PERCEPTION VERB COMPLEMENTS IN MAYAN
A CASE STUDY

Susanne Schüle
Universität Tübingen

> 'Man lives in two environments, in two worlds: as a "body" he is among objects and events in the physical, spatio-temporal universe; as a "mind" he lives and communes with objects of a different kind...' (Vendler 1970:92)

Our research project is based on the central hypothesis that there is a functional dependency between the systematic meaning extension of perception verbs into the cognitive domain and the relationship between finite clause-like and non-finite noun-like complements. The goal is to illuminate how this dependency manifests itself in languages of typologically different structures. This working paper will mostly limit investigation of the hypothesis to two closely related Mayan languages. Extension of the analysis to the whole Mayan family is in process and the investigation of other Amerindian languages is planned. Also, an in depth discussion of theoretical issues and the literature which mostly focuses on European languages will follow.

1. INTRODUCTION: PROPOSITIONS AND EVENTS

Visually and auditorily we can reach into space over a distance that taste and smell do not allow us to cover. Thus, vision and hearing show a tendency to become abstract or mental, i.e. they semantically extend into the cognitive domain. This semantic difference between perception and cognition, concrete perception and abstract insights, propositions and events is reflected in syntactic structure. So are naked infinitives and gerunds in English said to express events whereas finite forms and to-infinitives express propositions. Evidentials seem - in their historic development - to reflect the transition from physical perception to mental concepts.

Languages employ different structural means to encode epistemically neutral (perceptual) and epistemically positive (conceptual) perception. One could also say that the perception of events tends to be encoded differently than the perception of propositions. The goal of the research project is to explicate the functional relationship between the representation of propositional content and the description of processes and events.

An early definition of objects, events, and propositions via the relationship they entertain with time, space and the world can be found in Vendler (1967/70). Objects entertain an indirect relationship to time and a direct one to space. The opposite holds true for events, they relate directly to time and indirectly to space. Propositions are outside space and time. As a result, objects are part of the world, entities take place in it and propositions are outside the world.

Table 1. The Relationship of Different Entities to Time, Space and the World (Vendler 1967/70)

ENTITY	TIME	SPACE	WORLD
Object	indirect	direct	part of
Event	direct	indirect	take place in
Proposition	outside	outside	outside

Talmy (1991:481) offers a general description for an entity in perception:

> '...The human mind in perception can extend a boundary around a portion of what would otherwise be a continuum, whether of space, time, or other qualitative domain, and ascribe to the excerpted contents within the boundary the property of being a single unit entity.'

Entities have been given a variety of names. Lyons (1977) differentiated between first, second and third order entities, Horie (1993) between objects, directly perceived events, and indirectly perceived events, Dik and Hengeveld (1991) between the immediate perception of an individual, the immediate perception of a state-of-affairs, the mental perception of propositional content, and the reception of the propositional content of a speech act. Related to that is Vendler's (1967, 68, 75) distinction between perfect and imperfect nominals that are able to denote events and propositions. Barwise (1981/89) talks about scenes, situations, facts, and true propositions. The present study will at this stage only mention existing theories leaving their discussion for work to follow. Instead, without ignoring the existence of the variety of literature in the field, in the following I will make use of situation semantics[1] to define a semantic basis for my analysis.

Situation semantics offers a tentative description of the constitution of events and propositions. The following is based on Barwise (1981/89), and Mönnich (in personal communication).

Under the assumption that a and b are objects, and R a variable for a two-place predicate, an epistemically neutral state-of-affairs can be represented as:

(1) « R, a, b »

This state-of-affairs can be situated in the world in form of a situation s. The process of situating (|=) is achieved via tense-aspect modality marking or evidentials to relate the epistemically neutral content of the state-of-affairs to our reality, thus rendering the situation epistemically positive, a proposition:

(2) s |= « R, a, b »

The perception of an **event**, i.e.. C sees a state-of-affairs, can be represented like this:

(3) s |= « see, c, **« R, a, b »** »

Whereas conceptual perception of a **proposition**, i.e. c sees that a state-of-affairs is the case, takes the following shape:

(4) s |= « see, c, « **s |= « R, a, b »** » »

---

1 For discussion see Vlach (1983), Saarinen (1983), and Higginbotham (1983).

The above representations clearly distinguish event perception (3) from propositional perception (4). They also illustrate the meaning extension of perception verbs into the cognitive domain. Having established this difference, the next question is how the two types manifest themselves in languages, i.e. what are the environments they trigger, or what types of embeddings, that the language under investigation has, are employed for which type of perception.

The grammar of the different forms of sense perceptions in languages is tightly connected with the linguistic structure of propositions and events. For the purpose of this study I will assume that what spontaneous and active perception encodes are events which can be experienced and what conceptual perception encodes are propositions which can be judged. Events typically are expressed via non-finite active verbs, whereas propositions can be stative predicates or finite clauses. Looking at nominalizations, perfect nominals have been claimed to encode events and imperfect nominals propositions (Vendler 1967/68/75). Events depend on their embedding perception verb regarding tense-aspect-modality (TAM) marking and negation, propositions can be negated and show independent TAM marking. In relation to this, evidential markers can occur with propositions, but not with events. Finally, perfect nominals allow articles and adjectives, imperfect nominals allow adverbs.

Table 2. Perception of Events and Propositions

Content of spontaneous and active perception: epistemically neutral	Content of conceptual perception: epistemically positive
Can be experienced	Can be judged
Events	**Propositions**
No stative predicates	Stative predicates
Non-finite active verbs: Noun-like	Finite active verbs: Clause-like
Perfect nominals:	Imperfect nominals:
+ article	- article
+ adjective - adverb	- adjective + adverb
- NEG	+ NEG
- TAM	+ TAM
- EV	+ EV

The claims that are made in Table 2. are based on detailed discussions of mostly English data and some other Indo-European languages. It is a rather coarse distinction, trying to define two extremes of a continuum between event and proposition. The literature provides ample discussions of what is or can be inbetween these two extremes.[2] There is a need for characterizing the differences of the respective complement types of perception verbs on semantic, syntactic, formal and discourse pragmatic levels to show the functional coherence of the underlying structuring principles.

Somewhat simplified, at this stage of my work, I will base my analysis on the above established distinction between the perception of events and propositions.

2. PERCEPTION AND ITS SEMANTIC EXTENSION INTO THE COGNITIVE DOMAIN

2 For example refer to Bennett (1988), Bolinger (1974), Higginbotham (1994), Horie (1993), Kirsner and Thompson (1976), Zucchi (1993),

For the semantic field of perception, the most important field-specific components are the five sense modalities: sight, hearing, touch, taste, and smell. Viberg (1982) calls the most important general components activity[3], experience[4], and copulative. Further he distinguished between experiencer based verbs that select activity or experience and source based verbs that select copulatives.

This paper will look at experiencer based perception verbs that encode experience. Perception verbs lexicalize according to a hierarchy that is given below (5). 'A verb having a basic meaning belonging to a sense modality higher (to the left) in the hierarchy can get an extended meaning that covers some (or all) of the sense modalities lower in the hierarchy'(Viberg 1982:136).

(5) Hierarchy of Sense Modalities
Sight > hearing > touch > smell/taste

Semantic extension of perception verbs into the cognitive domain also seems to follow this hierarchy and a verb higher up in the hierarchy tends to express a cognitive meaning that carries a higher degree of certainty than a verb lower in the hierarchy.[5]

Akatek and Jakaltek, the two Mayan languages under investigation, have two perception verbs. One for see and one for hear/feel/perceive. Viberg (1983) found an areal concentration of this lexicalization type in Africa, also in Kurdish, Icelandic, Japanese, and possibly in Italian, West Greenlandic, Basque, and Modern Irish.

In Akatek and Jakaltek, there are only two experiencer based perception verbs, one for 'see', and one for 'hear'. The latter one can also mean 'feel', 'perceive', 'taste', and 'smell'. These meanings appear to be drawn from context, or by taking the appropriate direct objects. For example 'to smell' is a combination of the verb for 'hear/perceive' and the noun for 'smell' (6).

