

Valence Decreasing Processes in Lutsotso

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Doi:10.5901/mjss.2015.v6n2s1p550

Abstract

This paper analyzes valence decreasing process in the sentence of Lutsotso. Lutsotso is a dialect of the larger Luluhya, an agglutinative Bantu language of Kenya with very rich morphology. The paper shows how verbal suffixes in Lutsotso affect valence. This is illustrated by the fact that verbs in Lutsotso have derivational morphemes that cause valence by either increasing or decreasing the number of arguments that a verb has at a particular time. In addition, the findings in this paper indicate that the Lutsotso dialect has numerous morphological ways of reducing the valence of a verb which include: the passive, the reciprocal, the reflexives and the stative.

Keywords: *Lutsotso, valence, passive, reciprocal, reflexives, stative*

1. Introduction

This paper analyzes argument licensing morphology with specific reference to valence decreasing processes in the sentence of Lutsotso. Lutsotso is one of the seventeen dialects that make up Luluhya, an agglutinative Bantu language. The 17 Luhya dialects are categorized into four groups as follows: Northern dialects, Central dialects, Eastern dialects and Southern dialects. Lutsotso, the focus of this study belongs to the Central dialects of Luluhya language which is spoken in Kakamega central, Lurambi sub county, Kakamega County, Kenya (Osogo, 1965; Odhiambo, 1977). Lutsotso is used as a medium of instruction in lower primary classes in areas where it is spoken.

In grammar, the most fundamental element of a sentence is the verb and there are dependent elements attached to it called arguments (Quirk, Greenbaum, Leech, Svartvik, 1985). Payne (1997) refers to arguments as the participants and their semantic roles that are associated with a given verb. These arguments or participants are subjects, objects or complements in a given sentence. Arguments as used in this paper refer to noun phrases in a sentence (Miller, 1993). These arguments can increase or decrease depending on the type of sentence or participants involved. Crystal (1997) refers to the number and type of bonds which syntactic elements may form with each other as valence. According to Mathews (1997), valence is the range of syntactic elements permitted by a verb or any other lexical unit. This can be explained in the following examples: a, b and c.

a) A man was killed.

Sentence (a) above has only one argument (man). It is not important who killed the man. The subject argument has been done away with. This is an example of a valence decreasing process.

b) John bought mother a dress.

The verb (bought) in (b) has three arguments, *John*, *mother* and the object *dress*. Chomsky (1957) supported by Payne (1997) asserts that the notion of valence is closely related with the traditional idea of transitivity. A transitive verb has more than one argument as (b) exemplifies while an intransitive verb has one argument or participant as exemplified in (c) below.

c) Anyona is crying

The verb (crying) is an intransitive verb and has one argument (Anyona). Intransitive verbs are univalent because they permit only one argument or valence.

The objectives of this paper are: to explore the valence adjusting operations in Lutsotso verbal morphology, to determine the order of valence and the constraints that govern its occurrence and to show how argument structure determines valence decreasing processes.

The arguments in this paper are justified on the basis that they will shed light on analysis of valence in African languages and particularly in Bantu languages since there is dearth of research in this area. In addition, the findings of this paper will reveal the richness and internal complexity of the Lutsotso dialect of Luluhya language thus providing useful insights to syntactic theory.

This paper adopted a methodology that involved collecting a corpus of syntactic structures representative of Lutsotso verbal morphology. To achieve desired results, a descriptive research design was adopted. This design was adopted due to the fact that as Gay (1981) notes, a descriptive research will collect data to test hypotheses or answer questions concerning the current status of the problem. This justification is further reinforced by Mugenda and Mugenda (2003) who state that a descriptive research determines and reports the way things are. In addition, a descriptive research is used to establish the existence of a phenomenon by explicitly describing it. In applying this approach in this paper, the researchers focused on the language item under study within the interactive framework of the environment where it occurred.

Verbs in Lutsotso have derivational morphemes that cause valence by either increasing or decreasing the number of arguments that a verb has at a particular time. The interest of this paper is restricted to analyzing valence decreasing processes in Lutsotso.

2. Valence Decreasing Processes

Valence decreasing processes are operations that reduce core participants to an oblique status or eliminate them completely (Mchombo, 2004). A derivation suffix is used to decrease or omit some arguments of a verb. Lutsotso language has morphological ways of reducing the valence of a verb which include: the passive, the reciprocal, the reflexive and the stative as illustrated below.

