1st draft, comments welcome

Applicative constructions and verbal number in Karko (Kordofan Nubian)

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Introduction

Karko is a Kordofan Nubian language spoken in the northwestern Nuba Mountains of Sudan. Kordofan Nubian is part of the Nubian family. According to Dimmendaal's typological study (2007) and Rilly's (2010) historical-comparative study, Nubian is classified as a subgroup of northern East Sudanic, which, in turn, is a branch of the Nilo-Saharan phylum.

In typological perspective, Karko is a verb-final language. The semanto-syntactic functions of the nominal constituents are case-marked by postpositions and by derivational morphemes on the verb, i.e. both dependent-marking and head-marking strategies are used.[1] In an applicative construction, for instance, the applied object is ACC-marked[2] and, additionally, there is an applicative morpheme on the verb.

Verbal number[3] is realized by alternating singular and plural verb stems. The selection of these stems may reflect event number and thereby assume aspectual functions. Moreover, the selection of singular and plural stems may be triggered by the number of participants involved, particularly reflecting the number of intransitive subjects or the number of transitive objects. These latter - morphosyntactic - functions of verbal number are in the focus of this paper.

Applicative constructions are valency increasing operations adding an object argument to the basic construction. This additional argument is known as 'applied object'. Unlike some other languages that restrict the formation of applicatives to either transitive or intransitive bases,[4] Karko applicatives may be based both on intransitive and transitive verbs.

When an applicative applies to an underlying intransitive clause, Dixon and Aikhenvald (2000: 13f) predict that the following semanto-syntactic changes occur:

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[1] The terms 'head-marking' and 'dependent-marking' are drawn from Nichols 1986.

[2] Abbreviations used: 1, 2, 3 – 1st, 2nd, 3rd person; A – agent; Adr – adressee; B – benefactive; ACC – accusative; APPL – applicative; FUT – future; IMP – imperative; GEN – genitive; O – object; PL – plural; PLR – plural verb stem; S – subject; SG – singular; SNG – singular verb stem; T – Theme; TR – transitive; ; Poss – possessor; PST – past, V – verb.

[3] Verbal number (also known as 'pluractionality') is conceived of "as a verbal category [which] can reflect the number of times an action is done or the number of participants in the action" (Veselinova 2011).

[4] Polinsky (2013).

(a) Applicative applies to an underlying intransitive clause and forms a derived transitive.

(b) The argument in underlying S function goes into A function in the applicative.

(c) A peripheral argument (which could be explicitly stated in the underlying intransitive) is taken into the core, in O function.

When an applicative applies to an underlying transitive clause, Dixon and Aikhenvald (2000: 13f) claim that the following changes occur:

(a) Applicative applies to an underlying transitive clause and maintains transitivity, but with an argument in a different semantic role filling O function.

(b) The underlying A argument stays as is.

(c) A peripheral argument (which could be explicitly stated in the underlying intransitive)[5] is taken into the core, in O function.

(d) The argument which was in O function is moved out of the core into the periphery of the clause (and may be omittable).

However, some of these claims do not hold. Karko applicatives constructions based on intransitive verbs, for instance, do not give rise to derived transitive clauses. Rather, these applicative constructions remain intransitive, the applied object assuming a peripheral status. Also, in applicative constructions based on transitive verbs the argument which was in O function[6] remains in the core rather than being moved to the periphery of the clause.

Evidence of the peripheral syntactic status of the applied object is provided by alternating singular and plural verb stems. The selection of singular and plural verb stems is commonly triggered by the number of the intransitive subject or the number of the transitive object. Interestingly, in applicative constructions, **applied objects do not select singular and plural stems**. This means that they do not have the same syntactic status as 'normal' transitive objects.

As for the semantic roles of the applied object, Polinsky (2013) in her typological study claims that it may

- either be exclusively assigned the role of benefactive;
- or it may be assigned the role of benefactive and some other roles;
- or it may be assigned other semantic roles to the exclusion of the benefactive.

When Karko applicative constructions are based on intransitive verbs, the applied object is assigned the semantic role of benefactive; when these constructions are based on transitive verbs, the applied object may be assigned various roles, including benefactive, addressee, goal, and possessor.

