adjuncts. The most relevant word order to consider with respect to object marking then is the OSV order, which is the only permutation of elements that requires an adjunct treatment of the object but not the subject under Bresnan and Mchombo’s analysis. Again, judgements vary between consultants. Some reject the order completely, while others accept it with or without an object marker. Interestingly, it is the consultants that accept VOS who also accept OSV without an object marker, providing no evidence for an incorporation analysis. Mugari (2013), using similar word-order tests, reports all six S-V-O permutations to be possible in Shona without object marking, subject to intonation and genre considerations. He argues that Shona is fundamentally an agreement-based system, though he suggests a change in progress toward a pronominal incorporation system as proposed for Chicheŵa, potentially accounting for the variation among my consultants.

While the original Bresnan and Mchombo proposal is not presented in a Principles-and-Parameters framework, the core idea is compatible with the pronominal argument hypothesis (PAH), which is adaptable to the framework (Jelinek 1984). To conclude that Shona is not a pronominal-argument language, an argument proposed by Davis and Matthewson (2009) against assuming PAH in St’át’imcets (Salish) can be applied. The key observation is that, contrary to a prediction of the PAH, St’át’imcets has some obligatorily unregistered arguments that are not marked in any way on the

verbal stem. The same is true in Shona, where object marking is not obligatory, and for any predicate with two (or more) internal arguments, all but one must be unregistered, as Shona strictly allows only one object marker per verb. Furthermore, in such cases, there is complete optionality in terms of which internal argument is registered:

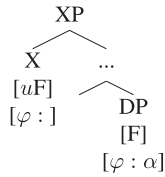
- (7) a. John a-ka-bik-ir-a                      Bill bota.  
       John SUB.1-PAST-COOK-APPL-FV Bill porridge.5  
       ‘John cooked porridge for Bill.’
- b. John a-ka-mu-bik-ir-a                      bota.  
       John SUB.1-PAST-OBJ.1-COOK-APPL-FV porridge.5  
       ‘John cooked porridge for him.’
- c. John a-ka-ri-bik-ir-a                      Bill.  
       John SUB.1-PAST-OBJ.5-COOK-APPL-FV Bill  
       ‘John cooked it for Bill.’

The facts in (7), showing that either internal argument in a transitive extended with an applicative may be replaced with an object marker, demonstrate that there is no unique role or position that must be registered. Based on this, it can be concluded that Shona is also not a pronominal-argument language, and we may move forward with the notion that object markers derive from agreement rather than from the incorporation of a pronominal.

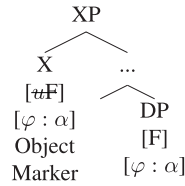
Agreement accounts of Bantu object markers share the following elements: some head at or near the edge of the  $\nu$ P domain probes downward for matching  $\varphi$  features, which are spelled out on the probe as a prefix immediately to the left of the verb root. It is important at this point to recall that object marking in Shona has a very clear discourse function: it is used to highlight discourse-old referents. To account for this within a broadly minimalist framework (Chomsky 1995), agreement can be said to operate as follows: a head X bears unvalued  $\varphi$ -features, along with an uninterpretable feature F. X probes its c-command domain to locate a YP bearing a matching F feature. For the time being, it will suffice to understand F as being a discourse-related feature which has been variously defined as definite (Mugari 2013), or as topic (Bax and Diercks 2012). In checking F, the  $\varphi$ -features of YP are copied to X. To account for the optionality of object marking in Shona, the uninterpretable feature may or may not be present on the head X. The object bears interpretable versions of this feature, and does not itself require agreement for any licensing. The presence or absence of the probe can be seen as a manifestation of a discourse function highlighting the fact that the checked internal argument carries this F-feature, analogous to the optionality of a feature that may trigger left-dislocation of a topic in English.<sup>4</sup> The basic mechanics are illustrated in (8):

<sup>4</sup>A more nuanced discussion of this feature, and its interaction with the Topic head which drives movement to the subject position, appears in section 3.

(8) Before checking:



After checking:



Where accounts differ is on the precise implementation of this mechanism in terms of identifying the X head. In some analyses, dedicated agreement heads are proposed above  $\nu$ P: Visser (2008) for isiXhosa, Riedel (2009) for Sambia. Other accounts use  $\nu$  itself as the spellout position, such as Adams (2010) for Zulu. For Shona,  $\nu$  may be the better choice for the position of the marking, ensuring that the relevant c-command domain for potential object marking will not contain the external argument generated at the specifier of  $\nu$ P. However, one consideration to keep in mind is the fact that object marking is possible in passive clauses in this language:

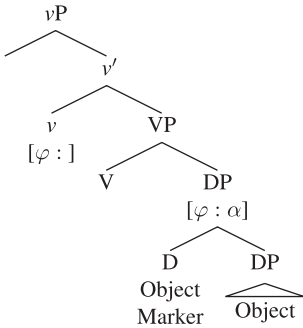
- (9) Bota ra- $\emptyset$ -mu-bik-ir-w-a.  
porridge. 5 SUB.5-PAST-OBJ.1-COOK-APPL-PASS-FV  
'The porridge was cooked for him.'

If, as has previously been proposed, the  $\nu$  head is the spellout position of the passive suffix *-w*, a higher agreement head spelled out as a prefix is motivated. This bears the additional explanatory burden of blocking agreement with the external argument position. Conversely, if object marking is spelled out on  $\nu$ , the passive must occupy a dedicated VoiceP position immediately below  $\nu$ . At present, there is no need to decide between these two, as either is feasible and compatible with my analysis of the reflexive.

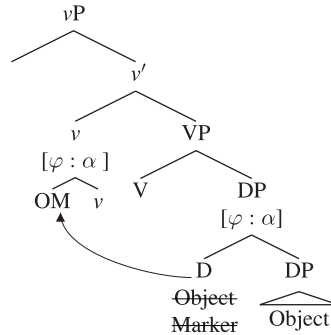
A recent proposal which is more amenable to a  $\nu$ -based analysis of object marking is that object markers in the Manyika dialect of Shona are in fact clitics. This analysis, put forward in Bax and Diercks (2012), is essentially that the  $\nu$  head enters into an agreement relation with a complex DP containing both the argument phrase and an associated clitic. The clitic consists of nothing but  $\varphi$ -features, and is incorporated into  $\nu$  once agreement takes place. While their analysis does not include a feature for the discourse-old status of the object, it is clear from their discussion that Bax and Diercks acknowledge an information-structure sensitivity, describing object marking as incompatible with focus, defined as the complement of topic. An adaptation of their schema is presented in (10):



(10) Before Agree:



After Agree:



As shown, this approach could also remain coherent with the treatment of *v* itself as the spellout location of the passive suffix, as the clitic would left-adjoin to the *v* head, where the verbal complex will have raised, yielding an object proclitic, and the passive *-w* as a suffix. This account also requires no additional statement obviating object marking of the external argument.

The key commonality between the two analyses is that an agreement relation holds between the object DP and some higher head. Both the agreement analysis and the clitic analysis are compatible with my proposal that reflexive sentences in Shona contain a covert anaphor *refl*. Under an agreement scenario, my argument is that agreement with the covert *refl* anaphor, which carries no  $\varphi$ -features, would trigger class eight marking to be spelled out on the  $X^0$  (remaining agnostic as to the identification of that head). Under the clitic analysis, the feature bundle occupies the D head sister to the *refl* DP, and undergoes cliticization after agreement. I thus take no stance as to the exact mechanism and location of the spellout of the *zvi-* morpheme in reflexive contexts, maintaining only that it is the result of some agreement, parasitic on a discourse feature, between a higher probe located at the left edge of *vP* and the internal argument position containing *refl*.<sup>5</sup>

### 2.3 Implementing the covert anaphor analysis

With the building blocks of the clause structure and object marking laid out, it now only remains to describe the covert anaphor *refl* itself in more detail. One noteworthy property of the Shona reflexive is that it is subject-oriented: in all cases, the antecedent of the reflexive must be the subject of the sentence. To express co-reference of two non-subject arguments, a more complex structure must be employed:

- (11) Mufaro a-ka-zivis-a                      gudo<sub>i</sub> ku-na-gudo<sub>i</sub>.  
 Mufaro SUB.1-RPST-introduce-FV baboon to-ASSC-baboon  
 ‘Mufaro introduced baboon<sub>i</sub> to baboon<sub>i</sub>.’

<sup>5</sup>For ease of presentation, I will illustrate derivations using a *vP*-external projection for the agreement morpheme, but nothing hinges on this, and the derivations could be adapted either to the clitic analysis, or to one spelling out the agreement at *v* itself.

As shown in (11), the co-indexed arguments are both overtly expressed, with the indirect object appearing in an oblique phrase. This contrasts with a parallel case in English, where a reflexive theme can be bound by a higher internal argument:

- (12) I showed John<sub>i</sub> himself<sub>i</sub> in the mirror.

