

## Chapter 8

# Spatial reference in Yukatek Maya: A survey<sup>1</sup>

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### 1 8.1. Introduction

2 It has been shown that spatial concepts are particularly richly lexicalized in  
3 some Mayan languages (see Brown, this volume, on Tzeltal, and  
4 references there on Tzotzil, Mam, and other members of the family).

5 Together with the finding that spatial reference relies predominantly on an  
6 absolute frame of reference, driven by cognitive skills of spatial orientation  
7 unattested with Euro-Americans, this has led to the assumption that space  
8 plays a more prominent role in Mayan culture and cognition than it does in

9 Western culture and cognition (cf. Brown **this volume**, England 1978:  
10 226). The study of Yukatek Maya (YM) adds a new perspective to this line  
11 of research. YM shares most linguistic resources for spatial reference with  
12 the linguistically and culturally more conservative Mayan languages  
13 spoken in the highlands of Chiapas and Guatemala (the only notable

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1 exception is bound directional particles, which are absent in YM).  
2 However, the use of these resources is rather different in YM. Thus, even  
3 though there is a large form class of positional verb roots (a rather special  
4 typological feature of Mayan languages), these are only marginally used in  
5 YM locative predications. Furthermore, there is no evidence for a  
6 prominent role of the absolute frame of reference (FoR) in YM. The most  
7 widely used strategy of anchoring spatial reference among YM speakers is  
8 the intrinsic FoR. However, observer-based and absolutely-grounded types  
9 of spatial reference co-exist in particular in male adults with  
10 intrinsically-anchored orientation.

11 A feature of spatial reference largely shared across YM and other  
12 Mayan languages that is prominently discussed in this chapter concerns the  
13 coding of motion events. The ground-denoting adjuncts in descriptions of  
14 spatial configurations and motion events are highly under-specified: they  
15 do not distinguish between location, source, and goal roles, these  
16 distinctions being made exclusively in the predicate. Since relations of  
17 event order in time, which on a localist account are metaphorical extensions  
18 of such spatial relations, are also largely not expressed in YM, this may  
19 lead a localist to conclude that spatial concepts actually play a lesser role in  
20 the code of YM than they do in the code of Indo-European languages.

1 Finally, the lexicalization of ‘path’ roles such as source and goal (in  
 2 the sense of Talmy <sup>1985</sup> and Jackendoff <sup>1983</sup>) exclusively in verb roots  
 3 has consequences for the coding of motion events that bear important  
 4 theoretical and typological implications. At the level of lexical items and  
 5 grammatical constructions, motion is represented in YM as punctual  
 6 change of location, not as durative locomotion along an extended  
 7 trajectory. This adds to the evidence presented throughout this volume that  
 8 calls for a radical revision of the notions of ‘motion’ and ‘path’.

A-Head

## 9 **8.2. The language and its speakers**

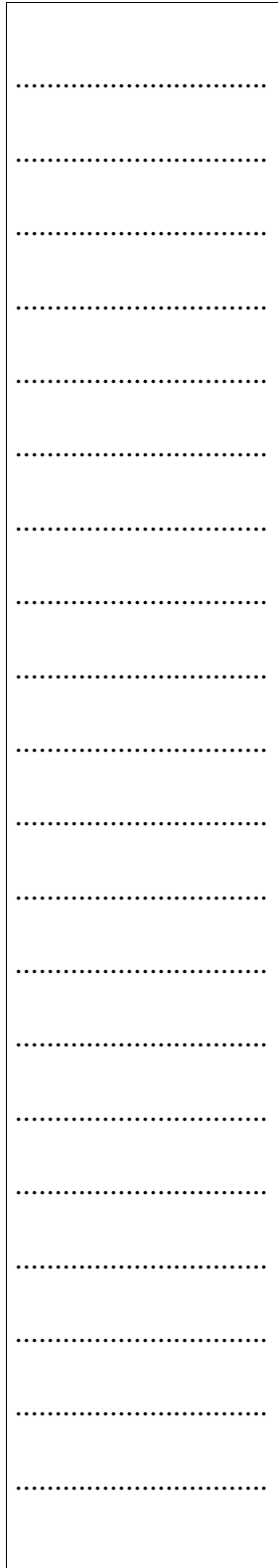
10 The auto denomination of YM is *Maya t’àn* ‘Maya speech’, or simply  
 11 *Maya*. YM forms the Yukatekan branch of the Mayan language family  
 12 together with its sister languages Itzá, Lakandón and Mopán (cf. Campbell  
 13 and Kaufman <sup>1990</sup>). YM is spoken all across the Yucatán peninsula, that  
 14 is, in the Mexican states of Campeche, Quintana Roo and Yucatán, and in  
 15 the Corozal and Orange Walk districts of Belize. With approximately  
 16 800,000 speakers, YM is one of the largest native languages of the  
 17 Mesoamerican area. Based on lexical and morpho-phonological  
 18 differences (cf. Pfeiler <sup>1995</sup>), two dialects may be distinguished: a variety  
 19 spoken in the north-west of the peninsula, including the urban areas around

1 Mérida, the capital of Yucatán, and the city of Campeche, and a variety  
2 spoken elsewhere, but in particular in Valladolid and its environs and in the  
3 rural areas to the east and south of Valladolid, down to and including those  
4 districts of Belize in which the language is spoken (cf. Smailus 1975).<sup>2</sup>  
5 These dialects are, however, mutually intelligible in their entirety. The  
6 present study is exclusively based on the southern variety. The data  
7 presented here has been collected by both authors in various field trips  
8 spent between 1989 and 1999 in two villages of the municipal district of  
9 Felipe Carrillo Puerto in Quintana Roo, México.

10       Speakers of YM have at present no regular contact, as a language  
11 community, with other indigenous languages. The dominant language of  
12 the Yucatán peninsula has been Spanish since the conquest which  
13 concluded in 1546 (in Belize, English plays the same role). Competence in  
14 Spanish varies across the YM territory. Although Suárez (1983: 171)  
15 estimates the total number of monolingual YM speakers at just 15% in  
16 1983, there are actually hardly any monolinguals at all in urban areas (cf.  
17 Kummer 1982, Pfeiler 1985, 1988), whereas in the villages where the  
18 research reported here was carried out, most children grow up  
19 monolingually before they enter school, and most women as well as all  
20 people above age 60 have very little command of Spanish. In such rural

1 communities, Spanish is acquired at school, diffused through mass media  
2 (radio, television) and used in church. In conversation, Spanish is used only  
3 talking to non-Maya-speakers, except for secondary schoolers and slightly  
4 older youths, who occasionally use Spanish in conversations among each  
5 other, especially men. Literacy in Spanish is generally confined to people  
6 age 50 or younger, and tends to be fairly limited. There is no regular  
7 literacy in Maya, although national institutions have made efforts since the  
8 1980's to change this situation. There is some teaching in YM in the first  
9 grades now. Various writing systems are in use, mostly based on the  
10 conventions of the *Academia de las Lenguas Mayas de Guatemala*.<sup>3</sup>

11       The economic basis of the inhabitants of central Quintana Roo is  
12 cyclic slash-and-burn corn agriculture on a subsistence scale (*milpa*  
13 farming), as it is in most parts of the peninsula. Due to ecological  
14 conditions which preempt more intensive forms of agriculture, the  
15 techniques of milpa agriculture deployed by present-day Maya peasants  
16 are by and large the same as those their ancestors applied for thousands of  
17 years. As the population size affordable by this form of agriculture is  
18 limited, but population has been increasing constantly since the 1930s,  
19 many younger people today have to seek temporary or constant  
20 employment in the towns of the Caribbean coast, where jobs are created



1 directly and indirectly by the tourism industry.

2       YM has received one of the longest records of description among the  
3 languages of the New World. Yet there is no reference description of the  
4 language by contemporary linguistic standards. Classical YM, considered  
5 to have been in use between the middle of the 15th and the middle of the  
6 17th century (McQuown 1967: 202), received several pedagogical  
7 grammars (Beltrán de Santa Rosa 1746, Coronel 1620, San Buenaventura  
8 1684) and the quite extensive *Diccionario de Motul* written by an  
9 anonymous author as early as the last quarter of the 16th century  
10 (published by Martínez Hernández 1929). Descriptions of Classical YM  
11 include McQuown (1967) and Smailus (1989). The first descriptive  
12 sketches of Modern YM according to contemporary linguistic standards  
13 are Barrera-Vásquez (1946) and Tozzer (1921). There are two extensive  
14 structuralist treatments of YM, Andrade (1955) and Blair (1964). A  
15 concise sketch of YM morphosyntax is found in Bricker (1986: ch. 2).  
16 Recently, Ayres and Pfeiler (1997) have submitted a manual of the fairly  
17 complex morphology of the YM verb, based in particular on the work by  
18 Blair (1964), Bricker (1981) and Owen (1968), but going beyond the scope  
19 of these studies, and using original field data for illustration.

20 Barrera-Vásquez (1980) compiles a dozen older lexicographic sources,

1 dating back as far as the *Diccionario de Motul*, and including most notably  
 2 the dictionary of Pío Pérez (1866–1877). To this, an equal number of  
 3 unpublished modern sources is added.

A-Head

### 4 **8.3. Some elements of YM morphosyntax**

B-Head

#### 5 **8.3.1. Overview**

6 In this section, we sketch some basic traits of YM clause and sentence  
 7 grammar, as relevant to the treatment of spatial reference below. The  
 8 discussion follows a broad-level subdivision of clause structure into  
 9 predicates and clause-level dependents. §8.3.2 introduces the YM system  
 10 of morphological predicate classes. Stative predicates that express locative  
 11 relations, positional verb roots that lexicalize spatial configurations, and  
 12 verb roots of ‘inherently directed motion’ (Levin 1993: 263) and ‘manner  
 13 of motion’ (Talmy 1985) all fall in different morphological classes.  
 14 Section 8.3.2 lays out the formal properties of these predicate classes. The  
 15 treatment of clause-level dependents in section 8.3.3 focuses on spatial  
 16 adverbials such as the ground-denoting adjuncts in expressions of location  
 17 and motion.

Section 8.3.2

Section 8.3.2

Section 8.3.3

B-Head

## 1 8.3.2. Predicates

2 In YM, a stative predicate alone may constitute a minimal clause, and for  
 3 that matter, a minimal sentence. The stative predicate is inflected for its  
 4 theme argument (the ‘notional subject’) by a pronominal suffix, such as the  
 5 second singular suffix *-ech* in (1).<sup>4</sup>

6 (1) *Uts-ech?*

7 good-B.2.SG

8 ‘Are you alright?’, ‘Do you feel well?’

9 This paradigm of pronominal suffixes is commonly labelled ‘set B’ among  
 10 Mayanists. Stative predicates may be divided according to further  
 11 morphosyntactic criteria into nouns, adjectives (such as *uts* ‘good’ in (1))  
 12 and stative predicates proper (cf. Bohnemeyer 1998: 153–163, 228–287).  
 13 <sup>[52]</sup>

14 Stative predicates proper are those that appear exclusively as stative  
 15 predicates; among these are deverbal stative forms such as the resultative  
 16 and positional resultative forms mentioned below (cf. (6), (9)).

16 Verbs are distinguished from stative predicates by the former being  
 17 inflected obligatorily for the suffixal category we term ‘status’, following  
 18 Kaufman (1990: 71). For the purposes of the present study, it suffices to  
 19 say that the four status categories incomplete, completive, subjunctive,  
 20 <sup>[208]</sup>



1 and extra-focal are semantically motivated with respect to distinctions of  
 2 aspectuality, modality and illocution. For details and for a semantic  
 3 analysis see Bohmeyer (1998: 287–312) and Lucy (1994). Stative  
 4 predicates are incompatible with status inflection. In order to constitute  
 5 (potentially) independent clauses, verbs have to be combined with exactly  
 6 one member out of a paradigm of about fifteen preverbal aspect-mood  
 7 (henceforth AM) markers. The structure of the verbal clause in YM is thus  
 8 invariably [AM CORE]<sub>S</sub>, where CORE represents the verbal core. The  
 9 verbal core is headed by the unit we call a ‘verbal complex’, optionally  
 10 extended by argument noun phrases and adjuncts. YM is a purely  
 11 head-marking language in the sense of Nichols (1986). Arguments are  
 12 cross-referenced on the verb (and likewise the possessor on the possessed  
 13 noun and the complement of a preposition on the preposition) by the two  
 14 paradigms of bound pronominal indices; there is no case marking on noun  
 15 phrases, and noun phrases are syntactically optional. With the exception of  
 16 attributive adjective constructions, all constructions of YM grammar are  
 17 head-initial. Constituent order is relatively rigid; the basic order in  
 18 transitive clauses is V-O-A:

19 (2) *Táan u ts'ûb-t-ik (le kàarta)*  
 [PROG [[A.3 write-APP-INC(B.3.SG)]<sub>complex</sub> [DEF letter]<sub>NP,O</sub>

(le x-ch'úupal)-o'

[DEF F-female:child]<sub>[NP.A]core-D2</sub>S<sup>5</sup>

'She was writing it (the letter) (the girl)', i.e. 'The girl was writing the letter'  
(tempest antram II 1/2 a2 20–21)

- 1 The verbal complex comprises the inflected verb form, including the bound  
2 pronominal indices cross-referencing the verbal arguments, and a number  
3 of clitic adverbs that may be inserted between the set-A cross-reference  
4 marker and the verb stem (CADV in the schemata below). The set-A  
5 markers are clitics and may combine with a host preceding the verbal core,  
6 such as the AM marker. The structure of the transitive verbal core is  
7 schematically represented in (3) and exemplified in (4) ( $CR_{A/B}$  represents  
8 the cross-reference markers of set A/B, CADV stands for a clitic adverb).
- 9 (3) PERSON[ $CR_A$ ] (CADV) STEM-STATUS- $CR_B$ (-NUMBER[ $CR_A$ ])
- 10 (4) *Ts'o'k<sub>AM</sub> [a<sub>PERSON[ $CR_A$ ]</sub> ka'<sub>CADV</sub> ah -s<sub>STEM</sub> -ik<sub>STATUS-en<sub>CRB</sub></sub> -e'<sub>x<sub>NUMBER[ $CR_A$ ]</sub></sub>]*  
TERM A.2 REP wake.up-CAUS-INC -B.1.SG -2.PL  
'You all have woken me up again'
- 11 The structure of the intransitive verbal complex depends on the status  
12 category the verb is marked for. The single argument of the intransitive  
13 verb, henceforth the 'S-argument', following Dixon (1994), is marked by a  
14 set-A clitic in incomplete status, but by a set-B suffix in complete,  
15 subjunctive and extrafocal status. The alternative structures are  
16 schematically represented in (5a) for incomplete status and (5b) for other

1 status categories:

3 (5) a. PERSON[CR<sub>A</sub>] (CADV) STEM-STATUS(-NUMBER[CR<sub>A</sub>])

4 b. (CADV) STEM-STATUS-CR<sub>B</sub>

5 In other words, the S-argument patterns with the transitive ‘A-argument’ in  
6 incomplete status, but with the transitive ‘O-argument’ in the remaining  
7 status categories. This pattern of argument marking is referred to as ‘mixed  
8 ergativity’ in Kaufman (1990: 86–91). On Dixon’s (1994) typology, the  
9 YM pattern of argument marking instantiates ‘split-S’ marking, and in the  
10 terms of Sapir (1917), YM shows ‘active-inactive’ marking. The latter  
11 term has been applied to YM by Dayley (1981, 1990) and Straight (1976).  
12 Notice, however, that the argument marking split of YM is

13 morphologically conditioned, unlike the lexically governed pattern Klimov  
14 (1974) has described as ‘active-*stative*’ marking. Example (6) illustrates  
15 the incomplete verbal complex; the incomplete is in this case governed  
16 by the terminative AM marker *ts’o’k*, just as in (4) (observe that the  
17 transitive stem *ahs* ‘wake sb. up in (4) is a causativization of the  
18 intransitive stem *ah* ‘wake up’ in (6)).

