WHEN GOING MEANS BECOMING GONE: FRAMING MOTION AS STATE CHANGE IN YUKATEK

Session "The Expression of PATH in the Languages of the Americas"
at the 2004 Annual Meeting of SSILA, Boston, MA, January 8-11.

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OVERVIEW

- Yukatek frames motion semantically in terms of single-Ground location changes
- In line with this, location change descriptions may be applied to events that don't involve Figure motion
  - similar to what has been described by Kita (1999) for Japanese
  - but on a larger scale
- There's also a lack of 'fictive motion' (Talmy 1996, 2000) metaphors,
  - the existence of which Jackendoff (1983, 1990) has pointed to as one of the reasons to distinguish between motion and location change semantics
- The question raised here on the basis of these data is what factors are responsible for crosslinguistic variation in framing motion as location change?

I. BACKGROUND: TRANSLATIONAL MOTION VS. LOCATION CHANGE

- Translational motion (T-Motion) involves a homomorphic mapping from the time course of the motion event into the Path traversed (Krifka 1998).

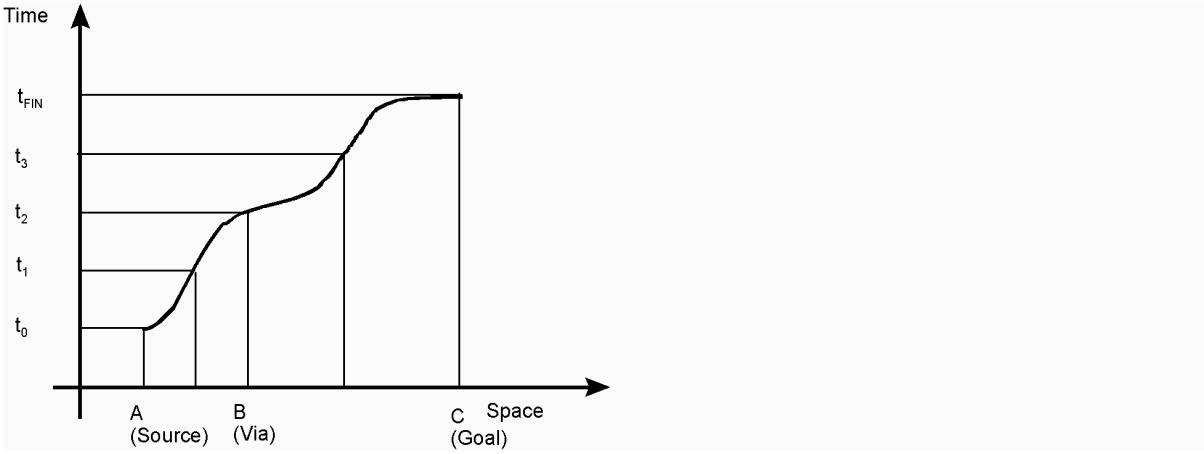

Figure 1. *Space-time diagram of translational motion*

- The question is whether the linguistic representation of motion requires a semantic primitive for T-Motion,
  - as argued by Jackendoff (1983, 1990)
- or whether motion can simply be represented as a special case of state change – change of location (CoL),
  - as suggested by Miller & Johnson-Laird (1976) and Dowty (1979)
- In Jackendoff's terms: to represent the meaning of (1a), do we need something like (1b), or can we make do with (1c):

(1) a. *X went to Y*
  b. $[_{Event}$ GO ($[_{Thing}$ X], $[_{Path}$ TO ($[_{Place}$ AT ($[_{Thing}$ Y])])])]
  c. $[_{Event}$ INCH ($[_{Thing}$ X], $[_{State}$ BE ([X], $[_{Place}$ AT ($[_{Thing}$ Y])])])]

- Jackendoff advances three arguments in favor of (1b) and against (1c):
  - T-Motion is clearly a cognitive primitive, so why shouldn't Conceptual Structure (CS) encode it as well!
    - but note that by itself, this isn't much of an argument at all – to be accessible to cognition and language, it might well be sufficient to encode T-Motion at 'Spatial Representation' (SR) only!
  - It's easy to see how 'Bounded Path' functions representing motion FROM source and/or TO goal are decomposed along the lines of (1c)
    - but such an analysis seems less natural for 'Route Path' functions as in (2),
      - where location at the Ground defines neither the source nor the end state of the event,
      - but some state of the Figure in between:

(2) a. The eagle soared across the canyon.
b. The train went through the tunnel.
c. The expedition crossed the river.
d. The horse jumped over the fence.

  - Finally, Path functions may also be used in state descriptions which don't encode CoL – this is what Talmy (1996, 2000) has called 'fictive motion':

(3) a. The highway extends from Denver to Indianapolis. (Jackendoff 1983: 172)
b. The house faces away from the mountains. (Jackendoff 1983: 172)
c. The firehouse is across the street from the library. (Jackendoff 1983: 167)

- Kita (1999) presents evidence that the question of T-Motion vs. CoL semantics may depend on particular verbs in particular languages
  - Japanese *hairu* and *deru*, commonly glossed 'enter' and 'exit', respectively, may be used in reference to events in which
    - the Ground moves instead of the Figure
    - Figure or Ground emerge into or disappear from the configuration
  - E.g., (4) is acceptable as a description of the scenario in Figure 2
    - suggesting that *hairu* indeed means 'become inside' rather than 'enter'!

