

# Associated locomotion in Datooga (Southern Nilotic)

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## Abstract

Verbal derivational systems in Nilotic languages typically serve a variety of functions such as manipulating valency by adding argument slots of different value to the predicate frame or by subtracting them, giving a spatial orientation to the action or process in relation to a deictic center, and indicating the pluractionality of the event. Apart from these well-known functions, some Nilotic languages come up with the cross-linguistically rare category of “associated locomotion” (ALM) which typically applies to non-motion verbs to indicate that the action happens against the background of a locomotion event with a specific spatial orientation. Thus, ALM basically refers to the same phenomenon as the category of “associated motion” used by Koch 1984 and Wilkins 1991 for the description of Australian languages and by Guillaume 2013 for the description of South American languages, except that the label is more precise in signaling a restriction to locomotion, explicitly excluding self-contained motion.

The aim of this contribution is to explore some of the morphotactic and semantic properties of the derivational category of ALM in Datooga, a Southern Nilotic language cluster spoken in North Central Tanzania. Starting from an overview of the verbal derivational system (section 2), the semantic effects of ALM will be discussed as it applies to verbs of contained or stationary motion (2.1), verbs of manipulation (2.2) and verbs of perception (2.3). Section 2.4 identifies a detransitivizing effect ALM entails with various verbs for manipulation. The conclusion (section 3) summarizes the general features of Datooga ALM in a wider typological perspective.

**Keywords:** *Nilotic, Datooga, verbal derivation, morphology, semantics, motion, locomotion*

## 1 Associated locomotion (ALM) in the verbal derivational system

Most Nilotic languages provide an extremely complex system of verbal derivational extensions. In Datooga<sup>1</sup>, a Southern Nilotic dialect cluster in Tanzania, these extensions are predominantly suffixes serving a wide range of functions such as (i) manipulating valency by adding argument slots to the predicate frame, e.g. for the beneficiary/goal/recipient, the instrument and the agent, or by deleting them (patient),

(ii) giving a spatial orientation to the action or process in relation to a deictic center (centrifugal vs. centripetal), (iii) adding the notion of locomotion to one of the arguments of the predicate frame (associated locomotion), and (iv) indicating the plurality of the event (pluractional). They combine in a largely fixed order which is given in tagmemic approximation in table (1).

(1) Suffix slots in Datooga verbal derivation<sup>2</sup> (Kießling 2007: 124)

1	2	3	4	5
<i>-j</i> CAU	<i>-aa</i> ALM	<i>-s</i> TERM	<i>-aw</i> PURP	<i>-an</i> OBL
<i>-f</i> AP	[ <i>-ay</i> PLUR]	<i>-un</i> CP	[ <i>-ay</i> PLUR]	
		<i>-d</i> CF		

Main point of interest here is the marker for Associated LocoMotion (ALM), i.e. *-aa*, which serves to “indicate that the verb action happens against the background of a motion event with a specific orientation in space” (Guillaume 2013: 147) – a cross-linguistically rare category which has been referred to as “ambulatory” (Toweett 1979: 138f.) for Kalenjin, “ambulative” for Nandi (Creider & Creider 1989: 89) and Akie (König, Heine & Legère 2015: 51f.), as andative 2 vs. ventive 2 (Rottland 1982: 184-88) for Datooga and “mobilitive” for Datooga (Kießling 2007) and Cherang’any (Mietzner 2015: 201-202). In spite of its frequent attestation in various Southern Nilotic languages with cognates possibly extending beyond to Eastern and Western Nilotic as well (Reh 1996), it does not seem to have received the proper attention it deserves from a general typological point of view, widely lacking any principled descriptive approach.<sup>3</sup> The overall aim of the present contribution is to repair this deficiency and provide preliminary observations on and insights into the semantics and morphosyntax of this category, as it manifests in Datooga.

In more concrete terms, the semantic effects of the ALM marker comes out most clearly, as it combines with verbs such as *laj* ‘cut’ (Rottland 1982: 186) which express contained or stationary motion events.

## (2) Associated locomotion in Datooga

*laj* ‘cut’

*lag-(u)n* [*lag(u)n*] CP (centripetal)

‘cut (off) hither, i.e. cut off from a patient object implying that the cutting movement is directed towards a deictic center’

*lag-d* [*lakt*] CF (centrifugal)

‘cut (off) thither, i.e. cut off from a patient object implying that the cutting

movement is directed away from a deictic center'

*lag-s* [*laks*] TERM (terminative/applicative)

'cut off from a patient object for a recipient / beneficiary, i.e. implying an end-point instantiated by a recipient'

*laj-aa-n* [*laja:n*] ALM-CP (centripetal associated locomotion)

'cut (off) from a patient object, while moving hither'

*laj-aa-d* [*laja:d*] ALM-CF (centrifugal associated locomotion)

'cut (off) from a patient object while moving thither'

The verbal root *laj* 'cut' in (2) derives two simple stems marked for deictic orientation in an antonymic way: the centripetal stem *lag-un* indicates that something is cut off from a patient object implying that the cutting movement is directed towards a deictic center, while the centrifugal stem *lag-d* rather indicates that the cut is directed away from a deictic center. As soon as the marker of associated locomotion is added, things become more complex in that the additional notion of locomotion is assigned to the agent. So the stem for centripetal associated locomotion, *laj-aa-n*, indicates that the agent is cutting off something from a patient object, while he or she is moving towards a deictic center. Its centrifugal counterpart rather signals that the agent who performs the cutting action is moving away from a deictic center. The interesting point is that the category of associated locomotion allows for a considerable degree of semantic condensation in verbal lexical items. They denote complex motion events involving two figures which are associated with each other: the primary figure, i.e. the agent, moving on a trajectory which is defined with respect to a deictic center, while he/she performs a contained motion of cutting on a secondary figure, i.e. the patient. These observations raise some crucial questions listed in (3) which should be addressed for a proper understanding of the semantics of ALM in productive word formation in Datooga, esp. with regard to its distributional properties and its locus of assignment.