2.1 Passives

According to Leech and Svartvik (1975), the term passive is used to describe (a) the type of verb phrase which contains the construction be + past participle (for example, was killed, was seen), (b) the type of clause in which a passive verb phrase occurs. Likewise, Spencer (1991:210) defines a passive as '...a morpho-syntactic operation that suppresses the external argument'. The external argument may not be syntactically expressed but is available semantically. In other words, a verb is said to be in the passive voice when the subject is not active, its role and that of the object are reversed. In the active voice, the subject always comes first and is seen to do something. But when the roles are reversed, it is the object that takes the initial position and the subject may be mentioned or eliminated. The action in a passive sentence is more important than the doer of the action (subject) as example (1) from Lutsotso data shows:

- (1) *omu-siani ya-khup -a omukhana.*
SM-boy-SM -beat-FV girl
The boy beat the girl
(2) *Omu-khana ya-khupw-a (nende omusiani)*
SM-girl SM-beaten (by the boy)
The girl was beaten (by the boy)

Example (1) is an active sentence in which the subject *omusiani* (boy) takes the initial position and is actively involved in doing the action of beating the girl. Example (2) is a passive sentence. What was the object *omukhana* (girl) in (1) has become the subject in (2). The object *omukhana* (girl) has taken the initial position which was formerly occupied by the subject *omusiani* (boy). The subject has taken the position of the object *omukhana* (girl) and it is optional as it may be mentioned or eliminated. It is no longer important to mention who beat the girl but the action *khupa* (beat) is the one that is important in (2).

In Lutsotso, the passive morpheme is inserted between the last consonant and the last vowel of the verb as in (3) below:

- (3) A B C English gloss
Teta = tet +w +a = tetwa was cut
kula = kul +w +a = kulwa was bought

The difference between the verbs in column A and those in column C is that verbs in column C bear an additional

suffix {-w-} before the verb final vowel which is associated with the passive meaning. Column B shows the formation of the passive in Lutsotso.

Dik (1978) has shown that most of the passive constructions across languages are a result of the assignment of syntactic functions of subject and object. He states:

“Subject assignment determines the perspective from which the state of affairs is described” (Dik, 1978:71).

For example in the sentences:

(4) *Anyona ya – kul- a- omutoka*

Anyona SM – buy-FV a car

Anyona bought a car

Anyona in (4) is the subject since the state of affairs is presented from new perspective, but in sentence (5) below, a car is the subject.

(5) *Omu-toka kwa – kuL - w-a- ti (nende Anyona)*

SM- car- SAM- buy-PASS-FV- ti (by Anyona)

A car was bought (by Anyona)

Verbs with two arguments in Lutsotso can be reduced to one by addition of the passive suffix {-w-} as shown in (5) above. The derived sentence (5) is a personal passive with an agentive phrase *nende Anyona* (by Anyona). The subject *Anyona* of the active / basic sentence is suppressed to an adjunct *nende Anyona* (by Anyona). This is defocusing a core argument to an optional and oblique phrase. The basic object *omutoka* (car) is promoted to subject status with all the properties of a subject like subject verb agreement. Notice that in the derived sentence (5) the verb *kula* (buy) has a class marker *kwa* which marks agreement with the promoted object *omutoka* (car). The argument structure of the basic and the derived sentence is shown in the Table 1 below.

Table 1. Passive argument structure (i)

External argument	Verb	Internal argument	Valency	English Gloss
<i>Anyona</i> Subject Agent	<i>Yakula</i>	<i>Omutoka</i> Object patient	divalent	Anyona bought a car
<i>Omutoka</i>	<i>Kwakulwa</i>	(<i>nende Anyona</i>) Pp object oblique	univalent	The car was bought

As Table 1 shows, the original sentence was: *Anyona ya kula omutoka* (Anyona bought a car), while the derived sentence is: *omutoka kwakulwa (nende Anyona)* (a car was bought (by Anyona)). There is a total rearrangement of arguments as Table 1 indicates. The subject/ agent *Anyona* of the basic sentence becomes the object of the prepositional phrase *nende Anyona* (by Anyona); an obvious oblique role. The object/ patient *omutoka* (car) of the basic sentence moves to the subject position previously occupied by the subject *Anyona* and becomes the thematic subject in the derived sentence (5). The fronted subject/ theme *omutoka* (car) is still affected by the action but it has been over emphasized hence the patient role is thematized. In Government and Binding (GB) theory an NP trace resulting from passivisation behaves much like anaphors since it must be coindexed with the moved NP which is an argument (Chomsky,1981; 1982). In other words it has been proposed that NP traces are anaphors in terms of Binding theory of GB. Example (4) and (5) above illustrates this.

In line with the theta criterion of the theta theory of GB which calls for a theta role to be assigned to an argument once, the NP *Anyona* in (4) is assigned the external theta role of agent by the verb *kula* (buy). In (5) the trace *ti* is governed and theta marked by the verb *kula* (buy). However, since the passive fails to assign accusative case, the trace (*ti*) is case less.