19 (6) *Ts’o’k*<sub>AM</sub> [*a*<sub>PERSON[CR<sub>A</sub>]</sub> *ka’*<sub>CADV</sub> *ah*<sub>STEM</sub> *-al*<sub>STATUS</sub> *-e’x*<sub>NUMBER[CR<sub>A</sub>]</sub>]  
20 TERM A.2 REP wake.up -INC -2.PL  
‘You all have woken up again’

20 Example (7) instantiates complete status with the same stem *ah* featured

1 in (6). Completive status is zero-marked with this particular class of  
 2 intransitive verbs; the allomorphic variation of the status suffixes will be at  
 3 issue in a moment. Completive status is triggered in (7) by the perfective  
 4 AM marker, whose allomorph is *h* with intransitive verbs.<sup>6</sup>

5 (7)  $H_{AM}$  [*ka'*<sub>CADV</sub> *ah*<sub>STEM</sub>  $-\emptyset$ <sub>STATUS</sub>  $-e'$ <sub>CRB</sub>]  
 PRV REP wake.up -CMP -B.2.PL  
 'You all woke up again'

6 Status marking generally depends on the syntactic environment of the verb.  
 7 In independent clauses, the status category the verb is inflected for is  
 8 assigned by the preverbal AM marker. In verbal cores embedded as  
 9 arguments of higher predicates, status selection is triggered by the matrix  
 10 predicate. In other constructions, status marking depends on the  
 11 construction itself. As is apparent from a comparison of the incomplete  
 12 suffix *-ik* occurring with the transitive stem *ahs* in (4) and the incomplete  
 13 suffix *-Vl* (the quality of the vowel equalling that of the preceding stem  
 14 syllable) occurring with the intransitive stem *ah* in (6), the form of the  
 15 status suffixes depends on the lexical class of the verb stem. By this pattern  
 16 of status allomorphy, five inflectional verb classes are distinguished, as  
 17 depicted in Table 8.1.

**Insert Table 8.1 about here**

18 The same five classes are also differentiated by privileges of

Table 8.1

1 undergoing derivational operations. For example, the intransitive verb *ah*  
 2 ‘wake up’ illustrated in (6) belongs to the ‘inactive’ class of intransitive  
 3 verbs, which transitivizes by application of the causative derivation in *-s*, as  
 4 in (4). Size, productivity, and examples of each class are given in Table  
 5 8.2. In Bohnemeyer (1998: Ch. 5), it is argued that the five verb classes  
 6 are motivated primarily with respect to argument structure.<sup>7</sup> Thus,  
 7 intransitives of the active class typically lexicalize events such as ‘sing’,  
 8 ‘dance’, ‘run’ and ‘jump’, whose single argument is an ‘agent’, whereas  
 9 inactive, inchoative and positional intransitives lexicalize events of state  
 10 change, location change and the like, such as ‘be born’, ‘die’, ‘explode’,  
 11 ‘enter’, ‘ascend’, ‘grow old’, ‘become fat’, ‘sit down’, ‘stand up’, etc.,  
 12 which involve a ‘patient’ or ‘theme’ argument. In other words, the active  
 13 class embraces ‘unergative’ verbs, whereas the three other intransitive  
 14 classes contain ‘unaccusative’ verbs (cf. Levin and Rappaport 1995).<sup>8</sup> As  
 15 is shown in §5 below, only roots and derived stems of the inactive and  
 16 transitive classes can be used to predicate change of location. Active  
 17 intransitive verbs also occur in motion event descriptions, but exclusively  
 18 serve to express ‘manner of motion’.

**Insert Table 8.2 about here**

19 Of special interest for a discussion of the expression of spatial

Table 8.2

1 relations in YM will be the class of positional roots.<sup>9</sup> Positionals as a  
 2 distinct form class are found in many Mayan languages (cf. Kaufman  
 3 1990: 68), as well as in other Mesoamerican languages. Positionals in YM  
 4 may be identified according to a number of formal properties. Firstly,  
 5 positionals form the only root class in YM whose members never surface  
 6 anywhere in the clause without derivation. As is apparent from Table 8.1  
 7 above, positionals share the suffix *-tal* with inchoative verbs<sup>10</sup> in  
 8 incompletive status, but take the allomorph *-lah* in the completive, unlike  
 9 inchoatives, which occur with *-chah*. And secondly, in addition to the  
 10 regular resultative derivation of intransitive verbs in *-a'n*, positionals also  
 11 allow for the formation of the positional resultative in *-Vkbal*. The  
 12 examples in (8) and (9) are constructed:

- 13 (8) a. *Kul-a'n-ech?*                                      b. *Ch'uy-a'n                      te                      che'-o'*  
       sit-RES-B.2.SG    hang-RES(B.3.SG) LOC:DEF tree-D2  
       'Are you at home (lit. seated)?'                      'It is hung from a tree'
- 14 (9) a. *Kul-ukbal-ech?*                                      b. *Ch'uy-ukbal                      te                      che'-o'*  
       sit-POS.RES-B.2.SG                                      hang-POS.RES(B.3.SG) LOC:DEF tree-D2  
       'Are you sitting?'    'It is hanging from a tree'

15 Whereas the resultative in *-a'n* is formed of positional, inchoative, and  
 16 inactive stems, and of transitive stems after passivization, the positional  
 17 resultative in *-Vkbal* is exclusively formed from positional roots.<sup>11</sup>

18       Around 100 roots have been attested to occur in positional-verb forms

Table 8.1

1 (i.e. in positional resultative forms or in verbal predicates that inflect for  
2 completive status in *-lah*).<sup>12</sup> However, only a minority among these  
3 produce exclusively positional stems without overtly marked derivation.  
4 Most of the roots that appear in positional stems also produce either  
5 zero-derived transitive stems (e.g. *chin* ‘bow, bend’, *hup* ‘sink, insert’) or  
6 ‘pseudo-anti-causative’ stems (which inflect like inactive intransitives and  
7 show the tone-heightening pattern of anti-causatives formed from transitive  
8 roots, although the putative simple transitive stem underlying these  
9 anti-causatives does not occur; e.g. *kul* ‘sit down’, *kúul* ‘settle’). Although  
10 the 100 roots attested in positional stems certainly do not exhaust the class  
11 of positionals in the language, it seems likely that this class is smaller than  
12 the positional class of some other Mayan languages, such as Tzeltal (with  
13 ‘well over 250’ items according to Brown 1994: 752) and Tzotzil (273 in  
14 Haviland’s 1994 sample). The subset of positionals one encounters in  
15 spontaneous discourse with saliently high frequency contains at least 40  
16 items in Tzeltal (Brown pc). In contrast, the five YM consultants who  
17 produced descriptions of the Topological Relations Picture Series (to be  
18 discussed in the next section) used only a dozen positional root types in  
19 these, and only five of these occurred with more than one token per type.  
20 Research conducted with an additional picture series specifically geared to

1 the elicitation of spatial-dispositional expressions yielded positional  
 2 resultative forms of 24 root types among three YM consultants, as opposed  
 3 to stative forms of 33 root types used by three Tzeltal consultants (Brown  
 4 pc).<sup>13</sup>

5 The positional roots of YM lexicalize the spatial configuration of a  
 6 *figure* with respect to a canonical *ground* (in the parlance of Talmy (1972,  
 7 1985, 1991)). The information these items convey about the figure and the  
 8 configuration is much more specific than the information they convey about  
 9 the ground. Thus, positional selection generally reveals whether the figure  
 10 is animate or inanimate (posture roots mostly only take animate figures, e.g.  
 11 *chil* ‘lie down’, *kul* ‘sit down’, *xol* ‘kneel’), a single individual, a collective  
 12 (e.g. *much* ‘pile up, gather’, *ts’ap* ‘pile up, be stacked’), or a mass (e.g.  
 13 *búut* ‘fill, stuff’, *háay* ‘spread out, extend’, *nik* ‘scatter’), whether it is a  
 14 two-dimensional object (or a saliently elongated three-dimensional one) or  
 15 a three-dimensional non-elongated object, whether it is flexible or of  
 16 permanent shape, etc. As for the configuration, the selection of a particular  
 17 positional root reflects things like whether the pull of gravity is neutralized  
 18 by support, suspension, or in some other way, whether the figure is facing  
 19 up or facing down in the gravitational field, whether contact between figure  
 20 and ground is loose or firm, and where the figure makes contact with the



1 ground (e.g. support along long axis, as in *pek'* 'sit stretched out', vs.  
 2 along short axis, as in *t'uch* 'perch, squat, rest', or suspension at terminal  
 3 point, as in *ch'uy* 'hang (non-flexible object) or *ts'op* 'punch, bore,  
 4 puncture', vs. at a non-terminal point, as in *lech* 'hang (flexible object)').  
 5 As opposed to this relatively detailed information about the figure and the  
 6 configuration, the information that positional root use entails about the  
 7 ground is much less systematic, and generally less specific. For example,  
 8 *háay* 'spread out' and *nik* 'scatter' require a horizontally oriented surface  
 9 as ground; *pak'* 'plant' requires dirt (or sand, gravel, etc.) as ground; *ts'op*  
 10 'bore, puncture' requires a solid 3-dimensional object as ground; *búut'*  
 11 'fill, stuff' requires a container as ground, etc.

12 Rich lexicalization of spatial configurations represents one of the most  
 13 peculiar design features of Mayan languages – and a kind of linguistic  
 14 knowledge in the speakers of Mayan languages that is largely absent in the  
 15 speakers of other languages. However, predicating information about a  
 16 figure's spatial configuration is not the same as asserting the figure's  
 17 location and topological relation with respect to a ground. In some Mayan  
 18 languages, such as in Tzeltal and Tzotzil, positional verb forms are  
 19 exploited for the latter purpose. As is shown in §4 below, this is not the case  
 20 in YM.

B-Head

## 1 8.3.3. Clause-level dependents

2 Within the grammar of spatial orientation, clause-level dependents  
 3 primarily serve to express ground objects. The expressions referring to  
 4 spatial ground objects in YM have two properties, which are quite striking  
 5 from a typological point of view. Firstly, ground-denoting expressions  
 6 never surface as core-arguments cross-referenced on the predicate. Instead,  
 7 they assume the position and structure of adjuncts, except when fronted as  
 8 topics or foci (in clefts).<sup>14</sup> And secondly, ground-denoting expressions in  
 9 YM are completely insensitive to *path* distinctions (cf. Jackendoff 1983:  
 10 Ch. 9, Talmy 1972, 1985, 1991). That is, their form does not reflect  
 11 whether the *figure* is *located* at the ground object, or moves towards or  
 12 away from the ground object (*directional path*), or whether the ground  
 13 object marks the *source* or *goal* of the figure's trajectory (i.e. the location  
 14 the motion event starts from or ends at), or a *transit* location passed by on  
 15 the figure's trajectory. Both the exclusion of ground-denoting phrases from  
 16 argumenthood and their indiscriminateness with respect to path will be  
 17 elaborated on in section 8.5 below. Path neutrality is illustrated in (10) with  
 18 the locative interrogative pro-form *tu'x*. In (10a), *tu'x* is used in a request  
 19 for information about a stative location ('where'), in (10b), *tu'x* occurs in a

Section 8.5

1 question about the goal of a motion event ('where to'), and in (10c), *tu'x* is  
 2 used to ask about the source of a motion event ('where from').

- 3 (10) a. *Tu'xyàan-ech, chan áak?*  
 where EXIST-B.2.SG DIM turtle  
 'Where are you, little turtle?' (Romero Castillo 1964: 308)  
 361
- b. *Tu'x k-a bin?*  
 where IMPF-A.2 go  
 'Where are you going?' (BVS 1.1.10)
- c. *Tu'x a tàal-e'x?*  
 where A.2 come-2.PL  
 'Where are you coming from?' (BVS 2.1.9)

4 Exclusion from argumenthood and path-neutrality apply to  
 5 ground-denoting expressions in YM independently of their internal  
 6 construction. Ground-denoting expressions may be constituted by the  
 7 interrogative pro-form *tu'x* illustrated in (10), by a deictic or anaphoric  
 8 pro-form, by a bare place name (in exceptional cases also by a bare  
 9 common noun), by a common noun constructed as the possessor of a  
 10 relational noun referring to a spatial region, or by a prepositional phrase.  
 11 The system of indexical (deictic or anaphoric) spatial reference will be  
 12 taken up below. (11) illustrates a ground-denoting expression constituted  
 13 by a bare place name, namely *Carrillo*:

- 14 (11) *Sáamal walakil-a' yan in bis-ik-ech Carrillo*  
 tomorrow ISO-D1 OBL A.1.SG go:CAUS-INC-B.2.SG Carrillo  
 'Tomorrow at this time, I will take you to (the town of) Carrillo'

1 Likewise, nouns denoting cardinal directions do not combine with  
 2 determiners, and combine directly with a verbal core without the help of a  
 3 preposition. However, as in (12), they frequently enter into an appositive  
 4 relation of sorts with the deictic space adverb *te'l . . . -a* 'there' (proximal  
 5 to speaker, but not including the speaker's location):<sup>15</sup>

- 6 (12) *Hwèebes-e' yan k bin-o'n, estée,*  
 Thursday-TOP OBL A.1.PL go-1.PL HESIT  
*wàats' t-in chan kòol yàan te'l nohol-a'*  
 bend\ATP LOC-A.1.SG DIM clear\ATP EXIST(B.3.SG) there south-D1  
 'Thursday we got to go bending (i.e. corn cobs) on my milpa (lit. clearing) there in the  
 south' (Entrevis RMC and SBM 162–163)

7 There are a number of further 'generic' grounds, including those expressed  
 8 by *ka'n* 'sky', *k'áax* 'jungle', and *lu'm* 'earth', which occur in both  
 9 constructions. Example (13) shows *lu'm* 'earth' used as a bare adverbial  
 10 noun.

