

Passive constructions in Setswana: argument structure alternations from Lexical Mapping Theory perspective

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Abstract

The paper analyses passive constructions in Setswana from morpho-syntactic view point, showing that the suffixation of a passive morpheme to the verb reduces the argument structure of the verb. Previous studies carried out in Setswana verbal suffixes have confined their investigations to these morphemes as elements of morphology but have failed to observe that these affixes overlap into syntax. Chebanne (1996) observes that in Setswana, verbal extensions can combine with a single verbal base but fail to observe the overlap into syntax. Further, the studies do not give any insight in the features that Setswana shares with other Bantu languages. The passive construction in Setswana, like in other Bantu languages, is a bit complex in the sense that the verbal extension –iw brings into effect the dropping of the subject, and the object becomes the grammatical subject, thus rendering the transitive verb, such as, apaya ‘cook’ intransitive. Conversely, other derivational suffixes, such as applicative and causative, increase the verb’s arguments by two. For instance, the suffixation of the verbal suffix –el suggests an entity carrying out the action and somebody benefiting. The paper also compares passive with other verbal extensions such as neuter, applicative, causatives and reciprocals. It shows that while the passive occurs with most verbs and other verbal extensions, such as, applicative or causative suffixes, the neuter is rigid in occurring with other verbal extensions. The paper also appeals to Lexical Mapping Theory, whose role is to constrain mapping relations between thematic roles, such as an agent or patient and the corresponding grammatical functions, such as the subject, patient and oblique that have been subcategorized for by predicates

Introduction

The paper examines aspects of passive constructions in Setswana from a morpho-syntactic view point, showing the effects of passive morphology on the structure of the sentence. The passive constructions in Setswana are the types that have been arrived at through the suffixation of the derivational verbal suffix –w or -iw to the verb radical which is followed by the mood marker –a. The object noun phrase which was acted upon, affected or produced by some external force or agency in the active

sentence becomes the subject of the passive verb, and the subject is expressed through the optional by-phrase (Cole, 1955, p. 192; Guma, 1971, p. 141). The passive formation in Setswana is similar to that of English, where the object is elevated to the subject position, the verb takes the passive morpheme –ed or –en and the original subject can optionally appear as the subject by-phrase. The passive constructions in Setswana are interesting in the sense that when the verbal extension –w is attached to the verb the original subject occurs as either the agentive by phrase, as in (1b) or gets suppressed, as in (1c). The object, which becomes the subject, retains its argument status and hence its thematic role of theme/patient.

- (1a) Mo-sadi o-apeil-e bo-gobe
 1-woman 1SM-cook-PERF-M 14-porridge
 ‘The woman is cooking porridge.’
- (1b) Bo-gobe bo-apeil-w-e ke-mo-sadi
 14-porridge 14SM-cook-PERF-M by-1-woman
 ‘Porridge is cooked by a woman.’
- (1c) Bo-gobe bo-apeil-w-e
 14-porridge 14SM-cook-PERF-M
 ‘Porridge is cooked.’

Previous studies carried out in Setswana verbal extensions have confined their investigations to these morphemes as elements of morphology, but have failed to observe that these affixes overlap into syntax. Chebanne (1996) observes that in Setswana, verbal extensions can combine with a single verbal base but fails to observe that they overlap into syntax. He does not say what happens to the argument structure of the verb once it has had some verbal affixes attached to it. Yet, debates on the treatment of such Bantu languages morphemes always focus on the nature of the relation between syntax and morphology. Guthrie (1962, p. 94) observed that the verbal extension could either be an extra object, one object less or the same number of objects. He argues that the formal shape of each extension correlates with syntactic facts and that each one has its own semantic effects on the extended verbal construction. Du Plessis and Visser (1992) have observed that in Xhosa, the passive morphology has the effect of having the subject argument occurring in other syntactic positions as agentive by phrase. Mchombo (1993, p. 752) has observed that Chichewa passive –idw or –edw and the stative (neuter) –ik or –ek are detransitivising morphemes, and that, the passive can be fed by other argument changing operations, unlike an operation such as neuter which