A version of (11) above with *zvi-* replacing *gudo* in the object position only has one possible reading:

- (13) Mufaro a-ka-zvi-zivis-a ku-na-gudo.  
 Mufaro SUB.1-RPST-OBJ.8-introduce-FV TO-ASSC-baboon  
 ‘Mufaro introduced himself to (the) baboon.’

Consultants report that it is impossible for *zvi-* to replace the oblique, making (13) the closest available approximation to the English example in (12). The judgments here are clear: (13) only has the reading where the subject is the antecedent.

Cross-linguistically, subject orientation is a common feature of long-distance anaphors, as shown in these Icelandic and Chinese examples from Cole and Sung (1994):

- (14) a. Jón<sub>i</sub> sagði Maríu<sub>j</sub> [að þú elskaðir sig<sub>i/\*j/\*k</sub>].  
 Jon told Maria that you loved.SUBJ self  
 ‘Jon told Maria that you loved him.’ (Cole and Sung 1994: 359)
- b. Wangwu<sub>i</sub> shuo [Zhangsan<sub>j</sub> zengsong gei Lisi<sub>k</sub> yipian guanyu  
 Wangwu say Zhangsan give to Lisi one about  
 ziji<sub>i/jj/\*k</sub> de wenzhang.]  
 self DE article  
 ‘Wangwu says that Zhangsan gave an article about him/himself to Lisi.’  
 (Cole and Sung 1994: 360)

In the Icelandic case, the local subject is not a possible antecedent for third-person *sig* due to a  $\varphi$ -feature mismatch; only the matrix clause subject is a possible antecedent, despite there being a third person indirect object in the matrix clause as well. Turning to Chinese, *ziji* shows subject orientation even in the local clause, taking only the matrix or embedded clause subjects as possible antecedents. *Ziji* is subject to a blocking effect, under which the anaphor can take any antecedent with the same  $\varphi$ -features as its nearest potential antecedent, unless a potential antecedent with different  $\varphi$ -features appears in a higher clause. This mismatched antecedent and all higher ones are blocked:

- (15) Zhangsan<sub>i</sub> renwei [wo<sub>j</sub> zhidao [Wangwu<sub>k</sub> xihuan ziji<sub>i/\*j/k</sub>]]  
 Zhangsan think I know Wangwu like self  
 ‘Zhangsan thinks that I know what Wangwu likes himself.’ (Cole and Sung 1994: 363)

In this case, the intervening first person subject blocks *ziji* from being bound by the higher clause subject. In a later analysis by Sohng (2004), which I will adopt below, this is a consequence of *ziji* having no inherent  $\varphi$ -features, which also accounts for subject orientation in his analysis.

In contrast to these other subject-oriented examples, the Shona reflexive anaphor is strictly clause-local:

- (16) John<sub>i</sub> a-Ø-t-i [(imbwa<sub>j</sub>) ya-Ø-zvi-rum-a  
 John SUB.1-PAST-say-FV dog.9 SUB.9-PAST-OBJ.8-bite-FV  
*refl*<sub>\*ijj</sub>].  
 REFL  
 'John<sub>i</sub> said the dog<sub>j</sub> bit itself<sub>\*ijj</sub>.'

(16) only has the reading where John is making a statement about a dog biting itself; there is no possible way to construe this as a statement of John reporting that the dog bit him. As shown, the embedded clause subject is optional, though in (16) the different subject agreement will easily allow native speakers to recover a subject for the lower clause (a class nine *pro*) who is not John. Matters are more complicated when the clauses match in subject agreement; (17) is reported as ambiguous:

- (17) John<sub>i</sub> a-Ø-t-I [ *pro*<sub>ijj</sub> a-Ø-zvi-rum-a *refl*<sub>ijj</sub>].  
 John SUB.1-PAST-say-FV *pro*.1 SUB.1-PAST-OBJ.8-bite-FV REFL  
 'John<sub>i</sub> said that he<sub>i</sub> bit himself<sub>i</sub>.'  
 'John<sub>i</sub> said that he<sub>j</sub> bit himself<sub>j</sub>.'  
 \*'John<sub>i</sub> said that he<sub>j</sub> bit him<sub>j</sub>.'

The apparent long-distance reading can be derived from a situation in which the embedded clause subject is in fact a *pro* that is coreferential with the matrix subject. In this case, the anaphor remains locally bound. Similarly in the second reported reading, a contra-indexed *pro* is interpreted as the subject of the embedded clause, once again leading to local reflexivity. The reading where the theme of the embedded clause is co-referential with John, but the subject of that clause is contra-indexed is not available.<sup>6</sup> The Shona reflexive anaphor is therefore not only subject-oriented, but also clause-bound, which is likely one of the reasons it has been taken for a detransitivizing reflexive, a position argued against in section 4.

Cole and Sung's 1994 analysis of long distance *ziji* in Chinese treated the anaphor as an X<sup>0</sup> element undergoing LF head movement in search of local binding, stopping at any I<sup>0</sup> head, where the anaphor would be locally c-commanded by the element in [Spec, IP]. In this way, subject orientation is predicted. However, this analysis cannot capture the subject orientation of *ziji* within its clause of origin, as *ziji* would not need to undergo any head movement to be bound locally. As a result, the local subject orientation of *ziji* is stipulated in the 1994 analysis.

A revision to this theory of long distance anaphora in Sohng (2004) resolves this issue for *ziji*, linking it to the fact that *ziji* can in principle take antecedents with any *φ*-features, within the bounds of the blocking effect. Under this analysis, *ziji* is generated with no inherent *φ*-feature value, with valuation taking place in local Spec-Head agreement after LF movement. The LF movement is not treated as movement of the anaphor itself, but rather movement of a set of formal features associated with *ziji* to a

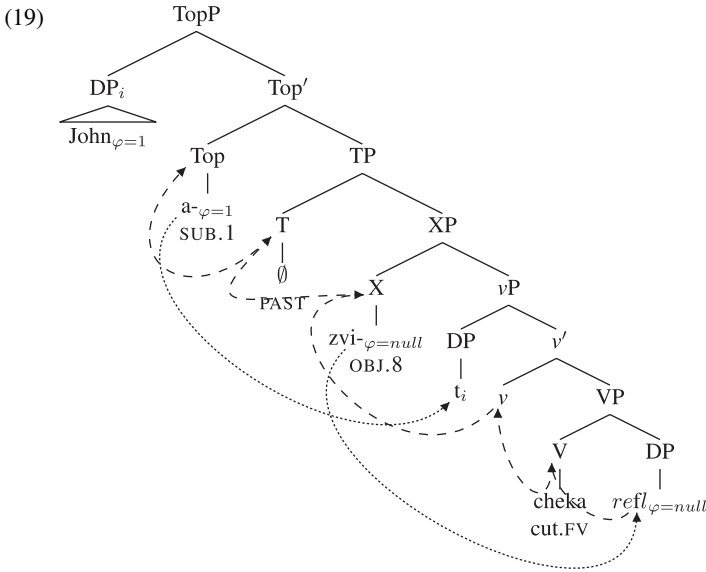
<sup>6</sup>A further reading where *zvi-* is used non-reflexively to refer to some set of discourse-old class eight items that were bitten is also available. This would arise from replacing *refl* with a discourse-anaphoric class eight *pro* in the embedded clause object position.

T<sup>0</sup> head bearing a [Refl] feature when selected from the numeration. This [Refl] feature drives the LF feature movement. According to Sohng, the formal features of *ziji* move covertly from head to head, not pied-piping intermediate heads, until they reach a T head bearing [Refl]. However, the first T<sup>0</sup> position encountered determines the  $\varphi$ -features for *ziji*, explaining the blocking effect: if [Refl] appears on a higher T<sup>0</sup> head, forcing the formal features to move beyond their valuation point, then any subject with clashing  $\varphi$ -features will crash the derivation. This analysis can be easily adapted to Shona. I propose a parallel movement for the features of *refl*, which have no inherent  $\varphi$ -value and must undergo the same LF movement in order to be valued. Unlike Sohng's account of *ziji*, I do not propose a separate [Refl] feature motivating this movement; the covert movement in Shona is driven by the lack of  $\varphi$ -features, and stops as soon as a  $\varphi$ -feature value is encountered. In this way, locality of binding is assured.

Rather than requiring us to stipulate the location of this valuation, the situation in Shona provides a principled reason for isolating the subject as the only potential antecedent. Recall that the Shona verbal stem offers two positions for  $\varphi$ -based agreement: subject marking and object marking. Subject marking in active clauses is the result of agreement with the external argument which moves to the subject (topic) position for independent reasons. Object marking is an optional function of a head at the edge of  $\nu$ P, identifying discourse-old material in the  $\nu$ P domain. I assume that these are the only two heads in which  $\varphi$ -features may be transmitted; the LF movement thus provides two opportunities for  $\varphi$ -features valuation. The object marking head itself remains an active probe though, and assuming that the anaphor is lexically-specified to carry the relevant discourse-old feature (since it must be bound, the anaphor itself can never introduce a new referent) the object-marking head selects the obligatorily bound anaphor as the most discourse-old element in its c-command domain before LF. It is from this agreement relation between the anaphor underlying the reflexive and the object-marking head that the *zvi*- morpheme emerges, class eight being the marker for agreement with an element that lacks  $\varphi$ -features. This lack of  $\varphi$ -features on the anaphor is also what motivates the subsequent LF movement, and allows it to be bound by an antecedent of any noun class.

