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Predicate classes in Yucatec Maya

Christian Lehmann

Abstract

The purpose of a classification of predicates is to provide the basis for any explanations of different grammatical behavior of predicates that may be grounded in differences of lexical semantics. The scope of such a classification has to comprise not only verbs, but all words that can function as predicates, because the criteria must not be structural. The criteria of such a classification are therefore such as characterize situations, participants and their roles in situations. The features form a hierarchy and are defined operationally so that tests for the assignment of a given predicate to some class can be formulated.

Some 450 stems of spoken Yucatec Maya are classified in this way. Generalizations about the structural behavior of the semantic classes are proposed. The grammatical and lexical operations that transfer a predicate from one class into another are reviewed. Finally, an attempt at formulating the underlying typological principles is made.

1. Introduction

The purpose of classifying the predicates of a language will not be immediately obvious; the enterprise might even seem obsolete from the start. Aren't there as many different classifications of predicates, or verbs, as there are linguists, or at least, as there are criteria by which verbs can be distinguished? So what is the possible fruitfulness of such a classification?

A classification of a set of objects gains significance to the extent that the criterion employed correlates with other criteria that differentiate the same set. If we classified the verbs of Yucatec Maya (YM) according to their first phonemes, we should find litte, or no, connections of the resulting classification with one that resulted from the application of any non-phonological criteria. If we classified them by their number of syllables, the case would be a bit better, because some conjugation classes are generally not open to polysyllabic roots. (Thus, there are no polysyllabic transitive base verbs.) However, the best correlations are achieved if we employ semantic and structural criteria. For instance, the class of YM verbs that in incompletive aspects bears the suffix *-ik* (morphological criterion) is essentially the same as the one that accepts a direct object (syntactic criterion) and as the class of verbs that designate situations involving (at least) two participants between which[1] there is a gradient of control (semantic criterion).

If the correlation between structural and semantic classifications were complete, this would mean that there was a biunique association mapping each structural feature on one semantic feature. We would then have a combined semantic-structural classification. However, things are not that easy.[2] As we will see in more detail, there are verbs carrying the suffix *-ik* which are not transitive and designate a process involving only one participant (e.g. *íichin-t* `take a bath'); there are others that do not carry the suffix, are not transitive, but designate a process involving two participants between which there is a gradient of control (e.g. *tsikbal* `tell' and *ts'íib* `write'); and there are yet other cross-associations. It is therefore wise not to mix structural and semantic criteria from the start, but instead do a structural and a semantic classification separately and, in a second step, compare the two.

Some of the classes that can be established on a semantic basis are well known in Mayan studies and have, indeed, been well known for centuries in Classical Philology. Among them are perception verbs (verba sentiendi), communication verbs (verba dicendi), verbs of feeling and affect (verba affectuum), motion verbs, and others. One class of verbs that has received much attention in recent typological linguistics, in connection with studies of ergativity, are verbs of bodily impingement, such as `beat', `kick', `kill'. The reason why such semantic classes are well-established in linguistics is, apparently, that they have been found to be of morphological or syntactic relevance, i.e. to correlate with structural classes, in well-studied languages. Any descriptive study that tries not only to represent the structural facts, but also, to understand them, will be interested in the potential relevance of such semantic classes.

For the reasons mentioned, a couple of semantic classes have been much used in the description of both Mayan and other languages. Statements such as the following are very common: in this language, perception verbs take an accusativus-cum-infinitivo construction; verbs of communication take a subordinate clause introduced by a certain conjunction as a direct object; stative verbs are not used in the progressive aspect; and so forth. The usefulness of such semantic classes is thus beyond doubt. However, they have mostly been taken for granted, understood on intuitive grounds, and have seldom been defined. Even where some such class has been studied as a lexical field – as there have been well-known studies of verbs of communication, of motion, of cooking –, attention has generally been

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[1] The term `participant' will be treated as an inanimate noun.

[2] although Owen 1969 does make it appear as if this were the case in the object area under consideration

devoted more to the internal structure of the field than to its position in the overall verbal lexicon and its delimitation against other lexical classes. The reason for this situation is that comprehensive classifications of the predicates of a language on a semantic basis have seldom been undertaken. For YM, I am aware of no such study.

In an article such as the present one, only a first step towards such a classification can be taken. My purpose here is

- to present the semantic criteria that are relevant to such a classification, introducing, at the same time, an appropriate terminology,
- to combine the criteria in a systematic way such that they yield a comprehensive classification,
- to fill the major resulting classes with example stems of YM – without aiming at exhaustiveness –, and
- to show some ways in which these lexical classes are structurally relevant, i.e. behave in a homogeneous way as to morphology or syntax.

The classes found should be usable in studies of verbal morphology or syntax. The primary purpose is, thus, a purely descriptive one: to provide some conceptual and terminological tools for the grammar of YM. At a secondary level, the study represents the application of a general model of grammatical description to a particular language and, thus, serves to test the model and to provide a specimen of how it may be applied to different languages.[3]

The variant of YM described here is the language currently spoken in Quintana Roo. The data were collected in 1988 and 1991, during two fieldwork stays in the small village named Yaxley, município Felipe Carrillo Puerto, Quintana Roo.[4] This variety differs in a number of respects from the one that underlies most of the work of the Chicago and New Orleans schools of Mayan studies. Informants were mainly male adult Maya-Spanish bilinguals.[5]

2. The domain of classification

2.1. Preliminaries

If we were to do a structural classification, a proper domain of application would be the verbs of YM. These could be defined as those lexemes which may be directly preceded by one of a set of auxiliaries that consist of an aspect morpheme and a personal clitic of the subject/possessive paradigm, so that the combination, either by itself or supplied with some suffixes of a well-defined set, yields a complete sentence. We could then proceed to establish derivation and conjugation classes on the basis of the available affix positions and the paradigms that may fill them; or we could establish syntactic classes on the basis of the combinatorial potential of verb forms in the verb phrase and the clause. Thanks to the work of, among others, Blair 1964, McClaran 1969, Owen 1969, Po'ot Yah 1981, Stefflre 1972, the grammar of YM is relatively far advanced on this track.

Given the purpose of this study, the verbs of the language are not the proper domain of classification, because they cannot be identified on semantic grounds. A prototypical action predicate such as `hit' will emerge as a verb not only in YM, but probably in all languages. A predicate such as `know', on

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[3] See Lehmann 1989 for the descriptive theory and Lehmann 1991 (with further references) for a theory of predicate classes.

[4] Fieldwork in 1991 was supported by the Deutsche Forschungsgemeinschaft, whose help is gratefully acknowledged.

[5] Cordial thanks are due to Ramón May Cupul, my main informant, for his keen interest in my problems, his inexhaustable patience and good humour.

the other hand, is a verb in English and several other languages, but not in YM.[6] However, we want our classification to comprise both `hit' and `know'.

Reference and predication are basic notions of linguistic theory which will not be defined here. The **predicates** of a language will be conceived as those words whose primary function[7] it is to predicate, rather than to refer. In the case of YM, the case is a bit complicated by the fact that – given the lack of a copula – most referring expressions can also function as predicates. Despite this complication, the above definition correctly identifies the predicates as those words which may function in predication but not, without further ado, in reference.

Words such as `become', `turn into' etc. will be considered predicates. Semantically speaking, it is their predicate nominal which is the relevant predicate here, the verbs mentioned serving only as more or less grammatical verbalizers. The decision taken here is motivated by the structural fact that these verbalizers do, in fact, fit into some of the major word classes which form the object area under investigation. In consonance with this decision, their predicate nominal will be considered a participant, which – it should be clear – again is a gross oversimplification.

2.2. Form classes of Yucatec Maya

The definition excludes adverbs and most grammatical words from the domain of this study. Something needs to be said about the word classes and subclasses which are included. In order to avoid circularity, these need to be defined here by their formal characteristics.

A **noun** (n) can be recognized by two properties: 1) it can be inserted in the frame *le* __*-o'* `that __'; 2) it cannot directly modify another noun (as adjectives can). Examples are *x ch'úuppal* `girl' or *ta'n* `ash'. A **relational noun** (n/rel) is one which must either take a possessive attribute (which entails a possessive clitic) or else must undergo some morphological modification in order to avoid this. Examples include *suku'n* `elder brother' and *p'éek* `hate' (lit. `hater').

An **adjective** (adj) is a word which can directly modify a noun as an attribute, being either preposed or postposed. Examples are *k'oha'n* `sick' and *úuchben* `old'. Most adjectives can also be used predicatively and then take absolutive suffixes. Almost all of them can undergo derivation by the suffix *-tal* (s. §6.2.4). There is a small class of words, with *bèey* `such' and *he'l* `voici/-lá' among them, which, although sharing with adjectives their morphological properties, cannot be used attributively. They will be treated as a subclass of adjectives.

A **modal** (mod) is a word which can only function as the predicate of a sentence but which does not inflect. Examples are *yàan* `exist' and *k'abéet* `necessary'.

A **verb** is a word which can be preceded by an auxiliary (an auxiliary is a complex of a tense/aspect word and a subject clitic; both of the latter sets are defined by enumeration). A **transitive verb** (v/tr) is one which is preceded by a subject clitic and followed by an abolutive suffix. Examples include *kon* `sell' and *áan-t* `help'.[8] A **reflexive verb** (v/refl) is a transitive verb which takes the relational noun *báah* `self' (with its possessive clitic agreeing with the subject) as a direct object. An **intransitive verb**

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[6] Both *ohel* and *k'ahóol* are relational nouns; cf. §§ 2.2 and 4.3.2.

[7] The primary function of a linguistic sign is the one which requires least grammatical, especially morphological, apparatus; cf. Kuryłowicz 1936.

[8] The *-t* suffix on a class of transitive verbs is not an inflectional, but a derivational suffix and thus cannot define a conjugation class. More on this in § 6.3.1.4.

(v/itr) is one which only takes one of the two devices defining a transitive verb at a time.[9] Three major conjugation classes of intransitive verbs will be distinguished according to suffixes which appear in certain tense/aspect/mood (TAM) categories. They are displayed in F1.

F1. *Intransitive conjugation classes*

TAM categories class label	incompletive	completive	examples
v/itr -0	-0	*-n*(*-ah*/*-ak*)	*alkab* `run', *xiknal* `fly'
v/itr -Vl	*-Vl*	-0	*hàan* `eat', *ch'íih* `grow'
v/itr -tal	*-tal*	*-chah ~ -lah*	*xol* `kneel', *kux* `live'

Apart from these, there are a few irregular verbs such as *bin* `go'. It is profitable to assign the three conjugation classes to two major groups, namely those that take a suffix in incompletive TAM categories (and it is no coincidence that that suffix ends in vowel plus *l* in both of the classes concerned), and those that do not. All of these classes are productive. However, some facts indicate that the first conjugation class is the unmarked one for intransitive verbs. Polysyllabic roots, among them all Spanish loan verbs, generally join this class.

3. The functional criteria

3.1. Classificatory features

We may conceive of the meaning of a predicate as a bundle of semantic features, some of which relate to the situation designated, others to the participants involved and yet others to the specific roles that the participants have in the situation. Let us call these **situation features**, **participant features** and **role features**. As has long been known, the features in each of these classes differ as to their classificatory potential within the lexicon: some are very general and applicable to all or most predicates, others are more specific and differentiate only among members of one lexical field. In a study such as the present one, which aims at a comprehensive high-level classification, only the generic, or **classificatory**, **features** will play a role.

These differences in generality are reflected in the language system in the following way:

- The classificatory features have grammatical relevance. E.g., situation features such as [+/-dynamic] (state vs. process) are reflected in different word classes and in processes of word-formation. Participant features such as [+/-human] determine the selection of different pronouns. Role features such as [+/- control] manifest themselves in different syntactic functions of actants.
- Mid-level features are reflected in subregularities of the combinatory potential of words. The difference between bodily vs. mental attainment of an undergoer is brought out partly in YM by the fact that many predicates of mental impact do not combine directly with their undergoer noun phrase, but instead with *u yóol NP*, `NP's mind'. Such features may also be reflected in derivational categories.