Chomsky (1995) explains that verbs have to move to various heads for checking of respective features while the noun moves to specifier for case checking. Therefore in the derived sentence (5) the subject *omutoka* (car) and the verb *kwakulwa* (was bought) move for the purpose of feature checking. The subject *omutoka* (car) moves from SPEC/VP to SPEC/AGRSP leaving behind a trace (*ti*) where its nominative case feature is checked. Likewise, the verb *kwakulwa* (was bought) moves from its base position leaving behind a trace (*ti*) to AGRS/AGRS where it lands after checking all the relevant features. The prepositional phrase *nende Anyona* (by Anyona) does not move because it does not have lexical properties that motivates its movement.

Let us consider more examples from Lutsotso data that illustrate a trivalent sentence

(6) *Anyona a – kulil –e omwa –ana ingubo* (trivalent)

Anyona SM – BUY -FV SM – child dress.

Anyona bought the child a dress.

(7) *omwa – ana a –kulil – w –e ingubo (nende Anyona)*

SM – child SM – buy – PASS- FV– dress (by Anyona)

The child has been bought a dress (by Anyona)

The argument structure occurring in the basic example (6) and the derived sentence (7) is shown in Table 2 below.

Table 2. Passive argument structure ii (trivalent and divalent)

External argument	Verb	Internal argument 2	Internal argument 3	Valency	English Gloss
<i>Anyona</i> Subject Agent	<i>akulile</i>	<i>Omwana</i> applied object beneficiary	<i>Ingubo</i> Direct object patient	trivalent	Anyona has bought the child a dress
<i>Omwana</i> Subject Theme	<i>akulilwe</i>	<i>Ingubo</i> Direct object patient	<i>Nende Anyona</i> pp. object oblique	divalent	The child has been bought a dress.

As Table 2 shows, the passive morpheme {-w-} has the power to reduce the valence of a verb. The verb *kula* (buy) in (7) after passivisation loses the subject argument *Anyona* and remains with only two arguments, *omwana* (child) and *ingubo* (dress). In (7), the subject/agent *Anyona* of the basic sentence is demoted to an oblique element rather than a verb argument in the derived sentence. The applied object/ beneficiary *omwana* (child) becomes the subject/ theme in the derived sentence.

In Minimalist Program (MP), the derivative morphemes like the applicative, causative and passives are considered to be feature bearing affixes, hence heads and specifiers have to be built for them depending on their lexical and morphological evidence. As such, the passive head is created to check the verb for passive features. An AGROP and specifier will be built so that the direct object *ingubo* (dress) can land at AGROP/SPEC.

According to Chomsky (1995) the verb moves to various heads for checking of respective features while the noun moves to specifier for case checking. The direct object *ingubo* (dress) moves TO SPEC / AGROP for accusative case checking. The subject *omwana* (child) moves from SPEC/ VP to SPEC / AGRSP to check its nominative case features. The verb moves from its base position to MOOD/ MOOD to check mood features, then to 'AGRO/AGRO' to check agreement features, then to PASS/ PASS to check passive features, and to TNS/TNS to check tense features and finally lands at AGRS/AGRS after checking all the relevant features.

The analysis of passive constructions in Lutsotso so far shows that the passive construction describes the action from the perspective of the patient thus de-emphasizing the role of an agent in a described situation.

2.2 The stative

Mchombo (2004) notes that the stative is very similar to the passive in that it eliminates the subject NP and makes the object of the non stative verb the subject. Mchombo adds that, however, this similarity between the two processes should not mask the many differences that separate them. For instance, unlike the passive, the stative does not allow the expression the agentive NP, even as an oblique. Secondly, the stative does not interact with other suffixes as readily as the passive. For example, statives of applicatives are not possible. Mchombo further observes that the stative appears to be confined to applying to transitive verbs which have the agent and patient arguments. In other words, the subject NP is primarily associated with patient role.

The stative morpheme in Lutsotso is {-kha-}. This morpheme can be added to the verb-stem to form the stative construction as shown in sentences (8) and (9) below:

(8) *I -nzu i -le -yomba –kha obulayi*

SM-house-SM-TNS-built-STAT- well

The house is able to be built well

(9) *Omu – saala – kuno –ku- nyala okhureme –kha*

SM- tree- DEM SM- capable - cut - STAT

This tree is capable of being cut

As sentence (8) shows, when the stative morpheme {-kha-} is added to the verb, it leads to a stative construction

which has the meaning expressing a process. The verb *yombokha* (able to build) in (8) expresses the process of building. It has the meaning of possibility when the morpheme *nyala* (can) precedes it as in example (9). In (9) the word *nyala* (can) precedes the verb *okhuremekha* (capable of being cut) and has the meaning expressing a possibility of being cut. Thus, in Lutsotso the stative morpheme {-kha-} has two meanings depending on the syntactic environment in which it occurs. The stative in Lutsotso applies mostly to divalent verbs which have agent and patient arguments as (10) shows.

