VERB COMPOUNDING IN YUKATEK MAYA: A COMPLEX PREDICATE ANALYSIS

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OVERVIEW

- ❖ Yukatek has a semi-productive template for forming compound verb stems ('V-V compounds') containing two verbs roots, V_1 and V_2, such that:
  - ➢ V_1 and V_2 must be transitive;
  - ➢ V_2 encodes the cause of the event denoted by V_1 (e.g. 'break+hit').
- ❖ V-V compounds have a number of peculiar properties, such as:
  - ➢ anti-iconic ordering (result before cause);
  - ➢ defeasible realization of the result.
- ❖ These are explained with reference to a superordinate X-V template:
  - ➢ of which the V-V template is an extension,
  - ➢ and in which X denotes the manner in which the event encoded by V is conducted.

I. INTRODUCING THE V-V AND X-V COMPOUND TEMPLATES

In V-V compounds, V_1 and V_2 are transitive roots:[1]

(1)   Le=x-ch'úupal=o'   t-uy=**óop'+hàats'**-t-ah   le=plàato=o'.
        DET=F-female:child=D2 PRV-A.3=**burst+hit**-APP-CMP(B.3.SG) DET=plate=D2
        'The girl, she burst-hit the plate.' (ECR 07 NMP)

(2)   T-uy=**xíik+hàats'**-t-ah   y=éetel   le=máartiyo=o'.
        PRV-A.3=**break.apart+hit**-APP-CMP(B.3.SG)   A.3=COM   DET=hammer=D2
        'She crack-hit it with the hammer.' (ECR 07 SBM)

Figure 1. *Frame from ECR 07 clip*

[1]   Yukatek belongs to the Yukatekan branch of the Mayan language family and is spoken by 700.000 to 800.000 people on the Yucatán peninsula in México and Belize. The language is exclusively head-marking, has rich valence-changing morphology, and shows productive incorporation of nouns and adverbs; in this sense, it exhibits polysynthesis. Argument marking in intransitive clauses is split, based on aspect-mood marking. The

V-V compounds occur exclusively in transitive verb stems;[2] yet, they are formally intransitive and require the 'applicative' (or applied object) suffix –*t* to license a 'U(ndergoer)' argument (in the parlance of Van Valin & LaPolla 1997).

V-V compounds (with transitive V_1s) have a characteristic pitch contour:

	V_1		V_2	V_1+V_2
	CVC		CVC	CV3VC+CV4VC
bah	'hammer'	*lom*	'stab'	*báah+lòom-t*
buh	'split'	*ch'in*	'pelt'	*búuh+ch'ìin-t*
nok	'put upside down'	*hats'*	'hit'	*nóok+hàats'-t*
hen	'demolish'	*puch'*	'crush'	*héen+pùuch'-t*
xik	'break apart'	*ts'eh*	'chip'	*xíik+ts'èeh-t*

Table 1. *Pitch contour in V-V compounds (with transitive V_1)*

Transitive roots have a canonical CVC structure with a short nucleus unmarked for tone. In V-V compounds, V_1 occurs with a long syllable and rising pitch and V_2 with a long syllable and falling pitch. This matches the 'anticausative' (or 'middle') form for V_1 and the 'antipassive' form for V_2. This tonal pattern is certainly not coincidential; but it may be etymological. In the further analysis, it will be ignored.

V-V compounds do not accept intransitive verbs in V_1 position, not even 'externally-caused'[3] state change verbs ('unaccusatives') – otherwise the most likely class of verbs to occur in causative constructions:[4]

(3)   ***T-u=kim(-s-ah)+ch'ìin**-t-ah   le=hàaleb=o'.
             PRV-A.3=**die(-CAUS-ATP)+pelt**-APP-CMP(B.3.SG)   DET=*tepezquintle*=D2
             '(S)he die-pelted/kill-pelted the *tepezquintle* (i.e. killed it by pelting it).' (V-V FEE RMC SBM)

(4)   ***T-u=kul+hàats'**-t-ah   le=chan   pàal=o'.
             PRV-A.3=**sit+hit**-APP-CMP(B.3.SG)   DET=DIM   child=D2
             '(S)he sit-hit the toddler (i.e. hit it so that it fell on its buttoks).' (V-V RMC)

V_1 and V_2 "share" both their arguments, i.e. the actor of V_1 must be coreferent with the actor of V_2, and the same holds for the two undergoers. (5) is rejected with respect to the scenario in Figure 2 (girl throwing hammer to guy, who drops plate, which breaks), because "She didn't throw the plate"; i.e. the plate is the theme of V_1, but not V_2, and the girl is the actor of V_2, but not V_1:

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basic constituent order is V-S/V-U(ndergoer)-A(ctor). See Bohnemeyer (2002; to appear) for details.

