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Directionals in Ngaanyatjarra

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Abstract

This paper looks at directional morphemes in Ngaanyatjarra, a language spoken in Western Australia. This is part of the suffixing subdivision of Australian languages with both nominals and verbs having rich sets of inflectional and derivational suffixes. Despite this typological categorisation, there are a small number of directional prefixes. Using a Role and Reference Grammar (RRG) account, we look at directional elements, both prefixes and local peripheral case marking suffixes. RRG posits two types of directional operator, at the nucleus and the core. We find that the prefixes are nuclear operators describing the direction of the verb itself; while the case endings are core operators indicating movement of the predicate's arguments.

1 Introduction

Ngaanyatjarra is a dialect of Australia's Western Desert language group which covers a large territory in Western Australia, South Australia and the Northern Territory. This group also contains the closely related dialects of Pitjantjatjara and Yankunytjatjara. It is part of the Pama-Nyungan family containing most languages outside the Top End of Australia. As in most Australian languages, there are two inflecting classes, nominals and verbs (Blake 1987: 3). Adjectives pattern like nouns and they are together grouped as nominals. Typologically Ngaanyatjarra has an ergative-absolutive nominal and nominative-accusative pronominal case system. Nominals may have predicative function so sentences frequently lack verbs, and ellipsis of arguments is common, with reference retrievable by context. Marking is on the dependent; there is no marking for person, gender or number on the verb. Pama-Nyungan languages are classified as suffixing languages in the great prefixing-suffixing division of Australian languages. However as we see in this paper there are a small number of prefixes that indicate the direction of a movement verb.

2 Role and Reference Grammar

RRG is a functional theory of grammar that has a constituent, operator and focus syntactic projections, and lexical decomposition for semantic representation. Noun and verb are posited as universally valid categories, based on reference (nouns); and predication (verbs) (Van Valin & LaPolla 1997: 28). A clause has a nucleus containing the predicate, a core containing the nucleus and arguments and a periphery containing non argument adjunct modifiers of the core. The syntactic and semantic representations are joined by a linking algorithm. As well as referring items and predicators, clauses may contain operators that act to modify the nucleus, core or clause. Operators are a closed class of grammatical categories (Pavey 2010: 62). The constituent and operator projections are summarised in figure 1 based on Nolan (2012: 9).

Parts of a sentence indicating direction may be nuclear or core operators. Nuclear directionals refer to the direction of the action or the event; core directionals refer to the direction of the participants (Aubrey 2014) such as the action moving away or towards the speaker (Pavey 2010: 70-75).

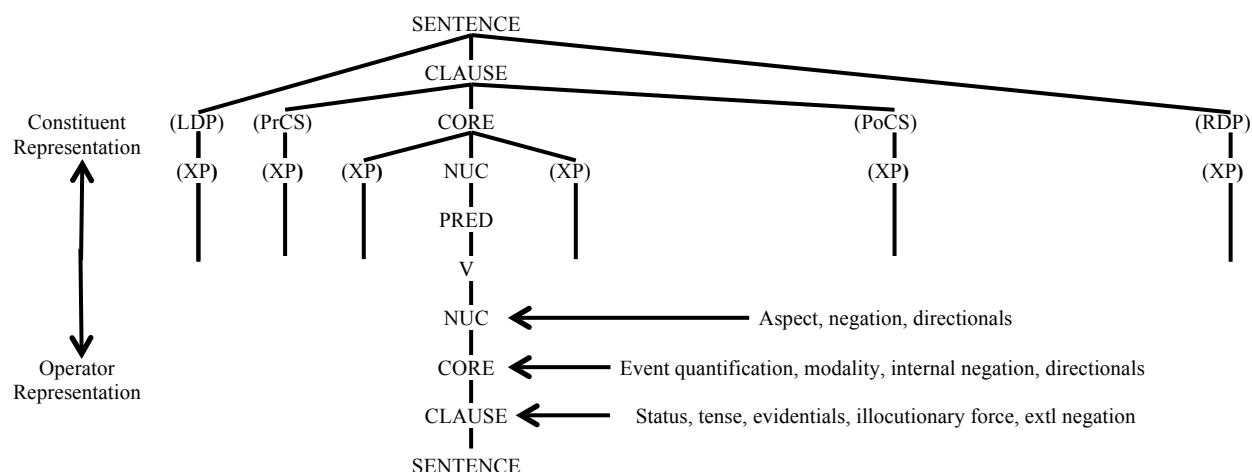


Figure 2: Constituent and operator projections

3 Direction

There is a distinction between direction seen as relative to the person like ‘left’ or ‘right’ versus fixed cardinal items such as river banks, ‘north’, ‘south’, ‘landward’ or ‘seaward’ (Pavey 2010: 324-325). For example the Australian language Guugu Yimithirr would describe a location as ‘east of the tree’ rather than ‘in front of’ or ‘behind’ it as English does (Pavey 2010: 324-325, 335).