(10) *Muteshi ye – kale li – dirisha* (divalent)

Muteshi SM – close SM – window.

Muteshi closed the window.

(11) *Li – drisha li – kali – khe* (univalent)

SM – window SM– close – STAT

The window was able to close

Example (10) is a divalent sentence with two arguments, *Muteshi* the subject/agent who performs the action of closing the window and *lidirisha* (window) the object/patient that is affected by the act of closing. According to the GB theory (Chomsky, 1981; 1982) a verb like *ikala* (close) in (10) is a two place predicate in which the NP *Anyona* has the surface function of a subject while the NP *lidirisha* (window) has the surface function of direct object of the verb. After the addition of the stative morpheme {-kha-} to the verb *ikala* (close) in (10), the subject NP *Muteshi* is eliminated and the object *lidirisha* (window) becomes the subject of the stative sentence. In example (11) there is no agent whatsoever, triggering the process. This example presents a case of a state or condition expressed by the univalent verb. The argument structure of (11) is shown in Table 3 below.

Table 3. Stative Argument

External argument	Verb	Internal argument	Valency	English Gloss
<i>Muteshi</i> Subject Agent	<i>Yekale</i>	<i>Lidirisha</i> Direct object patient	divalent	Muteshi closed the window
<i>Lidirisha</i> Subject Patient	<i>Likalikhe</i>		univalent	The window was able to close.

Table 3 shows that in the basic sentence: *Muteshi yekale lidirisha* (Muteshi closed the window) and in the derived sentence; *Lidirisha likalikhe* (the window was able to close), there is a re-arrangement of arguments in the basic and the derived sentence.

The re-arrangement of arguments in the basic and the derived sentence shows a change of functions where the direct object/ patient *lidirisha* (window) of the basic sentence becomes the subject/patient of the derived sentence. The subject/agent in the basic sentence is deleted in the derived sentence since there is an expression of a state or of potential situation without making reference to the agent. Payne (1997) describes such a sentence as “expressing a semantically transitive structure in terms of a process that the patient faces rather than an action initiated by the agent.” This means that although the direct object is a subject in the derived sentence, it is still the primary constituent affected by the process thus the patient.

To ensure that the constituents of sentence (11) bear the right features, the feature checking aspect of MP (Chomsky, 1995) is employed to check the relevant features which include, nominative case features, mood, stative features, tense and finally agreement features. As such, there is movement of constituents; the subject *lidirisha* (window) and the verb *likalikhe* (was able to close) for the purpose of feature checking. Chomsky (1995) explains that movement is for checking the correctness of the inflectional and derivational features against their syntactic positions in the sentence structure. The subject *lidirisha* window moves to the SPEC/AGRS from SPEC/VP leaving behind a trace to check nominative case features. The category STAT which expresses the process of the verb is introduced in the structure since it is morphologically licensed by a morpheme *-kha-*. The verb *likalikhe* moves to MOOD/MOOD, ‘STAT/STAT’ and finally to ‘AGR/AGR’. Movement of the verb ensures all the relevant features are checked. As the verb moves it leaves behind traces.

2.3 Reciprocal

A reciprocal process refers to constructions in which two or more participants act upon each other. As the name depicts,

participants involved reciprocate each other in the action expressed by the verb. While carrying out his studies on Chichewa, a Bantu language, Mchombo (2004) observes that in Bantu languages, the reciprocal appears to be involved in morpho-lexical operation of verb derivation. The reciprocal derives a one place predicate from a two place predicate or in general reduces by one the array of arguments of the non-reciprocalized predicate. In Lutsotso, the reciprocal morpheme is {-an-}. It is inserted between the last consonant and the final vowel of the verb as in (12) and (13):

(12) *Khupa* = *khup* – *an* – *a* = beat each other.

(13) *Rema* = *rem* – *an* – *a* = cut each other.

The verbs *khupana* (beat each other) and *rema* (cut each other) are exemplified in (14) and (15) below.

(14) *Ambwaya a – khupil-e Masero*

Ambwaya SM – PST – beat-FV– Masero

Ambwaya beat Masero.

(15) *Ambwaya nende Maser ba – khup – an – a*

Ambwaya and Masero SM – beat – REC-FV

Ambwaya and Masero beat each other.

