5   The language of space in Yélî Dnye

Stephen C. Levinson

5.1   The language and culture of Rossel Island

Rossel Island lies at the eastern end of the Louisiade Archipelago, the last landfall in Milne Bay Province, Papua New Guinea. Its remote location in difficult seas has limited outside influence, nevertheless Rossel has always been part of a wider island network, for example feeding shell necklaces into the Kula ring.[1] Before the Second World War, one Australian family ran a coconut plantation there for forty years. Since the war, Rossel labour has been used on the mainland, and the United and Catholic churches have run effective mission stations, bringing primary education in English to most children. Trade stores are badly supplied, and Rossel belongs only marginally to the cash economy, producing small amounts of copra and sea produce. Subsistence agriculture is based especially on sago, taro and yams, with protein from the sea. The population stands at about 4,000.

Both the language and the culture of Rossel are distinct from the Austronesian cultures on surrounding islands. Rossel canoes, houses, song styles, traditional dress and ornament are all distinctively alien to the surrounding peoples, and the language is regarded as unlearnable by outsiders. Rossel culture is built on a matrilineal clan system with theoretical ownership of land and sacred places running in the matriline, but with practical inheritance of land based on patrilocal residence in small hamlets. It has a renowned system of shell money, the focus of anthropological investigations by Armstrong (1928) and Liep (1981, 1983, 1989a, b).

Yélî Dnye, 'Rossel language', is the primary language of day-to-day communication (in the literature it is variously known as Yele, Yela, Yeletnye or Rossel). Melanesian pidgin English (Tok Pisin) is not spoken much, although the pidgin based on Motu used to have some limited currency. Many people

[1] The symbolic exchange system linking many islands in Milne Bay Province (Leach and Leach 1983). Rossel always lay outside this system but participated by providing valuable shells to neighbouring Sudest, and gaining in return pottery and stone axe valuables.

have some knowledge of the languages on surrounding islands, especially Mis-ima and Sudest, but English is the main secondary language in the Province as a whole. Yélî Dnye is a language isolate, whose relations to any other lan-guages are completely obscure. It is clearly not Austronesian, with very few discernable loans or influences, and has many features associated with the mainland 'Papuan' (i.e. non-Austronesian) languages (e.g. free phrase order with verb-final tendencies). Wurm (1982) set up an East Papuan phylum, to which the Rossel language is supposed to belong, but the reasoning is not explicit and no evidence is provided. On the other hand, parallels in the pro-nouns and the semantic basis for many grammatical categories suggest links to the mainland, especially perhaps to the Gorokan languages. The Rossel phoneme inventory is peculiarly large, but some of the same distinctions (e.g. prenasalization, labio-velar segments, etc.) can be found in mainland languages. Whether the Rossel language is a relict of a much larger island population now submerged under a sea of Austronesian (as Capell 1969 and others have sug-gested), or whether its speakers were successively pushed down from the High-lands and out to sea by the Austronesians (as Wurm 1982 seems to suggest) is an issue that may perhaps be resolved by the study of human genetics in the future.

5.2   Some salient features of the grammar

Yélî Dnye has distinct western and eastern dialects, and the following descrip-tion is based on the eastern dialect which is the basis for a bible translation, a short grammar and dictionary by the SIL linguists James and Anne Henderson (Henderson 1995, Henderson and Henderson 1999). I have adopted Hender-son's (1995) practical orthography together with his analysis of the complex tense/aspect system in what follows.

Phonology

The language has a large and complex phoneme inventory (ninety segments by traditional criteria), with a number of sounds apparently unique in the languages of the world (e.g. a full series of stops with simultaneous bilabial closure; see Ladefoged and Maddieson 1996: 334), and in this respect is unlike any other Papuan language (cf. Foley 1986). Consonants have four places of articulation (p, t, ṭ, k), and five 'manners' of co-articulation (simultaneous bilabial clo-sure, prenasalization, nasal plosion, palatalization, labialization or labialization plus palatalization), yielding fifty-six segments (since not all possibilities are realized). There are no consonant clusters, and this allows us to write single consonants with up to four characters in a normal orthography that truncates

many IPA multigraphs. The vowel system has five front vowels, four back ones and two mid vowels, multiplied by phonemic length and nasalization, yielding thirty-four distinctive segments (Henderson 1995: 3, Levinson in preparation; the maximum attested in any other Papuan language seems to be eight vowels, see Foley 1986: 54). The whole phonemic system is one of the most unusual to be found, and almost certainly the most complex in the Pacific. For the interpre-tation of the practical orthography see Henderson (1995), and for the phonetic details see Maddieson and Levinson (in preparation).

Morphology and syntax

Parts of speech include nouns, verbs (morphosyntactically distinguished as tran-sitive, intransitive), adjectives, adverbs, pronouns and demonstratives, quanti-fiers, postpositions, pre- and postverbal particles indicating tense/aspect/person, etc., and minor form classes such as sentential connectives, quotatives, etc.

The morphology is very reduced by virtue of the fact that most inflectional functions are indicated by particles or free morphemes, which subsume mul-tiple grammatical categories (like person/number/aspect/tense) in single port-manteau morphs. There are a few bound morphemes, such as *-ni* (a nominal specifier), a nasal feature N- (2nd person possessive prefix, which fuses with the first segment of the head), *a-* future tense. Inflectional functions are also frequently, but irregularly, indicated by root suppletion, so that verbs may have distinct roots for proximate past tense, remote past tense, punctual vs. con-tinuative aspect, non-singular non-third person object, and so on. Derivational morphology is highly restricted to a few lexically restricted functions, e.g. deriv-ing 'continuous aspect' verb stems and nominalizations from some verb roots by reduplication (but for many verbs this is marked by suppletive roots). Free morphemes perform many of the functions of derivation, e.g. postpositional *mbiy:e* acts like a general adverbializer. Thus, the pattern is to indicate case, agreement, plurality of nominals, etc., in such (usually) postpositional particles and clitics.

In general, the genius of the language may be summed up by the injunction 'Lexicalize!' It is thus paradigmatic that 'the verb' for giving should have eight roots (see (1) below), splitting even on person of recipient. Consequently, in all sorts of areas of the grammar where one might expect systematic inflec-tion, derivation or alternation, one finds instead suppletion or the handling of functional shifts through multiple lexemes.

The language has an SOV word-order tendency, although phrase order is in fact very free (all major phrases can occur in any order in the clause). In line with that SOV tendency, the language has postpositions marking grammatical functions like ergative and oblique NPs, and postpositions constructing adjunct

phrases (e.g. adverbial temporal and locative phrases). It is not, however, left-branching: most modifiers and relative clauses are on the right of the head. The language marks 'cases' (with postpositional clitics) as follows:

zero   Absolutive, Locative

ngê   Ergative, Instrumental, Experiencer, Factitive and other functions[2]

ka   Dative (restricted locative uses as human Source *or* Goal of movement)[3]

k:ii   Comitative

I recognize the zero postposition as a locative because a phrase without a postposition is either interpreted as the absolutive NP, or has a locative interpretation. (Many nominals describing spatial parts have thus become reinterpreted as postpositions.) In addition to the zero locative (for named places, institutional locations, home, etc.), there are many detailed spatial postpositions described below.

As these facts indicate, as far as NPs go, the language is ergative/absolutive in type. Ergative NPs are obligatorily case-marked, and indefinite absolutive NPs are also distinguished by having the indefinite quantifier extracted from the NP and placed in a preverbal position (Henderson 1995: 40–1).[4] The free pronouns are in most circumstances nominative/accusative in type, but can receive ergative marking. Verbal cross-referencing also does not directly align with ergative/absolutive distinctions, marking transitive and intransitive subjects in the same way in the preverbal cross-referencing, although in distinct ways in the postverbal cross-referencing. Yélî Dnye could thus be said to be of split ergative type – with ergative-absolute marking of lexical NPs and nominative-accusative marking of most pronouns and cross-referencing (but see Levinson in press).

The verb phrase is the locus of considerable grammatical complexity (well described in Henderson 1995). As mentioned, the verb itself very generally has suppletive roots to indicate tense, aspect and mood, and occasionally other properties (like person). But whether a particular verb will supplete on these dimensions is unpredictable, as illustrated in (1) below. Sometimes a special form is used when the verb is followed by a non-zero inflectional particle (marked 'followed' below).

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[2] Postposition *ngê* has a wide range of topicalizing adverbializing functions (for, e.g., time and manner expressions) and is the general way to incorporate extra oblique NPs.

[3] I do have a few more general uses of *ka*, e.g.

    kî   yini ka ka   lêpî
    This tree to Deictic+TAM going 'He is going towards the tree'

[4] This is part of a larger pattern of quantifier floating, in which numerals on objects also occur in the same position (Henderson 1995: 59).

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(1)   Suppletive roots (all forms Punctual Aspect[5] except last)

	'stand up'	'go and get'	'wash self'	'kill by sorcery'
Imperative	*ghé*	*ng:uu*	*kwidi*	*mgaa*
Prox. Past	*ghê*	*ngmêê*	*kudu*	*mgaa*
Remote Past	*ghê*	*ngwódu*	*kpêê*	*mgop*
Followed	*ghêêdî*	—	*kpêê*	*mgaa*
Contin. Aspect	*wowo*	*nmy:uu/ng:uu*	*kuku*	*mgapî*

	'give to 3rd person'	'give to 1st/2nd person'	'put'
Imperative	*yéni*	*ki*	*téni*
Prox. Past	*y:oo*	*kê*	*t:oo*
Remote Past	*y:ângo*	*kpo*	*t:ângo*
Followed	*y:ee*	*kê*	*t:ee*
Contin. Aspect	*yémî*	*kuwo*	*t:emî*

	'go'	'descend'	'enter'	'arrive by boat'
Imperative	*lili*	*ghidi*	*kee*	—
Prox. Past	*lê*	*ghîî*	*kee*	*têêdi*
Remote Past	*loo*	*gho/ghigho*	*kee*	*têêdi*
Followed	*lee*	*ghêpê*	*kee*	*tee*
Contin. Aspect	*lêpî*	*ghêpêghêpê*	*koko*	*todotodo*

The verb is flanked by largely unanalysable clitics (or portmanteau morphemes) which together succinctly indicate tense, aspect, mood, transitivity and person/number of subject and object, often together with other optional grammatical categories. The preverbal particle marks the six tenses, two aspects, three moods, three persons, three numbers (singular, dual, plural) – hence there are theoretically over 500 possible combinations to be represented in unique portmanteau morphs (not counting additional grammatical categories like evidentiality, associated motion, diexis, repetition, which also get fused into these morphs – for some details see Henderson 1995). In practice the number is reduced by conflations, e.g. in the punctiliar aspect the tenses 'near past' and 'remote past' are conflated, while in the continuous aspect 'near past' and 'immediate past' are conflated in the first and second persons. The postverbal particle marks transitivity, aspect, mood and person, and number of both object and subject. Here again there are mercifully conflations, some following distinctively Papuan patterns like 'monofocal' grouping of first person (singular, dual and plural) with second and third person singular, with the remainder marked 'polyfocal'. Where the postverbal particle has zero realization (e.g. with transitive verbs in proximal tenses with third person singular objects), the

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[5] The two aspects, Continuous vs. Punctual, are signalled by different paradigms of pre- and postverbal particles, but they are also reflected in suppletive verb stems.

verb root often switches into a suppletive form. Despite the conflations there are hundreds of particles.

A few examples of the verb phrase, presented in (2), will help to prepare for the glossed examples illustrating other matters below. Note how the verb root changes its shape according, especially, to tense and aspect, and according to whether there is or is not a postverbal clitic. Note too that the pre- and postverbal clitics encode information redundantly, but not transparently. These particles often allow multiple conflicting interpretations, e.g. *dî vyee nê* could mean either 'he was NOT hitting me continuously today' or 'he was (positive) hitting me yesterday', although usually the intersection of pre- and postverbal clitics together with the shape of the verb root serve to disambiguate matters effectively (negation is incidentally particularly complex).

(2)   Pre- and postverbal inflectional particles[6]

    a. *nî*   *loo*

       1.s+Rempast+Punct.Aspect went_Rempast

       ø

       Punct.Aspect.RemoteTense.singSubject

       'I went (long ago)'

    b. *nyi*   *lee*

       1.dual+past went_Rempast_followed

       knapwo

       1.dual+Indic+Remote+Intrans

       'We two went (long ago)'

    c. *a-nî*   *lêpî*

       Pres+Cont.-1s+Pres+Cont. go-Contin.Aspect

       'I am going'

    d. *a-nyi*   *lêpî*   *mo*

       Pres+Cont.1dual go-Contin.Aspect Indic.Prox.dual+Intrans

       'We two are going'

In the glossed examples that follow, not all of the content of the inflectional particles is always provided, as it makes the glosses unreadable; sometimes

[6] Main abbreviations are as follows: Rempast = remote past, Immpast = immediate past, Pres = present, Prox = proximal tenses, Fut = Future; PunctAspect or PI = punctiliar aspect, indicative mood; Cont or Contin. Aspect or CI = continuous aspect, indicative; Hab = habitual mood, Indic = indicative mood, Imp = imperative mood; 1s, 2d, 3pl = 1st person singular, 2nd person dual, 3rd person plural, etc. (Subject unless otherwise stated); Indef = indefinite; S = subject, O = object (also Subj, Obj); Intrans = intransitive verb, Trans = transitive verb; tv = transitive verb clitic, iv = intransitive verb clitic; Poss = possessive; PostN = post-verbal nucleus portmanteau clitic; EPIST = epistemic status marker; ERG = ergative marker; CERT = epistemic marker of certainly; Close = proximal deictic in preverbal nucleus; MOTION = associated motion in preverbal nucleus; TAM = Tense-Aspect-mood marker.