---

3 Unbounded process, consciously controlled by a human agent, active perception e.g. 'listen'
4 State, uncontrolled perception, e.g. 'hear'
5 There are, however, counterexamples, i.e. Latin <u>sapere</u>, French <u>savoir</u>, Spanish <u>saber</u> (Viberg 1984).

(6) Tuk'al chi-ø -ey -ab' s -sab

AKA just INC-B3-A2p-feel A3-smell

You just smell the food' YISTIL3.137[6]

Sweetser (1990) noticed for Indo-European a 'general tendency to borrow concepts and vocabulary from the more accessible physical and social world to refer to the less accessible worlds of reasoning, emotion, and conversational structure' (p.31). Most commonly, vision verbs are the ones that develop abstract senses of mental activity. She identifies two target domains: knowledge or intellect and mental 'vision'.

Mental 'vision' she sees as a result of the strong connection between sight and knowledge, i.e. our ability to focus attention mentally and visually, thereby monitoring stimuli with our minds and with our eyes. This can be seen in English in verb forms like: look down on, look up to, look after, etc.[7] In a later section of this paper I will try to investigate how this mapping of physical vision onto mental 'vision' reflects in Mayan.[8]

The other target domain, knowledge or intellect, Sweetser relates to the fact that vision is our primary source of objective data about our world. Studies of evidentials show that visual evidence is considered the strongest and most reliable source of data (refer to Anderson 1986 for details). Considering this observation made with regard to Indo-European languages, I will also take a look at the role perception plays in the evidential system of one Mayan language, Akatek.

While both seeing and hearing function over a distance, only visual channeling is a physical activity, auditory channeling is rarely achieved by a physical movement, it is a mainly mental activity. The distance these two sense modalities are able to cover is connected with objectivity and intellect (Sweetser 1990:43), while closeness is often equated with subjectivity, intimacy, and emotion. This

---

6 See Appendix B for sources of language data.

7 cf. also to Cooper (1974a, b)

8 See section 5. Directionals: Path of Motion - Path of Vision

observation (based on Indo-European) also supports the hierarchical tendency of perception verbs to extend into the cognitive domain.

Viberg observed the following cognitive and 'social' meanings that can be assumed by perception verbs via semantic extension:

Table 3. Extended Meanings of Verbs of Perception (after Viberg 1984:158)

PERCEPTION	COGNITION	'SOCIAL'
See	know, understand	meet (common)
Hear	know, understand	meet, obey (common)
Feel	experience, think	know-a-person
Taste	experience	
Smell	suspect	

In the following, I will provide some basic information about Akatek and Jakaltek to enable the reader to follow the examples more closely. Then, the system of complementation in these Mayan languages will be presented relating complements of perception verbs to the semantics of propositions and events. Two additional short sections will investigate the role of directional markers in the semantic extension of perception verbs and take a brief look at evidentials.

3. AKATEK AND JAKALTEK: TWO MAYAN LANGUAGES

Akatek and Jakaltek are Mayan languages spoken in the northwestern part of the Guatemalan highlands. Jakaltek is a languages with fixed VSO argument ordering (Craig 1977) whereas Akatek is VSO/VOS flexible (Zavala 1992, Schüle 1993). Both languages follow an ergative absolutive case marking pattern in pronominal case affixes on the verb. Since the two languages are closely related, I will concentrate the presentation of basic morphosyntactic characteristics on one, Akatek.

3.1 BASIC MORPHOSYNTACTIC CHARACTERISTICS OF AKATEK

This description of basic Akatek characteristics includes its verb-initial status, its principal verbal inflections such as grammatical relations, aspect markers, and transitivity markers; further noun classifiers, pronouns, and possessive marking. The description ends with a comment on head-marking and centricity.

Following Andrews (1985:97, based on Comrie 1978 and Dixon 1979), I will call the prototypical core grammatical functions that are the basis for the definitions of subject and object the A-argument, the S-argument, and the O-argument.[9] A primary transitive verb (PTV) is a two-argument verb taking an agent and a patient. The A-argument is defined as the NP in a transitive clause that receives the treatment accorded to the agent[10] of a PTV. An O-argument is the NP in a transitive clause that normally is treated as the patient[11] of a PTV. The S-argument is the NP in an intransitive sentence that receives the treatment normally accorded to the single argument of a one-argument predicate.

---

9 Comrie calls the O-argument P.

10 The agent is the participant which the meaning of the verb specifies as doing or causing something, possibly intentionally (Andrews 1985).

11 The patient is the participant which the verb characterizes as having something happen to it, and as being affected by what happens to it (Andrews 1985).

3.1.1 A Verb-Initial Language

Like almost all Mayan languages Akatek is a verb-initial language. Below are three basic examples of the verb initial character of Akatek:

(7) a. S-Argument: Semantic Agent of an Intransitive Verb

x-ø-b'ey [naj xhunik] VS
COM-B3-walk NCL:man John
'John walks' Zavala 1992a:43a

b. S-Argument: Semantic Patient of an Intransitive Verb

x-ø-kam [naj xhunik] VS
COM-B3-die NCL:man John
'John dies' Zavala 1992a:43b

(8) A- and O-Argument of a Transitive Verb

ø-s-ma' [no' chee] [naj xhunik] VOA
B3-A3-hit NCL:animal horse NCL:man John
'John hit the horse' Zavala 1992a:45b

3.1.2 Marking of Grammatical Relations

Akatek is an ergative language that marks the subject of intransitive verbs and the direct object of transitive verbs alike. Pronominal arguments are expressed as affixes on the verb. Mayan linguists traditionally use the term 'Set A' for ergative, and 'Set B' for absolutive marking. Set A consists of two sets of pronominal affixes: one for vowel-initial verb roots and one for consonant-initial ones. Set B has a zero form for the third person (refer to Table 6.). There are two different orderings for the person marking on the verb. Either it is Set B - Set A - V as in (9a) or Set A - V - Set B as in (9b):

(9) a. Absolutive Prefix

in-a-ten -toj an xin
B1-A2-push-DIR:thither CL1s then
'you push me then' RF

b. Absolutive Suffix

a-ten -in-toj an xin
A2-push-B1-DIR:thither CL1s then
'you push me then' YISTIL2.33

As seen in the above example, Akatek has clause-final clitics, mainly for first person singular, <u>an</u> (CL1s), and first person plural, <u>on</u> (CL1p).

Like most Mayan Languages, Akatek has three ways of marking the direct arguments of a verb phrase:

1. Full NPs with lexical nouns may occur. Those are cross-referenced on the verb as A-argument (ergative, Set A in Mayan) or S-/O-argument (absolutive, Set B in Mayan).

   (10) chi-ø -s-tej kam [naj] [wakax kaw tz'ontaj]
   INC-B3-A3-gore die PRO:man cow very skinny
   'he kills the malnourished cows' NAJ.62

   Since the reverse order of lexical NPs is also possible, these constructions may result in structural ambiguity, i.e. it is also possible to interpret (10) as 'the malnourished cows killed him'.

2. Verbal cross-referencing may occur alone.

   (11) ta chi-ø -aw-oche
   COND INC-B3-A2-want
   'if you want (it)' YISTIL6.173

3. In a language like Akatek that has independent pronouns, those occur in addition to verbal cross-referencing.

   (12) a. in-y-ootaj naj an
   B1-A3-know PRO:man CL1s
   'he knows me' RF

   b. tol chi-ø-kam no'
   that INC-B3-die PRO:animal

'because it (the bull) is going to die' NAJ.84

3.1.3 Transitivity

Next to the difference in case marking, transitive and intransitive verbs can formally be distinguished via the thematic vowels they take when they occur in sentence final position, and the different irrealis/future suffixes (IRR) they take. Table 4. provides an overview for Jakaltek (JAK) and Akatek (AKA).