[2]   This goes with the exception of environments that force antipassivization, such as predicate focus constructions. Applicative stems do not form antipassives; their intransitive bases are used instead.

[3]   Cf. Levin & Rappaport-Hovav 1995; Smith 1978; Bohnemeyer (to appear).

[4]   Intransitive verbs in Yukatek fall into four different form classes, which are distinguished on the basis of the aspect-mood (or 'status') suffixes they take (not unlike Latin/Romance conjugation classes). The semantic basis of this classification is the process-change distinction: there's one class of (internally or externally caused) process verbs and three classes of state change verbs. See Lehmann (1993), Lucy (1994), and Bohnemeyer (2002; to appear) for details.

(5)   #[5]Le=x-ch'úupal=o'   t-uy=**óop'+pùul**-t-ah   le=plàato=o'.
           DET=F-female:child=D2 PRV-A.3=**burst+throw**-APP-CMP(B.3.SG) DET=plate=D2
           'The girl, she burst-threw the plate.' (ECR 01 FEE)

gure 2. *A frame from ECR 01 clip*

Similarly, (6) is rejected wrt. the scenario in Figure 3 (fist hitting the table next to plate, which breaks), because "The table didn't burst"; i.e. the plate is the theme of V_2, but not V_1:

(6)   #Le=x-ch'úupal=o'   t-uy=**óop'+lòox**-t-ah   le=mèesa=o'.
           DET=F-female:child=D2 PRV-A.3=**burst+punch**-APP-CMP(B.3.SG)   DET=table=D2
           'The girl, she burst-punched the table.' (ECR 01 FEE)

   Figure 3. *A frame from ECR 13 clip*

Of course, (7) is equally bad, because the plate isn't hit in the scenario:

(7)   #Le=x-ch'úupal=o'   t-uy=**óop'+lòox**-t-ah   le=plàato=o'.
           DET=F-female:child=D2 PRV-A.3=**burst+punch**-APP-CMP(B.3.SG)   DET=table=D2
           'The girl, she burst-punched the plate.' (ECR 01 FEE)

V-V compounds encode a causal relation between the subevents denoted by V_1 and V_2. Yet, event realization of the compound does not entail realization of the V_1 event, i.e. the result:

(8)   T-u=**túup+ùust**-t-ah   le=kib=o',
           PRV-A.3=**extinguish+blow**-APP-CMP(B.3.SG)   DET=wax=D2

           pero   ma'   h-**túup**-ih.
           but   NEG   PRV-**extinguish\ACAUS**(CMP)-B.3.SG

           '(S)he extinguish-blew the candle (i.e. blew at it so as to extinguish it), but it didn't extinguish.' (V-V FEE NMP)

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[5]   I'm using the hatch mark (#) for forms or constructions which are structurally well-formed, but cannot be used in reference to a particular scenario.

(9)　　T-uy=**óop'+hàats'**-t-ah　　　　　　le=tunich=o',
　　　　PRV-A.3=**burst+hit**-APP-CMP(B.3.SG)　DET=stone=D2

　　　　pero　ma'　h-**óop'**-ih.
　　　　but　NEG　PRV-burst\ACAUS(CMP)-B.3.SG

　　　　'(S)he burst-hit the stone (i.e. hit it so as to cause it to crumble), but it didn't burst.'
　　　　(V-V SME)

In contrast, realization of the V₂ event is strictly entailed by realization of the compound event.