Morphosyntactically direction can be shown by agglutinative morphemes such as *-u-* ‘motion away from’ in Chinookan (Silverstein 1976) or by prepositions such as *sur* ‘on’ or *vers* ‘toward’ in French (Rowlett 2007: 42).

Alternatively directionality can be part of the lexicon, for example in the English words *push/pull* where direction is not marked with an operator (Pavey 2010: 71). These lexical items may belong to different word classes. Locatives and directionals are one of seven subclasses of nominal in Warlpiri (Hale 1983). There is a set of eight directional motion verbs in the Papua New Guinea language Urim (Wood 2012: 80-81). These are described as being semi transitive, with two arguments: a core argument S (theme) and an oblique L (location) which is a locative object. Serial verb constructions may include a verb that specifies the direction in which the action occurs (Pavey 2010: 240-241). Adverbs may occur also that express direction and location (Payne 2006: 118). In this Ngaanyatjarra example from Obata & Kral (2005: 69) the direction of the action is done with respect to the agent, the one pushing.

- (1) *Walypala ngaa-lu yurltu yurntu-ra*
 White.man DEM-ERG car.ABS push-PRES
 ‘This white man is pushing a car.’

4 Australian cases

Australian languages typically have five or six distinct case inflections but up to a dozen different functions so there is overlap and sharing of structures in case function (Dixon 2011: 293-294). These cases may be grouped into core and peripheral. The core ones are case markings on the required nominal arguments of a predicate. The peripheral cases may be local, describing the location or movement of the action, or syntactic, adding further information such as the indirect object or goal. These functions represent the RRG elements

in the layered structure of the clause; containing the core with the arguments and the periphery with non-arguments.

Local peripheral functions provide information about the setting of the event but they are not strictly necessary in the clause so appear in the periphery (Dixon 2011: 295-297):

- Verbs of rest with locative (in at, on).
- Verbs of motion with allative (to, towards) and ablative (from).

The locative describes the location of the event or situation. Verbs of motion ('go', 'run') take complements with allative or ablative while verbs of rest ('sit', 'put', 'leave') take complements with locative case. The locative covers a wider spectrum and can be used for any type of verb so is the most unmarked of the local functions. The order of markedness can be summarised:

(2) Locative (unmarked) > allative > ablative (marked)

In Western Desert, the locative is used in other cases (Dixon 2011: 309) such as allative, ablative and instrumental. Table 1 summarises the main case forms: the alternative form in absolutive common noun *-pa* is where the nominal root ends in a consonant. The alternative forms for ergative, locative and absolutive common nouns are for nasals where there is place of articulation assimilation. Dixon (2011: 209) describes this as a homorganic stop plus vowel.

Table 1: Ngaanyatjarra cases

		Common	Proper
Core	Absolutive (S, O)	<i>-Ø/-pa</i>	<i>-nya/-nga</i>
	Ergative (A)	<i>-lu/-tju/-tu</i>	<i>-lu/-tju/-tu</i>
Local Peripheral	Locative	<i>-ngka/-tja/-ta/-pangka</i>	<i>-la/-tja/-ta</i>
	Allative	PURP + <i>-tu</i>	LOC + PURP+ <i>-tu</i>
	Ablative	<i>-nguru</i>	LOC + <i>-nguru</i>
	Perlative	<i>-wana/-wanu</i>	<i>-wana/-wanu</i>
Syntactic Peripheral	Purposive	<i>-ku</i>	
	Instrumental	LOC	
	Genitive	PURP	

In Ngaanyatjarra, case marking is on the final word of a noun phrase rather than on individual components (Glass & Hackett 2003: 8). Thus in this example from Glass & Hackett (1979: 107) the locative case marker *-ngka* occurs in phrase final position.

- (3) *kutjupa kapi-ngka*
 other water-LOC
 'at another water hole'

5 Suffixes

These are the local peripheral case endings in Ngaanyatjarra shown in table 1. We look at the different cases in this section, and distinguish between descriptions of where an event takes place versus the direction in which it occurs.