Table 4. Thematic Vowels and FUT/IRR Suffixes

	V trans.		V intrans.	
	JAK	AKA	JAK	AKA
thematic vowels	-a/-o/-e	-a'/-o'/-u'	-(y)i	-i
IRR suffixes	-V'/-b	oj-.. (-oj)	-oj	-oj

3.1.4 Aspect

Akatek differentiates three morphological aspects: completive, incompletive and future/irrealis (Zavala 1992).[12]

Completive (COM)

The completive aspect expresses that actions are completed. The prefix that indicates the completive aspect is x-. It occurs with intransitive verbs (13a) and transitive verbs, and is optional in the presence of temporal adverbials (13b).

(13) a. x-ø-b'ey naj xhunik
COM-B3-walk NCL:man John
'John walked' Zavala 1992a:61

b. ø-ø-b'ey naj xhunik y-et ewi
COM-B3-walk NCL:man John A3-when yesterday
'John walked yesterday' Zavala 1992a:63

12 A fourth aspect, the progressive, is not realized morphologically but through an independent lexeme (Zavala 1992).

Incompletive (INC)

Actions that are not finished or incomplete are marked by the incompletive aspect. The prefix that indicates incompletiveness is chi-. The incompletive aspect marks intransitive (14a) and transitive verbs (14b) and is never optional like the completive aspect.

(14) a. chi-ø-bey ix malin
INC-B3-sleep NCL:woman Mary
'Mary sleeps' Zavala 1992a:66

b. chi-in-a-ma' an
INC-B1-A2-hit CL1s
'you are hitting me' Zavala 1992a:67

Future/Irrealis (IRR)

The future/irrealis aspect indicates that something has not happened yet but is anticipated to happen in the future. The future/irrealis marker oj- occurs on transitive (15a) and intransitive (15b) verbs either preverbally or pre- and postverbally at the same time. Future aspect can also be indicated by temporal adverbials in which case either oj- or the incompletive aspect marker chi- can be prefixed to the verb.

(15) a. oj-ø-w-al an
IRR-B3-A1-say CL1s
'I will say it' RF

b. oj-in-bey an
IRR-B1s-sleep CL1s
'I will sleep' Zavala 1992a:68

3.1.5 Noun Classifiers and Pronouns

Noun classifiers are free morphemes which precede the nouns they classify. For Jakaltek, which is very closely related to Akatek, Craig (1986) describes two semantically distinct sub-systems. One is a system of social interaction classifying the human and spiritual world; the other is a system of physical and functional interaction which classifies the non-human world.[13]

Akatek has 14 noun classifiers (Zavala 1992) that are clearly derived from nouns as shown in Table 5.

Table 5. Noun Classifiers in Akatek (Zavala 1992:152)

Noun Classifier	Nominal Source	Meaning
naj	winaj	man
ix	ix	woman
k'o	?	human, known
yab'	?	human, appreciative
no'	no'	animal
te'	te'	wood
ch'en	ch'een	foot
(i)xim	ixim	corn
tx'an	tx'an	rope
tx'otx'	tx'ootx'	earth
(a)tz'am	atz'am	salt
(j)a'	ja'	water
an	?	vegetables
k'a'	k'a'	fire

Noun classifiers can also function as independent pronouns. According to Craig (1986) this is an innovation in the syntax of the Mayan language family, and is a characteristic of some of the Q'anjob'alan languages, namely Jakaltek, Akatek, Chuj and Q'anjob'al.

Semantically these pronouns encode the third person as well as semantic features such as sex, respect, material and consistency. To illustrate the encoding of semantic features, I provide two examples below. In (16a) the bull takes the noun classifier for animals, no'. However, a little later in the same narrative when referring to the same animal, the bull takes the noun classifier naj for man (16b) since now he speaks and acts like a human.

(16) a. ø -s -mas naj y -iin **no'** wakax
B3-A3-caress PRO:man A3-in NCL:animal cow
'He petted the bull' NAJ.50

13 It is noteworthy that not all nouns are classified. Nouns are unclassifiable if they can't be perceived by several senses, or if they are made of unidentified substances or of an undifferentiated mixture of substances (Craig 1986).

b. tzet-ø x -ø -s -chi **naj** wakax
what-B3 COM-B3-A3-say NCL:man cow
'"What?" asked the bull' NAJ.92

In Jakaltek, the noun classifiers in pronominal function obligatorily accompany third person verbal inflections for subject and object; they also function as components of possessive and relational constructions. Contrary to the situation in Jakaltek, the presence of third person classifier-pronouns is optional in Akatek. Like lexical NPs, pronouns in Akatek can be either the O or the S/A-argument in a sentence.

3.1.6 Possessive Marking

Nouns (like muxuk 'navel') and relational nouns (like alan 'below') are possessively bound with the same set of affixes that mark ergative case on the verb (Set A).

(17) y -alan s -muxuk ix
A3-below A3-navel PRO:woman
'it's below her navel' YISTIL1.61

3.2 OVERVIEW

Table 6 provides an overview over type and usage of pronominal affixes in Akatek and Jakaltek.

Table 6. Pronominal Affixes in Akatek and Jakaltek

number	person	Set A - ergative case/possessive				Set B absolutive case/non-verbal predicates	
		_C		_V			
		AKA	JAK	AKA	JAK	AKA	JAK
sg.	1	in-	hin-	w-	w-	in	hin
	2	a-	ha-	aw-	haw-	ach	hach
	3	s-	s-	y-	y-	ø	ø

pl.	1 2 3	ku- a- s-	cu- he- s-	k- ey- y-	y- hey- y-	ku ach ø	hon hex ø

3.3 HEAD-MARKING AND CENTRICITY

After assessing the marking patterns of various languages and languages families, Nichols (1986) proposes that Mayan languages are uniformly head-marking because their word order is head-first at both the clause and the phrase levels, i.e. VAO/VOA, noun precedes adjective, possessed noun precedes possessor, preposition precedes object.

Nichols predicts that all head-marked constituents are endocentric.[14] In Akatek for example, the verb constitutes an independent utterance, it is the head of the proposition, as shown in (18). Head-marked adpositional phrases have the same distribution as their head, which is the adposition by itself, as shown in (19).

(18) Verb of a head-marked proposition

x-ø-s-ma'
COM-B3-A3-hit
's/he hit him/her' RF

(19) Adposition of a head-marked adpositional phrase

x-in-ma'-le y-uu
COM-B1-hit-PASS A3-by
'I was hit by him/her' RF

Having presented some basic characteristics of the languages under investigation, I will now turn to the complements Akatek and Jakaltek perception verbs can take.

---

14 This notion goes back to Bloomfield (1933:194ff). In an endocentric construction the head has the same distribution as the entire construction.

4. PERCEPTION VERB COMPLEMENTS

In this section, the types of complements that Akatek and Jakaltek use will be presented. The two types that occur with perception verbs will further be characterized according to the criteria established for propositions and events. More specifically, I will investigate whether each type can or cannot take TAM marking, embed stative predicates, be negated and whether there is an identifiable clause boundary.

4.1 COMPLEMENTATION

Following Koptjevskaja-Tamm (1993), an independent clause is defined as either a simplex sentence or a matrix clause. Subordination is the embedding of a subordinate clause in a matrix clause. The unit of matrix clause and subordinate clause is called a complex sentence. Complements are subordinate clauses which function as arguments of verbs, adjectives, and nouns, as opposed to relative clauses, which function as modifiers of nouns, and adverbial clauses which function as modifiers of verb phrases or entire propositions.

Complement types (Noonan 1985:44) are identified by:

1. the morphology of the predicate,
2. the syntactic relations of the complement with its arguments,
3. their external syntactic relations,
4. and they are often marked by a complementizer.

Subordination can be marked through word order, subordinating morphemes, and/or dependent verbs, including non-finite forms. According to Koptjevskaja-Tamm, 'a verb form in a language is dependent if it cannot normally be used as the predicate of an independent clause' (1993:23). Dependent verbs can be deranked[15] in three different ways:

1. Reduction of verbal morphology.

[15] Refer to Stassen (1985:76-83) for definitions of balanced and deranked constructions.