The order of V₁ and V₂ is strictly anti-iconic (caused event before causing event); reversals are unacceptable:[6]

(10)　a.　T-u=**xíik+pùuch'**-t-ah.
　　　　　PRV-A.3=**break.apart+crush**-APP-CMP(B.3.SG)
　　　　　'(S)he crack-crushed it (i.e. caused it to crack by crushing it).'

　　　b.　*T-u= **púuch'+xìik**-t-ah.
　　　　　PRV-A.3=**crush+break.apart**-APP-CMP(B.3.SG)
　　　　　'(S)he crush-cracked it.' (V-V NMP)

At this stage, the following questions arise – which the further analysis will have to try to answer:

❖ Why go to the trouble of detransitivizing two transitive roots, only to yield a compound that must be obligatorily re-transitived and then has all the formal properties of a simple transitive verb?
❖ If V-V compounds encode causal chains, then why exclude externally caused state change verbs, of all things, from the V₁ position?
❖ Why the restriction to complete argument sharing? If you have to have two transitive roots anyway, why not exploit the full expressive power of such a structure by admitting complex causal chains with multiple actors (as in Figure 2)?
❖ How is the encoding of causality reconciled with the defeasibility of V₁ realization? What does it mean to have caused an event that nevertheless didn't happen???
❖ And why the anti-iconic order Yukatek is (almost) consistently head-initial, and as Talmy (2000: 153) argues, constructions that conflate causing and resulting events tend to construe the result as the 'main' and the cause as the 'subordinate' event.

The answers to these questions, it is argued here, comes from recognizing V-V compounds as an extension of another compound verb form, called 'X-V compounds' here, on account of the fact that the X in this structure doesn't even have to be a verb. It may be an adverb, such as *táan-il* front-REL 'early' in (11a) and *pàach-il* back-REL 'late' in (11b):

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[6]　To be more precise, the reversal is acceptable propovided the reversed interpretation can be made sense of; which is rarely ever the case. One exception is *káach+wùuts'* snap-bend 'snap sth. by bending it' and *wùuts'+kàach* bend-snap 'bend sth. (permanently) by snapping it (w/o. complete separation of the parts)'.

(11) a. H-**táan-il+pak'al**-nah-ih.   b. H-**pàach-il+pak'al**-nah-ih.
      PRV-**front-REL+plant\ATP**-CMP-B.3.SG   PRV-**back-REL+plant\ATP**-CMP-B.3.SG
      '(S)he planted prematurely.'   '(S)he planted belatedly.' (FN)

In many cases, X is an ideophonic particle:

(12)   Pablo=e'   **t-u=wíich'+hàats'**-t-ah   le=pèek' y=éetel àak'=o'.
        Pablo=D3   PRV-A.3=**[*whish*]+hit**-APP-CMP(B.3.SG) DET=dog A.3=CON vine=D2
        'Pablo, he *whish*-lashed the dog with a vine.' (V-V RMC)

(13)   Pedro=e'   **t-u=búus+lòox**-t-ah   uy=íitsin.
        Pedro=D3   PRV-A.3=**[*buss*]+punch**-APP-CMP(B.3.SG) A.3=younger.sibling
        'Pedro, he *buss*-punched his younger sibling.' (V-V RMC)

V is generally a (derived or underived) activity (i.e. an agentive process) verb and X encodes the manner of this activity. Like V-V compounds, X-V compounds may be applicativized; however, with X-V compounds, this process is optional:

(14) a. Antonio Agilar=e' h-**áawat+k'àay**-nah-ih.
      Antonio Agilar=D3   PRV-**cry+sing\ATP**-CMP-B.3.SG
      'Antonio Agilar, he cry-sang (i.e. sang very loudly/hollering).'

    b. Antonio Agilar=e' **t-u=áawat+k'àay**-t-ah   le=ranchèera=o'.
      Antonio Agilar=D3   PRV-A.3=**cry+sing\ATP**-APP-CMP(B.3.SG) DET=*ranchera*=D2
      'Antonio Agilar, he cry-sang the *ranchera* (i.e. sang it very loudly/hollering).' (V-V EMB RMC SBM)

X-V compounds do admit both 'unaccusative' verbs ((15)-(16)) and internally caused process verbs (17) in the X slot. The meaning of these is adapted, be it by 'coercion' or by lexicalization of the compound, to the requirement of specifying the manner of V:

(15)   Pedro=e'   chéen   **wa'tal+tsikbal**   t-u=mèet-ah.
        Pedro=D3   only   **stand:INCH+chat**   PRV-A.3=make-CMP(B.3.SG)
        'Pedro, stand-chatting is all he did (i.e. he didn't take the time to sit down and have a proper chat).' (VV RMC)