I will resort simply to 'TAMP', i.e. 'tense/aspect/mood/person+number' marker (and I will ignore 'zero-particles', as at the end of the first example).[7]

An important feature of the grammar is that argument-changing operations on verb stems hardly seem to exist – there are no passive, antipassive or transitivizing derivations (apart from the use of a causative verb).[8] The main exception is intransitivization by object incorporation. The strategy of the language is rather to have a different verb root for each subcategorization frame. Thus there are distinct intransitive vs. transitive verbs for, e.g., *tpyipê* 'sail-by-canoe' and *kédi* 'sail the canoe', or *yé* 'go-around (circumambulate)' vs. *y:ââ* 'go around a place'.

Equational sentences or nominal or adjectival predications are expressed without a verb, but existential and locative statements require one of three verbs, 'sit', 'stand', 'hang', determined partly by conventional collocation with the subject, partly by positional information, as described in 5.3 below.

The NP is also complex. The nominal head often has suppletive forms, depending, for example, on whether or not there is a deictic determiner preceding the noun, or a quantifier following it. Thus we have regular *pi* 'a man', *yi pi-ni* 'that man', but irregular *pyââ* 'a woman', *yi pyópu* 'that woman', and so on. Plural markers also sometimes fuse with the head on an irregular basis (e.g. *lémi* 'big man', *léma* 'big men'). There are classifiers, probably remnants of a more extensive system. The canonical structure of the adjectivally modified noun phrase is thus:

(3)   [[Determiners] [Head N] [Classifier Nominal] [Adjectival Phrase]][9]

as for example in:

[7] The zero-particle has a wide range of meanings, as do many of the non-zero forms:

  (a) before the verb, for indicative moods:
    Punct.Aspect+Rem/Medial.Past3s/d/pl
    OR Contin.Aspect+Immpast3s/d/pl
    or for imperatives:
    Imp.PunctImmed3s/d/pl OR Imp.Cont.1s/d/pl

  (b) after intransitive verbs: for indicative moods:
    Punct.Aspect+prox/remote.tenses+singSubject
    Cont.Aspect+prox.tenses+singSubject
    for Imperative mood: 2s+Imp, 1s+Imp

  (c) after transitive verbs:
    3sObject+Contin.Aspect (for imperatives only if subject is 2nd or 3rd person)
    3sObject+Punct.Aspect+MonofocalSubject (Monofocal subjects are singular OR 1st person)

[8] There are perhaps traces of an earlier causative alternation, by, e.g., nasalization of vowels (as in *pwii* 'exit', *pw:ii* 'put outside'), but if so this is no longer productive.

[9] It is possible that the classifier nominal is in fact the head noun, thus aligning with the normal order of the head in compound nominals. If so, the example that follows would gloss more like 'this bookish bundle is red' than 'this bundled book is red'.

(4)   [DET *yi*] [NOUN *puku*] [CLASS-N *dmi*] [ADJ *mtyemtye*]
         this   book   bundle   red

This string is structurally ambiguous between a reading as a complex NP vs. a simple clause (i.e. between 'this red book' and 'this book is red'). Many such expressions have both a compound nominal (or a double compound as illustrated here) and a following adjectival phrase ('Mod' here picks out the modifying norminal):

(5)   {[Mod-N[Mod-N *nkéli*] [Head-N *pi*]] [Head-N[N *too*] [Class-N *pee*]]}
          Boat   man   skin   piece

         [ADJ *kpaapîkpaapî*]
             white
         'Europeans have white skin'

Other grammatical points will be clarified in passing. In the rest of the paper, we sketch the 'grammar of space' under four main rubrics: topological relations (§5.3), frames of reference (§5.4), deixis (§5.5) and motion description (§5.6).

5.3   Topological relations

5.3.1   Introduction

Let us take the central, spatial uses of the English prepositions *at*, *in*, *on* to constitute the 'cognitively basic, essentially topological, relations' (Herskovits 1986: 127), as in *The cat is on the mat*. The core notion is contiguity, further specified as coincidence of location, containment or support. As Wilkins (this volume) points out, even the notion of coincidence of location may be broken down in particular languages into subcases (static location, resulting location, motion in a location). Often additional, broadly spatial, features are relevant to lexical distinctions, as witness the fine shape and dispositional distinctions in Tzeltal positional verbs (Brown this volume). Rossel language is also interesting for the large number of distinctions in locative descriptions, as forced by a large set of thirty-odd topological postpositions and a small set of three contrasting positional verbs.

As in many languages, location is not overtly expressed where the ground is a place name,[10] or one of a number of special location expressions like *p:o* 'at home', *al:ii* 'here' (Henderson 1995: 69). When the figure is in a stereotypical (characteristic, or normal and expected) relation to the ground, as in part-whole

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[10] A curious exception is the name for Rossel island itself, which usually takes the postposition *p:uu* ('on, attached to'), as in *Yélî p:uu* 'on Rossel island'. There is perhaps a universal hierarchy underlying the tendency to drop overt marking of locative relations: Deictic-Adverbial > Home-Base > Place Name > Descriptive-Phrase Denoting Place > Object-as-Location. But I know of no discussion.

relations, or (traditional) clothing-body relations, or objects in characteristic locations (e.g. cigarette in mouth), the marking of the topological relation on the ground nominal may also be omitted. Otherwise, a postposition follows the ground nominal, and in all cases a locative predicate is employed, which is nearly always one of a fixed set in the case of static locations. The basic locative construction in Rossel may be illustrated from descriptions of the 'Topological Relations Picture Series' (Chapter 1, Figure 1.2). Here is the description of Picture 2, depicting a single fruit in a bowl, annotated with the terminology we will use:

(6)   **Picture 2: fruit in bowl**
         Figure   Ground   postposition   positional verb
            ↓   ↓   ↘   ↓   ↓

         kémi   *kîgha* *kapî* *k:oo ka*   *tóó*
         mango   fruit   cup   in   deictic+TAMP   sits
         'The ripe mango is in the cup' (or 'There is a mango in the cup')

The following is a description of Picture 1 depicting a cup and saucer in the middle of a table:

(7)   **Picture 1: cup on table**
         Figure   Ground   postposition   ***positional verb***
            ↓   ↓   ↓   ↓

         kapî   *tepîlî* *u   mbêmê* *ka*   *kwo*
         cup   table   its on-top Def+3SPresCont   stand(s/dual)
         'The cup is standing on the table'

The postposition *mbêmê* may be described as having a strict ON meaning: it can be used only where the figure is located above the ground (in the gravitational vertical dimension), and is in physical contact with it – even then, under certain conditions (like the figure covers the ground, or the ground is a body part) other postpositions or constructions will pre-empt *mbêmê*.

There is a minor constructional difference between the sentences in (6) and (7). In the former, the postposition *k:oo* belongs clearly to the postpositional word class and functions as a fully non-nominal head of a postpositional phrase or PP. The construction in (7), however, is of the form: *[cup][[table] [[3s.possessive] [top]] [[is] [standing]]]* where the phrase in bold is a constituent which can be moved around (all orders of subject, PP and verb phrase are possible). Although *u mbêmê* functions just like a monolexemic postposition, heading a PP, the possessive indicates a grammaticalization path whereby the phrase in bold type is a complex NP with zero-locative marking indicating '(at) the table's top'. Those postpositions which take a possessive are often

transparently related to existing spatial nominals, e.g. *u chedê* 'by the side of' from *chedê* 'side'. However, most postpositions do not take the possessive *u*, as in (6). Similarly, consider (8):

(8)   Picture 10: ring on finger[11]
        ring kêêpyââ p:uu   ka   kwo
        ring finger   attached Def+3SPresCont stand
        'The ring is standing attached-to the finger'

Here the postposition *p:uu* forms a simple PP constituent with the ground NP. *P:uu* can be glossed 'attached to', so that an object tied to, clipped on, stuck on, or naturally attached to a ground object can be so designated. However, again other postpositions may pre-empt *p:uu* – for example where the attachment is by 'spiking' by a ground which is a sharp or thin projection.

The range of spatial, topological postpositions in Rossel is very extensive, making many fine distinctions; this is the subject of the section below. But there is another crucial part of the construction, the locative verb. Rossel has three main locative verbs, which we may gloss 'sit', 'stand' and 'hang', on the basis of their meanings when applied to prototype figures (e.g. humans in the case of 'sit' and 'stand', bags in the case of 'hang'). When we vary the scene, we may get the same postposition *p:uu*, but a different locative predicate, as in this description of a stamp stuck on an envelope:

(9)   Picture 3: stamp on envelope
        stamp envelope p:uu   ka   t:a
        stamp envelope attached Def+3SPresCont hanging
        'The stamp is hanging attached-to the envelope.'

The factors dictating a choice of locative verb are complex and depend on the interaction between arbitrary conventions and the shape and position of the figure object. The details are dealt with in Section 5.3.3.

5.3.2   The system of topological postpositions

Many grammatical functions are served by postpositions. A large set of them are used to build oblique or adverbial postpositional phrases or PPs. Amongst these are many spatial postpositions, and a (semantically defined) subset of these are specialized to topological notions, essentially kinds of propinquity, or

[11] A number of these examples include English words for unfamiliar Western objects for which there is no Yélî Dnye equivalent. English is the lingua franca of the province and the language of education, but by no means universally spoken on Rossel. Normal elicitation based on picture stimuli was done by substituting local analogue scenes for the pictured scenarios – I give the closer equivalents here from educated consultants for comparative purposes.

overlaps between the spatial regions of figures and grounds. In descriptions of the seventy-one pictures in the 'Topological Relations Picture Series' (TRPS), twenty-five distinct postpositions were employed by four consultants. Table 5.1 below gives thirteen of the more frequent forms which might be considered translational counterparts to English 'in' and 'on', with approximate glosses and a sketch of the criterial semantic conditions that have to be met for each form.

Inspection will show that there are two forms dedicated to **containment** ('in' concepts), three forms that cover **attachment** notions, and no less than six forms that cover the semantic space subsumed by English *on* or *above*, i.e. the concepts of **surface support** or **vertical superposition** (the intersection of which arguably gives us prototype ON relations). One thing that rapidly emerges is that adequate description of these postpositions requires taking pragmatic factors into account. Let me illustrate this with regards to the attachment postpositions. Note that not all attachment scenes will be described in attachment terms – e.g. for fruits on a tree, or leaves on a branch, the preference is for use of *nkwodo*, which emphasizes distribution of multiple figures all over ground. Leaving this kind of case aside, we have the following attachment postpositions (repeated in simplified form from Table 5.1):

(10)   Attachment postpositions

Postposition	*Gloss*	*Hypothesized semantic conditions*
paa	'on a vertical surface'	Figure is attached to (nearly) vertical surface
'nedê	'stuck on hook/spike'	Figure is attached by projecting, piercing part of ground (hook, spike, etc.)
p:uu	'stuck on'	Figure is attached strongly to ground, regardless of type of fixing

Let us now concentrate on the pair of alternatives *'nedê* vs. *p:uu* (analogous remarks hold for the other pairs of terms). The glosses, derived from inspection of the pictures to which each postposition applies, suggest that *'nedê* and *p:uu* are in privative opposition – that is, that *'nedê* is a more specific subcase of *p:uu*. If so, pragmatic theory suggests that, although in every case where *'nedê* is applicable *p:uu* should be applicable too, still speakers should hesitate to label a scene with a less informative description (*p:uu*) where a more informative one (*'nedê*) is equally available. This follows from Grice's first Maxim of Quantity (see Levinson 1983 for exposition), which enjoins a co-operative speaker to provide as much information as is pertinent – thus, for example, if I saw a rat in the larder, it would be misleading to say 'I saw an animal in the larder', for

Table 5.1 *Some postpositions related to 'in' and 'on' notions*

Form	Gloss, Picture nos.	Semantic conditions (with numbered use types)
k:oo	'in' 2, 32, 14, 15, 47, 19, 54, 71	(i) 3D Ground: convex closure of Ground includes substantial portion of Figure (ii) 2D Ground: Ground includes whole of Figure
u mênê	'inside', 'enclosed in' 30, 67, 18, 32, 54	(i) Convex closure of Ground must fully include Figure (ii) Figure must have central portion *enclosed* in Ground
yedê	'on a surface' 19, 40, 47, 68	Figure is in contact with a Ground that can be treated as 2D (e.g. cloth, plate); Ground need not be horizontal (e.g. letters on T-shirt)
(u) mbêmê	'on top of' 1, 5, 8, 17, 23, 29, 34, 36, 40, 43, 46, 59, 62, 65	Figure is over and directly supported by Ground
nkwodo	'on all over, covering' 27, 29, 41, 45 'on the middle of' 8, 59	(i) Figure is single and substantially covers Ground, or is plural and is distributed all over Ground (ii) Figure is on top of (and in middle of) Ground
'nedê	'stuck on spike/hook/clip' 9, 20, 22, 30, 33, 37, 56, 57, 63, 70	Figure is attached to projecting Ground (hook, spike, etc.)
paa	'on a vertical surface' 17, 25, 26, 42, 44, 50, 52, 55	Figure is attached to vertical (or near vertical) surface
p:uu	'attached on' 3, 4, 7, 9, 10, 12, 18, 20, 21, 25, 27, 28, 30, 33, 35, 37, 41, 44, 48, 50, 52, 55, 56, 57, 61, 62, 66, 68, 69 'leaning against' 58	(i) Figure is fixed strongly to Ground, regardless of orientation or method of fixture (ii) e.g. of sticks or ladders*
pwono	'on top of' 34, 40	Figure is animal/human standing/sitting on Ground
'nuknî (p:uu)	'on the middle of' 59	Figure is in middle of surface of supporting horizontal surface of Ground, or in middle of line or volume
mbêdê-ma	'on summit of' 5, 36	Figure is on apex of vertically extended Ground
u pwo, pyipwo	'on top of, above' 13, 36	Figure is vertically above, but not supported by Ground
u mêknapwo	'under' 16, 24, 31, 53, 63	(i) Figure is vertically beneath (part of) Ground (within its convex closure?) (ii) Figure cannot be (fully) seen without removing Ground