2. Category status different from non-dependent verbs.
3. Addition of specific marker or special dependent mood.

The meaning of a complement is composed of the semantics of its embedding predicate, the inherent semantic possibilities of the morphology and syntax of the complement type, the information conveyed in the complement clause itself and the meaning potential of a complementizer, if present (Noonan 1985).

4.2 COMPLEMENTS IN AKATEK AND JAKALTEK

Jakaltek and Akatek make use of three types of complement clauses (Craig 1977, Zavala 1992a). For ease of reference I will use the terminology introduced by Craig: CS#1, CS#2, and CS#3. CS#1 is comparable to an English that-clause, CS#2 to an English gerund clause, and CS#3 to an infinitive. Thus, Akatek and Jakaltek are complement balancing languages with a balanced (finite) clause-like complement (CS#1) and non-finite complements (CS#2 - noun-like, CS#3 - infinitive).

4.2.1 Clause-like Complements

CS#1 fulfills the characteristics of clause-like complements (Noonan 1985, Koptjevskaja-Tamm 1993). CS#1 is introduced by a complementizer, the verb is finite and the whole sentence behaves like an independent sentence in relation to casemarking and negation, an observation that is supported by the position of clause final clitics and the impossibility of noun classifier (NCL) deletion.[16]

4.2.2 Noun-like Complements

Noonan (1985) describes nominalized complements as predications with the internal structure of noun phrases, i.e. the predicate is nominalized and functions as head noun. Articles, case markers, adpositions and pluralization can occur. Arguments of noun-like complements can assume possessive relationships with their predicate.

---

16 See Craig 1977:159ff. NCLs that function as independent pronouns can be deleted under identity of reference with a preceding NP.

CS#2 can be characterized as a noun-like complement. There is no complementizer, the verb follows nominative-accusative case marking and is marked with a de-verbalizing suffix. This aspectless embedded clause is further described by the occurrence of NCL deletion, the movement of sentence final clitics to the end of the complex sentence, and the impossibility of negation.

4.2.3 Infinitive

Infinitives are defined as 'verb-like entities that do not bear syntactic relations to their notional subjects'(Noonan 1985:57). They typically undergo equi-deletion, raising or function as objects of adpositions. CS#3 lacks a complementizer, the intransitive infinitive shows no case or aspect marking due to equi subject deletion and is therefore marked as non-finite by the irrealis suffix. The agentless transitive infinitive incorporates its non-referring, and non-individuated object and obtains a non-finite suffix.[17]

---

17 Craig (1979) analyses this as a subtype of incorporating antipassive, Zavala (?) calls transitive CS#3 agentless VP-nominalization.

4.2.4 Perception Verb Complements

Perception verbs in both languages only take type CS#1 and CS#2 complements. CS#3 frequently occurs after motion verbs and in Jakaltek after verbs of desire.

The following provides a detailed description of the syntax and semantics of these complement clause types concentrating on the beforehand established opposition between perception of events and propositions. In order to do this, I will use the following criteria: clause boundary – identified through the occurrence or absence of NCL deletion and the placement of sentence final clitics – TAM marking, negation, and the ability of the complement to embed stative predicates.

Clause boundaries are taken as an indicator for the degree of independence or clause-likeness of the complement. The presence of tense-aspect-modality marking excludes interpretations of simultaneous, direct perception of events, is thus taken as an indicator for propositional content. Negation is of significance in that the not-happening of events cannot be perceived. Unlike propositions, events cannot be true or false, they cannot be judged, they can only be experienced or perceived. Similarly, stative predicates exclude events, and complements that allow stative predicates are unlikely to at the same time encode events.

In addition to the above criteria I will also take into consideration what types of predicates take what types of complements, i.e. if cognition verbs take CS#1, then CS#1 must convey epistemically positive contents.

4.3 CS#1: THAT CLAUSE

Jakaltek and Akatek make use of two different complementizers. One of them, Jakaltek <u>chubil</u>, Akatek <u>tzub'il</u>, has been analyzed as a 'factive that' expressing a high degree of credibility or certainty (Craig 1977). The other one, in Jakaltek <u>tato</u>, Akatek <u>tol</u>, encodes 'that' or 'if'. It introduces a notion of disbelief or reservation about a hearsay as well as an expected, supposed or believed fact. These complementizers can be chained, in which case the factive one chubil/tzub'il needs to come first.

CS#1 thus is introduced by a complementizer that has in addition to its syntactic function a distinctive semantic function unlike the English complementizer 'that'. So here, the complementizer influences the epistemic value of its complement clause in a way in which it is not possible for the perception of physically perceived phenomena or events, but for mentally perceived phenomena, i.e. propositions that result from logic inference or hearsay. This analysis is further supported by the fact that verbs like 'say' (20) and 'know' (21) take CS#1 complements. What one says and what one knows are abstract, mental insights, in our terminology propositions, that can be judged, i.e. they can be true or false.

In other words, the semantics of type CS#1 complement sentences excludes events and includes propositions. This shall be shown in the following section by looking at the above mentioned criteria of clause boundary, TAM-marking, negation, and stative predicates.

4.3.1 Clause Boundary

CS#1 creates a boundary between main and embedded clause. As can be seen in (20) and (21), NCL deletion does not operate across the clause boundary.

(20)	x-ø-y-al	naj	**chubil**	xc-ach	y-il	naj
JAK	COM-B3-A3-say	NCL	that	COM-B2	A3-see	NCL
	'he said that he saw you' Craig 1977:232.1					

(21)	Ø -y -ootaj-xa	ix	**tol**	hoj-Ø -kam	ix
AKA	B3-A3-know -already	PRO:woman	that	FUT-B3-die	PRO:woman
	'she already knows that she will die' MALTIN5.61				

Moreover, the sentence final clitic an can only be placed at the end of the embedding clause like in (22a). It cannot move across the boundary to the end of the complex construction as seen in the ungrammaticality of (22b).

(22) a.   xal hin mam   an   **chubil** xcam no' cheh
JAK   said my father CL1s that   died NCL horse
     b.   * xal naj hin mam   **chubil** xcam no' cheh an
     'my father said that the horse died' Craig 1977:236.21

Sentence (23) is a good example to illustrate the role of CS#1 type complement clauses in the evidential system of the language. The embedding clause introduces a hearsay max yalon eb' xin, the above mentioned complementizer tol introduces CS#1 and conveys a certain degree of disbelief of the content of the hearsay. This is followed by how the source of information (eb') classifies the reliability of the information (yootajxa). Then another tol introduces an existential construction ey hun ix ix modified by a relative clause max apni, which represents the core of the information.

(23)   max Ø -y -al -on   eb'   xin
AKA   COM B3-A3-say-SUF PRO:PL then
     tol Ø -y -ootaj-xa   eb'
     that B3-A3-know -already PRO:PL
       tol ey-Ø hun ix   ix   max Ø -apni
       that EX-B3 a NCL:woman woman COM B3-arrive there
     'they said /that they knew /that there was a woman who had
       arrived' YISTIL6.44-46

4.3.2 TAM Marking

CS#1 complements are always marked for aspect like any other independent clause. An evidential marker can additionally modify the epistemic value of the complementizer tol as shown in (24).

(24) tol-ab' chi-Ø -y -aute-toj ach'e tu' ix y -iin-taj
AKA that-EV INC-B3-A3-call-DIR boy DIST PRO:woman A3-in -DISTR
'(it is said ...) that she calls the young men after her'
YORONA.21

4.3.3 Negation

The aforementioned characteristic of CS#1, namely that it allows negation like any other independent clauses, is demonstrated in (25) and (26).