cannot be fed by any such operation. Dubinsky and Simango (1996, p. 750) also share the view that the suffix –iw in Chichewa can reduce the verb's argument and that the passive is flexible in its occurrence with other verbal extensions. Setswana also has impersonal passives which are similar to those that occur in German and Dutch (Perlmutter 1978), Sesotho (Machobane 1987, Demuth 1987 in Demuth 1990, p. 5). The paper also compares passive with other verbal extensions. It shows that while the passive occurs with most verbs and other verbal extensions, such as, applicative or causative suffixes. Other suffixes such as the neuter are rigid in occurring with other verbal extensions. Furthermore, the studies in Setswana do not give any theoretical insight in the analysis of facts about Setswana verbal extensions, as such, certain features that Setswana shares or does not share with other Bantu languages are prejudiced.

Methodology

Data for this study were collected from twenty informants through story telling for over a period of three months in Moshupa village. Each of the informants was asked to relate a story on any topic on either folklore or family background, and they were expected to elicit constructions constituting passive verbs. The data for the study included twenty sessions, where each session lasted for thirty minutes. The stories got recorded and this resulted in approximately ten hours of recorded speech in total. The tapes were replayed and instances of constructions with passive verbs were extracted. The data were suggestive of overall use of passive by the residents. Data were arranged in categories in order to establish the way they patterned. There were constructions in which the object occurred as the subject of the passive sentence and the agentive by-phrase either expressed or not. Data also showed constructions in which both the passive subject and the by-phrase were not expressed. There was an indication that the passive plays an important role in the grammar of Setswana than it does in languages such as English. The same phenomenon was observed in Setswana by Cole (1955). A similar situation has been reported in other Bantu languages such as, Southern Sotho (Mofokeng 1957; Paroz 1959) and Northern Sotho (Louwrens, 1981). Demuth (1989) argues that the high frequency of passives in certain Bantu languages seems to emanate from a typological feature such as topic orientation. This is the clause internal topic position which is grammaticalised as subject.

Passive constructions in Setswana

The process of passivisation involves the change of grammatical functions from their canonical positions to new positions following the

morphological markings on the verb (Katamba 1993, p. 267). Maratso's et al. (1979) and Maratso's, Fox, Becker and Chalkley (in Demuth 1990) argue that there are semantic constraints on the types of verbs that speakers tend to passivise most readily. They are activity or change of state verbs that are easier to comprehend and produce. The spontaneous Setswana passives also consist of action, such as *rekwa* 'be bought', change of state, as in *phomiwa* 'be demolished' and reversive verbs, such as *ololowa* 'be unloaded'. Passivisation in Setswana can apply to many transitive verb as already shown in (1b) and (1c), where the process renders the transitive verbs such as *apaya* 'cook' intransitive. The agent of the verbal action is always implied even if it is not stated. When the agent is not expressed, it takes the form of the agentive adverb with the prefixal formative *ke* in post verbal position. Like some other Bantu languages, Kinyarwanda (Kimenyi 1980) and Sesotho (Demuth 1989, p. 2), Setswana has a very productive passivisation process in the sense that it can passivise almost any object. In the case of the double object verbs, for example, the dative argument (goal) can also become the subject of the passive sentence, as in (2b). The passive in Setswana is important because it draws the attention (of the hearer) to the person or thing acted upon as in example (2b).

- (2a) Mo-sadi o-neel-a ngwa-na bo-gobe.
 1-woman 1SM-give-M 1-child 14-porridge
 'The woman gives the child porridge.'
- (2b) Bo-gobe bo-neel-w-a ngwana ke-mo-sadi
 14-porridge 14-give-PASS-M 1-child by- 1-woman
 'Porridge is given to the child by the woman.'

The Passives in Setswana is found in interrogatives where question words (subjects) are not allowed in subject position. They can only be questioned from a by phrase, as in (3) below:

- (3) O bedits-w-e ke mang?
 1SM-beat-PASS-M by who?
 'She/He was beaten by who?'