(3) Dimensions of the associated locomotion (ALM) marker in Datooga:

- (a) To what extent does ALM combine with semantically defined verb classes and which semantic effects does it have?
- (b) To what extent does ALM depend on the presence or absence of other derivational markers?
- (c) In events and actions which involve more than just one participant: which principles govern the assignment of ALM to a particular participant?

- (d) In cases of combination of ALM and deictic orientation, do they always go together in their assignment to particular participants?

As for (3b), it is quite clear that the notion of ALM does not operate independently. Instead the ALM suffix always seems to combine with other extensions such as the deictic directionals (centrifugal vs. centripetal), possibly also with the terminative and the antipassive. As for (3a), at the present stage ALM has been found to typically apply to verbs of contained or stationary motion (2.1), manipulation (2.2) and perception (2.3), as discussed in the following sections.

## 2 The semantics of ALM

### 2.1 ALM with verbs for contained motion

Contained or stationary motion verbs such as *ɲwas* ‘leap on a spot, do the leap dance’ and *hiɲ* ‘bend, stoop’ derive ALM stems such as *ɲwas-aa-d* ‘move thither in leaps’ and *hiɲ-aa-d* ‘move thither in stooping posture’, respectively, clearly showing an assignment of associated locomotion to the agent, as illustrated in table (4) and examples (5-6). Thus, the simplex *ɲwas* denotes a sequence of body motions involving leaps exclusively in vertical direction on the same spot and which do not entail a change of place in horizontal direction, while the ALM in *ɲwas-aa-d* adds precisely that notion of locomotion in horizontal direction ‘leap thither, move thither in leaps’. Much in the same vein, the simplex *hiɲ* ‘bend, stoop’ expresses a change in posture, while the ALM stems *hiɲ-aa-d* and *hiɲ-aa-n* ‘move thither, resp. hither, in bent position’ in (5) add the notion of concomitant locomotion.

(4) ALM with verbs of self-contained motion:

Root	ALM-CP	ALM-CF
<i>ɲwas</i> ‘leap on a spot, do the leap dance’	<i>ɲwas-aa-n</i> ‘leap moving hither, move hither in leaps’	<i>ɲwas-aa-d</i> ‘leap moving thither, move thither in leaps’
<i>hiɲ</i> ‘bend, stoop’	<i>hiɲ-aa-n</i> ‘move hither in bent position / stooping posture’	<i>hiɲ-aa-d</i> ‘move thither in bent position / stooping posture’
<i>yam(yam)</i> ‘change orientation, turn round’	<i>yamyam-aa-n</i> ‘turn over and come, wriggle hither’	<i>yamyam-aa-d</i> ‘turn over and move away, wriggle away’
* <i>hiɲ</i>	<i>hiɲ-aa-n</i> ‘descend hither’	<i>hiɲ-aa-d</i> ‘descend thither’
* <i>qwal</i>	<i>qwalqwal-aa-n</i> ‘sneak hither’	<i>qwalqwal-aa-d</i> ‘sneak thither’

(5) ALM with *hiin* ‘bend, stoop’

<i>ámà-ηwéerd-à</i>	<i>qwà-dàa(h)</i>	<i>fúgá</i>	<i>hiin-áa-d-á</i>	<i>gèet</i>
TEMP.S3-look:CF-IS	S3-see	people.ASS	bend-ALM-CF-IS	REFL.PL
<i>qwà-hiin-áa-d-á</i>	<i>gèw</i>	<i>áará</i>	<i>nìn</i>	
S3-bend-ALM-CF-IS	REFL.SG	even	3SG	

‘As he looked around, he saw some people sneaking away bent down, and so he also bent down and sneaked away.’

(6) ALM in fossilized stems based on *\*hiin*

<i>qwà-hiináa-d-á</i>	<i>nìirjá</i>	<i>gwà-éef-à</i>	<i>nìirjá</i>
S3-descend.AL-M-CF-IS	other.NOM	S3-say-IS	other.NOM
<i>hiináa-n-à</i>	<i>nì-mì</i>		
descend.AL-M-CP-IMP.SG	S3.PF-die		

‘One of them descended (thither), and [when he reached the ground] he said to the other one [who was still up in the tree]: ”Come down! It (the beast) is dead!”’

Instances such as *qwalqwal-aa-d* ‘sneak thither’ (4) and *hiin-aa-d* ‘descend thither’ (6) show that the ALM marker participates in fossilization, since the hypothetical simplex forms *\*hiin* and *\*qwal* have not been attested so far.

## 2.2 ALM with verbs for manipulation

Verbs of manipulation include a notion of contained motion, i.e. typically an agent performs some action on a patient by using his/her hands or some other body part (e.g. teeth). Situations such as these involve contained motion without inherent locomotion on the side of the agent. In such cases, ALM maps the notion of locomotion onto the entire situation, resulting in complex motion events such as the one with *laj-aa-d* ‘move away from a deictic center while cutting on an object’ (2), *hirj-aw-aa-n/hirj-aw-aa-d* ‘pick for special purpose from some object while moving hither/thither’ (8) and various others presented in (7).<sup>4</sup>

(7) ALM with verbs of manipulation:

Root	ALM-CP	ALM-CF
<i>hirj(-aw)</i> ‘break off’	<i>hirjaw-aa-n</i> ‘break off while moving hither’	<i>hirjaw-aa-d</i> ‘break off while moving thither’
<i>gal</i> ‘measure’	<i>gall-aa-n</i> ‘run in competition hither’	<i>gall-aa-d</i> ‘run in competition thither’
<i>yiin~yım</i> ‘put into, insert’	<i>ʔyiin-aa-n</i>	<i>yiin-aa-d~yım-aa-d</i> ‘put something into a place while moving away’
<i>baaf</i> ‘slit open’	<i>ʔbaaf-aa-n</i>	<i>baaf-aa-d</i> ‘cut off (and remove / take away)’
<i>bid</i> ‘uproot (and collect)’	<i>ʔbit-aa-n</i>	<i>bit-aa-d</i> ‘uproot and collect while moving thither’
<i>sar</i> ‘put load on back, lift onto shoulders’	<i>ʔsar-een</i>	<i>sar-een-d</i> ‘carry away (on back or shoulders)’
<i>ɲoon</i> ‘catch, grasp, seize’	<i>ʔɲo(o)n-aa-n</i>	<i>ɲo(o)n-aa-d</i> ‘catch upon moving away’
<i>nunw</i> ‘let, allow’	<i>ʔnunw-aa-n</i>	<i>nunw-aa-d</i> ‘let something move away, let go’
<i>yaag</i> ‘eat’	<i>ʔyaag-aa-n</i>	<i>yaag-aa-d</i> ‘eat while going away’
<i>ʔhuud</i>	<i>huud-aa-n</i> ‘tear off some part from a unit and remove it hither’	<i>ʔhuud-aa-d</i>
<i>qaŋ</i> ‘bite’	<i>ʔqaŋ-aa-n</i>	<i>gaŋ-aa-d</i> ‘bite off while moving thither, bite off and remove thither’ <sup>5</sup>
<i>gas</i> ‘look for’	<i>ʔgas-aa-n</i>	<i>gas-aa-d</i> ‘search for while moving thither’
<i>leeh</i> ‘drink’	<i>leeh-aa-n</i> ‘drink while moving hither’	<i>ʔleeh-aa-d</i>
<i>nuus</i> ‘slaughter, strangle, suffocate’	<i>ʔnuus-aa-n</i>	<i>nuus-ææ-d</i> ‘kill off while moving away’

*rabad* ‘burn, scorch; take as captive, catch, arrest’  
<sup>?</sup>*rabad-aa-n*

*rabad-aa-d* ‘take as a prisoner while moving away’

(8) ALM with *hirj-aw* ‘pick for special purpose’ (centrifugal vs. centripetal)

- (a) *gày-gwá-hirj-àw-àa-n*      *séengá*      *jàbáaadi*  
 FUT-S3-pick-PURP-ALM-CP      leaves.ASS      fresh.PL  
 ‘He will pick green leaves (for a special purpose) while moving hither.’
- (b) *gày-gwá-hirj-àw-àa-d-á*      *séengá*      *jàbáaadi*  
 FUT-S3-pick-PURP-ALM-CF-IS      leaves.ASS      fresh.PL  
 ‘He will pick green leaves (for a special purpose) while moving thither.’

In most of these cases, the situation requires more than just one participant. So there must be principles according to which the notion of associated locomotion is assigned to a particular participant, primary or secondary figure. As long as an animate primary figure in agent position acts upon an inanimate secondary figure in patient position, as is the case with *hirj-aw* ‘pick for special purpose’ (8), ALM seems to apply to the agent preferably – though not exclusively, as suggested by counterexamples such as *gàn-aa-d* which seems to allow for both meanings, i.e. agent / primary figure orientation in ‘bite off while moving thither’ and patient / secondary figure orientation in ‘bite off and remove thither’, while *huud-aa-n* is only attested for the meaning ‘tear off some part from a unit and remove it hither’ (9c), i.e. the ALM notion is assigned to the patient object rather than the agent. As soon as both, primary figure (agent) and secondary figure (patient / theme), are animate, ALM seems to assign locomotion preferably rather to the patient, e.g. with *nuɣw-aa-d* ‘let something move away’, derived from *nuɣw* ‘let, allow’ (9a). In (9b), the central idea of *gàjéerábàdâada* is that the enemies are captured while they try to run away, i.e. they are moving away from the deictic center, established by the pursuers, albeit without success.

(9) ALM applying to secondary figure = patient / theme

- (a) *nuɣw-aa-d* ‘let something move away, let go’ < *nuɣw* ‘let, allow’  
*ák<sup>h</sup>i-nùɣw-àa-d-i*  
 SEQ.2SG-allow-ALM-CP-IS  
 ‘So you may let them go away!’

- (b) *ɲo(o)ɲ-aa-d* ‘catch upon moving away’ < *ɲooɲ* ‘catch, grasp, seize’  
*rabad-aa-d* ‘take as captive while moving away’ < *rabad* ‘capture in war’

*li-mùɲàw*      *gàj-ée-ɲòɲ-âa-d-a,*      *gáa*      *sì-ràdù*  
 TEMP-flee      FUT-3PL-catch-ALM-CF-IS      AN.PL      PF.3PL-arrest:CP

*màj-ée-bàr*      *gàj-ée-rábàd-âa-d-a,*      *ákèeyáadú*      *qòh.*  
 NEG:FUT-3PL-kill      FUT-3PL-capture-ALM-CF-IS      SEQ-3PL-take:CP      home  
 ‘When they<sub>1</sub> run away, they<sub>2</sub> will catch them<sub>1</sub> on the run; those who are  
 arrested will not be killed, they<sub>2</sub> will take them<sub>1</sub> as captives on the run and  
 bring them<sub>1</sub> home (as war booty).’

- (c) *huud-aa-n* ‘tear off and remove hither’ < *huud-un* ‘tear hither’

*qóo-húud-âa-n*      *máanécêepta,*      *ákòo-ɲwêer-s-a*  
 S3-tear.off-ALM-CP      front.leg.ASS:child      SEQ:S3-look-TERM-IS

‘She tore off the child’s arm, removing it, then she looked at it.’