No matter whether an applicative construction is based on an intransitive or transitive verb, it will take some explicit formal marking, generally by an affix or some other morphological process applying to the verb. This prediction of Dixon and Aikhenvald (2000: 13f.) is true for Karko verbs, too, since they take a derivational extension originating in the verb *ţii* 'give'.

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[5] Note the typo in c): 'intransitive' should be 'transitive'.

[6] In this paper I follow Dixon and Aikhenvald using O ('object') rather than P ('patient') employed in other linguistic studies, e.g. Malchukov, Haspelmath, Comrie (2010).

Verbal number and grammatical relations in intransitive and transitive clauses

Before turning to verbal number and its interaction with the number of the intransitive subject and the transitive object, let us first consider the alternation of singular and plural stems. As illustrated in Table 1, singular and plural stems may differ due to root vowel alternation (*ḍoç / ḍwaç* 'run') or due to suffixes (i.e. stem extensions, e.g. *gaɟ / gaɟ-ar* 'walk') or the stems may be lexically distinct, as attested by *fur / tɔf* 'kill'. Combinations of these devices are also attested, as illustrated by *çwee / çwɛɛ-kɛɛ* 'dry'. Additionally, Karko verb stems may exhibit morphophonemic modification. The singular and plural stems *ḍoç / ḍwaç*, for instance, may be realized as [ḍoo] and [ḍwaa], the stems *gaɟ* and *gaɟ-ar* may be realized as [gaa] and [gaɟ], respectively, as illustrated in (7) and (8) and (9) and (10), respectively.

Table 1: Alternation of singular and plural stems

	SNG stem	PLR stem	gloss
intransitive	*ḍoç* [ḍoo]	*ḍwaç* [ḍwaa]	run
	gaɟ [gaa]	*gaɟ-ar* [gaɟ]	walk
transitive	*og*	*og-or*	call
	fur	*tɔf*	kill
	çwee	*çwɛɛ-kɛɛ*	dry
	ɔt	*ɔt-ɛɛ*	send
	ḍwa-tɛɛ	*ḍoo*	tell (lie)
	fee	*hɔɟ*	break

In an intransitive clause, verbal number interacts with the number of the subject (S), as illustrated in (1) and (2). When S is singular it selects the singular verb stem, *ḍōç*, when S is plural it selects a plural verb stem, *ḍwāç*.

Intransitive clause: Singular S selects the singular verb stem *ḍōҫ*.

(1)	S		V
	è	*ēlēŋɛ́k*	*ḍōҫ-òr*
	1SG	fast	run.SNG-1SG
	'I run fast.'		

Intransitive clause: Plural S selects the plural verb stem *ḍwāҫ*.

(2)	S		V
	àá	*ēlēŋɛ́k*	*ḍwāҫ-ár*
	1PL	fast	run.PLR-1PL
	'We run fast.'		

In a transitive clause, verbal number interacts with the number of the object (O), as seen in (3) and (4), where the singular O selects the singular stem, *òg*, and the plural O selects the plural stem, *òg-ór*. Note that these examples represent imperative clauses in which the pronominal subject is not overtly expressed.

Transitive clause: Singular O selects the singular verb stem, *òg*.

(3)	O	V
	tŏnd = ôg	*òg*
	child.SG = ACC	call.SGL.IMP
	'Call the child.'	

Transitive clause: Plural O selects the plural verb stem, *òg-ór*.

(4)	O	V
	tóóɲéè = g	*òg-ór*
	child.PL = ACC	call-PLR.IMP
	'Call the children.'	

In contrast to the number of the intransitive S or the transitive O, the number of the Agent A does **not** interact with the selection of the singular or plural stem, as illustrated in (5) and (6). No matter whether A is singular or plural, the singular verb stem *fur* is used.

Transitive clause: Singular A – no interaction with verbal number

(5)	A	O	V
	îîd	*bɑ̄gɔ̀l=ɔ̀g*	*fúr-àŋg-àà*
	man.SG	lion.SG=ACC	kill.SGL-TR.PST-3
	'The man killed the lion.'		