(25) xal naj chubil **mach** huluj naj
JAK said NCL that NEG will come NCL
'he said that he will not come' Craig 1977:236.22

(26) chi-Ø -s -na' naj tol **k'am** -Ø s -tumin naj maltin
AKA INC-B3-A3-think PRO:man that NEGEX-B3 A3-money NCL:man Martin
'He thought that Martin had no money' MALTIN5.145-6

4.3.4 Stative Predicates

CS#1 allows stative predicates as shown in (27), as well as existential predicates (28). This is taken as further evidence for the propositional character of this complement type.

(27) chi-Ø -s -na' ix tol **ikis-Ø**
AKA INC-B3-A3-think PRO:woman that alive-B3
'She thought he was alive.' TIGER.164

(28) Ø-k-ootaj xa on tzub'il tol **ey-Ø** chaaw el-tej
AKA B3-A1p-know already CL1p that that EX-B3 crab DIR-DIR
y-uul-laj hol-an
A3-inside-COL dig-NMZR
'we know that there are crabs in the holes.' CRAB.14

4.3.5 Verbs of Perception

Complement clauses of type CS#1 occur after verbs of perception. Both types of complementizers: chubil like in (29) and tol like in (30) are used. In the former (29), the English translation shows that no physical perception is described, but a hearsay, i.e. the speaker heard it from someone else, or an inference, i.e. the speaker heard something that allowed him to conclude that 'they went to ask for the hand of Jane'.

(29)   xwabe   **chubil** xto heb ya' kanwal yin ix juana
JAK   I heard that   went PL NCL ask   for NCL Jane
          'I heard that they (parents) went to ask for the hand of Jane'   Craig 1977:234.17

In (30) the verb il is translated with 'notice' which involves some kind of mental processing other than the passive perception of the basic lexical meaning of il 'see'. In other words, the semantic agent in (30) perceives the sight of the teeth and concludes *that* they are visible (contrary to her expectation), a fact, from which she concludes, *that* he must be laughing at her, since she believes, *that* he is alive, when in the end (31), by actually physically touching him ('hard' evidence), she will realize (again the use of il!), *that* he had already died.[18]

(30)   max Ø -y -il ix xin **tol** txekel -Ø el   -tej y -ee
AKA   COM B3-A3-see PRO then that visible-B3 DIR:out-DIR A3-tooth
          'she noticed that his teeth were visible' TIGER.149-50

(31)   'She put her hand on him, She thought he was alive, when she put
AKA   her hand on him...
          x-Ø -y-**il**-on-tej ix xin / x-Ø-y-**il**-on-tej ix
          ...she realized it then / she realized...
                  tol kam-naj-Ø   xa   naj   yalixh
                  that die-TPART-B3 already NCL:man little
          ...that he was already dead, the small one' TIGER.163-168

18 Here, a participle functions as non-verbal predicate.

That CS#1 complements encode abstract insights is further illustrated in (32) where the complement of the perception verb ab' 'hear' is a mere conclusion drawn from the original physical perception, i.e. the tiger heard something which allowed him an inference on the number of entities, when in the reality of the story, there were only two that made noise in order to make a wrong impression on the tiger.

(32) chi-Ø -y -ab'e-n naj icham b'alam tu'
AKA INC-B3-A3-hear-SUF NCL:man old tiger DEM
tol kaw ek'al eb' naj
that very many PL PRO:man
'the old tiger hears that they were many' TAMARA2.166-67

4.4 CS#2: GERUND CLAUSE

In Akatek, this complement type occurs after perception verbs, adverbial predicates like watx'-ø 'it is good', and some grammaticalized auxiliaries like lanan-ø.[19] In Jakaltek, CS#2 has a similar distribution. CS#2 functions as object complement of perception verbs.

CS#2 type complement clauses lack aspect marking, i.e. they are non-finite, the verb obtains nominative-accusative case marking[20] and transitive verbs occur with a nominalizing affix, in Jakaltek -ni and in Akatek -on. In sentence final position, transitive CS#2 verbs also obtain an intransitive thematic vowel.[21]

In the following section, I will briefly discuss split ergativity before using the criteria of clause boundary, TAM marking, negation and stative predicates to establish the event character of this complement type.

---

19 lanan marks extension in space and progression in time (Zavala ?).

20 This can only be observed on intransitive verbs that take Set A instead of Set B affixes.

21 Refer to 3.1.3 Transitivity

4.4.1 Split Ergativity

The phenomenon that ergative languages are often not consistent in their ergative-absolutive case marking is called split ergativity.[22] Among other factors,[23] split case marking can be triggered by subordination as is the case in CS#2: the ergative rather than the absolutive case is used to cross-reference S-arguments while A- and O-arguments maintain their marking pattern. This results in a nominative accusative alignment: all subjects (S- and A-arguments) marked with Set A and objects (O-arguments) marked with Set B.

One explanation for the split ergativity (nominative-accusative case marking) in Akatek in CS#2 complement clauses is that CS#2 is a nominalized form. Then, subjects of transitive or intransitive CS#2s are marked as <u>possessors</u> on the noun-like complement.[24] Given that ergative and possessor affixes in Akatek are identical (Set A), we are not actually looking at split case marking but simply at possessive marking.

The following examples illustrate the above analysis. In (33) the intransitive verb <u>el</u> 'leave' is marked with a Set B affix (<u>ach</u>), whereas in (34) the noun <u>atut</u> 'house' is marked as possessed with a Set A affix (<u>aw</u>). (35a) shows the same verb <u>el</u> in a CS#2 construction where it is marked - like the noun in (34) and the A-argument of the transitive CS#2 in (35b) - with Set A. Thus, (35a) can literally be translated with 'she saw your leaving', the CS#2 functions as object complement of the embedding verb. (35b) shows a CS#2 with a transitive verb <u>aute</u> 'cure' that takes a special suffix <u>-on</u> as a nominalizer as described above. (35b) could literally be rephrased as 'she saw your curing me' to reflect the nominal character of CS#2 in the English translation.

(33)	x-**ach**-el-toj
AKA	COM-**B2**-leave-DIR:thither
	'you left'

---

22 Silverstein (1976)

23 cf. Larsen and Norman (1979) for a discussion of split ergativity in the Mayan language family.

24 Zavala, ms, Functional Analysis of Akatek Voice Constructions

(34) **aw**-atut
JAK A2-home
'your home'

----

(35) a. x-ø-y-il ix [**aw**-el-toj]
AKA COM-B3-A3-see she **A2s**-leave-DIR:thither
'She saw you leaving' Zavala ?.12a.
Lit.: 'She saw it, your leaving'

b. x-ø-y-il ix in-**aw**-ante-**on** an
COM-B3-A3-see she B1s-**A2s**-cure-**SUF** CL1s
'She saw that you cured me' Zavala ?.12b.
Lit.: 'She saw it, your curing me'

Comrie (1978:377) uses the split ergativity in Jakaltek as an example for an erstwhile ergative language that changed to nominative-accusative because it treats A- and S-arguments in nominalizations alike. Koptjevskaja-Tamm (1993:245) attributes the fact that verbal ergative affixes are identical to nominal possessive affixes and opposed to verbal absolutive affixes, to the language's being head-marking. Intransitive action noun complements in head-marking languages exhibit a much higher tendency to "assimilate to non-derived NPs". In other words, the language treats intransitive and transitive nominalizations differently: intransitive nominalizations assimilate to NPs and transitive ones retain their sentential head-marking.

Similarly, Larsen and Norman (1979) correlate the occurrence of intransitive CS#2 without any nominalization marker in Jakaltek to other members of the family. Thus, in Mam, Quiche, Mopan and other Yucatecan languages there is a special stem class that can be possessed (Set A) like a noun and inflected (Set B) like a verb. They base their hypothesis on Jeffers (1976) who typologically correlated the existence of noun-like complements with VAO word order.[25]

---

25 Mayan languages are almost all verb-initial (Larson/Norman 1979).

In the following, I will provide arguments for the nominal character of CS#2, namely that NCL deletion is possible like in other NP possessive constructions, that the sentence final clitic moves to the end of the complex sentence and that it is impossible to negate CS#2, which shows its reduced verbal character. Negation often collapses with aspect on the verb or with the existential copula, so that a nominalized verb lacking aspect cannot be negated any longer.