With *huud-aa-n* (9c), the notion of locomotion is clearly associated with the inanimate secondary figure. The contribution of ALM in this case seems to boil down to a conceptual distinction of two events: (i) severing the arm, i.e. separating it from the trunk, (ii) removing it from the trunk, i.e. bringing some distance between the two – which would be needed in the context for the woman to closely inspect the piece she is holding in her hand.

For many situations it is quite difficult to disentangle potential loci of the assignment of associated locomotion, since locomotion of the secondary figure would also entail locomotion of the primary figure as well. Thus, in (10a), the ALM in *bidææd* ‘collect and carry off’ might refer to both, the primary figure, i.e. Mondeya, and the secondary figure, i.e. the spears. The other ALM marker in *gasææd* ‘look for while moving thither’ clearly refers to the primary figure, Mondeya. In (10b), the locus of associated locomotion is vague, since the situation entails both: locomotion of the agents brings about the spatial distribution of the secondary figure, i.e. meat, over various fires around. In (10c), the context shows that both actions, cutting and moving, are successive rather than simultaneous, i.e. the situation clearly involves cutting up the meat in small pieces and removing them for distribution. With respect to the assignment of locomotion, however, it is not clear if the primary figure, i.e. the agent, is moving around to distribute the strips of meat to various recipients, or if he is rather stationary cutting up the meat, while people approach him for receiving their strips. The context would allow for both interpretations.



(10) ALM assigned to primary or secondary figure or both?

- (a) *bid-ææ-d* ‘collect and carry off (moving thither)’ < *bid* ‘pick up, collect, gather’  
*gas-ææ-d* ‘look for while moving thither’ < *gas* ‘look for, search’

<i>gà-wà</i>	<i>mòondéeyá</i>	<i>gá-pt-ææ-d-á</i>	<i>ɲútkáaká</i>	<i>lùgòoda,</i>
S3-go	Mondeya.NOM	S3-pick.up-ALM-CF-IS	spears.ASS	army

<i>náa</i>	<i>gà-gàs-ææ-d-á</i>	<i>ɲútàa-nì</i>
and	S3-search-ALM-CF-IS	spear-POSS.3SG

<i>àa</i>	<i>qwáhítá</i>	<i>héedá</i>	<i>mìdà</i>	<i>qáamât.</i>
until	S3-arrive.CF-IS	place.ASS	having	mother

‘Mondeya went, collecting and carrying off the spears of the warriors, and he kept looking for his own spear while moving thither until he arrived at the place where his mother was.’

- (b) *yün-aa-d* ‘put something into a place while moving away’ < *yün* ‘insert’

<i>àmáhidú</i>	<i>qwà-dàa</i>	<i>sìi-yím-áa-d-á</i>
TEMP-arrive:CP	S3-see	PF.S3PL-insert-ALM-CF-IS

<i>báascéeká</i>	<i>sèen</i>	<i>báɲéega</i>
fires.ASS	all	meat

‘When he arrived, he saw that they had put meat (for roasting) into all the fires.’

- (c) *laj-aa-d* ‘cut off while moving thither; cut off and remove’ < *laj* ‘cut’

<i>á-jéɛɲ-à</i>	<i>á-láj-àa-d-á</i>	<i>báɲéegà</i>
IMP.PL-skin-IMP.PL	IMP.PL-cut-ALM-CF-IMP.PL	meat

*óo-mánàaɲ-à.*

IMP.PL.2-reduce.to.small.pieces-IMP.PL

‘Skin it, cut off the meat in small strips and move (it) away.’

Another semantic dimension of ALM which needs consideration is the temporal placement of the associated locomotion with respect to the primary action/event. From

comparing examples (8-10), it appears that the associated locomotion brought by the ALM marker might be simultaneous with the primary action/event as in (8, 9b, 10a) or it might be subsequent as in (9a, 9c) and possibly in (10c). At the present stage of knowledge, it is not clear whether there are recurrent patterns with respect to simultaneity vs. succession or whether this is an issue of vagueness.

### 2.3 ALM with verbs for perception

With perception verbs such as *daah* ‘see’, the notion of locomotion brought by the ALM marker is usually associated with the perceived phenomenon rather than with the experiencer, as illustrated in (11) which even presents antagonistic deictic orientations in associated locomotion, i.e. centrifugal direction *daah-aa-d* ‘see something moving away’ vs. centripetal direction *daah-aa-n* ‘see something approaching’.

(11) ALM assigned to secondary figure (= phenomenon) with perception verbs

*daah-aa-n* ‘see something moving hither’ < *daah* ‘see’

*daah-aa-d* ‘see something moving thither’

<i>qwà-dàah-àa-n</i>	<i>dúgà</i>	<i>àa</i>	<i>qwá-sáj-áa-d-á</i>	<i>gá-gâl</i>
S3-see-ALM-CP	cattle	until	S3-turn-ALM-CF-IS	S3-pass

<i>qéedà-scàyi</i>	[...],	<i>qwà-dàah-áa-d-á</i>	<i>gwáargwéedá</i>
house-3SG.POSS.ALL	[...]	S3-see-ALM-CF-IS	old.man.NOM

<i>dúu-sú</i>	<i>àa</i>	<i>gá-wáy</i>	<i>qòh</i>
cattle.DEM.NEAR.PL	until	S3-go	home

‘He [i.e. the old man] saw the cattle coming his way, until they changed their direction, moving away from him and passing his house... The old man was watching these cattle moving away, then he went home.’