The alternate of the subject in (3) may also be questioned in cleft constructions, where the subject phrase expresses a contrastive meaning, as in (4)

- (4) Ke mang yo o-go-beditse-ng?
 COP-who REL-1SM-beat-REL
 'It is who that has beaten you'

Passivisation in Bantu languages is comparable to the English passive or other languages in the sense that the passive noun phrase of the active voice is either eliminated or expressed by an oblique function and the object noun phrase assumes the functional role of subject. The English verb also undergoes some morphological modification. Guthrie (1962); Mchombo (1978) and Bresnan (1990) argue that these operations are lexical in nature. They are often referred to as morphological rules (Mchombo 2004, p. 9). As is the case in many Bantu languages (Bresnan & Kanerva 1989; Bresnan & Mchombo 1987), the requirement for passivisation in Setswana is that the object be adjacent to the verb, as in (5a), where the object *selepe* 'axe' is adjacent to the verb *reka* 'buy'. Further, the passive must have a subject marker which is in agreement with the passivised subject noun phrase, as in (5b), where the subject marker *se* is marked class 7 because it agrees with the noun *selepe* 'axe' of class 7.

- (5a) Mo-sadi o-rek-a se-lepe.
 1-woman 1SM-buy-M 7-axe
 'The woman buys the axe.'

- (5b) Se-lepe se-rekel-w-a mo-nna ke-
 mo-sadi
 7-axe 7-buy-PASS-M 1-man by- 1-woman
 'The axe is bought for the man by the woman.'

In (5a), the subject *mosadi* 'woman' is an agent preceding the verb and the object the *selepe* 'axe' is the patient. In example (5b), a marked version of (5a), the object *selepe* 'axe' occurs in subject position while the subject *mosadi* 'woman' is expressed as the agentive by phrase because the verb *reka* 'buy' is transitive. The passive shares the feature of transitivising with the neuter suffix –eg, except that the neuter drops the agentive subject completely.

Setswana is a 'pro-drop' language. The subject may be omitted in a context in which its referent can be recovered. For instance, some passivised transitive constructions may not take the agent, but have the patient in its canonical position, as in the case of impersonal constructions

that have been passivised. See example (6a) in which the argentine adverb is understood to refer to some animate entity which is capable of eating food. In some cases, the passive constructions may lack the arguments altogether due to the effect of the passive suffix on the verb, as in (6b), where the action is performed by unidentified subject. The subject marker 'go' has an inherent locative meaning. It normally occurs in subjectless passive constructions, suggesting some places, as in examples (6a), (6b) and (6c). In such constructions, the locative phrase is now old information (topic) because it was mentioned before, and thus understood by both the speaker and the hearer.

- (6a) Go-je-w-a dijo
 17SM-eat-PASS-M 9.food
 'There is eaten food.'
- (6a) Go-a-je-w-a
 17SM-eat-PASS-M
 'There is eaten.'
- (6c) Go-tsal-w-a di-namane (ko mo-rake-ng)
 17SM-birth-PASS-M 10-calve 17 18-cattle-post-loc
 'There are cows giving birth to calves at the cattle-post.'

A similar situation exists in other Bantu languages spoken in Botswana such as Shekgalagari, where the *-w-* verbal extension are attached to the verb to mark the passive. In (7a), the subject *bagolo* 'adults' is an agent preceding the verb and the object the *bakhywana* 'children' is the patient, (Lukusa and Monaka 2008, p. 97).

- (7a) Bagolo ba-ruta ba-khywana.
 2-adult 2SM-teach-M 2-children
 'The adults teach the children.'
- (7b) Bakhywana ba rukywa ke bagolo.
 2-children 2SM-teach by 2-adult
 'The children are taught by adults'

In example (7b), a marked version of (7a), the object *bakhywana* ‘children’ occurs in subject position while the subject *mosadi* ‘woman’ is expressed as the agentive by phrase because the verb *ruta* ‘teach’ is transitive.