* Ladders on Rossel are in fact normally firmly attached to raised houses, to which they give access, and thus there is a clear link or 'bridging context' between senses (i) and (ii)

that would implicate (pragmatically suggest) that I did not know which kind of animal it was. This inferential tendency is observable in the well-known 'Horn scales', ordered pairs (or n-tuples) of strong vs. weak descriptions like <all, some>, where saying *Some of them came* implicates rather than entails 'Not all of them came' (Levinson 2000b: 75ff.). Thus we may suspect that our postpositions form a similar Horn scale:

(11)   < *'nedê*   *p:uu* >
        < STRONG,   WEAK >
        Attachment by Attachment
        spike or hook   by any means

There are a number of usage patterns that support this analysis. Inspection of Table 5.1 will show that *p:uu* and *'nedê* have mostly distinct but still overlapping application to the picture stimuli, and that *p:uu* has a larger distribution, as expected. The kind of separate, but overlapping, distribution we get can be illustrated as follows, where for four consultants we indicate how many thought each of the two postpositions appropriate for the scene to be described:

(12)   Distribution of first choices by four informants for attachment postpositions

Scene	Picture No	*'nedê*,	*p:uu*
papers on spike	(22)	4	0
apple on skewer	(70)	4	0
coat on hook	(9)	3	1
clothes pegged on line	**(37)**	**2**	**2**
pendant on chain	(57)	1	3
mud on knife	(12)	0	4
band-aid on leg	(35)	0	4

What the distribution shows is that there is clear consensus that 'spiking' scenes require *'nedê*, and hooking scenes are also good candidates; while at the other extreme, 'sticking' scenes require *p:uu*, with attachment by loop of chain also being a good candidate. But we have a tie for the scene where clothes are attached to a line by grip-action pegs. So far, this distribution of responses is compatible with, say, a prototype analysis with fuzzy boundaries that overlap in the middle range. However, the pragmatic analysis makes a further prediction: in the marginal cases, like clothes-on-line, anyone who offers *'nedê* will readily accept *p:uu*, because the stronger, more specific conditions will entail the weaker conditions, while the choice of the stronger form is merely a pragmatic preference. That is, we can expect a consultant to back off from a stronger statement and accept a weaker one, but not to first announce a preference for the weaker statement, then accept the stronger: in the former case a speaker

would be overriding a pragmatic strategy, in the latter case he should have said the strongest statement he thinks applies, and so not be willing to upgrade the statement, and override a semantic condition. Here is the actual distribution of choices by the four consultants:

(13)   Clothes-on-line scene: preferred postpositions

Consultant	First choice	Second choice
Y	'nedê	p:uu
A	'nedê	p:uu
B	p:uu	—
E	p:uu	—

We therefore conclude that a pragmatic analysis is correct: the two postpositions overlap in extensions, but a pragmatic principle (Grice's first Maxim of Quantity, or the I-principle of Levinson 2000b) induces a division of labour. This analysis shifts a large part of the burden of Saussurean oppositions out of the semantics into the pragmatics and has general application to other material in this volume.

Such an analysis also seems correct for other postpositions in the set. For example, the IN postpositions *u mênê* and *k:oo* seem to have similar sense relations: *k:oo* implies partial inclusion (like English *in*), while *u mênê* has the stronger implication of complete containment under convex closure (think of this as a Christo wrapping of the ground), and moreover the container should have a narrow opening, thus:

(14)   'in' adpositions
         <*u mênê*,   *k:oo* >
         < STRONG,   WEAK >
         G fully contains F   G at least partly contains F
         G has narrow opening

Again, we get a similar distribution of responses: a certain degree of overlap in extension (i.e. pictures where both can be applied), but in these overlap cases a distinctive pattern: any consultant who offers *u mênê* will accept *k:oo*, but not vice versa. The upshot is just the flexibility of use combined with preferences that we expect on a Gricean account: choose the strongest, most specific assertion in line with your understanding of the scene, and assume that if your interlocutor has used the postposition of general inclusion, full enclosure does not, *ceteris paribus*, obtain.

Another pair of postpositions in such scalar contrast are ⟨*mbêmê, u pwo*⟩: both specify vertical relations between figure and ground, but only *mbêmê* also requires contact; thus *u pwo* implicates lack of contact. On the other hand, *mêknapwo*, 'under' is the semantic counterpart or antonym of *u pwo*, with exactly similar semantic generality over +/− contact. However, unlike *u pwo* it lacks a more specific '+contact' alternate. Thus *mêknapwo*, unlike *u pwo*, does

Table 5.2 *Postpositions implying proximity*

Form	Gloss, Picture Nos. (No. of uses)	Semantic conditions
u chêdê	'beside' 16, 24, 31, 53, 63	Figure is located at 'side' or 'edge' of Ground
u nkîgh:ê	'near' 16, 24, 31, 53, 63	Figure is located within a few diameters of Ground object
kuwa	'outside' 15	Figure is not in convex closure of hollow Ground, implied near to Ground

Table 5.3 *Use of zero-postposition construction*

Form	Gloss, Picture Nos. (No. of uses)	Semantic conditions
ø (Zero-postposition)	'Stereotypical extension' 7(1), 11(2), 18(2), 21(1), 27(1), 39(4), 42(4), 46(2+), 51(1), 62(1), 63(1)	Part-whole relations (apple-branch, strap-bag, hole-sheet); characteristic motion (boats, spiders); traditional adornments (headband, armband, belt); thing in 'body part' (cigarette, cork)

not implicate 'not contacting', and can be used equally for a ball beneath a chair, or a spoon under a cloth. The analysis allows us to see that *mêknapwo* does have an exact semantic antonym, namely *u pwo*, even though pragmatically it is opposed to both *u pwo* and *mbêmê*.

We may add that the topological notion of proximity is covered by a range of postpositions such as those in Table 5.2. In addition to these, postpositions with projective properties (involving notions like 'in front', 'behind') are much employed and will be discussed in Section 5.4 under the rubric of 'frames of reference' below.

Now, for attachment scenes especially, a different construction is also available. The construction is just the same, with a special locative verb, except that the postposition is dropped altogether. Note that in the case of place names, deictic adverbs ('here', 'there') and home-base locutions (*p:o* 'home') this zero-postposition construction is the normal construction. However it does not occur only with such intrinsically spatial nominals; it may also occur where the ground denotes a physical object. This zero-postposition construction has a limited, but systematic, distribution in our picture-book scenes, as shown in Table 5.3.

The generalization for the zero-postposition construction is that it cannot be used for unexpected, non-stereotypical relations. Characteristic motion and

dispositions (whether ships on the sea, or fruit on a branch) invite the dropping of the postposition. Non-traditional adornments (rings, hats) require postpositions, traditional adornments (armbands, belts) do not. All this is in line with cross-linguistic tendencies. Many languages with systematic case marking may oppose a general locative case to a series of adpositions, e.g. in Tamil one can use the locative case for nearly any stereotypical extension, without specifying IN/ON or other relations in the rich postpositional system; to use those postpositions then implicates some kind of special situation. (Similarly, many languages, e.g. Guugu Yimithirr, drop the locative verb in these kinds of situations, where Rossel drops the postposition.) What these reduced constructions signal is: 'business as usual'.

Again, a perfectly general pragmatic principle is responsible for this pattern, Grice's Second Maxim of Quantity, or my I-principle (Levinson 2000b). The reduced construction induces implicatures to the stereotype, and such reduced constructions can then subtly contrast with the full postpositional construction, which can then suggest an unusual, non-stereotypical extension by M-implicature. This explains why our Rossel informants are happy to use the zero-postpositional construction with traditional bodily adornments, like armbands, but resistant to using it with western adornments like watches, rings or metal necklaces.

Let us illustrate this pattern with one of the competing ON-postpositions which were mentioned earlier. The ON-related postpositions include a central, horizontal-support relation, *mbêmê*, and then branch into many different more specific types, according to, e.g., kinds of attachment. *Mbêmê* makes no claims about whether the object is attached or free-standing, but given the alternative attachment-specifying forms, tends to implicate that the figure is unattached (except where common sense indicates otherwise, as with trees on hillsides). It contrasts, too, with the more specific *nkwodo*, specifying overall coverage or central placement (also indicated unambiguously by '*nuknî p:uu*), and with *pwono*, a form that seems to be restricted to animate figures, and also with *yede*, which requires a flat ground object. But *mbêmê* is the 'on' postposition with the widest extension, implying vertical super-adjacency and support. Now, take the following contrasting sentences describing a headband around a man's head:

(15)   Picture 46: headband

a. *kpîdî pee pi   kêpa   mbêmê ka   t:a*
   cloth piece person forehead on   TAMP hanging
   'The piece of cloth is hanging on the person's forehead'

b. *kpîdî pee pi   kêpa   _____   ka t:a*
   cloth piece person forehead (Postposition slot) vis hanging
   'The piece of cloth is hanging (around) the person's forehead'

c. *kpîdî pee   _____   mbêmê ka   t:a*
   cloth piece (Ground slot) on   TAMP hanging
   'The piece of cloth is hanging on (his head)'

d. *kpîdî pee pi   kêpa   mbêmê ka   tóó*
   cloth piece person forehead on   TAMP sitting
   'The piece of cloth is sitting on the person's forehead'

Sentence (b) was the preferred form: it says just what needs to be said for an accurate description, and thus I-implicates stereotypical extensions. The first sentence (a) is prolix compared to (b): the postposition *mbêmê* therefore M-implicates that the headband isn't around the hat-line but is perched on top of the head. That implicature is avoided by an alternative reduction as in (c), where the ground object (the head) is omitted but the ON postposition maintained, as in English 'He's got a hat on.'[12] Finally, one can switch the locative verb to another of the three central alternates as in (d): once again, the message now is 'non-stereotypical extensions', specifically here what is suggested is that the headband is not firmly tied on. This brings us to the next subject: locative verbs, but first let us sum up:

1. There are a plethora of local postpositions in the language;
2. Semantically compatible postpositions become contrastive pragmatically;
3. Pragmatic principles also play havoc with our basic locative construction, leading to systematic reductions just in case the most common, stereotypical extensions are intended, with the seemingly paradoxical result that our basic construction will fail to describe the situation just in the most stereotypical, basic usages!

5.3.3   The positional verbs

Yélî dnye belongs to a wide class of languages, like Dutch, Arrernte or Creek, which have a small set of locative verbs in systematic opposition. These verbs are often drawn from, or overlap with, human posture verbs glossing 'sit', 'stand', 'lie', but they also often involve a less anthropomorphic 'hang'. In the Rossel case, we have verbs that in their postural use would gloss 'sit/lie',[13]

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[12] Henderson (1995: 75) seems to suggest that only *k:oo* can occur without explicit Ground, but there are plenty of textual examples of other postpositions occurring alone, including the antonym of *k:oo, kuwa* 'outside', as well as *mbêmê* 'on', and many others.

[13] The verb I will simply gloss 'sit' clearly covers both sitting and lying. Nevertheless, sitting is the prototype interpretation, and to indicate lying one has to say in effect 'sitting prone' (*pîpî a tóó*), or 'sleeping' (*dpî*). Incidentally, these verbs collocate only with continuous aspect, and *tóó* has punctual counterpart *yââ* 'sit down', while *kwo* has the punctual counterpart *ghê* 'stand up', with its own continuous form *wowo*. There are independent roots for the causative counterparts of the main positionals: *kââ* 'make stand'; *yé* 'make sit'; *t:oo*, 'cause to hang'.

Table 5.4 *Positional verbs*

		'sit/lie'	'stand'	'hang'
Indicative, proximal tense	Sing/Dual	*tóó*	*kwo*	*t:a*
	Plural	*pyede*[*]	*wee*	*t:a*
Non-indicative, or non-proximal tense	Sing/Dual/Pl	*ya*	*kwo*	*t:a*

* Increasingly, young people are regularizing this form, and replacing it with *tóó té* 'sit Intransitive+Contin.Aspect+Prox.tense Plural-Subject'; similarly, *wee* is sometimes replaced with *kwo té*.

'stand' and 'hang'. Henderson (1995: 32) gives the paradigm in Table 5.4 (where proximal tenses are the three of the six tenses nearest to coding time).

There is, however, one other locative verb, *m:ii* (with an invariant root like *t:a* above), used for animals or persons moving in their prototypical way in their normal medium (e.g. of fish in water, birds in the air, people walking), used to assert existence or location in a habitat. But it has less currency, and generally a locative verb must be selected from the above set of three.[14]

While suppletive roots are the norm in Rossel verbs, they do not normally split on properties like +/−plurality of subject, but rather on such dimensions as specific tenses and aspects, or are triggered by zero-postverbal particles. Thus *tóó* and *kwo* constitute a minor form class. (Invariant *t:a* and *m:ii* are also distinctive, belonging to a small set of invariant roots which take continuous aspect only).[15] We will call these **positional verbs** because canonical position and disposition of the figure constitute, in the prototypical case, the basis of the semantic distinctions. Let us be clear that languages with such positional verbs are fundamentally different from English in that:

(a) Whereas in languages like English the general copula or BE verb is the unmarked option in answer to a *Where*-question, there is no such general option in a positional verb language;

(b) In a language like Rossel, when you say 'The cup stands on the table' you are not asserting the standing, you are asserting the location, and presuming that cups are said to 'stand' – your statement will not necessarily be false if the cup is on its side.