Transitive clause: Plural A – no interaction with verbal number

(6)	A	O	V
	în	*bɑ̄gɔ̀l=ɔ̀g*	*fúr-àŋg-àà*
	man.PL	lion.SG=ACC	kill.SGL-TR.PST-3
	'The men killed the lion.'		

The preceding examples (1) to (6) show that an intransitive subject S and a transitive object O interact with verbal number but a transitive subject A does not. In other words, verbal number, i.e. the selection of singular and plural stems is sensitive to the number of S and O, but verbal number is **in**sensitive to the number of the transitive subject A. As S and O behave in the same way and A differently, this system of grammatical relations reflects an ergative alignment pattern, S = O ≠ A.

Verbal number and grammatical relations in applicative constructions

Let us now turn to Karko applicative constructions. As for their morphological characteristics, these constructions are associated with a complex – i.e. biverbal – predicate composed of a basic (transitive or intransitive) lexical verb stem plus the inflected verb *ʈii* 'give' which serves as a valency operator. When this verb of physical transfer is used as an independent verb it is associated with a ditransitive construction involving an agent argument A, a recipient-like argument R, and a theme argument T (Malchukov, Haspelmath, Comrie 2010: 1).

Due to an assumed grammaticalization process, the give verb is used as a valency increasing operator adding an additional participant which typically assumes the role of an (often recipient-like) beneficiary.[7]

3.1 Applicative constructions based on intransitive verbs

When an applicative construction is based on an **intransitive** verb, the additional object argument makes the applicative construction – on first sight – look like a transitive clause, with the previous intransitive subject (S) looking like an Agent (A) argument, compare (7) and (8).

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[7] cf. Creissels (2010: 35f.) who describes the assumed grammaticalization path of 'give' as a valency operator.

Intransitive clause			Applicative construction based on intransitive verb			
Plural S selects the plural stem *ɖwāɕ*.						
(7)	S	V	(8)	S (A?)	B	V
	àá	*ɛ̄lɛ̄ŋɛ́k* *ɖwāɕ-ár*		*àá*	*têé-g*	*ɖwáá-ɲɟìt*
	1PL	fast run.PLR-1PL		1PL	3SG-ACC	run.PLR-APPL.1PL
	'We run fast.'			'We run for him.'		

However, if (8) were a normal transitive clause, we would expect the verb stem to be sensitive to the singular number of the object argument (as in (4)). That is, we would expect the singular verb stem *ɖóó-*. Contrary to our expectation, in the applicative construction, the selection of the singular or plural verb stem is not sensitive to the number of the applied object but rather to the number of the S argument.

Because of the interaction of verbal number with the number of the subject in (8), we suppose that in the applicative construction this subject has kept the morphosyntactic features of the S in the underlying intransitive clause (7). Moreover, because of the lack of interaction between verbal number and the applied 3rd singular object pronoun *têé-g* we suppose that – in spite of the ACC-marker – it does not have the status of a core O argument. Rather it assumes the status of a peripheral constituent. In other words, the applicative construction that is based on an intransitive verb represents a pseudo-transitive clause.

Example (9) and (10) corroborate these findings. While the number of the S argument interacts with the selection of the singular stem, *gàà,* or the plural verb stem, *gàɟ,* the number of the applied object (the benefactive B) is irrelevant for the selection of the singular and plural stem.

Applicative based on intransitive verb: Singular S argument selects singular verb stem *gàà.*

(9)	S	B	V
	tŏnd	*tĭn-ĕt-êg*	*gàà-ɲɟìì*
	boy.DIM.SG	3PL.GEN-brother.PL-ACC	walk.SNG-APPL.3
	'The boy walks for his brothers' = 'The boy walks on behalf of his brothers.'		

Applicative based on intransitive verb: Plural S argument selects plural verb stem *gàɟ.*

(10)	S	B	V
	tóóɲē	*tĭn-ĕt-êg*	*gàɟ-ǹɖìì*
	boy.DIM.PL	3PL.GEN-brother.PL-ACC	walk.PLR-APPL.3
	'The boys walk for their brothers.' = 'The boys go on behalf of our brothers.'		

3.2 Applicative construction based on transitive verbs

When an applicative construction is based on a transitive verb, it adds another object argument

to the clause. However, the singular or plural number of this object, the B *ēlḓ* SG, *ēl* PL 'woman' in (11) and (12), does <u>not</u> trigger the selection of the singular or plural stem.