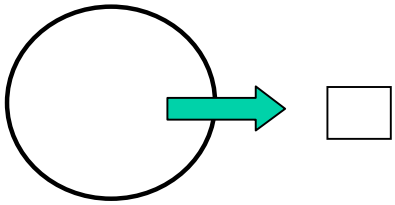

Figure 2. *Ground motion*

(4) Shikaku-ga en-ni hai-ta.
JAP square-NOM circle-LOC enter-PAST
'The square entered the circle.' (Kita 1999: ???)

- In line with this, Matsumoto (1996) points out that Japanese has metaphors of 'fictive CoL', rather than fictive motion!
- My points here:
  - Yukatek Maya shows Japanese-style CoL descriptions w/o motion semantics on a wider scale
  - and fictive motion metaphors are completely absent.
  - Moreover, there are no semantic representations of multi-Ground Paths:
    - these are instead broken down into sequences of CoL events involving single Grounds
    - each encoded by an independent clause.
- My aim is to explore how these phenomena are related
  - and to ask what factors may be responsible crosslinguistically for favoring T-Motion or CoL semantics!

II. YUKATEK MOTION EVENT DESCRIPTIONS

II.1. Lexicalization

- The verb class system:
  - verbal cores inflect for 'status' (Kaufman 1990), which in Yukatek combines aspectual, modal, and illocutionary meanings
  - allomorphic variation distinguishes five verb stem classes, each with a unique set of status suffixes:

Status category / Verb class	Incompletive	Completive	Subjunctive	Imperative
Active	*-Ø*	*-nah*	*-nak*	*-nen*
Inactive	*-Vl*	*-Ø*	*-Vk*	*-en*
Inchoative	*-tal*	*-chah*	*-chahak*	n.a.
Dispositional	*-tal*	*-lah*	*-l(ah)ak*	*-len*
Transitive active	*-ik*	*-ah*	*-Ø* / *-eh*	*-Ø* / *-eh*
passive	*\'/...-Vl* / *-a'l*	*\'/...-ab* / *-a'b*	*\'/...-Vk* / *-a'k*	n.a.

Table 1. *Yukatek status inflection according to verb class*

- Distribution of motion event information across verb classes
  - 'manner of motion' (Talmy 1985, 2000) is lexicalized exclusively in members of the active verb class:

Animacy of Figure / Causation of CoL (i.e., 'propulsiveness')	entailed	not entailed
entailed	*áalkab* 'run'; *bàab* 'swim'; *xíimbal* 'walk'; …	*balak'* 'roll'; *háarax* 'slide'; …
not entailed	*síit'* 'jump'; *xíiknal* 'flutter', 'fly'; *òokot* 'dance'; …	*mosòon* 'whirl', 'revolve'; *péek* 'move'; *pi'k'* 'shake', 'twirl'; *úumbal* 'swing', 'rock', *walak'* 'turn', 'revolve'; …

Table 2. *Some active verbs of manner of motion*

  - CoL is exclusively entailed by inactive, inchoative, and transitive verbs – these are 'path-conflating' (Talmy 1985, 2000)
  - The overwhelming majority of tokens of CoL-denoting verbal cores in Yukatek discourse are headed by the small set of inactive verbs listed in Table 3, or by their causative counterparts.[1]

[1] The role of the dimensionality of the Ground in the semantics of the CoL roots warrants some discussion. *Hóok'* 'exit' and *òok* 'enter' require "bounded" Ground (object)s, which by conceptual necessity have to extend in a minimum of two dimensions. Similarly, (objects that project) Grounds wrt. which relations in the vertical may be specified necessarily divide Space into an upper and a lower "half", and in this sense likewise have a minimum of two dimensions; this restriction naturally extends to the subcategorization properties of the verb roots that specify vertical CoL. The remaining roots that lexicalize CoL with specifiable end points (corresponding to 'Bounded Paths'), *bin* 'go', *tàal* 'come', *u'l* 'return (to deictic center)', *luk'* 'leave', and *k'uch* 'arrive', may well basically simply *lack* constraints on the Grounds wrt. they encode CoL. On this account, they are *compatible* with 0D Grounds, but likewise with 2D and 3D Grounds; however, their *use* with 2D and 3D Grounds may be *preempted* by the more specific roots that lexicalize CoL wrt. such Grounds, following Grice's first maxim of Quantity (cf. Grice 1975; Levinson 2000).