As the anaphor itself is moving up the verbal projection in search of  $\varphi$ -features, it finds none at the first possible location, the object marking head, and is forced to move onward to have its features valued by the subject at [Spec, TopP]. From this, subject (topic) orientation emerges. A sample derivation of a simple reflexive (18) is given in (19), with XP used as a placeholder for the location where object agreement appears:

- (18) John<sub>i</sub> a-Ø-zvi-chek-a            *refl<sub>i</sub>*.  
       John SUB.1-PAST-OBJ.8-CUT-FV    REFL  
       ‘John cut himself.’



Dotted lines indicate probes for agreement: subject agreement is with the external argument, which is also subject to independently motivated EPP-driven movement. In the object case, agreement is with *refl*, triggering class eight *zvi-*. In its search for feature valuation, *refl* then undergoes Sohng-style LF movement, shown with dashed lines, with two possible valuation points: X or Top. The first option being a) featureless and b) circular (*refl* attempting to get features from itself), it must carry on to Top. This analysis also predicts the unavailability of matrix subject reflexives in the language, as a covert reflexive in the highest argument position could never get  $\varphi$ -feature valuation within its local clause, there being no antecedent with  $\varphi$ -features. Other class eight subjects are of course possible, but the reflexive anaphor is independently blocked from this position.<sup>7</sup>

In concluding this section, one issue that remains is the possibility of generating ‘silent’ reflexives. If the reflexive anaphor is covert, and object marking is optional, one could imagine a derivation in which the reflexive anaphor is present, but fails to trigger object marking. While I have no strong position on how to block this, (at least) two solutions are possible, aligning with the choice one makes as to the nature of object marking. Recall that I have characterized object marking as the result of a probe, whose activation is optional, searching its c-command domain for an element bearing an information-structural feature of being discourse-old. Suppose that the reflexive anaphor bears the relevant feature, but an uninterpretable version of it. Unlike other DP objects, on which the discourse-old feature is interpretable, the reflexive anaphor would be uniquely required to enter into the agreement relation for the derivation to converge. This would block the possibility of an unmarked reflexive, and would also crash any derivation in which the object-marking head agrees with a different discourse-old co-argument of *refl*. Under

<sup>7</sup>The issue of *refl* in embedded subject positions is taken up in section 3.4.

the clitic analysis, it could be assumed that unlike other DP objects on which the associated clitic is optional, the reflexive anaphor is obligatorily generated with the associated clitic which must move to the higher incorporated position. Leaving open the exact details of the implementation, the most likely solution lies in specifying that the reflexive anaphor, unlike other DPs, is lexically deficient and must enter into the agreement relation before LF. With this timing, the agreement will take place before the LF movement which values the anaphor's  $\varphi$ -features, leading to the spell-out of a class eight object marker.

#### 2.4 Against accidental homophony

The lack of  $\varphi$ -features on *refl* has already been discussed in terms of motivating the LF-movement analysis to account for subject-orientation, but an explanation for the emergence of class eight morphology has not yet been provided.

Noun classes one through ten in Shona instantiate a set of five singular-plural pairings, with the odd numbers being singular, and the next even number the associated plural. The seven/eight pair is reserved for generic inanimate objects, with Fortune (1980) describing the class as indefinite and Brauner (1995) using the term *miscellanea*. More than any other, this class pairing is also frequent in the derivation of deverbal and deadjectival adverbs in the language. For this reason, the *zvi*-morpheme, along with its phonological alternate *zva-*, is very frequent in the language as a whole. In a 30,500 word corpus of folk stories (Fortune 1974) digitized and electronically searched, the adverb *zvino* 'now', derived from a class eight marked word 'these things' (Fortune 1980), occurs 720 times. The most frequent verbal form in the sample with this agreement is in the introduction of quoted speech:

- (20) Zvi-ka-nz-i,            "I-we            u-ri            ku-famb-a..."  
       SUB.8-RPST-tell-FV    PRON-2<sup>nd</sup>.SG    SUB.2<sup>nd</sup>.SG-AUX    INF-walk-FV  
       '“You were walking...” was told.'

While one might be tempted by this evidence to argue for a similarity between the Shona reflexive and Romance reflexive clitics which are also used to introduce quoted speech,<sup>8</sup> here I pursue a different analysis. I have already argued that (20) cannot be an instance of *refl* in the subject position, but a closer examination of class eight morphology in general will explain not only this case, but why class eight emerges with the reflexive. In addition to plural sets of inanimate objects such as chairs, class eight is used for plurals made up of elements of different noun classes (Fortune 1980):

- (21) Nda-Ø-zvi-tor-a            [sadza no-mu-riwo].  
       SUB.1<sup>st</sup>.SG-PAST-OBJ.8-take-FV    sadza.5 and-3-relish  
       'I took them (sadza and relish).'

While there is some observed tendency for class two (plural humans) to be used when only one of the two members of a conjunct is human, class eight is also acceptable, acting as the default for conjoined plurals with mismatched  $\varphi$ -features.

<sup>8</sup>This suggestion has been raised in prior presentations of this work.

Class eight is also used as the agreement marker for subordinate clauses in subject and object positions, despite the absence of any sense of plurality:

- (22) [Ku-tsva-ir-a        mu-mba    ma-zuva e-se]  
 INF-SWEEP-APPL-FV 18-house.9 6-day    6-every  
 zva-ka-kosh-a.  
 SUB.8-RPST-important-FV  
 ‘Sweeping the house every day was important.’
- (23) a. John a-ka-kumb-ir-a                      Bill [kuti a-mu-muts-e].  
 John SUB.1-RPST-ASK-APPL-FV    Bill COMP SUB.1-OBJ.1-WAKE-FV  
 ‘John<sub>i</sub> asked Bill<sub>j</sub> to wake him<sub>i/k</sub> up.’
- b. John a-ka-zvi-kumb-ir-a                      Bill.  
 John SUB.1-RPST-OBJ.8-ASK-APPL-FV    Bill  
 ‘John asked it of Bill.’

In (22), the matrix predicate is *important*, emerging with class eight subject agreement. (23) shows a simple ditransitive with a human indirect object, and a CP direct object which can be referred to using a class eight object marker as in (23b), assuming prior discourse has established the request *to wake him up* as discourse-old.

Contributing to the apparently free uses of class eight subject agreement as in (20) is the fact that subject clauses may be dislocated to the right periphery with no change in the subject agreement, as shown in a paraphrase of (22):

- (24) Zva-ka-kosh-a                      [ku-tsva-ir-a        mu-mba    ma-zuva  
 SUB.8-RPST-important-FV    INF-SWEEP-APPL-FV 18-house.9 6-day  
 e-se.]  
 6-every  
 ‘Sweeping the house every day was important.’

The same rightward shifting responsible for (24) can also be used to account for (20): the quoted speech is the subject of the sentence, reflected through class eight agreement, though the quote itself is right-dislocated.

The common thread is that class eight is used as the agreement marker for elements which contain either a clash of  $\varphi$ -features, or for elements such as propositions or quotations which do not inherently carry  $\varphi$ -features. It is therefore not surprising that *refl*, with no  $\varphi$ -features, also triggers class eight agreement morphology. Thus, the reflexive anaphor triggers class eight object marking, while the reason it triggers object marking at all derives from a lexical specification differentiating it from other DPs. Despite this one distinction in the lexical specification as a trigger for object marking, the *zvi*- which emerges in reflexive contexts shares a number of properties with non-reflexive object markers, which are the focus of the next section.

### 3. SUPPORTING THE ANAPHOR ANALYSIS

In this section, I take a closer look at Shona object marking more generally, showing that for the most part the reflexive *zvi*- shares properties with other object markers in

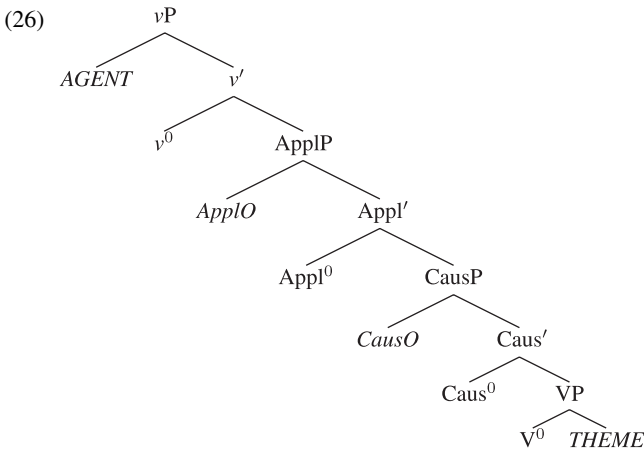
the language. The only disparity that is observed, a limitation on the use of reflexives in a passive context, motivates my treatment of the reflexive as a bound variable anaphor, and leads to a more detailed discussion of the nature of the discourse feature underlying object marking. First, I present the structure I assume for the *vP* domain in Shona, which is relevant to the examples in this section.

