

Talking about space in Koromu, a Trans New Guinea language

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Abstract

Koromu is a Madang language of the Trans New Guinea group spoken in south-east Madang Province. Koromu speakers live in the valley at about 170 metres above sea level. The villages are on both sides of the Ramu River between the high mountains of the Bismarck and Finisterre Ranges.

When talking about space in Koromu people use absolute and intrinsic frames of reference (Levinson 1996:10, 2003:38) either separately or combined (2003:38). Terms in the intrinsic system vary in relation to the characteristics of specific referents. The absolute reference system is elevation based and ‘corresponds to features of the external world’ (Palmer 2004:16). This paper examines these systems and the local nouns, the locatives and motion-path verbs which play an important part in them.

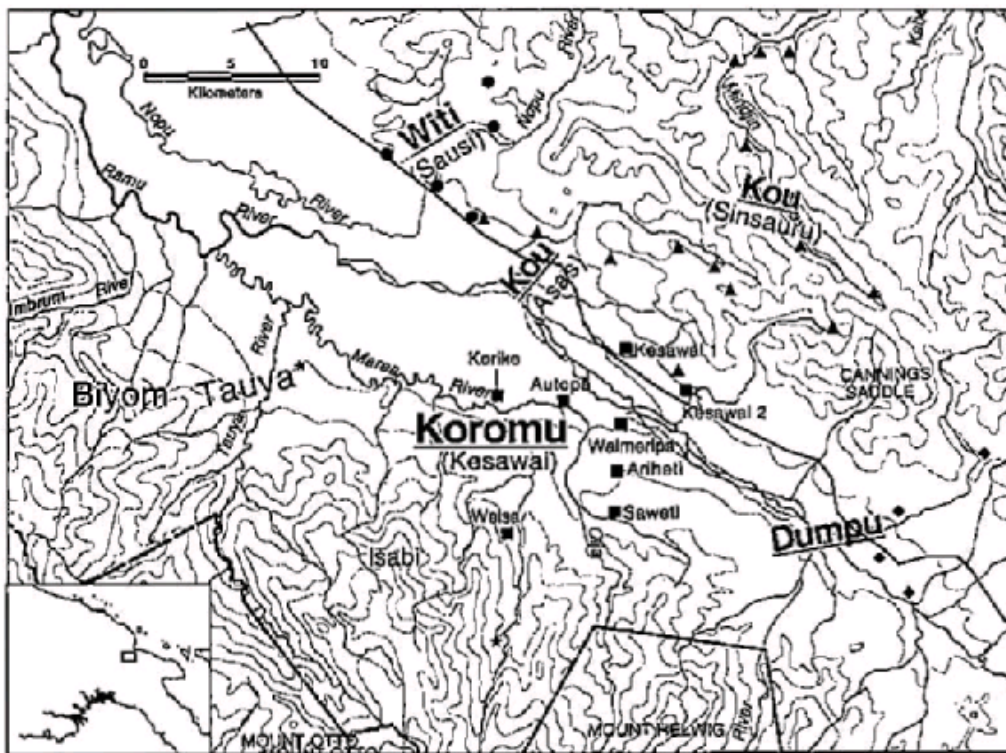
Keywords

Space, Syntax, Semantics, Intrinsic, Relative and Absolute Frames of Reference, Local nouns, Morphologically derived locatives, Motion-path verbs, Combined frames of reference.

1. Introduction

Koromu is a Madang language of the Trans New Guinea group. It is spoken in the Ramu valley in south east Madang Province, Papua New Guinea. The Ramu River flows along the valley from southeast to northwest forming many channels of rushing water among sandbanks. Near the river the land is fairly flat and it is covered by grass, forest or swamp. The valley is about 170 metres above sea level and is dominated by high, steep forested mountain ranges and steep grass covered foothills. The Bismarck Ranges, which include some of the highest mountains in the country, reach 2739 to 3540 metres to the southwest. The Finisterre Ranges to the northeast reach 1400 to 3300 metres. Many rivers drain the mountains and flow into the larger Ramu River.

This paper outlines the way that people talk about space in the Koromu language showing how their system of spatial reference reflects salient features of the environment and illustrating Givon's statement 'the more important a facet of experience is to the organism or culture, in terms of pragmatic, adaptive, real-world needs, the more distinctly it is coded in language' (1985:210).