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[14] There is yet another candidate, Jim Henderson points out to me, namely *dpî* 'sleep', as in *k:ââ pââ k:ii ka dpî* 'The post is lying (lit. sleeping) there.' Although the verb belongs to the same class as *t:a*, in the sense that it is also an invariant inherently continuous root, it is vanishingly rare in this positional use with inanimate subjects, and I am inclined to treat it as here metaphorically applied.

[15] My database has twenty-seven other intransitive verbs with invariant roots. Some of these though do have probably related roots occurring with punctiliar aspect, unlike the positional verbs.

These verbs thus have a *sortal* nature – they constitute a kind of nominal classification, but a kind which is not strictly determined by either noun or referent, as will be explained below.

One other preamble. It is well known that there are very close relations between existential and locative constructions. Even though it is clear that the two constructions potentially answer very different kinds of question (*Are there any Xs?* vs. *Where are the Xs?*), it is easy to erode the underlying semantic distinctions that have been proposed.[16] For example, the presumption that locatives must have definite subjects while existentials have only indefinite ones is clearly only a tendency (consider: *There is only the one God*); and the idea that existentials have universal spatial application is only one end of a continuum of course (*There is butter on the table* is just as much of an existential as *There are unicorns*). So it is not surprising that perhaps 25 per cent of languages seem to make no distinction at all between the two constructions (Clark 1978a: 94–6). Rossel is of this type, with no obligatory definiteness marking, so that 'The pigs are in the forest' and 'There are pigs in the forest' are expressed with the same form:

(16)   *nko*   *u mênê mbwêmê a*   *m:ii*
        bush/inland area   its inside pig   3s/d/plHabCont   move/inhabit
        té
        S.pl.Prox(Intrans)

The relevance of this preamble is the following. First, locatives presuppose the corresponding existentials: existentials provide the ontological background for what is asserted in locatives. Hardly surprising then that abstract types or classes of locative relation may already be embedded in existential distinctions. Second, a language with obligatory positional verbs has to have default assignments of positional verb to nominal concepts. That's because, if I want to say 'The cup is on the table' and must choose between 'stand' and 'lie', I may not be able to check the scene. And any language that uses positional verbs in existential statements will be forced into such default assignments: I may have no particular pigs or cups in mind, but still want to assert their existence.

All locative and existential statements must thus use one of these three verbs (or four, if one counts *m:ii*). But how does one know which one to choose? There are a number of layers of specification. First, there is a layer of *conventional collocation*. In Rossel, one can explore this default allocation using the context of negative existentials: one asks, for example, 'How do we say "There are no islands sitting/standing/hanging in that direction"?' In such a context the actual

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[16] Some authors presume that they are essentially the same construction – see, e.g., Hengeveld 1992: 97.

disposition of the referent is irrelevant (in this part of the world, for example, islands come in two distinctive types, high vs. low, but in a negative existential that is irrelevant). The default collocation is immediately apparent: what we find is that what we must say is in effect 'There are no islands *standing* there', just as we must say 'There is no shell money *sitting* here', 'There are no canoes *hanging* there', and so on. It will be clear that, in the case of physical objects, there is some semantic motivation for the choices here, in line with shape and orientation principles to be brought out below. But abstract nouns follow similar conventions: hunger and taste 'hang', but sleep 'sits', and light 'stands'. Some examples of the default assignments in existential sentences are given in Table 5.5. There is perhaps more cultural logic behind these collocations than is immediately self-evident. For example, the sun is a human-like being in mythology, and it 'sits' like humans, but the stars are not, and they 'stand' (Armstrong 1928: 127–8); similarly snakes play a special role as quasi-human mythological beings, and they 'sit' like humans. In addition there seem to be some very general associations: prestige items tend to 'sit', long-lasting or general states seem to be associated with 'hang', temporary states or phases with 'stand'. 'Hang' seems also associated with strip-like entities, such as paths and rivers, as well as directional forces like winds and currents. Nevertheless, the collocations are conventional, and as with most conventions there is an element of arbitrariness.

In addition, some important semantic work is accomplished by collocation with positionals: a number of Rossel nouns are semantically general, or more likely polysemous, over such distinctions as water/river, fruit/tree, food/species and so on. For this reason, general nominals indicating shape are sometimes combined with specific nominals in a loose kind of nominal classification (e.g. *mbwaa paa*, 'water-side, i.e. river' vs. *mbwaa lêê* 'water-pool, i.e. lake'), but another way of specifying the specific sense or referent intended is to use a positional which will make this clear. Thus *mbwaa* 'water, creek, river' in collocation with *t:a* 'hang' indicates river, whereas with *tóó* 'sit' indicates 'pool', and so on. These facts might be taken to indicate that there is no strict collocation between noun and verb. However, other facts suggest that there can be strict collocation. For example, in the Men and Tree task (see Chapter 1, §1.4.2) described in Section 5.4 below (example (20)), where a photo is described as 'A man is standing on something', the same man in the standing position is also described as 'Man his front (lit. mind) is sitting towards the hill'. The reason is that *nuw:o* 'mind' collocates with 'sit', and even though in this case what is intended is the man's frontal orientation, it would be incorrect to say 'his front was standing'. If strict collocation were to generally obtain, then this might suggest that we should recognize distinct senses or polysemes for, e.g., *mbwaa* 'river' vs. *mbwaa* 'water', but this is too hasty – as we will see, there is in fact considerable flexibility in use.

Collocational patterns indicate that the positional verbs are functioning as classifiers – but classifiers of what exactly? It is not the *nouns* that are being classified, otherwise there would be no flexibility of use, and of course it is in fact perfectly possible to say of that man (*yi pini*) that he is 'sitting', 'standing' or even 'hanging', as appropriate. Although the disposition of the referent plays a crucial role, that is not determinative either, since the same scene can be described in different ways – take, for example, the following contrastive descriptions of six tubers in a basket, some vertical, some horizontal:

(17)   Picture 5 of positional picture-book (six cassavas in a basket, some upright some horizontal)

classifier   sing/dual agreement

a. *kini   dyuu   kpéni   k:oo   ka   kwo*
   yam (thornless) small_pile basket in/inside Def+3SPresCont stand(s/dl)
   'A small pile of yams is standing in the basket'

plural (3+) marker   plural agreement

b. *kini   dé kpéni k:oo   ka   pyede*
   yam (thornless) pl basket in/inside Def+3SPresCont sitting(pl)
   'Yams are sitting in the basket'

In the first description a nominal classifier 'small pile' is used in the noun phrase, and this triggers a singular verb of 'standing'. In the second, the same scene is described without a nominal classifier, and we have a plural verb of 'sitting'. So clearly the referents alone don't determine the positional – it depends how they are construed. But don't these examples show that strict noun collocation drives the system, now with or without a classifier as head of the noun phrase? It is true that *dyuu* 'small pile' normally collocates with 'stand', but co-occurrence with 'stand' is not automatic, and nor is the classifier necessarily the head of the noun phrase – the verb can agree with the multiple entities in the pile.[17]

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[17] For example, the following is possible with singular classifier and plural agreement on 'stand':

pód:a dyuu   têpê   mbêmê   ka   wee
bottle small_pile soil/ground/dirt on/according Def+3SPresCont stand(pl)
'the pile of bottles are standing on the ground'

and the following is also possible, with plural agreement on 'sit':

polî dyuu   mbwódo   ka   pyede
ball small_pile on_the_ground Def+3SPresCont sitting(pl)
'a pile of balls is sitting on the ground'

Table 5.5 *Some default assignments of different nominal concepts to positional predicate**

SIT (tóó)	STAND (kwo)	HANG (t:a)	MOVE (m:ii)
shell money	trees, palms, houses, mountains, islands,	canoes, boats, roads, clouds,	
darkness, light			
tides		currents,	
rain, calm-weather, mist	(calm?)	winds, rivers rain	
sun	stars	moon, red-sky (dawn)	
people, friends, relatives, descendants, wife, etc.	chickens, dogs, birds (in tree), pigs, fish, grubs (inside fruit), crocs (in river)	crocs (on bank)	fish, birds, flying-fox, people, crocs (in general)
water	fire, steam	smoke	
juice			
yams (in ground) fat	taro and tapioca (in ground)		
coconuts, betelnuts, fruits on ground	pineapples, fruits on trees	mangoes, nuts in trees	
meetings, feasts	beginning of meeting, feast		
sleep		taste, hunger, thirst	
story, news			
discipline, work		signs, tracks	
happiness	threat debt	flagrant fornication	
fornication			
debt, peace		sorcery/power	
medicine,			
mortuary payment			
clothes	smells, light	smoke (also 'stand')	
firewood			
skin disease	cancer	disease/epidemic	
books	cups, alarm clocks, candles	holes (negative spaces)	
	eyes, teeth, hair, grey hair		

* I have made a number of corrections here from an earlier publication (Levinson 2000a), prompted by comments from Jim Henderson. Among them: the moon normally 'hangs' (I had 'sit' which implies one is talking about the moonlight on the ground); the sun can 'sit' as shown here, or 'stand'. As mentioned above, water can 'sit' or 'hang' according to whether it is still or running. I had earlier listed 'knowledge' as 'sitting', but this was a misanalysis of the construction, which Henderson correctly points out is a covert locative:

ye   pini a   lama   daa tóó
that man   my knowledge   not sitting
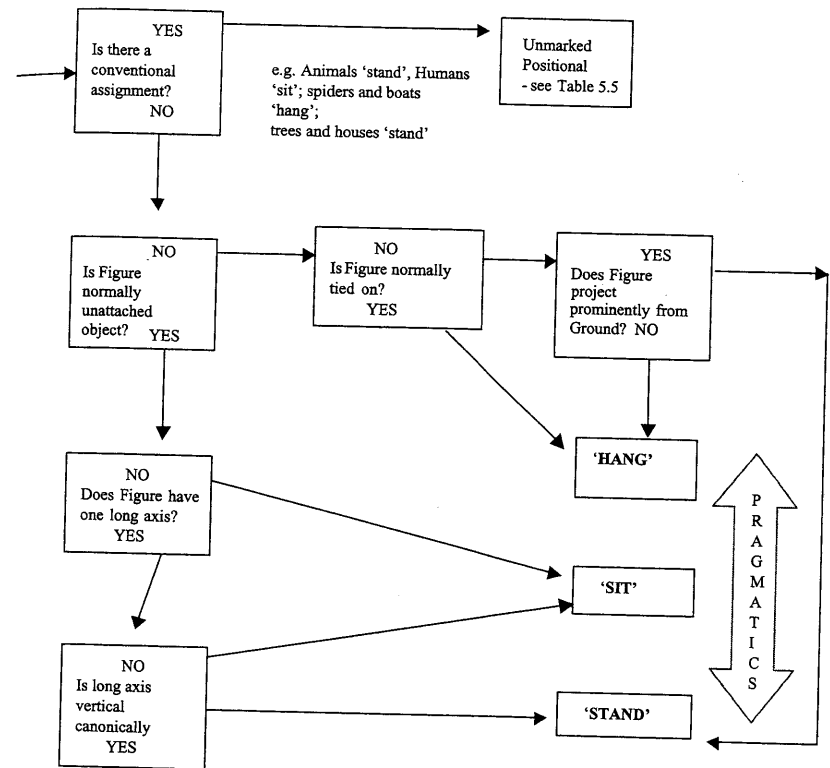'that man is not sitting in my knowledge'

Figure 5.1   Choosing a positional verb: semantics of novel applications

The upshot is that clearly what is classified is the nominal concept, the way the referents are construed, and that is always a flexible matter. However, there are normal ways to construe things, and if you are going to speak collo-quial Rossel you must know the kind of conventional, idiomatic collocation in Table 5.5.

For familiar objects, these conventional collocations assign a default posi-tional to a nominal concept. But what about novel objects? Consultants can agree about how they should be described. And all sorts of now familiar imported objects with conventional assignments must once have been just as novel. So there must be an underlying system of semantical specification, which accounts not only for confident assignment of novel objects, but also for the (partial) semantic motivation behind the assignments in Table 5.5. Essentially, the underlying system seems to assign 'hang' to things fastened, 'stand' to things which have a long axis canonically vertical, and 'sit' to the residual category. There are additional wrinkles, for example, a fastened object does

not warrant 'hang' if it projects prominently – then it gets 'stand' (hence lightbulbs do not 'hang' but rather 'stand' even when hanging from the ceiling). Figure 5.1 above sketches a first approximation towards the underlying algorithm, based on elicitation with novel objects and shapes made from plasticine.[18]

We now have two layers of process for assigning default positional verbs: a conventional table, and a generative algorithm that will assign default expectations to random physical objects. We may assume that the latter has played a role in the now conventional assignments to many physical objects in the table (explaining, e.g., why candles and trees 'stand'). We may take these two layers to constitute the semantic background to positional use, assigning the expected, unmarked locative verb to the relevant nominal concept. However, actual usage displays a much greater flexibility than this would lead us to expect. To explain these other uses, we must invoke a level of pragmatic explanation along the following lines.

The semantical procedures give us, as just sketched, the unmarked, expected use of a positional verb for a nominal concept. Pragmatic factors load this unmarked usage with further assumptions: the unmarked positional carries the assumption that the scene described is exemplified in a stereotypical way. The underlying pragmatic principle here is Grice's second Maxim of Quantity, 'Don't say more than necessary', or my I-principle (Levinson 2000a). For example, a bowl is normally said to 'sit' on a table, but this implicates that it is in canonical position. If one wishes to indicate that this is not the case, because, for example, it is upside down, that can be signalled through a switch to 'stand'. In general, for every unmarked assignment, a different marked assignment is possible, carrying a range of possible implicatures (but now by a further principle, Grice's Manner maxim, or my pragmatic M-principle, 'marked message indicates marked extension').