### 3.1 The Shona *vP* domain

Shona predicates may be modified by a series of suffixes which denote changes to that predicate's valence. Here, three in particular are crucial: the causative, the applicative, and the passive. As shown below, it is possible to get all three marked on one predicate:

- (25) Mu-sango ma-ka-don-edz-(er)-w-a                      Mufaro na Shingi.  
 18-forest    SUB.18-RPST-fall-CAUS-APPL-PASS-FV      Mufaro by Shingi  
 'Whilst in the forest, Mufaro was caused to fall by Shingi.'  
 lit: 'In the forest was caused to fall Mufaro by Shingi.'

In (25), the unaccusative predicate *don* 'fall' has taken the causative *-edz*, optionally takes the applicative *-er*, and finally is marked with the passive *-w*.<sup>9</sup> The causative has the semantic effect of adding an external causer to a given event, in this case *Shingi*, which is subsequently demoted by the passive. In addition to introducing benefactives, malefactives, and goals, the applicative may be used to introduce locative elements as it does here with *mu-sango* 'in the forest'. The relative ordering of these suffixes is fixed, leading to the following structure for the lower verbal domain, illustrated for an active transitive with applicative and causative marking:



In this structure, the CausO position corresponds to the causee, while the external causer appears in the AGENT position. As noted above, the passive morpheme is

<sup>9</sup>The causative has phonologically conditioned alternates *-es* and *-is*. The applicative also has a phonologically conditioned alternate *-ir*. There is no apparent syntactic or semantic difference between these alternate forms.



tentatively treated as a variant of the  $v$  head, which conforms to the observed morpheme order, as expected according to the Mirror Principle (Baker 1985). The structure proposed here is non-controversial for Bantu languages, with similar distance between  $V^0$  bearing the theme and  $v^0$  introducing the external argument proposed for Kinande (Baker and Collins 2006) and Zulu (Halpert 2012). Following Julien (2002), verbal suffixes are derived via overt head-movement of the verb, while the prefixes are derived via a mechanism of affix lowering, again governed by the Mirror Principle. Because nothing here relies on the mechanics of verb formation beyond the  $vP$  domain, I remain agnostic as to the position of the final vowel and the final resting place of the verb. Minimally, I operate under the assumption that the hierarchical structure of arguments in Shona is derived from the tree structure in (26), and that the verb will move at least as high as  $v^0$ , generating the canonical SVO order.

### 3.2 Properties of object marking

Bantu languages show variation in the number of object markers permitted on a single clause, with Tswana cited as having as many as three (but more in principle imaginable) in Creissels (2002), while Bemba is limited to two object markers, and then only when both are animate, or when the second is first person singular (Marten and Kula 2012). Shona, like isiZulu (Zeller 2012), only allows one object marker per verb:

- (27) a. \* John a-ka-ri-mu-bik-ir-a.  
 John SUB.1-PAST-OBJ.5-OBJ.1-COOK-APPL-FV  
 Intended: 'John cooked it for her.'
- b. \* John a-ka-mu-ri-bik-ir-a.  
 John SUB.1-PAST-OBJ.1-OBJ.5-COOK-APPL-FV  
 Intended: 'John cooked it for her.'

Furthermore, it is impossible to combine reflexive *zvi-* with an object marker on a ditransitive predicate:

- (28) a. \* A-ka-ri-zvi-bik-ir-a *refl.*  
 SUB.1-RPST-OBJ.5-OBJ.8-COOK-APPL-FV REFL  
 Intended: 'He cooked it for himself.'
- b. \* A-ka-zvi-ri-bik-ir-a *refl.*  
 SUB.1-RPST-OBJ.8-OBJ.5-COOK-APPL-FV REFL  
 Intended: 'He cooked it for himself.'

This result suggests that the reflexive *zvi-* is in competition for the object marker position, reinforcing the claim that reflexive morphology should fall under the rubric of object marking. In lexical ditransitives and applicative constructions, Shona places no restrictions on which internal argument may be replaced by an object marker (Mugari 2013), illustrated with my own data repeated from (7) above:

- (29) a. John a-ka-bik-ir-a Bill bota.  
 John SUB.1-PAST-COOK-APPL-FV Bill porridge.5  
 'John cooked porridge for Bill.'

- b. John a-ka-mu-bik-ir-a                      bota.  
 John SUB.1-PAST-OBJ.1-COOK-APPL-FV      porridge.5  
 'John cooked porridge for him.'
- c. John a-ka-ri-bik-ir-a                      Bill.  
 John SUB.1-PAST-OBJ.5-COOK-APPL-FV      Bill  
 'John cooked it for Bill.'

Mugari also reports the same object marking symmetry with causatives, while noting that there are further restrictions on object marking when both internal arguments of a causative transitive are of equal animacy. In this situation, only the causee may be object-marked (Mugari 2013).

Recalling the structure presented in (26), it is not the case that only the highest internal argument can be object-marked. Shona allows object marking of any one internal argument per clause, with the felicity condition that the marked argument must be discourse-old, or definite in Mugari's terminology. By treating this object marking as parasitic on a feature associated with information structure, as described in section 2, relativized minimality can be maintained, and there is no need to enter into considerations of equidistance between the two internal arguments and the locus of object marking. If two DP-internal arguments bear the relevant feature, presumably structure will play a role, unless one of these two is *refl*, whose uninterpretable discourse-old feature must be checked by object marking for the derivation to converge.

In the same way that object marking is symmetric, reflexivity is also symmetric in the language:

- (30) Bill<sub>i</sub> a-∅-zvi-rov-er-a                      (*refl*<sub>1i</sub>) John (*refl*<sub>2i</sub>).  
 Bill SUB.1-PAST-OBJ.8-hit-APPL-FV REFL John REFL  
 'Bill<sub>i</sub> hit John<sub>j</sub> for himself<sub>i</sub>.'  
 'Bill<sub>i</sub> hit himself<sub>i</sub> for John<sub>j</sub>.'

The ambiguity of (30), with the reflexive anaphor potentially replacing either of the internal arguments, is exactly what would be expected if reflexivity parallels object marking. In this case, the reflexive anaphor can be construed as appearing in either the applied object position, indicated by *refl*<sub>1</sub> yielding the first reading, or the theme position position (*refl*<sub>2</sub>), triggering the object marker in exactly the same way as either of those arguments would have done in (7b) and (7c). The same symmetry is observed in a case where an unaccusative has been extended with both the causative and the applicative:

- (31) John<sub>i</sub> a-∅-zvi-don-edz-er-a                      (*refl*<sub>1i</sub>) Bill (*refl*<sub>2i</sub>).  
 John SUB.1-PAST-OBJ.8-fall-CAUS-APPL-FV REFL Bill REFL  
 'John<sub>i</sub> tripped Bill for himself<sub>i</sub>.'  
 'John<sub>i</sub> tripped himself<sub>i</sub> for Bill.'

Again, construing *refl* in the higher applied object position yields the reading where John tripped Bill for his own self-serving reasons. The second position for *refl* is the causee position, with the meaning that John purposefully tripped himself

to benefit Bill, elicited in the context of describing a footrace where John intentionally falls to let Bill win.<sup>10</sup>

Tests for determining whether a reflexive morpheme is part of the object-marking system are given for Kikamba in Kioko (2005). While these mainly amount to demonstrating that the reflexive morpheme in that language has the same distribution as other object markers, which has been done above for Shona, there is one further test to advance, relating to the behaviour of object markers in imperatives. When an imperative takes an object marker, the final vowel on the verb is *-e*, rather than the *-a* found with a full nominal object. This alternation with respect to object marked imperatives has been independently observed for Shona imperatives (Brauner 1995), and is replicated below in (32) with an added reflexive:

- (32) a. *Gez-a mwana!*  
 wash-FV baby.1  
 ‘Wash the baby!’
- b. *Mu-gez-e!*  
 OBJ.1-wash-FV  
 ‘Wash him/her!’
- c. *Zvi-gez-e!*  
 OBJ.8-wash-FV  
 ‘Wash yourself!’

---

<sup>10</sup>A more extreme test for symmetry in the causative is shown in (i):

- (i) *John<sub>i</sub> a-Ø-zvi-bik-is-a refl<sub>i</sub> bota.*  
 John SUB.1-PAST-OBJ.8-COOK-CAUS-FV REFL porridge.5  
 ‘John forced himself to cook porridge.’

Recalling Mugari’s claim that object marking in transitives extended with the causative is obligatorily asymmetric with two animate internal arguments, sentences with one inanimate internal argument are required. The structure shown is the most natural one, with the stated gloss, but an alternative reading where consultants construe the inanimate causee as metaphorically cooking the animate (reflexive) theme is available, though pragmatically odd.

