titulus	Valency classes in Yucatec Maya
huius textus situs retis mundialis	http://www.christianlehmann.eu/publ/lehmann_valency_in_yucatec.pdf
dies manuscripti postremum modificati	26.02.2015
occasio orationis habitae	Conference on Valency Classes in the World's Languages. Max Planck Institute for Evolutionary Anthropology, Leipzig, April 14-17th, 2011
volumen publicationem continens	Comrie, Bernard & Malchukov, Andrej (eds.), *Valency classes. A comparative handbook*. Berlin & New York: Mouton de Gruyter
annus publicationis	2015
paginae	1407-1460

Valency classes in Yucatec Maya

Christian Lehmann

1 Introduction

Yucatec Maya, called Maya by its speakers, is the Mayan language spoken on the peninsula of Yucatan, in the east of Mexico. Together with Lacandón, Mopán and Itzá, it constitutes the Yucatecan branch of the Mayan languages. There are some 850,000 ethnic Mayas, more than half of whom have Maya as their first language and use it for daily communication. Some people over 70 years of age are still monolingual. The rest of the population has Spanish as their first language, and its percentage is rapidly increasing. The language can be used, and is occasionally used, for written communication by a small fraction of the population, but in general written communication takes place in Spanish.

The language has been described in grammars and dictionaries since the 16th century. However, no syntactic description is available.

Most of the data of the present study were gathered during two field-trips in 2011 and 2012. Examples lacking a source indication stem from these two field trips.[1] The source is identified for examples drawn from published texts.

2 Some elements of Yucatec grammar

Yucatec possesses the following major word classes: substantive, adjective, verb, verboid, adverb, preposition. Minor word classes include auxiliary, numeral, numeral classifier, possessive classifier, quantifier, pronoun, determiner, particle, conjunction. Adjectives are noun-like. There is little nominal and much verbal morphology. Yucatec morphology comprises compounding, incorporation, derivation and inflection and is mildly synthetic. Word order is essentially right-branching, with the exception of determiners and adjective attributes, which obligatorily and optionally, respectively, precede the nominal head.

2.1 Verbal clause

The clause core starts with the predicate. If it is verbal, it may be followed by complements; then comes the subject, and adjuncts tend to follow the subject. A simple verbal sentence (S) is introduced by a – non-inflecting – auxiliary (Aux) or modal verboid (see §4.4) which fixes the aspectual or modal category of the sentence. Some auxiliaries trigger a deictic clitic (DC) at the end of the clause. The structure of the clause is, thus, as shown in S1 and illustrated by E1.

[1] I thank Henrike Frye B.A. for doing part of the fieldwork in 2011, and Gaspar Maglah Canul from Kantunilkin and Ernesto May Balam and Ramón May Cupul from Yaxley, Quintana Roo, for contributing data and insights on Yucatec.

S1. Verbal clause

[[X]$_{Aux}$ [Y]$_{VCC}$ ([*-e'*]$_{DC}$)]$_{S}$

E1 ts'o'k u beet-ik u kool in taatah
[[TERM]$_{Aux}$ [SBJ.3$_i$ do-INCMPL POSS.3$_i$ milpa POSS.1.SG father$_i$]$_{VCC}$]$_{S}$
'my father already did his cornfield'

Topicalization and focusing allow verbal dependents to be placed in front of the clause. Since many of the example sentences are elicited translations, topicalization by left-dislocation is omnipresent in them, starting with E9. The topic is not a constituent of the clause following it and may be omitted without harm to its grammatical structure.

The auxiliary is the structural head of the autonomous verbal clause (S); the rest is the verbal clause core (VCC), which suffices for many subordinate constructions. The verbal clause core consists of the verbal complex (VC) and its dependents. All of the latter are syntactically optional under all circumstances.[2] The verbal complex, in turn, centers around the finite verb (V.fin). It is introduced by the pronominal clitic (PC) Pn under conditions to be specified presently, as shown in S2 and illustrated by E2.

S2. Verbal complex

[[Pn]$_{PC}$ [W]$_{V.fin}$]$_{VC}$

E2 u y-ah-s-ik-ech
[[SBJ.3]$_{PC}$ [0-wake-CAUS-INCMPL-ABS.2.SG]$_{V.fin}$]$_{VCp}$
'(that) he wakes you up'

The finite verb, shown in S3 and illustrated by E3, contains a status suffix which codes modal and aspectual categories and is conditioned syntactically – by the auxiliary in autonomous verbal clauses, by the matrix construction in subordinate clauses.

S3. Finite verb

[[W]$_{verb\_stem}$ -STATUS -ABS]$_{V.fin}$

E3 ah-s -ik-ech
[[wake-CAUS]$_{verb\_stem}$ [-INCMPL]$_{status}$ [-2.SG]$_{ABS}$]$_{V.fin}$
'wake you up'

Apart from personal pronouns, there are two series of bound pronominal elements (Pn):

- Pronominal clitics (PC) cross-reference the subject (SBJ) of the transitive verb, the subject of the intransitive verb in incompletive status and, on the possessed nominal, its possessor (POSS; shown twice in E1).
- Absolutive suffixes (ABS) cross-reference the direct object of the transitive verb, the subject of the intransitive verb in completive and subjunctive status and the subject of a non-verbal predicate.

[2] The experiential construction with *óol* (S6 as instantiated by E8 and analogous constructions) is probably an exception to this, as relevant predicates do not occur without this inner dependent. Given this, they might be analyzed as phrasal predicates.

Both of these sets have pronominal function. However, their referents may be represented, in addition, by personal pronouns or noun phrases in the same clause; and in that case, the pronominal elements agree with them in person and number. Yet, the absolutive suffix is mostly zero for third person singular, and agreement with a third-person plural subject is optional, with the consequence that these suffixes are seldom seen as agreeing with nominal dependents in their clause.

Formulating the distribution of the pronominal elements from the perspective of the finite verb: this is preceded by a pronominal clitic and/or followed by a pronominal suffix according to the following rules:

- With transitive verbs, the pronominal clitic cross-references the subject, while the suffix cross-references the direct object.
- With intransitive verbs, the pronominal element cross-references the subject. The syntagmatic slot chosen, with its paradigm, depends on the verb's status, viz.: in completive and subjunctive status, it is the suffix, in incompletive status, it is the clitic.

The alternation in the syntagmatic position of the Pn with intransitive verbs is hard to abstract over in the construction formulas. In such constructions, the Pn will not be subscripted (implying that it may alternatively be a suffix), while with transitive verbs, it will be subscripted by PC.

In accord with the syntactic functions that they correspond to, the pronominal clitics are called subject or possessive clitics, while the pronominal suffixes are called absolutive suffixes. (In traditional Mayan linguistics, they are called 'set A' and 'set B', resp.) However, these names are just mnemonic for the set of syntactic functions that these morphemes cross-reference. Syntactically, the language has pure accusative alignment.

The status suffixes display rich sets of allomorphs, chiefly conditioned by the transitivity of the verb stem. Together with the two sets of pronominal elements, this guarantees that every verb form occurring in a text is marked as either transitive or intransitive, with very few ambiguous cases. Moreover, both of these principal valency classes are subdivided into conjugation classes, which, again, take the form of allomorphy of status suffixes. Most of these conjugation classes are productive. To the extent that they are the goal of derivational operations, some of the exponents of conjugation classes allow an alternative analysis as derivational operators. One is familiar with such a situation from SAE languages. In Latin, for example, the *a*-conjugation is the goal of the verbalization that converts a noun like *cumulus* 'pile' into a verb like *cumulare* 'pile up', so that *-a* may be regarded as a derivational operator. Two Yucatec cases will be discussed in sections 5.2.1 and 5.3.2.1.

2.2 Possessive construction

The nominal possessive construction is as shown in S4 (see Lehmann 2002 for details). Its core is the combination of the pronominal clitic (Pn) with the possessed nominal (Pd). While there is no possessive construction without the Pn, the possessor (Pr) is optionally represented by a lexical NP. If Pn and Pr are co-present, they agree in person and number (i). This is illustrated by E4.

S4. Nominal possessive construction

$[\ [\ [\ Pn_i\ ]_{PC}\ [\ Pd\ ]_{Nom}\ ]\ ([\ Pr_i\ ]_{NP})\ ]_{NP}$

E4	u	maamah	le	chaan	xibpaal-o'
	[[[POSS.3]$_{PCi}$	[mother]$_{Nom}$]	[DEM	little	man:child-D2]$_{NP}$]$_{NP}$
	'the little boy's mother'				

As already said in §2.1, there is only one paradigm of pronominal clitics (PC). For the reader's convenience, the Pn of the construction formulas is glossed as SBJ if they introduce a verbal construction, and as POSS if they introduce a nominal construction.

2.3 Further remarks

The strategy of signaling syntactic relations is, thus, exclusively head-marking. There are no cases, only prepositions. Apart from specific prepositions for local and other concrete functions, there is an all-purpose preposition *ti'*, glossed LOC, which marks a generic local relation as well as the indirect object.

The construction formulas which describe verbal valency frames and alternations represent verbal clause cores and are therefore indexed with VCC. Since the auxiliary which lifts them to the clause level does not matter for the analysis, it has been omitted. Furthermore, in all construction formulas, it is understood that all main constituents except the predicate are optional. In order not to clutter the formulas, the corresponding parentheses have been omitted. Constituents are represented by capital letters serving as variables which are kept constant across formulas to the extent possible.

3 Nominal clause

3.1 Basic structure

The nominal predicate (W in S5) is a nominal or adjectival group. Just as the verbal predicate, it precedes all other main constituents in its clause. It bears an absolutive suffix (-ABS) by which it agrees with any lexical or pronominal subject constituent (S) in person and number (i). However, the agreement is seldom visible: If i = 3rd ps.sg., the absolutive suffix is zero. If i = 1st or 2nd ps., S only appears if it is emphatic. Only if i = 3rd ps.pl. is the agreement regularly visible. E5 illustrates a substantival, E6 and E7 an adjectival predicate.

S5. Basic nominal predicate construction

$[\ [\ W\ ]_{N/Adj}\ \text{-ABS}_i\ [\ S_i\ ]_{NP}\ ]_S$

E5 h-koolnáal-o'n
M-farmer-ABS.1.PL
'we are farmers'

E6 tikin le lu'm-o'
dry DEM earth-D2
'the ground is dry'

S of S5 may be expanded into the possessive construction of S4. The resulting S6 is a subtype of S5, where S is some body part *sensu lato* and E is an experiencer, as illustrated by E7. The index i is necessarily third person (commonly singular), while E may vary through the persons and numbers.

S6. Adjectival experiential construction

$[\ [\ W\ ]_{Adj}\ \text{-ABS}_i\ [\ \text{POSS}_E\ S_i\ [\ E\ ]_{NP}\ ]_{NP}\ ]_S$

E7 yah in k'ab
painful POSS.1.SG hand
'my hand hurts'

A couple of experiential predicates, including *sahak* 'afraid' (E9), are ascribed to living beings themselves. Most of them are, instead, ascribed to their *óol*, instantiating S in S6 and rendered by 'mind' in the interlinear gloss for want of a closer English counterpart.[3] *Yah* of E7 is, in fact, the only predicate that may be ascribed both to *óol* and to other body parts. *Óol* is an inalienable noun and takes the experiencer of an experiential construction as its possessor.[4] The construction is exemplified by E8. Note that *ok'om le chaan xch'úuppalo'* would be ungrammatical.

E8 ok'om u y-óol le chaan x-ch'úuppal-o'
sad POSS3 0-mind DEM little F-girl-D2
'the little girl is sad'

Another example of S6 is E50 below.