- 11 (13) *(. . .) u che'-il, mehen che'-il-o'b bèey-a',*  
 A.3 wood-REL small wood-REL-PL thus-D1  
*k-u lúub-ul lu'm*  
 IMPF-A.3 fall-INC earth  
 '( . . . ) the trees, like the small trees, they fall to the ground (in a hurricane)' (Rox ant 44)

12 All regular common nouns referring to spatial ground objects are preceded  
 13 by a determiner and governed by a preposition or by an *inalienable* (or  
 14 *relational*) noun. Nouns in YM are divided into several subclasses  
 15 according to their behaviour under possession. Thus, 'inalienable' noun

1 stems either do not occur unpossessed at all (e.g. *ich* ‘face’, *otoch* ‘home’),  
 2 or they require the ‘absolutivizing’ suffix *-tsil* when unpossessed (the latter  
 3 class includes most kinship terms).<sup>16</sup> In the expression of spatial ground  
 4 objects, one subset of inalienable nouns features prominently, namely  
 5 inalienable nouns lexicalizing *spatial regions* of the ground object. The  
 6 most frequent members of this set are listed in Table 8.3:

**Insert Table 8.3 about here**

7 As is apparent from Table 8.3, these relational nouns are subdivided  
 8 into two sets according to the construction they require when constituting  
 9 an adverbial. *Àanal* ‘underside’, *iknal* ‘proximity’ and *óok’ol* ‘top’ may  
 10 head an adverbial without further modification (although they occasionally  
 11 occur reinforced by the preposition *ti*’). Example (14) illustrates this for  
 12 *óok’ol* ‘top’.<sup>17</sup>

- 13 (14) *Le lùuch-o’ ti’=yàan y-óok’ol le mèsesa-o’*  
 DEF cup-D2 LOC=EXIST(B.3.SG) A.3-top DEF table  
 ‘The cup, it’s there on the table’ (TRPS 1 JYU).

14 The remaining items listed in Table 8.3 generally require the preposition *ti*’  
 15 when constituting adverbials. (15) illustrates this construction for *pàach*  
 16 ‘back, outside’.

- 17 (15) *Tè’l kul-ukbal u pèek’-il t-u pàach le nah-o’*  
 there sit-POS.RES(B.3.SG) A.3 dog-REL LOC-A.3 back DEF house-D2

‘There the dog is sitting outside the house’ (TRPS picture 6 ICM)

1 Occasionally, alternative constructions occur. (16) shows the unpossessed  
 2 adverbial variant *aktáan* of *táan* ‘front’; in this case, the ground object  
 3 whose spatial region is to be specified constitutes itself an adverbial headed  
 4 by *ti’*. A more regular way of deriving an adverb from *táan* and other  
 5 relational nouns makes use of the relativizing suffix *-il*.

6 (16) *Ak+táan ti’ hun-p’éel nah-e’*  
 ?+front LOC one-CL.IN house-TOP  
*yàan hun-p’éel màata-il che’ wa’l-akbal-i’*  
 EXIST(B.3.SG) one-CL.IN plant-REL tree stand-POS.RES(B.3.SG)-D4  
 ‘In front of a house, there is a tree(, it’s) standing’ (TRPS picture 49 ICM)

7 The relational nouns listed in Table 8.3 fulfil the range of (pragmatic)  
 8 functions that is fulfilled in English by spatial prepositions. Like other  
 9 Mayan languages (cf. Kaufman 1990: 78; Brown, this volume, on Tzeltal),  
 10 YM has one semantically general preposition, namely *ti’*, somewhat  
 11 elusively glossed ‘LOC’ in the examples. *Ti’* does not distinguish between  
 12 a spatial point of reference, a recipient, beneficiary, or experiencer, a  
 13 purpose and a number of other readings. It’s function simply consists in  
 14 relating any kind of peripheral participant to the event core expressed by  
 15 the verbal complex. *Ti’* may generally be translated as ‘with respect to’.  
 16 There is, however, one further preposition whose function, unlike that of

Table 8.3

1 *ti'*, is mostly confined to spatial meanings, namely *ich(il)* 'in':

2 (17) *Táats' h úuch u lúub-ul-o'b ichle ha'-o'*  
 straight PRV happen(B.3.SG) A.3 fall-INC-3.PL in DEF water-D2  
 'Straight they fell into the water' (Frog.4 43)

3 (18) *Le chan pèek'-o' k-uy il-ik ti' hun-p'éel chan pòomo,*  
 DEFDIM dog-D2 IMPF-A.3 see-INC(B.3.SG) LOC one-CL.IN DIM jar  
*estèe, yàan hun-túul chan mùuch ich-il*  
 HESIT EXIST(B.3.SG) one-CL.AN DIM frog in-REL(B.3.SG)  
 'The little dog, it looks into a little jar, uh, there's a little frog in there' (Frog-12)

4 *Ich* is frequently combined with the relativizing suffix *-il*, as in (18). This  
 5 construction is reminiscent of the use of the relational nouns listed in Table  
 6 8.3 as adverbs. This and other sources of evidence suggest that *ich(il)* is  
 7 itself grammaticalized out of a relational noun, namely *ich* 'face', 'eye',  
 8 'fruit'. The structural properties of YM adverbials denoting spatial regions  
 9 of a ground object have been described exhaustively in Goldap (1992) and  
 10 Lehmann (1992).  
 237

11 Let us now turn to indexical ground objects, i.e. ground objects  
 12 referred to deictically or anaphorically. YM has an analytic system of  
 13 expressing *spatial deixis* simultaneously in two different positions,  
 14 combining a presentative or demonstrative stem which basically only  
 15 identifies the syntactic function of the deictic expression (adnominal vs.  
 16 adverbial vs. presentative) with a clause-final clitic particle which specifies

Table 8.3

- 1 the deictic access to the referent: *-a'* for deictic access to a referent given at  
 2 the deictic centre (i.e. in the realm of the speaker), *-o'* for indexical (deictic  
 3 or anaphoric) access to a referent not given at the deictic centre, and *-e'*,  
 4 whose functions are as yet not clearly understood. The adnominal or  
 5 ‘demonstrative’ stem of spatial deixis is *le(l-)*; the presentative stem is *he'l*.  
 6 Only the adverbial deictic stems are differentiated according to further  
 7 semantic distinctions: *way* ‘here’, *te'l* ‘there’ (not at the speaker’s location,  
 8 but near it or distant from it), and *tol* ‘yonder’ (outside what is construed as  
 9 the speaker’s sphere; see below). The adnominal demonstrative  
 10 *le . . . -a'/-o'* is illustrated in (2), (8), (9), (11), (14), (15), (17), and (18)  
 11 above. *Lela'llelo'* is the corresponding pro-form:
- 12 (19) *Ba'x k'iin k-uy úuch-ul lel-o'?*  
 what sun IMPF-A.3 happen-INC DEM-D2  
 ‘What day does that usually happen?’ (Milpa ram 48)
- 13 (20) shows the demonstrative adverb *te'l . . . -a'* ‘here/there’, and (21)  
 14 illustrates the presentative *he'l . . . -o'* ‘there’s’:
- 15 (20) *U hòol+nah ken u bin te'l t-u mòoy-a'*  
 A.3 hole+house SR.IRR A.3 go there LOC-A.3 apse-D1  
 ‘The door will end up there in the apse’ (Nah 107)
- 16 (21) *He'l k-u tàal don Alberto xan-o'!*  
 PRSV IMPF-A.3 come don Alberto also-D2  
 ‘Here comes don Alberto too!’ (BVS 15.1.16)
- 17 The semantics and pragmatics of this system of spatial deixis have been



1 described in painstaking detail in Hanks (1990). Hanks assumes that the  
 2 semantic space in which the adnominal and adverbial demonstratives  
 3 operate is organized according to two (non-intersecting!) oppositions: (i)  
 4 an ‘ego-centric’ system that contrasts an ‘inclusive’ ‘here’ (expressed by  
 5 the adverb *way* . . . -e’ ‘here’), i.e. any place that includes the speaker’s  
 6 location, with an ‘exclusive’ ‘elsewhere’, expressed by *tol* . . . -o’ ‘there,  
 7 yonder’, and (ii) a ‘socio-centric’ opposition that contrasts the speaker’s  
 8 location (‘immediate’, expressed by the adverb *te’l* . . . -a’ and the  
 9 adnominal demonstrative *lela’ / le* . . . -a’) with the addressee’s location  
 10 (‘non-immediate’, expressed by the adverb *te’l* . . . -o’ and the adnominal  
 11 demonstrative *lelo’ / le* . . . -o’).<sup>18</sup> This system may be schematically  
 12 represented as in Table 8.4:

**Insert Table 8.4 about here**

13 The semantics of the presentative forms follow a different rationale.  
 14 The form *he’l* . . . -a’ ‘here’s, *voilà’* is used when the denotatum is  
 15 touchable by both speaker and addressee. *He’l* . . . -o’ is used to point the  
 16 addressee’s gaze to the denotatum, which is usually visible to both speaker  
 17 and addressee, as in (21) above.<sup>19</sup>

18 The clause-final clitic particles cannot be stacked. Instead, maximally  
 19 one such particle per clause is selected according to a hierarchy -a’ > -o’

Table 8.4

1 > *-e'* (read “triggers of *-a'* override triggers of *-o'*, and triggers of *-o'*  
 2 override triggers of *-e'*”). The functions of these particles are not confined  
 3 to spatial deixis; for example, the temporal adverb *be'òora* ‘now’ triggers  
 4 *-a'*, and some AM markers trigger *-e'*, e.g. the immediate past AM marker  
 5 *táant(ik)*. The set of clause-final clitic particles has at least one more  
 6 member that has not been mentioned so far, namely *-i'*. This particle  
 7 (whose position on the hierarchy is not entirely clear) has two rather  
 8 distinct patterns of occurrence; we shall refrain here from speculating how  
 9 these are related, but we posit that they *are* related, and that we are not  
 10 dealing with homophony. On the one hand, *-i'* is triggered by negation of  
 11 stative clauses and verbal clauses marked for certain AM categories. On the  
 12 other hand, *-i'* occurs with clauses which anaphorically refer to a location  
 13 mentioned earlier in discourse. Typically, though not necessarily (cf. (16)  
 14 above), the anaphorically tracked location is marked by an adverbial  
 15 variant of the preposition *ti'* which precedes the predicate, as in (22):

16 (22) *T-u pak'-il hun-p'éel nah yàan hun-p'éel mèesa,*  
 LOC-A.3 plant-REL one-CL.IN house EXIST(B.3.SG) one-CL.IN table  
*ti' yàan hun-p'éel bìulto-i'*  
 LOC EXIST(B.3.SG) one-CL.IN bulky.thing-D4  
 ‘On the brickwork of a house there is a table, *there* (i.e. on the table) is a package’  
 (TRPS picture 8 JBL)

17 Anaphoric tracking of locations is also afforded by *te'l . . . -o'*; the

1 semantic and pragmatic differences between *te'l . . . -o'* and *ti' . . . -i'*  
 2 remain to be investigated.<sup>20</sup>

A-Head

### 3 **8.4. Topological relations**

4 A locative relation is expressed by combining any verbal or non-verbal  
 5 predicate with any of the ground-denoting adjuncts discussed in the  
 6 previous section.<sup>21</sup> If the predicate is stative, the locative relation will be  
 7 understood to apply to the figure argument; if the predicate is dynamic, the  
 8 locative relation will be understood to apply to the event. Only when  
 9 combined with one out of a small number of inactive or transitive verbs of  
 10 'inherently directed motion' (Levin 1993: 263) or positional verbs (in their  
 11 dynamic form) will the ground-denoting adjunct be understood to refer to  
 12 the location of the figure at a particular phase of the event, such that this  
 13 location changes during the event. These motion event descriptions will be  
 14 discussed in the next section.

15 If stative location of the figure at the ground is to be expressed, YM  
 16 speakers may choose among the following options: they may use the  
 17 existential predicate *yàan*, as in (23), or a non-positional resultative form,  
 18 such as *kruzàar-nah-a'n* 'be crossed' in (24) and *ts'a'-mah* 'have put' in  
 19 (25), or the positional resultative form in *-Vkbal*, as in (26).<sup>22</sup>

- 1 (23) *Le lùuch-o', ti'=yàan y-óok'ol le mèesa-o'*  
 DEF cup-D2 LOC=EXIST(B.3.SG) A.3-on DEF table-D2  
 'The cup, it's there on the table' (TRPS Picture 1 JYU)
- 2 (24) *(. . .) kruzàar-nah-a'n le flèecha ti' hun-p'éel màansana*  
 cross-CMP-RES(B.3.SG) DEF arrow LOC one-CL.IN apple  
 '(. . .) the arrow is crossed in/at/with an apple' (TRPS Picture 30 JCM)
- 3 (25) *Le máak-o' chen u ts'a'-mah u anìyo*  
 DEF man-D2 only A.3 give/put-PERF(B.3.SG) A.3 ring  
*t-uy a'l u k'ab bèey-a'*  
 LOC-A.3 offspring A.3 arm/hand thus-D1  
 'The man, he's just put the ring on his finger' (TRPS Picture 10 JCM)
- 4 (26) *Te'l kul-ukbal u pèek'-il t-u pàach le nah-o'*  
 there sit-POS.RES(B.3.SG) A.3 dog-REL LOC-A.3 back DEF house-D2  
 'There the dog is sitting outside the house' (TRPS Picture 6 ICM)
- 5 The applicability of these different constructions is subject to an  
 6 implicational relationship: wherever any of the resultative-verb-form  
 7 constructions is possible, the existential-predicate construction is  
 8 applicable as well, whereas the opposite does not hold. However, it should  
 9 also be stressed that among the five YM consultants that responded to the  
 10 Topological-Relations-Pictures-Series task, only about half of the stimulus  
 11 scenes triggered preferred descriptions using the existential predicate.<sup>23</sup>
- 12 The type of scene that fits predictably best with an existential-predicate  
 13 description is the “easily moved inanimate figure located in non-attached  
 14 fashion with respect to ground” (Wilkins 1998: 59). To this extent, it is fair

1 to say that the *yàan*-construction is the ‘basic locative construction’ of YM.  
 2 This is illustrated by (23), a description of picture 1. (27) shows a  
 3 description of picture 2, instantiating the same type of scene (and picture  
 4 16 is another case in point):

5 (27) *Le máansana-a’ ti’=yàan ichil <le> chan liuch-a’*  
 DEF apple-D1 LOC=EXIST(B.3.SG) in DEF DIM cup-D1  
 ‘The apple, there it is in the little cup’ (TRPS Picture 2 JYU)

6 The only scene that does not fit the type “easily moved inanimate figure  
 7 located in non-attached fashion with respect to ground” and yet consistently  
 8 triggers existential-predicate constructions is the scene in picture 3:

9 (28) *Le sèeyo-o’ ti’=yàan te chan kàarta-a’*  
 DEF seal-D2 LOC=EXIST(B.3.SG) LOC:DEF DIM letter-D1  
 ‘The stamp, there it is on the little letter’ (TRPS Picture 3 JYU)

10 In general, however, the more a scene deviates from the prototype of  
 11 “easily moved inanimate figure located in non-attached fashion with  
 12 respect to ground”, the less likely that it will be described using a locative  
 13 predication with the existential predicate. In this case, it is a common  
 14 strategy to treat the figure-ground configuration as the result of a process.  
 15 (24) and (25) above show configurations that are construed as the result of  
 16 caused-motion events (pictures 10 and 30, respectively). 15 out of the 71  
 17 pictures are exclusively or predominantly described using such  
 18 non-positional resultative constructions. In (26) above, the configuration is

1 treated as the result of a change in the figure's disposition, as expressed by  
2 a positional resultative form. However, there is not a single picture in the  
3 series that all consultants prefer to describe using such a positional  
4 resultative form. In the responses to the Topological-Relations-Pictures  
5 Series, the use of positional resultative forms is mostly restricted to animate  
6 figures. This is the case with (26) above as well (a description of picture 6).