Consultants were inconsistent with causatives, with one giving examples such as the following:

- (ii) *Mufaro; a-ka-zvi-pis-is-a refl<sub>i</sub>.*  
 Mufaro SUB.1-RPST-OBJ.8-BURN-CAUS-FV REFL  
 ‘Mufaro caused himself to be burnt.’

Here, either the causee position is absent, or potentially there are two instances of *refl* occupying both internal argument positions, recalling that causatives are still assumed to be single-clause structures. This particular consultant rejected sentences parallel to (i) where a potential theme followed the verb bearing both reflexive *zvi-* and the causative, while accepting and producing examples equivalent to (30) combining the reflexive and the applicative. Because of this inconsistency with transitive causatives, along with the animacy constraint, none are reported.

The reason for this alternation is unclear, as the final vowel does not undergo any changes in ordinary declarative sentences depending on the presence or absence of an object marker. For the current argument, it is sufficient to note that the reflexive triggers the same final vowel alternation as does a non-reflexive object marker, giving one more piece of evidence that the *zvi-* morpheme in reflexive sentences is indeed a member of the set of object markers.

The final piece of evidence lies in the judgements of consultants who reliably report sentences using the *zvi-* morpheme to be ambiguous between a reflexive reading and a class eight object marker reading. One consultant reports being so conscious of this ambiguity that they make an effort to passivize sentences with a discourse-old class eight object, to avoid the object marker. Rather than treating this ambiguity as coincidence, the analysis proposed here explains this alignment of facts by arguing that the *zvi-* which appears in a reflexive sentence actually is the class eight object marker and not a dedicated reflexive morpheme. The ambiguity thus lies in whether *zvi-* agrees with *refl* or with a class eight *pro*.

### 3.3 Reflexivized passives

Despite the overwhelming similarities, there is one environment where the parallel between reflexive uses of *zvi-* and other object markers breaks down: passive sentences.

Woolford (1995) makes the claim that only Bantu languages that allow multiple object marking in the active should allow object marking in a passive ditransitive. However, SiSwati is listed as an exception, with the caveat that in passive ditransitives, only the theme can emerge as an object marker; the applied object must have moved to the subject position. The reverse is not possible. As Shona is a single-object-marker language, one should expect either confirmation of Woolford's generalization, or perhaps another instance of the exceptional behaviour of SiSwati. What emerges is something different yet: Shona allows symmetric passivization and object marking in a transitive extended with the applicative, as described by Mugari, and again shown with my own data:

- (33) a. Bota            ra-∅-mu-bik-ir-w-a.  
           porridge.5    SUB.5-PAST-OBJ.1-COOK-APPL-PASS-FV  
           ‘The porridge was cooked for him.’
- b. John a-∅-ri-bik-ir-w-a.  
           John SUB.1-PAST-OBJ.5-COOK-APPL-PASS-FV  
           ‘For John was it cooked.’

In a transitive extended with the applicative, no matter which argument becomes the subject in the passive, the other can be object marked. Not only does object marking disregard the structural positions of the internal arguments, but passivization shows the same symmetry. Given that the Shona reflexive is similarly symmetric, a reflexive passive should also be acceptable:

- (34) % John<sub>i</sub> a-∅-zvi-rov-er-w-a                            *refl<sub>i</sub>*.  
           John SUB.1-PAST-OBJ.8-hit-APPL-PASS-FV REFL  
           ‘John was hit because he was asking for it.’

The sentence in (34) is a passivization of (30) above, which was ambiguous. It's worth noting that this sentence is not acceptable for all speakers. Some reject it outright, or at least hesitate to give a categorical judgement, while others (interestingly the younger consultants) find it acceptable, but only under the reported reading. Knowing that the Shona passive is symmetric, allowing either of the theme or applied object to be promoted to the subject position, and further knowing that the reflexive can map a subject to either of those internal argument positions, one might even expect a sentence such as (34) to be not only grammatical, but ambiguous like its active counterpart, depending on which argument moved up to the subject, and which position contains *refl*. Rather, it emerges as marginal, and acceptable only with one reading where John's status as a beneficiary is foregrounded, not his status as a theme. The key question then becomes one of determining the syntactic structure of the acceptable reading. Those consultants accepting this example agree that it puts in the forefront not the fact that John was hit, rather that it was John's own fault he was hit. Speakers paraphrase this as 'for his own reasons', reasons assumed to be known to the discourse participants. This suggests an interpretation where it is the applied object, representing the beneficiary, which is being interpreted as the topical subject.<sup>11</sup> The reflexive would then be replacing the theme. In effect, this would have the structure schematized in (35a), rather than the one in (35b):

- (35) a.  $\text{John}_i \text{ a-zvi-rov-er-w-a } [_{\text{App}lP} t_i [_{VP} \text{refl}_i]]$ .  
 b. \*  $\text{John}_i \text{ a-zvi-rov-er-w-a } [_{\text{App}lP} \text{refl}_i [_{VP} t_i]]$ .

With passivized causatives, judgements are slightly less murky. There is more general acceptance of such sentences as grammatical, even among speakers who would reject or hesitate in the face of (34), but again there is only one reading:

- (36) % Mufaro<sub>i</sub> a-ka-zvi-pis-is-w-a *refl*.  
 Mufaro SUB.1-RPST-OBJ.8-burn-CAUS-PASS-FV REFL  
 'Mufaro was caused to burn himself.'

Unlike in the applicative, Mugari claims that when a transitive verb is extended with the causative, and subsequently passivized, object marking the unmoved internal argument forces that argument to be interpreted as the theme. In the case of (36), this would mean that it can only be derived from a structure in which *Mufaro* is the higher causee, and *refl* the lower theme. This accords with the reported reading, where *Mufaro*'s status as a causee rather than theme is made more prominent. The schematic for this case is therefore similar to what was seen in (35):

- (37) a.  $\text{Mufaro}_i \text{ a-ka-zvi-pis-is-w-a } [_{\text{Caus}P} t_i [_{VP} \text{refl}_i]]$ .  
 b. \*  $\text{Mufaro}_i \text{ a-ka-zvi-pis-is-w-a } [_{\text{Caus}P} \text{refl}_i [_{VP} t_i]]$ .

<sup>11</sup>Consultants who accept the sentence have difficulty expressing an English gloss that properly conveys the meaning, but share the common intuition that some desire or wish of John's has been satisfied through the reported action. In the original elicitation context, this example followed from (23) where John had been asking to be woken up.

Thus, the reflexive *zvi-* appears with meanings that correspond to the same general placements of object markers in passive sentences, with the one difference that in an applicative context, a sentence which ought to be ambiguous only has one reading. I propose that this one distinction follows from the bound variable nature of *refl*.

Looking back at (35) and (37), the a) examples schematize the available readings, while the b) readings are blocked. Schematically, the ungrammatical b) examples have the appearance of strong crossover (SCO) violations. However, SCO is typically found in operator-variable relations, and not in reflexives interacting with case-driven A-movement such as passivization or raising, shown in the English (38) below:

- (38)  $\text{John}_i$  seems to himself<sub>i</sub>  $t_i$  to have been treated unfairly.

Treating the Shona facts as SCO would first require evidence that the reflexive anaphor is in fact a semantically bound variable, and then evidence that passivization is  $\bar{A}$  movement.

That the Shona reflexive can act as a bound variable can be shown with a quantified antecedent:

- (39) Imbwa y-oga-yoga<sub>i</sub> ya-ka-zvi-rum-a *refl*<sub>i</sub>.  
 dog.9 9-every-REDUP SUB.9-RPST-OBJ.8-bite-FV REFL  
 ‘Every dog bit itself.’

As in the earlier cases, this binding relation is strictly clause-bounded. That the reflexive can be bound by a quantifier serves as a demonstration that *refl* can be treated as a semantic variable. The bound-variable status of the Shona reflexive can also be demonstrated through the lack of a possible strict subject comparative reading for the sentence in (40), originally proposed in Dalrymple et al. (1994) as a test for transitivity:

- (40) Va-kumana va-no-zvi-veng-a *refl*<sub>i</sub> kupfuura va-sikana.  
 2-boy SUB.2-HAB-OBJ.8-hate-FV REFL surpass 2-girl  
 ‘The boys hate themselves more than the girls.’

The ambiguity here is between a sloppy subject comparative reading (the boys’ self-hatred exceeds that of the girls), and the object comparative reading where the boys hate themselves more than they hate the girls.<sup>12</sup> A strict reading where the boys’ hatred for themselves exceeds the girls’ hatred of the boys is not available, lending more support to the claim that *refl* acts as a bound variable.