4.4.2 Clause Boundary

(36a) is ungrammatical due to the lack of NCL deletion. The possessor NCL ix in coreferentiality with the A-argument of the embedding clause must be deleted in this case, which renders (36b) grammatical.

(36) a.*xil ix yapni smi' ix
JAK b. xil ix yapni smi' -----
saw NCL arrives her mother NCL
'she$_i$ saw her$_i$ mother arrive' Craig 1977:243.53

However, there is speaker variation, so that NCL deletion can also be optional as in (37) where (a) as well as (b) are judged grammatical.

(37) a. x-ø-y-il ix$_i$ ø ha-watx'e-n s-camix ix$_i$
JAK b. x-ø-y-il ix ø ha-watx'e-n s-camix
COM-B3-A3-see NCL B3 A2-make-SUF A3-blouse NCL
'she$_i$ saw you make her$_i$ blouse' Craig 1977:169.29

A further argument for the noun-like character of CS#2 is the placement of the sentence final clitic an. This clitic moves to the end of the complex construction as illustrated in (38) and (39). We can see that CS#2, unlike CS#1, is integrated into the main clause functioning as its O-argument.

----
(38) xwil [yapni naj] an
JAK I saw arrives NCL CL1s
'I saw him arrive' Craig 1977:244.55

----

(39) chi-Ø -w -il [s -q'anab' y -etoj y -istil naj] an
AKA INC-B3-A1-see A3-talk A3-with A3-wife PRO:man CL1s
'I saw him talking with his wife' M6.301

4.4.3 TAM-Marking

CS#2 type complements lack TAM marking. The fact that aspectual auxiliaries like lalan (progressive) and xew (terminative) take CS#2 is a further sign for the event character of CS#2 complements as has been explicated by Vendler (1967:141):

> 'It is events, processes, and actions, and not facts or results, that occur, take place, begin, last, and end. The former, and not the latter, can be watched, heard, followed, and observed; they can be sudden, gradual, violent, or prolonged.'

Example (40) shows the progressive lalan and example (41) the terminative xew with CS#2 complements:

(40) **lalan**-ø s-too naj
AKA PROG-B3 A3-go NCL
'he is going now' RF

(41) x-Ø-**xew** a-wey-i
AKA COM-B3-finish A2s-sleep-ITV
\`You finished sleeping' Zavala 1993b.21a

4.4.4 Negation

The third criteria for establishing the event character of a complement is negation. Verbal negation requires an aspect marker which is absent in CS#2 . Thus, this complement type does not allow negation. In (42a) you can see a CS#2 type complement which cannot be negated in (42b), but can be rendered grammatical by insertion of the complementizer tato in (42c) introducing a CS#1 type complement marked with aspect and Set B pronominal affixes.

(42) a. c'ul juc'i
JAK good we drink
'it is good to drink'

b. *c'ul **mach** juc'i

good NEG we drink

'it is good not to drink'

c. c'ul tato **mach** chon uc'i

good that NEG we drink

'it is good that we do not drink' Craig 1977:243.52

4.4.5 Stative Predicates

CS#2 cannot encode stative clauses as shown in (43). The ungrammaticality can only be resolved by introduction of a complementizer tato, and hence CS#1 type complement clause in (44).

(43) *s-kan hin-c'ul kalom hin

JAK A3-want A1-stomach rich B1

'I would like to be rich' Craig 1977:238.27b.

(44) s-kan hin-c'ul **tato** kalom hin

JAK A3-want A1-stomach that rich B1

'I would like to be rich' Craig 1977:238.27c.

Stative predicates like kalom only take Set B affixes which automatically exclude them from CS#2s. Also, these non-verbal predicates can be negated like finite clauses (45).

(45) mat bakich-oj hach

JAK NEG fat-suff B2

'you are not fat' (Craig 1977:114.45)

Instead of using CS#1, Jakaltek also offers the possibility to nominalize the stative construction (46).

(46) ch-Ø-aw-a' t-(y)-et haw-anma yiñ ha-kalom-al

JAK ASP-B3-A2-give AUG-A2-to A2-heart in A2-rich-NOM

'you enjoy being rich' Craig 1977:130.10

That stative predicates cannot be encoded via CS#2 complements is further evidence for the event character of this complement type.

A similar state vs. event contrast has been established by Bolinger (1974) between to-infinitives and naked infinitives: to-infinitives after perception verbs express states or thoughts (47), whereas naked infinitives encode events (48).

(47) state/character trait:
I saw them to be obnoxious (Bolinger 1974:66)

(48) event/behaviour:
I saw them be obnoxious (Bolinger 1974:67)

The question whether an event or behavior like the one in (48) can be expressed with a CS#2 complement in Mayan remains unsolved and asks for further investigation.

4.4.6 Verbs of Perception

The following examples all show perception verb complements of the CS#2 type. The main verbs can be marked with any aspect: completive (49), incompletive (53) or future (54). Their event character as opposed to the propositional character of CS#1 complements is illustrated in (49) and (50): <u>hinhamakni</u> and <u>yok ix</u> express direct physical perception of the respective events, 'you hit me' and 'she cried'. The CS#2 complement can alternatively to the infinitive in English also be translated with a possessive construction like in (52) 'their coming' or (53) 'the exiting of the sound of his nose'.

(49)	x-ø-y-il	ix	<u>hin</u>	<u>ha-mak-ni</u>
JAK	COM-B3-A3-see	NCL	B1	A2-hit-SUF
	'she saw you hit me' Craig 1977:237.23			

(50)	xwabe	<u>yok</u>	<u>ix</u>
JAK	I heard	cries	NCL
	'I heard her cry' Craig 1977:241.45		

(51)	x-ø-y-il	naj	<u>ha-munlayi</u>

JAK COM-B3-A3-see NCL A2-work

'he saw you work' Craig 1977:246.65

(52) ha-ach hoj Ø -haw-il s -hul eb'

AKA A2-B2 IRR B3-A2s-see A3-arrive here PL

'you will watch them come' TIGER.7

'you will watch their coming'

(53) chi-Ø -y -ab'-on eb' y -el y -aw s -xaam

AKA INC-B3-A3-hear-SUF PRO:PL A3-exit A3-sound A3-nose

'They heard him snoring' JUN2.42

lit. 'they heard the exiting of the sound of his nose'

(54) hoj Ø -hey-ab' Ø -w -al -on an

AKA FUT B3-A2p-hear B3-A1-say-SUF CL1s

'you will hear me speak' YISTIL5.101

Example (55) shows possible variation within CS#2 complement constructions. For one and the same English translation 'she saw you hit me', the Set B affix can cliticize preverbally (55a) or before the sentence-final clitic (55b). The sentence final clitic can also be omitted (55c), in which case an intransitive thematic vowel (ITV) shows up as a suffix to the verb. In all cases the complement clause verb has to be marked with a deverbalising suffix -on. This suffix cannot be omitted as shown by the ungrammaticality of (55d).

(55)	a.	x-ø-y-il	ix	in-a-ma'-on	an	
AKA	b.	x-ø-y-il	ix	a-ma'-on	in-an	
	c.	x-ø-y-il	ix	in-a-ma'-on		-i
	d.*	x-ø-y-il	ix	in-a-ma'	an	

COM-B3-A3-see PRO B1-A1-hit-SUF B1-CL1s ITV

'Ella vió que tú me pegaste' Zavala 1992a:310.208

'she saw you hit me'

Table 7. provides a summary of the relationship between syntax and semantics of perception verb complements in Akatek and Jakaltek as opposed to English.

Table 7. Perception Verb Complements

	PROPOSITION	EVENT
Akatek/Jakaltek	CS#1: clause-like	CS#2: noun-like
English	to-infinitive that-clause	naked infinitive gerund clause

4.4.7 Verbs Of Knowledge

After verbs of knowledge, CS#2 does not express propositional knowledge but ability like in (56). In contrast, CS#1 after verbs of knowledge expresses propositional knowledge as in (57).

