Argument structure and operations on verb valency

1. Transitivity alternations

Verbs used in transitive constructions may be strictly transitive, if their use in intransitive constructions is restricted to elliptical constructions in which a null argument is interpreted anaphorically, but they may also have non-elliptical intransitive uses, with two possibilities: the subject of an verb used in an intransitive construction may receive the same semantic role as the subject of the same verb in a transitive construction (as in English *eat*: *We ate fish* vs. *We ate slowly*), or it may receive a role identical or similar to that of the object of the transitive construction (as in English *break*: *He broke the plate* vs. *The plate broke*).

Both types of transitivity alternations are widely attested in African languages, and some language families may have marked preferences for one type or the other, but none can be said to be predominant for Africa as a whole. For example, in Bambara (Mande) – see Appendix 1, all typical transitive verb have the behaviour illustrated above by *break*, whereas the type of behavior illustrated by *eat* is limited to verbs whose transitive uses do not refer to prototypical actions in which a patient undergoes a change of state triggered by a manipulation exerted by an agent. By contrast, in Tswana, the type of behavior illustrated by *break* is almost inexistent, but verbs that have transitive uses also accept intransitive uses of the type illustrated by *eat* without any particular restriction.

2. Morphologically marked operations on verb valency

Many Niger-Congo languages have rich systems of verb affixes encoding operations on verb valency, i.e. operations that modify the correspondence between semantic roles and grammatical relations. A particularly rich system is found in Wolof – see Appendix 2.

A typical Niger-Congo system of morphologically marked valency changes includes passive, reciprocal, decausative (alias anticausative), causative, and applicative derivations. In addition to that, reflexive object markers commonly tend to acquire a variety of uses that cannot be reduced to the notion of coreference, which may justify their reanalysis as markers of operations on verb valency belonging to the middle functional domain.

In the other phyla, morphological coding of changes in the valency of the verb is also quite common.

Antipassive is rarely mentioned in description of African languages, but derived forms of transitive verbs blocking the expression of the object of transitive verbs (or of one of the two objects of ditransitive verbs) are sporadically attested.

Applicatives are widespread all over Africa – see Appendix 3. Their identification is most of the time straightforward, but in some cases their status from the point of view of a general typology of valency changing devices is problematic, because they depart more or less from the prototype. For example, in Ik, the term licensed by the applicative derivation is treated as an oblique rather than a direct object; similarly, in North Khoisan languages, the presence of valency-external noun phrases may
trigger a morphological marking on the verb, as in typical Niger-Congo obligatory applicatives, but this morphological marking may be triggered by the presence of terms that do not show the characteristics of objects.

In a broad functional perspective, applicatives can be viewed as one of the possible strategies for dealing with NPs representing valency-external participants, in competition with the adpositional strategy. Interestingly, African languages attest the possibility of a third strategy, with a particular type of serial verb construction whose function can be described in the following way: one of the two verbs involved in the construction encodes the event to which the whole construction refers and assigns the same specific semantic roles as in its use in a monoverbal construction, whereas the other verb licenses an NP with a semantic role that can be viewed as an abstraction from the meaning expressed by the same verb in monoverbal constructions (e.g. ‘take’ → instrument or patient, ‘give’ → recipient or beneficiary, ‘follow’ → comitative). For example, in Yoruba – ex. (1), the mention of a beneficiary in the construction of rà ‘buy’ necessitates the use of an applicative periphrasis in which the beneficiary is constructed as the complement of fún ‘give’.

(1) a. Òjó rà iwé fún iyá.
   Ojo buy book give mother
   ‘Ojo bought a book for mother.

b. Òjó rà-á fún-ùn.
   Ojo buy-3SG give-3SG
   ‘Ojo bought it for her.

Appendix 1. Transitivity alternations and unmarked passives: the case of Bambara

A1.1. Introduction

The possibility to use the same verbs in transitive and intransitive constructions is variously regulated in the languages of the world. Among African languages, a striking feature of Mande languages is that they have predicative constructions that make particularly apparent the transitive vs. intransitive distinction, and at the same time they have very productive transitivity alternations of various functional types. In particular, Bambara and other Mande languages attest the typologically exceptional possibility to use transitive verbs in passive constructions devoid of any overt marking.