CoL root	causative stem	type of change	role of Ground in event structure	Ground	Ground encoded
tàal 'come'; *u'l* 'return'	*tàas* 'bring'; *u's* 'return'	discrete	target state ('TO')	≥0D	inherently deictically
bin 'go'	*bis* 'take'		source state ('FROM')		inherently indexically
máan 'pass'	*máans* 'pass'		between ('VIA')	≥0D	lexically
luk' 'leave'	*lu's* 'remove'		source state ('FROM')	≥0D	
hóok' 'exit'	*ho's* 'extract'			3D (or 2D enclosure)	
òok 'enter'	*òoks* 'insert'		target state ('TO')		
k'uch 'arrive'	*k'uhs* 'cause to arrive'			≥0D	
lúub 'fall'	*lu's* 'fell', 'drop'	gradual		≥2D	
na'k 'ascend'	*na'ks* 'lift'				
em 'descend'	*èens* 'pluck', 'lower'		source state ('FROM')		
líik' 'rise'	*li's* 'lift'				

Table 3. *Inactive CoL roots and their derived causative stems*

- Inactive roots lexicalize uncaused state changes (cf. Bohnemeyer in press).[2]
- There are also transitive roots of caused motion, in particular in the domains of insertion/extraction and ballistic motion (e.g, *hul* 'insert'; *pul* 'throw'). Their grammar is entirely parallel to that of the causativized stems in Table 3.
- The CoL-semantics of the 12 roots listed in Table 3 is summarized in Figure 3:

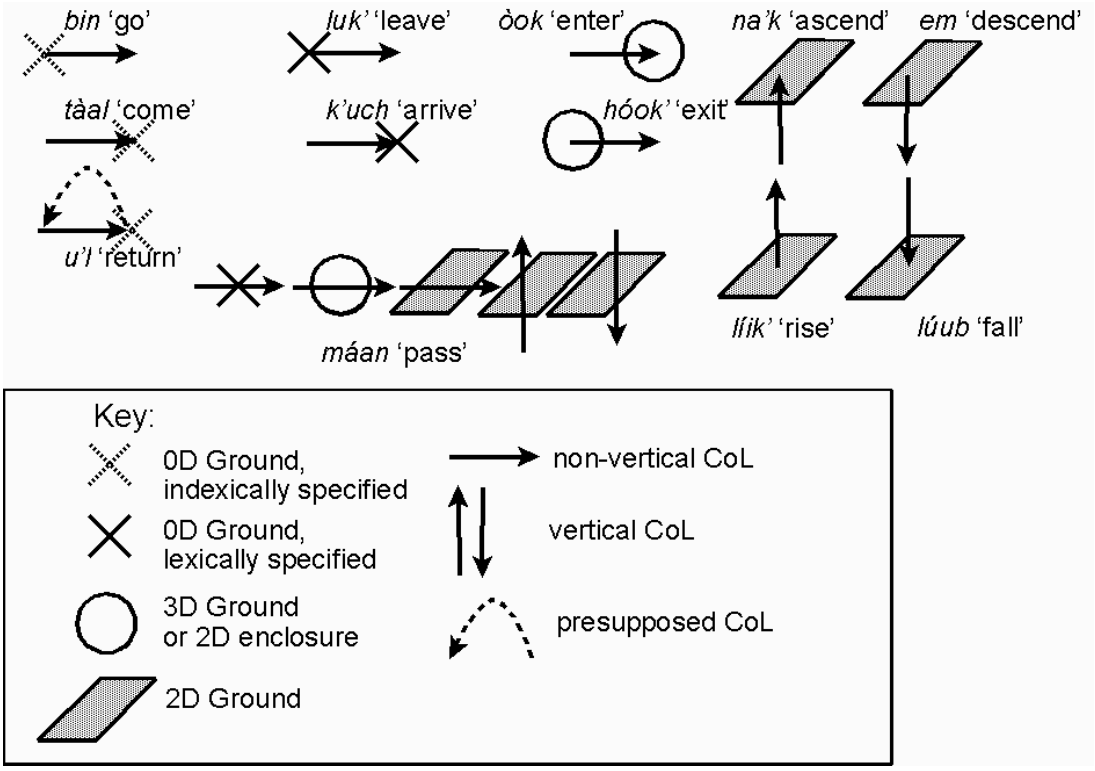

Figure 3. *The semantics of Yukatek CoL verb roots*

[2] There are verbs of the inactive class that occasionally occur in CoL-denoting verbal cores, but are not listed in Table 3, since it is not obvious that CoL is their basic meaning; e.g., *náak* 'reach', sometimes used as an alternative to *k'uch* 'arrive'. Some inchoative verbs are sometimes used as alternatives to inactive verbs of Table 3; e.g., *náach-tal* 'become distant' instead of *bin* 'go' or *luk'* 'leave'. One active intransitive stem appears in CoL-denoting cores: *sùut* 'turn', 'spin', 'return', recruited for the purpose of expressing return to a Place not necessarily identical with the deictic center, thus filling a gap in the system of Table 3, given the deictic specialization of *u'l*.