3.2 Relational adjective construction

Some adjectives have valency, taking a complement via the preposition *ti'*. This construction is formalized in S7 and illustrated in E9. S7 is an extension of S5 by the PrepP containing L.

S7. Relational adjectival predicate construction

[[W]$_{Adj}$ -ABS$_i$ [*ti'* [L]$_{NP}$]$_{PrepP}$ [S$_i$]$_{NP}$]$_S$

E9 le wíinik-o' sahak ti' le báalam-o'
DEM man-D2 afraid LOC DEM jaguar-D2
'The man is/was afraid of the jaguar.'

While the S of E9 is an experiencer and L the stimulus, there is no fixed association of semantic roles with the constituents of S7. As an alternative, the stimulus may take the place of S, while L is expanded into a possessive construction whose head (L) is some body part and whose possessor is the experiencer (E). This expansion of S7 takes the form of S8 and is illustrated by E10.

S8. Relational adjectival experiential construction

[[W]$_{Adj}$ -ABS$_i$ [*ti'* [POSS$_E$ L$_i$ [E]$_{NP}$]$_{NP}$]$_{PrepP}$ [S$_i$]$_{NP}$]$_S$

E10 le xibpal-o' uts t-u y-ich u tumben baaxal
DEM boy-D2 good LOC-POSS.3 0-eye POSS.3 new toy
'The boy likes his new toy.'

In analogy to the specification of S6, the body part noun L of S8 may be *óol*, as illustrated by E11.

---

[3] It has a close semantic counterpart in the original [!] sense of German *Mut* as it appears in *Großmut* 'magnanimity', *Sanftmut* 'placidity' or *mir ist unbehaglich zumute* 'I feel uncomfortable'. However, even mosquitos have an *óol*, so there is little room for psychological speculation on the Yucatec construction.

[4] Details in Verhoeven 2007, ch. 8.1.1.

E11 yah t-in w-óol
painful LOC-POSS.1.SG 0-mind
u loobil-t-a'l le mehen paal-al-o'b-o'
SBJ.3 harm-TRR-PASS.INCMPL DEM small child-COLL-PL-D2
'I feel sorry that the little children are maltreated.'

4 Verbal valency patterns

In terms of quantitative valency, Yucatec possesses monovalent, bivalent and trivalent verbs. The latter are relatively few in number. There are no avalent verbs. The actant[5] of a monovalent verb is its subject. Many monovalent verbs are impersonal, i.e. they take exclusively clausal subjects. Bivalent verbs are overwhelmingly transitive. There are, however, some intransitive bivalent verbs, taking a complement which may be represented by an adverbial or be introduced by a preposition. Trivalent verbs take such a complement in addition to a subject and direct object.

4.1 Intransitive verb

4.1.1 Basic construction

The construction formula for all intransitive verbs is S9. Pn represents the pronominal element cross-referencing the subject (S). It may be a pronominal clitic or an absolutive suffix as explained in §2.1. There may be other verbal dependents in the construction, esp. local complements or adjuncts, as in E14.

S9. Basic intransitive verb construction

$[\ [\ Pn_i\ ]\ [\ W\ ]_{V.intr}\ [\ S_i\ ]_{NP}\ ]_{VCC}$

As said in §2.1, intransitive verbs differ from transitive ones by their conjugation classes. There are three conjugation classes of intransitive verbs, which are rather closely associated with semantic verb classes: active, inactive and fientive[6] intransitive verbs. Active and inactive verb stems differ in the control of their subject. The three verb classes are, in their turn, illustrated by E12, E13 and E14.

E12 le xch'úupal-o' h síit'-nah-ih
DEM girl-D2 PRFV jump-CMPL-ABS.3.SG
'the girl jumped'

E13 h lúub le che'o'
PRFV fall(CMPL) DEM wood-D2
'the tree fell'

[5] The term *actant* will denote a nominal expression comprised by a verb's structural valency, while the term *argument* will denote a participant inherent in a verb's meaning. The distinction will prove relevant, *i.a.*, in §6.1.

[6] In general, a fientive verb (Lat. *fieri* 'become') is a verb derived from an adjective and designating a change of state, like Engl. *to cool (down)*. Traditionally, such verbs were (somewhat inappropriately) called inchoative.

E14 le paal-al-o'b-o' h kul-chah-o'b ti' le k'áanche'-o'
DEM child-COLL-PL-D2 PRFV sit-FIENT.CMPL-PL LOC DEM chair-D2
'the children sat down on the chair'

The three verb classes generate subtypes of S9, which contain V.intr_act, V.intr_inact and V.intr_pos instead of the mere V.intr as the category label of W. These subtypes differ in their derivational potential, as will be seen in §5.

Meteorological predicates like 'rain' are monovalent, as shown in E15:

E15 táan u k'áax-al ha'/chaak
PROG SBJ.3 rain-INCMPL water/rain
'it is raining'

4.1.2 Intransitive experiential construction

The experiential construction with an inactive intransitive verb as predicate is as shown in S10. E represents the experiencer, L the stimulus.

S10. Intransitive experiential verb construction

[[Pn_i] [W]$_{V.intr\_inact}$ [$POSS_Y$ S_i [E]$_{NP}$]$_{NP}$ [*ti'* [L]$_{NP}$]$_{PrepP}$]$_{VCC}$

E16 illustrates its most common appearance, with *óol* instantiating S. Just as experiential adjectives, most experiential verbs only allow *óol* as their subject.

E16 háak' in w-óol ti' hun-túul ch'o'.
scare(CMPL.ABS.3.SG) POSS.1.SG 0-mind LOC one-CL.AN mouse
'I got a fright because of a mouse'

S10 may be composed as follows: Take S7 as a point of departure; substitute an intransitive verb for W; substitute the possessive phrase appearing in S6 for the S of S7.

4.1.3 Directed motion verb

Verbs of directed motion form a subclass of inactive verbs, although they do allow for a controlling subject. They are such verbs as *bin* 'go', *taal* ' come', *máan* 'pass', *ook* 'enter', *hóok*' 'exit', *eem* 'get down', *na'k* 'get up' and a few more. They differ from other motion verbs – essentially manner of motion verbs like *xik'nal* 'fly' – by allowing a local complement (L).[7] The category of this latter is adverbial; and it may appear in the form of a prepositional phrase, introduced, more often than not, by *ti'*. The overall construction is as shown in S11. It is similar to the relational adjectival predicate construction (S7) and an expansion of the basic intransitive verb construction S9. E17 is an example.

S11. Construction of intransitive verb with complement

[[Pn_i] [W]$_{V.intr}$ [S_i]$_{NP}$ [L]$_{Advl}$]$_{VCC}$

[7] There are examples featuring the active intransitive manner-of-motion verb *áalkab* 'run' with a local dependent, which may not be exceptional if the latter can be analyzed as an adjunct.

E17	le	xibpal-o'	h	hóok'	ti'	u	kaahal
	DEM	boy-D2	PRFV	exit(CMPL)	LOC	POSS.3	village
	'the boy left his village'						

Directed motion verbs are central to the verbal lexicon and important for the syntax. The first two enumerated above have grammaticalized variants and also an irregular conjugation. Incidentally, as a comparison among E14, E17, E22, E24 and E54 shows, prepositions do not distinguish among local relations (essive, allative, ablative, perlative); these are coded as part of the verb meaning (cf. Lehmann 1992).

4.1.4 Positional

In terms of verb derivational morphology, a fientive verb is an intransitive verb stem derived from a non-verbal (generally, nominal) base, as schematized in S18 below. However, the suffix *-tal*, which encodes this in Yucatec, is, at the same time, the exponent of one of the three intransitive conjugation classes. That is, there is a class of verb roots that conjugate in that class; and moreover, different verb statuses, aspects and moods fuse in that suffix, which phenomenon is more typical of an inflection stem exponent than of a derivational operator. We will see a similar systematic ambiguity in the extraversive suffix *-t* (§5.3.2.1).

The fientive conjugation class thus comprises roots and derived stems. Fientive verb roots are comprised of positionals and a couple of other roots with related meanings. The set of positionals comprises at least two dozen roots like *wa'l* 'stand', *chil* 'lie', *xol* 'kneel', *t'uch* 'squat' etc. Their construction is the same as for directed motion verbs, viz. S11. Two positionals are illustrated in E14 and E18.

E18	káa	chil-lah-o'b	wen-el	hun-súutuk
	CONJ	lie-FIENT.CMPL-3.PL	sleep-INCMPL	one-moment
	'and they lay down to sleep a bit' (ka'tuul_15)			

The derivational potential of this verb class is further discussed in §5.2.1.

4.2 Transitive verb

4.2.1 Basic construction

The construction of a transitive verb is as formalized in S12 and illustrated by E19. A is the subject, P is the direct object. Adjuncts are not shown.

S12. Basic transitive construction

$[\ [\ Pn_i\ ]_{PC}\ [\ W\ ]_{V.tr}\ \text{-ABS}_j\ [\ P_j\ ]_{NP}\ [\ A_i\ ]_{NP}\ ]_{VCC}$

E19	t-u	méek'-ah	u	chaan	xibpal	le	maamah-o'
	PRFV-SBJ.3	hug-CMPL	POSS.3	little	boy	DEM	mother-D2
	'the mother hugged her little boy'						

In synchronic grammar, S12 is a basic construction. Diachronically, it may be composed as follows: Start from the basic nominal predicate construction S5. Expand its W to the possessive construction S4. Replace the Pd nominal by a nominalized transitive verb. Thereby, its Pr gets interpreted as a transitive subject, with its Pn functioning as subject clitic. The result is the transitive VCC S12.

Given the default-template character of S12 for two-participant situations, the semantic roles of A and P are as variable as for the transitive verb in many SAE languages. For a transitive verb, the direct object is obligatory. That does not mean that P must be overt. It means that j is referential; i.e. it is identifiable in the linguistic or extralinguistic context. If that condition is not fulfilled, the verb must be detransitivized by introversion; see §5.2.2.1.

There are two transitive conjugation classes which differ by having or lacking an exponent, viz. a conjugation suffix directly after the stem, thus preceding the status suffix. Verb stems are assigned to the two conjugation classes according to the classification of T1, to be read from left to right:

T1. Transitive conjugation classes

provenience	**complexity**	**basicness**	**phonotactics**	**exponent**
native	root	basic transitive root	primitive transitive root	0
			non-primitive transitive root	0
		marked transitive root		-t
	complex stem (other than causative)			-t
loan				-t

Examples of these categories are:

- primitive transitive root: *pix* ‘cover’, as in E20
- non-primitive transitive root: *méek’* ‘hug’, as in E19
- marked transitive root: *báats’* ‘smooth’ (not illustrated)[8]
- complex stem: *háakchek’* ‘slide stepping on something’, as in E46
- loan: *formar* ‘form’.

The *-t* suffix is identical to the extraversive operator, illustrated by *tsikbal-t* ‘tell’ in E23 and to be discussed in §5.3.2.1. The subdivision of the basic transitive roots is irrelevant for the conjugation class exponent, but the phonotactics underlying it conditions allomorphy in some verbal categories to be discussed in §5.3.

4.2.2 More complex constructions

A semantically suitable subset of transitive verbs takes an instrumental adjunct. These include *beet* ‘make’, *pa’* ‘break, smash’, *kíins* ‘kill’, *hats’* ‘hit [with tool]’, *xot* ‘cut [with tool]’, *pix* ‘cover’, *chup* ‘fill’, *huch’* ‘grind’ and *koh* ‘toss, touch’. The construction is represented as S13, which is an expansion of the basic transitive construction S12 by the instrumental adjunct I. It is illustrated by E20.