Bambara and Mandinka are two variants of the Manding language, and the organization of verbal predication in Bambara is similar to that described for Mandinka in Lesson 2. In particular, in Bambara, in the same way as in Mandinka, the distinction between transitive and intransitive clauses is made particularly

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1 The abbreviations used in the glosses are as follows: ANTIP = antipassive, APPL = applicative, CAUS = causative, CL = noun class, DEF = definite, DEM = demonstrative, DIST = distal, EMPH = emphatic, FOC = focalization, H = head-marking, INDEF = indefinite, IPFV = imperfective, LNK = linker, LOC = locative, MID = middle, NEG = negation, NMLZ = nominalization, PASS = passive, PFV = perfective, PL = plural, POS = positive, POSS = possessive, POSTP = postposition, PRF = perfect, PROH = prohibitive, PROX = proximal, PRS = present, RECP = reciprocal, SG = singular, SOC = sociative.
obvious by the existence of two markers expressing the same TAM-polarity value ‘perfective positive’ with the following distribution: -ra ~ -la ~ -na suffixed to the verb in the intransitive construction, yé inserted between the subject and the verb in the transitive construction.

A1.2. Transitivity alternations that do not change the semantic role of the subject (A-lability)

A limited number of Bambara verbs among those representing naturally reciprocal events are involved in the *reciprocal alternation*, by which an intransitive construction whose subject represents a plurality of individuals has a reciprocal reading and alternates with a transitive construction describing the same event, but with a more or less marked asymmetry between the referents of the two core terms – ex. (1).

(1) a. Wùlu ní jàkuma kèle-la.
   dog:DEF with cat:DEF fight-PFV.POS
   ‘The dog and the cat fought.’

   b. Wùlu yé jàkuma kèle.
   dog:DEF PFV.POS cat:DEF fight
   ‘The dog attacked the cat.’

In other types of transitivity alternation preserving the semantic role of the subject, the object in the transitive construction is equivalent to an oblique in postverbal position in the intransitive construction. In accordance with the general properties of obliques in Bambara, the term in question can freely be omitted from the intransitive construction. Three semantic sub-types can be distinguished.

In the *delimitative alternation*, the transitive construction encodes the same one-participant event as the intransitive construction; the unique participant is encoded as the subject, and the object encodes the temporal or spatial delimitation of the event. This alternation is particularly common with movement verbs – ex. (2), but is not restricted to them.

(2) a. À yáala-la súgu lá.
   3SG wander-PFV.POS market:DEF POSTP
   ‘He wandered through the market.’

   b. À yé súgu yáala.
   3SG PFV.POS market:DEF wander
   same meaning as (a)

   c. À yé tilé béc yáala súgu lá.
   3SG PFV.POS day:DEF whole wander market:DEF POSTP
   ‘He spent the whole day wandering through the market.’

The *resultative alternation* is found with verbs encoding events resulting in the creation of a new entity, encoded by the object of the transitive construction, or by an oblique in the intransitive construction – ex. (3).
(3) a. Mùso wólo-la dénk lá.
   woman:DEF give_birth-Pfv.POS son:DEF POSTP
   ‘The woman gave birth to a son.’

   b. Mùso yé dénk wólo.
      woman:DEF PFV.POS son:DEF give_birth
      same meaning as (a)

In other cases of transitivity alternations preserving the semantic role of the subject, the object represents a second participant treated as an oblique in the corresponding intransitive construction.

(4) a. Mùso mànysma-na fàantan ná.
     woman:DEF pity-Pfv.POS poor_man:DEF POSTP
     ‘The woman pitied the poor man.’

     b. Mùso yé fàantan mànysma.
        woman:DEF PFV.POS poor_man:DEF pity
        same meaning as (a)

Ex. (5) illustrates the possibility for the same verb to participate in transitivity alternations preserving the semantic role of the subject with two different readings of the object of the transitive construction.

     girl:DEF cry-Pfv.POS
     ‘The girl cried.’

     b. Npògotigi ye cè sù kàsi.
        girl:DEF PFV.POS man:DEF corpse:DEF cry
        ‘The girl cried on the corpse of the man.’

     c. Npògotigi yé sú bée kàsi.
        girl:DEF PFV.POS night:DEF whole cry
        ‘The girl spent the whole night crying.’

Transitivity alternations preserving the semantic role of the subject are found with verbs assigning a wide range of semantic roles to their subject. An interesting semantic generalization is however possible: in Bambara, transitivity alternations preserving the semantic role of the subject are never found with verbs encoding prototypical events in which a patient undergoes a change of state triggered by a manipulation exerted by an agent.