The second ingredient of the SCO story, that the passive is in fact  $\bar{A}$ -movement, has been argued for independently by Bliss and Storoshenko (2008). First, they show that the subject position in Shona sentences is sensitive to the information-structural status of the DP moved there: focused elements are not permitted in subject position, hence the analysis of subject agreement being in the head of Top(ic)P in the CP domain. Second, they argue that the symmetry of the Shona passive, discussed above in relation to (33), is suggestive of information structure-driven  $\bar{A}$ -movement

<sup>12</sup>This also provides evidence that the reflexive sentence in Shona is transitive, as *va-sikana* in the elided clause can be interpreted as either subject or object; if the antecedent clause were intransitive, only a subject reading for that nominal should emerge.

rather than case-driven A-movement, which should only allow the syntactically highest internal argument to move to the subject position in a passive. The findings in (35) and (37) support that position. If *refl* is indeed a bound variable, the ungrammaticality of the b) examples in those schematic representations strongly suggests that the illustrated movement is an  $\bar{A}$ -movement triggering a SCO violation. Reflexives thus differ from object markers in this one way, failing to show symmetry in passive contexts, because the anaphor cannot be bound by an element which has moved overtly from a position bound by the anaphor itself.

### 3.4 The mechanics of symmetry and constraining the reflexive

The previous discussion of SCO relies on some underlying assumptions presented in previous work on the symmetric passive in Shona. Here I briefly sketch an implementation of that analysis, showing how it interacts with an analysis of object marking based on agreement (whether spelled out as an agreement prefix or a clitic), and leading to a summary of the constraints on the placement of *refl*.

The relevant symmetric examples are given in (41), repeated from (33):

- (41) a. Bota            ra- $\emptyset$ -mu-bik-ir-w-a.  
           porridge.5    SUB.5-PAST-OBJ.1-COOK-APPL-PASS-FV  
           ‘The porridge was cooked for him.’
- b. John a- $\emptyset$ -ri-bik-ir-w-a.  
           John SUB.1-PAST-OBJ.5-COOK-APPL-PASS-FV  
           ‘For John was it cooked.’

In a context in which both John and the porridge are known, the sentences in (41) are truth-conditionally identical. However, there is a subtle interpretive difference in the speaker’s choice of which established referent is most topical moving forward in the discourse, visible in the choice of internal argument promoted in a passive sentence.

Shona is not alone in having a symmetric passive in which either internal argument of a ditransitive can be promoted to the subject position. Presented with these facts in Kinande, Baker and Collins (2006) propose that relativized minimality is parametrized, and does not apply in that language. Given that there is an interpretive difference between the symmetric pair in (41), here I advance an analysis making use of  $\bar{A}$ -movement for the passive. This analysis proceeds under the same structural assumptions underlying the Kinande situation described above: two elements in an asymmetric c-command relation (here the applied object c-commanding the theme) are both eligible not only for passivization but also for object marking. Given that the former is driven by the EPP, and the latter by the agree mechanism described above, relativized minimality should come into play, and symmetry would not be expected.<sup>13</sup>

<sup>13</sup>A reviewer notes that if the theme is moved to the specifier of ApplP, it would be equidistant with the applied object, and all of the symmetric patterns will follow naturally. This is true, but first requires motivation of an initial movement of the theme into the symmetric configuration; given that case is not a driver of movement in this language it is not immediately clear what the motivation would be.

Recalling that the subject position in Shona is limited to topics, and that object marking also identifies elements with some topic-like characteristics, one might suspect that both internal arguments in (33) bear the same information-related feature. If this were the case, relativized minimality should dictate that only one of the internal arguments may be object marked, with the other emerging as the subject. The first probe seeking a discourse-old element, in this case the one responsible for object marking, would presumably agree with the highest argument given that the two internal arguments are in an asymmetric *c*-command relationship. That this does not happen suggests that each of the internal arguments bears a different feature, only one of which is probed by the head responsible for object marking, the other being probed by the Topic head deriving the sentential subject.

Recall, from the discussion of the Shona topic head in section 2.1, that simple declarative sentences may not serve as answers to subject *wh*-questions. Under the standard assumption that the answer to a *wh*-question is focused, this position more naturally fits the definition of Topic advanced by Bax and Diercks, as the complement of Focus. However, they claim that this is the information status of the object markers. Such a claim is too strong, as it predicts that an object-marked element cannot appear in athetic statement answering a more general question of *What happened?* In elicitation, if the context is carefully constructed such that the relevant object referent is active in the discourse before the question is asked, then object marking is acceptable. Rather than Topic, an appropriate description of the object-marking feature labelled F in section 2.2 may be found by elaborating on the condition for object marking cited by Mugari: definiteness. Descriptively, consultants report that the necessary condition for using an object marker is that the referent has to already be present in the discourse. Not so much a matter of topic versus focus, this is more akin to discourse-givenness. The conditions for the use of an object marker accord quite clearly with the status of Activated on Gundel et al.'s (1993) Givenness Hierarchy. Activated elements are represented in current short-term memory, with one potential source of this activation arising from the immediate preceding discourse. As this activated status is described by Gundel et al. as a necessary condition for all pronominal forms, the reflexive fits into this category, and it more generally accounts for the quasi-pronominal nature of the object markers. While the Topic head probes for a unique non-focused element which I designate as [+Top], object marking is driven by a feature denoting this activated status, which I will designate as [+Act].

In a situation such as (33), where either feature can be borne by either of the asymmetric internal arguments, the speaker has a choice. A [+Top] feature which determines the eventual subject can be assigned to either internal argument depending on which is most topical in the current discourse. Whichever argument bears this feature becomes the subject in a passive ditransitive clause. If the other internal argument is activated, it bears a [+Act] feature. Here, the optionality lies in whether the probe which underlies object marking is present: while any activated internal argument may be object-marked, it is felicitous to omit object marking for activated internal arguments. The one exception to this is *refl*, which as discussed earlier bears an uninterpretable version of the feature now called [+Act], which must be checked.



While the two features [+Top] and [+Act] are quite similar, I assume that they cannot co-occur on a single item. Assuming that each clause must have a topic, the speaker may determine the [+Top] assignment at the time each clause's numeration is constructed, choosing which is the most appropriate topical element. Subsequently, additional referents may be designated as [+Act] based on the speaker's reasonable assumptions of the addressee's awareness of the referent, bearing in mind that the Givenness Hierarchy is defined in terms of the addressee's cognitive state rather than the speaker's. Treating *refl* as obligatorily [+Act] is thus no problem, as by the time the addressee hears the overt manifestation of *refl*, the antecedent will already have been uttered and therefore activated. This addressee orientation sidesteps any concern of whether the referent is activated in the discourse at the moment *refl* is merged: the referent will be activated in the discourse by the time the addressee processes *refl*.

This analysis has an important consequence for deriving active sentences in Shona. Bliss and Storoshenko (2008) stipulate that in active clauses, the external argument at the specifier of *v*P has a privileged status of always checking the Topic EPP by virtue of proximity, even though the passive ditransitive cases show that proximity alone cannot be the factor driving movement to the subject position. The current argument that the subject position and object marking are the result of distinct features permits a more refined analysis. If the proximity-based account is to be maintained, and the external argument position is uniquely (structurally) privileged, this would at least predict that no element that does not bear [+Top] could appear as the external argument; if this were to happen, there would be a clash of discourse features when the EPP is checked. An even stronger implementation would be to bar any element with a clashing feature (i.e. [+Act] rather than [+Top]) from merging at the specifier of *v*P, but the result would be the same. If *v* uniquely selected specifiers bearing [+Top], this could remove one of the major barriers against the higher agreement position account of object marking, as the external argument would never bear the feature for which object agreement is probing.

Having clarified the mechanics of the subject position, the full set of restrictions on the distribution of *refl* can now be enumerated. In an active clause, *refl* may not appear in the external argument position, as *refl*, with its [+Act] feature, cannot satisfy the local Topic head. In matrix clauses, an external argument *refl* is additionally blocked because there is no potential antecedent. Whether in a matrix or embedded clause, *refl* additionally cannot act as a derived subject via passivization, again due to the feature conflict in attempting to check the EPP. These constraints restrict *refl* to an internal argument position, where object marking will occur. In an active clause, the external argument is the default antecedent, while in a passive clause, the antecedent for *refl* cannot incur a SCO violation on the way to checking with the Topic head.

Through this combination of factors specific to the reflexive anaphor and the externally motivated mechanisms needed to account for symmetric passives, the only position in which *refl* may be felicitously used is as an internal argument with a local subject antecedent. It thus emerges that while the mechanics are fundamentally different, the result is a distribution of meanings that, at first glance, match a detransitivizing derivational reflexive. Eliminating that possibility in support of the above analysis is the first goal of the next section on alternate analyses.