S13. Transitive verb with instrumental adjunct

[[Pn_i]$_{PC}$ [W]$_{V.tr}$ -ABS_j [P_j]$_{NP}$ [A_i]$_{NP}$ [*yéetel* [I]$_{NP}$]$_{PrepP}$]$_{VCC}$

E20	le	x-ch'úup-o'	t-u	pix-ah	le	xibpal	yéetel	teep'el-o'
	DEM	F-woman-D2	PRFV-SBJ.3	cover-CMPL	DEM	boy	with	blanket-D2

‘the woman covered the boy with a blanket’

[8] A marked transitive root is one that lacks a more basic intransitive counterpart but nevertheless requires the *-t* suffix for inflection as if it were derived. This class is exceptional and has very few members.

For a better understanding of the derived experiential constructions to be discussed in §5.3.2.2f, a curious gap in the grammar should be mentioned: although there are experiential constructions involving *óol* on the basis of adjectives, intransitive and transitive verbs, and although there are derived transitive verbs taking that noun as their object for which actor and experiencer are distinct, there is no base transitive verb of the latter kind; all the transitive roots taking *óol* as their object require a semantically reflexive constellation, as in E21.

E21	yéetel	hun-p'éel	libro	u_ti'a'l	a	nay-ik	a	w-óol
	and	one-CL.INAN	book	in.order	SBJ.2	amuse-INCMPL	POSS.2	0-mind

‘and a book to amuse yourself’ (hnazario_104)

The expected variant with *u nayik a wóol* ‘which [book] may entertain you’ does not exist.

4.3 Trivalent verb

Trivalent verbs take a subject, a direct object and another complement which may be represented by an adverbial or be introduced by a preposition. The animacy of the indirect complement conditions the major subdivision here.

4.3.1 Trivalent verb with inanimate indirect complement

If the indirect complement is inanimate, it may appear in the form of an adverbial or of a prepositional phrase introduced by a suitable preposition. The core of these trivalent verbs is formed by directed transport verbs,[9] the transitive (semantically causative) counterpart to the directed motion verbs seen in §4.1. The indirect complement then bears some local relation to the verb. Directed transport verbs include *ts’a’* ‘put’ and its local reverse *ch’a’* ‘take [for oneself]’, the two opposite deictic transport verbs *bis* ‘carry, take [to]’ and *taas* ‘bring’ (s. §5.3.2.3), and furthermore *tul* ‘push’, *túuxt* ‘send’, *pul* ‘throw’, *t’oh* ‘pour’, *láal* ‘pour’, *but’* ‘fill’. The construction of these verbs is shown in S14, where L is the indirect complement. E22 is an example.

S14. Construction of ditransitive verb with inanimate indirect complement

$[\ [\ Pn_i\ ]_{PC}\ [\ W\ ]_{V.tr}\ \text{-}ABS_j\ [\ P_j\ ]_{NP}\ [\ A_i\ ]_{NP}\ [\ L\ ]_{Advl}\ ]_{VCC}$

E22	le	xibpal-o'	t-u	pul-ah	le	boolah	teh	béentaanah-o'
	DEM	boy-D3	PRFV-SBJ3	throw-CMPL	DEM	ball	LOC:DEM	window-D2

‘the boy threw the ball into the window’

S14 is the semantically causative counterpart to the construction of an intransitive verb with complement (S11) and may therefore be composed by extending the basic transitive construction (S12) by the same complement. Causative derivation of bivalent intransitive verbs is treated in §5.3.2.2f.[10]

With some of the above verbs, the indirect complement may also be animate, and then the construction is as in §4.3.2. The most important one among these is the basic trivalent verb *ts’a’* ‘put, give’. It has two constructions corresponding to its senses: With the meaning ‘put’, it belongs

[9] An example of a non-directed transport verb is *kuch* ‘load [on oneself]’.

[10] The two verbs *bis* and *taas* mentioned before are, in fact, causative derivations of *bin* ‘go’ and *taal* ‘come’, resp.; but they are totally lexicalized and part of the basic vocabulary.

in the present class of directed transport verbs. With the meaning ‘give’, it belongs in the class of verbs with an animate indirect complement.

4.3.2 Trivalent verb with animate indirect complement

The indirect complement of a trivalent verb may be typically or exclusively animate. The construction is then a subtype of the generic construction of S14 formed by specifying the adverbial L as a prepositional phrase and instantiating its preposition by *ti’*. The prepositional phrase may then be categorized as an indirect object. The set of relevant verbs includes, first of all, *ts’a’* ‘give’ (the same verb that figures in §4.3.1 with the meaning ‘put’), then communication verbs such as *a’l* ‘say’, *k’áat* ‘ask’, *tsikbat* ‘tell’, and furthermore *e’s* ‘show’, *ta’k* ‘hide’, *k’am* ‘get’, *ookol* ‘steal’. The pattern is shown in S15 and illustrated by E23.

S15. Construction of ditransitive verb with animate indirect complement

$[\ [\ Pn_i\ ]_{PC}\ [\ W\ ]_{V.tr}\ \text{-}ABS_j\ [\ P_j\ ]_{NP}\ [\ A_i\ ]_{NP}\ [\ \textit{ti’}\ [\ L\ ]_{NP}\ ]_{PrepP}\ ]_{VCC}$

E23	le	xch'úupal-o'	t-u	tsikbal-t-ah	hun-p'éel	che'h-bil	tsikbal
	DEM	girl-D2	PRFV-SBJ.3	talk-TRR-CMPL	one-CL.INAN	laugh-GER	story
	ti'	le	xibpal-o'				
	LOC	DEM	boy-D2				
	‘the girl told the boy a funny story’						

The position of L depends on its lexical status: If it is a lexical NP, it takes the position indicated. If it is a pronoun, the preposition is optional; and if it is missing, this indirect object immediately follows the verb.

As indicated, the verb *k’am* ‘get’, with the goal of the transport in subject function, follows the same pattern:

E24	t-in	k'am-ah	hun-p'éel	kaartah	ti'	in	maamah
	PRFV-SBJ.1SG	receive-CMPL	one-CL.INAN	letter	LOC	POSS.1SG	mother
	‘I received a letter from my mother.’						

Cf. the remarks of §4.1.3 on the indifference of prepositions to local relations.

4.4 Verboids

Verboids share their valency frames with verbs, differing from these only by failing to inflect for status or combine with the initial auxiliary of S1. Intransitive verboids include *yaan* ‘exist’, *k’abéet* ‘necessary’, *taak* ‘want’ and a few others. Transitive verboids include *k’ahóol* ‘know’, *yáamah* ‘love’, *p’éek* ‘hate’, *k’áat* ‘want’ and a few others. Verboids differ from most verbs by their stative meaning. Intransitive verboids take absolutive suffixes (if they are personal at all) like intransitive (completive or subjunctive) verbs; transitive verboids take pronominal clitics and absolutive suffixes as transitive verbs do. Verboids follow the same construction patterns as verbs; for instance, the construction of *k’abéet* in E25 (from E31.b below) is a variant of the intransitive verb construction with complement (S11); the construction of *k’ahóol* in E26 is the basic transitive verb construction (S12).

E25 k'abéet-ech teen
necessary-ABS.2.SG me
'I need you' (HK'AN_452.1)

E26 le xibpal-o' u k'ahóol le xch'úupal-o'
DEM boy-D2 SBJ.3 know DEM girl-D2
'the boy knows/knew the girl'

Intransitive verboids are verbalized by the fientive derivation (§5.2.1), transitive verboids are verbalized by extraversive verbalization (§5.3.2.1).

5 Verb-coded alternations

Yucatec has a number of derivational operations that change the category of the base, transferring it into a different word class or just changing its relationality. These operations will be described not as undirected alternations between two constructions of the same level, but as derivations or transformations that derive a target construction from a base construction. The criterion of the directionality is formal complexity: If constructions A and B are paradigmatically related and share a common base, but B comprises an additional formative, then B is based on A rather than vice-versa.

This section is not an exhaustive survey of Yucatec verb derivation (see Lehmann 1993 for a more comprehensive account). With a few exceptions, only such operations will be considered as change the relationality of the base. §5.1 briefly considers the deverbal derivation of adjectives, which for transitive bases amounts to a valency reduction. §§5.2 and 5.3 treat the formation of intransitive and transitive verbs in parallel fashion, to the extent appropriate.

5.1 Formation of adjectives

Here only deverbal adjectives will be considered. There is, in fact, a rich set of deverbal adjective derivations, only the two most productive and regular of which will be reviewed.

5.1.1 Resultative adjective

S16 is a subtype of the adjectival predicate construction formalized in S5.

S16. Resultative adjective construction

$[\,[\,[\,W\,]_{V}\,\textit{-a'n}\,]_{Adj}\,\text{-ABS}_i\,[\,S_i\,]_{NP}\,]_{S}$

All transitive stems, as in E27.a, and all positional stems, as in #b, undergo the process. Resultatives from other intransitive verbs occur sporadically.

E27 a. ts'ik-a'n Peedroh
shave-RSLTV Peter
'Peter is shaved (i.e. in the state resulting from shaving)'

b. kul-a'n Hwaan
sit-RSLTV John
'John is at home (lit.: seated)'

While S16 embeds the derived adjective into a clause structure, such adjectives may also be used attributively. For transitive bases, the resultative derivation involves functional passivization, since such an adjective modifies the undergoer, while the underlying actor is demoted to the typical adjunct function associated with the passive (§5.2.2.4). E28 illustrates a resultative adjective with such an adjunct.

E28 chéen méek'-a'n bin tuméen h-p'óokinah tsuuk
just hug-RSLTV QUOT by M-hat:USAT:INTROV paunch
'embraced, however, by Paunchhat' (HK'AN_302)

5.1.2 Stative positional

Given a positional base as illustrated in E14, a stative positional may be derived. It has the structure shown in S17 and illustrated by E29.

S17. Stative positional derivation

[[[W]$_{V.intr}$ *-Vkbal*]$_{N/Adj}$ -ABS$_i$ [S$_i$]$_{NP}$]$_S$

E29 le paal-al-o'b-o' kul-ukbal-o'b ti' lu'm
DEM child-COLL-PL-D2 sit-POS-PL LOC earth
'the children are/were sitting on the floor'

The suffix (glossed by -POS 'position') starts with a vowel (V) that is subject to full harmony with the root vowel. Describing this adjectival derivation in a clause formula such as S17, an instantiation of S5, is appropriate as these adjectives are not used in attributive function.

For a positional base, there is no difference in meaning between the two adjectival derivations in *-a'n* and *-Vkbal*.

5.2 Formation of intransitive verbs

A couple of derivations of intransitive verbs from intransitive bases will not be considered as they do not affect valency. Instead, this section is subdivided as follows: After the formation of intransitive verbs on nominal bases, which does not alter the valency, their formation from transitive bases, i.e. by valency reduction, will be considered. This, in turn, is subdivided according to the actant whose slot is blocked: first operations blocking the direct object slot, then operations blocking or demoting the subject slot are considered. All of the derived constructions introduced in this section are subtypes of the basic intransitive verb construction S9 or some extension of it.

5.2.1 Intransitive verbs from nominal bases: fientive verbs

Given the basic nominal predicate construction of S5, one may verbalize the nominal predicate by applying the fientive derivation, schematized in S18, a subtype of S9. The base may be an adjective, as in E30.b, or a noun of suitable meaning, as in #a. The operation transfers the stem into the fientive conjugation class of intransitive verbs (see §4.1).