(16)   T-in=**máan+òok-s**-ah-t-ah   le=bòola te=gòol=o'.
        PRV-A.1.SG=**pass+enter-CAUS**-ATP-APP-CMP(B.3.SG) DET=ball LOC:DET=goal=D2
        'I pass-entered the ball in the goal (i.e. I missed trying to score).' (VV RMC SME)

(17)   Ko'x   **báaxal+ts'òon** / **kanbal+ts'òon**!
        EXHORT   **play+shoot**   /   **learn+shoot**
        'Let's play-shoot/learn-shoot (i.e. let's pretend/practic shooting).' (VV RMC)

The analysis developed in section V argues that V-V compounds are adatped to the X-V template by treating V_1 as specifying the manner in which the event denoted by V_2 is conducted: this event is conducted in such a manner as to cause the event denoted by V_1. This explains both the anti-iconic ordering of V_1 and V_2 and the fact that V-V realization doesn't entail V_1 realization – all that is required for V-V realization is that the V_2 event is indeed conducted in such a manner as to cause the V_1 event; whether external circumstances nevertheless thwart realization of the V_1 event is immaterial.

II. REMARKS ON PRODUCTIVITY, COMPOSITIONALITY, AND USE

❖ V-V and X-V compounds are attested in Yukatekan (cf. e.g. Hofling 2000 for Itzá) and Ch'olan languages (cf. Vázquez Alvarez 2002 on Ch'ol), but not elsewhere in the Mayan language family. It seems plausible that this distribution is due to contact with Mixe-Zoquean languages (Roberto Zavala p.c.).

❖ Across natural genres of Yukatek, occurrences of X-V compounds vastly outnumber occurrences of V-V compounds. Especially in narratives and procedural texts, V-V compounds are quite infrequent.

❖ The most productive domain for (non-V-V) X-V compounds is that of goal-directed activities that in one way or another miss their goals, by being conducted too early, too late, too quickly, too slowly, too hurriedly, to roughly, etc.

❖ A semantic "hot spot" for V-V compounds is the domain of physical separation and destruction. Yukatek has an abundance of *break*-type verbs which specify a particular "style" in which a theme breaks and *cut*-type verbs which specify a particular manner of breaking a theme, e.g. by using a particular kind of instrument. Whenever there's a mismatch – i.e. when a theme is broken in some atypical way – then V-V compounds are the way out.

❖ As (15)-(17) illustrate, compositionality in X-V compounds is severely reduced. This extends to V-V compounds as well, as is discussed in section V. This lack of predictability, in tandem with the relative narrowness of the semantic domains in which verb compounds are mostly used, poses significant limits on the productivity of the X-V and V-V templates. Nevertheless, it is quite possible to coin compound verbs on the spot, and this does occur in natural conversations.

III. ASSUMPTIONS ABOUT COMPLEX PREDICATES

Cf. in particular Ackerman & Webelhuth (1998):

❖ Complex Predicates (CPreds) are morphologically complex:
  ➢ they may consist of multiple morphemes;
  ➢ they may have parts which are targets of morpho-syntactic operations.
❖ CPreds have a single argument structure, projected from a single semantic 'event structure' representation – the latter may be a merger of the event structures of the components.
❖ CPreds instantiate a morpho-syntactic 'template' structure which has the properties of a 'construction' in the sense of Goldberg 1995.[7] In particular:
  ➢ the CPred template is a conventional form-meaning pairing, and thus encodes a meaning that is not encoded by any part of the template;
  ➢ but the meanings of the parts are mapped into the template meaning compositionally;
  ➢ there are 'inheritance' relations among CPred templates, such as (cf. Goldberg 1995: ch. 3):
    ▪ 'instance': one CPred template may be a special case of another CPred template

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[7]   Cf. also Fillmore 1988; Fillmore & Kay 1992; Fillmore, Kay, & O'Connor 1988.

- ▪ 'subpart': one CPred template may occur as an autonomous part of another CPred template
- ▪ 'extension': one CPred template may be a polysemous or metaphorical extension of another CPred template.