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[9] The personal enclitic morphemes which precede verbs are called subject clitics because their reference comprises the actor of the transitive verb and - in incompletive TAM categories - the sole actant of the intransitive verb. The personal suffixes are called absolutive suffixes because their reference comprises the undergoer of the transitive verb and - in completive TAM categories - the sole actant of the intransitive verb.

- The low-level features, e.g. the difference between *sa'sakal* `cough' and *he'síin* `sneeze', have no structural relevance.

Although I have been speaking of high, mid and low level features and have been exemplifying with binary features, it will be understood that the differences considered here are gradient and shiftable rather than abrupt and steady, and that the classes to be found are fuzzy and open rather than mutually exclusive and jointly exhaustive. Insofar as we are dealing with lexical features which have varying degrees of grammatical relevance, the whole study of predicate classes is one in the border area between lexicon and grammar.

The **situation features** to be analyzed can be conceived of as a gradient leading from the pole of maximal time-stability, stativity to the pole of maximal transiency, dynamicity. The predicate classes relevant in this context are displayed in F2. On the side of dynamic situations, a process may be **atelic** (durative) or **telic**. A telic process may be bounded at the end or at the start. If the former, it is terminative; if the latter, it is an event. If the event is only bounded at the start, it is ingressive; if it is also bounded at the end, it is punctual.

F2. *Situation features*

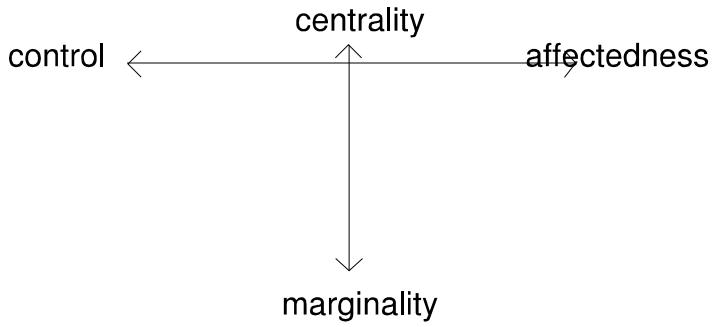
stative						dynamic
class inclusion	property	state	durative process	terminative process	ingressive event	punctual event

Obviously, F2 provides the basis for aktionsarten as lexical and, in particular, derivational categories. It is, at the same time, the semantic basis of the noun-verb continuum. At the left pole, we only find nouns; at the right pole, only verbs. However, the primary function of nouns is to refer, not to predicate. In accordance with what was said above on the scope of this study, class inclusion will only be mentioned in passing.

The following **participant features** will be of relevance: A participant may be propositional or non-propositional. In the latter case it may be a place (location) or an entity. An entity may be an inanimate thing or an animate being. The latter may be an animal or human.

The **role features** can be represented in a two-dimensional space, as in F3. The vertical dimension relates to the degree of involvement, of centrality vs. marginality of the participant to the situation. Sources are less directly involved than goals, experiencers less directly than patients. The horizontal dimension differentiates between directly involved participants according to the extent to which they control or are controlled by the situation, i.e., to which they are actors rather than undergoers. At the pole of the prototypical actor we find the agent; at the pole of the prototypical undergoer, the patient. Between them, there is a gradience of control where, among others, the participants of a predicate such as *k'áat* `ask' find their places. A situation that has a controlling participant is an **action**.

F3. *Involvement of participants*



What is **universal** and what is **language-specific** about a classification with this basis? It is assumed that the dimensions of classificatory features introduced above have a cognitive basis and are, therefore, universal, while the low-level features may have a cognitive or a cultural basis and will be increasingly language-specific. Moreover, while the classificatory features themselves are universal, they admit many different combinations among each other and with the low-level features. They thus form complex bundles wich may or may not turn up in the form of a predicate in a specific language. Thus, while English has both *lie* and *cheat*, thus differentiating between a purely linguistic act between two human participants and one which involves, in addition, the transfer of a value between them, YM only has *tus*, which covers both situations.

For this reason, a classification of the predicates of a language on a universal semantic basis cannot proceed in an aprioristic manner. I.e., we do not start from a presumedly universal concept such as `burn', classify this as representing a terminative process whose central participant is an undergoer which is a physical object, then look for the YM word representing it, say *èel*,[10] and thus know the correct class allocation of *èel* beforehand. Instead, we do a semasiological analysis of YM predicate words, come up with the roots *èel*, *tóok* and *tàab* corresponding to the notion of `burn' (each with their derivatives), and examine how these behave with respect to our dimensions, so that we can allocate them to their appropriate classes. The result is, in this case, that *èel* does come close to the presumed universal concept, although it is not necessarily terminative. *Tóok* has the animate being causing the fire as its central participant. And *tàab* has both the actor and the undergoer as central participants and is ingressive.

3.2. Operationalizing the features

3.2.1. Testing semantic properties

The semasiological procedure alluded to presupposes the availability of **tests** by which we find out the class allocations. Such a test consists essentially in inserting the predicate in question in a prefabricated sentential frame. The behavior of the predicate under examination is assessed accordingly as the resulting sentence is fine or not. It goes without saying that the application of such a test is hardly ever a simple matter; it is not a discovery procedure. For example, in order to test whether a human participant has control, the imperative test is usually applied. However, this does not reduce to looking

[10] To be honest, I did, in fact, partly proceed in this way. But this was a heuristic device which was to help me to find representatives of the conceivable classes as fast as possible. The methodological justification of the results is, in any case, as follows above.

whether the verb in question has an imperative form, or whether a sentence containing it is well-formed. Most non-control verbs can, in fact, be used in such a frame; cf. *receive this present as an expression of our gratitude!* What is to be tested, instead, is, whether such a sentence can be used as a true command (cf. Dik 1978). This involves, among other things, that the speaker has no magical forces and that he may sanction non-compliance (thus excluding, e.g., *dream nicely*!). As a result of such complicated conditions, the tests yield many borderline cases.

If there is a paradigmatic relationship between A and B such that B is derived by a regular morphological process from A, then it is often the case that B possesses a semantic feature for which A is not specified. For instance, English verbs equipped with the particle *up*, like *eat up, use up* (B), are terminative, while *eat* and *use* (A) are durative-terminative. One may say that only derived verbs have aktionsarten, while roots may have a `verbal character' (cf. Leiss 1990 with references). While these two categories are coextensive with respect to their subcategories, aktionsarten are much more pronounced than verbal characters and therefore easier to diagnose by linguistic tests. Although this must be granted, the conclusion cannot be that lexical semantic features can only be set up for derived categories. We will assign basic and derived YM words equally to the predicate classes. However, it must be understood that the class membership (the verbal character) of the former is much more shiftable than that of the latter.

A limitation of many tests is that they can differentiate only between members of the same word class. Thus, the imperative test can be used to find out about control properties of verbs, but not of adjectives. This is because the test uses a syntactic frame with a slot suitable for a given word class, but not for others. In general, however, this limitation is not too serious, since the question to be tested usually arises only for members of one word class. The question of control, e.g., is settled independently for adjectives.

Despite such shortcomings, the tests provide a valuable means of exteriorizing, objectivizing and controlling speakers' and linguists' intuitions.

3.2.2. Participant features

In a study of predicate classes, only such participants need be considered which are inherent in a predicate. To the extent they are exteriorized, they will be represented as **actants**. See §3.2.4 on the problem of determining whether an NP is an actant. A predicate may have from zero to three inherent participants; in YM, however, it needs to have at least one.

The tests for determining participant properties are straightforward: combine the predicate in question with participants of different lexical classes and see whether the result makes sense and remains inside the range of natural polysemy. The latter corollary goes by itself: we do not want to class *túun k'áaxal le ha'o'* `(the water is falling =) it is raining' and *túun k'áaxal le ba'lo'bo'* `the things are getting stuck' as uses of one predicate (*k'áax* is homonymous).

The participant features will be interpreted as follows. By **proposition** is meant an abstract object that may be represented by a – possibly reduced – clause. The ontological status of the proposition will not be considered; *kah* `begin' and *a'l* `say' will likewise be assumed to take a propositional participant.[11]

Participant features of predicates do not simply replicate semantic classes of referential expressions; selection restrictions of verbs do not replicate noun classes. What is of relevance for a predicate is not, strictly speaking, absolute properties of the participants, but rather, certain qualitatively different

[11] It should be clear that this is an oversimplification. For a multi-layered model distinguishing between speech act, propositional content and state of affairs, see Hengeveld 1992, ch. 1.5.

kinds of involvement that the participants are capable of. As a predicate feature, the feature [human] has the interpretation `requiring intellectual power of the participant'. The feature [animate] has the interpretation `requiring life-force (thus, an autonomous source of energy granting the possibility of independent motion and/or of exerting force) of the participant'. Typically, participants linked to predicates with these features will be human and animate, resp. But any thinking entity, like a computer or an agency, or any entity exercising force, like the wind, will be acceptable participants of predicates with the respective features. Similarly, the participant feature [place] allows for any participant that can function as a place; and the feature [thing], for anything that can be treated as a thing, including animate beings.

3.2.3. Situation features

In principle, all types of situation may have up to three participants. However, the more stative situations tend to have less participants. There is no class inclusion and no property with three participants and relatively few with two participants.

Class inclusion predicates a substance over the subject. Such a predicate responds to the questions in F4, while none of the others do.

F4. *Class inclusion test*
- a. Máaxih?. `Who is it?'
- b. Ba'nih? `What is it?'

I assume this test differentiates between class inclusion and property predicates also if both are represented by nouns. Thus, *huntúul hòoykep* `a lazy-bones' should not be among the expectable answers to F4.a. However, this remains to be investigated in detail.

The difference between a **property** and a **state** is one between an essential characteristic vs. an accidental condition of the participant(s). It is easily exemplified from Spanish with *soy moreno* `I am brown' (by nature) vs. *estoy moreno* (since I have had much sun). However, as this example shows, often the same lexical predicate may be used either in property or in state predications, so that this feature need not necessarily constitute predicate classes. On the other hand, there are examples of predicates that neatly fall into either class; e.g. *chowak* `long' (property) vs. *su'lak* `ashamed' (state). We will therefore have to differentiate between predicates that are assignable to one of the classes, vs. such predicates which are indifferent to the distinction between property and state.

Since in YM there are no verbs designating properties (such as Engl. *resemble*), no test for verbs is necessary. For adjectives and relational nouns, the pair of frames in F5 may be used.

F5. *Property test frame*
- a. __(-en). `I am/it is __.'
- b. __ yàanil(-en). `My/its current condition is __.'

If the variants F5.a and b yield no difference in meaning or only one of emphasis, we are faced with a state predicate; e.g. *k'oha'n* `sick'. If version F5.a signifies an essential characteristic, and b a current situation, this means that the predicate by itself signifies a property, but may be converted into a state predicate if equipped with *yàanil*. If version F5.b is impossible, this allows, in principle, of two interpretations. Either we are faced with a class inclusion predicate (which cannot be converted into a state); e.g. *a watan* `your wife'. Or we are faced with a state predicate that cannot be made `more stative', so to speak, by the addition of *yàanil*; e.g. *biha'n* `gone'. These cases may be kept apart by applying F4 or F6.

The second test for property vs. state is the frame F6.

F6. *Property test frame*

Leti'e', huntúul __ máak.
hump'éel __ ba'l.
`That is a __ person
__ thing.'