With verbs used in the transitive construction with an object that cannot be converted into an oblique in an intransitive construction, a construction in which the verb is nominalized constitutes the only possible way to leave the object unexpressed – ex. (6).
(6) a. Séku má sògo dún.
    Sékou PFV.NEG meat:DEF eat
    ‘Sékou did not eat the meat.’

b. *Séku má dún.
    Sékou PFV.NEG eat
    impossible with the reading ‘Sékou did not eat’ (the only possible meaning
    of this sentence would be ‘Sékou was not eaten’ – see Section A1.3)

c. Séku má dúmuni ké.
    Sékou PFV.NEG eat:NMLZ:DEF do
    ‘Sékou did not eat.’ (lit. ‘Sékou did not do the eating’)

This observation about the semantic limitations to transitivity alternations
preserving the semantic role of the subject has an interesting consequence for
terminology. Licensing the presence of an object NP representing a participant that
otherwise would not be encoded as a core term of the transitive construction is a
typical function of applicative derivation, and consequently, it is consistent to
designate as applicative alternation a transitivity alternation that does not affect the
semantic role of the subject and in which the object of the transitive construction is
never a prototypical patient.

A1.3. Transitivity alternations changing the semantic role of the subject (P-
lability)

A1.3.1. Two types of P-lability

In the type of transitivity alternation examined in this section, the subject of the
intrusive construction has a semantic role similar or identical to that of the object
of the transitive construction. Two cases must be distinguished.

In the causative/anticausative alternation, the argument structure is affected, since
the intrusive construction does not imply the involvement of a participant with
the semantic role assigned to the subject of the transitive construction, and the
referent of the subject of the intrusive construction is presented as undergoing a
process without any hint at a possible external cause – ex. (7).

(7) a. Jége tòli-la.
    fish:DEF rot-PFV.POS
    ‘The fish rotted.’

b. Fùntenì yé jége tòli.
    heat:DEF PFV.POS fish:DEF rot
    ‘The heat rotted the fish.’

In the active/passive alternation, the intrusive construction is interpreted as
implying the same participants as the transitive construction, but the participant
encoded as the subject of the transitive construction is either left unexpressed, or
encoded as an oblique – ex. (8) & (9).
A1.3.2. The active/passive alternation

The existence of an active/passive alternation giving rise to morphologically unmarked passive constructions, as illustrated by ex. (8) & (9) above, constitutes the most original aspect of Bambara argument structure. In spite of the absence of anything that could be analyzed as passive morphology, the construction illustrated by sentences (8b) and (0b) is a passive construction in the sense that it syntactically demotes the agent without deleting it from argument structure, as proven by the fact that an oblique marked by the postposition fê (whose basic meaning is proximity) can optionally represent the participant encoded as the subject of the corresponding transitive construction.

This alternation is particularly productive with transitive constructions whose object represents a prototypical patient, i.e., with transitive constructions that cannot be involved in the kind of transitivity alternation presented in section A1.2. It is however not limited to such verbs, as will be illustrated in section A1.4. on multiple alternations.

A1.3.3. The causative/anticausative alternation

In the causative/anticausative alternation, the relationship between the two constructions is of type expressed in other languages, either by a transitivizing derivation of the causative type, or by a de-transitivizing derivation of the anticausative type. Its productivity is limited not only by the possibility to conceive events as more or less spontaneous processes affecting a single participant, but also by the existence of a causative derivation making explicit the involvement of an agent.

Fá ‘fill up’ illustrates the case of a verb lending itself to the causative/anticausative alternation, with two possible organizations of the transitive construction – ex. (10a-c). But in addition to that, a construction with the causative marker lá- is also possible – ex. (10d).

(10) a. Dâga fâ-ra.
   pot:DEF fill-PFV.POS
   ‘The pot filled up.’
b. Jí yé dàga fá.
   water:DEF PFV.POS pot:DEF fill
   ‘The water filled the pot.’

c. Mûso yé dàga fá (jí lá).
   woman:DEF PFV.POS pot:DEF fill water:DEF POSTP
   ‘The woman filled the pot (with water).’

d. Mûso yé dàga lá-fa (jí lá).
   woman:DEF PFV.POS pot:DEF CAUS-fill water:DEF POSTP
   same meaning as (c)

The competition between the causative/anticausative alternation and the causative derivation is one of the trickiest aspects of Bambara grammar, and important variations are observed in the judgments of Bambara speakers about their respective productivity. An unquestionable regularity is however that, as illustrated by ex. (11) & (12), the use of lá- tends to correlates with indirect causation, a relatively high degree of agentivity of the causer, and the ability of the causee to oppose the manipulation exerted by the agent.