5.1 Locative

The basic locative case ending is *-la* with placenames and *-ngka* otherwise (Glass & Hackett (1979: 10). In both places there is place of articulation assimilation if the root ends with a consonant. Both *Papanyarrkalta* and *kapingka* have locative marking in (4) suggesting they are in separate phrases: at the waterhole at Papanyarrkal. The locative can encode ‘at, in, into, on, under’ (Glass & Hackett 2003: 232).

- (4) *Ma-wirrtja-rnu nya-ngu papa kurluny-pa pupa-rra-warni-nytja*
away-hasten-PST see-PST dog little-ABS crouch-SER-scatter-NOML
Papanyarrkal-ta kapi-ngka
[place name]-LOC water-LOC
‘He hurried away and saw lots of little dogs crouching there at the water-hole Papanyarrkal.’

5.2 Ablative

The ablative case ending is *-nguru*. This indicates ‘movement from’ with intransitive verbs. Other meanings can be implied too, such as ‘because of, after, on, side’ (Glass & Hackett 2003: 240). For names, the locative *-la* is inserted prior to the ablative ending. This example from Glass & Hackett (2003: 240) shows the dog’s movement in relation to the shelter. *Papa* ‘dog’ is absolutive as it is the only core argument, in S function.

- (5) *Papa wuurlarra-lku wiltja-nguru*
Dog.ABS jump-FUT shelter-ABL
‘A dog might jump down from a shelter.’

This example from Glass & Hackett (1979: 131) shows that there does not have to be movement; looking is done from a tree. We see future and continuous future being used in the conditional sense.

- (6) *Ka=ya kutjupatjarra kutipitja-ku yimiya-ku nyina-ma nyina-ku nya-ku*
and.DS=3plNOM others go-FUT emu-PURP sit-FUT.CONT sit-FUT look-FUT
warta-nguru nya-ku pitja-yinkunyangka tati-lku katu ngara-ma
tree-ABL look-FUT come-where climb-FUT above wait-FUT.CONT
ngara-ku - ngara-ku
wait-FUT - wait-FUT
‘And others would go for emus. They would climb a tree where the emus come (for water) and sit and wait.’

Glass & Hackett (1979: 85) shows the locative and ablative for a name: *-la-nguru*. Again the subject sees from a place, without movement.

- (7) *Mantji-ra-lpi wirrtja-rnu tati-ra-lpi nya-ngu Pukara-la-nguru tati-ra-lpi*
Get-SER-having hasten-PST climb-SER-having see-PST Pukara-LOC-ABL climb-SER-having
nya-ngu waru kampa-rra
see-PST fire burn-SER
‘Having got the hitting-stick he came and climbed up, and from a place called *Pukara* saw a fire burning.’

Glass (2006: 45) illustrates this difference with movement verbs: (8) with a common noun and (9) with a placename; there is place of articulation assimilation with locative *-ta* rather than *-la* in (8).

- (8) *Tjilku pirni=ya tali-nguru pitja-ngu*
 Child PL=3pINOM sandhill-ABL come-PST
 ‘The children came from the sandhills.’
- (9) *Minyma pirni=ya Wanarn-ta-nguru pitja-ngu*
 Woman PL=3pINOM Wanarn-LOC-ABL come-PST
 ‘The women came from Wanarn.’

A different ending indicates ‘out of/away from’, *-tja* in the example (10) from Glass (2006: 46), and here used with the locative. This parallels Crystal’s (2008: 164) distinction between the elative ‘from inside’ from the ablative ‘from outside’.

- (10) *Kuka waru-ngka-tja mantji-rnu*
 Meat.ABS fire-LOC-ABL get-PST
 ‘(He) got meat out of the fire.’

With names the locative can be used with the ‘out of/away from’ ending *-martatji*. In this example the direction of movement of the theme is described.

- (11) *Tjulya-rnu Kaye-la-martatji*
 Grab-PST Kaye-LOC-ABL
 ‘She grabbed (it) from Kaye.’

These different forms are used based on emphasis (Glass 2006: 102). So (12) is a general enquiry; (13) asks for the name of the place you have come from. Example (14) enquires as to the person’s origin or home country, so there is no verb *pitjangu*; the predicate is the non-verbal *ngurra ngananyamartatji*.