Example (14) is divalent with an external argument *Ambwaya* and an internal one *Masero*. In example (15) the external argument *Ambwaya* and internal argument *Masero* are co-joined and are taken as one entity. The derived verb *khupana* (beat each other) shows inter – dependence of action as participants interact in the action expressed in the verb. Thus, (15) confirms Mchombo's (2004) assertion that syntactic configuration in which the reciprocal appears are largely similar in that the reciprocal requires a plural or group subject NP. As (15) illustrates, the subject *Masero nende Ambwaya* (Masero and Anyona) represent a group or plural NP.

The reciprocal argument structure is represented in Table 4 below:

Table 4. Reciprocal Argument Structure

External argument	Verb	Internal argument	Valency	English Gloss
<i>Ambwaya</i> Subject Agent	<i>Akhupile</i>	<i>Masero</i> Object patient	divalent	Ambwaya beat masero
NP and NP 2 <i>Masero nende Ambwaya</i> Subject and object Agent and patient	<i>bakhupana</i>		Univalent	Ambwaya and Masero beat each other

Table 4 above shows that, the object *Masero* in the basic sentence merges with the subject *Ambwaya* to create a compound external argument *Ambwaya nende Masero* (Ambwaya and Masero) with a plural manifestation. The compound argument has two participants *Ambwaya* and *Masero* who are equally agent and patient because they are co-referential.

According to Chomsky (1995) a computational system builds structures by selecting numerated elements and combines them in the relevant way. The verb moves to various heads to ensure features are in place. In this case, noun moves to specifier to ensure case is correct to avoid superfluous words. In the derived sentence (15) above, the reciprocal head and specifier, the subject agreement phrase head and specifier are placed to check the verb *khupana* (beat each other) for the respective features and the noun *Masero* and *Ambwaya* for case. The tense head is placed to check the verb *khupaana* (beat each other) for tense features.

According to VP-internal subject hypothesis, subjects originate in the specifier position within VP and are subsequently raised to Spec-IP for checking purposes by movement operation known as subject raising (Chomsky, 1995). In the derived sentence (15), the subject *Ambwaya nende Masero* (Ambwaya and Masero) moves from SPEC/VP to SPEC/AGRS leaving a trace behind for nominative case feature checking. The verb *bakhupana* (beat each other) moves to various heads checking relevant features before settling at AGRS/AGRS 1 after checking the agreement features with the subject *Ambwaya nende Masero* (Ambwaya and Masero). The verb leaves traces at all those places where it has moved through. As far as the GB theory of Chomsky (1981, 1982) is concerned, the presence of the trace means non violation of the Empty category principle which states that a non-pronominal empty category must be properly governed either through head theta government or antecedent- government.

2.4 Reflexives

Givon (2001:95) gives the semantic definition of a reflexive as a construction where, "the subject and the object of the event or state regardless of their semantic roles are co-referent. That is, the subject acts upon (or relates to) itself. According to Leech and Svartvik (1975) reflexive pronouns are used as objects, complements and often as prepositional complements where these complements have the same reference as the subject of the clause or sentence. In other words, in reflexive constructions, two arguments in an action have identical references or relate to the same entity. This is an anaphoric relationship where the first participant is the same as the second. In Lutsotso, the reflexive morpheme is {-i-} or {-ene-} as (16) and (17) below illustrate.

(16) Dina *ya -i- rem - a omu - khono*
Dina SM - REF -cut -FV- SM - hand
Dina cut her hand

(17) Dina *ya- i - rema*
Dina SM -REF - cut
Dina cut herself

Sentence (16) is divalent with the external argument 'Dina' and the internal argument *omukhono* (hand). The prefixation {-i-} of the reflexive brings the idea that the hand that the subject cut is hers. The reflexive morpheme inflects on object/ patient in the derived sentence (17). The subject *Dina* and the object *omukhono* (hand) have been merged into one argument *Dina* playing subject and agent role.

In the terminology of GB theory, the reflexive observes the normal locality conditions associated with bound anaphora in its binding properties, that is, that it must have an antecedent within the same clause (Chomsky,1981). Sentence (17) satisfies the locality condition in the sense that the subject *Dina* is the antecedent of the reflexive *i* (herself) and both *Dina* and *i* (herself) are in the same sentences.