The same combination of suffixes –uw- and –w- is found in another Bantu language, such as Shiyei spoken in Botswana as in examples (8) below, (Seidel 2008, p. 258)

- (8a) tshur(u)w-a
Be cut
- (8b) pu-w-a
Be given
- (8c) pat(u)w-a
Be held touched

In Sesubia, another language spoken in the northern part of Botswana, the passive suffixes –iw- exists.³

- (9a) Mukuluwaakazi u-ly-a inkoko.
Woman is-eating porridge
- (9b) Nkoko i-lyi-iw-a
Porridge is being eaten

In example (9b), the agent of the transitive verb is suppressed and thus can still be recovered. The passive morpheme expresses the meaning that *nkoko* ‘porridge’ was cooked by someone.

Passive and other verbal extensions

The passive extension can co-occur with other verbal suffixes. Some derivational suffixes, such as applicative –el and causatives, increase the verb’s arguments by two.

Passive and Applicative

The passive suffix –w in Setswana can co-occur with the applicative suffix to convey slight differences of meaning. However, when a verb stem has more than one derivative suffix including the passive, the passive morpheme is always suffixed last. The order of morphemes in (10c) is

³ Dr. Ndana Ndana 2009 (personal communication)

such that the applicative –el precedes the passive suffix –w. The applicative suffix has the effect of introducing the new argument to the argument structure of the verb, as in (10b).

- (10a) Mo-nna o-rem-a di-tlhare.
 1-man 1SM-cut-M 8-tree
 ‘The man cuts the trees.’
- (10b) Mo-nna o-rem-el-a ba-tho di-tlhare.
 1-man 1SM-cut-APPL-M 2-person 8-tree
 ‘The man cuts the trees for the people.’
- (10c) Ba-tho ba-rem-el-w-a di-tlhare.
 2-person 2SM-cut-APPL-PASS-M 8-tree
 ‘The people have the trees cut for them.’
- (10d) Di-tlhare di-rem-el-w-a ba-tho ke
 mo-nna.
 8-tree 8SM-cut-APPL-PASS-M 2-people by 1-
 man
 ‘The trees are cut for the people by the man.’

In example (10c), the benefactive object noun phrase has been expressed in the passive voice and therefore receives prominence. The benefactive object is in full agreement with its subject marker in terms of class (2), number (plural.) and person (3rd). In example (10d), the patient object noun phrase *dithare* ‘trees’ has undergone passivisation. It agrees with its subject marker in terms of class (8), person (3rd), and number (plural).

Passive and reciprocal

The passive can also be formed from the reciprocal, particularly in impersonal constructions with the class 17 expletive subject marker *go-*, referring to a group of people. The phenomenon does not occur in the singular subjectival concords since the reciprocal form of the verb implies that at least two things or a group are involved, as in (11b). Reciprocal construction in Setswana is encoded by the verbal suffix –an- which is suffixed to the verb stem. It is a valency reducing morpheme indicating that the action signified by the verb is carried out mutually by two individuals or group of things. It expresses the equivalent of the English ‘each other’ or one another (Cole 1955, p. 209).

- (11a) Go-abets-w-a
 17SM-PRES-beat-PASS-M
 'There is being beaten.'
- (11b) Koo, Go-abets-an-w-a
 There, 17SM-PRES-beat-RECIP-PASS-M
 'There, there is being beaten each other.'

In example (11a) and (11b), the class 17 subject marker 'go' implies the locative meaning of *there*. It is in agreement with the unmentioned locative which is old information. Contextually, it must have been mentioned before by the speaker and the hearer.

Passive and causative

With regard to the status of the passive and the causative, the passive can be derived from causative but the passive cannot occur before the causative, as shown by the ungrammaticality of example in (12d). The causative construction in Setswana is formed by the suffixation of the morpheme *-is-* to the stem. It expresses the notion of 'cause to do' (Cole 1955:203); let do or help. The morpheme 'is' introduces an external argument (usually agentive) to the argument structure of the verb, as in (12b).