IV. A CPRED ANALYSIS OF X-V COMPOUNDS

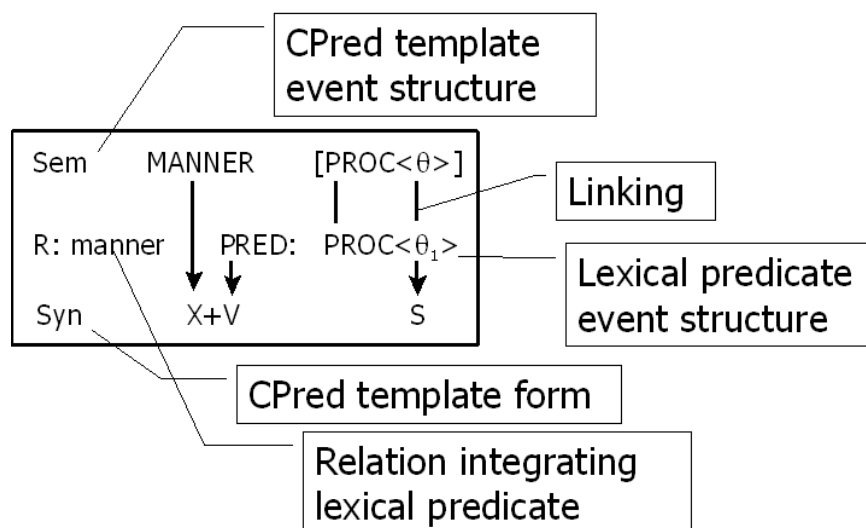Adapting Goldberg's (1995) Construction Grammar diagrams to CPred templates:[8]

Figure 4. *A CG-style format for CPred templates – the X-V template*

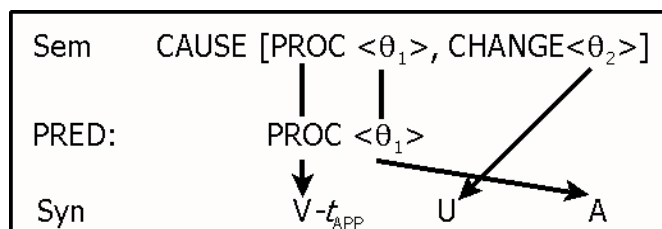A further prerequisite – the applicative form:[9]

Figure 5. *CPred template for the applicative form*

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[8] I'm using PROC to denote 'processes' in the sense of von Wright (1963) (cf. also Dowty 1979). Processes correspond to Vendlerian activities, in the sense that they are dynamic events the participants of which do not undergo change of state. However, processes need not be atelic. Plus, PROC avoids the inevitable allusion to agentivity that comes with 'activity'.

[9] CHANGE denotes state changes (corresponding to Dowty's BECOME and Jackendoff's (1990) INCH). The role of CHANGE in the CPred templates proposed here is a simplification. In all instances, the relevant subevent is a state change in the overwhelming majority of cases, but it need actually only be an 'externally-caused' event in the sense of Levin & Rappaport-Hovav 1995, regardless of whether this event is PROC or CHANGE type (see Bohnemeyer (2002; to appear) for details). U and A are core arguments to which the 'macro-roles' of 'undergoer' and 'actor', respectively, are assigned (cf. Van Valin & LaPolla 1997); this avoids the terms 'subject' and 'object', wich are problematic for Yukatek. S denotes the single core argument of intransitive verbs.

V. THE V-V TEMPLATE AS AN EXTENSION OF THE X-V TEMPLATE

The intransitive V-V template is an extension of the X-V template. The transitive V-V template is formed by applicativization of the intransitive V-V template; i.e. the intransitive V-V template and the Applicative template are subparts of the transitive V-V template. The inheritance relations among the various templates are diagrammed in Figure 6 (I_M represents an extension link and I_S a subpart link):
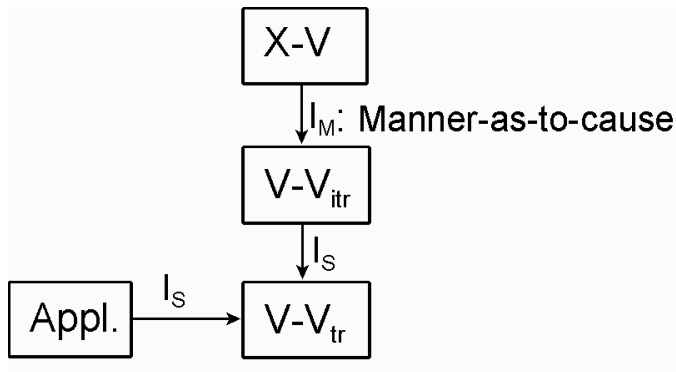

Figure 6. *Inheritance relations among CPred template in V-V compounds*

The semantic link that licenses extension from X-V to V-V is 'manner-as-to-cause'. The V_1 event is understood as a "manner goal" of V_2, so to speak: the V_2 process is conducted in a manner such as to cause the V_1 event.