Map: Koromu villages and neighbouring languages

The first section below provides an introduction to 'frames of reference (FoR)' an integral part of current cross-linguistic research on spatial reference. This is followed

by a more detailed outline of the absolute frame of reference and an introduction to some spatial primes in the natural semantic metalanguage. The remaining sections describe intrinsic and absolute frames of reference in Koromu with particular emphasis on the absolute system of reference to dominating features of the environment.

2. Frames of Reference

Whereas the vertical dimension based on gravitation with all its effects on our balance and stance, emerges as a universal organizing principle for spatial conception, the treatment of angles on the horizontal is clearly underdetermined by any natural force (Levinson 1998:13).

Frames of reference ‘can be thought of as labeling distinct kinds of coordinate systems’ in the horizontal dimension (Levinson 1996:110). They ‘identify an object or location (the referent or figure) in relation to another object or location (the relatum or ground) by projecting off the relatum a search domain in which the referent is located’ (Palmer 2004:2). Levinson (1996:138-147, 2003:38-50) identifies intrinsic, relative and absolute frames of reference.

People can use ‘multiple frames of reference’ (2003:25). For example, in response to elicitation tasks in various languages Pederson et al (1998:572) found that in some languages speakers use two frames of reference while in others there is only one primary frame of reference. Each frame of reference in a language can be associated with ‘distinct linguistic expressions’. However, some expressions combine two frames of reference (Levinson 2003:38). This is illustrated by some of the Koromu examples discussed later in the paper. Furthermore, some lexemes can occur in two different frames of reference (2003:38). For example, English *in front of* can occur in the intrinsic or the relative frame of reference (2003:41-46) as examples in the next two paragraphs illustrate.

Intrinsic reference is described as a binary spatial relation since it involves two arguments, a figure/referent and a ground/relatum (2003:42). The figure is located in relation to ‘inherent features’, sidedness or facets’ of an object used as the ground’ (2003:41). For example, *the dog is in front of the truck* indicates that the dog is in front of the part of a truck we call its front, the part that lies in the direction of motion.

Relative frame of reference is described as ternary. The location of a figure/referent is expressed in terms of both a ground/relatum and the viewpoint of a perceiver. In *from Tom’s viewpoint the dog is in front of a tree* there are three points of reference, the dog, the tree and the perceiver’s viewpoint. The tree does not have an intrinsic front so the front is established in relation to the viewpoint of the perceiver (2003:43-47).

Levinson (2003:47-50) describes absolute frame of reference as a binary system which describes the figure and ground in relation to arbitrary fixed bearings, for example *the dog is to the north of the tree*. The position is described independently of the viewpoint (relative FoR) or of inherent features of the ground/relatum (intrinsic FoR). While the English cardinal system of east, west, north and south is not used

extensively in everyday speech in many languages an absolute system is the predominant means of describing spatial reference (1998:13).

A deictic component can occur in each FoR, for example, *the dog is in front of me*, *from my viewpoint the dog is in front of the tree*, and *the dog is north of me*.

3. Absolute frames of reference

The absolute frame of reference is the most varied FoR system. It can be based on:

- North-South/East-West
- landward-seaward/parallel to the coast
- uphill-downhill (fall of land)/across
- upriver-downriver/away from-towards river
- uphill-downhill (elevational)/across on same level (Palmer 2004:3)

Palmer (2003:11, 2004:4) argues that absolute frame of reference is a ternary rather than a binary relation since there is a third participant within the ‘wider world’, a ‘set of directional axes’ in which the figure/referent and the ground/relatum are located. For example, when the term *upriver* is used ‘the spatial disposition of the river must be known’ in order to locate the figure in relation to the ground (2004:5).

Levinson states that languages which ‘make extensive’ use of an absolute frame of reference ‘do so by fixing arbitrary fixed bearings ‘cardinal directions’, corresponding one way or another to directions or arcs that can be related by the analyst to compass bearings’ (2003:48). One example occurs in Tzeltal which uses terms for *uphill*, *downhill* and *across*. This ‘true fixed-bearing system’ is applied to objects on the horizontal as well as on slopes. It is applied to objects on the same compass bearings when speakers use the terms outside Tzeltal country (1996:111).