The argument structure for example (17) is shown in Table 5 below

Table 5. The reflexive argument structure

External argument	Verb	Internal argument	Valency	English Gloss
NP 1 Dina Subject Agent	<i>Ya i-rema</i>	NP 2 <i>Omukhono</i> Object patient	divalent	Dina cut her hand
NP 1 NP 2 Subject(Dina) object Agent 2 patient	<i>Ya -i-rema</i>		univalent	Dina cut herself

Table 5 shows the basic sentence: *Dina yairema omukhono* (Dina cut her hand). As Table 5 illustrates the basic sentence has two arguments; *Dina* and *omukhono* (hand) while the derived sentence has one argument i.e. *Dina*. This is because in the derived sentence (17), the subject *Dina* and the object *omukhono* (hand) have been merged into one entity that agrees in number and person fulfilling the two syntactic roles of agent and patient. In terms of agreement in number and person it means that the argument *Dina* refers to one person called *Dina* and agrees with the subject marker {-ya-} which is also in singular. The agreement element in Lutsotso is associated with subject prefixes affixed to the verb and as (17) shows the agreement feature {-ya-} on the verb *rema* (cut) inflects according to the subject NP *Dina* (Subject *Dina* agrees with the subject marker {-ya-} which is also in singular). The reflexive morpheme {-i-} has power to delete the object of the basic sentence because it refers to the external argument, thus its antecedent.

According to the feature checking approach (Chomsky, 1995), movement is meant for checking the correctness of the inflectional and derivational features against their syntactic positions in the sentence structure. The subject *Dina* in 17 moves from /SPEC/VP to SPEC/AGRSP for nominative case checking leaving behind a trace. The verb *yairema* (cut) moves to various heads to check relevant features before landing at AGRS/AGRS 1 for agreement feature checking. The verb leaves traces behind in all the places that it moves checking relevant features.

Lutsotso can also permit a divalent verb with an external and an optional internal argument as shown below.

(18) Dina *ya -i- rem - a (omwene)*
Dina SM - REF- TNS - cut-FV herself
Dina has cut herself

Repetition of *omwene* creates redundancy since the same idea is reflected by the reflexive morpheme {i} in the verb. The sentence is grammatical without its overt realization since it refers back to 'Dina' the subject. On the other hand, *omwene* is used to show emphasis. In (18) above, the use of *omwene* emphasizes the fact that there is no other person who cut Dina apart from Dina herself.

Within the Government and Binding (GB) theory, referential relations between NPs in a sentence are handled by what is called binding principles (Chomsky, 1981). These are:

- A: An anaphor must be A – bound in governing category
- B: A pronominal must be free in its governing category.
- C: An R – expression is free everywhere.

Let us apply these principles and see if they make correct predictions about NP relations in the reflexive sentence in Lutsotso. A sentence like (18) has one NP Dina and can be analyzed as illustrated below. According to the binding principle A, the reflexive must be A bound in its governing category. In sentence (18) the reflexive *omwene* (herself) is bound by a C-commanding argument *Dina*. This means that the reflexive *omwene* (herself) is bound to the subject *Dina* by virtue of the fact that it is coindexed with and C-commanded by the subject NP *Dina*. The subject *Dina* is the antecedent of the reflexive *omwene* (herself). In other words, the acceptable interpretation in (18) is for the reflexive *omwene* (herself) to be bound (i.e. to have an antecedent) in its governing category. *Omwe* (herself) must refer back to *Dina* and not to anything else. It can therefore be generalized that in Lutsotso, reflexives are compulsorily A-bound in their governing categories.

On the other hand, for reflexives to be bound to a C-commanding argument, it must have same number-class agreement features with the binding NP. Thus

19. **Anyona a – le – singa abeene*

Anyona will bath themselves

20. **Enywe mu – la – tsi omwene*

You (PL) will go yourself (sing)

Examples (19) and (20) above are ungrammatical because the features of the reflexives do not match with those of the antecedents. In (19), the antecedent is *Anyona* and refers to one person called *Anyona*. The subject *Anyona* is coindexed with the reflexive *abeene* (themselves). The features of the antecedent *Anyona* do not match with those of the reflexive *abeene* (themselves) because the antecedent is in singular, the reflexive should also be in singular form. Thus, 19 should read as 21 below:

21. *Anyona a-le- sing -a omwene.*

Anyona SM-TNS-bath-FV himself

Anyona will bath himself

Likewise, in (20) the antecedent *you* (PL) refers to more than one but the reflexive *omwene* (yourself) is in singular form. Since the antecedent *you* (PL) is in plural, the reflexive should also be in plural form. The correct form of (20) should read as (22) below:

22. *Enywe mu- la - tsi -a abeene*

You (PL) SM-TNS- go-FV yourselves

You will go yourselves

The referential behavior of the pronominal on the other hand is different. While anaphors require that they be bound in their governing categories, pronominals are always free in their governing categories (Chomsky, 1981). For example:

23. *Enywe mwa – sila aba – ana abafuru*

You (PL) AGR – hate children rude

You hate rude children

24. *Omu – khana a – khu – katile ewe*

SM – girl SM – cheats you

The girl cheated you

In the above sentences (23) and (24), the pronouns *enywe* (23) and *ewe* (24) are not bound in their governing category. Thus, the binding principle 'B' makes correct predictions about referential relations of the pronominals in the sentence. Pronominals must be free in the Lutsotso sentence.