(11) a. Sò bé bòli.
   horse:DEF IPFV.POS run
   ‘The horse is running.’

b. Cê bé sò bòli.
   man:DEF IPFV.POS horse:DEF run
   ‘The man is riding the horse.’

c. Cê bé môbili bòli.
   man:DEF IPFV.POS car:DEF run
   ‘The man is driving the car.’

d. Cê bé sò lá-boli.
   man:DEF IPFV.POS horse:DEF CAUS-run
   ‘The man is making the horse run.’

(12) a. Dîmɔgọ sigi-ra àbólo lá.
   fly:DEF settle-PFV.POS 3SG arm:DEF POSTP
   ‘The fly settled on his arm.’

b. Mûso yé bârama sigi tá kàn.
   woman:DEF PFV.POS cooking-pot:DEF settle fire:DEF POSTP
   ‘The woman put the cooking-pot on the fire.’

c. Cê yé dén lá-sigi sò kàn.
   man:DEF PFV.POS child:DEF CAUS-settle horse:DEF POSTP
   ‘The man made the child sit on the horse.’
Note that the active-passive alternation is totally productive with causative verbs, giving rise to intransitive constructions in which the presence of the causative marker unambiguously triggers a passive-like reading, as in ex. (13).

(13) a. Cɛ̀ sábali-la.
    man:DEF calm-PFV.POS
    ‘The man calmed down.’

    b. Mùso yé cɛ̀ lá-sabali.
    woman:DEF PFV.POS man:DEF CAUS-calm
    ‘The woman calmed the man.’

    c. Cɛ̀ lá-sabali-la (mùso fɛ̀).
    man:DEF CAUS-calm-PFV.POS woman:DEF POSTP
    ‘The man was calmed (by the woman).’

A1.4. Multiple alternations

With some of the verbs having transitive uses, the active-passive alternation is the only possible transitivity alternation. The intransitive use of such verbs always implies a participant that can be encoded in the same construction as an oblique with the postposition fɛ̀, and would be treated as the subject of the corresponding transitive construction. This kind of behavior is typical of verbs referring to prototypical actions resulting in a change of state of a patient and for which an intransitive use referring to a more or less spontaneous process is difficult to conceive.

But there are also many cases of intransitive constructions whose correspondence with the transitive construction(s) of the same verb lends itself to several interpretations.

Ex. (14) shows that a verb participating in the delimitative alternation (sentence (b)) can also participate in the causative/anticausative alternation (sentences (d-e)).

    bird:DEF jump-PFV.POS man:DEF jump-PFV.POS
    ‘The bird flew away.’ ‘The man jumped.’

    b. Cɛ̀ yé dúkɛ̀nɛ̀ pán.
    man:DEF PFV.POS yard:DEF jump
    ‘The man flew/jumped through the yard.’

    d. Í kànà kɔ̀nɔ pán!
    2SG PROH bird:DEF jump
    ‘Don’t make the bird fly away!’

    e. Síran yé cɛ̀ pán.
    fear:DEF PFV.POS man:DEF jump
    ‘Fear made the man jump.’
Note also that transitive constructions in which the object expresses the spatial or temporal delimitation of the event can participate in the active-passive alternation in the same way as transitive constructions encoding two-participant events – ex (14).

(15) a. Cè bɔli-la.  
man:DEF run-PFV.POS  
‘The man ran.’

b. Cè yé mɛtɛ rè tάn dɔrɔn bɔli.  
man:DEF PFV.POS meter ten only run  
‘The man ran only ten meters.’

c. Mɛtɛ rè tάn dɔrɔn bɔli-la cè fè.  
meter ten only run-PFV.POS man:DEF POSTP  
lit. ‘Ten meters only were run by the man.’

In ex. (16), sentence (c) shows that transitive constructions participating in the resultative alternation can be passivized in the same way as transitive constructions encoding two-participant events.