The alternatives in F6 have, of course, to be chosen according to participant properties. Instead of *máak* and *ba'l*, it is often advisable to use more specific class nouns. If the sentence is impossible, this is a hint that the predicate (normally, adjective) in question is a state predicate and therefore cannot be used to characterize the nature of a person or thing (e.g. *wi'h* `hungry').

Although the term `durativity' is usually not applied to states, they are as durative as atelic processes. The difference between a **state** and a **process** resides in the fact that something changes during the process. This may entail that afterwards the participant is in a different state than before. This may be a different condition of its body (e.g. *ch'íih* `grow') or mind (e.g. *kan* `learn'), or it may find itself in a different place (e.g. *xíimbal* `walk'). Or else the change may be limited to the time span during which the process goes on, so that afterwards everything is essentially as it was before (e.g. *k'ay* `sing'). In any case, a process requires the investment of energy, while a state does not.

If predicates to be tested are not verbs, they can safely be assumed to designate states rather than processes. If they are verbs – very few state predicates are –, then if they form the resultative participle in *-a'n* (cf. §6.2.3.1), they designate processes (e.g. *kah* `live, dwell'). Similarly, if the verb in question fits in the frame F7 (where an appropriate time unit has to be chosen), it designates a process rather than a state.

F7. *Process test frame*

a. Ts'o'k u __ óoxp'éel minùutoh/òorah/k'ìin.
`It has __-ed for three minutes/hours/days.'

b. Táantik u __. `It __ed a moment ago.'

It is this test that makes us classify *páahtal* `can' as a state, but *kul* `sit' and *wen* `sleep' as process predicates.

Every process will start at one point and end at another point. Thus, the difference between **atelic** (durative) and **telic** processes is not that the former do not start or end. Instead, a telic process has a built-in boundary beyond which it does not proceed. If it has a built-in endpoint, it is **terminative**; if it has a built-in start point, it is **ingressive**. Atelic process concepts contain no information about start or end; they can in principle continue indefinitely.

A test commonly used to differentiate between atelic and telic, in particular, **terminative** processes would take the form of F8 in YM.

F8. *Terminativity test frame*

a. H __ óoxp'éel minùutoh/òorah/k'ìin.
`It __-ed (for) three minutes/hours/days.'

b. H __ ichil óoxp'éel minùutoh/òorah/k'ìin.
`It __-ed within three minutes/hours/days.'

Here the verb has to be inserted in the simple past tense (e.g. *meyahnah* `worked'), and an appropriate time unit has to be chosen. If version F8.a is fine, then the verb is durative. If version b is fine, then it is terminative. This test has been applied with satisfactory results to various languages, including

English and Spanish. It does not seem to work for the dialect of YM that I investigated. Most informants saw no difference between versions a and b, one even claimed never to use F8.a. Only one informant could be trained to make the difference the Spanish way, which is obviously methodologically unsatisfactory.[12] For this reason, a different, though admittedly less elegant test was employed to distinguish terminative from durative predicates, F9.

F9. *Terminativity test frame*
Táantik u __-e', ba'le' mika'h (u) séegir u __.
`It has just __-ed, but it will go on to __.'

The appropriate forms of the verb in question have to be inserted in the slots. If the resulting sentence is fine, the verb may be atelic (e.g. *báaxal* `play'); if not, the verb is terminative (e.g. *xup'* `use up').

This test must be applied with care. If a transitive verb is tested, its object must be definite, because if there is an indefinite quantity of objects to be treated, most processes can be iterated indefinitely. Consequently, if F9 with a transitive verb is fine, it has to be made sure that the same object is being referred to in both clauses and that no repetition of the process (after meanwhile undoing its result) is being referred to. Only if the very same process continues in the second clause can the verb be taken to be atelic.

An **ingressive** verb designates the start of a process. There are, accordingly, periphrastic relationships of the form F10.

F10. *Ingressivity test frame*
"Ku __" u k'aat ya'le' "ku chúunul u __".
`"It __-s" means "it starts to __"'.

Here, there has to be a pair of lexically related verbs, the first ingressive and to be inserted in the first slot, the second durative and to be inserted in the second slot. If an appropriate sentence of the form F10 can be found, this is a hint that the first verb is indeed ingressive (e.g. *tàab* `lighten' – *tóok* `burn').

F11 does similar service.

F11. *Ingressivity test frame*
Ts'o'k u __; le méetik táan u __ beòoraha'.
`He __-ed it; therefore it is __-ing now.'

Here an ingressive and a durative verb have to be inserted as in F10. Both tests have their shortcomings. For one thing, care must be taken not to insert the resultative participle of the putative ingressive verb in the second slot (which would yield an ungrammatical sentence, anyway). A genuine ingressive verb is either morphologically unrelated to its atelic counterpart or derived from it, not vice versa. For another, the tests identify only such ingressive verbs which have a durative counterpart; no similar condition was imposed on the other situation features.

If a process is bounded both at the start and at the end, it is bilateral telic or **punctual**. First of all, punctual predicates have to be distinguished from durative ones. Given this alternative, if a predicate does not allow any specification of duration, like in F8.a, it is punctual (e.g. *tus* `lie'). If, on the other

[12] There is another hint that F8.b is, in fact, the preferred form of duration adverbials for many speakers. In their Spanish, they will say things such as *trabajé en tres oras*, which is something they cannot have learnt from Spanish monolinguals.

hand, a predicate is possible in a frame such as F8 (a or b), then if this means that the event lasted so much time, the predicate is durative. However, if it means either that the event is repeated during the time (e.g. *ho'p* `dig up' in F8.a) or that so much time elapsed before the event took place (e.g. *úuch* `happen' in F8.b), then it is an event predicate.

A more intricate problem is how punctual predicates can be distinguished from ingressive predicates. If sentences of the form F10 or F11 can be found, the verb in question does not designate a punctual event. On the other hand, if sentences of the form F9.a are possible (on an iterative reading), the verb in question cannot be ingressive; it can only designate an event, as in *óoxp'éel minùutoh síit'nahih* `he hopped for three minutes'.

3.2.4. Role features

The degree of **involvement** of a participant is the extent to which it is either centrally engaged in the happening or, on the contrary, marginal and inessential to it. In YM as in any other language, clause structure mirrors the degree of involvement of participants. That is, in general central participants have no case markers (as in YM) or only grammatical ones, peripheral participants are adjoined by adpositions or similar devices (prepositions in YM). Central participants are represented by actants (constituents governed by verbal valency) and also in the personal affixes of the verb, peripheral ones not. Moreover, the grammatical preposition *ti'* signals a more central involvement than the more concrete prepositions such as *áanal* `under'.

The problems of determining the degree of involvement of a participant are familiar from valency grammar. Here it will be assumed that a constituent is governed through verbal valency if its grammatical properties, including its mere presence, are determined by the verb. This usually leaves no doubt about beneficiaries, instruments, time specifications and the like; these are normally peripheral participants. Well-known problems arise with specifications of locations (essive, ablative, allative, perlative) in connection with local situation, motion and transport predicates, such as *kah* `live, dwell', *hóok'* `leave, go out', *ts'a'* `put'. However, these are usually represented by NPs which are either obligatory or constructed directly (without an intervening preposition), so that they are covered by the above criteria. When they are neither, as with *síit' teh tùunicho'* `hop onto the stone', they will not be considered actants.

Just as optionality of an actant representing a participant does not change the number of participants, incorporation vs. exteriorization of an actant with respect to the verb also does not change it. Thus, *kin t'okik* (tr.) *bu'l* and *kin t'ok bu'l* (intr.) `I harvest beans', although having two and one actants, respectively, both have two participants. The case is different for such intransitive counterparts of transitive verbs which have no incorporated actant, in pairs such as *háan* (v/itr) and *háan-t* (v/tr), both `eat'. The onomasiological framework presupposed in a study such as this must be fine enough, i.e. sufficiently tuned to distinctions made in languages, to enable us to say that the first has only one participant.

For a participant to **control** a situation means for it to have the power to let the situation realize or not. This presupposes that the participant may be animate. It will, in fact, generally be animate. The lifeless forces of the kind of the lightnings and falling stones that kill people are conceived as controllers in analogy with animate beings. Cf. also §3.2.2 above on the interpretation of such participant features. Moreover, the situation has to be dynamic. Properties allow of no control, states only marginally.

One of the tests of control is the imperative test, already mentioned in §3.2.1. It consists in inserting an intransitive verb in the frame F12.a, and a transitive one, in F12.b.

F12. *Imperative test frame*
a. __-én! `__!'
b. __-eh! `__ it!'

If the resulting sentence can designate a true command, the participant represented by the subject has control in the situation.

Another test is usually more reliable than the imperative test, and this is the frame `John hesitated to ___.' However, YM does not seem to have the verb `hesitate', so that this test is inapplicable. However, F13 is similar.

F13. *Control test frame*
Tu path u báah u __. `He dared/tried to __.'

As in F12, if the resulting sentence makes sense, the verb imputes control to its subject (e.g. *kul* `sit (down)'), otherwise not (e.g. *ah* `wake up'). In particular for the latter verb, F13 is clearly more reliable than F12.

A participant is **controlled** by a situation if this happens to it, rather than the participant bringing it about. For a subject, failure on the tests F13 or F12 usually implies that the participant represented by it is at least mildly controlled by the situation. For intransitive verbs, the resultative participle, i.e., F14, can serve as a test frame.

F14. *Controlledness test frame*
__--a'n. `It is __-ed.'

If the form is possible (as, e.g., with *ah* `wake up', *kul* `sit'), this means that the participant is more controlled by, than controller of, the situation.[13] With transitive verbs, the subject usually represents the actor, the object the undergoer. Cases such as *mùuk'yah-t* (v/tr)`suffer, stand' are no exceptions: application of F12 and F13 shows that the subject does retain some control. Therefore, the question of the degree of being controlled generally arises for the direct object.

The first distinction to be made here is the one between **affected** and **effected** objects. For instance, the predicates *xik* `crack, split' and *tsíik* `comb' have an affected undergoer; *mèet* `make' and *a'l* `say' have an effected undergoer. Verbs such as *chuy* `sew' are ambiguous between an affective and an effective reading.

Among affected undergoers, there is a scale reaching from very weak mental **affectedness** (e.g. *k'áat* `ask') over stronger mental affectedness (*tus* `lie, deceive'), mild physical affectedness (*méek'* `embrace') down to strong physical affectedness (*ch'ak* `hack'). While these degrees are as yet largely a matter of intuition, F15 is at least an example of the sort of test that may be applied.

F15. *Affectedness test frame*
Hach chich u __-ah. `He __-ed it very hard.'

A transitive verb has to be inserted. The resulting sentence is fine with predicates that strongly affect their undergoers (e.g. *hats'* `beat', `hit'), and awkward with those that only weakly control them (e.g. *áan-t* `help').

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[13] The contradictory results yielded for *kul* by F12 and F13 vs. F14 are typical of posture verbs; cf. §6.4.

Finally, a useful distinction can be made between total and partial affectedness. Examples are *kìin-s* `kill' (total) vs. *lòobit* `damage' (partial). All the predicates that entail some sort of movement of their undergoer (e.g. *hok* `pull out', *k'ex* `change') affect it totally.

3.3. The classificatory hierarchy

Before we start on the classification, we have to settle on the question of the mutual relations of our criteria: Do they form a hierarchy or do they intersect to yield a cross-classification; and to the extent that they do the latter, what is the proper order of the classification? Inside each of the three feature spaces of situation, participant and role features, the features are hierarchically or conventionally ordered the way they have been introduced above.

The **logical relations** among the three feature spaces are as follows: Full control is possible only in dynamic situations; therefore role features are subordinate to situation features. With respect to situation and participant features, we observe the following: Predicates are represented by nouns, adjectives, modals and verbs. These word classes are most directly related to the situation features of class inclusion, property, state and process/event. The other two kinds of features are more closely related to the participants and to the devices connecting these with the predicate. They are reflected in the predicate itself only in the form of subclasses inside the grammatical classes mentioned. Therefore situation features should occupy the highest level in the hierarchy.