7       The marginality of positional-verb-form responses to the  
8 Topological-Relations-Picture Series among YM speakers is in striking  
9 contrast with the Tzeltal data (Brown, this volume). In Tzeltal, the locative  
10 predication with a stative positional form clearly represents the 'basic  
11 locative construction' of the language: it is not only the most frequent type  
12 of response to the picture series, but is also used most unanimously by the  
13 consultants in precisely those cases of prototypical locative relations in  
14 which speakers of YM favour most strongly the locative predication with  
15 the existential predicate. This contrast is all the more significant since it is  
16 nearly always possible in Tzeltal, just as in Yukatek, to replace the  
17 positional verb form in the locative predication with the existential  
18 predicate. Furthermore, the expression of the ground in locative  
19 predications is rather similar across the two languages, irrespective of what  
20 type of predicate is chosen: the ground in descriptions of the

1 Topological-Relations Pictures is always expressed by an adverbial formed  
2 with a semantically nearly empty preposition, optionally reinforced by a  
3 relational noun specifying a spatial region.<sup>24</sup> Based on the Tzeltal data  
4 alone, one might be led to assume that the rather specific configuration  
5 expressed by the positional root compensates for the lack of specificity in  
6 the expression of the topological relation between figure and ground, or  
7 that the positional root even expresses the topological relation itself (as  
8 argued by Lucy 1994). The comparison with the YM data shows that this  
9 cannot be the case: given that both languages express the ground object in  
10 rather comparable ways, and at about the same level of specificity,<sup>25</sup> and  
11 both have the option between the existential predicate and the positional  
12 verb form, YM speakers should use positional verb forms with about the  
13 same frequency as Tzeltal speakers in locative descriptions, if the  
14 positional roots were the main expression of topological information – but  
15 they do not. The reason why speakers of Tzeltal and Tzotzil exploit  
16 dispositional roots in locative descriptions, whereas YM speakers only use  
17 them when configuration, rather than mere location, really is at issue,  
18 therefore has to lie somewhere else. Future research will have to  
19 investigate whether the co-lexicalization of figure properties in the  
20 dispositional roots is a determining factor.

1           The constructions exemplified in (23)-(26) are considered locative  
 2           predications because they assert a stative spatial relation to obtain between  
 3           a thematic figure and a rhematic ground. It should be emphasized that  
 4           several among the Topological-Relations Pictures cannot be described at  
 5           all in this way in YM. For example, picture 26, which may be described in  
 6           English saying *The crack is in the cup*, or at least *There is a crack in the*  
 7           *cup*, does not allow a locative response in YM, since there is no way of  
 8           referring to the crack as an object. One can only describe the picture by  
 9           saying something like ‘The cup is broken’. Similarly, part-whole  
 10          configurations are described by existential and/or possessive constructions:

11       (29) *Te           hòol-o’,       yàan           hun-p’éel   gàancho-i’,*  
           LOC:DEF aperture-D2 EXIST(B.3.SG) one-CL.IN hook-D4  
           *tu’x    k-u           ma’ch-al       le    hòol-o’*  
           where IMPF-A.3 seize\PASS-INC DEF aperture-D2  
           ‘The door, there is / it has / a hook, where the door is gripped [handle]’  
           (TRPS Picture 61 FYK)

12       (30) *U    táab-al    le    chan   ba’l-a’,*  
           A.3 band-REL DEF DIM thing-D1  
           *ti’=yàan,                    de=k’àan*  
           LOC=EXIST(B.3.SG) of=yellow(B.3.SG).  
           ‘That little thing [handbag]’s strap, there it is, it’s yellow’ (TRPS Picture 66 JYU)

13          The existential or possessive predication (the readings are not structurally  
 14          distinguished in YM) in (29) and (30) differs from the locative predication  
 15          with the existential predicate in (23) and (27)–(28) above only in functional



1 sentence perspective: if the figure is thematic (and typically definite), the  
 2 construction functions as a locative predication, otherwise, it serves the  
 3 purpose of predicating existence or possession.

A-Head

4 **8.5. Motion**

B-Head

5 **8.5.1. Overview**

6 (31) is a rendition of the cliff scene of *Frog Where Are You* in YM (by a  
 7 30-year-old female bilingual speaker exposed to a considerable amount of  
 8 Spanish):

- 9 (31) a. *Káa h ho'p' u bin uy áalkab le kéeh-o'*,  
 CON PRV begin(B.3.SG) A.3 go A.3 run DEF deer-D2  
 'The deer went running (lit. began to go running),'
- b. *ti' yàan le pàal t-u bàak-o'*  
 LOC EXIST(B.3.SG) DEF child LOC-A.3 bone-D2  
 'There the child was in its antlers'
- c. *Le pèek'-o' káa h ho'p'*  
 DEF dog-D2 CON PRV begin(B.3.SG)  
*uy áalkab-ens-ik le kéeh-o'*  
 A.3 run-CAUS-INC(B.3.SG) DEF deer-D2  
 'The dog, it started chasing the deer'
- d. *Káa h ch'íik le kéeh ti' hun-p'éel tùnich-o'*  
 CON PRV stick\ACAUS(B.3.SG) DEF deer LOC one-CL.IN stone-D2  
 'The deer stopped abruptly (lit. got stuck) at (the edge of) a cliff'
- e. *Káa t-u pèek'-s-ah u báah-e'*,  
 CON PRV-A.3 move-CAUS-CMP(B.3.SG) A.3 self-TOP  
 'It shook itself'

- f. *káa h lúub le pàal-o'*  
 CON PRV fall(B.3.SG) DEF child-D2  
 '(and) the child fell off'
- g. *Káa h lúub le pàal y-éetel le pèek'*  
 CON PRV fall(B.3.SG) DEF child A.3-with DEF dog  
 'The boy fell (together) with the dog'
- h. *k-u séegir-t-ik le kéeh-o'*  
 IMPF-A.3 continue-APP-INC(B.3.SG) DEF deer-D2  
 'which had been following (lit. followed) the deer'
- i. *Káa h lúub-ih,*  
 CON PRV fall-B.3.SG  
 'He/they (?) fell,'
- k. *káa h lúub-o'b ich-il hun-p'éel haltun*  
 CON PRV fall-B.3.PL in-REL one-CL.IN water.hole  
 'they fell in(to) a water hole' (Frog.5 32–27)

1 The following properties of the expression of motion events in YM will be  
 2 elaborated on in this section: Firstly, 'manner of motion', in the sense of  
 3 Talmy (1972, 1985, 1991), is primarily lexicalized in active intransitive  
 4 verbs such as *áalkab* 'run' in (31a). These verbs do not express change of  
 5 location by themselves, but only in combination with inactive motion verbs  
 6 such as *bin* 'go' in (a) and *lúub* 'fall' in (f), (g), (i), and (k). Active motion  
 7 verbs do not themselves express change of location, and when they are  
 8 combined with a ground-denoting adverbial, this adverbial will be  
 9 interpreted to refer to the location of the entire event, not to the 'source' or  
 10 'goal' of a location change. Compare, for example, *ichil* in (k), referring to  
 11 the goal of the event expressed by *lúub* 'fall', to *ichil* in (32) (from a

1 description of the cliff scene by a different speaker), referring to the  
 2 location of the boy kicking his feet about after having fallen into the  
 3 water.<sup>26</sup>

4 (32) *Táats' h úuch u líub-ul-o'b ich le ha'-o'*  
 straight PRV happen(B.3.SG) A.3 fall-INC-3.PL in DEF water-D2  
*Ti' k-u ba'l-cheb-lankil ich-il ha'*  
 LOC IMPF-A.3 round-foot-DUR in-REL water  
*y-éetel u chan àalak' pèek'-o' (. . .)*  
 A.3-with A.3 DIM CL.domestic.animal dog-D2  
 'Straight he fell into the water. There he was *kicking his feet in the water* together  
 with his little dog (. . .)' (Frog\_4 43–44)

5 Secondly, from the fact that the same prepositions (such as *ich(-il)* in (30k)  
 6 vs. in (32)) and relational nouns are used in ground-denoting phrases  
 7 expressing stative locations as well as source and goal arguments, it  
 8 follows that these prepositions and relational nouns do not distinguish  
 9 'path' relations. As has been laid out in section 8.3, this finding extends to  
 10 all ground-denoting adjuncts in YM: there is no morphological reflex of  
 11 path in YM. Thirdly, based on Talmy's (1972, 1985, 1991) lexicalization  
 12 typology, one might expect 'motion-cum-path' to be lexicalized in the  
 13 inactive motion verbs translating 'go', 'come', 'enter', 'exit', 'descend',  
 14 etc., or in transitive verbs expressing caused location change of various  
 15 kinds, in analogy to the 'path-conflating' motion verbs of Romance  
 16 languages. However, on closer inspection, this analysis can only be

Section 8.3

1 maintained for one component of Jackendoff's and Talmy's notion of  
 2 'path', not for the entire notion. It has been shown in Bohnemeyer (1997)  
 3 that inactive and transitive motion verbs have non-durative event  
 4 structures. This implies that what these verbs lexicalize is merely punctual  
 5 location change, not durative locomotion along an extended trajectory from  
 6 source to goal. Translational motion in this latter sense is expressed neither  
 7 by a morpheme nor by a construction in YM, but left to pragmatic  
 8 inference.<sup>27</sup> And this analysis is corroborated by the finding that YM  
 9 clauses never refer to more than one ground of a motion or location event.  
 10 Thus, the deer's stopping at the edge of the cliff, the boy's falling off, and  
 11 his falling into the water are all referred to in separate clauses in (31d)–(k).  
 12 These features of the expression of motion events in YM will be discussed  
 13 in the following subsections. The expression of motion events in YM has  
 14 been dealt with in detail in Bohnemeyer (1997, submitted).

B-Head

### 15 8.5.2. Morphosyntactic properties of motion verbs

16 As mentioned above, motion verbs in the active intransitive class primarily  
 17 lexicalize 'manner of motion', whereas inactive intransitive motion verbs  
 18 lexicalize location change. Table 8.5 lists the most frequent members of  
 19 each of these two sets:

Table 8.5

**Insert Table 8.5 about here**

1           Since only inactive intransitives, but not active ones, yield source or  
 2 goal interpretations of the ground-denoting phrases they are combined  
 3 with,<sup>28</sup> the members of the motion verb subset of the inactive verb class are  
 4 straightforwardly identifiable. (33a) shows a combination of a  
 5 ground-denoting adjunct with an active motion verb (*xīknal* ‘flutter’, ‘fly’)  
 6 – the interpretation yielded is not change of location with respect to the  
 7 ground object, but location of the entire motion event. (33b)-(d) illustrate  
 8 two constructions available in YM in order to express manner and location  
 9 change in one clause: in (33b) and (c), the active motion verb is  
 10 adverbialized by the relational suffix *-il* and then fronted, yielding a special  
 11 manner-focus construction, and in (33d), the active motion verb is  
 12 subordinate to the inactive motion verb in a gerundial construction which  
 13 expresses simultaneity of the two (sub)events (cf. Bohnemeyer 1998:  
 14 173–174). It is also possible to refer to the manner component and to the  
 15 location change component in two independent sentences, leaving the  
 16 integration of the two subevents as part of one macro-event to inference.