S18. Fientive derivation

[[Pn$_i$] [[W]$_{N/Adj}$ *-tal*]$_{V.intr}$ [S$_i$]$_{NP}$]$_{VCC}$

E30 a. ts'o'k u hach y-áak'ab-tal
TERM SBJ.3 really 0-night-FIENT.INCMPL
'it has become night / is already night'

b. táan u tikin-tal le lu'm-o'
PROG SBJ.3 dry-FIENT.INCMPL DEM earth-D2
'the ground is getting dry'

E30.b is the fientive counterpart to basic E6. The derivation does not affect the valency, but only verbalizes the base, which may become necessary if the clause is to be marked for aspect or mood. Depending on the aspect chosen, the aktionsart may also be more dynamic than with the stative base, as shown by E30.b.

This operation applies in a completely regular fashion to all adjectival bases, conserving their valency. Thus, among others, all the adjectives treated in §3 form a fientive, so that their nominal experiential constructions have a verbal counterpart. Thus, beside *yah* 'painful', we find *yahtal* 'hurt, ache', and beside *sahak* 'afraid', there is *sahaktal* 'fear, get frightened'. Likewise, the operation applies to intransitive verboids like *k'abéet* 'necessary'. E31.b shows the base form, #a the verbalized form of this lexeme. The sentences are, in the order #a – #b, utterances of the two main characters of the tale. They show that the verboid and its verbalization may be synonymous.

E31 a. le k'iin k-in k'abéet-tal ti' teech-e'
DEM sun/day IMPF-SBJ.1.SG necessary-FIENT.INCMPL LOC you-TOP

káa taal-ak-ech a ch'a'-en
CONJ come-SUBJ-ABS.2.SG SBJ.2 take(SUBJ)-ABS.2
'the day that you need me, you come to fetch me' (HK'AN_198)

b. a w-a'l-mah teen-e'
SBJ.2 0-say-PERF me-TOP

le k'iin k'abéet-ech teen-e'
DEM sun/day necessary-ABS.2.SG me-TOP

káa taal-ak-en in w-il-ech
CONJ come-SUBJ-ABS.1.SG SBJ.1.SG 0-see(SUBJ)-ABS.2.SG
'you told me that when I would need you I should come to see you' (HK'AN_452)

The set of fientive verbs is very homogeneous in terms of the derivational operations applicable to them: to every fientive, a factitive (see §5.3.2.2), stative (§5.1.2) and resultative (§5.1.1) derivation corresponds.

5.2.2 Intransitive verbs from transitive bases

Since there are no verb stems that may be used alternately in transitive and intransitive frames, for any given root, one of the two valencies is basic, the other one derived.[11] Transitive roots thus undergo introversion (§5.2.2.1) in order to get their intransitive counterpart, while intransitive roots undergo extraversion (§5.3.2.1) in order to get their transitive counterpart.[12]

[11] Currently, four exceptions are known to this generalization. All of them concern transitive verbs whose introversive derivation is not recognizable for phonological reasons.

[12] The terms and concepts of introversion and extraversion are introduced in Paris 1985. There are, to the best of my knowledge, no better terms available (terms like 'direct object deletion' being woefully inadequate). However, since

There are basically two ways of detransitivizing a transitive verb, by blocking its undergoer (or direct object) slot and by blocking its actor (or subject) slot. These operations and their variants will be considered in turn.

5.2.2.1 Introversion

Both basic and derived transitive stems may be introverted. This amounts to transforming the transitive verb construction of S12, illustrated by E32.a, into the intransitive verb construction of S9, more specifically, its subtype S19, whose S corresponds to the A of S12 and whose X is anything other than a direct object. The construction is illustrated by E32.b

S19. Introversion

[[Pn_i] [[W]$_{V.tr}$ -INTROV]$_{V.intr\_act}$ (X) [S_i]$_{NP}$]$_{VCC}$

E32 a. Hwaan-e' t-u ts'ik-ah Peedroh
John-TOP PRFV-SBJ.3 shave-CMPL Peter
'John shaved Peter'

b. le máak-o' k-u ts'iik
DEM person-D2 IMPF-SBJ3 shave\INTROV
'that person shaves (people)'

The derivational operator represented by INTROV in S19 converts its base into an intransitive verb stem of the active subclass. It has a number of allomorphs which are essentially conditioned by the basic vs. derived character of W. If W is a primitive transitive root, then the derivational operator is mostly low tone on the root syllable, as it appears in E32.b. If W is derived, the introversive operator is a suffix, chiefly *-ah*, as in E33 (see E72 below for the transitive stem of that verb).

E33 Máax le k-u ka'n-s-ah way-e' ?
who DEM IMPF-SBJ.3 learn\PASS-CAUS-INTROV(INCMPL) here-D3
'Who (is the one that) teaches here?'

As anticipated in §4.2.1, the direct object of a transitive verb can always be omitted. Apart from not mentioning its referent, this has no semantic effect. But introversion is not object omission. The syntactic effect of the operation is that the verb becomes intransitive, so no direct object can be combined with it. The semantic effect is that no undergoer is identifiable, which may imply that there is none.

Though introversion is formally always applicable to a transitive stem, including ditransitive stems, there are many with which it does not make much sense. For instance, with *mach* 'seize, touch', thinking up situations where somebody seizes without there being a referent that he seizes is somewhat artificial. Nevertheless, in the Mayan lexicographic tradition, all transitive verbs are lemmatized in their introversive form.

Paris 1985 is not written in English, the terms have not made their way into mainstream typology.– Introversion has been called antipassive in Mayan linguistics. That, however, is a concept proper for an ergative system as it exists in other Mayan languages, but not in Yucatec.

5.2.2.2 Reflexive construction of transitive verb

All transitive verbs for which it makes sense enter the reflexive construction. It may be derived from the basic transitive construction S12 by replacing its direct object P by the possessive construction shown in S20 (see §5.3.3.1 for indirect reflexivity). E34 is an example.

S20. Reflexive construction

[[Pn_i]$_{PC}$ [W]$_{V.tr}$ [$POSS_i$ *báah*]$_{NP.j}$ [A_i]$_{NP}$]$_{VCC}$

E34 a. Hwaan-e' t-u ts'ik-ah Peedroh
John-TOP PRFV-SBJ.3 shave-CMPL Peter
'John shaved Peter'

b. le wíinik-o' t-u ts'ik-ah u báah
DEM man-D2 PRFV-SBJ.3 shave-CMPL POSS.3 self
'the man shaved (himself)'

Báah is an inalienable noun meaning 'self'. Just as in English *myself* etc., it combines with the possessive clitics (POSS), cross-referencing the subject A and coding its person and number. The binary combination forms a possessive NP (S4 without the Pr NP) that constitutes the direct object of the transitive verb. There is no absolutive suffix on W (cross-referencing j) because that object is grammatically third person singular even if A is plural.

Although there are shortened forms of this construction, it still exhibits a rather low degree of grammaticalization. S20 therefore instantiates the transitive schema S12 rather than the intransitive schema S9. Likewise, it is always fully compositional; there are no formally reflexive verbs devoid of a coreference relation like German *sich schämen* 'feel ashamed'. On the other hand, there is no simpler way of expressing the meaning of E34.b, no middle voice or the like comparable to English *the man shaved*. In particular, the introversive does not code this meaning.

5.2.2.3 Reciprocal construction of transitive verb

All transitive verbs for which it makes sense enter a reciprocal construction. Like the reflexive construction S20, it is a subtype of the transitive construction S12. S21 formalizes its full form as illustrated by E35; see §5.3.3.2 for indirect reciprocity.

S21. Reciprocal construction

[[Pn_i]$_{PC}$ [(*paaklan*) W]$_{V.tr}$ ([$POSS_i$ *báah*]$_{NP.j}$) [A_i]$_{NP}$]$_{VCC}$

E35 le máak-o'b-o' k-u paaklan méek'-ik u báah-o'b
DEM person-PL-D2 IMPF-SBJ.3 each.other hug-INCMPL POSS.3 self-3.PL
'those men hug each other'

Paaklan is an adverb meaning 'together, each other'. In the former meaning, it may also accompany intransitive verbs, of course, with no reciprocal effect. It normally takes the position immediately preceding W indicated in S21, but is susceptible of focusing, so that it precedes Pn, as in E61 and E62 below. On the other hand, like other adverbs in preverbal position, *paaklan* optionally forms a compound with the verb. This may be diagnosed with certainty under the condition that the verb's stem is a basic transitive one (s. §4.2.1). As such, it belongs to the conjugation class which lacks a stem-forming suffix, while as a compound verb, it conjugates via the *-t* suffix (cf. § 4.3.2.1).

The other component of S21 that signals reciprocity is the reflexive phrase already seen in S20. Just as it does there, it takes the place of W's direct object. Now either of these two markers is optional in the reciprocal construction. E36 designates a reciprocal situation merely by means of the reciprocal adverb. In this case, the reciprocal construction is merely an interpretation of a 'together'-construction.

E36 k-u paaklan púus-t-ik y-ich-o'b
IMPF-SBJ.3 each.other remove.dust-TRR-INCMPL POSS.3-eye-PL
'they clean each other's face'

And E37 shows a reciprocal situation (or rather, two of them) signaled exclusively by the reflexive pronoun.

E37 t-u méek'-ah u báah-o'b
PRFV-SBJ.3 hug-CMPL POSS.3 self-PL

úuchik u y-il-ik u báah-o'b
OBL.SR SBJ.3 0-see-INCMPL POSS.3 self-PL
'they hugged each other when they met'

This is, thus, formally a reflexive construction which is interpreted as reciprocal, as in many other languages including Spanish.

5.2.2.4 Passive construction

Coming now to detransitivization operations which demote the underlying subject, we start with the passive. Yucatec has a passive of the common or garden variety, schematized by S22, where P is the underlying object and A the underlying subject. It is illustrated by E38, which is the passive of E19.

S22. Passive construction

[[Pn_i] [[W]$_{V.tr}$ -PASS]$_{V.intr\_inact}$ [P_i]$_{NP}$ [*tuméen* [A]$_{NP}$]$_{PrepP}$]$_{VCC}$

E38 h méek'-ab le chaan xibpal tuméen u maamah-o'
PRFV hug-CMPL.PASS DEM little boy by POSS.3 mother-D2
'the little boy was hugged by his mother'

The passivized verb belongs to the inactive subclass of intransitive verbs. The operation is fully productive; W may be any basic or derived transitive stem; and passive constructions are, in fact, quite frequent in the texts. The passive operator has a few allomorphs. It is chiefly a glottal stop which is infixed into the host. If the verb stem is a primitive transitive root (s. §4.2.1), the infix goes into it, as in E33. Otherwise, it goes into the status suffix, as in E57. This is, thus, the only infix on record which may be inserted in an affix. The agent phrase is optional and occurs with some frequency in the texts.

5.2.2.5 Deagentive construction

The other operation which affects the actor of the transitive verb is deagentivization[13]. It applies an operator (DEAG) to S12 which blocks its A position and converts its P into subject. The underlying subject A cannot be accommodated in a deagentive construction. The construction is represented by S23, a subtype of S9, and illustrated by E39.b, based on a transitive version similar to #a.