A related observation lends additional weight to this one. While there are many word-formation processes in predicates that change situation features, just as there are others that change role features, there are hardly any that change participant features. Apparently the various kinds of participants are cognitively so unbridgeably different that two situations that differ only in a participant property are either not conceivable or are related in so idiosyncratic a way that there can be no process of word-formation converting one into the other.[14] This appears to argue that participant features are closer to the lower level of classification evinced by lexical structure itself.

We will therefore start with the feature space that determines the most far-reaching grammatical divisions, viz. situation features, and then come in turn to role and participant features.

The above decisions have been devised so as to minimize class overlap. What is commonly connected by lexical or grammatical processes will be classed together in one class or two neighbouring low-level classes; a difference that leads to the selection of an altogether different predicate has a high position in the precedence hierarchy of classificatory features.

4. Classification of Yucatec Maya predicates

The following classification of YM predicates will be detailed in each of the subclasses to the extent that there are relevant words. Wherever possible, each class will be exemplified by root words. Derived words will be added for the sake of completeness. Morpheme boundaries relevant to subsequent discussion will be indicated. Beyond this, no special attention will be paid to derivational relations in the present section, as they will be dealt with systematically in §6. The sample vocabulary enumerated below has been gathered randomly; no particular measures have been taken to secure its representativeness. Finally, it should be clear that the glosses cannot in all cases reflect the semantic characteristics of the YM words properly.

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[14] There are quite a few pairs of words that differ only in their selection restriction, such as *polok* `fat (animal)' vs. *pìim* `thick (thing)', or *táankelem* `juvenile (male)' vs. *lóobbayan* `juvenile (female)'.

4.1. Class inclusion

4.1.1. One participant

ko'lel (n) `woman'
che' (n) `wood'
táanxel (adj) `foreign'.

4.1.2. Two participants

kìik (n/rel) `elder sister'
chúumuk (n/rel) `center'
tséel (n/rel) `side'.

4.1.3. Summary

Just as in any other language, most predicates that designate class inclusion in YM are nouns. There is no need for extensive exemplification. However, some of these words are adjectives.

4.2. Properties

4.2.1.One participant

4.2.1.1. Human

táankelem `youthful (boy)'
lóobbayan `youthful (girl)'
ayik'al `rich'
óotsil `poor'
tòot `mute'
ts'u't `selfish, avaricious'.

4.2.1.2. Animate

mehen `small, young'
sùuk `tame'
ki'chpam `pretty'
mùuk'náal `strong'
ch'óop `blind'
kóok `deaf'
móoch `lame'.

4.2.1.3. Thing

ya'b `much, many'
nohoch `big'
chàan `small'
chichan `small'
ts'úuts' `tiny'
chowak `long'
kóom `short'

ka'nal `high, tall'
kàabal `low'
pìim `thick, big, voluminous'
tòoh `straight'
wóolis `round'
hobon `hollow'
túulis `entire, whole, complete'
polok strong, fat,
bek'ech `thin'
àal `heavy'
sáal `light'
úuchben `old'
túumben `new'
uts `good'
k'àas `bad'
ma'lòob `good'
lòob `bad'
hats'uts `nice'
ko'h `expensive'
sak `white'
bòox `black, brown'
chak `red'
ya'x `green'
k'an `yellow'
ch'óoh `blue'
k'a'n `loud'
chich `hard'
ts'u'y `hard'
ch'óoch' `salty'
ki' `tasty'
páap `piquant, spicy hot'
su'ts' `sour'
k'áah `bitter'
ch'uhuk `sweet'.

4.2.1.4. Place

nu't' `narrow'
kóoch `wide'
táax `even, smooth, flat'
k'o'lamak `rocky'
tàam `deep, profound'.

4.2.1.5. Proposition

hàah (adj) `true'

unah (mod) `should'
k'a'náan (mod) `necessary'
talam (adj) `difficult'
xàan (adj) `slow'
séeb(an) (adj) `fast'.

4.2.1.6. Summary

Except for *unah* and *k'a'náan*, which are modals, these are all adjectives.

4.2.2. Two participants

4.2.2.1. Animate

4.2.2.2. Thing

bèey (adj) `such, similar'
hel (adj) `other'
hela'n (adj) `different'
yàanal (adj) `other'
-íilih (suffix) `same'
ti'bil (adj) `fit'.

These are mostly adjectives.

4.2.2.3. Place/proposition

4.3. States

4.3.1. One participant

4.3.1.1. Human

su'lak (adj) `ashamed'
ki'mak (adj) `glad'
náay (adj) `in a good mood'
k'ùux `angry'
ts'íik `furious, angry'.

These are adjectives. They are not directly attributable to humans, but are restricted to *óol* `soul'. Thus, instead of `NP is glad', YM has *ki'mak u yóol NP* `NP's soul is glad'.

4.3.1.2. Animate

wi'h `hungry'
uk'ah `thirsty'
k'oha'n `sick'
k'íilkab `warm, sweaty'
kimen `dead'.

These are all adjectives. A set of predicates that one might expect in this group, namely those of bodily positions, are basically ingressive in YM and therefore treated in §4.6.1.1.1.

4.3.1.3. Thing

ke'x `where'
he'l `voici/-la'
yanil, *yanik* `situated; in a position/condition'
biha'n `gone'
hùun `alone'
chup `full'
chúumuk `half'
kul `turned'
chíin `upside down'
chokol `hot, warm'
ke'l `cool'
síis `cold'
k'íin `tepid'
ch'úul `wet'
tikin `dry'
sáas `light'
chíik-a'n `light, clear'
éek' `dark, dirty'
e'hoch'e'n `dark'
áak' `fresh'
yih `ripe'
tak'an `ripe, done'
mùun `tender, unripe'
pàah `spoilt (food)'
pa'x `leaky'
yàalab `remaining'.

These are adjectives, although some of them can only be used predicatively.

4.3.1.4. Place

háanil `clean, free of herbs'.
This an adjective.

4.3.1.5. Proposition

páah (v/itr -tal) `be possible'
bey (v/itr -tal) `be possible'
sùuk (mod) `be accustomed'.

While *sùuk* is a modal, the other two are intransitive verbs.

4.3.2. Two participants

4.3.2.1. Human - proposition

òoksah-óol-t `believe'
tukul-t `believe'.

There appear to be no roots in this group.

4.3.2.2. Animate – animate

yáamah (n/rel) `love'
p'éek (n/rel) `hate'.

These are relational nouns. *Yáamah* is a perfect participle of a verb which is no longer in use. Complex predicates include *ts'o'ka'n u bèel (yéetel)* `married (to)'; cf. §4.7.2.1.1.

4.3.2.3. Animate - thing

k'áat (n/rel) `wish'
k'ahóol (n/rel) `know'
sahak (*ti'*) (adj) `afraid (of)'.

4.3.2.4. Animate - place

4.3.2.5. Animate - proposition

ohel (n/rel) `know'
k'áat (n/rel) `wish'
tàak (mod) `eager, want'
sahak (ti') (adj) `afraid (of)'
bíinèet (v/tr) `lack'.

This group is mixed, as indicated for each word. The last verb takes what needs to be done as a subject and the being needing it as an indirect object. Its morphological transitivity is syntactically spurious.

4.3.2.6. Thing – thing

ti'a'l (n/rel) `belong'
bíinèet (v/tr) `lack'
yàan (ti') (mod) `have'
mina'n (ti') (mod) `lack'.

4.3.2.7. Thing - place

yàan (ti') (mod) `exist, contain'
mina'n (ti') (mod) `not exist'
p'áat (v/itr -Vl) `stay'
nàats' (ti') (adj) `near'
náach (ti') (adj) `far'.

4.3.2.8. Summary

All of the major word classes are represented in §4.3.2; even most of the subgroups are mixed in themselves.

4.3.3. Three participants

One predicate that one might expect here, `owe', has ingressive aktionsart; s. §4.6.3.

4.4. Durative processes

4.4.1. One participant

4.4.1.1. Control

4.4.1.1.1. Human

xíimbal `walk'
óok'ot `dance'
meyah `work'
báaxal `play'
che'h `laugh'
pak'ach `make tortillas'
páak `weed'
ts'íib `write'
ts'ùu'ts' `smoke'.

These are all intransitive verbs of the -0 suffix class. Several of them have an inner effected undergoer, which does not count as a participant.

4.4.1.1.2. Animate

péek (v/itr -0) `move'
áalkab (v/itr -0) `run'
hu'k' (v/itr -0) `glide on one's backside'
báab (v/itr -0) `swim'
xiknal (v/itr -0) `fly'
ho'p (v/itr -0) `burrow'
pa's (v/itr -0) `scrape'.

These are, without exception, intransitive verbs of the -0 suffix class.

4.4.1.2. Non-control

4.4.1.2.1. Human

náay (v/itr -0) `dream'
wayáak' (v/itr -0) `dream'
ts'íikil (v/itr -0) `be annoyed'.

These are all intransitive verbs of the -0 suffix class.

4.4.1.2.2. Animate

wen (v/itr -Vl) `sleep'

kux (v/itr -tal) live'
háak (v/itr -Vl) `slide'
òok'ol (v/itr -0) `cry, weep'.

These are intransitive verbs of diverse classes.

4.4.1.2.3. Thing

máan (v/itr -0) `pass'
ki'ki-lankil (v/itr -0) `tremble'
kíilbal (v/itr -0) `thunder'
húum (v/itr -0) `roar'
k'i'nam (v/itr -0) `hurt'
k'áax (v/itr -Vl) `fall, rain'
tùul (v/itr -0) `run over (liquid)'
níik (v/itr -Vl) `ripple, purl'
báan (v/itr -Vl) `drizzle'
léem-bal (v/itr -0) `shine'
ch'íih (v/itr -Vl) `grow'
lòol-lankil (v/itr -0) `flourish'.

These are all intransitive verbs. Most of them are either of the -Vl class or contain another suffix ending in -Vl.

4.4.1.2.4. Place

4.4.1.2.5. Proposition

t'íil (v/itr -Vl) `last'
sáan (v/itr -tal) `last, take a while'.

4.4.2. Two participants

4.4.2.1. Control

4.4.2.1.1. Human – animate

xahche'-t `comb'
ts'iik-il-t `be angry at'
ki'ki't'àan-t `praise'
tsik `respect'.

These are transitive verbs.

4.4.2.1.2. Human - thing

balak'-t `roll'
yóot' `massage'
yóot'k'a'-t `press'
le'p' `scratch'
ho'ch `shave'

meyah-t `work at, process'
báax-t `play'
lap' `hold in one's fist'
us-t `blow'
kanáan-t `care'
kax(an)-t `search'
pàakat `look at'
cha'n-t `watch'
pa't `wait for, expect'.

All of these are transitive verbs.

4.4.2.1.3. Human - proposition

tukul (v/tr) `think'
pa't (v/tr) `expect'.

These are transitive verbs.

4.4.2.1.4. Animate – animate

pay `avoid; bullfight'
ts'ak `treat'
meyah-t `serve'
tséen-t `feed'
áan-t `help'
tsay-pàach-t `follow'
t'àan `speak, call'
àawat `call, cry'.

These are all transitive verbs.

4.4.2.1.5. Animate - thing

il `see, look'
u'y `hear, listen, feel, smell'
úutsben-t `smell at, sniff'
mùuk'yah-t `tolerate, stand'
kóol `pull'
tul `push'
tíit `shake'
la'ch `scratch'
k'áak'-t `barbecue'
ta' (v/itr -0) `shit'
wíix (v/itr -0) `urinate'.

These are mostly transitive verbs. The class contains the perception verbs, which allow potential control. YM is among the languages that distinguishes only two basic perception predicates, `see' and all the rest (cf. Viberg 1984). The two intransitive verbs take effected objects.