- (12) *Wanytja-nguru=n pitja-ngu?*
 Where-ABL=2sgNOM come-PST
 ‘Where have you come from?’
- (13) *Ngurra ngana-la-nguru=n pitja-ngu?*
 Place name-LOC-ABL=2sgNOM come-PST
 ‘What place have you come from?’
- (14) *Ngurra ngana-nya-martatji=n nyuntu-lu?*
 Place name-ABS-ABL=2sgNOM 2sg-NOM
 ‘What place do you come from?’

5.3 Allative

The allative case ending *-kutu* indicates ‘movement towards’, which includes the purposive *-ku* (Dixon 2010: 302). In this example (Glass & Hackett 2003: 105) the direction of movement is towards home *ngurrakutu*:

- (15) *Tjinguru=pula wati minyma-lu mapitja-ku karru kartanypu-ngkula mapitja-ku*
 Maybe=3duNOM man woman-ERG go-FUT creek.bed cross-SER go-FUT
ngurra-kutu
 home-ALL
 ‘A man and woman might go along and after crossing over a creek, go on home.’

This example from Glass (2006: 45) also demonstrates the destination occurring clause finally. In this the word order differs from a typical ablative marked nominal.

- (16) *Minyma pirni=ya ya-nu ngurra-kutu*
 Woman PL=3pINOM go-PST home-ALL
 ‘The women went home’

As with the ablative, for names the locative *-la* is suffixed prior to the allative ending.

- (17) *Wati pirni=ya ya-nu Mantamaru-la-kutu*
 Men PL=3pINOM go-PST Mantamaru-LOC-ALL
 ‘The men went to Mantamaru’

Glass & Hackett (1979: 131) show the marking is on the noun phrase, *pirti nyarra kutju* in this case is marked phrase finally with *-kutu*.

- (18) *ka-ya watipitja-ma ka-ya mularrpartu*
 and.DS=3pINOM go.across-CONT.FUT and.DS=3pINOM truly
Watipitja-yinama pirti nyarra kutju-kutu kapi pirti purlka-ku
 Go.across-CONT.FUT hole there one-ALL water hole big-PURP
 ‘And they would all go across to the one big water-hole.’

Glass & Hackett (2003: 51) illustrates that the allative does not have to involve movement ‘towards’. The direction of sitting is shown here, towards the sun.

- (19) *Tjirntu-kutu=rna=yi nyinaa-ma ka=rni kampa-ma*
 sun-ALL=1sgNOM=OPT sit-CONT.IMP and.DS=1sgACC burn-CONT.IMP
 ‘(Put the tray there). Then I can sit towards the sunshine and it will warm me.’

5.4 Perlative

The perlative suffixes are *-wana*, or *-wanu* denoting ‘along, through, by way of, around’. This is shown in the following from Glass (2006: 84).

- (20) *Ka=litju mawirtja-rnu tali parnta-wana*
 And.DS=1pINOM hurry-PST sandhill base-PERL
 ‘And we went quickly along the base of the sandhill.’

Glass & Hackett (1979: 6) show the perlative with the locative and ergative on a placename: *Pangkupirri-la-wana-lu*. As the phrase has the ergative case ending it is adverbial. Adverbs of time have no case marking in the related dialect Pitjantjatjara whereas those of frequency or manner are ergative in transitive sentences (Bowe 1990: 8). The example in (21) is an adverb of manner indicating Ngaanyatjarra agrees with this.

- (21) *matjulya-ra wana-rnu=ya wana-rnu puru*
 catch-SER follow-PST=3pINOM follow-PST again
watitjulya-ra wana-rnu ngalya-wana-rnu Pangkupirri-la-wana-lu
 catch-SER follow-PST towards-follow-PST Pangkupirri-LOC-PERL-ERG
wati-wana-yirnu Giles-tja ngaatja-ya wati-wana-rnu
 across-follow-PST Giles-LOC here-3pINOM across-follow-PST
 ‘And trying to catch him they followed all around. They followed by way of Pangkupirri and across this side of Giles they followed.’

6 Prefixes

While part of the suffixing group, Ngaanyatjarra has a small number of verbal prefixes, that relate to the direction of the action (Glass 2006: 88): *kuti* ‘away’; *ma* ‘away’; *murru* ‘in a backwards direction’; *ngalya* ‘towards’; *parra* ‘around’; *wati* ‘across’. Directional prefixes in the neighbouring Western Desert dialect Yankunytjatjara do not occur only with verbs of motion and describe orientation of action or direction of motion with respect to speaker or another implied reference point (Goddard 1983: 121). We look for evidence of this in Ngaanyatjarra.