- Verb framing
  - In order for a clause to encode CoL, the main verb must lexically specify CoL
  - Manner of motion is encoded elsewhere, e.g., in an embedded gerund core (5) or in a manner focus construction (6):

(5) Le=ch'íich'=o' h-em u=**xíiknal** te=che'=o'.
DET=bird=D2 PRV-descend(B.3.SG) A.3=**fly** LOC:DET=wood=D2
'The bird flew down from the tree [lit. it descended flying wrt. the tree].' (fieldnotes)

(6) Le=ch'íich'=o' **xíiknal**-il h-úuch uy=em-el
DET=bird=D2 **fly**=REL PRV-happen(B.3.SG) A.3=descend-INC

te=che'=o'.
LOC:DET=wood=D2

'The bird flew down from the tree [lit. flyingly (is how) it happened to descend wrt. the tree].' (fieldnotes)

  - Clauses combining a manner main verb with a Ground phrase merely denote stationary manner activities at the place specified by the Ground phrase:

(7) Le=ch'íich'=o' túun **xíiknal** y=óok'ol le=che'=o'.
DET=bird=D2 PROG:A.3 **fly** A.3-top DET=wood=D2
'The bird is flying [i.e. circling!] above the tree.' (fieldnotes)

  - This constitutes a 'verb-framed' pattern of motion lexicalization in Talmy's (1985, 2000) parlance:

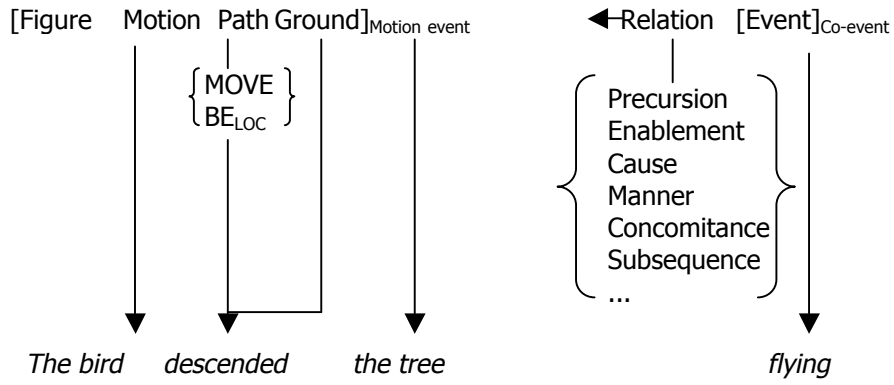

Figure 4. *Verb-framing (after Talmy 2000 Vol. II : 49)*

II.2. The Ground phrase

- The Ground phrase merely denotes a Place function (in the sense of Jackendoff 1983), not a Locative or Path function!
  - When the Ground is denoted by a common noun, the Place function is assigned to it by a preposition or a 'Relational Spatial Nominal' (N_{Srel})
  - There is arguably only one genuine spatial preposition, namely *ich* 'in' (cf. Levinson & Meira 2003)
  - In (8), *ich* alternates with the generic preposition *ti'*:

(8) a. Le=kàaro=o' ti' yàan **ich / ti'** **le=kàaha=o'**.
DET=cart=D2 LOC EXIST(B.3.SG) **in / LOC** **DET=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'**.
DET=cart=D2 PRV-enter(B.3.SG) **in / LOC** **DET=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'**.
DET=cart=D2 PRV-exit(B.3.SG) **in / LOC** **DET=box=D2**
'The cart, it exited [lit. in] the box.' (or rather: it exited with respect to the box's inside)

- Neither *ich* nor *ti'* distinguish between Locative (AT, (8a)), Goal (TO, (8b)), or Source (FROM, (8c)) functions
- and they are compatible with Route (VIA) and Direction (TOWARD/AWAY-FROM) functions as well
- The same holds for the N_{Srel} *óok'ol* '(on) top', 'upper side', 'above' in (9):

(9) a. …h-tàal u=balak' **y=óok'ol** **le=pak'=o'**.
PRV-come(B.3.SG) A.3=roll **A.3=on** **DET=brickwork=D2**
'…it came rolling on the wall.' (PATHS 09 SBM)

b. H-na'k **y=óok'ol** **le=che'=o'**.
PRV-ascend(B.3.SG) **A.3=on** **DET=wood=D2**
'It went onto the piece of wood.' (FIGURE_GROUND 13 NMP)

c. Káa=h-em **y=óok'ol** **le=che'=o'**…
CON=PRV-descend(B.3.SG) **A.3=on** **DET=wood=D2**
'It went down from the piece of wood…' (FIGURE_GROUND 03 RMC)

- The most frequent N_{Srel}s are listed in Table 4.[3]
- The function of N_{Srel}s is to select a part of the Ground or a Region projected by it for the Place denoted by a spatial adjunct.
- If no particular part or Region is chosen, the generic preposition *ti'* is selected by default.

CONSTRUCTION IN GROUND ADJUNCTS	NOUN	GLOSS
[CORE [$SetA_i$-N_{rel} NP_i]]	*àanal* *iknal* *óok'ol*	under at on
[CORE [*ti'* [$SetA_i$-N_{rel} NP_i]]] or [CORE [N_{rel}(-*il*) *ti'* NP]]	*chúumuk* *háal* *nak'* *(ba')pàach* *(ak)táan* *tséel* *ts'u'* *xno'h* *xts'i'k* *xùul* *yáam*	center edge belly back front side core right left end interstice

Table 4. *Frequent N_{Srel}s in Yukatek Ground-denoting adjuncts*

II.3. Projecting CoL

- The Ground phrase doesn't encode the role of the Ground in the CoL event
  - i.e., doesn't distinguish among TO, FROM, VIA, and AT functions.
- These functions are assigned by the head of the verbal core alone.
- As a consequence, it is not possible to refer to more than one Ground in a single verbal core.[4] Consider (10), an unacceptable rendition of the scenario in Figure 5-6:

[3] *Chúumuk* 'center' is an exception in that it occurs adverbially without *–il*. As in other Mayan languages (cf. Levinson 1994 for Tzeltal), body part terms are used very productively to denote the parts of inanimate objects. Such body part terms can be used as N_{Srel}s in Ground-denoting adjuncts as well. Among the items in Table 4, at least *nak'* 'belly', 'mid height', *pàach* 'back', 'behind', 'perimeter', 'outside', and *táan* 'front', 'before' fall in this category.