(16) a. Mùsɔkɔrɔnin bɛ ɲúnumunu.  
old woman:DEF IPFV.POS mumble  
‘The old woman is mumbling.’

b. Mùsɔkɔrɔnin bɛ kɪlisi-w ɲúnumunu.  
old woman:DEF IPFV.POS incantation-PL mumble  
‘The old woman is mumbling incantations.’

c. Kɪlisi-w bɛ ɲúnumunu mùsɔkɔrɔnin fè.  
incantation-PL IPFV.POS mumble old_woman:DEF POSTP  
‘Incantations are being mumbled by the old woman.’

Ex. (17) illustrates the case of a verb participating both in the applicative alternation and in the causative/anticausative alternation.

(17) a. Án tìgɛ-ra kúrun ná.  
1PL cross-PFV.POS boat:DEF POSTP  
‘We crossed by boat.’

b. Án yé bá tìgɛ kúrun ná.  
1PL PFV.POS river:DEF cross boat:DEF POSTP  
‘We crossed the river by boat.’

c. Ù y’ án tìgɛ kúrun ná.  
3PL PFV.POS 1PL cross boat:DEF POSTP  
‘They made us cross by boat.’

Concerning the possibility to find verbs participating both in the causative/anticausative and active/passive alternations, it seems that speakers tend to avoid using passive constructions involving verbs that participate in the
causative/anticausative construction. This however cannot be considered as an absolute constraint, and examples of the passive use of such verbs are mentioned by Vydrin (1994), who more generally shows with abundant illustrations that Bambara has very few restrictions on the use of the passive construction of verbs that have transitive uses, whatever behavior they may have with respect to other types of transitivity alternations.

A2. Morphologically encoded operations on verb valency in Wolof

A2.1. Introduction

Wolof (the most important language of Senegal, also spoken in The Gambia and Mauritania) belongs to the Northern branch of the Atlantic family included in the Niger-Congo phylum. It shares with most other Atlantic languages the following typological features:

– a relatively rigid SVOX constituent order,
– head-initial noun phrases,
– a distinction between subjects and objects (without any distinction between transitive and intransitive subjects) involving contrasts in both constituent order and indexation, but no case contrast,
– double object constructions,
– focus marking by means of verbal inflection,
– a noun class system,\(^2\)
– a system of verb suffixes coding valency changes.

In comparison with other Atlantic languages, the noun class system of Wolof is somewhat reduced.\(^3\) By contrast, Wolof has a particularly rich inventory of verbal suffixes encoding not only valency operations, but also other types of meanings.

In Wolof, the valency changes systematically coded by means of verb suffixes can be classified into six types: middle, causative, applicative, co-participation (including reciprocal), antipassive, and possessive. A puzzling feature of this system is that, as shown by the following chart, similar valency changes may be coded by different suffixes, and the same suffix may code different valency changes.

<table>
<thead>
<tr>
<th>type of valency change</th>
<th>possible markers</th>
</tr>
</thead>
<tbody>
<tr>
<td>middle</td>
<td>-u</td>
</tr>
<tr>
<td>causative</td>
<td>-e, -al, -le, -lu, -loo</td>
</tr>
<tr>
<td>applicative</td>
<td>-e, -al</td>
</tr>
<tr>
<td>co-participation</td>
<td>-e, -oo, -ante, -andoo</td>
</tr>
<tr>
<td>antipassive</td>
<td>-e</td>
</tr>
<tr>
<td>possessive</td>
<td>-le</td>
</tr>
</tbody>
</table>

\(^2\) The class markers of Wolof are affixes (prefixes or suffixes, depending on the constructions) consisting of a single consonant, and classes are labeled by means of the consonant that constitutes their marker. There are 8 singular classes (b, j, g, l, k, m, s, w) and 2 plural classes (y, ñ).

\(^3\) In Wolof, class agreement between head nouns and their modifiers is well maintained, but class agreement of verbs with their subject has been lost, and most nouns cannot be segmented into a class prefix and a stem anymore.
A2.2. Middle -u

(1) a. *Jigéen j-i sang na xale b-i.*
   woman  Clj-DEF₁ wash PRF.3SG child Clb-DEF₁
   ‘The woman washed the child.’

   b. *Xale b-i sang-u na.*
   child  Clb-DEF₁ wash-MID PRF.3SG
   ‘The child washed.’

   c. *Xale b-i sang na bopp-am.*
   child  Clb-DEF₁ wash PRF.3SG head-3SG
   ‘The child washed himself.’