However, since the X-V template does not encode a causal relation, causality has to be encoded in both V roots, in a lexically "encapsulated" representation, as it were:
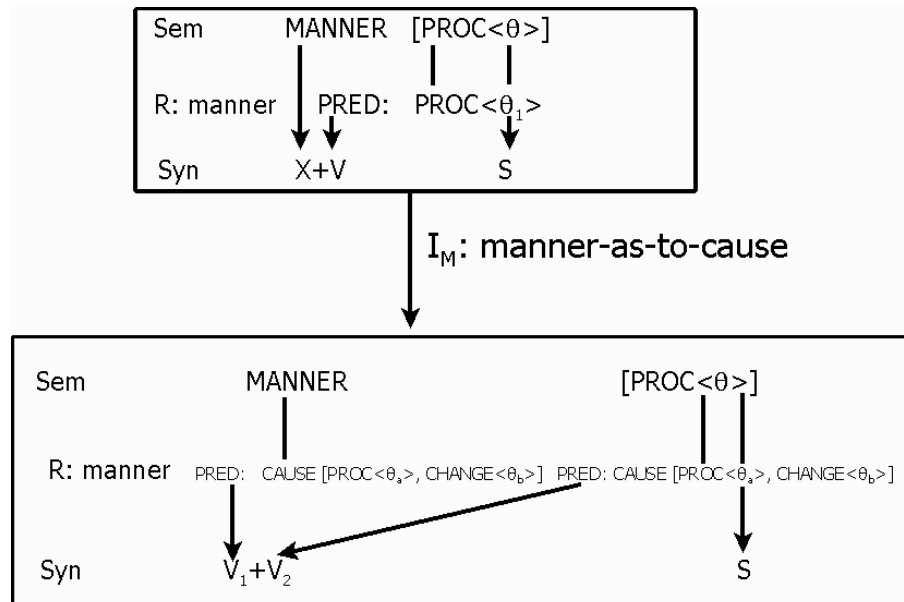

Figure 7. *Extension inheritance between X-V and V-V templates*

For instance, in view of the analysis in Figure 7, (1) above, repeated here as (18), should be glossed as 'She hit the plate in such a manner as to cause it to shatter':

(18)   Le=x-ch'úupal=o'   t-uy=**óop'+hàats'**-t-ah   le=plàato=o'.
        DET=F-female:child=D2 PRV-A.3=**burst+hit**-APP-CMP(B.3.SG) DET=plate=D2
        'The girl, she burst-hit the plate (i.e. she hit the plate in such a manner as to cause it
        to crumble.' (ECR 07 NMP)

The semantic relations among the subevents of V_1 and V_2 are not made explicit in Figure 7,
except for the coindexation of their participants – the themes of the two CHANGE subevents
must be coreferent, and the same holds for the agents (or 'effectors', cf. Van Valin & Wilkins
1996) of the two PROC subevents. Effectively, the PROC subevent specification of V_2
(which is tapped into by the V-V template) semantically specifies the PROC subevent of V_1,
while the CHANGE subevent specification of V_1 semantically specifies the CHANGE
subevent of V_2. In Figure 8, these specification relations are represented by dotted arrows: [10]
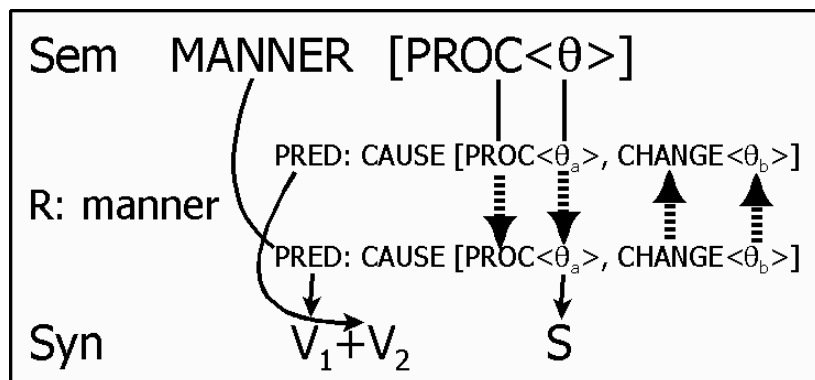
Figure 8. *Lexical specification of subevents in the V-V template*

Figure 8 relies on the assumption that V_1 is a verb with a lexically underspecified (i.e.
generic) PROC subevent, whereas V_2 denotes an underspecified CHANGE subevent. This
assumption is in line with V_1 being an anticausativizing verb and V_2 an antipassivizing verb
(cf. Bohnemeyer 2001; to appear). V-V compounds on this account emerge as a construction
that licenses the formation of transitive verbs with two lexically specified subevents.