[4] There is one exception: the indexical CoL verbs *bin* 'go', *tàal* 'come', and *u'l* 'return' may take Direction-denoting

Figure 5. *First frame of ECOM B4*

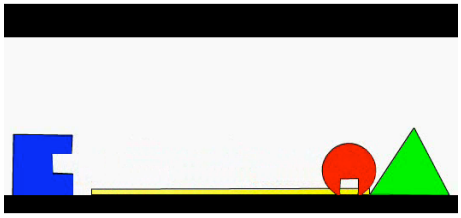

Figure 6. *Last frame of ECOM B4*

(10) *Le=síirkulo=o' h-**bin** **t-uy=iknal le=kwadràado**
DET=circle=D2 PRV-**go**(B.3.SG) **LOC-A.3=at DET=square**

y=óok'ol le=che' y=iknal le=triàangulo=o'.
A.3=on DET=wood A.3=at DET=triangle=D2

(Intended: 'The circle, it went from the square over the plank to the triangle'; but the only interpretation actually available would be something like 'The circle, it went at the square on the plank at the triangle'.) (ECOM B4 EMB)

- Structures like (10) are plain gibberish. The consultant who was confronted with (6) corrected me as follows:

(11) Le=chan síirkulo chak=o' k-u=**luk'**-ul u=balak'
DET=DIM circle red(B.3.SG)=D2 IMPF-A.3=**leave**-INC A.3=roll
'The little circle, it left rolling'

y=iknal le=chan kwáadrado áasul=o'; k-u=máan u=balak'
A.3=at DET=DIM square blue(B.3.SG)=D2 IMPF-A.3=pass A.3=roll
'at the little blue square; it passed rolling'

xan y=óok'ol le=chan che' k'an=o'; k-u=náak-al
also A.3=on DET=DIM wood yellow(B.3.SG)=D2 IMPF-A.3=reach-INC
'also on the little yellow plank; it reached'

u=balak' ti' te'l y=iknal le=chan triàangulo=o'.
A.3=roll LOC there A.3=at DET=DIM triangle=D2
'rolling there at the little triangle.' (ECOM B4 EMB)

- In (11), the three CoL events of Figure 5-6 (FROM the square, VIA the plank, and TO the triangle) are distributed across three independent clauses, each headed by a different inactive CoL verb.
- Yukatek lacks serial verb or multi-verb constructions that permit a semantic integration of a sequence of CoL subevents into a complex CoL Macro-event.
- It is impossible in Yukatek to semantically represent multiple CoL events as parts of a single 'Macro-event' (Talmy 2000: Vol. I) -
- that the CoL events of (11) are parts of a single T-Motion event is merely an implicature!

III. COL WITHOUT FIGURE MOTION

III.1. Ground moves

- Consider Figure 7-8: the enclosure moves such that ball ends up inside.

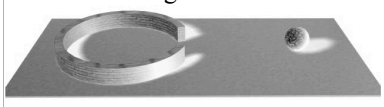

Figure 7. *First frame of ENTER_EXIT 03*

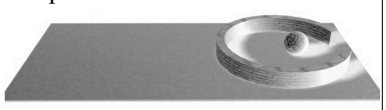

Figure 8. *Last frame of ENTER_EXIT 03*

adjuncts in addition to their inherent indexical Grounds.

- In describing this scenario, it would be infelicitous to utter (12) out of context:[5]

(12) #Le=bòola=o' h-**òok** **te=sìirkulo=o'**.
DET=ball=D2 PRV-**enter**(B.3.SG) LOC:DET=circle=D2
'The ball, it entered the circle.' (ENTER_EXIT 03 EMB)

- But unlike its English equivalent, (12) is not semantically in contradiction with Figure 7-8 for most of my consultants.
- The problem is merely that (12) invites a strong implicature to the effect that the theme moves.
  - If this implicature is blocked or cancelled in context, application of (12) to Figure 7-8 is fine for most consultants:

(13) H=tàal le=àaro y=iknal le=bòola=o';
PRV=come(B.3.SG) DET=ring A.3=at DET=ball=D2

le=bòola=o' h=**òok**-ih.
DET=ball=D2 PRV=**enter**-B.3.SG

'The ring came to the ball; the ball, it entered.' (ENTER_EXIT 03 SBM)

- Even consultants who reject (13) generally accept (14), in which merely the result state of having entered is ascribed to the ball:

(14) T-u=huts'-ah u=báah=e',
PRV-A.3=approach-CMP(B.3.SG) A.3=self=D3

káa=t-u=k'al-ah le=bòola=o',
CON=PRV-A.3=close-CMP(B.3.SG) DET=ball=D2

káa=h=ts'o'k=e', le=bòola=o', **òok**-a'n, (…)
CON=PRV=end(B.3.SG)=TOP DET=ball=D2 **enter**-RES(B.3.SG)