Thus a switch from the expected unmarked positional will implicate a complementary interpretation to what would have been I-implicated by the unmarked form, namely a stereotypical exemplification. Still, if one is a speaker, how does one know which other positional to choose, and if one is a comprehender, how does one know exactly what is implicated? There seem to be some underlying principles that guide choice and interpretation of marked choices:

1. If the figure is a physical object, *actual* position can be indicated by an appropriate positional where this deviates from canonical position (which would determine the unmarked choice). The appropriate positional is then partly specified by re-using the algorithm above, but now to guide selection in accord with actual rather than stereotypical position.

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[18] There are a number of known simplifications here. First, animals in their habitats (birds in the sky, or fish in a river) would be described with *m:ii* 'move, inhabit'.
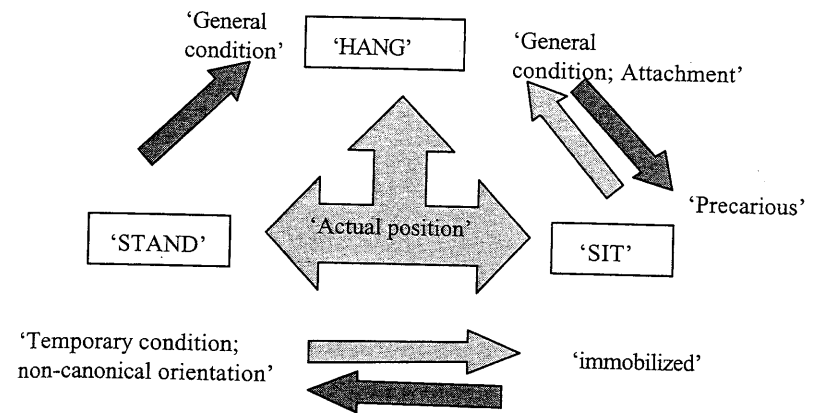
Figure 5.2 Marked usages of positionals: some meaning shifts

2. Given the associations noted above in respect of the conventional assignments in Table 5.5, one may indicate the following associations by switching to:

Form	Association
t:a 'hang'	'long-lasting or general state'
kwo 'stand'	'temporary or improper state'
tóó 'sit'	'precarious state' (if 'hang' is unmarked)

These switches may be thought about as guided by 'marking rules' (Geoghegan 1971), or as I would prefer M-implicatures, in any case as operations on the unmarked assignments, as indicated in Figure 5.2 (which is by no means exhaustive since these are implicatures, potentially open-ended inferences).

The pragmatic 'marking rules', operating over the unmarked output of the process of conventional assignment, together give a fairly good account of positional verb selection. Some typical shifts in interpretation are given in Table 5.6.

Here are some examples from the TRPS picture-book:

(18)   31A *kume   table u   mêknapwo a   kwo* ⟹ *tóó*
            cat   table POSS under   TAMP **stand**   sit
            'The cat is under the table'   M-implicates
                                                            'Actual position'

       32A *te   glass u   mênê a   kwo* ⟹ *tóó*
            fish bowl POSS inside TAMP **stand**   sit
            'The fish is in the bowl'   M-implicates 'Dead'

       46 *kpîdî pee   pi   kêpa   mbêmê ka   t:a* ⟹ *tóó*
            cloth piece person forehead on   TAMP **hanging**   sit
            'The piece of cloth is around the person's forehead'   M-implicates
                                                                    'falling off'

Table 5.6 *Shift of positionals and their interpretations*

conventional assignment		shift to other positional	
yams	'sit'	'hang'	implicates all the yams, yams in general, harvest
taro	'stand'	'hang'	as above
humans	'sit'	'stand'	implicates actually standing
animals	'stand'	'sit'	implicates lying down, sleeping
		'hang'	implicates perched, as of crocs on steep river bank
'hang'	'sit'	'sit'	implicates not tied on properly
bowls	'sit'	'stand'	implicates upside down
balls	'sit'	'hang'	implicates touching one another

In the following example, from the Men and Tree Game (Picture 2.10), two balls pictured in an 'away' direction, with one partially occluding the other, are first described as 'sitting' near to each other, then as 'hanging' against one another – the switch emphasizing the lack of a gap between them. The meaning of the marked choice in this case is probably derived by allusion to the rule (sketched in Figure 5.1) that things attached to one another are generally said to 'hang'.[19]

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[19] The following example is also interesting. In the Men and Tree Game, in addition to the photo sets containing men and trees there were photos with different arrangements of red and yellow balls of equal size. One describer interpreted the yellow ball as an upside-down yellow bowl – the red ball is described as 'sitting', the yellow bowl would also be 'sitting' in canonical position, but is described as 'standing' to mark its upside-down position (Picture 2.11, balls side by side):

J: *ntii   u   kêténi   yi   tpile   w:uu   ló   pee*
   sea/salt his/her/its side/part anaphoric thing egg/round which side
   'That round thing it's <u>sitting</u> on the sea-wards side, which side

u   kêténi   a   tóó   ntii   u
his/her/its side/part DeicProxS sitting/being(s/d) sea/salt his/her/its
is it sitting on, the seawards

kêténi   a   tóó
side/part DeicProxS sitting/being(s/d)
side it's <u>sitting</u> on?'

I: nyââ
   'yes'

J: *mu tpile   w:uu   k:ii   nkîgh:ê   k:ii   kem:e   a   kwo*
   Other thing round banana near   there upside_down TAM standing
   'That other round thing banana-coloured upside down there is <u>standing</u>?'

I: nyââ.
   'yes'

---

(19)   Director: *ball dê   numo nkîgh:ê a*
                     *** 3dualOProx/Hab each near   DeicProxS
        tóó, mo
        sitting(s/d), dualSProx
        'Two balls sitting near each other,

        mo   numo p:uu   a   t:a
        dualSProx each   on/against/in DeicProxS hanging
        two hanging against each other'

I have emphasized the role of pragmatic oppositions in this discussion of the role of positional verbs, as in the discussion of the postpositions, because they play a crucial role in amplifying the signalling resources of the language. From just these three verbs in alternation, fine-grained suggestions about orientation and placement can in fact be communicated.

5.4   Frames of reference

In order to describe the locations of similar objects separated from other objects in space, more is required than topological description in terms of spatial contiguity or coincidence – specifically, one needs to employ a coordinate system which will allow the specification of angles in a frame of reference. (I will presume the relevance of angles because all naïve human spatial systems seem to use polar rather than cartesian coordinate systems.)

Yélî Dnye lexicalizes all three frames of reference mentioned in the introduction to this volume: absolute, relative and intrinsic. The absolute frame of reference is expressed in terms of 'up' or 'down' for east and west respectively (and thus also in terms of 'ascend' and 'descend'), while the terms for 'hillwards', 'seawards' and their ilk often function as a loosely orthogonal axis.[20] The intrinsic frame of reference is involved in notions like 'facing', 'side' and so on (although there is no elaborate system of body-part locutions as in, e.g., Tzeltal, this volume). It is also involved in some interpretations of 'front', 'back', 'left', 'right' notions. The relative frame of reference is represented by the other interpretations of terms for 'left', 'right', 'front' and 'back', as three-place predicates (e.g. X is left of Y from viewpoint Z). However, on the whole the relative frame of reference is avoided, especially the projective interpretations of 'left' and 'right' (as in 'the ball is to the left of the tree'), in favour of the intrinsic and absolute frames.

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[20] While the directions associated with 'up' and 'down' may be linked to sunrise and sunset, there is also a more immediate association: given the prevailing winds, east is upwind, and west downwind, which fundamentally effects the ease of travel by boat.
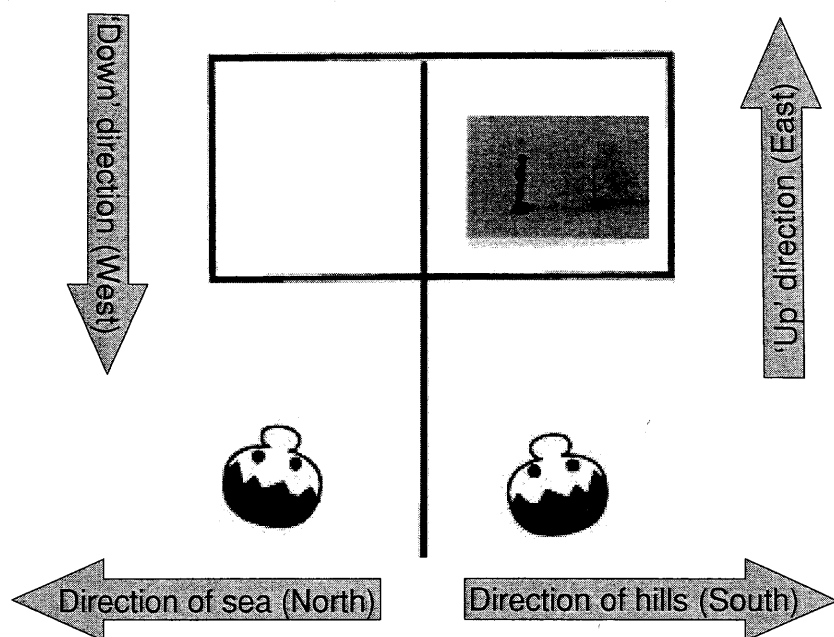
Figure 5.3 Situation described in matching task, Photo 2.3

Let us illustrate with the Men and Tree picture-matching task, where a director describes a photograph so that a screened-off matcher can find an identical one from a set of contrasting photos, as described in the introduction to this volume. Here a director describes Photo 2.3 to a matcher – it is essential to know their orientation with respect to mountains, sea and cardinal directions, as sketched in Figure 5.3 (the interchange has been slightly simplified for compression):

(20)   Photo-matching task: Photo 2.3. Context: director and matcher face east, with the sea on their left, and the hills on their right
Director:
pi u   nuw:o kpâpu u   kêténi   ngma a
man his/her/its facing hill   his/her/its side/part indef DeicProxS
tóó
sitting.
'There's a man whose front is sitting in the hill direction,

yi   mbwii kumu   a   tpé,
tree thin   in_hand DeicProxS rush/grab
A stick in hand he is holding,

u   nuw:o yi puu u   kêténi
his/her/its facing tree shrub his/her/its side/part
His front in the shrub direction

a   tóó,   u   nuw:o yi u   kêténi
towards sitting/being(s/d) his/her/its facing tree his/her/its side/part
is sitting, his front in the tree direction

a   tóó
deictic sitting
is sitting'

Matcher:
tpile mbêmê   a   kwo
thing on/according Deictic stand(s/d)
'He is standing on something?'

Director:
nyââ
'yes'

Matcher:
yi   mbwii wéni pee kumu   a   tpé
tree tall/thin right side in_hand DeicProxS rush_grab
'He is holding the stick in the right hand?'

Director:
nyââ
'yes'

Matcher:
kpâpu u   kêténi   a   vyuwo, yi-puu kpâpu u
hill his/her/its direction DeicProxS look   shrub hill his/her/its
'He is looking in the hill direction? The shrub is already standing
kêténi   wunê   kwo?
direction already standing
in the hill direction?'

Director:
nyââ
'yes' ((correct photo selected))

The problem has been solved in the following way:
(1) *The direction in which the man is facing has been specified as towards the hills.* This locution 'towards the hills' is not the use of an ad hoc landmark, it is the conventionalized way of specifying 'inland', in opposition to 'towards the sea'. For this and other communities on the (most populous) northern

shore of the island, these two terms form an orthogonal fixed axis with the terms *mudu* 'up, east' vs. *p:ââ* 'down, west'. These four directions thus provide a systematic absolute frame of reference.

(2) *The man is facing the tree*. This locution tells us the orientation of the man with respect to the tree; on other occasions this may be given as 'at the man's front is the tree'. We now have information in an intrinsic frame of reference – we know (roughly) how the man is to the tree, whatever way that whole assemblage is oriented.

In the terminology employed in this volume, this strategy involves giving the 'facing' (orientational) information in absolute coordinates (man facing south), and then giving the 'standing' (placement) information in terms of intrinsic coordinates (man confronting tree). The latter gives us the description of a rotatable assemblage of man and tree, the former locks that assemblage in absolute directions.

These two propositions are sufficient to solve the problem – no other photo has a man facing a tree, such that the whole assemblage must be in that hillwards alignment. The matcher goes on to check his understanding: the director has used the positional verb 'sitting' in the locative construction – this is anyway the unmarked positional for people, but here it collocates specifically with the man's front – and the matcher notes that in fact the figure seems to be standing on something (the base of the model). He goes on to check that the figure is holding the stick in the right hand – this is the intrinsic sense of 'right', the figure's right hand. These were in fact non-essential questions, but then he checks not only that the man is looking hillwards, but that the tree is to the hillwards direction of the man. This effectively checks the inference, available from proposition (1) and (2) above, about the location of the tree with respect to the man in an absolute frame of reference. Thus the matcher is sure he has the right photo.

The same pair of players solved the mirror-image problem, i.e. Picture 2.5, by saying in effect 'The tree is standing seawards, a man is approaching it'. Here the 'standing information' is given in absolute terms, and the 'facing' information (indirectly) in intrinsic terms (a man approaching a tree would normally be facing it). Table 5.7 divides in summary form the solutions for the three Pictures 2.3–2.5 produced by three different pairs of players.