In contrast, Palmer shows that in Manam, a language with landward and seaward axes, absolute reference terms can be used in ‘an invariant and consistent manner in any location on the island’ but they are not fixed in relation to compass bearings (2004:6). Also ‘absolute relations may involve directions that do not depend on a predictable conventionalized bearing’ (2004:6), for example, when the English expressions *downwind* or *windward* are used the wind direction is determined at the time the terms are used (2004:7). Palmer concludes ‘absolute FoR requires that the referent be located in relation to the relatum on the basis of a search domain projected off the relatum in a direction based on an object or phenomenon external to the referent/relatum dyad, other than a viewpoint. This does not logically require that direction to be fixed, merely identifiable’ (2004:8).

After suggesting that the spatial reference systems of languages in both similar and diverse topographic and geographic areas need to be compared (2002:141-144) Palmer proposes three points in favour of a strong connection between topography and linguistic systems of absolute spatial reference (2004:8-16):

- Within a language or closely related languages absolute reference systems vary in relation to differences in topography. For example, the way a landward-seaward axis interacts with an east-west axis differs on opposite coasts of an island.
- Different systems of absolute reference can be used in a language or closely related group of languages spoken in diverse environments. Asmat speakers (Papuan) who live in ‘flat, swampy country dominated by watercourses’ use a ‘watercourse-based system’ with terms for upriver (against the current), downriver (with the current) and across (away from the bank). Coastal Asmat speakers use some of the same terms applied to the northwest (against the coastal current), southeast (with the coastal current) and away from the shore.
- Linguistically and areally unrelated languages in topographically similar areas tend to have similar absolute reference systems, for example languages with elevational and watercourse based systems which include the Indo-European language of Florutz German and the Papuan language of Samo.

An elevation based absolute reference system is used in Koromu and a number of other Papuan languages, for example Nimboran (Steinhauer 1997:269-280, Voorhoeve 1997:281-285), Yale (Heeschen 1997:180) and Yupno (Wassmann 1997:143-174).

4. Spatial primes in the natural semantic metalanguage

The natural semantic metalanguage (NSM) approach to semantic analysis is engaged in searching for and testing indefinable concepts that are simple and universal (Goddard and Wierzbicka 2002). These proposed universal primitives, which include spatial primes, can be used to explicate meaning in a way that avoids reliance on language specific terms that are not available cross linguistically. Three of the spatial primes are relevant to this paper on spatial reference in Koromu.

The vertical dimension which is described as ‘a universal organizing principle’ by Levinson (1998:13) can be expressed by Koromu exponents of the primes ABOVE and BELOW which are the postposition *warisesa* ‘below’ and the locative *nampa* ‘above’¹. For example:

¹ The locative *nampa* ‘above’ can also function as a postposition in some contexts.

(1) *Weti warisesa yonu pa aie te -ho.*
 house below shade LOC work get -1pINC

Weti nampa uo, were heke hekeni -r -a.
 house above TOP sun heat heat -PROG -3s

‘We are working in the shade below the house. As for the house above, the sun is heating it.’ D8.20.2

The semantic prime SIDE, realised in Koromu by the suffix *-sa* ‘side’, is commonly used as a part of expressions in both absolute and intrinsic frames of reference.

5. The intrinsic frame of reference in Koromu

The English expressions ‘in front of’, ‘to the left of’ and ‘to the right of’ can be used in a relative frame of reference. The nearest equivalents to these terms in Koromu are used in the intrinsic frame of reference. Koromu speakers refer to ‘inherent features’ of specific objects which differ as the characteristics of the particular referents differ. People have *oru* ‘insides/front’, *ipu* ‘back’, and *tare* ‘SIDE’. Houses have *sapu* ‘front’, *u* ‘back/there’ and *tare* ‘SIDE’. The front of a house is *sapusa* ‘front/road side’ since it is the side facing the *sapukotu* ‘path or road’.

(2) *Weti sapu -sa men -a.*
 house front/road -side be -3s

‘It’s at the front/road side of the house.’