Singular number of B (*ēlḓ* 'woman') – no interaction with verbal number.

(11)	B	T	V
	ēlḓ-ég	*āt-ág*	*çwēē-ŋgìì*
	woman.SG-ACC	pot.SG-ACC	dry.SNG-APPL.IMP
	'Dry the pot for the woman!'		

The number of the applied object in the imperative clauses (11) and (12) does **not** interact with verbal number, i.e. the verb stem remains singular, *çwēē*.

Plural number of B (*ēl* 'women') – no interaction with verbal number.

(12)	B	T	V
	ēl-ég	*āt-ág*	*çwēē-ŋgìì*
	woman.PL-ACC	pot.SG-ACC	dry.SNG-APPL.IMP
	'Dry the pot for the women!'		

Rather, it is the number of the direct object with the role of Theme (*āt* SG, *ātál* PL 'pot') that triggers the selection of the singular or plural verb stem. This is seen when comparing example (11) and (13) that differ only in the number of the direct object (T).

Plural number of Theme (T) selects plural verb stem *çwéékéé*.

(13)	B	T	V
	ēlḓ-ég	*āt-ál-àg*	*çwéékéé-nḓìì*
	woman.SG-ACC	pot-PL-ACC	dry.PLR-APPL.IMP
	'Dry the pots for the woman!'		

3.3 Semantic roles of the applied object

Depending on transitivity and the semantics of the basic lexical verb or – in case of derived transitive clauses - the semantic relation between the direct and the indirect (applied) object, the applied object may be assigned various semantic roles, including benefactive, addressee, goal, and possessor.

When an applicative construction is based on an intransitive verb, the applied object assumes the semantic role of benefactive, as seen in (8), (9) and (10). The same role is assigned when an applicative construction is based on a transitive change of state verb such as 'dry', see (11), (12), (13).

When the applicative construction is based on a transitive utterance verb, such as 'tell a lie', it assigns to the applied object (*ēlḓ* SG, *ēl* PL 'woman') the role of addressee, as illustrated in (14) and (15) and (16).

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(14)

A	Adr		T	V
kòt	tén	ēlḍ-ég	ūr-úg	ḍwātɛ̄ɛ̄-ŋgàl-ḍìì
man	his	woman.SG-ACC	lie.SG-ACC	tell.SNG-TR.PST-APPL.3

'The man told his wife a lie.'

(15)

A	Adr		T	V
kòt	tén	ēl-ég	ūr-úg	ḍwātɛ̄ɛ̄-ŋgàl-ḍìì
man	his	woman.PL-ACC	lie.SG-ACC	tell.SNG-TR.PST-APPL.3

'The man told his wives a lie.'

(16)

A	Adr		T	V
kòt	tén	ēlḍ-ég	ūr-ul-úg	ḍòò-ŋgàl-ḍìì
man	his	woman.SG-ACC	lie-PL-ACC	tell.PLR-TR.PST-APPL.3

'The man told his wife lies.'

A caused motion verb like 'send' assigns the role of goal to the applied object, represented by the 1st person singular object pronoun, ɔ̀g, in (17) and (18). Again, it is the number of the Theme that triggers the selection of a singular or plural verb stem, ɔt and ɔt-ɛɛ, respectively.

(17)

A	Goal	T	V
tē	ɔ̀g	ɟūwááb-àg	ɔ̄t-ŋgí-ɕàā
s/he	1SG.ACC	letter.SG-ACC	send.SNG-APPL-FUT.3SG

'S/he will send me a letter.'

(18)

A	Goal	T	V
tē	ɔ̀g	ɟūwāāb-āɲ-ág	ɔ̄t-ɛ̄ɛ̄-ndí-ɕàā
s/he	1SG.ACC	letter-PL-ACC	send.PLR-APPL-FUT.3SG

'S/he will send me letters.'

When the direct object and the applied (indirect) object semantically have a possessive

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relationship the applied object is assigned the role of possessor.[8] This is illustrated in (19) and (20) where the first person singular object pronoun refers to the possessor of the pot(s).