6.1 *Ma* ‘away’

With *pitja* ‘come’ *ma-* derives *mapitja* ‘go’ as shown in this from Glass & Hackett (2003: 132).

- (22) *Ka-rna ma-pitja-ngu warntu mantji-rnu pitja-ngu tati-rnu*
And.DS=1sgNOM away-come-PST blanket.bundle get-PST come-PST climb-PST
‘So I went and got my bundle of blankets and came and climbed (in the car)’.

Glass (2006: 89) shows how *ma-* also means ‘completely’, extending the concept metaphorically.

- (23) *Ma-munga-rri-ngu*
Completely-night-INCH-PST
‘It became completely dark.’

6.2 *Ngalya* ‘towards’

Glass & Hackett (1979: 40) show *ngalya-* indicating the direction of movement of *katurri* ‘get up’:

- (24) *palunyalu puru ma-pupati-ngu ngala-ngu palunyalu ngalya-katurri-nyangka*
and again away-crouch-PST eat-PST and towards-get.up-ANT.DS
mantji-rnu kungka-mirntany-tju mulyatarrka kata yatu-rnu mirrparn-tu
get-PST girl-that-ERG nose.bone head hit-PST angry-ERG
yirliltu-tjirratja-lu
honey.ant-on.account.of-ERG
‘And again she crouched away, and when she turned to them and got up, the girl angrily hit her mother on the head, on her nose, because she wanted honey ants.’

6.3 *Parra* ‘around’

This imperative example is from Glass & Hackett (2003: 298). *Parra-* is prefixed to *wirrtja* to indicate the direction of movement.

- (25) *Parra-wirrtja-la nya-wa ngara-yi*
Around-hurry-IMP see-IMP sit-OPT
‘Go around quickly and see if (she’s) standing there’

This example is from Glass & Hackett (1979: 40) shows the prefix on the first of a series of actions, and only operating on that verb, suggesting these are core junctures.

- (26) *Minyma parra-wirrtja-rnu pupati-ngu pupa-ngu yapu-rri-ngu*
woman.ABS around-hurry.PST crouch.down-PST crouch-PST rock-INCH-PST
‘That woman hurried around, crouched down and became rock.’

parrapitjaku is also lexicalised to mean ‘arrive’ (Glass 2006: 88).

- (27) *Pitjayi-rnu parrapitja-ngu kapi purlkanya-kutu*
 Come.along-PST arrive-PST water big-ALL
 ‘He came along and arrived at the big waterhole’

Glass & Hackett (1979: 9) shows this with ‘sit’, indicating the verb doesn’t have to be action. This agrees with Goddard (1983: 121) on Yankunytjatjara. The form is duplicated *parra-parra-nyinangu*.

- (28) *Waru tjuwarntu pupa-rra tirtu purli yapu purlka-nya nyina-rra-warni-ya*
 fire without.fire crouch-PRES still rock rock big-ABS sit-PRES-scatter-3plNOM
pirni-nya parra-parra-nyina-ngu ngururtju-nu
 many-ABS around-around-sit-PST surround-PST
 ‘Crouching around with no fire, those rocks are still there. Having sat around surrounding the water-hole, those big rocks are lying all around there.’

6.4 *Wati* ‘across’

In this example from Glass & Hackett (2003: 505) *wati-* is prefixed to the matrix verb *kukurraarnu* and followed by the subordinate same subject intentive clause *pungkukitja*.

- (29) *Mirrarnarra-rnu wati-kukurraa-rnu pu-ngkukitja*
 Scream-PST across-run-PST hit-INT
 ‘(She) screamed and ran across to hit (someone)’

In the example (30) from Glass & Hackett (1979: 44) *wati* and *parra* appear on consecutive verbs showing the dynamic action of moving across and around.

- (30) *Ma-wana-rnu wati-wana-rnu=ya parra-yangatju-nu*
 Away-follow-PST across-follow-PST=3plNOM around-close.in-PST
puru purtu nya-ngu ngurra-kutju parturtu kutjulpirtu ruwangkatja kuti-pitja-ngu
 again in.vain see-PST camp-only.one however before previously away-come-PST
 ‘They followed, closed in and again looked in vain; there was only the camp. They had gone before that.’

The prefix can occur with the imperative (Glass 2006: 88). Here *watipitja* is lexicalised as a warning.