The front of a person is indicated by the term *oru-sa* ‘insides-side’:

(3) *...epono sene hare oru -sa were -ia.*
 later 1p ANLOC insides -side see -1p

‘...later we saw (something) near the front of us.’ T2.24

The Koromu terms *etaisa* ‘left’ and *pakasa* ‘right’ are used to talk about parts on the left or right of a person’s body, for example *mo wapi etaisa* [this hand leftside] ‘this

hand is on the left' and *mo wapi pakasa* [this hand rightside] 'this hand is on the right'. The following example is a translation from English in which the terms are used to refer to a location near the intrinsic right and left sides of a person.

(4)	<i>...ato</i>	<i>pakasa</i>	<i>hane</i>	<i>re</i> ²	<i>-pe</i>
	one	right	hang	put	-SR

	<i>ato</i>	<i>etaisa</i>	<i>hane</i>	<i>her</i>	<i>-e</i>
	one	left.side	hang	put	-3p

'...they hung one on the right and they hung one on the left.'

6. The absolute frame of reference in Koromu

The Koromu villages are located on the fairly level valley floor close to the foothills of the steep mountain ranges and to the rivers which drain the mountains (see 1). People go up the river valleys and foothills to get water, firewood and building materials and to make gardens and hunt for pigs on the steep slopes. They also make gardens on flatter land near to the Ramu River. The Ramu and other rivers can be very difficult to cross in the wet season but the river beds are good routes for walking during the dry season.

The absolute reference system used in Koromu is based on elevation. It is realised by local nouns describing direction, locatives which are morphologically derived from these direction terms and motion-path verbs. These terms can combine with expressions denoting the vertical dimension or the intrinsic frame of reference. They can also occur together in a clause.

6.1 Local nouns

Local nouns can function in the absolute frame of reference system referring to directions up, down and across rivers and valleys. They can also be used in relation to slopes and the vertical dimension in conjunction with other parts of speech.

² The serial verb *here* 'put' occurs as *re* 'put' prior to a switch reference suffix.

(5) *yoroho* ‘up there (up river/valley)’

aroho ‘down there (down river/valley)’

eno ‘across there (at roughly the same altitude across a river/valley)’

Local nouns are frequently used to describe locations in the Ramu valley. Although the land in the valley bottom is fairly flat people are aware of ‘up’ and ‘down’ because they know from every day experience which direction the rivers flow. The following extract includes the three local nouns referring to locations up, down and across the valley. The text was recorded on the northern side of the valley several kilometres from the Ramu River as we looked across towards the southern mountains which include Mt. Helwig (2739 metres), Mt. Otto (3540 metres) and Mt Wilhelm (4509 metres).

(6)	<i>Mare</i>	<i>napa</i>	<i>mo</i>	<i>pate</i>	<i>eno</i>	<i>ya</i>	<i>ne</i> ³	<i>-pe</i>
	place	P3p	here	from	across.there	go	be	-SR

<i>yoroho</i>	<i>ya</i>	<i>ne</i>	<i>-pe,</i>	<i>keti</i>	<i>pa</i>	<i>yooro</i> ⁴	<i>ya</i>
up.	go	be	-SR	mountain	LOC	far.up.	go
there						there	

<i>n</i>	<i>-e.</i>	<i>Aroho</i>	<i>ya</i>	<i>n</i>	<i>-e.</i>
be	-3p	down.there	go	be	-3p

‘From here, their place, they (Koromu people) went and stayed across there, and they went and stayed up there, and they went and stayed at the mountains far up there. They went down there.’ T5.3.23

The local nouns can also be used about positions near or in the river, for example:

³ The verb *men(e)* ‘be’ can also be realised as *n(e)*, particularly in a serial verb construction.

⁴ The initial vowel in this word is lengthened to indicate intensification.

- (7) *Ya po sure -pe aroho mi were sur -a.*
 river cross try -SR down.there move.down see try -3s

‘She tried to cross the river, she went down there to try and see.’ T1.15.44

The same nouns can be used when describing the location of things within a house or in a small space. This usage indicates that absolute reference is a primary reference system in the language. When we were putting up a mosquito net the following comment referred to a support for the net that was in a location lower down the valley.