4. ALTERNATIVE ANALYSES

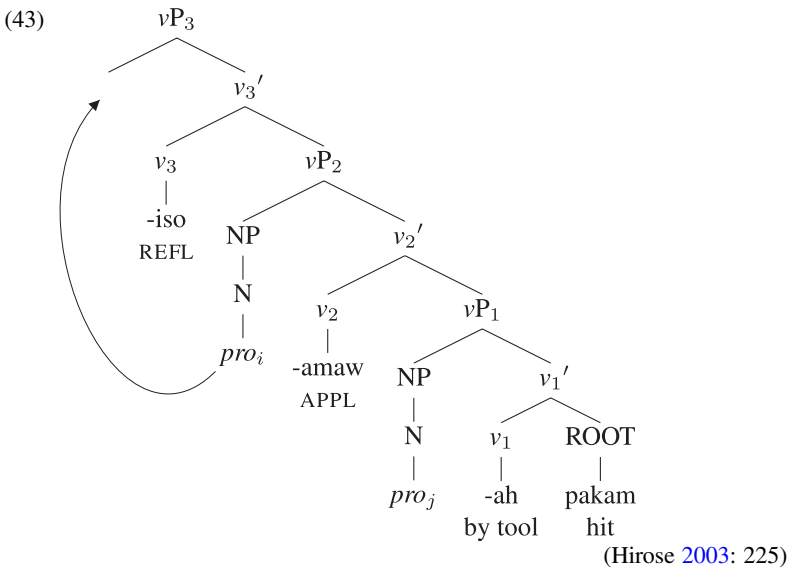
While the case for deriving Shona reflexive sentences from a covert bound variable has been made at this point, it is worth considering other possible analyses. The first has been proposed, at least implicitly, in the literature; namely, that reflexive sentences in Shona have undergone a reduction in valence. This will be followed by consideration of the analysis presented in Sikuku (to appear) for the reflexive in Lubukusu, which is argued to be similar, but not identical, to an object marker.

4.1 The case For detransitivization

Some authors in their descriptions of Shona explicitly group reflexive *zvi-* with such affixes as applicative, causative, etc. (Bellusci 1991, Brauner 1995), thus making at least an implicit claim that the reflexive is an operation on valence rather than anything related to object marking. As noted above, the invariant form, combined with subject orientation and clause boundedness do suggest such an analysis. However, treating the reflexive as an operation on the predicate valence suffers one drawback: all other such affixes are suffixes in this language. Maintaining that the reflexive is derived by a change in valence would come with the explanatory burden of accounting for this anomaly.

The question of whether or not a given reflexive affix should be treated as indicating a binding relationship or a detransitivizing operation has been addressed previously in the literature. One explicit test is presented in Hirose (2003) in a discussion of Plains Cree. For Hirose, the crucial case is one where a transitive verb bears both applicative and reflexive marking, as in (42). His proposed analysis is given in (43):

- (42) ni-pakam-ah-amâ-so-n                      John.  
 1.SG-hit-by.tool-APPL-REFL-LCAL John  
 'I hit John for myself.' (Hirose 2003: 224)



According to Hirose's analysis, *pro<sub>i</sub>*, corresponding to the first person, is initially merged as the applied object. Then, merging the *-iso* head effects the detransitivization by allowing *pro<sub>i</sub>* to re-merge in a second argument position, that of the agent. Crucially, this is an unambiguous sentence in Plains Cree. The reflexive can only map the applied object to the subject; it is not possible to get a reading of this sentence in which the speaker hit himself for John. Under this view where applied objects are added between the external argument and the theme, it should never be possible for a verbal reflexive in such a ditransitive construction to map an external argument to a theme. Hirose claims that if a language allows such readings, it derives reflexivity through a mechanism of binding rather than valence manipulation.

The Shona equivalent to (42) appears above in (30), repeated below as (44):

- (44) Bill<sub>i</sub> a-Ø-zvi-rov-er-a                      (*refl<sub>1i</sub>*) John (*refl<sub>2i</sub>*).  
 Bill SUB.1-PAST-OBJ.8-hit-APPL-FV REFL John REFL  
 'Bill<sub>i</sub> hit John<sub>j</sub> for himself<sub>i</sub>.'  
 'Bill<sub>i</sub> hit himself<sub>i</sub> for John<sub>j</sub>.'

If *zvi-* were a detransitivizing reflexive, one would expect the same result as in Plains Cree, with a mapping between the subject and the highest internal argument, the applied object. Instead, ambiguity emerges reliably with all consultants. This diagnostic thus strengthens the present analysis: Shona *zvi-* behaves like a binding-based reflexive rather than a detransitivizing one.

Further traits of reflexive verbs are enumerated by Reinhart and Siloni (2005), who provide a list of other types of predicates on which reflexive morphology may appear. This list includes passives, which have already been shown not to use the *zvi-* prefix. Reinhart and Siloni, using examples of Italian *si*, also identify impersonals and reciprocals as potentially sharing a morphological form with reflexives when reflexivity derives from a change in valence. This is easily demonstrated not to hold of Shona:

- (45) Kwa-Ø-pis-w-a                      zvi-garo.  
 SUB.17-PAST-burn-PASS-FV 8-chair  
 'There was burning of chairs.'
- (46) a. Va-rume va-ka-won-an-a.  
 2-man SUB.2-RPST-see-RECIP-FV  
 'The men saw each other.'
- b. Ta-ka-won-an-a.  
 SUB.1<sup>SF</sup>.PL-RPST-see-RECIP-FV  
 'We saw each other.'

The impersonal construction in (45) makes use of the passive suffix, not a reflexive. As shown in (46), Shona reciprocals use the dedicated morpheme *-an*, which does appear as a suffix, the traditional locus of morphological marking of valence-changing operations in Bantu. Of course, the facts in (45) and (46) are not in and of themselves conclusive proof that the Shona reflexive is not a valence-reducing reflexive on the Reinhart and Siloni analysis, as these other uses of reflexive morphology are not described as necessary conditions, but merely cross-linguistic traits of a valence-reducing reflexive. However, the facts do fall out exactly as the

current analysis predicts: reflexive morphology is not used in non-reflexive contexts. Beyond this, the behaviour of the Shona reflexive does not accord with either of the Reinhart and Siloni analyses of reflexivization as a lexical or a syntactic process.<sup>14</sup>

The suggested contrast between the reflexive and the reciprocal (one being binding-related, and the other looking more like a valence reduction) suggests an interesting divergence in this language, where two phenomena that are usually quite similar within a language have quite different analyses. Exploration of this issue, and the reciprocal in general, is held over for future work. Despite this one puzzle, the diagnostics in this section, combined with the difficulty of maintaining an analysis that the reflexive stands as a prefixal valence-related suffix, eliminate the possibility that the Shona reflexive involves a reduction in valence.

<sup>14</sup>Reinhart and Siloni (2005) note that in languages where the reflexive is lexically derived, the internal argument which is in their terminology *bundled* with the external argument must always be a theme. The symmetric examples described in section 3.2 have already shown that this is not the case in Shona. A crucial case for syntactic reflexivization involves ECM predicates. Reinhart and Siloni argue that if verbal reflexives are lexical, then it should not be possible for the reflexive to bundle arguments of two distinct predicates; if the verbal reflexive emerges in an ECM context, the reflexivization must be syntactic, as illustrated for French:

- (i) Jean se voit [laver Marie].  
 Jean SE sees wash Marie  
 'Jean sees himself wash Marie.' (Reinhart and Siloni 2005: 405)

According to their analysis, the agent role of the lower predicate is left unassigned at the point where the lower clause has been fully derived in the syntax, and is bundled with the external argument of the higher predicate when *Jean* is merged. Crucial to this analysis is that the lower clause IP (TP) lacks a specifier. A parallel example in Shona does not completely align with this analysis:

- (ii) Mufaro<sub>i</sub> a-ka-zvi-won-a REFL<sub>i</sub> a-chi-gezes-a imbwa.  
 Mufaro SUB.1-RPST-OBJ.8-see-FV REFL SUB.1-PROG-wash-FV dog.9  
 'Mufaro saw himself wash the dog.'

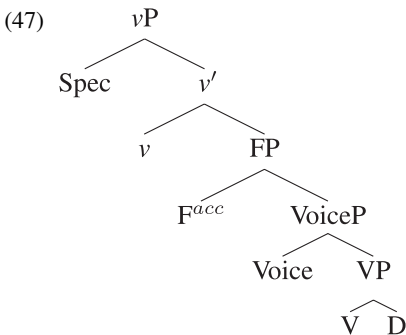
The *zvi*- object marker does appear in this construction, as in all examples where the object of the embedded clause is co-indexed with the matrix subject:

- (iii) Mufaro a-ka-won-a imbwa i-chi-mu-rum-a.  
 Mufaro SUB.1-RPST-see-FV dog.9 SUB.9-PROG-OBJ.1-bite-FV  
 'Mufaro<sub>i</sub> saw the dog bite him<sub>ij</sub>.'
- (iv) Mufaro a-ka-zvi-won-a REFL<sub>i</sub> a-chi-rum-w-a ne imbwa.  
 Mufaro SUB.1-RPST-OBJ.8-see-FV REFL SUB.1-PROG-bite-PASS-FV by dog.9  
 'Mufaro<sub>i</sub> saw himself<sub>i</sub> bitten by the dog.'