(19)	A	Poss	T	V
	Ali	*ɔ̀g*	*āt-ág*	*féé-ŋgàl-ɖìì*
	Ali	1SG.ACC	pot.SG-ACC	break.SNG-TR.PST-APPL.3
	'Ali broke my pot' („Ali hat mir den Topf zerbrochen")			

(20)	A	Poss	T	V
	Ali	*ɔ̀g*	*āt-ál-àg*	*hɔ̄ɟ-ŋgàl-ɖìì*
	Ali	1SG.ACC	pot-PL-ACC	break.PLR-TR.PST-APPL.3
	'Ali broke my pots' („Ali hat mir die Töpfe zerbrochen.")			

Instead of the applicative construction (20) an underived transitive clause can be used, the plural number of the O argument triggering the selection of the plural verb stem *hɔ̄ɟ*.

Transitive clause. Plural O selects plural stem, *hɔ̄ɟ*.

(21)	A	O	V
	Ali	*ɔ̀n-āt-ál-àg*	*hɔ̄ɟ-ŋg-àà*
	Ali	1SG-GEN-pot-PL-ACC	break.PLR-TR.PST-3
	'Ali broke my pots.'		

A comparison of the last two examples shows that the T participant in (20) shares with the O participant in (21) a common morphosyntactic characteristic: Both may trigger the selection of a singular or plural verb stem. By contrast, the number of the applied (indirect) object is not reflected on the verb (it always selects the singular stem – no matter whether the number of the applied object is singular or plural). This morphosyntactic relationship between T and O on the one side and the applied object on the other can be briefly stated as T = O ≠ B. It is considered to be a variety of the 'indirective alignment'[9] or 'indirect-object construction'.[10]

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[8] Such changes are known as 'possessor ascension'.

[9] Malchukov, Haspelmath, Comrie (2010: 3)

[10] The term indirect-object construction is used by Haspelmath (2013) who investigated ditransitive clauses based on the verb 'give'. Accordingly he describes them as follows: "In the **indirect-object construction**, the theme of the ditransitive verb (i.e. the argument expressing the gift) is coded like the monotransitive patient, and the recipient is coded differently."

Conclusions

According to Polinsky's (2013) typological studies, applicatives vary in respect to two parameters, i) the transitivity of the base and ii) the semantic role(s) of the applied object. As for the transitivity of the base, the main distinctions are between applicatives formed from a transitive base only, or from an intransitive base only, or from both bases.

The paper has tried to show that Karko applicatives can be formed from both bases and that they are associated with a biverbal predicate composed of the basic lexical verb extended by the inflected verb *ʈii* 'give' which serves as valency operator. When it interacts with an intransitive or transitive lexical verb, it may assign to the applied object various semantic roles, the most common one being a benefactive role. When the basic lexical verb is a transitive utterance or caused motion verb, the valency operator may assign the role of addressee or goal, respectively. Moreover, when the applicative construction is based on a transitive verb and when there is a possessive relationship between the direct and indirect (applied) object, the latter may be assigned the role of possessor.

Although applied objects receive ACC-marking they differ from 'normal' transitive objects. Whereas these transitive objects may select singular or plural verb stems, applied objects do not. Because of this behavior applied objects are interpreted as having the status of peripheral arguments.

When an object argument is added to an intransitive or transitive clause, the core arguments (S, A, and O) do not change their morphosyntactic behavior. When an intransitive clause is extended by an applied object, the clause remains intransitive, rather than changing to a transitive clause. When a transitive clause is extended by an applied object, the argument which was in O function remains in the core of the clause, as it continues to select singular and plural stems. These findings contradict Dixon and Aikhenvald's claims (2000) referred to in the beginning of this paper.

In respect to the selection of singular and plural verb stems, the direct object (T) in a ditransitive applicative construction and the O in a 'normal' transitive clause resemble each other very closely. However, the applied (indirect) object behaves differently, as it does not select singular or plural stems. This relationship of T and O on the one side and the applied (indirect) object B on the other may be presented in the formula $T = O \neq B$. This constellation is regarded to be a variant of the indirective alignment (Malchukov, Haspelmath, Comrie 2010: 3) or indirect-object construction (Haspelmath 2013) which is based on the give verb.

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