- (8) *Ato mo n -a. Ato aroho n -a.*

One here be -3s One down.there be -3s

‘One is here. One is down there.’ D2.64.6

Levinson states that absolute reference is determined by ‘arbitrary fixed bearings’ (1996:145, 2003:48) but Koromu local nouns can be used to describe direction based on the landscape in the immediate vicinity rather than the directions of the Ramu valley. The following example refers to events in the Kohu river valley which winds through the mountain foothills at roughly right angles to the Ramu valley.

- (9) *...ya nuku te -pe yare -pe*
 water envelope get -SR go -SR

aine yoroho he na -e.
 fish up.there roast eat -3p

‘...they swam under water, and went, and cooked and ate fish up there.’
 T2.25.29

The local noun *eno* ‘across there’ is potentially ambiguous. Speakers located on the southern or the northern side of the Ramu valley often use this term to refer to directions across the valley or across in that direction (see 6.2 also). This orthogonal usage is also found in languages such as Tzeltal which Levinson describes as having a true fixed bearing system (1996:111). However, like *yoroho* ‘up there’ and *aroho* ‘down there’ the term *eno* ‘across there’ can be used to describe location across other valleys which lie at different angles to the Ramu valley. It can also be used to refer to locations ‘across’ other long, narrow, open spaces such as the road (which runs parallel to the Ramu River), gardens and open spaces in villages and towns. For example:

- (10) *Ato* *ihi* *ta* *-pe* *eno* *hane* *n* *-a.*
 one finish end -SR across.there hang be -3s
 ‘One (bark skirt) is finished and it hangs across there.’ D5.200. 6

In contrast to *yoroho* ‘up there’ and *aroho* ‘down there’ the true vertical dimension can be expressed by *nampa* ‘above’ and *warisesa* ‘below’, see (1) above and (11) below:

- (11) *noie* *me* *re* *-pe,* *ou* *nampa* *te* *re* *-pe*
 compost move.down put -SR yam above get put -SR
 ‘...we put the compost down (in a hole) and we put the yam above it...’
 T5.17.15

Terms for elevation and vertical dimension can be combined. In the following example the narrator is referring to his location up in a tree above some dogs that have gone wild. The location is both *nampa* ‘above’ in the vertical dimension (up the tree vertically) and *yoroho* ‘up there’ at an angle in elevation from the dogs around the foot of the tree. The local noun could also refer to the direction up the Ramu valley.

- (12) *Nampa yoroho uo, ururu pente*
 above up.there TOP think SR:LD
- eri mete warike -se -r -a.*
 fear skin bad -O1s -PROG -3s

‘Up above there, I was thinking and fear badly affected me. T2.32

The terms *nampa* ‘above’ and *yoroho* ‘up there’ regularly combine to refer to something that is ‘up a steep gradient’ such as ‘up a tree’, ‘up a steep hill’ or ‘up steps’. The following extract is from a dialogue on a journey up a steep hill in the Highlands. It illustrates the use of this construction in an environment away from the Ramu valley.

- (13) “*Waikohu an -sa men -a =e?*” *u -i -te*
 agemate where -side be -3s =Q quote -1s -DR
- “*U nampa yoroho men -a =mo,*” *U -a.*
 that/he above up.there be -3s =DEC quote -3s

“Where/which side is my agemate?” I said. “He is up above,” he said. T1.22

The vertical dimension is expressed in an example with the local noun *aroho* ‘down there’ when it combines with the motion-path verb *mi* ‘move down’, which can be used in the context of elevation or the vertical dimension (see 6.3), and the verb *so* ‘pour’ which indicates downward movement in the vertical dimension.

- (14) *Pitai aroho mi so -a.*
 blood down.there move.down pour -3s
- “*Usu ti -se -r -a =mo,*” *u -a.*
 pig get -O1s -PROG -3s =DEC quote -3s
- ‘The blood poured down there. “The pig got me” he said.’ T6.5

6.2 Locatives derived morphologically from local nouns

Locatives derived morphologically from local nouns incorporate the suffix *sa* ‘-side’. The locatives derived from directionals involve absolute spatial reference and deixis.

- (15) Local nouns Locatives
- yoroho* ‘up there’ *yorosa* ‘up/upper side’
- aroho* ‘down there’ *aresa* ‘down/lower side’
- eno* ‘across there’ *ensa* ‘across there side’

In the following example from a description of crossing the Ramu River the first locative indicates a location to the upper side of the speaker (the default origo). The second indicates a position to the lower side of the person mentioned in the first clause.