(2) a. *Tëj naa bunt b-i.*
   close  PRF.1SG door  Clb-DEF₁
   ‘I closed the door.’

   b. *Bunt-u néeg b-i du tééj-u b-u baax.*
   door-H room  Clb-DEF₁ NEG.EMPH.3SG close-MID Clb-LNK be_good
   ‘The door of the room does not close well.’

(3) a. *Omar daan na Usmaan.*
   Omar  bring_down PRF-3SG Ousmane
   ‘Omar brought Ousmane down.’, ‘Omar defeated Ousmane.’

   b. *Garab g-i daan-u na.*
   tree  Clg-DEF₁ bring_down-MID PRF.3SG
   ‘The tree fell down.’

→ Wolof does not have passive proper. Some uses of the middle marker -u can be considered as quasi-passive, but constructions combining object topicalization and subject focalization are regularly used with a function similar to that fulfilled by passive constructions in other languages.

   people neighborhood  Clb-DEF₁ elect PRF.3PL Ousmane
   ‘The people of the neighborhood elected Ousmane.’

   b. *Usmaan fal-u na.*
   Ousmane  elect-MID PRF.3PL
   ‘Ousmane is elected.’

(5) *Kër g-i, Omar-a jënd ko.*
   house Clg-DEF₁ Omar-FOC₃SG buy 3SG
   ‘The house, it is Omar that bought it.’ → ‘The house was bought by Omar.’
A2.3. Causative

A2.3.1. Causative -e

(6) a. Usmaan genn na.
   Ousmane go_out PRF.3PL
   ‘Ousmane went out.’

   b. Usmaan genn-e na woto b-i.
   Ousmane go_out-CAUS PRF.3PL car CLb-DEF₁
   ‘Ousmane got out the car.’

A2.3.2. Causative -al

(7) a. Xale b-i toog na.
   child CLb-DEF₁ sit_down PRF.3SG
   ‘The child sat down.’

   b. Jigéen j-i toog-al na xale b-i.
   woman CLj-DEF₁ sit_down-CAUS PRF.3SG child CLb-DEF₁
   ‘The woman sat the child down.’

A2.3.3. Causative -lu

(8) a. Tēj naa bunt b-i.
   close PRF.1SG door CLb-DEF₁
   ‘I closed the door.’

   b. Tēj-lu naa bunt b-i.
   close-CAUS PRF.1SG door CLb-DEF₁
   ‘I made (someone) close the door.’

A2.3.4. Causative -loo

(9) a. Gōor g-i toog na.
    man CLg-DEF₁ sit_down PRF.3SG
    ‘The man sat down.’

    b. Toog-loo nañu gōor g-i.
    sit_down-CAUS PRF.3PL man CLg-DEF₁
    ‘They made the man sit down.’

A2.3.5. Sociative-causative -le

(10) a. Xale b-i lekk na.
     child CLb-DEF₁ eat PRF.3SG
     ‘The child ate.’
b. Jigéen j-i lekk-le na xale b-i.
   woman CLj-DEF₁ eat-SOC.CAUS PRF.3SG child CLb-DEF₁
   ‘The woman helped the child eat.’

A2.4. Applicative

A2.4.1. Applicative -al

(11) a. Rey nañu a-m xar.
    kill PRF.3PL INDEF-CLm sheep
    ‘They killed a sheep.’

b. Rey-al nañu gan g-i a-m xar.
    kill-APPL PRF.3PL guest CLg-DEF₁ INDEF-CLm sheep
    ‘They killed a sheep for the guest.’

(12) a. Usmaan séy na ak Faatu.
    Ousmane marry PRF.3SG with Fatou
    ‘Ousmane married Fatou.’

b. Faatu la Usmaan séy-al.
    Fatou FOC.3SG Ousmane marry-APPL
    ‘It is Fatou that Ousmane married.’

A2.4.2. Applicative -e

(13) a. Añ nañu ak ceeb-u jën.
    lunch PRF.3PL with rice-H fish
    ‘They had rice and fish for lunch.’

b. Añ-e nañu ceeb-u jën.
    lunch-APPL PRF.3PL rice-H fish
    same meaning as (a)

(14) a. Añ nañu c-i teraas b-i.
    lunch PRF.3PL LOC-PROX terrace CLb-DEF₁
    ‘They had lunch on the terrace.’

b. C-i teraas b-i lañu añ-e.
    LOC-PROX terrace CLb-DEF₁ FOC.3PL lunch-APPL
    ‘It is on the terrace that hey had lunch.’