What is clear is that the main pattern is for (at least) one absolute statement (mostly for facing information) and one intrinsic statement (mostly for standing information), which are usually jointly sufficient to achieve correct identification. (There were two misidentifications in these nine matches: (1) the R-Y pair in 2.3 made a misidentification on the basis of the purely intrinsic descriptions, but then the absolute proposition was added and this led to correct matching; (2) the A-N pair in 2.5 where a wrong card was picked, the same description was repeated word for word, and the correct card was then chosen.) This

Table 5.7 *Men and Tree descriptions, with main frame of reference (A = Absolute, I = Intrinsic, R = Relative)*

Picture	Player-Pair	Standing information (Placement)	Facing information (Orientation)
2.3	Y-L	Man facing shrub (I)	Man facing hillwards (South) (A)
	A-N	Tree towards X village (West) (A)	Man holding stick seawards (North) (A)
	R-Y	Man approaching tree (I)	Tree tip bends away from man (I)
		Tree towards Y village (West) (A)	Two branches towards man (I)
			Three branches towards Viewer (Deictic)
2.4	Y-L	Tree at man's back (I)	Man facing seawards (North) (A)
	A-N	Tree at man's back (I)	Man holding a stick Eastwards (A)
			Man looking to East Point (A)
	R-L	Tree at man's back (I)	Man turned his back on the tree (I)
		Man walking away (I)	(Game cut short by guessing)
2.5	Y-L	Tree standing seawards (North) (A)	Man approaching tree (I)
	A-N	Tree standing front of him (I)	Man holds stick on hillwards side (South) (A)
			Man facing East Point (A)
	R-Y	Man heading towards tree (I)	(Solution guessed early)
		Man going in tree direction (I)	

combination of absolute and intrinsic information seems to fit everyday language usage.

For absolute usage, as mentioned, the following linguistic resources are available:

(a) East–West axis:
   Adverbial modifiers
      mudu 'Up, East',
      p:ââ, 'Down, West'
   Verbs
      koko (remote past *kee*) 'go up, go East'
      ghîî (remote past *ghêpê*) 'go down, go West'
(b) North–South axis:
      ntii u kêténi 'sea its direction' i.e. 'towards the sea' (North)
      kpâpu u kêténi 'hills/ridge its direction' i.e. 'inland' (South)
(c) For all directions: Landmarks
      PLACE NAME *u kêténi* 'in the direction of PLACE NAME'
(There is a very dense network of place names, even for uninhabited bush areas, and coral reefs.)

Intrinsic information can be specified by talking about body parts and intrinsic facets of ground objects. Some abstract nominals for 'fronts', 'backs', 'left/right

sides' of objects can be used to project search space for referents, using expressions such as in (a) below, while just a few body-part terms can be used to denote a spatial region as in (b) (the rest can only be used to describe parts of objects). In addition there are 'in between' expressions which can be used to indicate spatial regions as in (c).

(a) 'Side' expressions with intrinsic and relative interpretations[21]

> *u kuwó*   '(at) its back'
> *u kada*   '(at) its front'
> *u t:anê pee* '(on) its left side'
> *u wéni pee* '(on) its right side'

(b) Body-part expressions used intrinsically, to project directions

> *kpadama*   'back'
> *knâpwo*   'bottom of something'
> *kn:ââ ghi* 'bottom of, back part, rump'
> *'nuwo*   'nose, point'

(c) Expressions with only intrinsic (or topological) interpretations

> *X, Y yi kêlî*   'in the middle of, between X and Y'
> *'nukni'nukni p:uu*   'middle-middle-attached' i.e. 'in the middle, centre of'
> *u nuw:o*   '(at) its facing-side' (literal meaning, 'mind', 'intention')
>   (NB takes positional *tóó*, regardless of man or beast)

The use of these expressions can be illustrated by some descriptions from another communication task (picture-object matching), involving the placement of toy animals as directed by another speaker looking at a photo of the desired assemblage:

(21)   S: *cow u kada horse wumê kwo*
           cow its front horse TAM stands
           'The horse is standing at the cow's front?'

        J: *kêle, cow mbwêmê yi kêlî yi a   kwo*
           no, cow pig   their middle tree TAM stands
           'No, the tree is standing between the cow and the pig'

           horse u kuwó yi a   kwo, horse u mo a   kwo
           horse its back tree TAM stands horse its own TAM stands
           'The tree is standing at the horse's rump, the horse is standing alone by itself'

---

[21] Superficial appearances notwithstanding, this system does not seem to be like the English six-sided 'box' or armature which can be used to assign 'top', 'bottom', 'front', 'back', 'sides' to objects: the relevant expressions do not form a single contrast set in Yélî Dnye.

Finally, we come to the relative frame of reference, that is the use of 'left', 'right', 'front', 'back' terms where the orientation is not derived from the intrinsic facets of the ground object (which may have no intrinsic sides, like a tree or ball) but is rather mapped from the viewer's bodily axes onto the ground object. As already mentioned, this frame of reference is marginal in language use. Even in specialized spatial description tasks, it rarely makes an appearance. Still, relative interpretations of *u kuwó* '(at) its back', *u kada* '(at) its front', *t:anê pee* '(on the) left side', *wéni pee* '(on the) right side' are possible, at least for some speakers. Taking the front/back terms first, these would seem to have only intrinsic readings with most featured objects (e.g. a truck, where one might equally use terms that can only be intrinsic, like *'nuwo* 'point, front'). With unfeatured objects, like a ball or a tree, the relative interpretation is forced. However, the favoured interpretation is the Hausa-style 'alignment' reading (Hill 1982), whereby 'X is in front of Y' means X is behind Y:

(22)   *ball cup u kuwó ka   tóó*
        ball cup its behind TAMP sits
        'The ball is sitting "behind" – i.e. in front of – the cup'

Similarly, in the Farm Animals task, descriptions occurred like 'The horse is running in front of the tree' meaning 'behind', but with ensuing puzzlement from matchers, suggesting that either the English or Hausa interpretation is in fact possible. These interpretative uncertainties further favour the preference for intrinsic expressions and interpretations, which are usually less ambiguous.

The terms for 'left' (*t:anê*) and 'right' (*wéni*) do not seem to be body parts as in English.[22] They always occur in collocation with an abstract noun indicating direction, e.g.

> *t:anê pee*   'left side'
> *t:anê u kêténi* 'left its direction'
> *t:anê u kê*   'left its hand' i.e. 'on the left side'

The structure of these phrases indicates that *t:anê* is a nominal (e.g. nominal modifiers come before heads, adjectives after them). The bare phrases above would normally have a relative interpretation as in:

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[22] Etymologically, *t:anê* also means 'rock', and *wéni* may be derived from *wo* (specific form *wéni*) 'life, breath', so in effect the dead vs. the forceful hand. Otherwise, there is no obvious association with the moral, social and religious oppositions of the kind predicted by the anthropologists Mauss, Herz and Needham.

(23) *pi   yi   puu   nkîgh:ê   wéni pee   u   kêténi   wupe   ka   kwo*
      man   tree shrub near   right side its direction this_side TAMP stands
      'The man is standing near the tree (on) the right hand side'

When possessed, they have an intrinsic interpretation (as in English, 'on his/its left side'). So given the preposed/prefixed possessives *a* 'my' and N- (assimilating nasalization indicating 'your'), we have:

(24) *ball   a   nkigh:ê   a   t:anê pee   u   kêténi   ka   tóó*
      ball   my   proximity my   left   side its direction TAM   sits
      'The ball is sitting near my left side'

vs.   *ball   Ngigh:ê   N:anê   pee   u   kêténi   ka   tóó*
      ball   your-proximity your-left side its direction   TAM   sits
      'The ball is sitting near your left side'

There are more frequent expressions which are deictic in nature but which can convey information similar to that in the relative frame of reference, for example: *mwada pee* 'other side', *a kêténi* 'my direction', *mu pee* 'far side' (which answer questions of the form *ló pee?* 'which side?'). The phrase *mwada pee* can be interpreted in a relative or deictic way in the case of unfeatured grounds (like a tree), meaning 'the other side from the one we are on', but can be interpreted intrinsically, or just in some direction opposed to the one we mentioned earlier.

Nearly all these expressions have a syntactic structure *Figure/Ground + possessive + spatial-nominal* (e.g. *pi u nuw:o* 'man his front'). This structure has, as a consequence, that it is sometimes impossible to spell out reference points fully. For example, whereas you can say *ngomo u kada* 'house its front', i.e. 'in front of the house', thereby specifying the ground, absolute expressions like *ntii u kêténi* 'sea its direction' do not permit expression of the ground (as in 'north of the house'), since the possessor has been absorbed by the directional expression itself.

In summary, the language makes available all three frames of reference described in the introduction to this book. However, the relative frame of reference is marginal, as shown (a) by its relatively rare usage, (b) by its restriction to terms that also have Intrinsic interpretations, (c) by the confusions that are attendant on its use. Instead, primary reliance is on the absolute and intrinsic frames of reference, which together yield compact, unambiguous descriptions of spatial location. Finally, one should also note that Rossel islanders make use of an immensely detailed system of toponyms: every stream, hill, field and section of jungle has a name, as indeed does every section of reef, so that directional specifications are often given in terms of place names.

5.5   Deixis

As noted in the introduction, deictic specifications often serve in lieu of frame-of-reference specifications. Deictic specifications are closely allied of course to relative specifications but do not involve a coordinate system with specification of angle, instead typically giving some kind of radial specification of proximity. For example, in the spatial games like the Men and Tree task, the spatial opposition *a mê pee* 'my side', *mwada pee* 'other side (from me, or other reference point)' was used quite often.

Rossel has a system of demonstrative adjectives (rather than pronouns) so that one says, e.g., *ala tpile* 'this thing' or *ala n:ii* ('this one' where *n:ii* is a pronominal)[23] rather than just *ala* ('this'). The core system could be described, on the basis of functional use in placement tasks, as follows:

	Speaker-based	**Addressee-based**
Proximal	*ala*	*ye*
Unmarked (Medial)	*kî*	—
Distal	*mu*	

In this series, *kî* is clearly the unmarked term on a distance metric, used wherever there might be doubt about the application of the others, while *ala* and *ye* require close proximity or preferably even contact with speaker and addressee respectively, and *mu* indicates contrastive distance ('over there, yonder'). Since *kî* picks up the residue from the other three items, it typically has medial uses, but this is pragmatic obviation: *kî* is unmarked for distance, and thus less informative than any of the other three terms – by Gricean principles (more specifically my Q-principle, Levinson 2000b), if you don't use the more specific forms, you implicate that they are inapplicable. In this respect, *kî* is not unlike English 'that'. Additionally, some speakers use *mwada* – a term that basically means 'the other, the far' – as a 'far distal, yonder' term.

This spatial pattern can be repetitively elicited. But there is a lot more going on in the deictic system, which clearly involves two other dimensions, epistemic certainty and anaphoricity (see Levinson in preparation for the full system). The same items can therefore participate in other, non-spatial, oppositions:
(a) *mu* (as well as some of the other terms) participates also in the anaphoric system, where it contrasts with *yi* 'this one', meaning e.g. 'the other one'. Here *yi* is restricted to anaphoric (backwards) reference, but *mu* can be both cataphoric or anaphoric (further back in discourse) by contrast.

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[23] *N:ii* is the main relative pronoun, as in *a mbwêmê n:ii ngê vy:a*, 'my pig the-one-who ERG killed', i.e. the one who killed my pig.

(b) *kî* also belongs to another contrast set, which Henderson (1995: 46) suggests is *kî* 'in sight', *wu* 'out of sight'. There is definitely something right about this (e.g. if you are shielding a book from my vision, I can't say *kî puku dmi* 'That-unmarked book'). However, *kî* can sometimes be used for things out of sight, e.g. right behind me, and an alternative analysis is that *kî* marks epistemic 'certainty' vs. *wu* 'uncertainty', where visibility is one criterion for certainty.

There are in addition demonstrative adverbs, according to the following paradigm:

	Demonstratives	**Adverbs**	
Proximal	*ala n:ii*	*al:ii*	'here'
Medial	*kî n:ii*	*k:ii*	'there'
Distal	*mu n:ii*	*mw:ii*	'yonder'
Anaphoric	*yi n:ii*	*y:i*	'there as mentioned'

These deictics play a role not only in locative description but also in motion description. The deictic adverbs function as source or goal arguments of motion verbs, while the deictic determiners get incorporated into preverbal inflectional particles, where they play 'hither'/'thither' and evidential functions. But this brings us to the nature of motion description in the language.

5.6   Motion description

We may take as a reference text an extract from a careful telling of the 'Frog Story', covering pages 17–22 of the picture-book (see Chapter 1, §1.4.3, for a description of this elicitation tool):

(25)   Frog Story extract
Page 17

yi	*tpémi*	*chêêpî*	*pââ*	*ndîî*	*mbêmê*	*dê*		*kee*
anaphoric	that_boy	stone	body	big	on		PIImmpast3S	go-up/in

'The boy climbed up on the big rock'

Page 18

deer	*ngê*	*yi*	*tpémi*	*chêêpî*	*nkwodo*	*da*
deer	ERG	anaphoric	that_boy	stone	top	PIImmpast3S+Deic

ngî
take
'The deer came and took that boy from the top of the rock'

Page 19

deer	*mbêmê*	*yi*	*tpémi*	*a*
deer	on/according	anaphoric	that_boy	DeicProxS

tóó
sitting/being(s/d)
'That boy was sitting here on top of the deer'

Page 20

deer	*ngê*	*yi*	*tpémi*	*mbwaa*	*paa*	*dê*
deer	ERG	anaphoric	that_boy	water/creek/river	side	PIImmpast3S

kéé
throw
'The deer threw that boy (into) the river'

Page 21

u	*w:ââ*	*mbwaa*	*paa*	*myaa n:aa*	*dyimê*
his	dog	water/creek/river	side	also MOTION	throwing

'It went and threw his dog also (into) the river'

Page 22

mbwaa	*paa*	*kwodo nkwodo*	*d:uu*
water/creek/river	side	together	PIImmpast3S+Motion

dyimê   *knî*
throwing   dualSProx
'It went and threw both of them together (into) the river'

Page 23

u	*w:ââ*	*yi*	*tpémi*	*u*	*kîgha*	*dî*		*ghê*
his	dog	anaphoric	that_boy	his	shoulder	PIImmpast3S		walk/stand

'His dog got onto the shoulder of that boy'

This simple, short text packs a great deal of spatial information into a minimum of expression. However, a number of preliminaries are necessary before we can understand the text.