S23. Deagentive construction

[[Pn_i] [[W]$_{V.tr}$ -DEAG]$_{V.intr\_inact}$ [P_i]$_{NP}$]$_{VCC}$

E39 a. le xch'úupal-o' tu hat-ah hun-waal le analte'-o'
DEM girl-D2 PRFV-SBJ.3 tear-CMPL one-CL.flat DEM book-D2
'the girl tore a page from the book'

b. h háat in nook'
PRFV tear\DEAG POSS.1.SG cloth
'my clothes got torn'

W must be a primitive transitive root. The deagentive operator in S23 (DEAG) materializes as high tone on the root. The root phonotactics of the language are such that primitive transitive roots are toneless, but phonologically compatible with a high tone. Non-primitive transitive roots allow no deagentivization. The derived stem joins the inactive subclass of intransitive verbs. The meaning of this derivation is that the process in question happens and there is no agent to which reference could be made; thus, it may happen by itself.[14] However, there is no emphasis on this; that is reserved for the spontaneous derivation to be discussed below.

The deagentive also applies to some transitive verbs that involve an instrument. The latter is left intact by the transformation, as may be seen by comparing E40 with the transitive E20.

E40 k-u píix-il in nal yéetel k'áax
IMPF-SBJ.3 cover\DEAG-INCMPL POSS.1.SG corncob with jungle
lit. 'my corn plants cover with brush'

The transitive verb stems that do not undergo deagentivization fall into two main formal classes, non-primitive roots and complex stems. Both of these contain items and subclasses for which a deagentive derivation would not make much sense, simply because the situations in question are inconceivable without an actor. The former class includes verbs such as *méek'* 'hug'. The latter includes, importantly, extraversive bases. For instance, *tukult* 'think about' is the extraversive of intransitive *tuukul* 'think'. The deagentive of the latter would have to mean 'get thought (of) by oneself / [for some proposition] to think itself'. Since extraversion presupposes an action and signals that it extends to an undergoer, deagentivization would, in fact, make little sense with most extraversive verbs.

On the other hand, there is a class of derived transitive stems for which no deagentive is morphologically possible although it would make sense. These are transitive stems involving factitive or causative derivation. However, the constraint does no harm since for these, the bases themselves fulfill the function of the deagentive form.

---

[13] The deagentive is called middle in Bricker et al. 1998:346 and Martínez Corripio & Maldonado 2010. It is widely called anticausative in linguistic typology.

[14] See Martínez Corripio & Maldonado 2010 for some semantic analysis.

All transitive verb stems, no matter whether they allow the deagentive derivation, like primitive transitive roots, or not, like other transitive roots and derived transitive stems, may undergo a spontaneous derivation (see Lehmann 1993, §6.3.2). This is afforded by a variety of suffixes (see Bricker et al. 1998:346-349) which are available to transitive stems irrespectively of their form. The derivation means 'W happens by itself (spontaneously and unexpectedly)', as illustrated by E41. It thus contrasts with the deagentive and emphasizes the spontaneous character of the deagentive process.

E41 a. t-in tóok-ah in kool
PRFV-SBJ.1.SG burn-CMPL POSS.1.SG milpa
'I burnt my cornfield'

b. h tóok-k'ah in kool
PRFV burn-SPONT(CMPL) POSS.1.SG milpa
'my cornfield burnt (unexpectedly) by itself'

5.3 Formation of transitive verbs

All of the derived constructions introduced in this section are subtypes of the basic transitive verb construction S12.

5.3.1 Transitive verbs from nominal bases: usative verbs

Besides the major process for the verbalization of nominal bases, viz. the fientive analyzed in §5.2.1, there is one other such process, which yields transitive verbs from nominal bases. Starting from the possessive construction S4, one substitutes A for its Pr, and W for its Pd, so it reads 'A's W'. Next W becomes the operand of the usative suffix *-int* (Bricker 1970). This actually consists of two operators: *-in-* verbalizes W, so that A becomes its subject; and *-t* extraverts it (5.3.2.1), so it takes an undergoer P.[15] In this way, one obtains the usative construction S24, which may be paraphrased as 'A's W is P = A has/uses P as (his) W' and, with dynamic aspectuality, 'A converts P into (his) W'. E42 is a perfectly compositional illustration of this operation.

S24. Usative construction

$[\ [\ Pn_i\ ]_{PC}\ [\ [\ W\ ]_N\ \textit{-int}\ ]_{V.tr}\ \text{-ABS}_j\ [\ P_j\ ]_{NP}\ [\ A_i\ ]_{NP}\ ]_{VCC}$

E42 a. Ba'n a k'aan ?
what POSS.2 hammock
'what is your hammock?'

b. Ba'n ken a k'áan-int-eh ?
what SR.FUT SBJ.2 hammock-USAT-SUBJ
'What are you going to use as a hammock (= where are you going to sleep)?' (RMC_2248)

[15] Apart from exceptional contexts such as E28, the *-in-* formative does not occur without a following *-t*; but several usative verbs, esp. ones based on kinship terms, dispense with the *-in-*, which is morphologically possible because extraversion also applies to nominal bases.

E43 a. le he’l-a’ u búuk le ko’lel-o’
DEM PRSV-D1 POSS.3 dress DEM adult.woman-D2
‘this is that woman’s dress’

b. le ko'lel-o' t-u búuk-int-ah u nook' u paal
DEM woman-D2 PRFV-SBJ.3 dress-USAT-CMPL POSS.3 clothing POSS.3 child
‘(lit.) that woman used her child’s clothing as a dress = that woman put on her child's clothing’

E44 ko'ne'x si'-int-ik hun-kúul che'
go.HORT:AUG firewood-USAT-INCMPL one-CL.plant tree
‘let’s get firewood from a tree’ (EMB_0497)

The derivation applies productively both to alienable (E42.a, E44) and to inalienable (E43.a) bases (the latter including, importantly, kinship terms). Nevertheless, some usative verbs such as the one in E43.b are lexicalized.

5.3.2 Transitive verbs from verbal bases

The derivation of transitive verbs from verbal bases may be subdivided according to the valency of the base. However, derivation of transitive verbs from transitive bases will not be considered as it does not affect valency. Moreover, there is no productive grammatical process to obtain a transitive construction by valency reduction of a ditransitive base. A few cases that come close to this construct will be discussed in §5.3.3. Thus, the bulk of this section concerns the derivation of transitive stems from intransitive bases. The subdivision (§§5.3.2.1 – 5.3.2.3) is according to the actant whose slot is added: first operations adding an undergoer (direct object) slot, then operations adding an actor (transitive subject) slot are treated.

5.3.2.1 Extraversion

Given a base of the active intransitive subclass, an extraversive stem may be formed by appending the suffix *-t* (glossed TRR ‘transitivizer’) to it. The operation transforms the intransitive construction of S9, illustrated by E12, into the extraversive construction of S25, illustrated by E45. S25 is a subtype of the basic transitive construction S12 and a mirror-image to introversion (S19).

S25. Extraversion of a verbal base

$[\ [\ Pn_i\ ]_{PC}\ [\ [\ W\ ]_{V.intr\_act}\ \textit{-t}\ ]_{V.tr}\ \text{-ABS}_j\ [\ P_j\ ]_{NP}\ [\ A_i\ ]_{NP}\ ]_{VCC}$

E45 le x-ch’úuppal-o' k-u síit'-t-ik le koot-o'
DEM F-girl-D2 IMPF-SBJ.3 jump-TRR-INCMPL DEM wall-D2
‘the girl jumps (over) that wall’

As discussed more fully in §5.3.2.4, the same derivation, formally, applies to bases of other word classes, too. Verbal bases, however, obey without exception the constraint that they must be active. This includes compound verb stems, especially incorporative verbs, all of which belong to the active conjugation class irrespectively of the class of their verbal core. For instance, the stem *háak* ‘slide’ is inactive. The incorporative stem *háakchek’* ‘slide stepping on something’ illustrated in E46.a is active and thus allows the extraversion of #b (see §6.2 on retransitivization of incorporative verbs)[CL2].

E46 a. háak-chek'-nah-en
slide-with.foot-CMPL-ABS.1.SG
'I slipped (by stepping on something)'

b. t-in háak-chek'-t-ah le ha's-o'
PRFV-SBJ.1.SG slide-by.foot-TRR-CMPL DEM banana-D2
'I slipped on that banana'

Extraversion may be conceived as a lexicalized variant of the applicative operation. It differs in a variety of respects from the canonical applicative (Lehmann & Verhoeven 2006):

- It is a lexical rather than syntactic operation, which entails that it is neither compositional nor fully productive.
- It only applies to intransitive bases, while an applicative may freely apply to transitive bases. Consequently, extraversion is always valency-increasing, while the applicative is sometimes just valency-rearranging.
- The applicative promotes a clause component low on the hierarchy of syntactic functions to direct object function. Extraversion does not promote anything, since the resulting direct object typically cannot even be accommodated in the underlying intransitive construction. The specific role of the undergoer exteriorized from the verb depends essentially on the latter's lexical meaning.

Thus, in the intransitive construction of E47.a, there is no way of accommodating an addressee, which is, however, the role of the direct object in the extraversive construction of #b.

E47 a. le xibpal-o' túun xóob (*ti' le x-ch'úuppal-o')
DEM boy-D2 PROG\SBJ.3 whistle LOC DEM F-girl-D2
'the boy is whistling (at the girl)'

b. le xibpal-o' túun xóob-t-ik le x-ch'úuppal-o'
DEM boy-D2 PROG:SBJ.3 whistle-TRR-INCMPL DEM F-girl-D2
'the boy is whistling at the girl'

On the other hand, extraversion is formally completely regular and highly productive for active intransitive bases, elementary or complex. For these, there is an alternative to its conception as a derivational process. Instead, one might abide by the two conjugation classes of transitive verbs explained in T1, the first without a stem-forming exponent, only for basic transitive roots, and another with the stem-forming suffix *-t*, both for derived transitive stems (such as *háakchek'* 'slide stepping on something' in E46) and such roots as have an intransitive active use (such as *xóob* 'whistle' in E47). Then there would be no process of extraversion, and instead verbs like *xóob* and *háakchek'* would be ambitransitive, i.e. alternating between transitive and active-intransitive valency. While this might be sufficient for verbal bases, there remains the verbalization of nominal bases such as *cha'n* 'spectacle [n.]' – *cha'nt* 'watch', which, under this alternative account, would have to be conceived as a conversion (a zero-operator recategorization) with transfer into the second conjugation class. However, conversions normally only change the category without affecting the meaning, while extraversion may yield unforeseeable semantic results, as in E47. Another argument in favor of the extraversion analysis is the alternation between the *-t* and the *-s* suffix (s. §5.3.2.2), the latter of which is an unequivocal derivational operator.

On the other hand, the same morphological process of extraversion also applies to transitive verboids in order to verbalize them. To formalize this, it suffices to replace the category subscript of W in S25 by 'transitive verboid'. The process is illustrated by E48.

E48 a. le xibpal-o' u k'ahóol le xch'úupal-o'
DEM boy-D2 SBJ.3 know DEM girl-D2
'the boy knows/knew the girl'

b. le xibpal-o' k-u k'ahóol-t-ik le xch'úupal-o'
DEM boy-D2 IMPF-SBJ3 know-TRR-CMPL DEM girl-D2
'the boy knows/knew the girl'

Just as in the case of the fientive verb (§5.2.1), the primary purpose of this operation is to make the concept available in the verbal category. In the present case, the base already has the same valency as the derived verb. The verbalization of transitive verboids is, therefore, another argument in favor of the alternative analysis of the *-t* suffix as a conjugation class suffix instead of an operator of extraversive derivation. The indeterminacy of this analysis is due to the fact that languages may use the same formative both as a derivational operator and as an inflection-class exponent.

5.3.2.2 Factitive verbs

To every deadjectival fientive verb (§5.2.1) there corresponds a factitive verb. It is constructed as schematized in S26, a subtype of the basic transitive construction S12, and illustrated in E49.