- (16) *Ni te yorosu⁵ pi -a. I te aresa p -i.*
 3s TE up.side stand -3s 1s TE down.side stand -1s
- ‘She stood on the upper side (of me). I stood on the lower side (of her).’
 T1.15.48

⁵ The final high front vowel results from a low central vowel which is raised in harmony with a subsequent front high vowel and a preceding mid back vowel.

The locatives can occur in expressions that combine the absolute frame of reference with the intrinsic frame of reference. The following example is a description of the position of three people in a small area of the village. Two people are sitting near a table and one is a few metres away.

(17)	<i>Sairam</i>	<i>oru</i>	<i>aroso</i> ⁶	<i>o</i>	<i>n</i>	<i>-a.</i>
	Sairam	insides/front	down.side	do	be	-3s
	<i>I</i>	<i>oru</i>	<i>enso</i>	<i>o</i>	<i>n</i>	<i>-i.</i>
	1s	insides/front	across.side	do	be	-1s
	<i>Ne</i>	<i>oru</i>	<i>yoroso</i>	<i>o</i>	<i>n</i>	<i>-i</i> ⁷ .
	2s	insides/front	up.side	do	put	-2s

'Sairam is facing the down side (front is down side). I am facing the across side (front is across side). You are facing the up side (front is up side).'
D11

6.3 Motion-path verbs

Motion verbs are common in Koromu and other Papuan languages such as Nimboran (Steinhauer 1997). In Tauya, a language linguistically and areally quite close to Koromu there are at least four basic motion verbs translated as 'come, go, come up' and 'come down' (MacDonald 1990:186). Koromu has both motion-manner (Talmy 1985:62) and motion-path verbs (1985:105). Motion-manner verbs indicate the manner of movement, for example *he* 'move quickly, walk fast', *tehei* 'move at a steady pace'. Motion path verbs include the deictic verbs *yare* 'go' and *ka* 'come' as well as other motion path verbs indicating direction, for example: *ene* 'move across', *erehe* 'move along the side of something', *i* 'move along the course of something', *mere* 'move up',

⁶ The final mid back vowel results from a low central vowel raised in harmony with a subsequent mid back vowel and a preceding mid back vowel.

⁷ The suffix for 1s and 2s has the same form.

mi ‘move down’, *po* ‘move through to other side of something’, *topi* ‘climb’ and *wani* ‘move round and round in a small space’. Three of these verbs show some similarities semantically of in the FoR system to the local nouns *yoroho* ‘up there’, *aroho* ‘down there’ and *eno* ‘across there’.

- (18) *mere* move up
mi move down
ene move across

The frequently used verbs, *mere* ‘move up’ and *mi* ‘move down’, make absolute reference to movement up or down the gradual slope of the Ramu valley or other valleys or slopes. They can also refer to vertical movement. The following example refers to movement over a distance up the Ramu valley.

- (19) ...*eto* *mani* *tapa* *te* -*pe* *a* ***mere*** -*hera* =*mo*.
tomorrow money P2p get -SR come move.up F3s =DEC
‘Tomorrow he will get your money and come up.’ T1.8

Movement over a very short distance can also be represented.

- (20) ...*sene* *hare* ***mere*** *poho* *n* -*ia*.
1p ANLOC move.up sit be -1p
‘...we moved up (the village) to ours (our place) and sat. T1.15.89

The direction of movement can like location be based on elevation in a place away from and uninfluenced by the directions of the Ramu valley. The following example describes movement up a slope in the Highlands.

(21) ...*a mere -a -te were -pe nite...*

come move.up -3s -DR see -SR:LD

‘...she came up and I saw her...’ T1.20

The verbs *mere* ‘move up’ and *mi* ‘move down’ also refer to movement in the vertical dimension but the upward movement of climbing is indicated by the motion-path verb *topi* ‘climb’, as in nau top-i=mo [coconut climb-1s=DEC] ‘I climbed up the coconut’.

(22) *Asase mere -pe hukuru mer -a.*

some move.up -SR stomach move.up -3s

‘It (the river) moved some way up, it came up my stomach.’