5.6.1   Deixis and motion verbs: no 'Come' and 'Go'

A number of the deictic determiners mentioned above can also be incorporated into the preverbal TAMP (tense-aspect-mood-person) marker in complex ways (Henderson 1995: 46–54). *Kî* and *wu* then come to have an evidential function ('certain' and 'uncertain, hypothetical, projected' respectively).[24] But *ala*

[24] Contrary to this, Henderson (1995: 49–51) suggests that *wu* (reduced to *w-*) has a 'definite' meaning, but this does not accord with the fact that it occurs especially in questions and in the future tenses; nor does it accord with its clear 'uncertainty' meaning as a nominal modifier.

(in the form *a* or *nê*) retains its deictic meaning, 'towards the speaker' or 'close to speaker' and is crucial to the kind of opposition lexicalized in English as *come* vs. *go, bring* vs. *take*, to which we turn shortly. Similarly, *mu*, the distal deictic, can retain a distal sense (although it may also be used here with a contrastive 'other' meaning, derived from its distal anaphoric uses, as Henderson (1995: 54) notes). Thus we have:

(26)   *ka kwo*   'he is standing (close by)'   (from unmarked *kî+TAMP*)
         mu kwo   'he is standing (over there)'   (from distal *mu+TAMP*)
         muda kwo 'he is standing (yonder)'   (from 'other, far' *mwada+TAMP*)

When, as with motion verbs, sources and goals are involved, these deictic oppositions can be of considerable complexity. Take *ndê* 'leave' when accompanied by a deictic adverb together with deictic incorporated into the TAMP markers:

(27)   *mw:ii   d:a   ndê.*
         there_distal 1sImmpastPI+Close left
         'I left there hither, i.e. I came here from there'

Here the portmanteau TAMP morph *d:a* (*dî+* deictic *a*) incorporates motion towards the deictic centre, and gives us the 'coming' interpretation. If no such deictic is incorporated, as in the following utterance, an 'away from deictic centre' interpretation is by default assumed:

(28)   *al:ii dê   ndê, mw:ii   dê   lê*
         here 1sgImmpast left, there_distal 1sgImmpast go/come
         'I left from here, and I went over there'

The same sentence with the deictic adverb and the 'hither' element in the TAMP particles reverses the trajectory:

(29)   *mw:ii   d:a   ndê. al:ii d:a*
         there_distal 1sImmpastPI+Close left   here 1sImmpastPI+Close
         lê
         go/come
         'I left there hither. I went here hither (i.e. from there I left coming, and came over here)'

Rossel has no lexicalized oppositions of the kind expressed in English *come* vs. *go*, or *bring* vs. *take*. There are verbs that at first sight seem to carry these kinds of meaning, e.g. *pwiyé* at first looks like a 'come' verb (and Henderson (1995) so glosses it) – it is the verb normally used to summon someone hither:

(30)   *a   pwiyé!*
         'hither be moving! i.e. come here'

But such uses require collocation with the 'hither' component in the TAMP. Other collocations are possible, e.g. with the associated motion marker to be described below, when a 'thither' interpretation is forced:

(31)   *Norbert mênê*   *pwiye   knî,*
         Norbert 3s/d/pl/PresCI+MOTION go/come 3sProx(ivPostN)
         'Norbert is just going away – i.e. has just left here'

Note that the verb *lê* (irregular imperative *lili*), the canonical 'go' verb, can also be used in a summons:

(32)   *al:ii a   lili!*
         here hither go!
         'Come here! (or: Go just over there!)'

Thus despite its frequent occurrence in descriptions of movements towards the deictic centre, *pwiyé* cannot encode any such deictic directional trajectory alone.[25]

Instead of lexicalizing deictic oppositions, Rossel expresses these oppositions in the preverbal nucleus, as already described. The actual fusions here are complex and irregular, according to tense, aspect and person, yielding hundreds of unpredictable forms. As mentioned, *kî* and *wu* come to have evidential functions, and can then themselves fuse with other deictics like *a* derived from *ala*. Likewise, the distal deictic *mu* may also take on its anaphoric 'other one' interpretation. The preverbal nucleus fuses with these deictics and other modifiers in the following order[26] (with full unfused forms given, deictics or ex-deictics in bold):[27]

(33)   Order of preverbal clitics
         Epistemic- (Fut)- Addition – **Distal** – **Anaphoric** – Repetition –
         kî   *mye*   *mu*   *yi*   *mê*

         Negation – TAMP – Motion – **Proximal**
         daa   —   *mî/n:aa*   *a/nê wu*

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[25] *Pwiyé* is in fact a peculiar verb. It is inherently continuous (rather than punctiliar), but is defective in the past tenses and takes dual inflection with singular meaning.

[26] This slot-and-filler analysis is not in fact adequate, because of some reorderings of the morphemes. See Levinson in preparation.

[27] Because *mu* retains its contrastive anaphoric sense, meaning 'the other place', this now appears to be compatible with movement towards the deictic centre (Henderson 1995: 54). There are some other preverbal forms which I do not fully understand, which also carry deictic specification, for example *kî yedê* and *mênê* clearly seem to signal movement towards and away from the deictic centre, respectively, in the third person proximate past, continuous aspect, but whether the *ye* in *yedê* is related to the addressee-deictic and the *mê* in *mênê* to *mu* 'distal, other', I do not know.

The minimal element *a* fuses with the tense-aspect-mood-person-number marker as illustrated in the following kind of partially irregular pattern (see Henderson 1995: 51ff., 106–7 for more details):

(34)   Fusion of deictic marker in preverbal clitic

Epistemic	Repetition		TAMP markers	+Deictic	Fused Form
			chi-(Punct2sImmpast)	–*a*	*cha*
			dpî (Punct2dualImmpast)	–*a*	*dpo*
			nî (Punct1sImmpast)	–*a*	*nî-nê*
			a (Contin+Fut/Pres/Hab)	–*a*	*wunê*
			a (Punct+RemFuture)	–*a*	*a-a*
	w–		*a* (Contin+Fut/Pres/Hab)		*wa*
	kî		*a* (Contin+Fut/Pres/Hab)		*ka*
		mê	*dê* (Punct3s+Immpast)	–*a*	*mêda*

Thus the main burden of deictic specification in the preverbal nucleus is carried by *a* (or its allomorphs) and its absence: *a* signals movement towards the speaker's present location, its absence conversationally implicates movement elsewhere (for justification of this Gricean analysis see Wilkins and Hill 1995).[28] In addition, the deictic adverbs mentioned above can be used to specify direction toward (*al:ii*) or away from deictic centre. Any motion verb can therefore be marked as indicating movement towards/away from the deictic centre, or in absence of that marking, can be presumed to be unspecified. This additional deictic marking normally fits the assigned argument structure of the verb (with regards to source and goal, e.g. *a* with *lê* will be interpreted as 'go to here', i.e. 'come' – issues to be discussed below), although it seems to have rather more freedom of interpretation than lexical arguments.

There are thus in Rossel no verbs incorporating 'come'/'go' distinctions, and only one-sided marking of a *hither/thither* system. The *hither* or *proximal* form is used for motion directly toward the deictic centre, regardless of whether the motion reaches that centre, or whether it originates or terminates in a specified location; motion that passes by the deictic centre relatively closely would also normally allow, but not require, the use of the 'hither' morpheme. All motion away from the deictic centre does not allow its use, and its absence therefore pragmatically implicates lack of motion towards the deictic centre. However, there is another element fused in the TAMP which can be used to imply a direct *thither* motion, specifically away from the deictic centre. This is the associated motion element (*mî/n:aa*) in the post-TAMP slot above, which in the absence of a proximal goal specification implicates motion away from the deictic centre – further discussed below. A system of this kind has not been reported before in the

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28 This deictic is not actually a *hither* marker, since it can occur happily with statements of location, in which case it indicates location close to deictic centre.

literature. Wilkins and Hill (1995) report a system in Longgu with a 'hither', 'thither' and unmarked set of contrasts, but in Yélî Dnye we have a 'hither' pragmatically contrasting with zero (implicating 'thither'), with that 'thither' interpretation being reinforceable through an associated motion marker and its further implicature.

The free occurrence of this 'hither' or 'proximal' element with any verb has some interesting consequences. In our simple Frog Story text above, the proximal deictic occurs first in the preverbal slot in the description of page 18 (see (25) above): here fused into the TAMP marker *da* (*dê+a*) associated with the verb 'take', it converts a simple proposition of the form 'the deer took the boy' into a scene-description with a perspective, glossing something more like 'the deer came and took the boy'. The deictic centre is, of course, the shifted deixis typical of narrative, here centred on the main protagonist, the boy, and the scene is now viewed from his perspective. In the next sentence, the proximal deictic recurs in the locative construction 'the boy was+Proximal sitting on top of the deer', reinforcing the 'camera angle' previously established.

5.6.2   'Associated motion'

As mentioned, there is another special marker that may occur in the pre-verbal slot: the 'associated motion' marker -*n:aa*, with gloss 'go and VERB', which is postfixed to the TAMP marker. It too has a range of forms, including substitution of the vowel with -:*uu*, and realization as *mî*, -*mo* or *wumî* when fused with TAMP in certain tense/aspect/person configurations (Henderson 1995: 44–5, from which the following contrasting examples are drawn):

(35)   a. *Nkéli kamî dê*   *m:uu*
               boat   new   Immpast.Punct.3sSubj   see

               ngmê
               Prox-Tense.3sObj.PolyfocalSubj
               'They saw the new boat today'

          b. *Nkéli kamî d:uu*   *m:uu*
               boat   new   Imm.Past.Punct.3sSubj+MOTION   see

               ngmê
               Prox-Tense.3sObj.PolyfocalSubj
               'They WENT AND saw the new boat today'

In our Frog Story extract above, the motion marker occurs in the descriptions of pages 21 and 22, in irregular, different fused forms (*n:aa* and *d:uu*), where it is employed to invoke the scene of the deer rushing forward to the brink of the cliff, then stopping, and thus 'going and throwing'. The same scene invokes

the same collocation in other tellings of the story. The prior picture in other tellings of the story also frequently invokes the motion marker, as in 'the deer went and stood at the top of the cliff'.

Interestingly (and unlike Arrernte) the motion marker can occur with the most basic (general) motion verbs, such as *pwiyé* 'coming'/'going', *lêpî* 'going', and also with slightly more specific verbs like *kee* 'ascend'/'enter', as in:

(36)   (Picture 17, another telling: R96-V2)
    yi   tpémi chêêpî kpiyé ngmê   mbêmê d:uu
    that boy   stone big   indefinite on   PIImmpast3s+Motion
    kee
    ascend
    'That boy went and ascended on top of a big stone'

As mentioned above, some uses of the associated motion marker can implicate motion away from deictic centre, presumably because that is so often the unmarked reference point. Compare for example:

(37)   a. *ngomo d:uu*   *kee*
       house   3s/d/plImmpast+**Motion**   enter
       'He went-and-entered the house'

    b. *ngomo da*   *kee*
       house   3s/d/plImmpast+**Proximal** enter
       'He came-and-entered the house'

    c. **ala** *ngomo d:uu*   *kee*
       this house 3s/d/plImmpast+**Motion** enter
       'He went-and-entered this house, i.e. he came'

    d. *ngomo dê*   *kee*
       house   3s/d/plImmpast enter
       'He entered the house'

In (a) the motion-away-from-deictic centre is the normal reading in the absence of other specifications. This contrasts with (b), with fused proximal deictic asserting motion towards the deictic centre. However, when we add a proximal deictic to (a), the 'away' interpretation is defeated, as in (c), showing that the associated motion marker carries no inbuilt deictic specifications. Note that (b) also contrasts with unmarked (d), where there is no deictic or associated motion marker: (d) thus suggests *not* motion towards the deictic centre. The implicated nature of the opposition between the Proximal marker and the Motion marker is further shown by the possibility of their co-occurrence. Thus, in summary, the three-way opposition should be understood as follows:

Proximal (here *da*): specifies motion towards deictic centre
Unmarked (here *dê*): implicates motion in any other direction
Associated motion (here *d:uu*): implicates motion away from deictic centre

5.6.3   Spatial distinctions in motion verbs

Yélî Dnye does not fall easily into Talmy's (1983) typology of 'verb-framed' languages (with path-encoding verbs) vs. 'satellite-framed' languages (with manner verbs and path encoded in, e.g., particles). Table 5.8 shows that although typically the path is partially encoded in the intransitive verb, suggesting a verb-framed strategy, there is also a rich set of manner verbs, including the locally important verbs glossing 'move by punting', vs. 'move by sail', etc. (A special curiosity is the verb *m:ii*, mentioned above, meaning 'move in the characteristic manner for the species', thus swim of fish, walk of mammals, fly of birds.) A further problem is that verbs that seem to encode the path, like *kee* 'enter', typically occur with a postpositional phrase too – thus as in Yucatec, one says in effect 'enter inside the house', the PP repeating some of the information in a way that suggests that the path is not in fact fully specified in the verb. Moreover, manner verbs ('run', 'walk', etc.) can be combined with such path-specifying PPs. Note, however, that place names do not carry a postposition, so that ambiguity can arise with regard to source or goal unless the verb-subcategorization encodes this.