S26. Factitive derivation

[[Pn_i]$_{PC}$ [[W]$_{N/Adj}$ *-ki/unt*]$_{V.tr}$ -ABS_j [P_j]$_{NP}$ [A_i]$_{NP}$]$_{VCC}$

E49 t-in tikin-kunt-ah le sikil-a'
PRFV-SBJ.1.SG dry-FACT-CMPL DEM pumpkin.seed-D1
'I dried this pumpkin seed'

E49 is based on a sentence like E6 and is the factitive counterpart to the fientive E30.b. The factitive is that variant of the causative whose base is adjectival. The suffix is morphologically complex, as it consists of the factitive suffix proper, *-kin/kun*, plus the extraversive suffix *-t*. The first component *-kin/-kun* does not occur alone in intransitive use, but it does occur in the citation form of these verbs and in their nominalization. Depending on lectal variation, the causative suffix *-s* appears instead of the *-t*, yielding the variant *-kins/kuns*, as in E51.

Just like any adjective, the adjectival experiential construction of S6 may be factitivized. Thus, E50.b is a factitive construction on the basis of #a.

E50 a. ki'mak in w-óol
happy POSS.1.SG 0-mind
'I am happy'

b. le paax-o' k-u ki'mak-kuns-ik in w-óol
DEM music-D2 IMPF-SBJ.3 happy-FACT-INCMPL POSS.1.SG 0-mind
'that music delights me'

Furthermore, factitives are regularly formed from positional bases. E51 is the factitive counterpart to fientive E14.

E51 Kul-kins y-óok'ol le k'áan-che'-o' !
sit-FACT(IMP) 0-over DEM hammock-wood-D2
'Make him sit (down) on the stool!'

E51 follows the factitive pattern of S26 and the ditransitive pattern of transport verbs formalized as S15. It is, however, noteworthy that the factitive rather than the causative operator should be used with positional bases. Positional roots are clearly verbal rather than adjectival, as proved both by their conjugation and by the necessity of applying derivational operators such as the stative and resultative if one needs them in the adjectival category (§5.1). Positional concepts are notoriously ambivalent as to the alternative of 'stative (and uncontrolled)' vs. 'dynamic (and controlled)'. If we assume a scale of dynamicity as set out in Lehmann 1993, §3.1, then positionals may be allocated a point between state and process. The factitive derivation operates on bases which designate properties and states (adjectival bases) and bases which designate positions, and would thus be operating on a set of bases which together cover a continuous segment of the dynamicity scale.

5.3.2.3 Causative of inactive intransitive verb

Given a base of the inactive intransitive subclass, a causative stem may be formed. The operation transforms the intransitive construction of S9, illustrated by E13, into the causative construction of S27, illustrated by E52. S27 is a subtype of the basic transitive construction S12.

S27. Causative construction

$[\ [\ Pn_i\ ]_{PC}\ [\ [\ W\ ]_{V.intr\_inact}\ \text{-CAUS}\ ]_{V.tr}\ \text{-ABS}_j\ [\ P_j\ ]_{NP}\ [\ A_i\ ]_{NP}\ ]_{VCC}$

E52	t-in	lúub-s-ah	le	nuxib	che'-o'
	PRFV-SBJ.1	fall-CAUS-CMPL	DEM	old	wood-D2
	'I felled that old tree'				

A is the causer, P is the causee. The causative suffix has a set of allomorphs, the basic one of which is the *-s* appearing in E52. With very few exceptions, W must be inactive. Consequently, intransitive verbs of the active subclass, e.g. *meyah* 'work', cannot be causativized. Fientive stems cannot be causativized, either; but that is not necessary, since the corresponding function is fulfilled by applying the factitive derivation to their base. Finally, transitive stems cannot be causativized. This constraint may be circumvented by first passivizing them, thus creating an inactive derived stem. However, only one causative verb, *ka'ns* 'teach', discussed in §6.1, is known to be formed by such a procedure. There are periphrastic constructions which apply to such bases as are not amenable to the causative derivation.

Two intransitive constructions should be singled out as undergoing causativization. The first is the experiential construction sketched in §4.1.2. In causativizing S10, *óol* 'mind' with its possessor becomes the direct object, and L of S10 disappears. E53 illustrates the causativization of the verb appearing in E16.

E53	he'l	a	háak'-s-ik	in	w-óol-e'
	DEF.FUT	SBJ.2	scared-CAUS-INCMPL	POSS.1.SG	0-mind-D3
	'you will scare me' (kuruch_021)				

The other intransitive construction whose causativization is worth mentioning is the directed motion verb construction briefly described in §4.1.3. In causativizing it, the verb of motion becomes a verb of transport and S of S11 becomes P of S27. E54 is a rather close causative counterpart to intransitive E17.

E54 Hóok'-es le peek' ich nah-o'!
leave-CAUS DEM dog in house-D2
'Get (chase) the dog out of the house!'

Remember that verbs of directed motion are inactive; their causativization is thus completely regular. And in fact, the entire set can be causativized. The causatives of the two most basic ones, *bin* 'go' and *taal* 'come', are *bis* 'transport, take to' and *taas* 'bring'. Their lexicalization goes hand in hand with phonological erosion (from **bin-s* and **taal-s*). In general, the verb of transport inherits the local complement from the underlying verb of motion.

Two exceptions are known to the rule that causatives are only formed from inactive intransitive bases: active intransitive *áalkab* 'run' and *balak'* 'roll' form the causatives *áalkabans* and *balak'es*. These are, at the same time, the only verbs that allow both causative and extraversive transitivization: *áalkabt* 'run with respect to', *balak't* 'roll [sth.]'. Since this coexistence is not provided for by the system, it leads to problems of usage in both cases: speakers constantly confuse *áalkabt* and *áalkabans* (cf. §5.3.2.4); and *balak'es* and *balak't* are synonymous, while in general the suffix *-t* does not have causative value.

Given the constraints on factitive and on causative derivation, this pair of derivations together covers a continuous segment, viz. the lowest segment, of the implicational hierarchy of causativization proposed in Lehmann 2013.

5.3.2.4 Functional ambiguity of transitivizer

In terms of verbal morphology, there are three kinds of transitive verb stems:

1) transitive roots, e.g. *kach* 'break'
2) causativized verb stems, derived by one of the allomorphs of the causative suffix *-s*, e.g. *na'k-s* 'make get up, lift'
3) other derived verb stems, derived by the suffix *-t*, e.g. *ts'alk'ab-t* 'stamp [sth.] with the hand'.

Since both #1 and #2 are closed classes, the vast majority of transitive verbs in the language bear the suffix *-t*. Its functions may be classified as follows:

a) It derives extraversives from active intransitive roots, as in *áakan* 'moan' – *áakant* 'bemoan', *che'h* 'laugh' – *che'ht* 'laugh at', *ts'iib* 'write' – *ts'iibt* 'write [sth.]', etc. See §5.3.2.1.
b) It derives transitive verbs from non-verbal roots, as in *muuk'* 'force [n.]' – *muuk't* 'force [sth.]', *cha'n* 'spectacle' – *cha'nt* 'look at'.
c) It "retransitivizes" incorporative verbs, as in *ts'al-k'ab* 'stamp with hand' – *ts'alk'abt* 'stamp [sth.] with one's hand'. See §6.2.
d) Finally, *-t* is a morphological component of the usative suffix *–int* (§5.3.1) and the factitive suffix *-kint/-kunt* (§5.3.2.2).

This plurifunctionality of the *-t* suffix leads to the consequence that it sometimes takes the place of the causative suffix. The intransitive use of *áalkab* 'run' is illustrated by E55.a. E55.b illustrates a regular extraversive, #c a regular causative derivation.

E55 a. le tsíimin-o' áalkab-nah ti' le beh-o'
DEM horse-D2 run-CMPL LOC DEM path-D2
'the horse ran along the path'

b. le tsíimin-o' t-u y-áalkab-t-ah le beh-o'
DEM horse-D2 PRFV-SBJ.3 0-run-TRR-CMPL DEM way
'that horse ran the path'

c. t-in w-áalkab-ans-ah le tsíimin-o'
PRFV-SBJ.1SG 0-run-CAUS-CMPL DEM horse-D2
'I raced the horse'

In certain contexts, the extraversive and the causative derivation of *áalkab* are semantically not too different. Examples like E56 might therefore provide the context for reinterpretation of the extraversive suffix. Here the causative and the extraversive suffix alternate in causative function.

E56 le peek'-o'b-o' k-u y-áalkab-t-ik-o'b le k'éek'en-o'b-o'
DEM dog-PL-D2 IMPF-SBJ.3 0-run-TRR-INCMPL-3.PL DEM pig-PL-D2
'the dogs run behind the pigs / make the pigs run'

To complete this picture, the factitive suffix *-kint/-kunt* has a variant *-kins/-kuns*, containing the causative instead of the extraversive morpheme.

On the basis of the construction of the adjectival experiential predicate illustrated by E8, the transitive verb stem *ok'om-óolt* is formed. In E57.a, it is used with an extraversive argument structure; in #b, it has a causative argument structure.

E57 a. h ok'om-óol-t-a'b úuchik u kíim-il
PRFV sad-mind-TRR-PASS.CMPL OBL.SR SBJ.3 die-INCMPL
'he was mourned when he died'

b. le ba'l-o' k-u ok'om-óol-t-ik-en
DEM thing-D2 IMPF-SBJ.3 sad-mind-TRR-INCMPL-ABS.1.SG
'that thing makes me sad'

In the latter case, a factitive derivation would be expected, which is, however, nonexistent for this verb. Thus, the extraversive suffix takes on the function of the causative suffix, developing into a generic transitivizer.

5.3.3 Transitive verbs from ditransitive bases

Just as intransitive verbs may be derived from transitives by valency reduction, so in principle, transitive verbs might be derivable from ditransitive verbs by valency reduction. However, the only available processes in this domain, viz. reflexivization and reciprocization, do not, in Yucatec, actually reduce the valency of the verb, but rather fill the respective actant position with a reflexive phrase. They will nevertheless briefly be illustrated here.

5.3.3.1 Indirect reflexivity

In a way analogous to the reflexive construction of a transitive verb (§5.2.2.2), the indirect object position of a ditransitive verb (S15) may be filled by the reflexive phrase POSS_X *báah* 'X's self'. E58 is such a sentence, where the indirect object position would normally be filled by an NP of disjoint reference.

E58 k-u ch'a'-ik sahak-il ti' u báah
IMPF-SBJ.3 take-INCMPL afraid-ABSTR LOC POSS.3 self
'he is afraid of himself'

5.3.3.2 Indirect reciprocity

In a way analogous to the reciprocal construction of a transitive verb (§5.2.2.3), the indirect object position of a ditransitive verb (S15) may be filled by the reflexive phrase POSS *báah* in a reciprocal construction. E59 is such a sentence, where the indirect object position would normally be filled by an NP of disjoint reference.

E59
t-u paaklan túuxt-ah lool-o'b ti' u báah-o'b
PRFV-SBJ.3 each.other send-CMPL flower-PL LOC POSS.3 self-PL
'they sent each other flowers'

E60
le paal-o'b-e' k-u ta'k-ik u báah-o'b
DEM child-PL-D3 IMPF-SBJ.3 hide-INCMPL POSS.3 self-PL
ti' u báahtsil-o'b
LOC POSS.3 self:ABSOL-PL
'the children hide from each other'

A variant of this is illustrated by E60. It features *báahtsil* instead of *báah*, whose formation and function remain obscure.[16]

Alternatively and just as in the reciprocal construction of transitive verbs, the reflexive phrase may be omitted. For instance, E61 may be formed on the basis of a sentence like E23.