However, even in the reflexive cases, subject agreement on the embedded clause is present, indicating that there is still an argument in the lower clause taking its external theta role. The exact derivation of these sentences remains unclear, and warrants further study. However, the subject agreement in the lower clause conclusively indicates the presence of a full external argument in that clause, meaning that a derivation along the lines that Reinhart and Siloni propose for French is not available.

## 4.2 Dual marking

In Sikuku (to appear), the reflexive morpheme of Lubukusu is discussed in the context of treating it as one of the object markers in that language. The basic pattern in Lubukusu is similar to that in Shona: the reflexive morpheme is an invariant prefix appearing in the verbal template between tense marking and the verbal root. Furthermore, the object markers and the reflexive prefix in Lubukusu share several properties already discussed, including parallel constraints on co-occurrence with a full argument, and largely similar distributions. A key distinction though is that Sikuku treats the object markers in that language as incorporated. While an incorporation analysis for Shona has already been rejected, Sikuku's proposal represents a departure from those already considered, as he argues that while both the reflexive prefix and the object markers are derived via incorporation, they have distinct syntactic positions, with the reflexive incorporating via the voice head, while object markers use an immediately dominating functional head associated with case:



A crucial piece of evidence in Sikuku's analysis is that while two object markers cannot co-occur in Lubukusu, a reflexive prefix can appear in the same predicate as an object marker, though only in the observed order:

- (48) a. Khalayi a-a-mu-i-siim-isy-a.  
 Khalayi SUB.1-PAST-OBJ.1-REFL-like-CAUS-FV  
 'Khalayi made him like herself.'
- b. \*Khalayi a-a-mu-ba-siim-isy-a.  
 Khalayi SUB.1-PAST-OBJ.1-OBJ.2-like-CAUS-FV  
 'Khalayi made him like them.' (Sikuku to appear: 10)

As has already been shown in (28), repeated below, Shona does not allow *zvi-* to co-occur with another object marker, in either order:

49. a. \* A-ka-ri-zvi-bik-ir-a *refl.*  
 SUB.1-RPST-OBJ.5-OBJ.8-COOK-APPL-FV REFL  
 Intended: 'He cooked it for himself.'
- b. \* A-ka-zvi-ri-bik-ir-a *refl.*  
 SUB.1-RPST-OBJ.8-OBJ.5-COOK-APPL-FV REFL  
 Intended: 'He cooked it for himself.'

While Sikuku's analysis convincingly demonstrates that the reflexive prefix is derived through the same operation as object markers in Lubukusu, though at a different position, the facts in (49) show that such an analysis is not possible for Shona. Furthermore, in Lubukusu, the reflexive prefix is not homophonous with class eight or any other object marker. There is, however, some limited similarity between the Lubukusu reflexive and Shona: Sikuku also proposes that the reflexive in Lubukusu derives from a pronominal anaphor which is dedicated to that function. Evidence for the existence of such an anaphor can be found in the limited doubling property of Lubukusu object marking. Recall from the initial discussion of incorporation that Sikuku makes the claim that full doubling of object DPs and object markers constitutes evidence for agreement-based object marking. In Lubukusu, object markers may only be doubled with a class-matching pronoun or, for the reflexive, an anaphor:

- (50) a. Wekesa a-a-i-siim-a                      o-mu-eene.  
 Wekesa SUB.1-PAST-REFL-like-FV 1-1-OWN  
 'Wekesa likes himself.'
- b. Wekesa a-a-mu-siim-a                      ni-ye.  
 Wekesa SUB.1-PAST-OBJ.1-like-FV FOC-him  
 'Wekesa likes him.' (Sikuku to appear: 7)

To keep these facts consistent with the incorporation analysis, Sikuku proposes that this limited doubling derives from optional articulation of the trace left behind by the incorporation operation, spelled out as a pronoun.

Shona does not readily allow such doubling:

- (51) a. Shingi<sub>i</sub> a-ka-zvi-pis-a                      refl<sub>i</sub>, Shingi<sub>i</sub>.  
 Shingi SUB.1-RPST-OBJ.8-burn-FV REFL Shingi  
 'Shingi burnt herself.'
- b. Shingi<sub>i</sub> a-ka-zvi-pis-a                      refl<sub>i</sub>, i-ye<sub>i</sub>.  
 Shingi SUB.1-RPST-OBJ.8-burn-FV REFL PRON-1  
 'Shingi burnt herself.'

These attempts at doubling in Shona are felicitous only with a very heavy intonational break following the inflected verb, suggesting an extraposed position. Such a pause is not required when object markers are doubled, making this one more distinction between the reflexive and other object markers in the language. Furthermore, no dedicated form parallel to the Lubukusu *eene* from (50a) is attested in such constructions. The *refl* anaphor I am proposing is similar in character to this morpheme, though covert, with differences in distribution arising from parametric differences between the languages in terms of the number of object marking positions, and the nature of the underlying mechanism.

## 5. CONCLUSION

To recap the three main claims made here, I have argued that reflexive sentences in Shona contain a covert bound variable anaphor, and that the *zvi-* morpheme which

emerges in these sentences is neither a detransitivizing affix nor a dedicated reflexive morpheme, but rather class eight object agreement. This analysis captures the symmetry of reflexives in applicative constructions better than a detransitivizing analysis, and also explains the apparent SCO effect observed in passivized applicatives, where only one out of two potential derivations is available.

The reason I have given for the triggering of class eight marking is that class eight appears to be used more generally in the language to mark arguments lacking  $\varphi$ -features. One question that this analysis raises is why class eight is used for this function; as a plural noun class, it makes an unlikely default value for an element with no  $\varphi$ -features: conventional notions of markedness would predict a singular default. The person-number feature geometry proposed by Harley and Ritter (2002) does appear to make it possible to imagine a language in which plural is less marked than singular, as noted by Cowper (2005), though it would depend on a language-specific definition of numeric minimality being marked with respect to plurality. To block the possibility of plural emerging as a default in the original Harley and Ritter geometry, McGinnis (2005) introduces the notion of primary dependency into the system, building in the prediction that plural should always be the more marked value. With this addition, a default plural, which appears to be what is observed in Shona, should not exist. To determine whether this typological mystery is unique to Shona, or part of a broader pattern would require a survey of reflexive and default agreement morphology across Bantu languages.

The overlap between the reflexive and class eight object marking is not a unique feature of Shona: the same is observed by Kioko (2005) for Kikamba, and can also be found in Zulu (Kunene 1975) and isiXhosa (Duplessis and Visser 1992). A different pattern is seen in the language Ma'a/Mbugu, where the reflexive appears in the position of object markers, but the form is *kú-*, homophonous with the class 15 object marker (Mous 2003). Different again is the pattern in Tsonga, where Baumbach (1987) lists the reflexive *ti-* right after his description of object markers. In this language, *ti-* is also the class ten (plural) object marker. Finally, Fernando (2008) describes the morpheme *ki-* in Kikongo as a valence-reducing reflexive, despite the fact that it appears in the same position as object markers, and is homophonous with class seven object marking in that language. Kikongo might in fact represent a more expected scenario from a markedness perspective, where the noun class used to mark an element with no  $\varphi$ -features (assuming that language to have a reflexive anaphor similar to Shona) is the class for singular generic objects.

Variation in the noun class for clausal arguments is also documented. For example, where Shona uses class eight for embedded clauses, Zulu uses class 15 (Zeller 2004). Thus, just as different languages may have re-purposed various agreement classes for clausal arguments, they may have done the same thing for reflexives. A more detailed survey of reflexive morphology and default agreement patterns across the Bantu family might provide further support for the arguments advanced here. Such an investigation could also shed further light on providing a parametrized feature geometry for Shona, and Bantu languages generally, accounting for this apparent plural default.

It is also a consequence of this analysis that covert reflexive anaphors should be considered when analysing a language with such morphological marking of reflexivity. My claim is not that all languages with a dedicated reflexive affix contain such an anaphor; the differences noted between Plains Cree, Lubukusu, and Shona show that there are different phenomena at work. Rather, I leave open the possibility that covert anaphors other than PRO do indeed exist, and can underlie even canonical reflexive sentences. Building on the work of Hirose, along with Reinhart and Siloni, this article provides a set of diagnostics for such an anaphor, the clearest of which is the ambiguity between reflexive and non-reflexive contexts. If the reflexive is expressed with a morpheme that has another function as well, outside the bounds of those functions listed by Reinhart and Siloni, then the possibility that a covert anaphor triggers that other function must be explored. More generally, this work also lends further support to claims that such covert reflexive anaphors can appear in more restricted contexts, as has been proposed by Putnam and Gast (2012) for English. The analysis here is not restricted to covert anaphors though, and one could imagine an overt counterpart to *refl* which is unvalued for  $\varphi$ -features. Such an anaphor would be clause-bound, able to take any value of  $\varphi$ -featured anaphor, and have the potential to interact with the agreement system such that a potential binder below the subject which is also marked for agreement on the predicate would block even subject binding.

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