- 17 (33) a. *Le ch'úich'-o' túun xīknal y-óok'ol le che'-o'*  
 DEF bird-D2 PROG:A.3 fly A.3-top DEF tree-D2  
 ‘The bird is flying [i.e. circling!] above the tree’

- b. *Le ch'úich'-o' xíknal-il*  
 DEF bird-D2 fly-REL  
*h úuch u na'k-al te che'-o'*  
 PRV happen(B.3.SG) A.3 ascend-INC LOC:DEF tree-D2  
 'The bird flew on top of the tree [lit. in a flying manner it ascended on the tree]'
- c. *Le ch'úich'-o' xíknal-il h úuch uy em-el*  
 DEF bird-D2 fly-REL PRV happen(B.3.SG) A.3 descend-INC  
*te che'-o'*  
 LOC:DEF tree-D2  
 'The bird flew down from the tree [lit. in a flying manner it descended from the tree]'
- d. *Le ch'úich'-o' h em u xíknal te che'-o'*  
 DEF bird-D2 PRV descend(B.3.SG) A.3 fly LOC:DEF tree-D2  
 'The bird flew down from the tree [lit. it descended flying from the tree]'

1 The set of inactive motion verbs is probably almost completely covered in  
 2 Table 8.5, whereas the set of active motion verbs seems more fuzzy. Apart  
 3 from the active and inactive classes of intransitive verbs, it is mainly the  
 4 transitive verb class that hosts verb stems expressing what from an  
 5 Indo-European point of view appear to be motion meanings. Transitive  
 6 stems express caused motion. This includes the basic transport and transfer  
 7 verb *ts'a'* 'give/put', the causativized counterparts of the inactive motion  
 8 verbs (e.g. *bis* 'go:CAUS' i.e. 'take', *tàas* 'come:CAUS' i.e. 'bring', *òok-s*  
 9 'enter-CAUS' i.e. 'insert', *li's* 'rise:CAUS' i.e. 'lift'), and several  
 10 transitive roots lexicalizing in particular caused motion events which imply  
 11 certain non-spatial properties of the ground object and/or the figure-ground  
 12 configuration (such as insertion and extraction events) and caused motion

Table 8.5

1 events which imply a particular manner of causation (e.g. pushing, hauling;  
 2 ‘ballistic’ motion such as throwing, kicking, tossing, etc.). The ground of a  
 3 motion event is never realized in YM as a syntactic core argument (as is the  
 4 case with some of the verbs of ‘inherently direction motion’ in English,  
 5 including *enter*, *exit*, *leave*, *ascend*, and *descend*) cross-referenced on the  
 6 predicate. Uncaused motion events are expressed by intransitive verbs  
 7 whose sole formal argument corresponds to the ‘figure’ of the motion event  
 8 (in Talmy’s <sup>421</sup>1972, <sup>425</sup>1985 or <sup>426</sup>1991 terminology), and caused motion is  
 9 expressed by transitive verbs which map the cause of the motion event onto  
 10 their ‘A-argument’ and the figure onto the ‘O-argument’.<sup>29</sup>

B-Head

### 11 8.5.3. Ground-denoting adjuncts

12 As said above, ground objects of motion events are expressed by adverbials  
 13 in YM.<sup>30</sup> The morphosyntactic properties of ground-denoting adjuncts  
 14 have been discussed in section **8.3**. One of the most surprising aspects of  
 15 these ground-denoting adjuncts is that their form does not reflect the ‘path’  
 16 of the motion event. Consider the examples in (34). Both *òok* ‘enter’ (34b)  
 17 and *hóok* ‘exit’ (34c) are equally possible with both *ich* ‘in’ and the  
 18 general preposition *ti*. The same holds for the existential predicate *yàan*  
 19 employed in (34a) to express stative location. The ground-denoting

Section 8.3

1 adverbial is sensitive neither to the source-goal distinction nor even to the  
 2 dynamicity of the event (cf. also Goldap <sup>151</sup>1992 and Lehmann <sup>237</sup>1992).

- 3 (34) a. *Le kàaro-o' ti' yàan ich / ti' le kàaha-o'*  
 DEF cart-D2 LOC EXIST(B.3.SG) in / LOC DEF box-D2  
 'The cart, it is in the box' (or rather: 'it exists with respect to the box's inside')
- b. *Le kàaro-o' h òok ich / ti' le kàaha-o'*  
 DEF cart-D2 PRV enter(B.3.SG) in / LOC DEF box-D2  
 'The cart, it entered [lit. in] the box' (or rather: 'it entered with respect to the  
 box's inside')
- c. *Le kàaro-o' h hóok' ich / ti' le kàaha-o'*  
 DEF cart-D2 PRV exit(B.3.SG) in / LOC DEF box-D2  
 'The cart, it exited [lit. in] the box' (or rather: 'it exited with respect to the  
 box's inside')

4 The preposition or relational noun used to combine a ground-denoting  
 5 expression with a verbal core serves to specify a spatial region of the  
 6 ground object, such as the inside of the cardboard box in the examples in  
 7 (34) if *ich(il)* is chosen. If for whatever reason no particular region is  
 8 selected (either because the ground object does not have any salient  
 9 regions, or because the speaker considers this part of the information  
 10 irrelevant or wants to conceal it), than *ti'* takes over, leaving the spatial  
 11 properties of the ground object to inference.

12 As was already indicated in section 8.3, the same ground-denoting  
 13 expressions used in reference to 'bounded paths' (in the parlance of  
 14 Jackendoff <sup>198</sup>1983: Ch. 9) are also used in reference to 'directional paths',

Section 8.3



1 i.e. locations towards which or away from which the figure is moving (cf.  
 2 Jackendoff 1983: 165), without any formal reflex of this distinction. These  
 3 differ from ‘bounded’ paths mainly in that it is not entailed that the figure  
 4 actually leaves or reaches the ground with respect to which direction is  
 5 expressed. Consider (35), where it is asserted in the first clause that Juan  
 6 left the deictic centre *headed for* the town of (Felipe) Carrillo (Puerto), and  
 7 in the subsequent discourse, it is explicitly stated that Juan had not yet  
 8 reached reached that town, as he was stalled in the village of Señor on his  
 9 way to Carrillo.

- 10 (35) *Káa h ts'o'k u bin Carrillo Juan-e', káa h k'uch*  
 CON PRV end(B.3.SG) A.3 go Carrillo Juan-TOP CON PRV arrive(B.3.SG)  
*Señor-e', káa t-uy il-ah Pablo-i'*  
 Señor-TOP CON PRV-A.3 see-CMP(B.3.SG) Pablo-D4  
*Káa t-y a'l-ah-o' ma' k'uch-uk Carrillo-i'*  
 CON PRV-A.3 say-CMP(B.3.SG)-D2 NEG arrive-SUBJ(B.3.SG) Carrillo-D4  
 ‘(When) Juan finished going to Carrillo, (then) he reached Señor, (then) he met Pablo.  
 At that moment (lit. (when) it said that), (Juan) had not arrived (at) Carrillo (yet)’

B-Head

#### 11 8.5.4. The semantics of motion verbs

12 Since path is not coded outside the predicate in YM, and since it is the  
 13 predicate that assigns to one and the same ground-denoting adjunct the  
 14 interpretation of source, goal, or stative location (as in the examples (34)  
 15 above), it may be hypothesized along the lines of Talmy’s (1972, 1985,  
 421 425

1 **1991)** lexicalization typology that path meanings are ‘conflated’ in the  
 2 <sup>[426]</sup>  
 semantics of predicates in YM. More specifically, since it is exclusively  
 3 inactive and transitive motion verbs that assign source or goal (or ‘transit’)  
 4 readings to the ground-denoting adjunct, whereas active motion verbs  
 5 appear to express ‘manner of motion’ only, it may be conjectured that  
 6 specifically inactive and transitive motion verbs correspond to  
 7 ‘path-conflating’ motion verbs in Romance languages, such as Spanish *ir*  
 8 ‘go’, *venir* ‘come’, *entrar* ‘enter’, *salir* ‘exit’, *subir* ‘ascend’, and *bajar*  
 9 ‘descend’.<sup>31</sup> Indeed, in first approximation, this hypothesis seems to be  
 10 correct. Thus, it is possible to ascribe to each of the inactive motion verbs  
 11 listed in Table 8.5 above a co-lexicalized semantic ground argument which  
 12 can be classified as source, goal, or transit, as in Table 8.6.

**Insert Table 8.6 about here**

13 The referential ground is always referred to by an adjunct, with the  
 14 exception of *tàal* ‘come’ and *u’l* ‘return’, which both colexicalize the  
 15 deictic centre as their goal, and of *bin* ‘go’ which colexicalizes an indexical  
 16 source that may be either the deictic centre or a location anaphorically  
 17 retrieved from context (see Wilkins and Hill **1995** for a typological  
 18 investigation of this distinction).<sup>[462]</sup> With these three change-of-location  
 19 verbs, the ground cannot be specified within the same clause that contains

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**Table 8.5**  
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**Table 8.6**  
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1 the verb. For example, if the equivalent of *He went (from X) to Y* is  
 2 expressed with *bin* ‘go’, it is done like this: ‘(He was at X.) He went [*bin*]  
 3 away. He arrived at Y’. More frequently, however, utterances meaning  
 4 literally ‘He went towards Y’ are encountered, where the source is not  
 5 mentioned at all, and the goal is only given as a directional specification,  
 6 without the entailment that it is reached. With the remaining six verb stems  
 7 of Table 8.6, the ground may be ‘lexically’ specified, by a morpheme or  
 8 construction.<sup>32</sup>

9 It should be noted, though, that the assignment of a particular path  
 10 relation to each inactive motion verb is not always as evident as Table 8.6  
 11 might suggest. A particularly troublesome case is *lúub* ‘fall’, which seems  
 12 to occur with both goals (as stated in Table 8.6 and exemplified in 29 k and  
 13 30 above) and sources, as apparently in (31g) above and in (36):

14 (36) *Tiin lúub-ul t-in k'àan!*  
 15       PROG:A.1.SG fall-INC LOC-A.1.SG rope  
 16       ‘I’m falling out of my hammock!’ (BVS 4.1.30)

17 But the main argument against path conflation on Talmy’s account with the  
 18 inactive and transitive motion verbs is that these do not actually entail  
 19 durative locomotion along an extended spatial trajectory, but only punctual  
 location change. The verbs listed in Table 8.6 do not lexicalize motion  
 along a trajectory oriented towards a source or goal location (which is

Table 8.6

Table 8.6

Table 8.6

Table 8.6



1 that YM motion event clauses never occur with more than one ground  
 2 object at a time. This was already illustrated above with an example from a  
 3 ‘Frog Story’ narrative. One reflex of the same phenomenon is found in folk  
 4 tales. In YM folk narratives, travel serves as a regular motif in transitions  
 5 between narrative episodes. Typically, the preceding episode would  
 6 conclude with the protagonists leaving a location, the protagonist’s arriving  
 7 at the location of the subsequent episode being expressed in the following  
 8 clause, as in (37).

9 (37) *Háalib-e’, káa h bin-ih. K-u k’uch-ul-e’, y-iknal rèey*  
 well.then-TOP CON PRV go-B.3.SG IMPF-A.3 arrive-INC-TOP A.3-at king  
 . . . *Káa h ka’ bin-o’b. K-u k’uch-ul-o’b*  
 CON PRV REP go-B.3.PL IMPF-A.3 arrive-INC-3.PL  
*te’l tu’x yàan uy úts’in-o’b-o’, . . .*  
 there where EXIST(B.3.SG) A.3 younger.sibling-D2  
 ‘Well, so he *left*. He *arrived* there, at the king’s. . . . And they *left* again.  
 They *arrived* where their younger brother was, . . .’ (Muuch 142–165).

10 As pointed out in Bohnemeyer (1997), YM confirms localist hypotheses to  
 11 the effect that relations of event order in the temporal domain should be  
 12 expressed as metaphorical extensions of spatial relations in motion events,  
 13 but it confirms such hypotheses in a rather surprising way: just as source  
 14 and goal relations are not expressed in YM outside the predicate, so event  
 15 order relations are largely not expressed (with marginal exceptions,  
 16 consisting mainly in a few deictic adverbs). From this localist perspective,

1 then, spatial relations arguably play a less prominent part in the grammar  
2 and lexicon of YM than they do in Indo-European languages.

A-Head

### 3 **8.6. Frames of reference**

B-Head

#### 4 **8.6.1. The intrinsic frame of reference**

5 In the intrinsic frame of reference (FoR), the co-ordinate system for  
6 location is projected from intrinsic features of the ground, as in '*The cup is*  
7 *at the nose of the jar*' or '*You are walking behind (=in back of) me*'. In  
8 YM, many relational nouns denoting spatial regions as described above  
9 occur in expressions of locations employing the intrinsic FoR, although  
10 they are by no means restricted to the intrinsic FoR. We will demonstrate  
11 properties of the intrinsic FoR with material elicited with the help of the  
12 Men and Tree elicitation pictures. In the descriptions of the pictures,  
13 showing the Man and the Tree, information based on the intrinsic FoR  
14 occurs quite frequently. Intrinsic features of the man are utilized as the  
15 basis of the co-ordinate system. These are usually his front (often  
16 described as the direction of facing), his back, and his sides. Some  
17 consultants are more specific about the man's sides and distinguish his left  
18 from his right side. Pictures 2.5. and 2.4. (see Figure 1.3 in chapter 1) can

Figure 1.3

Chapter 1

1 be verbally differentiated by solely employing the intrinsic FoR ('man  
2 facing tree' vs. 'man's back towards tree').

3 (38) *Kax-t u láak' hun-p'éel-o'*,  
search-APP(B.3.SG) A.3 other one-CL.IN-D2  
*u sut-mah u pàach ti'*  
A.3 turn-PERF(B.3.SG) A.3 back LOC(B.3.SG)  
'Look for another one, he has turned his back on it [the tree]' (tree 1, Picture 2.4.)

4 (39) *U láak' hun-p'éel-o', frèenteh, táan-il yàan ti'*,  
A.3 other one-CL.IN-D2 front front-REL EXIST(B.3.SG) LOC(B.3.SG)  
*ak+táan-il yàan ti'*  
?+front-R ELEXIST(B.3.SG) LOC(B.3.SG)  
'Another one, front, he is in front of it [the tree], he is opposite of it' (tree 1, Picture 2.5.)

5 Consultants occasionally distinguish the Man's sides, using the YM  
6 expressions for left and right, *ts'úik* and *no'h*, intrinsically:

7 (40) *Pero t-u ts'úik-e' ti'=yàan, estée, le k'àax-o'*  
but LOC-A.3 left-TOP LOC=EXIST(B.3.SG) HESIT DEF bush-D2  
*U x-no'h-e' ti' u mach-mah le che'-o'*  
A.3 F-right-TOP LOC A.3 grab-PERF(B.3.SG) DEF wood-D2  
'But that bush is to his left. In his right hand, there he has that stick'  
(tree 3, Picture 2.7.)

8 Pictures 2.3 and 2.5 are lateral mirror images and cannot be distinguished  
9 by a verbal description making use exclusively of the intrinsic FoR. The  
10 intrinsic spatial relation between Man and Tree ('man facing tree') is the  
11 same for both spatial situations. Additional, non-intrinsic information is  
12 needed to differentiate between those spatial relations depicted in pictures  
13 2.3 and 2.5. A purely intrinsic description which does not differentiate

1 between pictures 2.3 and 2.5 is the following:

- 2 (41) *Kax-t*                      *túun u láak' hun-túul le máak-o'*  
 search-APP(B.3.SG) then A.3 other one-CL.IN DEF person-D2  
*wa'l-akbal*                      *y-óok'ol hun-p'éel ba'l*  
 L stand-POS.RES(B.3.SG) A.3-top one-CL.IN thing  
*u mach-mah*                      *hun-p'éel che' ak+táan te k'àax-o'*  
 A.3 grab-PERF(B.3.SG) one-CL.IN wood ?+front LOC:DEF bush-D2  
*ti'.*                      *Túun pàakat-ik le k'àax-o'*  
 OC(B.3.SG) PROG:A.3 look-INC DEF bush-D2  
 'Now look for another man standing on a thing, he has a stick, he is there opposite  
 of that bush. He is looking at that bush' (tree 2, Picture 2.5.)