E61
ichil to'n-e' paaklan k tsikbal-t-ik úuchben tsikbal-o'b
inside us-TOP each.other SBJ.1.PL talk-TRR-INCMPL old story-PL
'in our group we tell each other old stories'

This then does appear to reduce the valency of the ditransitive verb by suppressing the indirect object. However, the indirect object is optional, anyway, and not marked on the verb, either. Consequently, E61 is just a variant of the ditransitive verb construction S15.

Finally, with the communication verbs *a'l* 'say' and *k'áat* 'ask', the preposition of the indirect object may be omitted under reciprocity, so that it appears as a direct object, as in E62.

E62
in taatah-o'b-e' paaklan u k'áat-ik u báah-o'b taak'in
POSS.1.SG father-PL-TOP each.other SBJ.3 ask-INCMPL POSS.3 self-PL money
'my parents ask each other for money'

These data show, if anything, that reciprocity of non-direct objects is not well-established in the grammar.

6 Other alternations

This section brings together a set of valency-related alternations which are not coded on the verb. The actant shift to be discussed in §6.1 is hardly coded at all. The other two subsections deal with two argument structure alternations, viz. indirect participation and incorporation, the first of which is nominally coded, while the latter appears to escape such a classification. Quite generally, it may be anticipated here that there are very few uncoded alternations in Yucatec, and they are

[16] The derivation in *-tsil* from a relational base normally forms a non-relational counterpart to it (cf. Lehmann 2002, ch. 3.2.2.2.3.2). That is, however, obviously not what happens in the case of *báahtsil*.

unsystematic. This fits in with the earlier observation that in this language, valency is a property which is firmly associated with a verb stem and whose change requires a morphological operation.

6.1 Shifts in three-argument verbs

There is a set of verbs whose meaning involves three arguments of which normally no more than two surface in the form of actants. The question then arises how the non-first arguments are mapped onto non-subject functions. There is no general strategy for this problem, but two partial ones. The first of them, called indirect participation, maps the second argument onto the direct object and accommodates the third argument not as an actant of the verb, but as a dependent of the second actant. Under semantic conditions to be specified in §6.1.1, it works in a relatively regular way. The other strategy, called direct object shift, maps either of the non-first arguments on the direct object function, while the other is preferably omitted or, at most, adjoined in a prepositional phrase. This strategy is applicable to a small set of verbs to be reviewed in §6.1.2 and takes rather idiosyncratic shapes for each of them.

6.1.1 Indirect participation

The nominal possessive construction S4 is much more central to Yucatec syntax than the trivalent verb construction S14. Given a three-participant situation with a lexically coded (rather than pronominal or implicit) undergoer, if a participant bears a relation to this undergoer which can be construed as possessive in some sense, then a construction in which that participant functions as possessive attribute of the undergoer is often preferred to a construction in which it is the third verbal actant. That amounts to using S28 as a variant of S14 (with identity of all variables).

S28. Indirect participation

$[\ [\ Pn_i\ ]_{PC}\ [\ W\ ]_{V.tr}\ \text{-}ABS_j\ [\ POSS_k\ P\ [\ L_k\ ]_{NP}\ ]_{NP.j}\ [\ A_i\ ]_{NP}\ ]_{VCC}$

This construction is called indirect participation because although L is a participant in the situation whose core is coded by W, L is not coded as a dependent of W, and instead its relation to W is mediated by its possessee P.[17] In E63 and E64, the #a versions are constructed trivalent versions of the #b versions, which are attested in the corpus. The brackets enclose an NP where the #a versions show an NP and a PrepP each directly depending on the verb.

E63	a.	máantats'	táan	u	t'ab-ik	kib	ti’	kili'ch	Anton	
		constantly	PROG	SBJ.3	lighten-INCMPL	candle	LOC	saint	Anton	
	b.	máantats'	táan	u	t'ab-ik	u	kib	kili'ch	Anton	
		constantly	PROG	SBJ.3	lighten-INCMPL	[POSS.3	candle	saint	Anton]	

‘regularly he lightens candles for St. Anthony’

[17] This is also true of the experiential construction schematized by S8 above. See the account in Lehmann et al. 2000 and Malchukov et al. 2010, §3.2.3.

E64 a. káa t-u máan-s-ah u éerensyah t-u ìihoh-e'
CONJ PRFV-SBJ.3 pass-CAUS-CMPL POSS.3_j heritage LOC-POSS.3_i son_j-D3

b. káa t-u máan-s-ah u éerensyah u ìihoh-e'
CONJ PRFV-SBJ.3 pass-CAUS-CMPL [POSS.3_j heritage POSS.3_i son_j]-D3
'and he_i handed his_j heritage to his_i son_j'

Indirect participation, as in the #b versions, is the traditional construction both for benefactive and similar adjuncts, as in E63.b, and for third arguments, as in E64. Increasing contact with Spanish has meanwhile established the #a versions as alternatives. This is, thus, a valency alternation in which a verbal dependent alternates with a nominal dependent.

Another two-place verb which accepts a beneficiary in indirect participation similarly as *t'ab* in E63 is *huch'* 'grind'. Other three-argument verbs which show the same alternation as *máans* in E64 include *ts'a'* 'put, give', *taas* 'bring', *okol* 'steal' and *but'* 'stuff'. It deserves particular attention that even the central three-place verb of the language, viz. *ts'a'*, is frequently found in the indirect participation construction. E65 is a representative example from a tale.

E65 yuum ahaw-e'
master/father chief-TOP

káa bin t-u ts'a'-ah u y-otoch x-t'uup
CONJ QUOT PRFV-SBJ.3 put/give-CMPL [POSS.3 0-home F-youngest.sibling]
'the chief gave a house to the youngest daughter' (HK'AN_309)

Moreover, there is a set of three-argument verbs for which no trivalent construction is possible, indirect participation being the only construction allowing the simultaneous coding of all three arguments. This set includes *lak* 'detach', *luk's* 'take away (from)' (causative of *luk'* 'depart, go off'), *hat* 'tear (off)' (illustrated by E39.a), *tix* 'rinse (off)', *tíit* 'shake (off), *púus-t* 'remove dust', *ts'ik* 'shave' and *ts'íil* 'peel'. As may be seen, the set is semantically homogeneous, as they all mean 'A affects an object L in the role of source in such a way that another object P in the role of moved undergoer gets detached from L' (variables as in S28). In the indirect participation construction, L appears as the possessive attribute of P, as shown in S28. For the verbs *lak* and *luk's*, P is the only possible direct object. The other verbs in the set show direct object shift (s. next section) with respect to P and L, i.e. they allow an alternative construction in which L is the direct object, while P cannot be accommodated. E66 and E67 illustrate this alternation for *ts'íil* 'peel' and *púus-t* 'remove dust': the #a version has indirect participation with P in direct object function, while the #b version has L in direct object function.[18]

E66 a. le xibpal-o' t-u ts'íil-ah u sóol le che'-o'
DEM boy-D2 PRFV-SBJ.3 peel-CMPL [POSS.3 shell DEM tree-D2]
'the boy peeled the bark off the tree'

b. ts'íil-a'b tuláakal le che'-o'b-o'
peel-PASS.CMPL all DEM wood-PL-D2
'all the trees were peeled'

E67 a. le xch'úup-o'b-o' t-u púust-ah-o'b u luuk'-il le meesah-o'
DEM woman-PL-D2 PRFV-SBJ.3 wipe-CMPL-PL [POSS.3 mud-REL DEM table-D2]
'the women wiped the dirt off the table'

[18] *Ts'ik* is somewhat exceptional in that L is an animate being, as one can shave either a person or his hair or beard.

b. le xch'úup-o'b-o' t-u púust-ah-o'b le meesah-o'
DEM woman-PL-D2 PRFV-SBJ.3 wipe-CMPL-PL DEM table-D2
'the women wiped (dirt off) the table'

While the independent existence in the universe of discourse of a possessive semantic relation between P and L favors indirect participation, there are many examples where a possessive syntactic relation owes its entire *raison d'être* to this construction. For instance, in E67.a, the table in no sense possesses the dirt. Instead, the syntactic possessor function exclusively serves the coding of a verb argument role.

6.1.2 Direct object shift

With a set of Yucatec three-argument verbs, either of the non-first arguments may be direct object, while the other non-first argument is preferably omitted. This alternation is called direct object shift. The set may be further subdivided as follows (with variables as in S14):

1. only bivalent (monotransitive) construction possible: *hat* 'tear P off L', *tix* 'rinse P off L', *tíit* 'shake P off L', *púus-t* 'remove P (dust) from L', *ts'ik* 'shave L's P' and *ts'íil* 'peel P off L';
2. trivalent construction possible:
   a. with locative shift: *but'* 'stuff P into L, fill L with P', *bak'* 'wind P around L, wrap L in P',
   b. with irregular valency alternation: *okol* 'steal P from L', *ka'ns* 'teach L P'.

The subset #1 is the same mentioned in the preceding section as the set of verbs allowing indirect participation of L if P is direct object; s. E66f. With verbs of subset #2, the third argument is introduced by a preposition. With subset #2a, S14 (V P *ti'* L) alternates with S13 (V L *yéetel* P). That is: if P is the direct object, as in E68.a and E69.a, then L is coded in a local prepositional phrase. If, however, L is the direct object, as in the #b versions, then P appears as an instrumental adjunct. This pattern defines locative shift.

E68 a. le koolnáal-o' t-u but'-ah ixi'm ti' le kaamion-o'
DEM farmer-D2 PRFV-SBJ.3 fill-CMPL corn LOC DEM truck-D2
'the farmer loaded corn onto the truck'

b. le xch'úupal-o' t-u but'-ah le luuch yéetel ha'-o'
DEM girl-D2 PRFV-SBJ.3 fill-CMPL DEM cup with water-D2
'the girl filled the cup with water'

E69 a. k-in bak'-ik su'm t-in k'ab
IMPF-SBJ.1.SG wind-INCMPL rope LOC-POSS.1.SG hand
'I wind a rope around my hand/arm'

b. k-in bak'-ik in k'ab yéetel su'm
IMPF-SBJ.1.SG wind-INCMPL POSS.1.SG hand with rope
'I wrap my hand/arm with a rope' (FEE_0131)

These two are, then, the only Yucatec verbs on record displaying locative shift. The #b examples were elicited; these constructions do not occur in the corpus.

Subset #2b comprises an idiosyncratic remainder. The verb *okol* 'steal' may be used in intransitive, monotransitive and ditransitive constructions. Although there are, in fact, two variant transitive stems of this base (with or without the *-t* suffix), neither of them is firmly associated with either the stolen thing or the deprived person as the direct object. E70 illustrates the variation, with #a having the stolen thing, and #b, the bereft person, in direct object function.

E70 a. t-in w-okl-ah hun-p'éel bisikleetah
PRFV-SBJ.1.SG 0-steal-CMPL one-CL.INAN bicycle
'I stole a bike'

b. ko'x okl-ik le máak-o'
go.HORT steal-INCMPL DEM person-D2
'let's rob that person'

In the ditransitive construction illustrated by E71, the stolen thing is the direct, the victim the indirect object. This construction – an instantiation of S15 – exhibits no syntactic variation.