4.4.2.1.6. Animate - place

p'áat (v/itr -Vl) `stay'
kah (v/itr -tal) `live, dwell'.

These are intransitive verbs.

4.4.2.1.7. Animate - proposition

kan (v/tr) `learn' (also terminative)
pat (v/refl) `dare, try'.

4.4.2.2. Non-control

All durative situations involving an animate participant appear to be controlled by this.

4.4.2.2.1. Thing – thing

ch'ul (v/tr) `wetten'.

4.4.3. Three participants

4.4.3.1. Human – animate – thing

e's (v/tr) `show'.

4.4.3.2. Human – human – proposition

tsol (v/tr) `explain'
tsikbal-t (v/tr) `tell'.

4.4.3.3. Summary

All three-participant durative situations inolve a human participant who has control. They are all symbolized by transitive verbs.

4.5. Terminative processes

4.5.1. One participant

4.5.1.1. Control

hàan (v/itr -Vl) `eat'
míis (v/itr -0) `sweep'
múuch' (v/itr -Vl) `gather'.

These are intransitive verbs. The first and possibly also the second has an internal second participant.

4.5.1.2. Non-control

4.5.1.2.1. Animate

kim (v/itr -Vl) `die'

ka'n (v/itr -Vl) `tire'
ts'óoy (v/itr -Vl) `get weak'.

4.5.1.3. Thing

tàal (v/itr/irr) `come'
chíik-pah (v/itr -Vl) `appear, come out'
èel (v/itr -Vl) `burn'
lòok (v/itr -0) `boil'
tah (v/itr -Vl) `ripen'
nun-tah (v/itr -Vl) `overripen'
ts'úum (v/itr -Vl) `get slack'.

4.5.1.4. Proposition

ts'o'k (v/itr -Vl) `end'
xúul (v/itr -Vl) `cease'.

4.5.1.5. Summary

With the exceptions of *lòok* and the irregular *tàal*, all the words in §4.4.1 are intransitive verbs of the *-Vl* or *-tal* classes.

4.5.2. Two participants

4.5.2.1. Control

4.5.2.1.1. Human - animate

ts'ak `cure'
ch'úuk-t `spy'.

4.5.2.1.2. Human - thing

bah `nail, hammer'
xot `cut, saw'
k'os `cut short'
kol `clear (bush)'
póol `trim'
p'ay `chop'
súus `carve, peel'
ts'íil `peel'
sap' `evaporate'
tóok `burn'
chak `cook'
tsah `fry'
wol `round'
yéets' `squeeze'
k'it `strew'
tos `strew'

t'oh `pour'
pak' `sow'
t'óot' `sow (into a bed)'
hoch `harvest'
t'ok `pick'
chuy `sew'
k'ax `tie, tighten'
to' `wrap'
p'o' `wash'
bon `paint, tint'
p'íis `measure'
xok `count, read'
ts'íib-t `write'
k'ay `sing'
pax `play (music)'.

These are all transitive verbs.

4.5.2.1.3. Human - place

em (ti') (v/itr -Vl) `go down (from)'
míis-t (v/tr) `sweep'.

4.5.2.1.4. Animate – animate

chuk-pàach-t `catch up with, reach'.

4.5.2.1.5. Animate - thing

mèet/bèet `make'
hob `undo, take apart'
hut `destroy'
hàan-t `eat'
uk' `drink'
lak `take off'
ch'a' `fetch'
wek `spill'
xup' `use up'
chup `fill'
ba'pàach-t `surround'.

These are transitive verbs.

4.5.2.1.6. Animate - place

bin (v/itr/irr) `go (to a place)'
náats' (v/itr -Vl) `approach'
na'k (v/itr -Vl) `climb'.

This group is mixed as indicated.

4.5.2.1.7. Animate - proposition

kan (v/tr) `learn' (also durative)
xul (v/tr) `end'.

4.5.2.2. Non-control

4.5.2.2.1. Animate - thing

chuk-pah (v/itr -Vl) `become complete, sufficient for'.

4.5.2.2.2. Animate - proposition

náay-t (v/tr) `dream'
wayáak'-t (v/tr) `dream'
ka'n (v/itr -Vl) `tire'.

4.5.2.2.3. Thing – thing

4.5.3. Three participants

4.5.3.1. Animate – thing – place

nats' (v/tr) `bring close'.

4.6. Ingressive process

4.6.1. One participant

4.6.1.1. Control

4.6.1.1.1. Animate

wa'l (v/itr -tal) `stand up'
kul (v/itr -tal) `sit down'
chil (v/itr -tal) `lie down'
pek (v/itr -tal) `lie down'
xol (v/itr -tal) `kneel'
p'uk (v/itr -tal) `squat'
t'ùuch (v/itr -tal) `squat'
mòot' (v/itr -tal) `cower'
xak (v/itr -tal) `walk on four legs'
tsel (v/itr -tal) `lie on one's side'
nok (v/itr -tal) `lie face down'
haw (v/itr -tal) `lie on one's back'
líik' (v/itr -Vl) `get up'
k'uch (v/itr -Vl) `arrive'
he'l (v/itr -Vl) `stop, rest'.

This group contains the verbs of body position or so-called posture verbs. They will be treated in detail in §6.4.

4.6.1.2. Non-control

4.6.1.2.1. Animate

síih (v/itr -Vl) `be born'
ah (v/itr -Vl) `wake up'
léek (v/itr -Vl) `have an attack'.

4.6.1.2.2. Thing

wáach' (v/itr -Vl) `burst into blossom'
yàan (v/itr -tal) `evolve'.

4.6.1.2.3. Place

4.6.1.2.4. Proposition

káah (v/itr -Vl) `begin'
chúun (v/itr -Vl) `start'
chúum-pah (v/itr -Vl) `start over'
hóop' (v/itr -Vl) `set in step by step'
k'am (v/itr -Vl) `show effect'.

4.6.1.3. Summary

All the words in §4.6.1 are intransitive verbs of the *-Vl* or the *-tal* class.

4.6.2. Two participants

4.6.2.1. Control

4.6.2.1.1. Animate – animate

4.6.2.1.2. Animate – thing

mach `seize, hold'
náach `seize/hold with one's teeth'
ti'al-t `acquire'
ti'l-int `acquire'
nahal-t `earn'
p'at `leave, abandon'
tàab `light'.

These are all transitive verbs.

4.6.2.1.3. Animate – place

òok (v/itr -Vl) `enter'.

Verbs of body position are considered one-participant predicates in consonance with §3.2.4. and have therefore been treated above in §4.6.1.1.1.

4.6.2.1.4. Animate – proposition

chun (v/tr) `start'
kah (v/tr) `start'
na't (v/tr) `understand, guess'.

These are all transitive verbs.

4.6.2.2. Non-control

4.6.2.2.1. Animate - thing

k'am `get'
k'ahóol-t `get to know'.

4.6.2.2.2. Animate - proposition

ohel-t `get to know'.

4.6.2.2.3. Summary

These are transitive verbs.

4.6.3. Three participants

mahan-t `lend'
p'ax `borrow, get in debt'.

These are transitive verbs with a controlling human being, a receiver and a thing as participants.

4.7. Event

4.7.1. One participant

4.7.1.1. Control

e'l (v/itr -0) `put eggs'
pankal (v/itr -0) `fling out'
síit' (v/itr -0) `hop'.

These are intransitive verbs of the -0 suffix subclass. The first has a non-exteriorized effected undergoer.

4.7.1.2. Non-control

4.7.1.2.1. Animate

sa'sak (v/itr -Vl) `cough'
he'síin (v/itr -0) `sneeze'
hàayab (v/itr -0) `yawn'
háak' (v/itr -Vl) `get frightened'
t'i'l (v/itr -Vl) `get stuck'.

4.7.1.2.2. Thing

lemléem (v/itr -0) `lighten'
wáak' (v/itr -Vl) `bang'

xíik (v/itr -Vl) `burst'
káach (v/itr -Vl) `break'
pa'x (v/itr -Vl) `break'
síit' (v/itr -0) `spring'
lúub (v/itr -Vl) `fall'
ch'úuk (v/itr -Vl) `slide down'
ch'áah (v/itr -Vl) `drop'
ts'óop (v/itr -Vl) `sink (into mud)'
búul (v/itr -Vl) `sink'
k'áal (v/itr -Vl) `shut'
múuts' (v/itr -Vl) `shut oneself, wither'
sùut (v/itr -0) `turn round, return'.

4.7.1.2.3. Place

4.7.1.2.4. Proposition

úuch (v/itr -Vl) `happen'
sùut (v/itr -0) `happen/do again'
ch'éen (v/itr -Vl) `cease, stop'.

4.7.1.3. Summary

All the words in §4.7.1.2 are intransitive verbs, almost all of them of the *-Vl* class.

4.7.2. Two participants

4.7.2.1. Control

4.7.2.1.1. Human – human

lox (v/tr) `box'
tus (v/tr) `lie to, cheat'
ts'o'k (v/itr -Vl) poss. *bèel (yéetel)* `marry'.

4.7.2.1.2. Human – animate

ts'on `shoot'
ts'ol `hit'
méek' `embrace'.

These are transitive verbs.

4.7.2.1.3. Human – thing

pul `throw'
xab `(trans-)plant'
òokol `steal'
hel `replace'
k'ex `change'

bul `gamble'
kuch `load (on one's back)'
k'óoch `load on head or shoulders'
walk'es `turn over'
sut `turn'
wak `explode'
xik `blow up, burst open'
ch'ak `fell'
hak `pull down'
ho'p `dig out'
lóoch' `scoop'
ch'in `throw at'
k'ol `hit'
ts'ay `hit'
ts'ol `strike'
boh `knock'
max `pinch'
lah `slap'
lèep' `scratch with thumb-nail'
loch `bend'
p'oh `bend'
buts' `bend'
nah-k'ab-t `touch (with hand)'
nah-che'-t `touch (with foot)'
hay `extend, display'
t'it' `spread'
ta'k `hide'
k'al `shut, close'
pix `cover'
mak `cover'
hok' `cinch up'
k'at `block'
tup' `turn off'
hets' `calm down'
cha' `let loose'.

These are all transitive verbs.

4.7.2.1.4. Human – proposition

chuk `grasp, find out'
cha' `let'
óot `agree, comply'
ch'en `stop'.

These are transitive verbs.

4.7.2.1.5. Animate – animate

chi' `bite'
hats' `beat, hit'.

These are transitive verbs.

4.7.2.1.6. Animate – thing

ch'a' `take, fetch'
huts' `displace'
lak `remove'
lik' `lift'
ch'uy-kint `lift, hang up'
chuk `catch'
kach `break'
pa' `break (compact object)'
p'ik `crack'
óop' `smash'
hok `tear out'
ho'p `dig out'
he' `open'
hap' `open (mouth)'
p'il `open (eyes)'
leb `take apart'
luk' `swallow'
bal `conceal'
muts' `close (eyes)'.

These are transitive verbs.

4.7.2.1.7. Animate – place

tàal (v/itr/irr) `come (from)'
u'l (ti') (v/itr -Vl) `come (to)'
luk' (ti') (v/itr -Vl) `go off'
hóok' (ti') (v/itr -Vl) `go out (from)'.

4.7.2.2. Non-control

4.7.2.2.1. Human - thing

xeh (v/tr) `vomit'
k'a'h (v/itr -Vl) `occur, remember'
tu'b (v/itr -Vl) `forget'.

These are transitive and intransitive verbs as indicated.

4.7.2.2.1.1. Human - proposition

k'a'h (v/itr -Vl) `occur, remember'

tu'b (v/itr -Vl) `forget'.

These are intransitive verbs.

4.7.2.3. Animate - thing

kax-t `find'
sat `lose'
lòobit `hurt'.