The third category of the binding theory says, R-expressions are free everywhere. R-expressions are NPs with lexical heads which potentially refer to something and in Lutsotso can be exemplified by proper names such as *Anyona*, *Masero*, *Kakamega* and common nouns such as *omukhasi* (woman), *omukhana* (girl) and *omusatsa* (man). Within the simple sentence this type of NPs are always free, so that an R-expression whenever it occurs in the sentence cannot be

constructed with another NP be it another R-expression or a different type of NP. For example:

25. *Odera ya – khupa Anyona*

Odera SM – beat Anyona

Odera beat Anyona.

In example 25 the person called 'Odera' must not be the same as the person bearing the name 'Anyona'. In other words, *Odera* and *Anyona* must refer to two different individuals.

2.5 Reversives

The reversive morpheme in Lutsotso is {-ul-}. This morpheme can be added to the same verbs in Lutsotso. The result of this addition is a verb with a meaning which is opposite to that of the verb stem to which the morpheme is added as can be seen in the following verbs.

26a) *Funga* (close) – (b) *fung-ul-a* –(open)

27a) *Reka* (set) - (b) *rek-ul-a* (unset)

28a) *Fwala* (dress) – (b) *fwal-ul-a* (undress)

The following sentences, 29, 30 and 31 illustrate how reversive verbs are used in the sentence of Lutsotso.

29a. *Dina a - la fung -a omu – liango*

Dina SM- TNS-close-FV SM – door

Dina will close the door

29b. *Dinaa- la fung – ul- a omu- liango*

Dina SM-TNS-open-REV -FV -SM-door

Dina will open the door.

30a. *Omu-siani ya –reka omu –teko*

SM – boy SM –set SM-trap

The boy set the trap

30b. *Omu-siani ya-rek-ul –a omu –teko*

SM-boy SM-set-REV-FV-SM-trap

The boy unset the trap.

31a. *Mama ya – fwala omwa – na ingubo*

Mother SM – dressed SM child dress

Mother dressed the child. A dress

31b. *Mama ya – fwal –ula omwa – ana ingubo*

Mother SM –removed REV SM – child dress

Mother undressed the child.

Example (29a), (30a) and (31a) are basic sentences showing the verb *funga* (close) in (29a), *reka* (set) in (30a), and *fwala* (dress) in (31a) in their original forms before the reversive morpheme [ul] is added. Sentence (29b),(30b) and(31b) show the derived sentences after adding the reversive morpheme {-ul-}. As can be seen from the examples (29b), (30b) and (31b) above, the addition of the reversive morpheme {-ul-} to the verb stem has no syntactic effect to the sentence in which the extended verb occurs as compared to the original sentence. The addition of the reversive morpheme neither increases nor decreases the valence of the verb.

As noted in the literature (Chomsky1981,1982) the lexicon contains all known words in a language (and for this study, Lutsotso). In addition, the lexicon specifies idiosyncrasies of all lexical items. Taking the example of verbs, it can be noted that verbs in Lutsotso differ a great deal in terms of what they select or do not select to occur with. This information is contained in lexical entries for verbs, treating what a verb selects as an idiosyncratic property of that particular verb. Thus, indicating transitivity or non-transitivity is the work of the lexicon. Verbs such as *funga* (close) in (29), *reka*, (set) in (30) and *kona*, (sleep) in (31), are represented in the lexicon in the manner of (32) below:

(32) *funga* (close): V+ [-NP]

Reka (set): V+ [-NP]

Kona: sleep: V,-[- NP]

Where + means the verb can be inserted in the position marked by a dash in the VP. that is [- NP], while the (-) means the verb cannot hence it is intransitive

The features in 32 are sub-categorization features and show whether the verb in question sub-categorises for an NP or not. For instance the verb *funga* (close) and the verb *reka* (set) require to be followed by an NP while the verb *kona* (sleep) does not need to be followed by an NP.

Table 6 below shows the structure of the reversive sentence.