- (12a) Ba-na ba-kwal-a teko.
 2-child 2SM-write-M 9.test
 'The children are writing a test.'
- (12b) Mo-rutabana o-kwad-is-a ba-na teko.
 1-teacher 1SM-write-CAUS-PASS-M 2-child 9.test
 'The teacher is making the children write a test.'
- (12c) Ba-na ba-kwad-is-w-a teko.
 2-child 2SM-write-CAUS-PASS-M 9.test
 'The children are made to write a test.'
- (12d) *Ba-na ba-kwad-w-is-a teko.
 2-child 2SM-write-PASS-CAUS 9.test

The application of the causative suffix *-is-* in (12b) has resulted in the increase of number of noun phrases from two to three. The newly introduced argument *morutabana* 'teacher' becomes the grammatical subject of the sentence. The teacher makes the *Bana* 'children' write the test. *Bana* 'children' remain the doer of the action of writing as is the

case in (12a). The attachment of the passive morpheme –w to the causative suffix –is- has the effect of reducing one argument from the verb’s argument structure. The entity (teacher) that causes the children to write is implied. This is because the passive morpheme –w, just like the neuter suffix –eg, is a detransitivising morpheme. The order in which the passive precede the causative is not permissible in Setswana.

Passive and neuter

In the literature, the passive is often dealt with in terms of its similarity to and difference from the neuter. Neuter in Setswana is derived by suffixing the morpheme –eg- or sometimes –al- to the transitive verb to yield an intransitive one. The noun phrase that was the grammatical object of the sentence of the transitive verb is realized as the grammatical subject of the intransitive sentence. The passive and neuter are similar in the sense that they both apply to the active transitive sentence, such that the objects of the active sentence becomes the grammatical subject of the resultant construction. However, they differ in the sense that the passive allows the overt expression of an oblique function of the previous subject.

The neuter construction occurs in transitive verb whose argument expresses the semantic role of patient, which is syntactically realized as the subject. In this respect, the neuter is similar to passive in the sense that the only patient argument which it has is realized as the subject of the marked sentence. In other words, both the constructions result from the application of the morphological operations associating the patient role with the subject function. Passive and neuter are detransitivising verbal suffixes in the sense that when they are attached to the verb root, they bring about the effect of suppressing a subject. The passive whose argument bears the semantic role of patient is realized as the subject. Similarly, the patient of the neuter becomes the subject of the neuter sentence. The main difference between the passive and the neuter is centered on the semantics of the constructions. The subject of the passive may be suppressed or expressed overtly as an agentive adverb or oblique, whereas neuter drops its subject completely in the newly formed argument structure. The two morphological processes can be viewed as grammatical changing processes which associate the patient with the subject function. The Passive and the neuter do not co-occur, as in (13a) and (13b).

(13a) *Ngwana o-arut-eg-w-a.
 1-child 1SM-PRES-educate-NEUT-PASS-M

(13b) *Ngwana o-a-rut-w-eg-a

Examples (13a) and (13b) show that the passive cannot be formed from the neuter and the reverse order in which the passive precedes the neuter is equally ungrammatical. Mchombo (1993, p. 9) argues that the neuter and the passive are mutually bleeding. However, the neuter can co-occur with passive in impersonal constructions formed with the class 17 subject marker *go*. The order is such that the neuter precedes the passive, as in (14a). Instances where the passive precedes the neuter in impersonal constructions do not occur, as in (14b). This follows from the fact that there are no impersonal neuter constructions, as in (14b).

(14a) Go'-a-rut-eg-w-a
17SM-PRES-educate-PASS-NEUT-M
'The child is becoming educated.'

(14b) *Go'-a-rut-w-eg-a
17SM-PRES-educate-PASS-NEUT-M

Passive and Perfective aspect

The passive morpheme *-w* can also co-occur with perfective aspect morpheme *-ile*. The perfective aspect suffix precedes the passive morpheme *-w*, as in (15b). The perfective form in Setswana is recognizable with the suffix *-ile*. It is attached to the verb radical to express a completed action (Cole 1955, p. 248). Example (15b) indicates that the action has been completed in the past and still overlaps into the present time, whereas (15c) the pastness is further remote (Cole 1955, p. 281, Guma (1971, p. 41).

(15a) Ba-simane ba-tshamik-il-e kgwele.
2-boy 2SM-play-PERF-M 9.ball
'The boys have played the ball.'