(56) <u>know + CS#2: ability</u>

JAK yohtaj ix <u>hin</u> noh [swatx'en camixe] <u>an</u>

knows NCL my sibling makes shirt CL1s

'my sister knows how to make shirts' Craig 1977:244.56

(57) know + CS#1: propositional knowledge

JAK wohtaj tato ay tzet ch'alaxoj jet bay chon toj tu'

I know that is what is given to us where we go that

'I know that they will give us something where we are going'

Craig 1977:235.16

4.5 CS#3: INFINITIVAL CLAUSE

'Equi-deletion ... deletes subjects of complements when they are coreferential ... with some argument in the matrix. ... The application of equi-deletion always results in a non-clause-like complement type.'(Noonan 1985:66) The conditions for the occurrence of equi-deletion differ across languages.

For Jakaltek, Craig (1977) describes equi NP deletion as dependent on one hand on the nature of the complement taking predicate and on the other hand on the nature of the complement type. So can agent matrix NPs trigger deletion of an embedded coreferential agent NP. Verbs of desire and motion obligatorily delete coreferential agentive subjects of their dependent intransitive clauses resulting in CS#3 constructions which suffix the irrealis marker -oj.[26] The transitive CS#3 complement type is not a result of equi deletion but rather an agentless VP nominalization (Zavala ?, Craig 1977, 1979). The verb obtains a nominalizing suffix -o/-e and incorporates the non-individuated non-referential O-argument.

4.5.1 Intransitive Infinitive

In (58) and (59) equi deletion (triggered by coreferentiality) rendered the lower verb without person-marking, the irrealis marker -oj is suffixed instead. The complement expresses purpose of the higher clause agent.[27]
In contrast, the complement clause in (60) encodes direct sensory perception of an event via a CS#2 type complement. Equi deletion is not possible here, there is no agent coreferentiality. Instead the

26 cf. Noonan (1985): realis (asserted) vs. irrealis (hypothetical) marking affects the semantic potential of the complement type.

27 cf. Zavala (1993a)

CS#2 clause as a whole is coreferenced with third person singular on the matrix verb, i.e. CS#2 functions as O-argument of the embedding verb.

(58)   x-ach-jul   bey-**oj**
AKA   COM-B2-arrive.here sleep-IRR
'viniste a dormir' Zavala 1992a:314.222
'you came to sleep'

(59)   xhwoche canalw**oj**
JAK   I like to dance
'I like to dance' Craig 1977:245.58

as opposed to CS#2:
(60)   x-ø-w-il   ha-canalwi
JAK   COM-B3-A1-see A2-dance
'I saw you dance' Craig 1977:116.49

4.5.2 Transitive Infinitive

The non-referring and non-individuated patient of a semantically transitive CS#3 complement is incorporated, i.e. it constitutes a unit with the verb. The agent can be recovered in the matrix clause like in (61) and (62). CS#3 is grammatically nominalized, there are no person or aspect affixes, but a nominalizing suffix <u>-o/-e</u>.

(61)   chi-Ø -ok   naj   <u>il -o me'</u>   q -etoj on
AKA   INC-B3-enter PRO:man watch-NOM sheep A1p-with CL1p
'he can watch the sheep for us' NAJ.369
lit. 'he joins sheep-watching with us'

(62)   chin to <u>ilo' kin</u>
JAK   I go   to see fiesta
'I am going to see the fiesta' Craig 1977:245.59

Dakin (1976) following Day (1973) and Hopkins (1967) treats CS#3 complements as one of the four compound types she identifies for

Kanjobal (KAN)[28] and Akatek. She calls transitive CS#3 'transitive noun-like complement plus object'. The Kanjobalan equivalent to the nominalizing suffix -o is -oj (63).[29] Dakin observes that the noun-like component of this construction can be possessed (64) and (65), whereas the noun cannot:

(63) il-oj unin
KAN see-IRR child
'to watch children' Dakin 1976:163.17

(64) yiloj unin
KAN *iloj yunin
'their babysitting' Dakin 1976:163.19

(65) yilo unin
AKA *ilo yunin
'their babysitting' Dakin 1976:163.19

Dakin's analysis in part contradicts Craig's and Zavala's in that the CS#3 can be possessed. At this point, however, I can only point out this problem without being in a position to solve it.

CS#3 does not occur after perception verbs. A possibly important reason could be that CS#3 requires coreference, and the immediate perception of events seems intuitively somewhat complicated if the perceiver needs to perceive him or herself, something that is more thinkable for the perception of body parts. Further investigation into the role of reflexives and body parts in perception is thus indicated.

4.6 SUMMARY

Table 8 provides a summary of the complement clause types in Akatek and Jakaltek. Complement types have been characterized according to

---

28 Together with Jakaltek and Akatek, Kanjobal is the third member of the Kanjobalan subgroup which is spoken in Soloma and Santa Eulalia.
29 This opens up the possibility that this suffix may be identical to the irrealis suffix -oj of the intransitive CS#3.

presence or absence of complementizer, the possibility of negation, the presence of aspect marking, and the type and occurrence of case marking. Furthermore, morphological peculiarities of the predicate in the form of different suffixes have been noted.

Table 8. Complement Sentences (CS) in Jakaltek and Akatek

	CS#1	**CS#2**	**CS#3**
complementizer	yes	no	no
negation	yes	no	???
aspect	yes	no	no
case	ERG-ABS	NOM-ACC	NONE/POSS?
suffix on CS-verb	none	JAK: intrans -oj trans -ni AKA: trans -on	intrans -oj trans -o(')
semantic interpretation	*proposition, propositional knowledge, state*	*event, ability*	*purpose ?*

In the hierarchy of clauses given below, perception verb complements occur with CS#1 and CS#2. CS#1 ranks between independent clause and relative clause, and CS#2 between relative clause and CS#3.

(66) Hierarchy of Clauses (Craig 1977:390)

independent clause > CS#1 > Rel Cl > CS#2 > CS#3

Based on the criteria established at the outset of the paper, and after having investigated these for the type of complements that occur in Jakaltek and Akatek, CS#1 is analyzed as encoding propositions, propositional knowledge, or states, CS#2 encodes events or ability. The interpretation of CS#3 remains unclear except that after motion verbs it encodes purpose. As perception verb complements only CS#1 and CS#2 occur. CS#2 types of complements are used to express epistemically neutral physical perception. CS#1 complements that are typically embedded under verbs of communication and knowledge convey epistemically positive content, i.e. abstract, mental concepts.

5. DIRECTIONALS: PATH OF MOTION – PATH OF VISION

> '... the mind does not manufacture abstract concepts out of thin air ... It adapts machinery that is already available, both in the development of the individual organism and in the evolutionary development of the species.' (Jackendoff 1983:189)

From a purely physiological point of view, vision and hearing differ from the other sense modalities in three aspects: first, they can cover a much larger distance than feeling, smelling and tasting;[30] second, they have the ability to focus on stimuli (this is more the case for vision than for hearing); and third, they can analyze these stimuli in great detail and with high accuracy. So, with our eyes we can distinguish relative lightness, a large variety of colors and shapes, movements, and obtain – to a degree – three dimensional information (Zenner/Zrenner 1994), whereas our sense of taste mainly distinguishes between bitter, sweet, sour, and salty (Hatt 1990). About 60 percent of all the information our brain receives from the environment is taken in through our eyes (Stieve/Wicke 1990). This might help to explain why vision ranks at the top of the lexicalization hierarchy of sense modalities established by Viberg (1983) followed by hearing, feeling, smell and taste. It also supports the tendency of vision verbs to undergo semantic extension into the cognitive domain.[31]

In her analysis of Indo-European etymology, Sweetser (1990) observes that vision verbs commonly develop abstract senses of mental activity. As a result of the strong connection between sight and knowledge combined with shared structural properties of the visual and the intellectual domain, i.e. the ability to focus attention as well as to

30 The distance we can cover with our haptic sense is around 1 meter, with our olfactory sense, several hundred meters. Hearing allows us to cover several kilometers, and vision almost indefinitely more (Zenner/Zrenner 1994).