Note that the intransitive V-V template in Figure 8 has one unlinked thematic relation (or two
coreferent ones – namely the themes of the two CHANGE subevents). This makes the
intransitive V-V template an ill-formed construction, on account of a principle such as Van
Valin & LaPolla's (1997: 325) Completeness Constraint:

Completeness Constraint: All of the arguments explicitly specified in the semantic
representation of a sentence must be realized syntactically in the sentence, and all of the
referring expressions in the syntactic representation of a sentence must be linked to an
argument position in a logical structure in the semantic representation of the sentence.

This problem is taken care of by inserting the V-V$_{itr}$ structure in an applicative stem, which
introduces a U argument with the relevant linking specifications, as depicted in Figure 9:

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[10]   The account presented in this section is essentially compatible with intransitive activity-denoting V2s as well
(lexical "encapsulation" of a causal chain in V1 would seem sufficient to meet the requirements of manner-as-
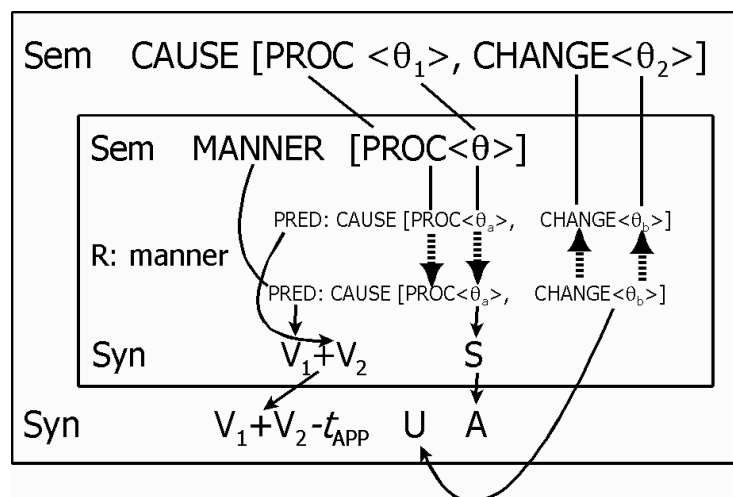to-cause), apparently contrary to fact. This remains to be investigated.

Figure 9. *CPred analysis of the transitive V-V template*

Figure 9 depicts the caused state change introduced by the applicative form as tapping into the corresponding CHANGE subevents of the two V roots. This is a simplification. All that is required e.g. for (18) to apply is that the undergoer (the plate) is somehow causally affected by the action of hitting it in such a manner as to cause it to shatter. Crucially, the plate doesn't have to actually shatter – (18) according to Figure 9 doesn't entail an unbroken causal chain leading from the activity component of hitting to the shattering subevent, but merely a manner link between these subevents.

The analysis as presented so far accounts for the following properties of V-V compounds:

- ❖ The anti-iconic order of V_1 and V_2: this is inherited from the X-V compound (V_1 filling the X slot) (and it isn't really anti-iconic, since V_1 doesn't really denote a causal result).
- ❖ Defeasibility of V_1 realization: likewise inherited from the X-V template (V_1 encodes the manner in which the V_2 activity is conducted, not the result of V_2).
- ❖ Basic intransitivity of V-V compounds: again inherited from X-V – V-V compounds encode activities in a manner-as-to-cause, leaving causality "encapsulated" in the V roots.
- ❖ Restriction to applicative stems: to satisfy Completeness Constraint on linking (manner-as-to-cause does require two distinct subevents).
- ❖ Restriction to transitive roots: to represent causality at least in the lexically "encapsulated" form – the X-V template does not afford the encoding of causality at all.
- ❖ Complete argument sharing: probably ultimately an artifact of general semantic constraints on transitive verbs, which the applicative form cannot violate.