(23) *Ya me⁸ -r -a.*

rain move.down -PROG -3s

‘It is raining.’ (lit. the rain is moving down)

The verb *ene* ‘move across’ is similar in form to the local noun *eno* ‘across there’. It refers to movement across sandbanks, the wide channels of the Ramu River and spaces in a village⁹ so there is some semantic similarity to the local noun.

(24) *Mo ene here -r -a.*

here move.across put -PROG -3s

‘He moved across here.’ (looking at footprints across an open space)

⁸ The high vowel is lowered following a labial and prior to the progressive aspect suffix.

⁹ A verb of the same form is used for the posture-taking verb *ene* ‘lay down’, an action in an open space.

- (25) *Ya Enae pa kerehe te -pe en -aho.*
 river Ramu LOC jog get -SR move.across -1pINC

‘Let’s jog and move across the Ramu River.’ (to cross the swift channels it is necessary to do a jogging dance like step to maintain momentum and balance)

6.4 Comparing the usage of absolute location nouns and motion-path verbs

The motion-path verbs *mere* ‘move up’ and *mi* ‘move down’ and the local nouns *yoroho* ‘up there’ and *aroho* ‘down there’ can both be used for absolute reference. The motion-path verbs can also describe the vertical dimension, see (22) and (23) above. These verbs and nouns can also occur in the same clause. In the following example the local noun indicates that smoke is rising at a place up the valley or slope. The motion path verb indicates that the smoke is moving in an upward direction in the vertical dimension. Reference is made to a point up the Kohu valley but the same statement could be used to refer to smoke rising at a place up the Ramu valley.

- (26) *Heken pera yoroho mere -r -a.*
 fire smoke up.there move up -PROG -3s

‘Smoke is rising up there.’

Use of motion-path verbs is crucially different from use of absolute location nouns. Nouns are used when the location of the referent is distinguished or foregrounded. Verbs are used when the movement along a path is background information to the location indicated by postpositional or noun phrases as in (7) and (10). It seems that “a semantic element is backgrounded by expression in the main verb root” or verbal complex, and foregrounded elsewhere (Talmy 1985:122). The following example includes a relational and an absolute location noun plus a motion-path and a motion-manner verb, see also (26):

- (27) *Weti pa nampa yoroho pa mere tehei -pe...*
 house LOC above up.there LOC move.up walk -SR

‘We were moving upwards walking to the house up above...’ T1.20

7. Use of absolute reference terms outside the Koromu area

Examples such as (21) and (27) show that when Koromu speakers are away from the Ramu valley they base their directions on elevation in the local environment. Differences in elevation are part of descriptions of journeys over quite long distances. In a narrative recorded many years ago a speaker says *aroho pa u pa yar-i* [down there to there to go-1s] ‘I went down there to there’ when speaking of the journey from Kainantu to Goroka. The road goes up and down and through valleys between the two towns. There is a drop in elevation on the last part of the route into the Goroka valley. The narrator describes the return journey from Goroka to Kainantu using the motion-path verb *mere* ‘move up’ three times. For example *...he ya mere-ia* [return go move.up-1p] ‘we returned going moving up’. This is an appropriate usage of the Koromu absolute reference system and indicates a fine sense of elevation as the actual difference between in altitude between the two towns is very small.

Since the route between Kainantu and Goroka follows roughly the same compass bearings as the distinctive Ramu valley it is perhaps possible that speakers are influenced by those bearings. This would mean, however, that they take into account both elevation based on local phenomena and fixed bearings.

Adzera speakers (Austronesian) from the Markham who now live in the Ramu valley are influenced by their own absolute reference system since they still refer to ‘up’ for the northwest direction and ‘down’ for the southeast, based on the fall in elevation of the Markham valley and the Markham river in their original homeland (pc Arikao Tomas). Where the Ramu and Markham valleys merge about 50 km to the southeast of the Koromu area the watershed between the rivers is scarcely discernible therefore it is natural to consider that one is in the same valley. Whether Koromu speakers would be similarly influenced if they were in the Markham valley is a subject for further investigation. It was not possible to test this during recent fieldwork.