These are transitive verbs.

4.7.2.3.1. Animate – place

háak-che'-t (v/tr) `slide, slip'.

4.7.2.3.2. Thing - thing

sùut (v/itr -0) `become, turn into'.

4.7.3. Three participants

4.7.3.1. Human – human – thing

ts'a' `give'
k'ub `hand in'
síih `present'
sut `give back'
man `buy'
kon `sell'
bo'l-t `pay'.

4.7.3.2. Human – human – proposition

a'l `say'
k'áat `ask'
núuk `answer'.

4.7.3.3. Human – thing – thing

sut `turn into'
nak-kunt `lean against'
but' `put into'
ch'ik `stick into'.

4.7.3.4. Human – thing – place

ts'a' `put'
púut `unload'
túux-t `send'.

4.7.3.5. Summary

All the words in §4.7.3 are transitive verbs with a human controlling participant.

5. Grammatical properties of Yucatec Maya predicate classes

5.1. Preliminaries

It was said in §2 that four word classes of YM come under the heading of predicate in the sense of this study, viz. nouns, verbs, modals and adjectives. The verbs in turn can be subdivided into transitive and intransitive. These are definable as distribution classes, i.e. they are distinguished by their structural behavior. Since the criteria of the above classification of predicates are semantic in nature, it would be logically possible for the word classes to exhibit a stochastic distribution over the predicate classes. On this background, any tendencies of correlation between predicate classes and word classes are noteworthy.

It is true that many of our test frames presuppose the appurtenance of the members of the predicate class under examination to a particular grammatical class; insofar, the criteria used were not purely semantic. However, on the one hand, this is inevitable if semantic intuitions are to be operationalized by test frames; and on the other hand, the tests have not been used to exclude members of a grammatical class that does not fit them from the predicate class in question; they have only been used to differentiate among the members of one word class. Insofar, although the allocation of members of distinct word classes to one predicate class has not always been made according to explicit criteria, there has been no circularity in the use of the available criteria.

Below a set of generalizations will be presented which are based on the sample vocabulary appearing in §4. Although this is not statistically representative, the regularities observed in the sample will be taken to be indicative of general tendencies.

5.2. Main situation classes

The structural results of the above classification are the following:

Apart from some adjectives such as *táanxel* `foreign', words designating class inclusion are nouns. This includes a sizeable group of relational nouns, among them kinship terms. YM here follows the far majority of languages in the world.

Words designating properties are overwhelmingly adjectives. Only properties of propositions can be expressed by modals; and one relational property without concrete meaning, `same', is expressed by a suffix. There are no verbs designating properties, as there are in many other languages.

The group of predicates of state is structurally very heterogeneous. All the word classes considered are represented. There is even one exceptional transitive verb, *bíinèet* `lack', signifying a relational state. However, it may be generalized that one-participant states are represented by adjectives if they do not relate to propositions, that the entire distributional variation may be found inside the group of two-participant states, and that nouns are confined to this subgroup, too.

All the dynamic concepts (processes and events) are expressed by verbs. There is not even a modal in this group. Moreover, while there is a pervasive tendency of intransitive verbs to associate with one-participant concepts, and of transitive verbs to associate with two- and three-participant concepts, this tendency is least pronounced in states, and still suffers many exceptions in durative processes, while it is most purely represented in events. The two pseudo-transitive verbs found, *bíinèet* and *ichint*, designate a state and a durative process.

It is thus very clear that the sequence `property – state – durative process – terminative process – ingressive event – punctual event' of F2, which is constituted by increasing dynamicity and

time-relativity, is mirrored, on the structural side, by a transition from non-verbal to increasingly, and finally, exclusively verbal word classes, and that the differential use of transitive and intransitive verbs correlates most closely with multi- vs. one-participant predicates inside that predicate class which is most dynamic and therefore most verbal, viz. the events. Furthermore, if a transition area is to be identified in this gradience, i.e. an area of greatest fuzziness, heterogeneity and cooccurrence of opposite semantic forces and structural devises, it is the class of state predicates, which alone exhibits all the word classes involved.

5.3. Role features

The distribution of roots of different morphological classes over the predicate classes is noteworthy. While many of the more stative multi-participant situations are expressed by verbs that have been transitivized with the *-t* suffix, most of the basic transitive roots are found in the most dynamic predicate classes. There is not a single basic transitive root among stative predicates and relatively few among durative predicates. This means, evidently, that multi-participant predicates are prototypically more dynamic, while one-participant predicates are prototypically more stative.

In one-participant predicates, there is a clear association of control properties with intransitive conjugation classes. If absence of control is to be expressed, either the *-Vl* class is chosen or, under circumstances to be discussed in §6, the *-tal* class, i.e. the other incompletive suffix class. If lack of control is not to be expressed, the incompletive suffixless class comes in. As was said in §2.2, this functions as the default class. As a consequence, it does contain all the control (agentive) verbs, but also many non-control verbs that for some reason were not assigned to either of the incompletive suffix classes.

Apart from *bíinèet* and *ichint*, an actant slot stands for a real participant.[15] On the other hand, there are several intransitive verbs designating two-participant concepts. However, this is possible only if one of the participants is a non-entity, viz. a proposition or a place. Such situations typically evince a less pronounced control cline. There are some intransitive verbs with two entities as participants. But they are confined to non-control predicates, i.e. such predicates as *k'a'h* `remember', *tu'b* `forget', which involve less than complete control on the part of one participant, or less than complete affectedness on the part of the other participant. These predicates, instead, are represented by intransitive verbs which require the use of a preposition (mostly *ti'* or *éetel*) with the second participant. YM thus confirms the well-known rule (cf. Hopper & Thompson 1980) that the prototypical transitive verb is one that represents a maximally dynamic event controlled by one participant and completely affecting the other participant. The prototypical intransitive verb, on the other hand, represents a durative one-participant predicate.

In YM, transitive verbs are more confined to the typical "transitive" situation, i.e. one with a clear control cline, than in many other languages. Strong evidence for this generalization is provided by the phasal predicates, such as `start', `continue', `end'. While in English and other European languages, these are normally constructed personally (e.g. *I start working*), this is not so in YM. They are impersonal intransitive verbs; what one says is *ku chúunul in meyah* `my working starts'. This means that the semantic role properties of the syntactic subject are more narrowly defined in YM than in English. This is in consonance with the ingredient of ergativity to be found in YM grammar.

6. Recategorization operations

[15] It should be clear that this is not necessarily so. Cf. the Latin trivalent verbs of the kind of *pudet/ taedet me* `I am ashamed/bored', which designate two-participant states.

6.1. Introduction

The above predicate classes do not represent an immobile category inventory of the language. They are related to each other by operations of recategorization, which transfer a given predicate into a different class. These manifest themselves as lexical and grammatical processes, i.e. processes of word-formation, of inflectional morphology and of syntax. They produce complex predicates which belong to one of the existing predicate classes. Thereby they both feed existing classes with further material and, at the same time, provide the operational basis of these classes. From the methodological point of view, they provide independent evidence that the predicate classes found by the other criteria are actually operative in the language.

YM abounds in derivational processes of all sorts. Most of them are in the verbal sphere; even more are suffixal. There is no question of reviewing them all here. The emphasis is, instead, on such processes of inflection and word-formation that provide the operational basis of the predicate classes we have seen before.

We will subdivide the following discussion according to whether relevant operations change situation or role features. As we saw in §3.3, operations that change participant features in systematic ways are not to be expected.

6.2. Change of situation features

6.2.1. Complex class inclusion predicates

It would lead us to far to review here the noun-forming derivational morphology of YM. As a feature of especial importance in the present context, it may be mentioned that action nouns may be derived from transitive verbs by low tone in the root syllable. Observe the pairs in F16:

F16. *Examples of action noun derivation*

base	meaning	action noun	meaning
xok	read	xòok	study (n)
tus	lie	tùus	lie (n)
k'ay	sing	k'àay	song
pax	play	pàax	music

By this device, a particular instance may be subsumed under a class of comparable situations, rather than being predicated as a process or event.

6.2.2. Complex property predicates

There are no special operations converting a state predicate into a property predicate. However, a state predicate may be used in the frame F6, thus producing, e.g., a phrase such as *hùuntúul wi'h máak* `a hungry person'. This would force a property interpretation of the predicate. It does not, however, involve any special recategorization operation, but merely consists in using a state predicate as a property predicate.

A number of derivational processes yield property adjectives. They are briefly reviewed in the following subsections.

6.2.2.1. Potentiality adjectives

Base: bivalent verb root.

Morphological change: suffixation of *-chalak* to base.

Syntactic change: actor role and direct object slot of base disappear; subject slot of base is converted into modifying slot;[16] undergoer role is mapped on modifying slot.

Semantic change: situation is represented as property of the undergoer which consists in the possibility of undergoing the process.

F17 shows some examples.

F17. *Examples of potentiality adjective derivation*

base verb	meaning	potentiality adjective	meaning
háak (v/itr -Vl)	slide	háakchalak	slippery
hats (v/tr)	separate	hatschalak	separable
k'ax (v/tr)	tie	k'axchalak	tieable

The derivational process is morphologically and semantically related to the extended deagentive derivation in *-chah* mentioned in §6.3.1.1.2; cf. Owen 1969:42.

6.2.2.2. Display adjectives

Base: verb root.

Morphological change: base is reduplicated[17] and suffixed with *-kil*.

Syntactic change: if base is bivalent verb, actor role and direct object slot disappear; subject slot of base is converted into modifying slot; undergoer role is mapped on modifying slot.

Semantic change: situation is represented as property of undergoer whereby this exhibits strong features of undergoing it.

F18 shows some examples.

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[16] This entails that the stem is recategorized as an adjective; cf. Lehmann 1991[R], §4.2.2.2.

[17] Reduplication plays an eminent role in diverse processes of YM word-formation. Formally, it is a unitary process. Given a root of the phonological structure $C_1V(C_2)C_3$, where C_2 can only be /'/, the reduplicated stem has the form RED-ROOT, where RED is identical to ROOT if $C_2 = 0$ and C_3 is a nasal, and otherwise it is C_1V'.

F18. *Examples of display adjective derivation*

base verb	meaning	display adjective	meaning
háak (v/itr -Vl)	slide	ha'háahkil	slippery
léem (v/itr -bal)	shine	lemléemkil	brilliant
síit' (v/itr -0)	hop	si'síit'kil	elastic
míis (v/itr -0)	sweep	mi'míiskil	cleanly swept
tak' (v/tr)	stick, glue	ta'ta'kil	sticky

The reduplication lends vividity and emphasis to the meaning of these adjectives and renders the semantics of the process slightly irregular (cf. Owen 1969:40 for a different account). Many adjectives are derived from diverse bases by mere reduplication: *k'a'k'àas* `eminently bad' from *k'àas* (adj) `bad', *xi'xib* `macho' from *xib* (n) `man', *lo'lòoch* `crooked' from *loch* (v/tr) `bend', etc.

6.2.2.3. Disposition adjectives

Base: verb root.

Morphological change: suffixation of *-k'alak* to base.

Syntactic change: if base is bivalent verb, actor role and direct object slot disappear; subject slot of base is converted into modifying slot; undergoer role is mapped on modifying slot.

Semantic change: situation is represented as property of undergoer or only participant which consists in its disposition or propensity of undergoing situation.

F19 shows some examples.

F19. *Examples of disposition adjective derivation*

base verb	meaning	disposition adjective	meaning
síit' (itr -0)	hop	síit'kalak	elastic, agile
sats' (tr)	extend	sats'k'alak	extensible, elastic
ts'un	press	ts'unk'alak	soft, yielding
pak (tr)	weed	pahk'alak	easily weeded

The derivational process is morphologically and semantically related to the spontaneous derivation reviewed in §6.3.2.1; cf. Owen 1969:44.