E71 k-in w-okol-ik teech le ba'l-o'
IMPF-SBJ.1.SG 0-steal-INCMPL you DEM thing-D2
'I steal that thing from you'

The most complicated verb in this respect is *ka'ns* 'teach'. Its stem is ultimately based on the transitive root *kan* 'learn'. This is first passivized, yielding *ka'n* 'be learnt'. This stem is then causativized, yielding *ka'ns* 'cause to be learnt'. By its formation, this verb should take the subject matter learnt as its direct object. This does happen in E72.a, where the learner appears as indirect object. In #b, these two participants swap their syntactic functions, something that happens with no other ditransitive verb. And in #c, the learner is direct object, while the subject matter is apparently secondary object, a function otherwise unknown in Yucatec.

E72 a. t-in ka'ns-ah xokp'éelil-o'b t-in paal
PRFV-SBJ.1.SG teach-CMPL number-PL LOC-POSS.1.SG child
'I taught my child numbers'

b. le ko'lel-o' t-u ka'ns-ah le xch'úupal
DEM woman-D2 PRFV-SBJ3 teach-CMPL DEM girl

ti' hum-p'éel k'aay-o'
LOC one-CL.INAN song-D2
'the lady taught the girl a song'

c. ka'ns-a'b-en utsil t'aan maaya tumen in kaanbesah
teach-PASS.CMPL-ABS.1.SG well speak maya by POSS.1.SG teacher
'I was taught to speak Maya well by my teacher'

Finally, this verb may also be used monotransitively, with either the subject matter or the learner as direct object. All of this allows of no generalization and instead points to the peculiar idiosyncratic nature of this verb.

6.2 Incorporation

The incorporative construction must be seen in the context of the formation of complex verb stems. There are essentially two processes of forming compound verb stems, by combining a verb stem with a preverbal adverb and by combining it with a postverbal noun. The latter is traditionally called incorporation and may be schematized as in S29.

S29. Incorporative construction

$[\ [\ Pn_i\ ]_{PC}\ [\ [\ W\ ]_{V.tr} - [\ P\ ]_{N}\ ]_{V.intr}\ [\ A_i\ ]_{NP}\ ]_{VCC}$

Although P is not necessarily the underlying direct object, as we shall see in a moment, W must be transitive. Moreover, it must be a transitive root. The only morphological complexity allowed for W is reduplication (as in *ch'a'-ch'a'-book* RED-take-odor 'sniff') and the distributive suffix *-lan* (as in *chuk-lan-paach* catch-DISTR-back 'hunt down separately'). Many incorporative constructions bear close paradigmatic correspondence with a syntactic construction that has P as a dependent NP or PrepP. To that extent, it seems justified to treat incorporation not only as a process of verbal compounding, but also as a syntactic process.

The syntactic function of P in the corresponding verbal dependency construction is either direct object or instrumental adjunct (see Lehmann 2006 for details). In the former case, S29 corresponds paradigmatically to S12 (with identity of all variables). E73 shows P first in direct object function, then incorporated.

E73 a. t-in ch'ak-ah xa'n behela'-ak-e'
PRFV-SBJ.1.SG cut-CMPL palm today-past-D3
'I cut palm fronds today'

b. h bin-en ch'ak-xa'n behela'-ak-e'
PRFV go(CMPL)-ABS.1.SG cut-palm today-past-D3
'I went palmcutting today'

If the incorporated noun has the semantic role of an instrument, the incorporative construction corresponds to S13 (with I in S13 mapping onto P in S29). This is illustrated by E74.

E74 a. táan u páan-ik hun-p'éel ba'l yéetel u k'ab le tsíimin-o'
PROG SBJ.3 dig-INCMPL one-CL.INAN thing with POSS.3 hand DEM horse-D2
'that horse is digging something out with his hoof'

b. táan u páan-k'ab le tsíimin-o'
PROG SBJ.3 dig-hand DEM horse-D2
'that horse is pawing at the ground' (Bricker et al. 1998 s.v. *páan*)

c. táan u páan-k'ab-t-ik hun-p'éel ba'l le tsíimin-o'
PROG SBJ.3 dig-hand-TRR-INCMPL one-CL.INAN thing DEM horse-D2
'that horse is digging something out (with his hoof)'

No matter what the role of the incorporated noun is, the incorporative verb joins the active subclass of intransitive verbs, illustrated by E73.b and E74.b. However, many of these verbs are not generally used intransitively and instead are extraverted in order to take a direct object. That is shown by E74.c (cf. also E46 above). If the incorporated noun is an instrument, then the direct object of the incorporative verb may be the same as with the simple verb, as is the case in E74. To that extent extraversion of the incorporative stem amounts to its retransitivization (Sullivan 1984). E75 is another example of this.

E75 a. k-u lom-ik yéetel u k'ab
IMPF-SBJ.3 stab-INCMPL with POSS.3 hand
'he pricks it with his finger'

b. k-u lom-k'ab-t-ik
IMPF-SBJ.3 prick-hand-TRR-INCMPL
'he pricks it with his finger'

If, however, the incorporated noun functions as the undergoer of the base verb, then retransitivization of the incorporative verb allows for its combination with a new kind of direct object. In E76, this is the same participant that was a prepositional adjunct in the base version.

E76 a. t-u t'in-ah u y-ich ti' teen
PRFV-SBJ.3 extend-CMPL POSS.3 0-eye LOC me
'he greeted me opening his eyes'

b. t-u t'in-ich-t-ah-en
PFRV-SBJ.3 extend-eye-TRR-CMPL-ABS.1.SG
'he winked at me'

On the one hand, not all incorporative verbs have a natural free syntactic counterpart; the #a versions of E74 – E76 are not very idiomatic. On the other hand, incorporative constructions are not fully productive in the syntactic sense. Only such instruments and such undergoers are incorporated which typically figure in the action described by the verb. Thus, for a verb to "regularly" incorporate its instrument does not mean that any instrumental adjunct may be incorporated, but rather that the incorporative constructions of the verb are morphologically and semantically regular (compositional).

7 Conclusion

Contrary to nominal valency, which is quite intricate in Yucatec, verbal valency is typologically unremarkable in many respects: The verb finds its place in a part-of-speech system which is not essentially different from an SAE system, including the conversion operations between the categories. The alignment of syntactic functions is accusative without any split; it is only the morphology of the cross-reference markers on intransitive verbs which displays an ergativity split depending on certain conjugation categories. There is an indirect object, although somewhat underdeveloped in comparison with SAE languages. There are valency alternations between transitive and intransitive frames, including a completely regular passive. The typologically noteworthy features are the following:

1. The transitivity system is extremely rigid, in the following sense: Every verb form that occurs in a text is formally either transitive or intransitive, and its syntactic construction coincides with this. There is no way of using a given verb form in the other function.
2. As a corollary to observation #1, the language has no regular or productive uncoded valency alternations.
3. Conjugation classes reflect relationality and control rather faithfully and are correspondingly productive as targets of derivational operations.
4. The language has an aversion against multivalent constructions and, in fact, against accumulating dependents on a single verb. On the one hand, it has strategies of avoiding this. One of these is indirect participation, which employs the nominal possessive construction instead of verbal dependency. Another strategy with similar effect is the incorporation of non-referential dependents in the verb. On the other hand, there is not a single productive operation that produces a ditransitive construction.

Abbreviations

a. In construction formulas

A	actor	P	undergoer
Adj	adjective	PC	pronominal clitic
Advl	adverbial (phrase)	Pd	possessed
Aux	auxiliary	Pn	pronominal element
DC	deictic clitic	Pr	possessor
E	experiencer	PrepP	prepositional phrase
I	instrument	S	intransitive subject
L	local and other complement	V	verb
N	noun	VC	verbal complex
Nom	nominal	VCC	verbal clause core
NP	noun phrase		

b. In interlinear glosses

0	[no meaning]	INAN	inanimate
1, 2, 3	1st, 2nd, 3rd person	INCMPL	incompletive
ABS	absolutive cross-reference	INTROV	introversive
ABSOL	absolutive	LOC	locative
ABSTR	abstract	OBL	oblique
AN	animate	PASS	passive
AUG	augmented number	PL	plural
CAUS	causative	POS	position
CL	classifier	POSS	possessive cross-reference
CMPL	completive	PRFV	perfective
COLL	collective	PROG	progressive
CONJ	conjunction	PRSV	presentative
D1/2/3	proximal/distal/anaphoric deictic	QUOT	quotative
DEAG	deagentive	REL	relational
DEF	definite	RSLTV	resultative
DEM	demonstrative	SBJ	subject cross-reference
F	feminine	SG	singular
FACT	factitive	SPONT	spontaneous
FIENT	fientive	SR	subordinator
FUT	future	SUBJ	subjunctive
GER	gerund	TERM	terminative
HORT	hortative	TOP	topic
IMP	imperative	TRR	transitivizer
IMPF	imperfective	USAT	usative

References

Bricker, Victoria R. 1970, “Relationship terms with the usative suffix in Tzotzil and Yucatec Maya”. *Papers from the Regional Meeting of the Chicago Linguistic Society* 6: 75-86.

Bricker, Victoria R. et al. 1998, *A dictionary of the Maya language as spoken in Hocabá, Yucatán. With a botanical index by Anne S. Bradburn*. Salt Lake City: University of Utah Press.

Lehmann, Christian 1992, “Yukatekische lokale Relatoren in typologischer Perspektive”. *Zeitschrift für Phonetik, Sprachwissenschaft und Kommunikationsforschung* 45:626-641.

Lehmann, Christian 1993, “Predicate classes in Yucatec Maya”. *Función* 13/14:195-272.

Lehmann, Christian 2002, *Possession in Yucatec Maya*. Second, revised edition. Erfurt: Seminar für Sprachwissenschaft der Universität (ASSidUE, 10).

Lehmann, Christian 2006, “Incorporación nominal, posesión y participación en el maya yucateco”. *Península* 1(2):129-141.

Lehmann, Christian [to app.], “Latin causativization in typological perspective”. Lenoble, Muriel & Longrée, Dominique (eds.), *Actes du 13ème Colloque International de Linguistique Latine*. Louvain: Peeters.

Lehmann, Christian & Shin, Yong-Min & Verhoeven, Elisabeth 2000, *Direkte und indirekte Partizipation. Zur Typologie der sprachlichen Repräsentation konzeptueller Relationen.* München: LINCOM Europa (LINCOM Studies in Language Typology, 4).

Lehmann, Christian & Verhoeven, Elisabeth 2006, “Extraversive transitivization in Yucatec Maya and the nature of the applicative. ” Kulikov, Leonid & Malchukov, Andrej & de Swart, Peter (eds.), *Case, valency and transitivity*. Amsterdam & Philadelphia: J. Benjamins (Studies in Language Companion Series, 77); 465-493.

Malchukov, Andrej L. & Haspelmath, Martin & Comrie, Bernard (eds.) 2010, *Studies in ditransitive constructions. A comparative handbook.* Berlin & New York: W. de Gruyter.

Martínez Corripio, Israel & Maldonado, Ricardo 2010, "Middles and reflexives in Yucatec Maya. Trusting speaker intuition" Berez, Andrea L. & Mulder, Jean & Rosenblum, Daisy (eds.), *Fieldwork and linguistic analysis in indigenous languages of the Americas*. Honolulu: University of Hawai'i Press (Language Documentation and Conservation, Special Publication, 2); 147-171.

Paris, Catherine 1985. “Relations actancielles et valence verbale en avar: effacement de l’actant et mise au jour du sens”. *Actances* 1: 135-153.

Sullivan, Paul R. 1984, “Noun incorporation in Yucatec Maya." *Anthropological Linguistics* 26(2):138-160.

Verhoeven, Elisabeth 2007, *Experiential constructions in Yucatec Maya. A typologically based analysis of a functional domain in a Mayan language.* Amsterdam & Philadelphia: J. Benjamins (Studies in Language Companion Series, 88).