- (31) *Wati-pitja! Mutuka pala murrukati-ku!*
 Across-come.IMP car.ABS there reverse-FUT
 ‘Get out of the way! A car is going to reverse there!’

6.5 *Kuti* ‘away’

Kuti- ‘away’ only occurs with *katiku* ‘take’ and *pitjaku* ‘come’ (Glass & Hackett 2003: 104-105). This limitation is reflected in the apparent lexicalisation of the prefix-verb combinations.

- (32) *Palunyatjanu-lu-pula ngurra-ku kuti-kati-ngu kutjupatjarra-nya*
 Then-ERG=3duNOM camp-PURP away-take-PST rest-ABS
 ‘Then they carried (the rest of the meat) to the camp.’

- (33) *Ngurra-ku=ya kuti-tja-ngu pirriya purlka-ngka*
 Home-PURP=3plNOM away-go-PST wind big-INSTR
 ‘They all went home because of a big wind.’

6.6 *Murru* ‘backwards’

mur:ru- ‘in a backwards direction’ is a directional prefix in the related Western Desert dialect Mantjiltjara (Marsh 1976: 111). We see this in the Ngaanyatjarra verb *murrukatiku* ‘reverse’ (Glass & Hackett 2003: 190). In (34) it is combined with *ngalya*.

- (34) *Ngalya-murru-kati*
 Towards-backwards-take.IMP
 ‘move back here’
- (35) *Mutuka pala murru-kati-ku.*
 Car DEM.ABS reverse-take-FUT
 ‘The car is going to reverse.’

Murru-murrurri ‘move downhill’ (Glass & Hackett 2003: 191) is derived from reduplication and the inchoative suffix *-rri*; an example is shown in (36).

- (36) *Wiya-la kuli-la murru-murrurri-ngu*
 Oh-we.and.you listen-IMP move.downhill-PST
 ‘Oh, we’re going downhill’

7 Scope of directional affixes

Case suffixes are core directional operators indicating movement of the argument. The text from (5) is shown in figure 2. The ablative case marker *-nguru* shows the direction of movement of *papa* ‘dog’ with respect to *wiltja* ‘shelter’. *Wuurlarra* ‘jump’ is an intransitive verb; *papa* is the S argument with *wiltja* in the periphery.

The prefixes append directly to the verb and are nuclear rather than core directional operators, indicating the direction of the verb itself. As Pavey (2010: 71) notes, core operators can also appear as verbal affixes so this is not necessarily a criterion of scope. The constituent projection of (35) is shown in figure 3. The prefix *murru* acts as a nuclear operator.