'[The ring] approached, and it enclosed the ball, and then, the ball, it was entered, (…)'
(ENTER_EXIT 03 FEE)

- To the predication of the result states, the implicature of Figure motion is irrelevant; thus it does not get in the way of applying CoL verbs in reference to Ground Motion events.
- Essentially the same distribution is found with *na'k* 'ascend' in relation to the scenario in Figure 9-10, in which a slope slides under a ball:

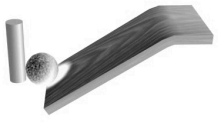

Figure 9. *First frame of FIGURE_GROUND 14*

Figure 10. *Last frame of FIGURE_GROUND 14*

- Most consultants find the description in (15) perfectly acceptable for this scenario:

(15) Le=chan tàabla=o' h=péek-nah-ih, káa=h=**na'k**
DET=DIM plank=D2 PRV=move-CMP-B.3.SG káa=PRV=**ascend**(B.3.SG)

[5] The animations illustrated in Figure 7-18 are part of the Motion verb stimulus, version 2, designed by Stephen Levinson and colleagues (cf. Field Manual 2001, Language and Cognition Group, Max Planck Institute for Psycholinguistics). I elicited descriptions of these clips with five adult native speakers in the summer of 2001 in Yaxley, Quintana Roo, Mexico.

le=chan kanìika y=éetel che' **te'l** **y=óokol=o'**.
DET=DIM marble A.3=with wood **there** **A.3=on=D2**

'The little plank, it moved, and the little marble and the tree ascended there on top.' (FIGURE_GROUND 14 EMB)

- And again, the result state of *na'k* 'ascend' is considered even more applicable to the ball:

(16) Le=tàabla=o' káa=h-háarax-nah=e',
DET=plank=D2 CON=PRV-slide-CMP(B.3.SG)=D3

káa=h-em kàabal.
CON=PRV-descend low

Káa=h-p'áat le=bòola **y=óokol** **na'k-a'n**.
CON=PRV-quit\ACAUS(B.3.SG) DET=ball **A.3=on** **ascend-RES(B.3.SG)**

'The plank, it slid, it went down. The ball ended up on top of it ascended.' (FIGURE_GROUND 14 RMC)

- Not all CoL verbs are compatible with Ground motion:
  - consider the scenario in Figure 11-12, in which a stick moves to a ball
  - in this case, the verb *k'uch* 'arrive' is completely unacceptable with the ball as theme to all consultants, even if it is stated in context that it is the stick that moves.

Figure 11. *First frame of FIGURE_GROUND 11*

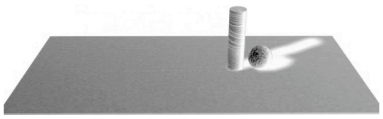

Figure 12. *Last frame of FIGURE_GROUND 11*

- Even the result state of *k'uch* is considered applicable to the ball by only one out of five consultants:

(17) Káa=h-bin u=háarax=e'; káa=h-ts'o'k=e',
CON=PRV-go(B.3.SG) A.3-slide=D3 CON=PRV-end(B.3.SG)=D3

k'uch-a'n **le=bòola** **y=iknal=o'**.
arrive-RES(B.3.SG) **DET=ball** **A.3=at=D2**

'(The stick) went sliding; [when/and then] that became over, the ball was in the state of having arrived next to it.' (FIGURE_GROUND 11 NMP)

- It appears that there is a hierarchy of CoL verbs in terms of acceptability with Ground Motion:[6]

(18) (*hóok'* 'exit' / *òok* 'enter') > (*na'k* 'ascend' / *em* 'descend' / *líik'* 'rise' / *lúub* 'fall' / *máan* 'pass') > (*bin* 'go' / *tàal* 'come' / *luk'* 'leave' / *k'uch* 'arrive' / *u'l* 'return')

- By hypothesis, the verbs on the right in (18) are most and those on the left least strongly associated with translational motion of the Figure.
- It is conspicuous that those five roots that are least acceptable with Ground motion all entail simple AT Locative relations wrt. ≥0D Grounds as their source or target states.

[6] Note that the placement of *em* 'descend', *líik'* 'rise', *lúub* 'fall', and *u'l* 'return (to deictic center)' in (18) is based on conjecture; these have not actually been tested for applicability under Ground Motion.

III.2. Figure emerges/disappears

- There is no apparent difference in the applicability of Yukatek CoL verbs under teleportation scenarios compared to that under Ground Motion scenarios.
- (19)-(20) feature *òok* 'enter' in descriptions of a scene in which a ball "beams" into an enclosure; cf. Figure 13-14

Figure 13. *First frame of Moverbs ENTER-EXIT 07*

Figure 14. *Last frame of Moverbs ENTER-EXIT 07*

(19) Le=chan bòola=o', káa=h=sáat=e',
DET=DIM ball=D2 CON=PRV=lose\ACAUS(B.3.SG)=TOP

káa=h=chíik-pah ka'=téen=e', ich le=chan àaro
CON=PRV=appear-SPONT(B.3.SG) two=CL.times=TOP in DET=DIM ring

yàan=o'; h=**òok** chíik-pah-al.
EXIST(B.3.SG)=D2 PRV=**enter**(B.3.SG) appear-SPONT-INC