A2.5. Co-participation

A2.5.1. Sociative -andoo

(15) a. Xale b-i toog na c-i lal b-i.
    child CLb-DEF₁ sit_down PRF.3SG LOC-PROX bed CLb-DEF₁
    ‘The child sat on the bed.’
b. *Xale y-i tooq-andoo nañu c-i lal b-i.*
   child CL$_V$-DEF$_1$ sit-down-SOC PRF.3PL LOC-PROX bed CL$_b$-DEF$_1$
   ‘The children sat on the bed together.’

A2.5.2. Sociative/reciprocal *-oo*

   share PRF.1SG 3SG LOC-PROX money CL$_b$-DEF$_1$
   ‘I gave him part of the money.’

b. *Sédd-oo nanu xaalis b-i.*
   share-SOC PRF.1PL money CL$_b$-DEF$_1$
   ‘We shared the money.’

A2.5.3. Reciprocal *-e*

(17) a. *Omar gis na Usmaan c-a marse b-a.*
   Omar see PRF-3SG Ousmane LOC-DIST market CL$_b$-DEF$_2$
   ‘Omar saw Ousmane at the market.’

b. *Omar ak Usmaan gis-e nanu c-a marse b-a.*
   Omar with Ousmane see-RECP PRF-3SG LOC-DIST market CL$_b$-DEF$_2$
   ‘Omar and Ousmane met (saw each other) at the market.’

A2.5.4. Reciprocal *-ante*

(18) a. *Rey nañu a-m xar.*
   kill PRF.3PL INDEF-CL$_m$ sheep
   ‘They killed a sheep.’

b. *Rey-ante nañu.*
   kill-RECP PRF.3PL
   ‘They killed one another.’

A2.6. Antipassive *-e*

(19) a. *Xaj-a ko màtt.*
   dog-FOCS.3SG 3SG bite
   ‘A dog bit him.’

b. *Xaj b-ii du màtt-e.*
   dog CL$_b$-DEM$_1$ NEG.EMPH.3SG bite-ANTIP
   ‘This dog does not bite.’

(20) a. *Togg naa yàpp w-i.*
   cook PRF.1SG meat CL$_w$-DEF$_1$
   ‘I cooked the meat.’
b. *Togg-al naa la *yàpp *w-i.*
cook-APPL PRF.1SG 2SG meat CL_w-DEF₁
‘I cooked the meat for you.’

c. *Togg-al-e naa yàpp w-i.*
cook-APPL-ANTIP PRF.1SG meat CL_w-DEF₁
‘I cooked the meat (for some people).’

A2.7. Possessive *-le*

car CL₁-DEF be_fast PRF.3SG
‘The car is fast.’

b. *Gaaw-le naa woto.*
be_fast-POSS PRF.1SG car
‘I have a fast car.’

Appendix 3. The canonical use of Tswana applicative verb forms

In their canonical use, applicative derivations license the presence of an NP in object role representing a participant fulfilling a semantic role that the same verb devoid of the applicative marker cannot assign to an object.

Tswana canonical applicatives are obligatory applicatives in the sense that objects licensed by the applicative suffix cannot be analyzed as promoted obliques: they always represent participants that cannot be treated as preposition phrases in oblique role in the construction of the non-derived verb.

Tswana has multiple-object constructions in which the asymmetry between the objects is minimal, and consequently Tswana applicative constructions do not significantly modify the status of an object already present in the construction of the same verb in its non-applicative form.

Tswana has just one applicative suffix. This applicative suffix is semantically unspecified in the sense that, by itself, it gives only negative indications about the semantic role of the object it licenses: the object licensed by the applicative suffix may assume any semantic role that the verb in its non-applicative form cannot assign to an object, and that cannot be coded by means of a preposition either. This means that the interpretation of applicative constructions crucially depends on the lexical meanings of the verb and of the object NP whose presence is licensed by the applicative suffix, as can be seen from the following examples, which illustrate the variety of the semantic roles taken over by applicative derivation.