In this situation, the experiencer, an old man (*gwáargwéedá*), is watching some cattle (*dúgà*) moving. First, these cattle seem to be moving towards him, i.e. the deictic center, as is indicated by the marking for centripetal locomotion in the verb *daah-aa-n*. Then all of a sudden, the cattle change their direction. This is expressed by the verb *sajaad* ‘swerve off’, derived from *saj* ‘turn something around’ by the centrifugal associated locomotion marker. Finally, the old man watches the cattle moving away from him, as expressed by the centrifugal marker combined with the ALM in *daah-aa-d*. The indication of associated locomotion once again refers to the phenomenon of perception,

i.e. the secondary figure encoded as direct object, not the perceiver / experiencer in subject position which sets the deictic center.<sup>6</sup>

## 2.4 Detransitivizing effects of ALM

With some transitive verbs, the addition of the ALM marker entails detransitivization, i.e. the notion of associated locomotion is assigned to the agent in subject position which acts as single primary figure, while the secondary figure of the basic verb, i.e. theme or patient, is suppressed or removed from the predication frame altogether.<sup>7</sup> This is illustrated with verbs such as *saj* ‘turn sth. round’ (12b vs. 11), *yɪl* ‘emit, emanate, excrete a liquid’ (12c), *duul-un* ‘take hither several items grouped as a bundle’ (12a) and some others (13).

### (12) Detransitivizing effect of ALM

- (a) *duul-aa-n* ‘come in a single group, move hither in unification’  
*duul-aa-d* ‘go there in a single group, move thither in unification’  
 < *duul-un* ‘take hither several items grouped as a bundle’  
 < *duul-d* ‘take thither several items grouped as a bundle’

*á-dùul-d-à*

IMP.PL-take.in.bundle-CF-IMP.PL

‘Take it all away in a bundle!’

*qòo-ɲúund-à*

S3-weep:CF-IS

*ákwá-dùul-àa-n*

SEQ:S3-bunch-ALM-CP

*qáarèemànga*

youths.NOM

‘She wept, until all the youths came to her in a group.’

- (b) *saj-aa-d* ‘turn around and move thither’ < *saj* ‘turn something round’

*qwá-sàc*

S3-turn

*qàat*

neck

‘He turned his head.’

- (c) *yɪl-aa-n* ‘exit and move hither’ < *yɪl* ‘emit, emanate, excrete a liquid’

*gée-yìl-jí fóojâan*

1PL-emit-1PL blood

‘We are bleeding.’

*gwà-yìl-âa-n-ây-i*

S3-emit-ALM-CP-PLUR-IS

*dùgwa,*

cattle.NOM

*âa*

and

*búunèeda,*

people

*âa dìiyáangá sèen.*

and animals.ASS all

‘Cattle and people and all the animals of the bush came out (from the open belly of the ogre bull) moving hither.’<sup>8</sup>

The centrifugal stem *duul-d* is transitive (‘take thither in a bundle’), whereas the ALM stem *duul-aa-d* is intransitive (12a). (12b) illustrates the transitive usage of the simplex *saj* ‘turn around’, which is in contrast to the intransitive centrifugal ALM stem *saj-aa-d* in (11). In (12c), the transitive simplex *yul* ‘emit, emanate, excrete a liquid’ contrasts with the intransitive centripetal ALM *yul-aa-n*.

#### (13) Manipulation verbs and ALM with concomitant detransitivizing effect

Base	ALM-CP	ALM-CF
<i>saj</i> ‘turn something round, shake the churn’	<i>ʔsaj-aa-n</i>	<i>saj-aa-d</i> ‘turn round and move thither; swerve off’
<i>hiijn</i> ‘bend’	<i>hiijn-aa-n</i> ‘move hither in bent posture’	<i>hiijn-aa-d</i> ‘move thither in bent posture’
<i>yul</i> ‘emit, emanate’	<i>yul-aa-n</i> ‘move out hither’	<i>ʔyul-aa-d</i>
<i>duul-un</i> ‘take hither in bundle’, <i>duul-d</i> ‘take away / thither in bundle’ (< * <i>duul</i> ‘gather separate items in a bundle’)	<i>duul-aa-n</i> ‘come as a single unit, move hither in a unit’	<i>duul-aa-d</i> ‘move thither in a unit’
<i>diiij-d</i> ‘raise thither’ (< <i>ʔdiiw</i> ‘put’)	<i>diiy-aa-n</i> ‘climb up hither’	<i>diiy-aa-d</i> ‘climb up thither’

It is not clear to which extent this represents some regular pattern for manipulation verbs which induce motion to some object, since various counterexamples in (7-8) which do not undergo detransitivization with ALM would have to be accounted for.<sup>9</sup>

### 3 Conclusion: Datooga ALM in a wider typological perspective

In a universal perspective, grammaticalisation of associated locomotion is fairly rare. Apart from Nilotic, it has been reported for Berber (Heath 2005, Belkadi 2015), Somali (Bourdin 2006) and Fali (Kramer forthcoming) and, outside Africa, for Atsugewi (Talmy 2000: 123), a restricted area in Southern America (Guillaume 2013) and in Australia (Koch 1984, Tunbridge 1988, Wilkins 1991, Levinson & Wilkins 2006). Some of these other systems, e.g. in the Tacanan languages in Amazonian Bolivia and Peru, are fairly elaborate with proliferations of dedicated distinctions for: (a) the temporal relation holding between the locomotion and the action (i.e. distinction of prior vs. concurrent vs. subsequent locomotion), (b) the identification of the moving argument (i.e. subject vs. object), (c) the directionality/path of the motion (i.e. deictic orientation and possibly trajectories such as up, down, in, out), (d) the aspectual realization of the verb (i.e. repetitive/continuous=imperfective vs. punctual=perfective), (e) the stability of the locomotion target (i.e. temporary/unstable vs. permanent/stable) (Guillaume 2013: 132-135). Also those systems seem to be transparent in terms of historical origin, since the markers could frequently be derived from prior verbs for locomotion such as ‘come’ and ‘go’. Even though the current state of the art concerning Datooga is still rudimentary, it allows for preliminary generalizations as outlined in (15) from which some suggestions for avenues of further principled investigation could be deduced.