'The little ball, [when/and then] it vanished, [when/and then] it appeared again, it was in the ring; it entered emerging.' (ENTER_EXIT 07 RMC)

(20) Káa=h=sáat=e', káa=h=chíik-pah=e',
CON=PRV=lose/ACAUS(B.3.SG)=TOP CON=PRV=appear-SPONT(B.3.SG)=TOP

ich-il le=sìirkulo yàan=i'; **òok**-a'n.
in-REL DET=circle EXIST(B.3.SG)=D4 **enter**-RES(B.3.SG)

[When/and then] [the ball] disappears; [when/and then] it appears [again],it'sinside the circle; it has entered.' (ENTER_EXIT 07 FEE)

- Again, the applicability of CoL verbs under teleportation scenarios increases strongly once the context is specified so as to block the default reading of T-Motion of the Figure, cf. (19).
- And again, acceptability generally increases when some form of the verb is chosen that focuses on the result state of the CoL event, such as the resultative derivation in *–a'n* in (20).
- And again, applicability to teleportation events seems to vary along the hierarchy (18) above.
  - (21) features *máan* 'pass' in reference to the result state of an event of "beaming" across a dyke, as depicted in Figure 17-18:

Figure 15. *First frame of Moverbs PATHS 06*

Figure 16. *Last frame of Moverbs PATHS 06*

(21) Káa=h=sáat=e',
CON=PRV=lose/ACAUS (B.3.SG)=TOP

káa=h=ka'=chíik-pah=e' **tu=láahun-tséel**
CON=PRV=REP=appear-SPONT(B.3.SG)=TOP **LOC:A.3=other:one-side**

le=pak'	**màah**-a'n	yàan=o'.
DET=wall	**pass**:CMP-RES(B.3.SG	EXIST(B.3.SG)=D2

'[When/and then] [the ball] vanished, [when/and then] it reappeared, it had passed [to] the other side of the wall.' (PATHS 06 RMC)

III.3. Ground emerges/disappears

- If you build an enclosure around a Figure, can it be said that the Figure has ENTERed the enclosure? And does the Figure EXIT when you tear down the enclosure?
- This has only been tested with ENTER, EXIT, and ASCEND scenarios (and, once again, with animations of teleportation).
- The results suggest an even stronger preference for result state reference
  - or conversely, an even lesser readiness to use these verbs in reference to the CoL events themselves.
- (22) is a description of a stimulus clip in which a stick pierces a ball by "beaming" into it, depicted in Figure 17-28

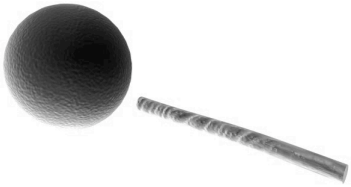

Figure 17. *First frame of Moverbs FIGURE_GROUND 20*

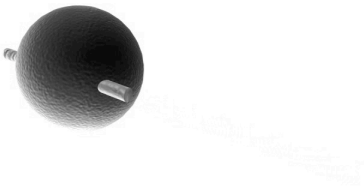

Figure 18. *Last frame of Moverbs FIGURE_GROUND 20*

(22)	Káa=h-chíik-pah	le=bòola=o',
	CON=PRV-appear-SPONT(B.3.SG)	DET=ball=D2

òok-a'n	che'	**ti'**.
enter-RES(B.3.SG)	wood	**LOC**(B.3.SG)

'[When/and then] the ball appeared, [a] stick had entered [lit. wt.] it.' (FIGURE_GROUND 20 RMC)

IV. FICTIVE MOTION

- Yukatek CoL verbs are compatible with interpretations of fictive CoL (cf. Matsumoto 1996):

(23)	K-u=**bin**	**Xocempich**	le=bèeh	he'l=a'?
	IMPF-A.3=**go**	**Xocempich**	DET=way	PRSV=D1

'Does this road go to [lit. towards] Xocempich?' (Blair & Vermont-Salas 1965-7: 8.1.1)

(24)	Le=rìiyo=o'	h-**máan**	**ich**	**le=bàaye=o'**.
	DET=river=D2	PRV-**pass**(B.3.SG)	**in**	**DET=valley=D2**

'The river, it passed through the valley.' (TRQ 1999 3.1.2 SBM)

- But such descriptions are subject to all those constraints on the encoding of CoL events in Yukatek discussed above:
  - In particular, they cannot combine with more than one Ground phrase;
  - and since this phrase does not encode Path relations, they have to make do with the inventory of CoL verbs listed in Table 3 and Figure 3 above.
- It follows that expressions of 'referential Paths' (Jackendoff 1990) in Locative descriptions are straightforwardly out.
  - Thus, (25) is a Yukatek rendition of 'Don Modesto's house is across the square'
  - here, the perspectivizing function of the fictive ACROSS Path is taken over by the modifier *láak'* 'other' (fused with the numeral 'one' in the example):