Table 6. Structure of the Reversive sentence

External Argument	Verb	Argument 2	Argument 3	Valency	English Gloss
Dina Subject Agent	<i>ala funga</i>	<i>Omuliango</i> Object patient		divalent	Dina will close the door
Dina Subject Agent	<i>ala-fungula</i>	<i>Omuliango</i> Object patient		divalent	Dina will open the door
Mama subject agent	<i>yafwala</i>	<i>Omwana</i> Object patient	<i>ingubo</i>	trivalent	Mother dressed the child
Mama Subject Agent	<i>yafwalula</i>	<i>Omwana</i> Object patient	<i>ingubo</i>	trivalent	Mother undressed the child

Table 6 shows the basic sentences; *Dina alafunga omuliango* (Dina will close the door), *mama yafwala omwaana ingubo* (mother dressed the child), and the derived sentences; *Dina alafungula omuliango* (Dina will open the door). *Mama yafwalula omwaana ingubo* (mother undressed the child). As Table 6 shows the addition of the reversive morpheme {-ul-} to the verb stem has no syntactic effects to the derived sentence. The reversive morpheme {-ul-} neither increases nor decreases the valence of the verb.

Sentences 29, 30, and 31 must be looked at as having NPs that show a defined relationship with the verb. These sentences reflect relationships such as who is performing the action and to whom it is being done. A sentence like (29b) above expresses such a relationship in which a person called Dina is the author of the action while the receiver of the action is 'omuliango' door as indicated below.

Dina ya – fungula omuliango
Dina opened the door

Verbs in Lutsotso reversive sentences therefore do have lexical entries specifying the theta roles such as agent/patient/recipient, goal e.t.c. The verbs capture the relationship that hold between the lexical head of the VP and its complements on the one hand and its subject on the other as illustrated below (32, 33).

32. rekula, V, + [-NP] `agent, patient' unset

33. fungula: V, + [-NP] `agent, patient' remove.

The verbs in 32 and 33 can be exemplified in sentences 34 and 35 below.

34a. Omu-siani ya-rekul-a omu-teko.

SM- boy TNS-unset-FV –SM-trap

The boy unset the trap.

34b.* Omu-siani ya-rekul-a

SM-boy-TNS-unset-FV

The boy unset

35a. Papa ya- fungul-a omu-liango

Father-SM-opened-FV-SM door

Father opened the door.

35b. *Papa ya-fungula

Father –SM-opened

Father opened

As the examples 34a and 35a show, the verbs rekula (unset) and fungula (open) not only c-select what to occur with but also semantic selects (s-selection) the arguments (NPs) to which they can theta mark their roles. In 34a, the verb rekula (unset) theta marks the NP Dina as the agent and the NP omuteko (trap) as patient. S-selection and therefore theta marking being the function of the verb, we can explain the grammaticality of 34a and 35a on one hand and on other, the ungrammaticality of 34b and 35b. Examples 34b and 35b are ungrammatical because of violating the projection principle of theta theory of GB (Chomsky1981, 1982) which requires that representations observe the sub categorization properties of lexical items, where sub- categorization is understood to include categorial features. The lexical entry for the verb rekula (unset) in 34b specifies that it must occur with a following NP, hence the c-selection of omuteko (trap) in 34a,

but as can be observed, the following NP is missing leading to its ungrammaticality. Likewise, the verb *fungula* (open) in 35b sub-categorises for a following NP, but the NP is missing and this renders sentence 35b ungrammatical. Consequently, 34a is grammatical in accordance with the projection principle, the NPs *omusiani* (boy) and *omuteko* (trap) are available to be assigned the theta role of agent and recipient respectively. The same applies to 35b as it has the NPs *papa* (father) and *omuliango* (door) to be assigned theta roles of agent and recipient. Sentence 34b and 35b are ungrammatical because they each have one theta role less in open violation of the projection principle. No meaning can therefore be made out of 34b and 35b.

Sub-categorisation properties play a crucial role in determining meaning relations. The projection principle ensures that the sub-categorisation properties of lexical items are accurately reflected in all syntactic levels of representation (Chomsky, 1981).

3. Conclusion

This paper dwelt on valence decreasing processes in Lutsotso. The paper has shown that valence decreasing processes of the passive affect the external argument. Valence decreasing processes of the reciprocal and reflexive have effect on both external and internal arguments. The valence decreasing process of the stative has effect on the external argument as it is deleted from the sentence.

The findings in this paper also reveal that there are some derivational morphemes in Lutsotso which do not alter the syntactic structure of the sentence. These derivational morphemes include the stative and the reversive. The reversive morpheme only alters the meaning of the sentence in Lutsotso. Moreover, verbs in Lutsotso reversive sentence do have lexical entries specifying the theta roles such as, agent, patient, recipient and goal among others.

Lastly, it has been shown in this paper that all derivational morphemes are considered as independent morphemes (syntactic categories) with head status in the minimalist program. Valence decreasing processes have heads in the structure that enables the verb to check its features. There is therefore a need for verb movement for feature checking to ensure the full interpretation of the features at interface based on morphological evidence and lexical properties of sentence constituents.

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