B-Head

3 8.6.2. The absolute frame of reference

4 The absolute FoR establishes fixed bearings of a geographical,  
 5 topographical, or meteorological nature as the basis of the co-ordinate  
 6 system. The use of one subtype of an absolute FoR in YM, namely cardinal  
 7 directions, is particularly noteworthy because YM, in contrast to the  
 8 genetically closely related Mopán Maya of Belize and Guatemala  
 9 (Pederson et al. 1998), has an indigenous set of expressions for cardinal  
 10 directions. It consists of four expressions, namely *lak'ìn* 'east', *chik'ìn*  
 11 'west', *nohol* 'south' and *xaman* 'north'. The expressions for north and  
 12 south, *xaman* and *nohol*, are lexical stems and cannot be analyzed any  
 13 further. The expressions for east and west, *lak'ìn* and *chik'ìn*, however,  
 14 are fossilized compounds. They contain an element *k'ìn* 'sun' plus some



1 preposed elements which are not synchronically transparent any more.

2 Cardinal directions are predominantly employed in YM for geographical  
3 location (i.e. location in large-scale, geographical space):

4 (42) *Tóoh nohol h bin-o'b*  
straight south PRV go-B.3.PL  
'They went straight south' (Gig 29)

5 Cardinal directions are, however, also employed in tabletop localizations,  
6 as instantiated by the situations depicted in the Men and Tree pictures.  
7 Here, YM speakers use cardinal directions to identify the Man's direction  
8 of gaze, thereby combining localization with orientation. This strategy  
9 requires the figure to be structured on the horizontal plane and to have an  
10 intrinsic front, like a human or a doll in human shape. Therefore, this  
11 strategy is restricted to figures which can also be ascribed a direction of  
12 motion, which is another way cardinal directions are put to use in table-top  
13 space. This may be taken to indicate that the use of cardinal directions in  
14 table-top localization is derived from their use in geographical localization,  
15 which would serve as a model.

16 (43) *U ts'o'k hun-p'éel túun-a', he'l-a'*  
A.3 end one-CL.IN then-D1 PRSV-D1  
*hun-túul pàal túun pàakat toh xaman,*  
one-CL.AN child PROG:A.3 look straight north  
*nohol k-u p'áat-al le k'àax tí'-o'*  
south IMPF-A.3 leave\ACAUS-INC DEF bush LOC(B.3.SG)-D2

‘The last one, then, here it is, a child, it is looking straight north, the bush remains south of him’ (tree 3, Picture 2.4)

1 However, there are also cases in which the figure is directly located with  
 2 respect to a cardinal direction, without the figure’s orientation being  
 3 specified. In this case, no particular object properties are required of the  
 4 figure: it can be unstructured on the horizontal plane, such as the Tree (44),  
 5 but it can also be animate and have an intrinsic front, such as the Man (45).  
 6 Obviously, where the man is facing does not play a role here.

7 (44) *Le k'àax-o' ti'=yàan te bàantah*  
 DEF bush-D2 LOC=EXIST(B.3.SG) LOC:DEF direction  
*tu'x k-u hóok'-ol k'iin-e', te'l lak'iin*  
 where IMPF-A.3 exit-INC sun-D3 there east  
*bèey-a', pak-bil u mèet-ik*  
 thus-D1 look-GIV(B.3.SG) A.3 do-INC(B.3.SG)  
 ‘That bush, it is towards where the sun comes out, there at the east like this, it is looked  
 at’ (tree 5, Picture 2.5)

8 (45) *Chik'iin yàan-ik, mejor dicho,*  
 west EXIST-EF(B.3.SG) that.is  
*te k'àax-e', le chan máak-a'*  
 LOC:DEF bush-D3 DEF DIM person-D1  
 ‘This little man is to the west of the bush, to say it better’ (tree 5, Picture 2.5)

9 In experimental contexts, YM-speaking consultants readily make use of  
 10 FoRs anchored in local or even ad-hoc landmarks, exploiting these for  
 11 pseudo-absolute reference. The landmarks in question may be  
 12 topographical landmarks (‘towards the square’, ‘towards the country

1 road’), stable objects in the immediate vicinity of the situation (‘towards  
 2 the door’, ‘towards the window’), but also moveable objects which hold  
 3 their position just for the time being (‘towards the camera’, ‘towards where  
 4 Christel is standing’). Because the landmark utilized as the basis of the  
 5 co-ordinate system is independent of the scene and its viewer(s), this usage  
 6 resembles absolute FoRs.

7 (46) *U mach-mah túun u xolte’, te’l bàantah t-e móoy*  
 A.3 grab-PERF(B.3.SG) then A.3 stick there direction LOC-DEF apse  
*te’l t-u bàantah le k=sòolar te’l-a’, ti’ bàantah*  
 there LOC-A.3 direction DEF A.1.PL=yard there-D1 there direction  
*u súut-ul u xolte’*  
 A.3 turn\ACAUS-INC A.3 stick  
 ‘He has grabbed his stick, then, towards that apse that is towards our yard there,  
 he has turned his stick towards there’ (tree 5, Picture 2.5)

8 In combination with gaze-direction information, local or ad-hoc landmarks  
 9 serve to convey information about the orientation of the figure.

10 (47) *Kax-t u láak’ ka’-túul máak*  
 search-APP(B.3.SG) A.3 other two-CL.AN person  
*Hun-túul-e’ Jaime k-u pakt-ik,*  
 one-CL.AN-TOP Jaime IMPF-A.3 look-INC(B.3.SG)  
*hun-túul-e’ t-e kàaye k-u pàakat-o’*  
 one-CL.AN LOC-DEF street IMPF-A.3 look-D2  
 ‘Look for another two men. One is looking at Jaime, one is looking towards the  
 street’ (tree 2, Picture 4.7)

11 In the same manner, speech act participants may be exploited as ad-hoc  
 12 landmarks, by construing them (or their location) as the goal of the figure’s

1 gaze or motion. In the following exchange, the director (D) first provides  
 2 ‘viewing’ information with respect to himself as ground: the Man is  
 3 looking at him. In the second part, D switches to the intrinsic FoR, saying  
 4 that the bush is to the Man’s (intrinsic) side. The matcher (M) is not entirely  
 5 clear about the Man’s orientation, so D chooses to repeat his statement.

- 6 (48) -D: *U làak’ hun-túul máak-e’, tèn k-u pakt-ik-en (. . .),*  
 A.3 other one-CL.IN person-TOP me IMPF-A.3 look-INC-B.1.SG  
*t-u làadoh bèey-a’ hun-p’éel matah k’àax yàan-il*  
 LOC-A.3 side thus-D1 one-CL.IN plant bush EXIST-REL(B.3.SG)  
 ‘Another man, he is looking at me, (. . .), at his side is a bush’  
 - M: *T-e k’àax k-u pakt-ik-o’?*  
 LOC-DEF bush IMPF-A.3 look-INC(B.3.SG)-D2  
 ‘Does he look at the bush?’  
 - D: *Ma’, to’n - tèn k-u pakt-ik-en*  
 NEG us me IMPF-A.3 look-INC-B.1.SG  
 ‘No, he is looking at us – at me’ (tree 4, Picture 2.7)

B-Head

### 7 8.6.3. The relative frame of reference

8 Viewers of a spatial scene can project their own bodily orientation on that  
 9 scene. The axes derived from their own bodily orientation then serve as a  
 10 co-ordinate system in which locations can be determined. Some of the  
 11 relational spatial nouns introduced in section 8.3.2 can be used both in  
 12 intrinsic and in relative FoRs, i.e., deictically. Those that occur most  
 13 frequently in a relative FoR are *no’h* ‘right’ and *ts’úk* ‘left’. These

Section 8.3.2

1 expressions are not restricted to hands and handedness, but can refer to  
 2 regions projected away from the body. Interestingly, *pàach* ‘back’ and *táan*  
 3 ‘front’ are never used deictically, whereas deictic use of *tséel* ‘side’ occurs  
 4 (cf. Goldap 1991: 66–77). Pictures 2.3 and 2.5 can be differentiated by  
 5 using those ‘left/right’-terms, as in (49). Bushes are non-featured on the  
 6 horizontal plane and therefore do not have intrinsic sides, which rules out  
 7 the use of the intrinsic FoR. The localization must therefore utilize  
 8 projections of the speaker’s body, i.e. the relative FoR.

- 9 (49) *No’h-a’n yan-ik te k’àax-o’?*  
 right-RES(B.3.SG) EXIST-EF(B.3.SG) LOC:DEF bush-D2  
*Wáah ts’úk-a’n?*  
 ALT left-RES(B.3.SG)  
 ‘Is he to the right of the bush? Or to the left?’ (tree 2, Picture 2.5)

10 The speaker may disambiguate the terms for ‘left’ and ‘right’ as regards to  
 11 which FoR they are employed in by using the nominalized and possessed  
 12 form, for example *in xno’hil* ‘my right side’ (relative FoR) as opposed to  
 13 *no’hil* ‘his/its right side’ (intrinsic FoR). In (50), the speaker makes his  
 14 choice of FoR excessively clear by adding the emphatic free pronoun *tèen*  
 15 ‘I’ and the speaker-centric deictic adverb *te’la* ‘here’.

- 16 (50) *Le chan k’àax ti’ k-u p’áat-al bèey*  
 DEF DIM bush LOC IMPF-A.3 leave\ACAUS-INC thus  
*te’l t-in x-no’h-il tèen te’l-a’*  
 there LOC-A.1.SG F-right-REL me there-D1

‘That little bush, it stays here on my right side’ (tree 5, Picture 2.5)

1 In the Men and Tree pictures, the majority of spatial scenes show exactly  
 2 two objects. Quite often, these are situated side by side. In the elicitation  
 3 sessions, the consultants were also seated side by side, with a screen  
 4 between them. They frequently exploited this similarity of spatial  
 5 arrangements by locating the objects on the pictures on ‘your side’ or ‘my  
 6 side’, i.e. the right half or the left half of the picture. This strategy  
 7 constitutes another instantiation of the relative FoR because the spatial  
 8 properties (not of a single speaker, but) of the speaker-hearer dyad are  
 9 projected into the environment, thereby constituting a left quadrant and a  
 10 right quadrant of the surrounding situation:

11 (51) *Le chan xib+pàal-o’, asdekwentah*  
 DEF DIM male+child-D2 notice  
*t-in bàantah yàan-o’, bèey*  
 LOC-A.1.SG direction EXIST(B.3.SG)-D2 thus  
*t-in bàantah yàan-il-e’, te chan palmah-o’*  
 LOC-A.1.SG direction EXIST-REL(B.3.SG)-D3 LOC:DEF DIM palm.tree-D2  
 ‘That little boy, notice he is on my side, he is thus on my side, [with respect] to that  
 little palm-tree’ (tree 1, Picture 2.3)

1 8.6.4. Distribution of frames of reference over individuals and  
2 groups

B-Head

3 Although the data presented above shows that all three types of FoRs are in  
4 use in the YM speech community we have studied, there are vast  
5 differences with respect to the command that individuals and identifiable  
6 groups of speakers have over different kinds of FoRs. Most widely  
7 distributed across consultants is the intrinsic FoR. All speakers of YM who  
8 acted as consultants in the research on spatial reference reported here used  
9 this FoR freely and frequently. Table 8.7 provides an analysis of four pairs  
10 of YM speakers playing game 2 of the Men and Tree series (which appears  
11 to be quite representative of the general usage):

**Insert Table 8.7 about here**

12 The consultants used the absolute FoR by employing cardinal  
13 directions ('north-south', 'east-west') in two utterances. In three  
14 utterances, use was made of FoRs anchored in ad-hoc landmarks external  
15 to the picture ('toward the road', 'toward the interviewer'), constituting  
16 what might be called 'pseudo-absolute' FoRs. In addition, the figure's  
17 orientation was anchored with respect to deictically expressed speech act  
18 participants ('object facing us') in four utterances. The participants used

Table 8.7

1 physio-morphic projections ('to our left/right') in two utterances,  
2 instantiating relative FoRs. In contrast, intrinsic FoRs internal to the Men  
3 and Tree pictures were used in 12 utterances. This means that intrinsic  
4 FoRs were employed more often than the other FoRs together, and  
5 pseudo-absolute FoRs were used more often than real absolute FoRs and  
6 relative FoRs together.

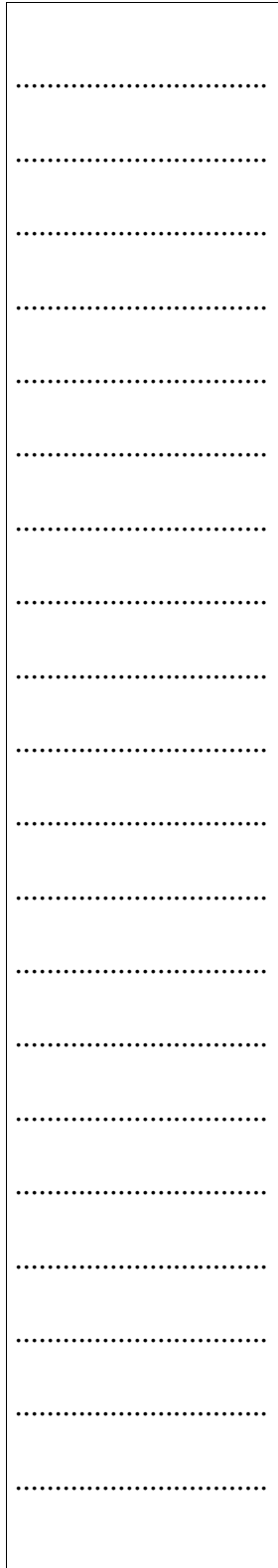
7       This example confirms our general observations. Virtually every  
8 consultant we have ever interviewed uses the intrinsic FoR frequently. As  
9 for the use of local or ad-hoc landmarks in pseudo-absolute fashion, this is  
10 at least not restricted to a particular *group* of consultants. Women use this  
11 strategy as freely as men, and adolescents as freely as adults. For the other  
12 two FoRs, however, some restrictions with respect to the command people  
13 have of them can be stated. Consultants who employed the absolute FoR  
14 by using cardinal directions were predominantly adult males. (Very few  
15 women employ the absolute FoR.) Male adult speakers use expressions for  
16 cardinal directions not only for large-scale geographical localization, but  
17 also for small-scale localization, which appears unusual from an  
18 English-speaking point of view. Many of the men who used cardinal  
19 directions in the linguistic elicitation sessions (though not all of them)  
20 proved to be employing an absolute FoR in cognitive tests of recollection



1 and reasoning as well, i.e. they proved to be absolute thinkers.