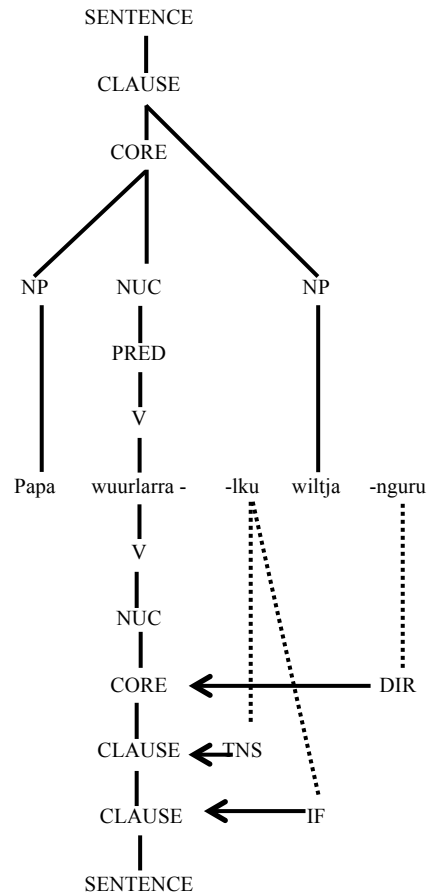


Figure 3: Case ending core operator

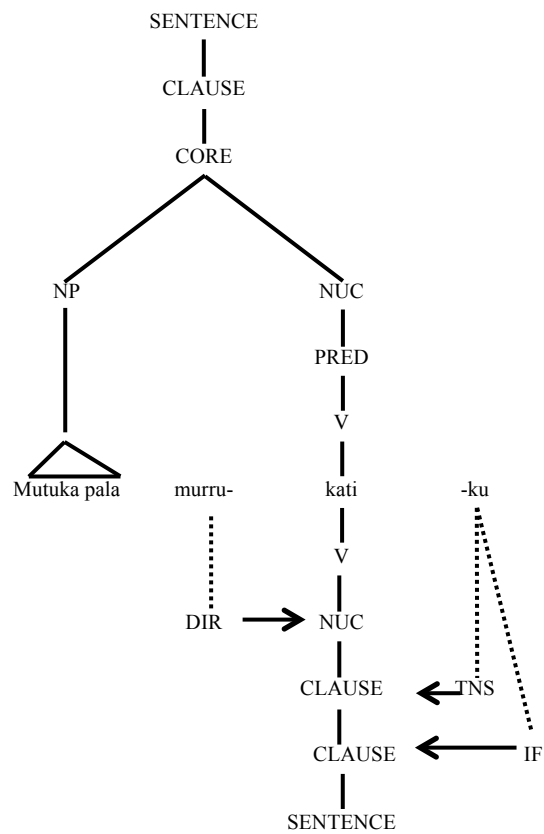


Figure 4: Nuclear directional operator

In situations where there are two adjacent verbs the directional prefix governs depending on the nexus and juncture between the elements. In this Ngaanyatjarra example from Glass & Hackett (2003: 505) there is core level juncture. Each verb has its own tense marking. *Ma* only operates on *pitjangu*. In other words he went first and then saw.

- (37) *Ma-pitja-ngu nya-ngu*
 Away-come-PST see-PST
 ‘(He) went and saw.’

By contrast in this example from Goddard (1983: 100-104) in the related Western Desert dialect Yankunytjatjara there is a non periphrastic tight verb serialisation which is nuclear level juncture. The directional attaches to the verb complex and governs both nuclei, so the nexus is cosubordinate.

- (38) *kaa paluru ngalya-kuli-ra kulpa-ra ngalya-kuli-ra kulpa-ra*
 and.DS 3sgNOM this.way-hear-SER return-SER this.way-hear-SER return-SER
 ‘And he was (over) hearing while returning, hearing while returning’

8 Cardinal directions

Kakarrara ‘east’, *kayili* ‘north’, *yapurra* ‘west’ and *yurlparirra* ‘south’ are described as spatial adverbs in Ngaanyatjarra (Glass & Hackett 2003: 25, 66, 557: 588). In this from Glass & Hackett 2003: 557) *yapurra* is in the ablative case. It is noteworthy that *pirriya purlka* ‘big wind’ gets the ‘name’ absolutive case ending *-nya*, suggesting animacy.

- (39) *Ka pirriya purlka-nya yapurra-nguru wangka-rranytja*
 And.DS wind big-ABS west-ABL blow-PST.CONT
 ‘But a strong wind was blowing from the west.’

Glass & Hackett (1979: 43) show flexible word order with the spatial adverb being in clause final position.

- (40) *Ka-pula kurrirarra pitja-yintja kayili-nguru*
 And.DS-2du man.and.wife come-PST.CONT north-ABL
 ‘A man and his wife were coming from the north.’

In (41) the ablative is used with iterations of a stationary verb *nyinangu* ‘sat’ and cardinal location to indicate the location lived in (Glass & Hackett 1979: 81).

- (41) *Ka nyina-ngu-nyina-ngu kakarrara-nguru nyina-ngu*
 And.DS sit-PST-sit-PST east-ABL sit-PST
wati yirna purlka-nya nyina-rranytja
 man old very-ABS sit-PST.CONT
 ‘And in the east lived a very old man.’

Spatial qualifiers in the Western Desert dialect Yankunytjatjara do not count as verbs or nominals as they do not take the full range of inflections (Goddard 1983: 18-19). In the non-Western Desert language Diyari spoken in South Australia, spatial locationals are a closed subset of nominals that inflect for ablative and allative only (Austin 2011: 41); locative is the

root. These Ngaanyatjarra spatial adverbs appear nominal like as they receive local peripheral endings so this agrees with Austin’s analysis.

9 Lexical locatives

Adverbs describe the location of the event with respect to a participant. These examples are from Obata & Kral (2005: 121). In (42) the spatial adverb *kurranyu* ‘in front’ occurs with the participant in the locative, *wartangka*. In (43) the adverb *marlarrku* gets the ablative case marking. In (44) *katu* describes a location.