(15b) Kgwele e-tshamik-il-w-e ke ba-simane.
9.ball 9SM-play-PERF-PASS-M by 2-boy
'The ball has been played by the ball.'

(15c) Kgwele e-ne-e-tshamik-il-w-e ke
ba-simane.
9.ball 9SM-PAST-play-PERF-PASS-M by 2-boy
'The ball had been played by the ball.'

The situation about *kgwele* ‘ball’ in examples (15b) and (15c) is such that it has been played and the act is completed.

Negation in passive

Negation in passive carries the meaning that the action is or was never carried out on the some entity. Setswana has the potential of negating the passive through the form ‘*ga*’ in the present tense and the past tense, as in (16a)

(16a) Di-pudi di-a-rek-w-a.
 10-goat 10SM-PRES-buy-PASS-M
 ‘The goats are bought.’

(16b) Di-pudi ga-di-rek-w-e
 10-goat Neg-10SM-PRES-buy-PASS-M
 ‘The goats are not bought.’

In example (16b), the negative aspect occurring with the present tense is brought about by the use of the negative form *ga* ‘not’, which has the effect of changing the final back vowel –a into mid high vowel [e] in the passive. The goats have not been acted upon (bought) by the unnamed entity. With the reference of the past time, the negative form in the passive is used together with the negative past tense form *aka* ‘not’ which does not occur in the present, as in (17b).

(17a) Ntlo e-ne-ya-ag-iw-a.
 9.house 9SM-PAST-9OM-built-PASS-M
 ‘The house was built.’

(17a) Ntlo ga-e-aka-ya-ag-iw-a.
 9.house Neg-9SM-Neg-PAST-9OM-built-PASS-M
 ‘The house was not built.’

In example (17b) *ntlo* ‘house’ is non-agentive in agreement with its concord. It is regarded as such because the noun *ntlo* ‘house’ is the patient.

The future negation in passive constructions is conveyed through the form *ga* ‘not’ complemented by the form *nke* ‘not’. Under no context would they ever occur separately, as in (18b).

(18a) Kgwele e-tla-a-tshamek-w-a
 9.ball 9SM-Fut-play-PASS-M
 'The ball will be played.'

(18b) Kgwele ga-nke-e-tshamek-w-a
 9.ball Neg-Neg-9SM-play-PASS-M
 'The ball will not be played.'

Similarly, in Ikalanga, another Bantu language spoken in the northern part of Botswana, the passive can co-occur with the applicative and causative suffixes, as in examples in (19a) and (19b).⁴

(19a) N-kazi u-no-bik-il-a N-lumezo-jiwa.
 1-woman 1SM-PRES-cook-APPL 1-man 8-
 food
 'The woman cooks food for the man.'

(19b) N-lume u-no-bik-ig-w-a zoji-wa.
 1-man 1SM-PRES-cook-APPL-PASS-M 8-food
 'The man has food getting cooked for him.' (verb-applicative-
 passive)

(19c) N-kazi u-no-bik-is-w-a zojiwa.
 1-woman 1SM-PRES-cook-CAUS-PASS 8-food
 'The woman is made to get food cooked.' (verb-causative-
 passive)

In Shiyeyi, a Bantu language spoken in the northern part of Botswana, the passive can easily co-occur with other verbal extensions. In example (20a), the causative suffix combines with the passive morpheme **-w-**. In (20b), the reciprocal, applicative and the passive combine. See Lukusa, (2002, p. 74).

(20a) Ku fwan-is-w-a
 To illustrate-CAUS-PASS-M
 'be illustrated'

(20b) ku-rwe-en-w-a
 To-fight-RECEP-PASS-M
 'be fought for'

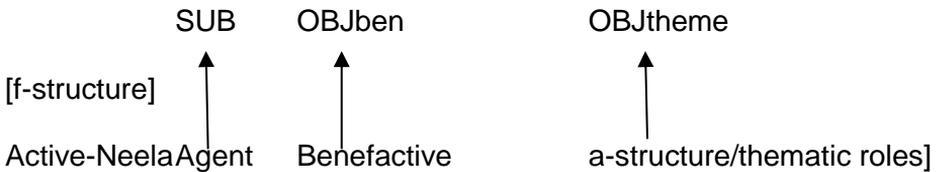
⁴ Ms Thandie Bakwinya and Ms Obuile Kesalefa 2009 (personal communication)

Lexical Mapping Theory

Lexical Mapping Theory (Henceforth LMT) is a component of Lexical Functional Grammar, which concerns itself with the association of semantic roles with syntactic functions, and how the alternative mappings are brought about by the morphological process work. In LMT, thematic roles are the arguments (semantic roles) to which the grammatical functions are mapped. See example (21b).