(25)	Ti'	**yàan**	u=nah-il	don	Modesto

there **EXIST**(B.3.SG) A.3=house-REL don Modesto

tu=la'hun-tséel **le=chúumuk=o'**.
LOC:A.3=other:one-side **DET=center=D2**

'Don Modesto's house is there on the other side of the square.' (TRQ 2001 FEE)

- 'There are trees along the road' is rendered as 'There are trees next to [lit. to the side of] the road';
  - in order to get an approximation of the sense of distributedness of the English model, a positional verb from may be used in addition.
- In order to convey extent in the sense of Talmy's (2000 Vol. I: 138-139) 'coextension Paths', as in (3a) *The highway extends from Denver to Indianapolis*, two clauses have to be used:
  - one encoding the fictive Source, most likely headed by *hóok'* 'exit',
  - and one headed by the dedicated extent predicate *náak* 'extend as far as', 'reach'
  - and of course, the Source may also be left implicit, if it is understood in context.
- The orientation of an inanimate Figure is generally expressed by combining resources such as
    - the N_{Srel}s of Table 4,
    - dimensional terms (cf. Stolz 1995),
    - positional verbs (cf. Bohnemeyer & Brown ms.),
    - and numeral classifiers;
  - all four types of expressions conflate topological information,
  - and the latter two may in addition also lexicalize orientation information.
  - Consider (26), a consultant asking whether a rhombic object is to be placed with the tip facing up:

(26) Wa'l-kun-bil te'l ka'nal kun bin u=pùunta?
stand.up-CAUS-GIV(B.3.SG) there high SR.IRR:A.3 go A.3=tip
'Is its tip to be stood up?' (Stolz 1995: 247)

- 'Sensory Path' expressions such as *look into the valley*, in which a 'stimulus' of perception is construed as a Goal (less commonly also a Source) of Fictive Motion (cf. Talmy 2000 Vol. I: 117), appear not to occur in Yukatek;
  - stimuli of perception are encoded by the undergoer arguments of transitive perception verbs, even if they are construed as Places.

V. CONCLUSIONS

- Translational Motion (T-Motion) is consistently framed as Change of Location (CoL) in Yukatek.
- This manifests itself in the following properties:
  - Verbal cores referring to events of T-Motion must be headed by verbs lexicalizing CoL.
  - What sets Yukatek apart from other verb-framed languages, e.g. Spanish, is the complete lack of Path distinctions in Ground-denoting adjuncts
    - the role the Ground plays in the CoL event is specified exclusively by the CoL verbs
- Path relations are, strictly speaking, not encoded at all in Yukatek.
  - A syntactic reflex of this is the necessity to break down travels along multi-Ground Paths into sequences of CoL events wrt. single Grounds,
    - such that each CoL event is encoded by a separate clause.
  - Path relations are not lexicalized in CoL verbs, which merely implicate, but do not entail, T-Motion.
    - Hence CoL verb constructions are also applicable to Ground motion and events in which the Ground or the Figure emerge in or disappear from a particular configuration.
    - Acceptability of such uses of CoL-denoting cores increases when the implicature of Figure motion is blocked or cancelled.
    - Moreover, CoL verbs are more readily used in reference to result states of CoL events without Figure motion.
  - Further evidence, not discussed here:
    - Yukatek has a single CoL root, *máan* 'pass', for all CoL events involving Route Grounds, resulting in a hefty amount of underspecification, from the point of view of what is distinguished in English by Route-denoting expressions such as *along*, *across*, *over*, *past*, *through*, etc.

    - There are no Direction-denoting verbs in Yukatek, and since Path relations are not lexicalized, Directions are likewise not encoded in Ground phrases. Consequently, Ground phrases are vague regarding Direction interpretations.
- A final effect of the framing of Motion as CoL is the absence of fictive motion metaphors.
    - What is construed as fictive motion in English is expressed, where possible, as fictive CoL in Yukatek.
    - But such expressions obey the same constraints as do all expressions of CoL, which renders this type of metaphor useless for a substantial part of the meanings modeled as fictive motion in English.

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APPENDIX: GLOSSES AND ORTHOGRAPHICAL CONVENTIONS

The orthographic representation in this paper is morphemic rather than morpho-phonemic. The orthography applied is based on Lehmann (1998). In the interlinear morpheme glosses, the following conventions are used: '-' for affixes; '=' for clitics; '+' for compounding; '/' for subsegmental realization or infixation. Abbreviations in the glosses include the following: 1 – 1st person; 2- 2nd person; 3 – 3rd person; A – set-A cross-reference clitics; ACAUS- anticausative derivation; ALL – universal quantifier; ALT – 'alternative' particle (question focus, conditional protasis, disjunctive connective); APP – applicative derivation; ATP – antipassive derivation; B – set-B cross-reference suffixes; CAUS – causative derivation; CAUSE – causal preposition; CMP – completive status; D2 – distal-deictic/anaphoric particle; DEF – definite determiner; EXIST – existential/locative/possessive predicate; IMPF – imperfective aspect; INC – incompletive status; INCH –

inchoative derivation; IRR – irrealis modality; LOC – generic preposition; PASS – passive derivation; PL – plural; PROG – progressive aspect; PRV – perfective aspect; REL – relational derivation (nouns); RES – resultative derivation; SG – singular; TERM – terminative aspect; TOP – topic marker.