6.2.3. Complex state predicates

There are no morphological processes converting a property predicate into a state predicate. However, as explained in §F3, a property predicate may be used in a syntactic frame like F5, which turns the situation into a state. Using *yanik* `in a situation/position' as the copula has the same effect, as shown by pairs such as *tòoh* `it is straight' vs. *tòoh yanik* `it is upright'.

All derived words expressing states are adjectives. There are a couple of derivational processes yielding such adjectives. They are briefly reviewed in the following subsections.

6.2.3.1. Resultative adjectives

Base: any dynamic verb stem except v/itr -0.

Morphological change: base is suffixed with *-a'n*.

Syntactic change: if base is bivalent verb, actor role and direct object slot disappear; subject slot of base is converted into modifying slot; undergoer role is mapped on modifying slot.

Semantic change: situation is represented as state of undergoer which results from a terminated more dynamic situation.

F20 shows some examples.

F20. *Examples of resultative derivation*

base verb	meaning	resultative adjective	meaning
ch'íih (itr -Vl)	grow	ch'íiha'n	aged
ka'n (itr -Vl)	tire	ka'na'n	tired
kul (itr -tal)	sit	kula'n	at home
kah (itr -tal)	live, dwell	kaha'n	resident
chuy (tr)	sew	chuya'n	sewn
hets' (tr)	fix, calm down	hets'an	fixed, secure

The derivation of resultative adjectives in *-a'n* is one of the most regular and productive morphological processes of YM. If it only applied to transitive stems, one would consider it the formation of a past passive participle. However, it applies with equal regularity to intransitive verbs, except those of the incompletive -0 suffix class, which contains all the control verbs. As the examples show, the resulting form is lexicalized in some cases.

6.2.3.2. Positional adjectives

Base: verb root of v/itr -tal class.[18]

Morphological change: base is suffixed with *-Vkbal*.

Allomorphy: V is harmonic with the root vowel.

Syntactic change: subject slot of base is converted into modifying slot.

Semantic change: situation is represented as position of undergoer resulting from entrance into situation.

[18] I have only scant evidence for the derivation of positional adjectives from transitive roots as described in Owen 1969:46.

F21 shows some examples.

F21. *Examples of positional adjective derivation*

base v/itr -Vl	meaning	positional adjective	meaning
ch'eb	become oblique	ch'ebekbal	oblique
kul	sit	kulukbal	sitting
chil	lie	chilikbal	lying, horizontal
xok	kneel	xolokbal	on the knees
kah	live, dwell	kahakbal	living

This adjective is derivable from all of the posture verbs described in §6.4 and other verbs denoting situations which conceivably put their undergoer into some position (cf. Owen 1969:46).

6.2.4. Complex process predicates

6.2.4.1. Processive verbs

Base: stem of noun, adjective, modal, v/tr class.[19]

Morphological change: stem joins v/itr -tal class.

Allomorphy: in the past, the suffixes *-chah* and *-lah* are in complementary distribution for some verbs, in free variation for others.

Syntactic change: if base is bivalent verb, actor role and direct object slot disappear; for noun bases, a subject slot is created; for adjective bases, their slot is converted into a subject slot; the only remaining role is mapped on subject slot.

Semantic change: situation is represented as durative process applying to participant.

F22 shows some examples.

[19] I have insufficient evidence for Owen's (1969:44f) claim that transitive verbs also regularly undergo the derivation and that it has a positional meaning.

F22. *Examples of processive derivation*

base	meaning	processive v/itr -tal	meaning
áak'ab (n)	night	áak'abtal	become night
cha'n (n)	spectacle	cha'ntal	be on display
uts (adj)	good	utstal	improve
ya'b (adj)	much	ya'btal	become much
su'lak (adj)	ashamed	su'laktal	be ashamed
síis (adj)	cold	síistal	get cold
bèey (adj)	such	bèeytal	be possible
yàan (mod)	exist	yàantal	be, become
ch'eb (v/tr)	tilt	ch'ebtal	be oblique
tak' (v/tr)	stick, glue	tak'tal	attach oneself

This operation is of extreme generality and regularity. It can convert practically any less dynamic predicate into a process predicate and, therefore, all word-classes except intransitive verbs. As the examples show, there is also no difference between property (*uts, ya'b*) and state (*su'lak, síis*) adjectives as bases. Derived stems such as *e'hoch'e'n* `dark' or *chúunk'ìin* `morning' may as well undergo processive derivation. As a consequence, its semantics are rather empty. It is essentially a process of verbalization, which is put to work when one needs to express such categories as tense, aspect and mood.

6.2.4.2. Durative verbs

Base: adjective or intransitive non-action verb.

Morphological change: stem gets suffix *-lankil* and joins v/itr -0 class.

Syntactic change: for adjective bases, their slot is converted into a subject slot.

Semantic change: situation is represented as protracted non-terminative process undergone by participant, typically a vain or unsuccessful movement in the manner designated by the root.

F23 shows some examples.

F23. *Examples of durative derivation*

base	meaning	durative v/itr -lankil	meaning
háak (v/itr -Vl)	slide	háaklankil	move sliding
xol (v/itr -tal)	kneel	xollankil	slide on one's knees
híil (v/itr -tal)	stretch out	híillankil	creep
núuch (adj)	knock-kneed	núuchlankil	stumble about knock-kneed
p'ùux (adj)	humpbacked	p'ùuxlankil	walk with drawn-in head

Bases are typically posture and motion verbs. They may already have undergone the spontaneous derivation described in 6.3.2.1; e.g. *núuchk'alankil* `stumble about knock-kneedly and miserably'.

6.3. Change of role features

6.3.1. Verbal valency change

YM grammar is extremely sensitive to role features of participants. It makes a decisive difference for verbal morphology and syntax whether a verb is transitive or intransitive, and if it is intransitive, what the role of the actant is. Many of the verbs that have been used as examples §4 are in fact derived so that their control properties are morphologically explicit. In English and many other languages, it is possible to use a given verb in different valency frames, as, e.g., the verb *sell* may be used with both actor and undergoer specified (*Helen sells books*), or only with actor (*Helen is selling*), or only with undergoer (*the books sell well*). This is impossible in YM. In reviewing the derivational morphology for the change of role features, we first limit ourselves to verbal derivation. By valency increase, an intransitive verb may get an actor or an undergoer added. Similarly, by valency decrease, a transitive verb may loose its actor or its undergoer slot. The relevant operations are summarized in F24.

F24. *Operations of valency change*

role affected / valency change	actor	undergoer
detransitivization	deagentivization	introversion
transitivization	agentivization	extraversion

6.3.1.1. Deagentivization

6.3.1.1.1. Simple deagentivization

Base: transitive monosyllabic root verb.

Morphological change: root vowel gets high tone; derived stem joins v/itr -Vl class.
Syntactic change: actor role and direct object slot of base disappear; undergoer role is mapped on subject slot.
Semantic change: process happens by itself, without agentive control.
F25 shows some examples.

F25. *Examples of simple deagentivization*

base v/tr	meaning	deagentive v/itr -Vl	meaning
bul	submerge	búul	sink
ch'ul	wetten	ch'úul	get wet
kach	break	káach	break
k'al	shut	k'áal	close oneself
hay	extend	háay	extend oneself
p'at	leave	p'áat	stay

Deagentivization (also called anticausativization) applies most easily to verbs signifying processes which can conceivably affect their undergoer without the intervention of an actor, which can, so to speak, happen by themselves. This presupposes, among other things, that no too specific requirements are made on the part of the actor, esp. not the use of specific instruments. For this reason, for instance, *ho'p* `dig out' and *xot* `cut' are excluded from deagentivization.

6.3.1.1.2. Extended deagentivization

Base: transitive monosyllabic root verb.
Morphological change: root vowel gets high tone, root is suffixed with *-pah*; derived stem joins v/itr -Vl class.
Syntactic change: actor role and direct object slot of base disappear; undergoer role is mapped on subject slot.
Semantic change: process happens by itself, without agentive control.
F26 shows some examples.

F26. *Examples of extended deagentivization*

base v/tr	meaning	deagentive v/itr -Vl	meaning
chun	start	chúumpah	start (intr.)
he'	open	hée'pah	open (intr.)
t'och	spit, pick	t'óochpah	stumble
chuk	catch, grasp	chúukpah	become complete
xa'k'-t	mix	xáa'k'pah	mix oneself

The process also applies to some roots which do not directly provide words. As some of the examples show, the semantic change is sometimes irregular. There seems to be a dialect correspondence between this process and the derivation in *-chah* described in Owen 1969:40, although the latter appears to be more permissive as to base category.[20]

6.3.1.2. Introversion

Base: transitive verb.

Morphological change: root vowel gets low tone; derived stem joins v/itr -0 class.

Allomorphy: some verbs take a *-Vl* suffix in addition to the tone change, others, including all derived or polysyllabic stems, take a *-bal* suffix instead.

Syntactic change: undergoer role and direct object slot of base disappear.

Semantic change: actor acts on unspecified undergoer (the undergoer being the typical one or the action being habitual).

F27 shows some examples.

F27. *Examples of introversion*

base v/tr	meaning	introversive v/itr -0	meaning
kol	clear (wood)	kòol	clear wood
xok	read	xòok	study
kach	break	kàach	break (things)
chuy	sow	chùuy	sow
k'ay	sing	k'àay	sing
p'at	leave	p'àat	quit

Introversion (detransitivization sensu stricto, often called `direct object deletion') applies most easily to verbs with narrow selection restrictions as to their direct object, as e.g. *tak* `put on (cloth)'. If the meaning of a verb is completely open as to the kind of undergoer it may affect, such as *cha'* `let' or *sat* `lose', the action is not easily typified, and the verb does not easily lend itself to introversion.

6.3.1.3. Agentivization

6.3.1.3.1. Causativization

Base: intransitive verb stem, mostly of *-Vl* suffix class, which is monosyllabic and does not end in /s/.

Morphological change: root gets *-s* suffix; derived stem joins v/tr class.

Allomorphy: some verbs suffix *-es* or *-bes* instead of *-s*.

Syntactic change: subject slot with its role is converted into a direct object slot with undergoer role; subject slot with actor role is added.

Semantic change: situation is controlled by additional participant.

F28 shows some examples (cf. Owen 1969, ch.II.5):

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[20] I have derivations in *-chah* from *áak'ab* (n) `night', *paréeho* (adj) `equal' and *peóor* (adj) `worse', without counterparts in *-pah*.

F28. *Examples of causativization*

base v/itr	meaning	causative v/tr	meaning
hóok' (-Vl)	go out	hó's	get sth. out
kim (-Vl)	die	kins	kill
wen (-Vl)	sleep	wèens	put to sleep
ah (-Vl)	wake up	ahs	wake up
kah (-Vl)	start	kahs	start
máan (-0)	pass by	máans	transport
ka'n (-Vl)	be learnt	ka'ns	teach

This process is severely restricted. Apart from the phonological conditions mentioned, there is a semantic restriction which excludes action verbs. This has two consequences. First, there are no direct causatives from transitive verbs. The way of achieving the causativization of a transitive verb is illustrated by *kan* `learn': it is first passivized, giving *ka'n* `be learnt', and from this the causative *ka'ns* `teach' may be derived. Second, even intransitive verbs are ineligible if they designate actions rather than processes. Intransitive verb bases should designate processes which do not require control. This is why such verbs as *bàab* `swim', *t'àan* `speak', *e'l* `lay eggs' are excluded from causativization.

6.3.1.3.2. Factitivization

Base: adjective.

Morphological change: base gets *-kun-t* suffix; derived stem joins v/tr class.

Allomorphy: *kun* after front root vowels (including /a/), *kin* after back root vowels.

Syntactic change: unique slot with its role is converted into a direct object slot with undergoer role; subject slot with actor role is added.