7. Conclusion

When talking about space Koromu speakers make use of local nouns, morphologically derived locatives and motion-path verbs. All of these terms can be used in the absolute reference system. Local nouns can also combine with terms for the vertical dimension or motion-path verbs to express absolute reference or reference to the vertical dimension. Morphologically derived locatives can function in constructions which combine the intrinsic and the absolute reference system while motion-path verbs can function in either the absolute reference system or the vertical dimension reference system.

Absolute reference is common in many languages across the world but it is not always a basic system of reference. The Koromu absolute reference system is a basic reference system used to describe the location of things around the home as well as in the wider world. It is based on a dominant feature of the environment, elevation, which

is an integral part of daily life. This ‘external phenomena’ (Palmer 2004:19) can be referred to in other contexts than the Ramu valley.

Abbreviations and conventions

ANLOC	animate locative
DEC	declarative
DR	different referent realis
F	future
INC	inclusive
LOC	locative
LD	loose dependency
p	plural
P	part of/possessive
PLOC	placename locative
PROG	progressive
Q	question marker
R	reciprocal
s	singular
SR	same referent realis
TE	focus subject marker
TOP	topic marker

Bibliography

- Givon, T. 1985. Iconicity, isomorphism and non-arbitrary coding in syntax. In John Haiman (ed.) *Iconicity in syntax*. Amsterdam: John Benjamins. 187-219.
- Goddard, Cliff and Anna Wierzbicka. 2002. *Meaning and Universal Grammar – Theory and Empirical Findings*. Amsterdam: John Benjamins.
- Heeschen, Volker. 1997. Relativities: Use and Non-use of Spatial Reference among the Yale speakers in Irian Jaya (West New Guinea). In Gunter Senft (ed.) *Referring to Space: Studies in Austronesian and Papuan Languages*. Oxford: Clarendon Press. 175-196.

- Levinson, Stephen C. 1996. Frames of reference and Molyneux's Question: crosslinguistic evidence. In Paul Bloom, Mary A. Peterson, Lynn Nadel & Merrill F. Garrett (eds.) *Language and Space*. Cambridge MA: MIT Press. 109-169.
1998. Studying spatial conceptualisation across cultures: anthropology and cognitive science. *Ethos. Journal of the Society for Psychological Anthropology* 26/1:7-24.
2003. *Space in Language and Cognition: Explorations in Cognitive Diversity*. Cambridge: Cambridge University Press.
- Macdonald, Lorna. 1990. *A Grammar of Tauya*. Berlin: Mouton de Gruyter.
- Palmer, Bill. 2002. Absolute spatial reference and the grammaticalisation of perceptually salient phenomena. In Bennardo (ed.) *Representing Space in Oceania*. Canberra: Pacific Linguistics.
2003. Linguistic Frame of Reference Reconsidered. In *Proceedings of the 2002 Conference of the Australian Linguistics Society*.
2004. Standing Whorf on his head: evidence from spatial reference on the relationship between language and thought. International Conference on Language, Culture and Mind. University of Portsmouth. www.surrey.ac.uk/lcts/bill.palmer
- Pederson, Eric, Eve Danziger, David Wilkins, Stephen C. Levinson, Sotaro Kita and Gunter Senft. 1998. Semantic typology and spatial conceptualization. In *Language* 74/3:557-589.
- Steinhauer, Hein. 1997. Conceptualization of space in Nimboran (Irian Jaya, West New Guinea). *Referring to Space: Studies in Austronesian and Papuan Languages*. Oxford: Clarendon Press. 269-280
- Talmy, Leonard. 1985. Lexicalization patterns: semantic structure in lexical forms. In Timothy Shopen (ed.) *Language typology and syntactic description: Grammatical Categories and the lexicon*. Cambridge: Cambridge University Press. 57-149.
- Voorhoeve, C. L. 1997. Conceptualization of Space in Nimboran: some Supplementary Remarks. In Gunter Senft (ed.). *Referring to Space: Studies in Austronesian and Papuan Languages*. Oxford: Clarendon Press. 281-285.
- Wassmann, Jurg. 1997. Finding the Right Path: The Route Knowledge of the Yupno of Papua New Guinea. In Gunter Senft (ed.) *Referring to Space: Studies in Austronesian and Papuan Languages*. Oxford: Clarendon Press 143-174.