(21a) Neo o-neel-a Masego le-swana
 1a-Neo 1aSM-give-M1a-Masego 5-spoon
 'Neo gives Masego the spoon.'

(21b) Semantic form for verb neela 'give'



The expression in (21a) shows that the verb *neela* 'give' has three entities, *Neo*, *Masego* and *leswana* 'spoon' that are associated with the thematic roles, agent, recipient and theme, respectively. *Masego* is the entity initiating and carrying out an action, and is therefore the Agent. *Dijo* 'food', which is moved by an action is the *theme*, while *Neo*, who receives the food is the *Benefactive*. Further, the expression in (21b) shows that the arguments of the verb *fa* 'give' are also mapped onto the syntactic functions, where the agent is associated with *subject*, the theme with *direct object* and the *indirect object* with benefactive, (Morapedi, 2009, p. 138).

LMT assumes that the thematic roles in argument structure are ordered according to a universal thematic hierarchy correlating with notions of discourse salience, as in (22). The hierarchy of thematic roles reflects the lexical semantics of the arguments. I adopt a list of thematic roles extracted from an extensive literature by Saeed (1997, p. 149).

(22) agent>benefactive>recipient>patient>theme>location>instrument>
 (Bresnan and Kanerva 1989), (Bresnan 2001,
 p. 11)

In (22), the highest role on the hierarchy is the agent and the lowest is the instrument (Bresnan & Kanerva, 1988, p. 23). In LMT, the grammatical functions are also arranged in relational hierarchy, as in (23).

(23) Grammatical Relational Hierarchy (Keenan & Comrie, 1977)
 SUBJ > OBJ_{ben/rec} > OBJ_{pt} > OBL > COMPL > ADJUNCT

In (23), the grammatical functions SUBJ (subject) being the highest, followed by OBJ (object) or sometimes OBJ_θ are more prominent than ADJ (adjuncts) (Morapedi 2006, p. 28). The hierarchy of thematic roles in (22) matches the relational hierarchy of grammatical functions in (23). There is a link between the two in the sense that, the preferred left most element, such as, the basic subject in the grammatical relational hierarchy corresponds to the preferred left most element in the thematic hierarchy, such as the agent, as in (22). Kaplan and Bresnan (1982, cited in Dalrymple, 2001, p. 212) suggest that the semantic form value of the PRED (predicate) attribute encodes the relations between thematic roles and grammatical functions. Example (23) provides an illustration of a Setswana sentence in which grammatical functions are mapped on the thematic roles ordered according to the universal hierarchy of thematic roles. The thematic roles start from the highest (agent) down to the lowest (oblique-locative). See example (24).

(24) agent		benef.	patient	instrument	locative
SUBJ		OBJ _{ben}	OBJ _{pt}	OBL	OBL
Mo-nna o-ape-el-a		ngwa-na	di-jo	ka-pi-tsa	mo-
ntlo-ng.					
1-man	1SM-cook-APPL-M	1-child	8-food	with-9-pot	18-9-
house-LOC					

'The man cooks food for the child with the pot in the house.'

These syntactic functions are captured through the argument structure features [\pm 0] (object) and [\pm r] (restricted) which constrain the way in which the roles are mapped onto syntactic functions in the f-structure. The grammatical functions fall into natural classes, as in (25a) and (25b) (Bresnan & Kenerva, 1989, pp. 24-25).