#### (15) Typological comparison for ALM systems

Parameter	Tacanan (Bolivia, Peru)	Datooga (+ Southern Nilotic)
(a) temporal relations between ALM and main event / action	+	? (determined by lexical properties?)
(b) identification of moving argument, i.e. locus of assignment of ALM with respect to primary and secondary figure	+	? (determined by lexical properties?)
(c) directionality/path of ALM	+	+ (centrifugal vs. centripetal)
(d) aspectual realization of verb	+	-
(e) stability of locomotion target	+	-

(f) grammatical status	inflectional?	derivational: restricted application, fossilization
(g) etymology	transparent: < 'come', 'go'	non-transparent: < *Proto-Southern Nilotic (+beyond?)

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The Datooga ALM system does not seem as elaborate as the Tacanan systems. Although one has to keep in mind that some fundamental properties have not yet been explored satisfactorily, e.g. the options of systematic differentiation between prior, concurrent and subsequent locomotion (15a) and the options of argument selection regarding the assignment of locomotion (15b). With this latter one, it seems as if ALM in Datooga is assigned preferably to the secondary figure in events which involve such a secondary figure, distinct from a primary figure. In some cases, the ALM derivation even involves the suppression of one figure, resulting in the reassignment of the notion of associated locomotion to the remaining figure, i.e. detransitivisation (section 2.4). As for parameter (15c), the Datooga ALM marker does not operate independently. Instead, it always seems to combine with other extensions, preferably with markers for deictic orientation, i.e. centrifugal or centripetal.<sup>10</sup> Some instances have been found so far which suggest that it also combines with other extensions instead, i.e. the terminative/applicative in *gwalgwal-ee-s* 'sneak upon' (as opposed to CP *qwalqwal-aa-n* and CF *qwalqwal-aa-d*) and *gall-ee-s* 'run in competition for / after', possibly also with the antipassive. This feature would indeed make an in-depth exploration of Datooga very rewarding, since such a dissociation of the ALM notion from the notion of deictic orientation would seem unique. There is no systematic conflation of ALM with notions of path trajectories such as up, down, in, out in Datooga. Also, distinctions along the lines of parameters (15d) and (15e) seem to be absent in Datooga.

Another crucial difference between the two ALM systems in (15) is age. ALM in Datooga has reached a considerably higher degree of grammaticalization and lexicalization. No lexical source could be traced so far. Indeed, cognate markers from other Southern Nilotic languages<sup>11</sup> suggest that an ALM category goes back at least to the Proto-Southern-Nilotic stage, represented by reconstructions such as *\*-q:-ny* (centripetal associated motion) vs. *-q:ta* (centrifugal associated motion) (Rottland 1982: 244-6). Other clues which point to the advanced age of ALM in Datooga must be recognized in the frequency of fossilized ALM forms such as *qwalqwal-aa-n* / *qwalqwal-aa-d* 'sneak (t)hither' (4), *hiij-aa-n* / *hiij-aa-d* 'descend (t)hither' (4, 6), *huud-aa-n* 'tear off some part from a unit and remove it hither' (7), in its distributional restriction to certain semantic verb classes (self-contained motion, manipulation, perception)<sup>12</sup> and in the fact that it does not operate independently on the morphotactic level.

## Notes

<sup>1</sup> For maps see Rottland (1982: 43; 1983: 211, 1994: 344) and Tomikawa (1970: 10; 1979: 17). Omotik and Datooga together constitute one of the two main branches of Southern Nilotic, with the Kalenjin languages constituting the other main branch (Rottland 1982: 255). The Datooga dialect under discussion here is the Gisamjanga variety. The bulk of the data was collected by Paul Berger in the Mbulu district of Northern Tanzania during the period from May 1935 to February 1936. For preliminary reports see Berger 1938a and 1938b. For details regarding Berger's life and linguistic achievements see Berger & Kießling 1998. Berger's data consist of some 500 pages of texts, mostly of the narrative and procedural sorts, comprising roughly 50 texts of various lengths, plus additional fieldnotes, elicited paradigms and sentences, which have been processed and analysed to some extent.

<sup>2</sup> Abbreviations used throughout this paper: ALL allative, ALM associated locomotion, AP antipassive, ASS associative, BRV breathy voice, CAU causative, CF centrifugal, CP centripetal, DEM demonstrative, FUT future, IMP imperative, IS inflectional suffix (of uncertain function), NEG negative, NOM nominative, O object, OBL multipurpose oblique, PF perfect, PL plural, PLUR pluractional, PURP purposive, REFL reflexive, S subject, SEQ sequential, SG singular, SJN subjunctive, TEMP temporal relative, TERM terminative, V verb.

A note on transcription of the Datooga data: the transcription adheres to the IPA-conventions with two exceptions: *ɔ̃* stands for a voiced palatal plosive [ɔ̃], and *ɔ̃* for the palatal approximant [ɔ̃]. Devoiced vowels bear no tone. Verbs in their citation form are left without tone mark, since it has not been possible so far to disentangle the lexical tonal properties from the inflectional ones with certainty. The phonological status of ATR in Gisamjanga, the Datooga variety discussed here, is largely unclear. The official version (Rottland 1982) is that in Datooga [+ATR] and [-ATR] values of the highest vowels collapsed. Also the [+ATR] value of the low vowel was eliminated, however not by merging with its [-ATR] counterpart, but instead with the [-ATR] value of the mid front vowel, leading to a highly imbalanced system of vowel alternation which had lost its phonetic motivation, since the vowel /*ɔ̃*/ now belongs to both ATR-sets: on the one hand as the [-ATR] value of /*e*/, and on the other hand as the [+ATR] value of /*a*/. My own restricted data [and the more extensive data of Berger] give the impression that at least in some cases [-ATR] values of high vowels appear, but the conditions of their appearance are not clear. In some instances they seem to alternate freely with their [+ATR] counterparts. In other cases, as with the verbs \**ɔ̃ɔ̃ɔ̃ɔ̃* and \**ɔ̃ɔ̃ɔ̃ɔ̃*, they even show up in environments such as the centripetal that normally trigger conversion to [+ATR]. So with regard to these vowel qualities I still stick to phonetic notation, as long as the (morpho-) phonological analysis is still incomplete here. It may also well turn out that this contradiction to Rottland's analysis is due to a historical change that must have occurred between Berger's days (the 1930's) and the 1970's when Rottland conducted his fieldwork, since we deal with one Datooga variety here, namely Gisamjanga, which