2       The use of the relative FoR is not as restricted to a particular group as  
3 that of cardinal directions. It is our impression, however, that most men  
4 have command of the relative FoR (even if they prefer the absolute FoR)  
5 whereas only a smaller percentage of the women have it. All interviewed  
6 males and also many, though by no means all, females made use of this  
7 FoR regularly or occasionally. Many of them proved to be relative thinkers  
8 in the accompanying cognitive tests. In other words, if there are speakers of  
9 YM who exclusively use the intrinsic FoR, these speakers are very likely  
10 female.

11       There is, thus, apparently a gender-specific distribution with respect to  
12 the command of FoRs, at least in the area where the pertinent field research  
13 was conducted: all speakers employ the intrinsic FoR and use local or  
14 ad-hoc landmarks in pseudo-absolute reference, many men and some  
15 women use the relative FoR, and many men but almost no women use  
16 cardinal directions and the absolute FoR. Among those adult men who  
17 employed the absolute FoR, we found many who could switch to other  
18 FoRs, particularly the relative FoR, with ease, thus showing command of  
19 all three FoRs. We even experienced one astonishing case of spontaneous  
20 FoR-switching: a male consultant acting as Director in the Men and Tree



1 elicitation session started his explanations giving cardinal directions in the  
2 absolute FoR. When his spouse asked for an explanation of where ‘north’  
3 is, he continued in the relative FoR. When his wife asked him where ‘left’  
4 was, he switched unhesitatingly to ad-hoc landmarks and the intrinsic FoR,  
5 which was clearly the least spontaneous choice for him.

6       We tentatively conclude that among YM speakers, control of the  
7 absolute FoR implies control of the relative FoR, which in turn implies  
8 control of the intrinsic FoR. The use of cardinal directions among male  
9 speakers might be grounded in traditional gender roles of Mayan society.  
10 In rural Quintana Roo, out-of-house activities such as milpa work, hunting,  
11 and collection of wood and other forest products are still predominantly  
12 male occupations (Villa Rojas 1987: 207 f.). These often take the men  
13 quite far away from their local village and into the rain forest. It seems a  
14 plausible assumption that this demands some amount of absolute  
15 orientation (although this rationale is not unproblematic). The acquisition  
16 of the relative FoR might be tied to school education, in particular, to the  
17 acquisition of Spanish and of writing, with its unidirectional left-right  
18 orientation.

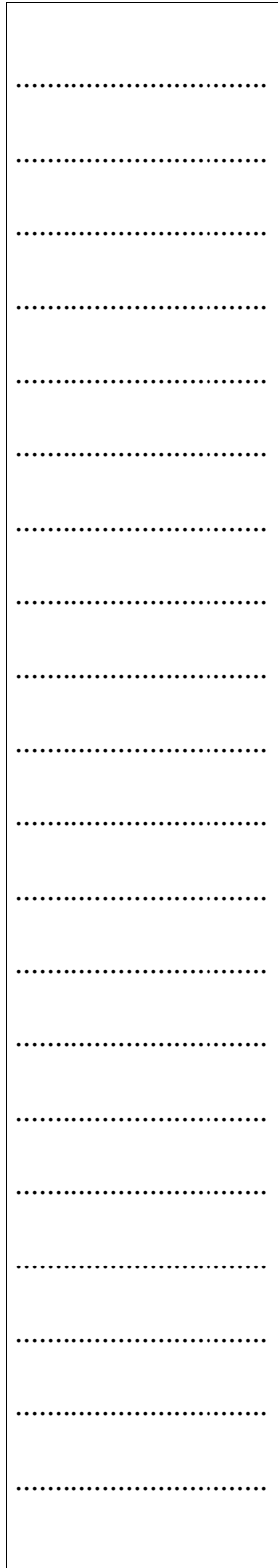
A-Head

1 **8.7. Concluding remarks**

2 The most striking feature of the expression of spatial reference in YM from  
3 an Indo-European perspective is perhaps the rather restricted lexicalization  
4 of ‘path’ notions. These are exclusively expressed in verbs of ‘inherently  
5 directed motion’, but are not at all reflected in the ground-denoting  
6 expressions. This has the consequence that the expression of deceptively  
7 simple source-to-goal locomotion events is obligatorily distributed across  
8 multiple mutually independent clauses in YM discourse.

9 Just as has been attested in other Mayan languages, YM expresses a  
10 rich set of spatial dispositional expressions in a special form class of  
11 positional verb roots. The majority of these spatial configurations are not  
12 lexicalized in Indo-European languages. The YM set of positional verb  
13 roots is, however, smaller than those found in Highland Mayan languages  
14 such as Tzeltal and Tzotzil, and unlike what has been shown for these  
15 languages, positional verb forms are not readily exploited in expressions of  
16 locative relations in YM.

17 In terms of the frames of reference (FoRs) they deploy in spatial  
18 orientation, YM speakers on the whole present a surprisingly balanced  
19 picture, with all three principled types of FoRs being used in the same



1 small-scale (table-top) elicitation context (although not by all consultants).  
 2 Just as has been shown for the closely related Mopán (Pederson et al.  
 3 1998), the predominant FoR among YM speakers is clearly the intrinsic  
 4 FoR. However, unlike Mopán-speakers, especially male adult speakers of  
 5 YM also use relative and absolute FoRs. In their use of intrinsic and  
 6 relative FoRs, YM speakers differ rather strongly from Tzeltal speakers  
 7 and members of other Highland Mayan communities, and in their  
 8 preference for the intrinsic FoR and their readiness to use absolute FoRs at  
 9 all in table-top space, they differ markedly from Euro-Americans. A  
 10 further remarkable result produced by the Men and Tree task is the  
 11 frequency and apparent accustomedness with which Yukatek speakers  
 12 resort to using ad-hoc landmarks as providing pseudo-absolute FoRs.

### Notes

- 13 1. We wish to thank the editors and Penelope Brown for very helpful  
 14 suggestions and comments.
- 15 2. According to Edmonson (1986: 2–7), the differentiation of these  
 16 dialects may date back to prehispanic times.
- 17 3. In this paper we follow the orthographic standards of Lehmann (1996).  
 18 These conventions are compatible with the orthography codified for

- 1       Mayan studies by the *Academia de las Lenguas Mayas de Guatemala*,
- 2       except mainly for the affricates /ts/ and /ts'/ which are spelled *tz* and *tz'*
- 3       in the Guatemalan system.
- 4       4. Abbreviations in interlinear morpheme glosses include the following:
- 5       1/2/3 – First/Second/Third Person; A – Cross-reference Set A
- 6       (>ergative=, possessor); ACAUS – Anti-causative; ALT – Alternative;
- 7       AN – Animate; APP – Applicative; ATP – Anti-passive; B –
- 8       Cross-reference Set B (>absolutive=); CAUS – Causative; CL –
- 9       Classifier; CMP – Completive; CON – Connective; D1 – Proximal; D2
- 10      – Distal; D3 – Textual deixis; D4 – Locative/Negative clause particle;
- 11      DEF – Definite determiner; DEM – Demonstrative; DIM – diminutive;
- 12      DUR – Durative; EXIST – Existential predicate; EF – Extra-focal; F –
- 13      Feminine; GIV – Gerundive; HESIT – Hesitation; IMPF –
- 14      Imperfective; IN – Inanimate; INC – Incompletive; IRR – Irrealis; ISO
- 15      – Isotemporality marker; LOC – Locative; NEG – Negation; OBL –
- 16      obligative; PASS – Passive; PERF – Perfect; PL – Plural; POS –
- 17      Positional; PROG – Progressive; PRSV – Presentative; PRV –
- 18      Perfective; REL – Relational; REP – Repetitive; RES – Resultative;
- 19      SG – Singular; SR – Subordinator; SUBJ – Subjunctive; TERM –

- 1           Terminative; TOP – Topic
- 2           5. Abbreviations used in syntactic tagging include *AM* for the preverbal
- 3           aspect-mood markers, *COMPLEX* for the verbal complex, *CORE* for
- 4           the verbal core, *NP<sub>A/O/S</sub>* for a noun phrase referring to the transitive A
- 5           or O or the intransitive S-argument, respectively, *S* for clause and *STAT*
- 6           for stative predicates.
- 7           6. The suffixal parts of the set-A pronouns marking plural number are
- 8           homophonous with the corresponding plural suffixes of the set-B series
- 9           of person markers.
- 10          7. The study of the YM verb classes includes contributions by Dayley
- 11          (1981, 1990), Krämer and Wunderlich (1999), Lehmann (1993), Lucy
- 12          (1994), Owen (1968) and Straight (1976). Dayley (1981, 1990) coined
- 13          the labels ‘active’ and ‘inactive (intransitive verbs)’ as they are used
- 14          here.
- 15          8. It should be born in mind, though, that the unergative-unaccusative
- 16          distinction is realized exclusively morphologically in YM. An
- 17          exception to the semantic motivation of the verb classes in terms of
- 18          semantic argument structure is represented by loan words borrowed
- 19          from Spanish: all intransitive verbs borrowed from Spanish are
- 20          incorporated into the active intransitive class, regardless of their

1 semantics.

2 9. By ‘positional roots’, we mean roots that produce positional stems.

3 Since positional stems are exclusively derived, no positional root can  
 4 form a positional stem by itself. Diagnostics of positional stems are the  
 5 completive status inflection in *-lah* and the positional resultative  
 6 derivation in *-Vkbal*. All roots that combine with these morphemes are  
 7 considered positional roots here, notwithstanding that fact that the  
 8 majority of these roots also appear either in transitive or in inactive  
 9 (‘pseudo-anticausatives’) stems.

10 10. All inchoative verbs are derived from stative predicates.

11 11. Positional roots also bear a particular affinity to distributive  
 12 reduplication of the type *chíil-en-chíil* ‘lying here and there’,  
 13 *ch’éeb-un-ch’éeb* ‘tilted here and there’ (although other roots occur in  
 14 this form as well) .

15 12. Bricker, Po’ot Yah and Dzul de Po’ot (1998: xiv) only count 39  
 16 <sup>63</sup>positional roots in their dictionary. It appears that this figure only  
 17 includes roots which do not occur in transitive stems without  
 18 derivation. Yet the dictionary lists several roots as producing  
 19 exclusively non-positional stems which do have attested positional  
 20 stems in our database. This may reflect a dialect difference (Bricker,

- 1 Po'ot Yah and Dzul de Po'ot <sup>[63]</sup>1998 is based on the northern variety of  
 2 YM).
- 3 13. See Ameka, de Witte and Wilkins (<sup>[20]</sup>1999) for details concerning this  
 4 stimulus.
- 5 14. Certain motion verbs such as *bin* 'go' and *tàal* 'come' take 'indexical'  
 6 (i.e. deictic or anaphoric) ground objects which cannot be specified by  
 7 phrases in the clause that contains the motion verbs; cf. section 5.
- 8 15. It appears that deictic reference to a direction, cardinal or otherwise,  
 9 excludes selection of the distal space-deictic forms in YM.
- 10 16. The grammar of possession in YM is described in great detail in  
 11 Lehmann <sup>[241]</sup>1998.
- 12 17. Possessors are cross-referenced on the possessed nominal by the set-A  
 13 pronominal clitics. In (14), the possessor of *óok'ol* 'top' is *le mèsà* the  
 14 table, cross-referenced by the 3.SG clitic of set A.
- 15 18. Hanks (<sup>[160]</sup>1990: 406–416) emphasizes that the egocentric 'here'  
 16 presupposes the existence of some kind of boundary that delimits the  
 17 inclusive 'here'. The egocentric 'here' may be the room in which the  
 18 speaker is located, or the house, or the village, or the country, to the  
 19 extent that it has a boundary. Hanks notes that the 'exclusive'  
 20 egocentric deictic *tol . . . -o'* has most commonly a non-specific



1 meaning ‘out there’ and refers to a specific location only in case there  
2 is a(n explicit or implicit) contrast between a location within the  
3 inclusive perimeter and one external to it. In contrast, the category  
4 ‘immediate’ applies anything that is in the speaker’s but not in the  
5 addressee’s reach, whereas the category ‘non-immediate’ applies to  
6 locations in the addressee’s reach (it is not implied that things in the  
7 speaker’s immediacy are necessarily *closer* to the speaker than they are  
8 to the addressee). Notice, however, that Hanks’s analysis is based on  
9 the northern variety of YM. Our field research on the southern dialect  
10 does not confirm an addressee-based use of the ‘non-immediate’  
11 forms. Instead, these forms are used for referents not within the  
12 speaker’s reach, regardless of the position of the addressee.

13 19. Hanks (1990: 275–276) discusses one further form *he’l . . . -be’* which  
14 <sup>160</sup> is not attested in our databases (note that Hanks’ study is based on the  
15 western dialect of YM). According to Hanks, *he’l . . . -be’* is used to  
16 point the addressee’s attention to a denotatum that is audible but not  
17 visible.

18 20. Preposed adverbial *ti’* also occurs in the locative focus construction,  
19 but is in this case not accompanied by . . . *-i’*.

20 21. The ground-denoting adverbials do not express locative relations in

- 1 isolation, and they do not occur as nominal modifiers (Goldap 1992).  
 2 However, under certain circumstances, the existential predicate *yàan* is  
 3 ellipsed in locative predications.
- 4 22. As mentioned in 3.2, the majority of the roots that produce positional  
 5 resultative forms in *-Vkbal* also produce non-positional resultative  
 6 forms in *-a'n* or *-mah*. However, we exclusively consider forms in  
 7 *-Vkbal* as instances of positional verb use in locative descriptions.
- 8 23. We gratefully acknowledge that two of the five sets of  
 9 Topological-Relations-Pictures-Series descriptions were recorded and  
 10 made available to us by Elisabeth Verhoeven.
- 11 24. As mentioned in the previous section, YM does have one semantically  
 12 more specific spatial preposition, namely *ich* 'in' for containment  
 13 configurations.
- 14 25. In fact, the frequency of combinations of the general preposition with a  
 15 spatial nominal in the Tzeltal TRPS data (Brown p.c.) is greater than  
 16 the combined frequency of such combinations and the specific  
 17 preposition *ich* in the YM data.
- 18 26. Note that the goal of *lúub* 'fall' is referred to using *ich* 'in', rather than  
 19 *ich-il*, in the first clause of (32). However, *ich* and *ichil* are, at least  
 20 with respect to those spatial ground objects that we have studied, in

- 1 free variation, and both occur with source and goal interpretations as  
 2 well as with stative locative interpretations.
- 3 27. Unlike in other Mayan languages (cf. Kaufman (1990: 82–83) and  
 4 Zavala (1993) for Mayan in general, and, once again, Brown (this  
 5 volume) for Tzeltal), there are no ‘directional’ particles in YM that  
 6 would mark the path of a motion event.
- 7 28. This holds with one exception: *sùut* the antipassive of *sut* ‘turn’, when  
 8 used with the reading ‘return’, may take a goal-denoting phrase.
- 9 29. There is at least one transitivity operation in YM that promotes  
 10 non-agentive peripheral participants to core arguments, namely  
 11 applicativization in *-t*. The additional argument of the applicativized  
 12 verb is a transitive O-argument. However, the new O-argument is  
 13 subject to the same set of semantic restrictions as the O-arguments of  
 14 root-transitive verbs in YM; that is, essentially, it’s thematic role is that  
 15 of a ‘theme’ or ‘patient’. Thus, if *meyah* ‘work’ in *Kin meyah ich in*  
 16 *kòol* ‘I work on my milpa’ is applicativized, the erstwhile ground  
 17 object *in kòol* ‘my milpa’ may be cross-referenced on the verb as an  
 18 O-argument, but the semantic construal of this participant will then no  
 19 longer be that of a ground object, but rather that of a patient: *Kin*

1        *meyahtik in kòol* ‘I work my milpa.’