- (42) *Minyma ngaa-nya warta-ngka kurranyu ngara-la*
 Woman DEM-ABS tree-LOC in.front stand-PRES
 ‘This woman is standing in front of a tree.’
- (43) *Minyma ngaa-lu marlarrku-nguru ngara-la nyaku-la*
 Woman DEM-ERG from.behind-ABL stand-PRES see-PRES
 ‘This woman is standing looking from behind (the tree).’
- (44) *Miipurr-pa pirni-ya katu ngara-la*
 Coconut-ABS many-3pNOM above stand-PRES
 ‘There are many bush coconuts up high (in the tree).’

The spatial adverb *ngururra* ‘in between’ is shown in (45) from Glass & Hackett (2003: 240). The enclitic pronoun =*latju* attaches to the first phrase, indicating *willpa Kaminala ngururra* is a locational adjunct.

- (45) *Will-pa Kamina-la ngururra=latju tjiku-rnu kapi*
 Well-ABS Kamina-LOC in.between=1pNOM drink-PST water.ABS
 ‘We drank water from the well between Kamina (and here).’

Glass & Hackett (2003: 470) show spatial adverbs meaning ‘left’ and ‘right’. *Wakunguru* ‘right side’ is derived from *waku* ‘strong right arm’ with the ablative.

- (46) *Ka ngaa-nya pirti lawu tjawa-lku wanti-ku pirrmalpa tjampu-nguru.*
 And.DS DEM-ABS hole hollow.ABS dig-FUT stop-FUT trap.ABS left-ABL
Palunyalu waku-nguru kupulu witurru-ngku.
 Then right-ABL club.ABS hold-FUT
 ‘A hollow is dug on the left side of the trap. Then on the right side you sit and hold a club.’

10 Discussion

Ngaanyatjarra is part of the Australian language suffixing subdivision and has a rich set of local peripheral case endings. Cardinal directions and other spatial adverbs behave like nominals and receive a limited set of case endings. In addition there are a number of verbal prefixes that indicate the direction of the action itself.

In the RRG analysis, directionals may be nuclear or core operators. There is a tendency for nuclear operators to be closer to the verb (Pavey 2010: 77-78). We see the verbal prefixes in Ngaanyatjarra as nuclear operators while the case marking on nominals operates on the core. Nuclear directionals indicate the direction of movement itself while core directionals indicate movement with reference to the participants or spatial adverbs. The third type, spatial adverbs act as non-arguments, adjuncts outside the core. Cardinal directions do not appear to be used; rather adverbs like left, right and behind are used to indicate relative location.

Case endings are on the phrase rather than individual nominal. The prefixes in many cases only occur with a limited set of verbs and lexicalisation is evident. This is similar to noun-

verb compounds in Ngaanyatjarra where the noun provides semantic narrowing to the compound. While one criterion of wordhood in Western Desert languages is that stress is on the first syllable, the prefixes are exceptions. In the closely related dialect of Yankunytjatjara, the directional prefixes are separate phonological words as they both receive primary stress (Goddard 1983: 14). This is reflected in the Pitjantjatjara example (47) from Sheppard (1975: 1) where *wati* ‘across’ is not written orthographically as a prefix.

- (47) *Ka wati wirtjapaka-nu malu watja-ra,*
 and.DS across run-PST roo.ABS tell-SER
 "Awari, awarinatju, malari-ngu=na."
 oh.dear oh.dear fall.behind.PST=1sgNOM
 ‘Suddenly a kangaroo hopped past (her), saying, "Oh dear, oh deary me, I'm late."’

This does not appear to be the case in Ngaanyatjarra orthographically though is a function of the separate phonological wordhood of the prefixes. While most of the prefixes have no separate dictionary entry, *ngalya* ‘towards’ is also a lexical item meaning ‘face’ (Glass & Hackett 2003: 209). The prefixes appear to be on a spectrum from independent wordhood to compounding. The languages have only recently been given written forms, and separately-Pitjantjatjara since the early 1940s (Goddard 1993: 1) and Ngaanyatjarra from the 1950s (Glass 2006: 7), and thus differences in the form the prefixes take may occur.

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Abbreviations

ABL Ablative	INT Intent
ABS Absolutive	LOC Locative NOM Nominative
ACC Accusative	NOML Nominalised
ALL Allative	OPT Optative
ANT Anterior	PERL Perlative
COND Conditional	PST Past
CONT Continuous	PURP Purposive
DEM Demonstrative	SER Serial participle
DS Different Subject	
ERG Ergative	Pronouns
FUT Future	1, 2, 3 first, second and third person
IMP Imperative	sg singular
INCH Inchoative	du dual
INSTR Instrumental	pl plural