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was considerably and progressively influenced by neighbouring Southern Cushitic languages such as Iraqw, possibly in the direction of convergence towards the Southern Cushitic 5 vowel system.

<sup>3</sup> In his influential work on (motion) event typology, Talmy (2000: 123) categorizes associated (loco)motion as an instance of aspect-related satellites, as based on findings in Atsugewi where ALM indicates “how the action is distributed with respect to another ongoing event, namely one of moving along”. Various types of ALM situations have been attested, e.g. ‘go and V’, ‘go V-ing along’, ‘come V-ing along’, ‘V in passing’, ‘V going along with someone’, ‘V coming along with someone’, ‘V in following along after someone’, ‘V in going to meet someone’. Levinson & Wilkins (2006: 530) criticize Talmy’s typology for falling short of accounting for the category of associated motion. ALM categories do not seem to be discussed in more recent typological literature.

<sup>4</sup> The present corpus still remains patchy with respect to the attestation of verb roots across the entire derivational board. Cases such as *gal* ‘measure’ which present the ALM marker in combination with both the centrifugal (CF) and the centripetal (CP) are exceptional. It is much more common to find only one attestation of ALM stems, either with centrifugal or with centripetal. In these cases, the inferred corresponding form is indicated by a raised question mark and omission of translation.

<sup>5</sup> It remains to be clarified, if the ALM is assigned to the secondary figure (patient), the primary figure (agent) or if its assignment remains vague or might even pertain to both for expressing ‘bite something off while agent is moving away from a deictic center’.

<sup>6</sup> It is not clear to what extent the assignment of ALM could be systematically manipulated, so that it unambiguously refers to the experiencer instead of the phenomenon, i.e. to express the meaning ‘see while moving towards or away from a deictic center’. It might be the case that additional suffixes such as *-ay* in some cases (<sup>?</sup>*daah-aa-n-ay*) acquire the potential to redirect the associated motion to the experiencer instead of the phenomenon. So a definite answer to the question posed in (3c) cannot be given at the present stage of knowledge.

<sup>7</sup> Valency side effects of ALM such as these do not seem to have been reported for any other language with grammaticalized ALM. It remains to be worked out what type of implications the study of ALM might have for the theory of transitivity.

<sup>8</sup> An alternative interpretation which retains transitivity in the verb, e.g. ‘it (the belly) released them and let them come out’, is ruled out, since *dûgwa* ‘cattle’ is – by virtue of its prepausal L tone – clearly nominative case, absolutive case would have been *dûgwa* in this context. So it is the subject of the clause and definitely not the direct object – which proves that the ALM marker has turned the verb intransitive.

<sup>9</sup> Since ALM typically adds the notion of locomotion, one would expect that this might block its application to verbs whose root semantics already includes locomotion. Indeed, the instance in (12b) does not provide a counter-example, since it could be argued that *saj* ‘turn around’ does not strictly encode locomotion in its basic meaning, but rather self-contained motion, i.e. turning around on the spot. So ALM integrates this motion



into a process of an ongoing locomotion. With *yɪl* ‘emit; excrete, emanate’ in (12c) the situation is a bit more tricky: since the basic semantic idea seems to be the steady movement of a liquid oozing through an outlet or a smell emanating from some object, it cannot be denied that the verbal base already includes some reference to locomotion. So what, after all, is the effect of a marker for associated locomotion added on top? It might be separation from the source, i.e. loss of contact to the container, since the point in that context is that the cattle, people and animals which had been swallowed by the ogre bull are not simply released from the belly, but they are actively coming out, separating and dissociating themselves from the dying ogre and moving towards a deictic center which is way off from it. Other instances of ALM added to locomotion verbs do not provide sufficient semantic details for an accurate and conclusive analysis, e.g. *weelweel* ~ *weelweel-aa-d(-ay)* ‘move around’, *rakt* ‘roll down, roll away’ ‘walk westwards’ (> *rakraq-aad* ‘roll down, roll away’). The issue needs dedicated exploration.

<sup>10</sup> This raises the question whether in complex events with primary and secondary figure it is always the case that both, i.e. deictic orientation marker and ALM, line up in referring to the same figure or whether it is possible to dissociate their scope, e.g. the deictic marker referring to the activity encoded in the verb root rather than to the ALM. In more concrete terms, this would boil down to the question: does Datooga provide the option to derive meanings such as ‘look away (thither) while moving hither’ in hypothetical forms such as *ɲweer-aa-d* or *ɲweer-aa-n* with the centrifugal or centripetal markers not referring to the orientation of ALM, but to the orientation of the perceptive activity. Actually, this type of differentiation is not as far-fetched as it would seem at first sight, since it would make sense in a context of diverting one’s gaze from someone or something one is approaching.