Semantic change: situation is controlled by additional participant.[21]

F29 shows some examples (cf. Owen 1969, ch.II.5):

F29. *Examples of factitivization*

base	meaning	factitive v/tr -kunt	meaning
uts (adj)	good	utskint	improve
su'lak (adj)	ashamed	su'lakkunt	make ashamed
síis (adj)	cold	síiskunt	cool
bèey (adj)	such	bèeykunt	make such
ch'eb (v/tr)	tilt	ch'ebkunt	tilt
hets' (v/tr)	calm	hets'kunt	pacify

This process is a close counterpart to processive derivation; most bases that can undergo the latter also can undergo factitivization. There is only a semantic restriction demanding that the process can conceivably be brought about by outside impact. This is why formations such as *pàahkunt* `render moldy' are improbable. The factitivization of transitive bases remains to be investigated. It is possible that it presupposes their deagentivization. That is, *hets'kunt* may really be *héets'kunt*. Otherwise, *hets'kunt* and *hets'* (v/tr) should be synonymous, and one would not see the raison d'être of the former.

6.3.1.4. Extraversion

Base: intransitive verb, mostly of -0 suffix class.

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[21] Often (e.g., in Owen 1969, ch.II.5), no distinction is made between causative and factitive. Derivational operations are principally goal-determined rather than base determined (i.e., all the stems formed by a given derivational process share their category, not necessarily the category of their base). Therefore, if factitivization and causativization were the same derivational operation, differing only in the category of their bases, one should expect the same formal process in both cases. YM does make a difference here, joining, in this, the majority of languages.

Morphological change: stem gets *-t* suffix; derived stem joins v/tr class.
Syntactic change: direct object slot with undergoer role is added.
Semantic change: action extends to undergoer and affects it.
F30 shows some examples.

F30. *Examples of extraversion*

base v/itr	meaning	extraversive v/tr	meaning
xíimbal	walk	xíimbat	visit
hàan (-Vl)	eat	hàant	eat
tsikbal	chat	tsikbat	tell
páak	remove weed	páakt	remove (weed)
pak'ach	make tortilla	pak'acht	make (tortilla)
ts'íib	write	ts'íibt	write

Intransitive verb bases must designate actions, i.e. they must have an actor role. This is why such verbs as *ah* `wake up' or *wen* `sleep' are excluded from extraversion. Apart from this, the *-t* suffix forms transitive verbs affecting their undergoer on a larger scale. Bases need not be intransitive verbs; they may also be nouns. Compound transitive verbs invariably take this suffix, whatever their composition. Spanish loans which are used as transitive verbs also have it. It is, thus, a sign of transitivity.[22]

6.3.1.5. Summary

Apart from the differences in productivity, the four valency-changing operations are maximally symmetric, as is already implied by F24. This applies both to their grammatical and semantic input restrictions and to their grammatical and semantic effects. In particular, the opposition between inactive *-Vl* verbs and active *-0* verbs is fed by the detransitivization operations and is mirrored by the transitivization operations, since agentivization, which adds an actor, prefers inactive input – mostly *-Vl* class verbs –, whereas extraversion, which adds an undergoer, prefers active input – mostly *-0* class verbs.

Since these operations are so regular and largely in a mirror-image relation, there is hardly any cumulation of them possible. Relevant examples involve some kind of meaning specialization. From *lech* (v/tr) `hang', the introversive *lèech* `fish (hang up the typical undergoer)' may be derived, and this may in turn be extroverted to *lèech-t* `fish (some object which may or may not be a fish)'.

6.3.2. Other role changes

6.3.2.1.Spontaneous verbs

Base: monosyllabic verb or adjective roots.

[22] Cf. Owen 1969:33-36 for a different account.

Morphological change: base gets *-k'ah* suffix; derived stem joins v/itr -Vl class.

Allomorphy: there may be some allomorphy between *-k'ah, -pah, -chah* and *-tal*.

Syntactic change: in a transitive verb base, actor role and direct object slot disappear; undergoer role is mapped on subject slot.

Semantic change: situation is represented as process that happens spontaneously, without the intervention of a controller, potentially even against his volition.

F31 shows some examples.

F31. *Examples of spontaneous derivation*

base	meaning	spontaneous v/itr -Vl	meaning
he' (v/tr)	open	he'k'ah	open oneself
kach (v/tr)	break	kachk'ah	break
sùut (v/itr -0)	return	sùutk'ah	return unexpectedly
kul (v/itr -tal)	sit	kulk'ah	get into a sitting position

A base is eligible for spontaneous derivation if the situation designated involves a non-controlling participant and can conceivably happen spontaneously. Consequently, such verbs as *bah* `hammer' or *xot* `cut' will not undergo this process.

The difference between spontaneous and deagentive derivation resides in various factors. As to type of base, deagentivization only applies to transitive verbs, while spontaneous derivation applies to verbs in general. On the other hand, the semantic conditions on the base are not so strict in the case of deagentivization since the component `quite by itself/on its own' is not present. In some cases, however, the processes may be in free variation. The exact relationship between deagentivization, processive and spontaneous derivation in YM remains to be investigated.

6.4. Posture verbs

Body positions are concepts such as `stand', `lie', `sit'. Situations constituted by them may be states (e.g. `be sitting') or ingressive events (`sit down'). Predicates designating body positions are called **positionals**. Verbs representing them are **posture verbs**.

For the morphological constitution of positionals, either the state or the ingressive event may be taken as basic. If positionals are basically states, corresponding events may be derived by an ingressive aktionsart operation, as in English *sit - sit down*. If they are basically ingressive, corresponding states may be derived by a stativization operation, as in French *s'asseoir - (être) assis*. Often, the relevant verbs in a language are systematically polysemous between the two aktionsarten. Moreover, positionals are not easily categorized as to their control properties, since body postures may or may not be controlled.

In YM, positionals are represented as verbal roots of basically stative aktionsart. This can be inferred from the fact that their conjugation class is v/itr -tal, and agentivization is factitive. If they were basically ingressive, one would expect their conjugation class to be v/itr -0 and agentivization to be causative. However, in some verbal categories, such as the imperative, they are ingressive; and in several aspects there is a polysemy between the two aktionsarten.

They are singled out here for two reasons. First, posture verbs form a very large and important lexical field in YM. Second, this field is very homogeneous, especially as regards the members' morphological potential. Many of the afore-described recategorization operations are applicable to each of the verbs. Therefore, the field is particularly appropriate for illustrating the interplay of the various processes.

The lexical field of posture verbs comprises at least the verbs enumerated in F32. It is morphologically very uniform. All verbs are monosyllabic, belong to the same inflection class (v/itr -tal), display the same kind of allomorphy in certain categories and share the derivational potential exemplified by *kul* in F33 (the first process there, the processive, is the base category).

F32. *Examples of posture verbs*

meaning	posture v/itr -tal
stand	wa'l
sit	kul
sit (be on one's buttocks)	pek'
brood	pak
lie	chil
lie extended	pek
lie face down	nok
lie on one's side	tsel
lie on one's back	haw
kneel	xol
cower	mòot'
crouch	òoch
be on all fours	xak
squat	t'ùuch
squat	p'uk
lean	nak
hang	ch'uy
live, dwell	kah
live	kux

F33. *Derivational potential of posture verbs*

category	derived form	meaning
processive	kutal	sit down
factitive	kulkint	place, set
durative	kullankil	sit (around) idle
resultative	kula'n	seated; at home
positional adjective	kulukbal	in a (sitting) position
spontaneous	kulk'ah	fall on one's bottom

Three kinds of allmorphy are noteworthy here. First, in the past tense, the allomorphs *-chah* and *-lah* appear to be in free variation. Second, root final /l/ disappears before the /t/ of the incompletive suffix (while generally it is only weakened to /h/). Third, the imperative, which normally has the ending *-én*, in posture verbs has the allomorph *-lén* (e.g. *xaklén* `down on all fours!'). This is certainly due to analogical levelling: The central posture verbs *wa'l, chil, kul, xol*, whose root ends in /l/, have an *l*-less allomorph before *-tal*. Consequently, their imperative forms (e.g. *kulén* `sit down!') are reanalyzed with a *-lén* imperative morph. This then spreads analogically to the other posture verbs.

7. Conclusion

Predicate classes are defined on an onomasiological basis. They are, therefore, first and foremost universal classes of signs for situation cores. Inside a language, they manifest themselves as lexical-semantic classes. These will be mapped on certain structural classes. The latter may be word-classes, like noun, adjective, verb etc., and subclasses of these, e.g. property vs. state adjectives or durative vs. punctual verbs. While word-classes necessarily differ in their grammatical behavior, their subclasses may be found relevant only in derivational patterns.

The typical features of YM in the relevant domain have emerged on this universal background. The central generalizations at the typologically relevant level are the following:

- The gamut of situation classes is mapped onto the word-classes of noun, adjective, modal and verb. While for several situation classes, the association is unique, states are a formally heterogeneous category, being represented in most of the word-classes.
- The most dynamic subclasses (terminative, ingressive, punctual) do not seem to have structural relevance.
- Role features, especially involvement and control properties of participants, are structurally highly relevant and constitute derivational classes as well as inflection classes and syntactic differences among verbs representing them.
- Grammatical transitivity is confined to verbs with relatively high dynamicity and a relatively clear control cline between two participants.

References

Blair, Robert W. 1964, Yucatec Maya noun and verb morpho-syntax. Bloomington: Indiana University PhD diss. Ann Arbor: University Microfilms (65-3466).

Dik, Simon C. 1978, *Functional grammar.* Amsterdam etc.: North-Holland (North-Holland Linguistic Series, 37).

Hengeveld, Kees 1992, Non-verbal predication. Theory, typology, diachrony. Amsterdam: Universiteit van Amsterdam (PhD diss.).

Hopper, Paul J. & Thompson, Sandra A. 1980, "Transitivity in grammar and discourse." *Language* 56:251-299.

Kuryłowicz, Jerzy 1936, "Dérivation lexicale et dérivation syntaxique. (contribution à la théorie des parties du discours)." *Bulletin de la Société de Linguistique de Paris* 37:79-92.

Lehmann, Christian 1989, "Language description and general comparative grammar." Graustein, Gottfried & Leitner, Gerhard (eds.), *Reference grammars and modern linguistic theory.* Tübingen: M. Niemeyer (Linguistische Arbeiten, 226); 133-162.

Lehmann, Christian 1991, "Predicate classes and PARTICIPATION." Seiler & Premper (eds.) 1991:183-239.

Lehmann, Christian 1991, "Relationality and the grammatical operation." Seiler & Premper (eds.) 1991: 13-28.

Leiss, Elisabeth 1990, Die Verbalkategorien des Deutschen. Ein Beitrag zur Theorie der sprachlichen Kategorisierung. Erlangen: unveröff. Habilitationsschrift.

McClaran, Marlys 1969, The verbal categories in Yucatec Maya. Paper presented to the 44. annual meeting of the LSA. Abstract in: Linguistic Society of America 1969:(112).

Owen, Michael G. 1969, The semantic structure of Yucatec verb roots. New Haven: Yale University PhD diss. (University Microfilms, 69-13,366).

Po'ot Yah, E. 1981, *Yucatec Maya verbs*. New Orleans: Tulane University Center of Latin American Studies.

Seiler, Hansjakob & Premper, Waldfried (eds.) 1991, *Partizipation. Das sprachliche Erfassen von Sachverhalten.* Tübingen: G. Narr (LUS, 6).

Stefflre, Marlys McClaran 1972, Lexical and syntactic structures in Yucatec Maya. Cambridge, Mass.: Harvard University PhD diss.

Viberg, Åke 1984, "The verbs of perception: a typological study." Butterworth, Brian et al. (eds.), *Explanations for language universals.* Berlin etc.: Mouton (*Linguistics* 21/1); 123-162.