The verbs of entering and exiting are worth a special note. First, there is a curious conflation of *kee* 'enter' with 'ascend', possibly explained by the fact that traditional Rossel houses were entered from below by ladder. Thus the verb has two antonyms, *ghîî* 'descend' and *pwii* 'exit'. In addition, *kee* can mean 'go east' (probably through association with the prevailing 'upwind' direction), and *ghîî* can mean 'go west' (through association with the 'downwind' direction; this seems to be an areal feature throughout the Louisiades). Second, as mentioned, both 'enter' and 'exit' verbs collocate with the 'inside' postposition:

(38)   *ngomo k:oo da*   *kee/pwii*
    house inside 3Immpast+Deic enter/exit
    'He entered/exited the house'

As a result, the following sentences could both have the same meaning:

(39)   *tpile_pê mgî   k:oo   kêdê*   *ghîî*
    snake hole/(a) in/inside CERT+3s/plImmpast **descend**
    'The snake just went (descended) into the hole'

Table 5.8 *Sample of intransitive motion verbs (transitive counterparts in brackets)*

Path-encoding verbs		Manner-encoding verbs	
kee	'enter', 'ascend', 'go east'	*m:ii*	'move in characteristic manner of species'
pwii	'exit'	*mbêpê*	'run'
ghîî	'descend, go west'	*ghidi*	'run around'
lóó	'cross over'	*paa*	'walk'
lê	'go from'	*mgeme*	'walk around'
ndê	'leave from'	*paambwi*	'walk aimlessly', 'wander'
yêm	'start off from'	*châ*	'swim'
diyé	'go and return from'	*pywálî*	'fly away'
pwiyé	'move off from'	*tpyipê*	'sail' (kédi, TV, 'sail a canoe')
		mbye	'punt' (mbimi, TV, 'punt a canoe')
		têêdi	'arrive by boat/canoe'

(40) *tpile_pê   puu   mênê   kêdê   kee*
snake   hole   in/inside   CERT+3s/plImmpast   enter/**ascend**
'The snake just went (entered/ascended) into the hole'

Such ambiguities can be resolved by use of the incorporated deictics. Thus the most prominent meaning of a sentence like the following is unexpected:

(41) *pyaa   ntii u mênê dpo   kee*
crocodile   sea   its inside Punct.3sHab.+**Close**   enter/ascend
'The crocodile (habitually) comes hither out of the water'

The reading is forced by the incorporated deictic ('Close') in the preverbal particle *dpo*; with the +Motion marker incorporated instead, as the particle *dp:uu,* the reading 'the crocodile goes into the sea' is now forced instead.

There is one crucial feature of all the motion verbs in Rossel. As mentioned, locatives typically take zero-marking, and there is thus no way to distinguish source and goal (phrase order being free). Notice that even if they are marked with a postposition indicating, e.g., 'inside' as in the examples above, this does not disambiguate between source and goal interpretations. Consequently, the coding of source vs. goal has to be in the verb itself – verbs tend to subcategorize for (or at least collocate with) a single source or goal nominal (a strategy in line with the tendency, mentioned in the introduction, for this language to lexicalize rather than derive or syntactically mark distinctions). A further consequence of this is that full path-specifications with both source and goal typically require more than one clause. Thus in the following, *ghîî* in the sense of 'go west' (as opposed to 'go down') does not colloquially here take a goal specification, and so requires an additional 'go' verb to allow the goal to be specified.

Table 5.9 *Verb-subcategorization for source or goal[a]*

Form	Gloss	Goal-spec	Source-spec
lê/nî	'go'	+	
ndê	'leave'		+
yêm	'start off from'		+
kee	'head east'[b]	(+)	
	'ascend'	+	
	'enter'	+	
ghîî	'head west'	(+)	
	'descend'		+
pwii	'exit'		+
diyé	'go to and return from'	+	+
pwiyé	'move off (from)'	(+)	
mbêpê	'run'	+	+

[a] I have used the term 'subcategorize' for instant recognition of the idea that the verb is encoding the way in which the locative NP is to be understood as source or goal. However, there is reason to believe that what is coded is a *preferential* interpretation rather than a necessary one. For example, *kee* 'enter/ascend' normally requires a goal interpetation, but as we have just seen in the crocodile example, an 'ascend out of' interpretation can be forced by a deictic. Whether this flexibility of interpretation at the margins should be understood as 'coercion' during the unification of meaning, or as betraying an ultimately pragmatic source of the source/goal inference, is a matter unresolvable here. Plus-signs in brackets indicate what seem to be weaker preferences.
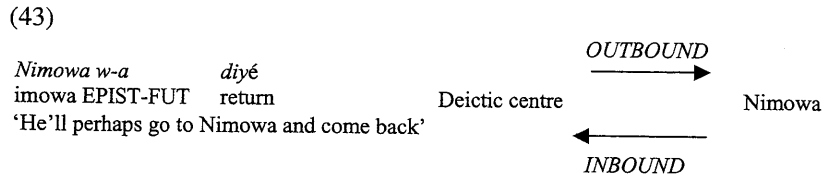[b] The uses of these verbs in the absolute frame of reference, namely *ghîî* 'go down/west', and *kee* 'go up/east', normally collocate with neither goal nor source specification, but nevertheless can take goal specifications.

(42) *Mathew kêdê   ghîî,   Wulî*
Mathew CERT-Immpast3s descend+ProxPast+Punct Wulî-Island
dê   lê
Immpast3s go(ProxPast+Punct)
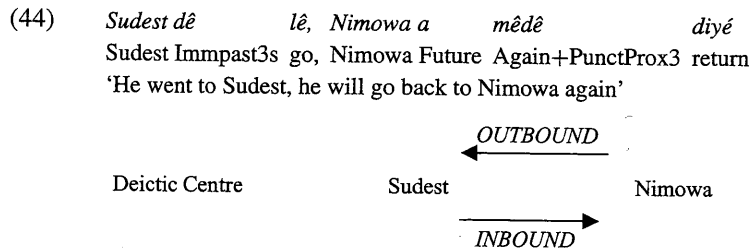'Mathew has just descended i.e. gone-West, he's gone to Wulî Island'

The motion verbs illustrated in the Table 5.8 above thus come with rather precise expectations of whether they take a goal or source or location NP, as illustrated in Table 5.9 (I provide only the punctiliar immediate past root, although many of them have a large number of distinct roots).

The 'return' verb *diyé* requires a special note, because there are two trajectories: (1) outbound, i.e. source → outbound goal, (2) inbound, i.e. source → inbound goal, where what is goal on the first trajectory becomes source on the next, and vice versa. The verb seems normally to take

specification of the outbound goal, coincident with the inbound source, with the deictic centre as default inbound goal:

(43)

Nimowa w-a	*diyé*	OUTBOUND
imowa EPIST-FUT	return	

Deictic centre   Nimowa

INBOUND

'He'll perhaps go to Nimowa and come back'

But the outbound path can be independently specified, in which case a locative NP will be understood as the inbound goal of *diyé*:
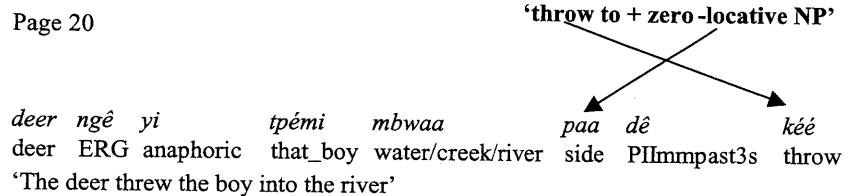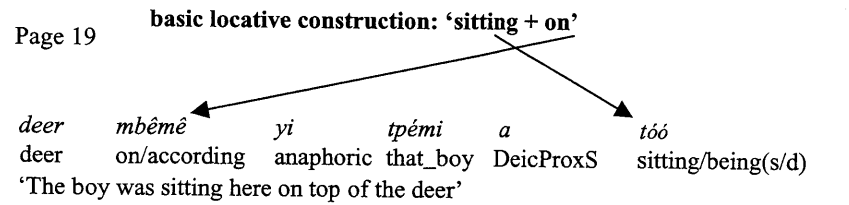
(44)   *Sudest dê   lê,   Nimowa a   mêdê   diyé*
       Sudest Immpast3s go, Nimowa Future Again+PunctProx3 return
       'He went to Sudest, he will go back to Nimowa again'

OUTBOUND

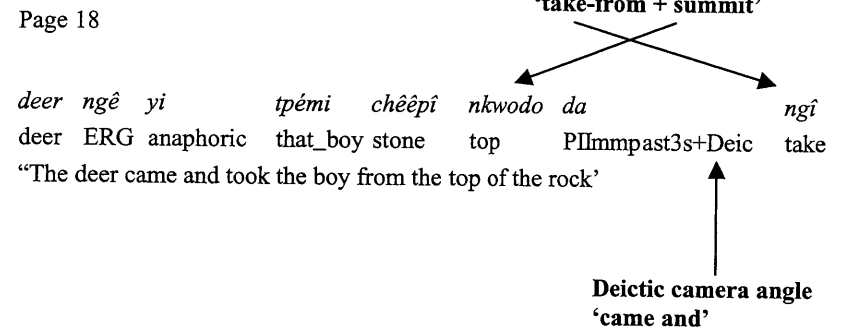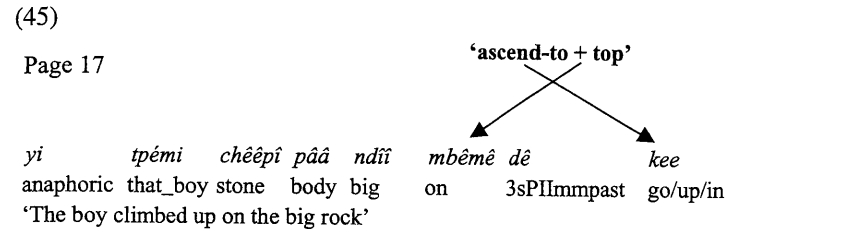Deictic Centre   Sudest   Nimowa

INBOUND

Returning to our snippet of Frog Story, notice how goal and source of motion are largely determined by the argument structure of the verb. Thus, in the description of page 17, we have the verb *kee* 'ascend to', which expects a goal, here indicated by the PP 'on the big rock' – the sentence could not mean 'ascend from the big rock'. Similarly, the verbs of throwing expect a goal, and can thus in the description of page 20 take a plain NP 'water side, i.e. river', which will be interpreted as the place thrown to. Last, the description of page 23 has the verb *ghê*, which with the punctiliar aspect has the sense 'moved to', expecting a goal, here given by the NP 'the boy's shoulder'. Notice that in none of these is there any allative marker – such a marker occurs only where the goal is a person (when the 'dative' postposition *ka* is used). Thus in Yélî Dnye, not only do we have a 'verb-framing' pattern in Talmy's (1983) sense of directional marking being lexicalized inside the verb, but in a typologically unusual pattern even source/goal marking is absorbed largely within the verb.

5.6.4   Overall observations on motion description

Focussing again on the brief extract from a telling of the Frog Story, we can now show how these various ingredients help us to understand the construction of narrative space – that is, a spatial model for events. Because motion verbs tend to build in both a path and an expectation of the specification of either source or goal, they severely restrict the interpretation of NPs co-occurring with them. Postpositions, which together with positional verbs are so important in static descriptions, here merely serve to indicate that goal and source are subparts of the locations given by the nouns. The rich set of postpositions

used in the description of static locations dwindles to a mere handful that co-occur with motion verbs. Particles and elements in the TAMP give small, but important, additional information. Thus the associated motion marker serves to indicate that motion precedes or co-occurs with an action, while specification for deictic centre helps to establish one protagonist as the person from whose perspective events are told. The text is repeated here, with a diagrammatic annotation that should help to make clear the contribution of specific formal elements to the construction of a coherent narrative space. Overall we infer the following trajectory information:

(45)

Page 17   'ascend-to + top'

yi	*tpémi*	*chêêpî*	*pââ*	*ndîî*	*mbêmê*	*dê*	*kee*
anaphoric	that_boy	stone	body	big	on	3sPIImmpast	go/up/in

'The boy climbed up on the big rock'

Page 18   'take-from + summit'

deer	*ngê*	*yi*	*tpémi*	*chêêpî*	*nkwodo*	*da*	*ngî*
deer	ERG	anaphoric	that_boy	stone	top	PIImmpast3s+Deic	take

"The deer came and took the boy from the top of the rock"

Deictic camera angle 'came and'

Page 19   **basic locative construction: 'sitting + on'**

deer	*mbêmê*	*yi*	*tpémi*	*a*	*tóó*
deer	on/according	anaphoric	that_boy	DeicProxS	sitting/being(s/d)

'The boy was sitting here on top of the deer'

Page 20   'throw to + zero -locative NP'

deer	*ngê*	*yi*	*tpémi*	*mbwaa*	*paa*	*dê*	*kéé*
deer	ERG	anaphoric	that_boy	water/creek/river	side	PIImmpast3s	throw

'The deer threw the boy into the river'

Grammars of Space
Explorations in Cognitive Diversity

Editors:

Stephen C. Levinson
Max Planck Institute for Psycholinguistics

David P. Wilkins
Center for Aphasia and Related Disorders, VANCHCS, Martinez, California