2        30. There are two exceptions. One is represented by topicalized ground  
 3        objects and ground objects focussed in cleft sentences. There is  
 4        evidence suggesting that content questions are clefts in YM (cf.  
 5        Bohnemeyer 1998: 189–202). If this is the case, then the locative  
 6        interrogative pro-form *tu’x* ‘where(to/from)’ can never constitute an  
 7        adjunct (there are no pro-forms in ‘in-situ’ position). In the following,  
 8        topicalized ground objects and ground objects isolated by clefting will  
 9        be neglected; their internal structure – with the possible exception of  
 10       the interrogative form *tu’x* just mentioned – does not differ from that of  
 11       ground-denoting adjuncts. The other exception to the generalization  
 12       that ground objects are expressed by adjuncts are the ‘indexical’ (i.e.  
 13       deictic or anaphoric) ground objects of some of the inactive motion  
 14       verbs, as discussed below.

15       31. Note that on this account, YM would represent a much more radical  
 16       case of ‘verb-framed’ lexicalization of path than does Spanish, as  
 17       Spanish does in fact, in addition to path-conflating verbs, also have  
 18       path-sensitive prepositions and adverbs (cf. Aske 1989). These are  
 19       completely absent in YM.

20       32. However, all verbs in question have a certain propensity for indexical

- 1 use. In five ‘Frog Story’ narratives, we counted a total of 158 inactive  
 2 motion verbs. Of these, only one third (52) are accompanied by  
 3 ground-denoting adjuncts. In 25 cases (16%), the verb appeared in a  
 4 ‘motion-cum-purpose’ construction (i.e. a construction that expresses  
 5 an event understood to be spatio-temporally contiguous with the  
 6 motion event, as in *to go shopping*; cf. Bohnemeyer 1998: 171–173 for  
 7 YM, Aissen 1987 for Tzotzil, and Zavala 1993 for an overview of the  
 8 Mayan family), and in 51% of all instances, a ground object was either  
 9 retrieved from context by inference or simply left unspecified. The  
 10 only member of the set of inactive motion verbs that rarely ever occurs  
 11 without a ground-denoting adjunct is *na’k* ‘ascend’.
- 12 33. In the case of *máan* ‘pass’, which selects for a ‘transit’ ground, one  
 13 may assume that the theme is located at some time  $T_S$  at a location  $L_S$   
 14 at the source state of the event and at some time  $T_T > T_S$  at a location  
 15  $L_T \neq L_S$  at the target state of the event, that  $L_{Transit} \neq L_S$  and  $L_{Transit} \neq$   
 16  $L_T$ , and that the theme is located at  $L_{Transit}$  at a time  $T_{Transit}$ , such that  $T_S$   
 17  $< T_{Transit} < T_T$ .
- 18 34. In fact, it is shown in Bohnemeyer (1997; submitted) that *òok* ‘enter’  
 19 and *hóok* ‘exit’ display a similar indeterminacy with respect to  
 20 whether it is the figure or the ground that moves as do their equivalents

- 1        in Japanese (Kita, this volume), thus entailing merely change of
- 2        locative relation, not change of location (see also Schultze-Berndt, this
- 3        volume).

c08tab001

Table 8.1 *YM status inflection according to verb classes.*

Status category	Verb class	Incompletive	Completive	Subjunctive	Extra-focal
Intransitive	active	-∅	-nah	-nak	-nah-ik
	inactive	-Vl	-∅	-Vk	-ik
	inchoative	-tal	-chah	-chahak	-chah-ik
	positional	-tal	-lah	-l(ah)ak	-lah-ik
Transitive	active voice	-ik	-ah	-∅ / -eh	-ah-il
	passive voice <sup>6</sup>	\'/... -Vl / -a'l	\'/... -ab / -a'b	\'/... -Vk / -a'k	\'/... -ik / -a'b-ik

The symbol \'/ denotes an infix ed glossal stop.

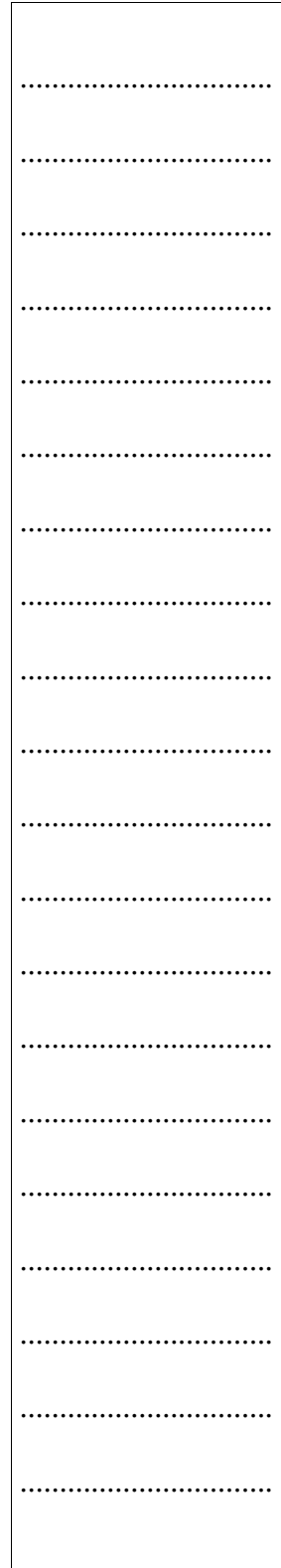


Table 8.2 *Lexical extension of the YM verb classes.*

Properties Verb class	Size and productivity		Examples of root members
	root members	derived stems	
active	open (loans)	open (anti-passives)	'walk', 'run', 'swim', 'fly', 'sing', 'groan', 'cry', 'eat', 'defecate', 'vomit'
inactive	≥100	100–200? (anti-causatives)	'be born', 'die', 'come', 'go', 'enter', 'exit', 'fall', 'begin', 'end', 'happen'
inchoative	–	open	–
positional	ca. 100–150	–	'sit', 'stand', 'hang', 'lie face up', 'lie face down', 'lie across', 'lean', 'bow', 'bulge', 'be between things'
transitive	≥500?	open (causatives, applicatives incl. loans)	'break', 'cut', 'shatter', 'tear', 'split', 'insert', 'push', 'pull', 'put/give/provide', 'make', 'do', 'say', 'think', 'ask'



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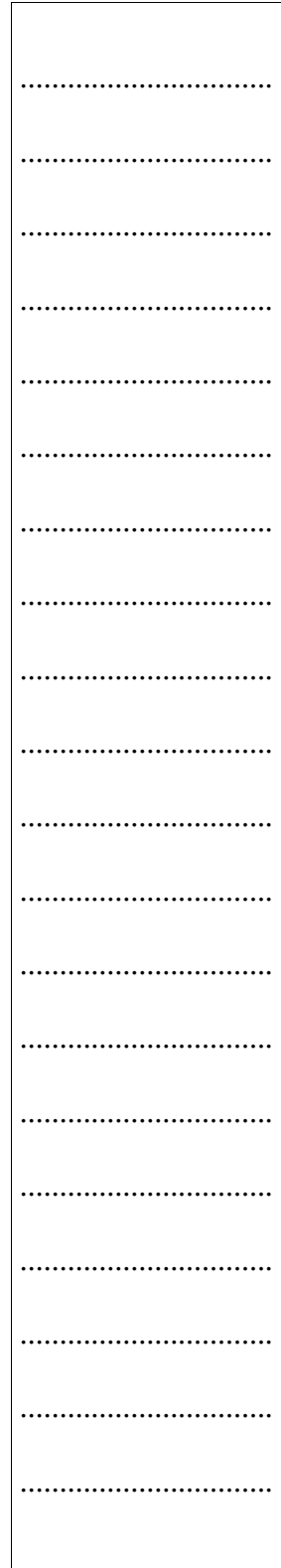
Table 8.3 *YM relational nouns lexicalizing spatial regions* (cf. Lehmann 1998: 84). Key: CORE – Verbal core, CR – Cross reference marker (Set A), Nrel – relational noun

(PREFERRED) ADVERBIAL CONSTRUCTION	NOUN	GLOSS
[CORE [CR <sub>i</sub> -N <sub>rel</sub> NP <sub>i</sub> ]]	<i>àanal</i>	bottom,
	<i>iknal</i>	underside
	<i>óok'ol</i>	proximity
[CORE [ti' [CR <sub>i</sub> -N <sub>rel</sub> NP <sub>i</sub> ]]] (or [CORE [N <sub>rel</sub> (-il) ti' NP]])	<i>chúumuk</i>	top, upper side centre
	<i>háal</i>	edge
	<i>nak'</i>	mid-height
	<i>(ba')pàach</i>	back, outside
	<i>(ak)táan</i>	front
	<i>tséel</i>	side
	<i>ts'u'</i>	inside
	<i>xno'h</i>	right
	<i>xts'i'k</i>	left
	<i>xùul</i>	end

c08tab004

Table 8.4 *The semantics of the adverbial and nominal demonstratives, according to Hanks (1990).*  
160

Meaning	Inclusive		Exclusive
	Immediate	Non-Immediate	
Form class			
Demonstrative adverbs	<i>way . . . -e</i> 'here'		<i>tol . . . -o</i> 'there, yonder'
	<i>te'l . . . -a</i> 'there'	<i>te'l . . . -o</i> 'there'	
Nominal demonstratives	<i>lel-a</i> 'this one'	<i>lel-o</i> 'that one'	
	<i>le . . . -a</i> 'this'	<i>le . . . -o</i> 'that'	



c08tab005

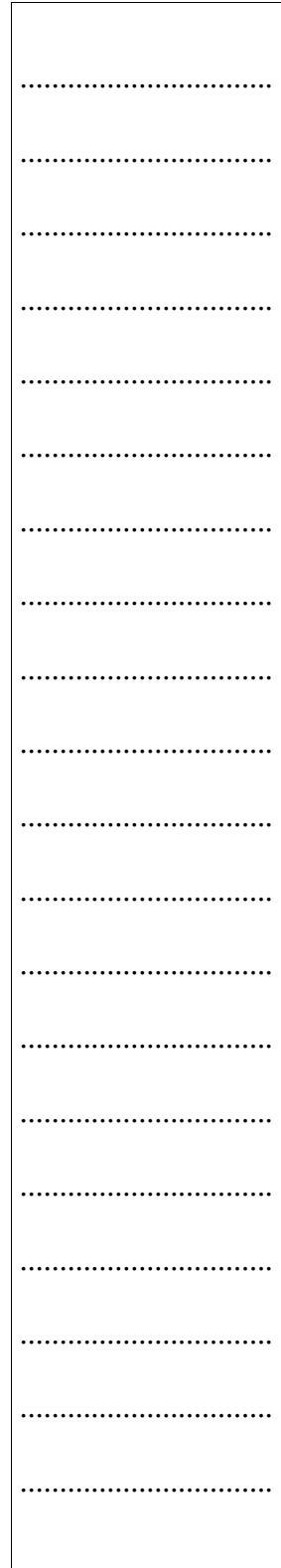
Table 8.5 *Motion verbs in the active and inactive verb classes.*

Active		Inactive	
<i>péek</i>	‘move’	<i>bin</i>	‘go’
<i>sùut</i>	‘turn’	<i>tàal</i>	‘come’
<i>xímbal</i>	‘walk’	<i>máan</i>	‘pass’
<i>áalkab</i>	‘run’	<i>u’l</i>	‘return’
<i>sít’</i>	‘jump’	<i>lúuk’</i>	‘leave’
<i>balak’</i>	‘roll’	<i>k’uch</i>	‘arrive’
<i>xíknal</i>	‘flutter, fly’	<i>na’k</i>	‘ascend’
<i>bàab</i>	‘swim’	<i>em</i>	‘descend’
<i>òokot</i>	‘dance’	<i>òok</i>	‘enter’
...		<i>hóok’</i>	‘exit’
		<i>lúub</i>	‘fall’
		<i>líik’</i>	‘rise’

c08tab006

Table 8.6 *Argument structure and argument realization with the inactive motion verbs.*

Change-of-location verb	Ground argument	Realization of ground argument
<i>bin</i> ‘go’	source	indexical (deictic or anaphoric) deictic only
<i>tàal</i> ‘come’	goal	deictic only
<i>u’l</i> ‘return’	goal	lexical (weakly indexical)
<i>sùut</i> ‘turn, return’	goal	lexical (weakly indexical)
<i>máan</i> ‘pass’	transit	lexical (weakly indexical)
<i>k’uch</i> ‘arrive’	goal	lexical (weakly indexical)
<i>lúuk</i> ‘leave’	source	lexical (weakly indexical)
<i>na’k</i> ‘ascend’	goal	lexical (weakly indexical)
<i>em</i> ‘descend’	source	lexical (weakly indexical)
<i>lúub</i> ‘fall’	goal	lexical (weakly indexical)
<i>líik</i> ‘rise’	source	lexical (weakly indexical)
<i>òok</i> ‘enter’	goal	lexical (weakly indexical)
<i>hóok</i> ‘exit’	source	



c08tab007

Table 8.7 *FoRs and strategies employed during game 2 of Men and Tree.*

Frame of reference	Strategies	Total number of reference acts
absolute	cardinal directions	2
pseudo-absolute	speech act	7
	other ad-hoc	
relative	participant as ad-hoc landmark: 4	2
	landmarks external to the picture: 3	
intrinsic	physio-morphic projections	12
	intrinsic FoR anchored in the picture	