One additional piece of evidence for the V-V-as-X-V analysis: it predicts – correctly! – that V-V compounds should admit ambiguous X-V readings:

(19) T-u=**ch'íik+ch'ìin**-t-ah   le=bòola   t-uy=éet+bàaxal=o'.
      PRV-A.3=**stick.in+pelt**-APP-CMP(B.3.SG) DET=ball   LOC-A.3=CON+play=D2
      '(S)he stick-pelted the ball to his fellow player'; i.e.
      V-V reading: pelted F. with the ball and caused the ball to get stuck in F.'s body
      X-V reading: hit the ball to the ground forcefully, such that it bounced off towards F.
      (VV RMC)

(20)   T-in=**xíik+ch'àak**-t-ah   le=sáandiya=o'.
         PRV-A.1.SG=**burst+cut**-APP-CMP(B.3.SG)   DET=mellon=D2
         '(S)he burst-cut the mellon'; i.e.
         V-V reading: caused the mellon to burst by cutting it
         X-V reading: cut the melon in one quick decisive blow (VV EMB)

VI. CONCLUSIONS

❖ The V-V template is parasitic on the X-V template, as an exploitation of the X-V template for the encoding of causal chains.
❖ The semantic link that enables accomodation of V-V under X-V is "manner-as-to-cause".
❖ The pragmatic function of V-V compounds is to allow lexical specification of both subevents denoted by a transitive verb form.

REFERENCES

Ackerman, Farrell & Gert Webelhuth (1998). A theory of predicates. Stanford, CA: CSLI Publications.

Bohnemeyer, Jürgen (2002). The grammar of time reference in Yukatek Maya. Munich: Lincom Europa.

----   (to appear). Split intransitivity, linking, and lexical representation: The case of Yukatek Maya. To appear in Linguistics 42/2004.

Bricker, Victoria R., Po'ot Yah, Eleuterio, & Dzul de Po'ot, Ofelia (1998). A dictionary of the Maya language as spoken in Hocabá, Yucatán. Salt Lake City: University of Utah Press.

Dowty, David R. (1979). Word meaning and Montague Grammar. Dordrecht: Reidel.

Fillmore, Charles J. (1988). The mechanisms of "Construction Grammar." BLS 14: 35-55.

Fillmore, Charles J. & Paul Kay (1993). Construction grammar course book chapters 1 thru 11. Unpublished ms., University of California, Berkeley.

Fillmore, Charles J., Paul Kay, & Catherine O'Connor (1988). Regularity and idiomaticity in grammatical constructions: The case of let alone. Language 64: 501-538.

Goldberg, Adele E. (1995). Constructions. Chicago: University of Chicago Press.

Hofling, Charles A. (2000). Itzaj Maya grammar. Salt Lake City, UT: University of Utah Press.

Lehmann, Christian (1993). Predicate classes in Yukatek Maya. Función 13-14: 195-272.

Levin, Beth & Rappaport Hovav, Malka (1995). Unaccusativity. Cambridge, MA: MIT Press.

Lucy, John A. (1994). The role of semantic value in lexical comparison. Linguistics 32: 623-656.

Smith, Carlota S. (1978). Jespersen's 'move and change' class and causative verbs in English. In Mohammad A. Jazayery, Edgar C. Palome, and Werner Winter (Eds.), Linguistic and Literary Studies in Honor of Archibald A. Hill, Vol. 2: Descriptive Linguistics. 101-109. The Hague: Mouton.

Talmy, Leonard (2000). Towards a cognitive semantics. Vol. II: Typology and process in concept structuring. Cambridge, MA: MIT Press.

Van Valin, Robert D. Jr. & LaPolla, Randy J. (1997). Syntax. Cambridge: Cambridge University Press.

Van Valin, Robert D. Jr. & Wilkins, David P. (1996). The case for 'effector'. In Shibatani, Masayoshi, & Sandra A. Thompson (Eds.), Grammatical constructions. 289-322. Oxford: Clarendon.

Vázquez Alvarez, J. J. (2002). El Ch'ol de Tila, Chiapas, México. MA Thesis, Universidad Autónoma de

México.

Vendler, Zeno (1957). Verbs and Times. <u>The Philosophical Review</u> LXVI: 143-160.

von Wright, Georg H. (1963). <u>Norm and action</u>. Reprint 1971. London: Routledge and Kegan Paul.

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.