<sup>11</sup> E.g. Nandi / Kalenjin “ambulatives” –*aan* vs. –*aat* (Creider & Creider 1989: 89, Toweett 1979: 136-7). Fully convincing cognates beyond Southern Nilotic, e.g. in Eastern or Western Nilotic, have not been detected so far. One possible candidate in Western Nilotic might be Anywa which has a contrast of monovalent vs. bivalent itives and ventives (Reh 1996: 261, 249-260). The monovalent itive (mITV) / ventive (mVEN) seems to correspond to the associated motion markers in Southern Nilotic. At least for the monovalent ventive derivation, internally reconstructed as  $*-\dot{V}(V)_{[-BRV]}n \sim -n\dot{V}(V)_{[-BRV]}$ , an associated motion notion is reported: “[...] in contrast to the mITV-derivation, it adds the notion of movement towards the speaker or other deictic centre” (Reh 1996: 257).

<sup>12</sup> While it also seems to allow for combination with locomotion verbs marginally (12c), one might expect it to combine with verbs for other semantic domains, e.g. communication (e.g. ‘call’, ‘scream’, ‘whisper’, ‘speak’ etc.), cognition (‘think’, ‘ponder’ etc.), internal physical processes (‘fall ill’, ‘become hungry’ etc.) – but this has not been attested so far in the corpus and would need dedicated checking.

## References

- Belkadi, Aicha. 2015. Associated motion with deictic directionals: A comparative overview. *SOAS Working Papers in Linguistics* 17: 49-76.
- Berger, Paul. 1938a. Die Datoga, ein ostafrikanischer Hirtenkriegerstamm. *Koloniale Rundschau* 1938: 177-193.
- Berger, Paul. 1938b. Die südlichste Nilotensprache Ostafrikas. *Forschungen und Fortschritte* 14: 379-380.
- Berger, Paul & Roland Kießling. 1998. *Iraqw Texts*. Cologne: Rüdiger Köppe.
- Bourdin, P. (2006) The marking of directional deixis in Somali How typologically idiosyncratic is it? Voeltz, F.K. Erhard (ed.) *Studies in African Linguistic Typology*. Philadelphia, USA: John Benjamins Publishing Company.
- Creider, Jane Tapsubei & Chet A. Creider. 1989. *A grammar of Nandi*. Hamburg: Helmut Buske.
- Dixon, R.M.W. 2010. *Basic Linguistic Theory. Volume I: Methodology*. Oxford: OUP.
- Guillaume, Antoine 2013. Reconstructing the category of "associated motion" in Tacanan languages (Amazonian Bolivia and Peru). In Kikusawa, Retsuko and Lawrence A. Reid (eds.), *Historical linguistics* 2011. Amsterdam: Benjamins.
- Heath, Jeffrey. 2005. *Grammar of Tamashek (Tuareg of Mali)*. Berlin: Mouton de Gruyter.
- Kießling, Roland 2007. Space and Reference in Datooga Verbal Morphosyntax. In: Reh, Mechthild & Doris Payne (eds.), *Advances in Nilo-Saharan Linguistics Proceedings of the 8th Nilo-Saharan Linguistics Colloquium, University of Hamburg, August 22-25, 2001*, Köln: Rüdiger Köppe, 123-142.
- Koch, Harold 1984. The Category of 'Associated Motion' in Kaytej. *Language in Central Australia* 1, 23-34.
- König, Christa, Bernd Heine & Karsten Legère. 2015. *The Akie Language of Tanzania: A Sketch of Discourse Grammar*. Tokyo: Research Institute for Languages and Cultures of Asia and Africa (Tokyo University of Foreign Studies).
- Kramer, Raija (forthcoming). On locomotion, spatial orientation and lexical aspect in Fali ("Adamawa", North Cameroon): The functional diversity of directional markers. In: Kießling, Roland & Raija Kramer (eds.), *Mechthildian Approaches to Afrikanistik - Advances in language based research on Africa. Festschrift für Mechthild Reh*. Rüdiger Köppe.
- Levinson, Stephen C. & Wilkins, David P. 2006. *Grammars of Space: Explorations in Cognitive Diversity*. Cambridge: Cambridge University Press.
- Lewis, M. Paul, Gary F. Simons, and Charles D. Fennig (eds.). 2016. *Ethnologue: Languages of the World, Seventeenth edition*. Dallas, Texas: SIL International. Online version: <http://www.ethnologue.com>.
- Mietzner, Angelika. 2015. The philosophy of walking: motion and the verbs of walking in Cherang'any (Kalenjin). In: Mietzner, Angelika & Anne Storch (eds.), *Nilo-Saharan: Models and Descriptions*, Cologne: Koeppel, 199-210.

- Reh, Mechthild. 1996. *Anywa Language*. Köln: Rüdiger Köppe.
- Rottland, Franz 1982. *Die südnilotischen Sprachen: Beschreibung, Vergleich und Rekonstruktion*. Berlin: Dietrich Reimer.
- Talmy, Leonard 2000. *Toward a Cognitive Semantics. Volume 2: Typology and Process in Concept Structuring*. Cambridge, Mass.: MIT Press.
- Tomikawa, Morimichi. 1970. Distribution and migration of the Datooga tribe. *Kyoto University African Studies* 5: 1-46.
- Tomikawa, Morimichi. 1979. The migrations and inter-tribal relations of the pastoral Datooga. *Senri Ethnological Studies* 3: 15-31.
- Toweett, Taaita 1979. *A Study of Kalenjin Linguistics*. Nairobi: Kenya Literature Bureau.
- Tunbridge, Dorothy 1988. Affixes of Motion and Direction in Adnyamathanha. In Austin, Peter K. (ed.) *Complex Sentences Constructions in Australian languages* (Typological Studies in Language 15). Amsterdam/Philadelphia: John Benjamins, 267-283.
- Wilkins, David P. 1991. The Semantics, Pragmatics and Diachronic Development of 'Associated Motion' in Mparntwe Arrernte. *Buffalo Papers in Linguistics* 91(1): 207-257.