(25a) $\begin{pmatrix} -r \\ -0 \end{pmatrix}$ SUBJ $\begin{pmatrix} +r \\ -0 \end{pmatrix}$ OBL \emptyset

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$\begin{pmatrix} \\ \end{pmatrix}$

In sentence (26b), the applicative suffix –el introduces the new theta role of beneficiary *bana* ‘children’ to the structure (Alsina & Mchombo, 1989). The benefactive originates as external role. It is only when the applicative has applied to the verb that the benefactive becomes internal, where it is subject to intrinsic classification (Henceforth IC) and gets assigned the feature classification [-r]. The patient *dijo* ‘food’ is intrinsically an internal role, and as such, is subject to internal IC, in this case, it is assigned the feature classification [-r] and [+o]. This, therefore, implies that any internal role may receive either the value [-r] or [+o]. The subject *mosadi* ‘woman’ has also a thematically unrestricted function, and so, the feature [-r] means it alternates between SUBJ and OBJ.

When the applied object *appeela* ‘cook for’ gets passivized, thus ending with the passivised benefactive applicative object in (27), the analysis is as in (27) below.

(27a) Ngwa-na o-ape-el-w-a di-jo ke
 mo-sadi.
 1-woman 1SM-cook-APPL-PASS-M 10-food by
 1-woman
 ‘The child has food cooked for him by the woman.’

(27b)	apaya ‘cook’	<Agent	Benefactive appl.	Patient>
	Passive	∅		
	Internal IC		[- r]	[+o]
	Defaults			[+r]

			SUBJ	OBJ _∅

In example (27b), the agent, which is the highest role, is suppressed and is expressed as an optional oblique phrase, *ke mosadi* ‘by the woman’. The beneficiary is mapped onto the SUBJ in order to satisfy the requirement that one thematic role in a lexical form be mapped onto the SUBJ, as it is the only available role.

The principle of syntactic feature classification in LMT can be applied in passive constructions co-occurring with causatives. The causative introduces the new role and, as such, has to be assigned an intrinsic feature. In this case, Alsina’s (1992) view of external role will be adapted.

The newly introduced noun phrase in causative constructions originates as an external role. It is only when the causative suffix applies that it becomes internal and, therefore, is subject to Intrinsic Classification [-r], as in (28b).

(28a) Mo-nna o-tabog-is-a mo-sadi.
 1-man 1SM-run-CAUS-M 1-woman
 'The man makes the woman run.'

(28b)	taboga-run tabogisa –make run	Agent	Causee	Patient
	IC	[-o]	[-r]	[+o]
	Defaults	[-r]		[+ r]
		SUBJ	OBJ	OBJØ

The causative construction can also occur with the passive, as in (29).

(29a) Mo-sadi o-tabog-is-w-a ke mo-nna.
 1-woman 1SM-run-CAUS-PASS-M by 1-man
 'The woman is made to run by the man.'

(29b)	taboga-run made to run	Agent	Causee	Patient tabogisiwa-
	Intrins. Class	Ø	[-r]	[+ o]
	Defaults			[+ r]
			SUB	OBJØ

In (29a), the passive suppresses the agent, which is the highest role, and is expressed as an optional oblique phrase. The causee, by virtue of being the next highest thematic role is mapped onto SUBJ, since the original subject is suppressed. In that case, the requirement that one thematic role in a well-formed lexical form be mapped onto SUBJ is satisfied, as in (29b).

Conclusion

The study has shown the characteristic behavior of the passive verbal extension in Setswana, which is typical of Bantu languages as a whole. I have shown how productive passivisation is in Setswana since all the objects of the verb can passivise. I have argued that the affixation of the passive morpheme –w- to the verb root brings about some reduction of the verb's arguments. The discussion has also focused on the interaction of the passive morpheme with other verbal extensions. I have shown that when the passive morpheme –w- interacts with other verbal suffixes (applicatives, reciprocal, causatives), it always occurs last and that it is still capable of reducing arguments in the argument structure of the verb. The subject is omitted and the object is forced to move out of its canonical position, where it gets assigned thematic role by its verb to meet certain conditions (that there be a subject in every argument structure). It can be predicted from the way the data patterns that passive constructions are used a lot in Setswana language.

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