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4 In addition to its canonical use presented here, the applicative derivation of Tswana also has non-canonical uses. The applicative suffix may encode a change in the semantic role of locative complements of motion verbs, or the focalization of a locative adjunct.

5 In Tswana, the possibility to assign specific semantic roles to objects is a lexical property of verbs that cannot be entirely predicted from their meaning. For example, *athola* ‘condemn’ in its non-applicative form can occur in a double-object construction in which the second object represents the amount of a fine, e.g. *athola motho kgomo* | condemn | person | cow | ‘condemn somebody to be fined a cow’, but in order to express ‘condemn to death’ or ‘condemn to prison’, the use of the applicative form is obligatory.
(1) a. Kgosi e athloletse monna bogodu.
qʰˈósi ɪ-ātʰʊlɛtsí mʊ-ńná bó-χədʊ
‘The king condemned the man for theft.’

b. Kgosi e athloletse monna loso.
qʰˈósi ɪ-ātʰʊlɛtsí mʊ-ńná lʊ-sʊ
‘The king condemned the man to death.’

(2) Kitso oberekela tiego.
kɪtsɔ ʊ-béřɛkɛlà tiɛχɔ̀
CL1:Kitso CL1-work:APPL:PRS CL9:delay
‘Kitso is working in order to make up lost time.’

(3) Magodu abolaetse monna madi.
mà-χɔ̀dʊ á-búláɛtsí mʊ-ńná mà-dí.
CL6-thief CL6-kill:APPL:PRF CL1-man CL6-money
‘The thieves killed the man for money.’

(4) Mpho o jetse Kitso dinawa.
m̩pʰɔ́ʊ-ðʒɛtsí kɪtsɔ dí-ńawá
CL1:Mpho CL1-eat:APPL:PRF CL1:Kitso CL8/10-bean
‘Mpho ate the beans that were intended for Kitso.’

(5) Ke lebogela Kitso madi.
kɪ-łèbʊxɛ̀la kɪtsɔ mà-dí
1SG-thank:APPL:PRS CL1:Kitso CL6-money
‘I am thanking Kitso for the money.’

(6) Mosadi yo o akela ralebentlele.
mʊ-sádí jʊ-ákɛlà ralibíntlí
CL1-woman CL1:DEM CL1-lie:APPL:PRS CL1:shopkeeper
‘This woman is telling lies about the shopkeeper.’

(7) Mabele a alafelwa tshupa.
mà-bɛ̀lɛ̀ á-álfɛ̀lwà tʃʰʊpà
CL6-sorghum CL6-treat:APPL:PASS:PRS CL9:tshupa
‘The sorghum is treated against tshupa (a kind of worm).’

(8) a. Mosadi o biletse bana dijo.
mʊ-sádí ð-bilɛtsá b-àná dì-dʒɔ́
CL1-woman CL1-call:APPL:PRS CL2-child CL8/10-food
‘The woman is calling the children to eat.’

b. Mosadi o biletse bana ngaka.
mʊ-sádí ð-bilɛtsá b-àná ɲákà
CL1-woman CL1-call:APPL:PRS CL2-child CL9:doctor
‘The woman is calling the doctor for the children.’
(9) a. *Ke fetse ngwanake baesekele madi.*
   ki-fétsi  náángáké  básíkílí  mà-dí
   1SG-give:APPL:PRF  CL1:child:1SG  CL9:bicycle  CL6-money
   ‘I gave money to my son for a bicycle.’

b. *Ke fetse malome dikgomo letswai.*
   ki-fétsí  màlóme  dí-qʰʊmó  li-tsʰáì
   1SG-give:APPL:PRF  CL1:uncle:1SG  CL8/10:cow  CL5-salt
   ‘I gave salt to the cows for my uncle.’

(10) *Mosetsana yo o fosetsa batsadi.*
    mʊ̀-sítsánà  jó  ú-fúsétsà  bà-tsádì
    CL 1-girl  CL1:DEM  CL1-be_wrong:APPL:PRS  2-parent
    ‘This girl behaves badly towards her parents.’

(11) *Ke gakgamalela bopelokgale jwa ngwana yo.*
    ki-χáqʰámálèlì  bù-pilóqʰálì  d3ʷ-á-ŋʷ-áná  jò
    1SG-be_impressed:APPL:PRS  CL14-courage  14-GEN-1-child  CL1:DEM
    ‘I am impressed by the courage of this child.’