31 For discussions of this observation refer to Dretske (1969), Barwise (1981), Viberg (1983), Sweetser (1990), Hamm/Mönnich (1995), among others.

monitor stimuli visually as well as mentally, physical vision regularly is mapped onto 'mental' vision. As examples for ambiguity of mental vs. visual perception she lists verbs like: look down on, look up to, look after. An example for meaning of primarily mental vision is: foresee. It has been remarked before that perceptual activity verbs can appear in verb + particle constructions, i.e. look up the address (Cooper 1974a/b quoted from Viberg 1984).[32] In this section I will claim that similar constructions also exist in Akatek. This supports Viberg's observation that the lexical field of perception undergoes semantic extension into cognition and into the 'social' domain[33].

As suggested in Hamm/Mönnich (1995), similar processes might underlie the lexicalization of motion events and the lexicalization of perspective in languages.[34] It has been suggested before (Jackendoff 1983, Gruber 1965 among others) that the semantics of motion and location provide the key to a wide range of further semantic fields. In the following, this possibility will be explored.

After a review of the lexicalization of motion events in Mayan languages follows a description of directionals. Directionals in Akatek are a closed set of postverbal morphemes that encode location or direction. In a motion event they encode path. They also occur with perception verbs. My hypothesis is that they function in the semantic extension of perception into the cognitive and the social domain as has been described by Viberg (1984), similar to the 'particles' or prepositions in the English examples provided by Cooper (1974a/b) and Sweetser (1990).

5.1 Motion Event[35]

---

32 Similar expressions with perceptual experience verbs in German: <u>durchsehen, ansehen, hinsehen, hineinsehen, einsehen, nachsehen, sich vorsehen, übersehen, wiedersehen</u>, etc.

33 Refer to Table 3. Extended Meanings of Verbs of Perception

34 See Jackendoff and Landau (1992) for a detailed discussion on spatial language and cognition.

35 Following Talmy (1985), a motion event is a situation that entails movement or maintenance of a stationary location, the figure is the object that is moving/located/conceptually movable in relation to the ground or reference object, the ground serves as the 'reference-point stationary within a reference frame, with respect to which the Figure's path or site is characterized'(p.61). the path is the

According to the typology of event conflation established by Talmy (1991) the world's languages generally divide into satellite-framed (Type I) and verb-framed (Type II) languages as can be seen in Table 9.

course followed/site occupied by the figure in relation to the ground. Motion describes the movement implicated in the event.

Table 9. Typology of Motion Verbs and Their Satellites[36]
(Talmy 1985, 1991)

languages[37]	**verb root**	**satellite**	**typology**[38]	**type**
Chinese, all (?) IE except Romance	motion + manner/cause	path	satellite-framed	I
Atsugewi	motion + figure	path + ground/cause	satellite-framed	I
Semitic, Polynesian, Romance	motion + path	Ø	verb-framed	II

In his study of motion verbs in Mayan languages, Zavala (1993a) claims that these employ a mixed lexicalization pattern (see Table 10):

Type I

In many Mayan languages postverbal directionals function as satellites, the (transitive) verbal stems conflate motion and cause, or motion and manner, the directionals convey the path of the figure (O-argument).

Type II

Intransitive motion verbs generally express motion and path in their verbal stem.
Some languages within the family lack motion auxiliaries as well as directionals, these languages conflate motion and path in the (transitive) verb root and express cause separately.

---

36 Talmy (1985:102): 'immediate constituents of a verb root other than inflections, auxiliaries, or nominal arguments.' verb root and satellite form a verb complex, satellites can be free words or affixes, they can encode path, path+ground, patient, manner, cause, aspect, valence

Table I. Satellites in Indo-European, i.e. German

SATELLITE	VERB COMPLEX	EXAMPLE
entzwei	**entzwei**brechen	der tisch brach **entzwei**
zer	**zer**brechen	der tisch **zer**brach

37 'any language uses only one of these types for the verb in its most characteristic expression of motion' (Talmy 1985:62) - "characteristic" meaning: colloquial, frequent and pervasive

38 Talmy 1991:486, 'a framing satellite expresses the core schema alone, whereas a framing verb conflates expression of the core schema together with that of the activating process' where core schema involves the relating function (in a motion event the path) plus possibly ground elements.

Table 10. Lexicalization Pattern in Mayan Languages

verb	**Type**	**language has:**	**conflation of**	**separately expressed**
transitive	I	motion aux, DIR	motion + cause/manner	path
transitive	II	no motion aux, no DIR	motion + path	cause
intransitive	II	intransitive motion verbs	motion + path	manner

Akatek, having motion auxiliaries and directionals, uses a lexicalization pattern of type II for intransitive verbs and of type I for transitive verbs as will be shown in the following part.

5.2 DIRECTIONALS IN AKATEK

In Akatek (Zavala 1992a/b/1993a), intransitive verbs of motion express either the displacement of the figure from a point of origin to another point or the fact that the figure does change its location, i.e. movement or absence of movement. Directionals are the result of grammaticalization of intransitive verbs of motion.[39] Their semantic function is <u>not</u> to directly encode the notion of movement or displacement but solely the trajectory or location of the figure in relation to the perspective or point of view from which the event is described.

Directionals form a closed set, they co-occur with all types of verbal or non-verbal finite predicates, and can be arranged into three subgroups:

---

39 Directionals differ from motion verbs:
1. can occur in series
2. phonological erosion
3. don't allow morphology of finite predicates
4. unique distributional properties: subsequent to predicate nucleus, position reflects subparadigms

Directionals with:

1. Adverbial function
2. Orientation to a vertical axis or a limited area
3. Deictic function

Directionals can form chains of up to three in hierarchical occurrence.[40]

Table 11. Akatek Directionals (Zavala 1992b)

MOTION VERB	DIRECTIONAL
Subgroup 1: directionals with adverbial function	
pax 'go and return'	***pax*** 'cyclic trajectory' ADV: \`again, once more'
kan \`stay'	***kan*** \`without movement' ADV: \`completely'
Subgroup 2: directionals with orientation to a vertical axis or a limited area	
ek' \`cross, pass by'	***ek'*** \`through, across, along'
ok \`enter'	***ok*** \`in'
el \`exit'	***el*** \`out'
ey \`descend'	***ey*** \`down'
aa \`ascend'	***aa*** \`up'
Subgroup 3: directionals with deictic function	
too \`go from one point to another' *-oj* \`IRR'	***toj*** \`thither'
tit \`come' *-oj* \`IRR'	***tej*** \`hither'
jul \`arrive here'	***ol*** \`arriving here'
apni \`arrive there' *-oj* \`IRR'	***apnoj*** \`arriving there'

Intransitive Verbs of Motion

Intransitive verbs of motion in Akatek can take additional directionals as shown in (67). The figure of the motion event is the S-argument no' mij 'buzzards', which is coreferenced with Set B affixes on the intransitive verb.

40 1-2-3 order of the three groups has to be maintained

(67) V: ey + DIR: ok-toj

Ø -**ey** **-ok** **-toj** no' mij

B3-descend-DIR:in-DIR:thither NCL buzzard

y -uul s -tz'um-al no' chee tu'

A3-inside A3-skin -VL NCL horse DIST

'Buzzards had entered into the skin of the horse' JUN3.4

Transitive Verbs of Motion

Transitive motion verbs in Akatek are neutral regarding direction. Therefore, they tend to occur with directionals of subgroup 3 to obtain deictic orientation of the figure in relation to the ego or the viewpoint that from the speaker's perspective is prominent for the description of the event (Zavala 1993a). Thus, different lexical items such as 'bring' (68) and 'take' (69) are expressed with the transitive verb ii 'carry' and the directionals tej 'hither' and toj 'thither' respectively. In both cases the figure, in (68) jun on tu' and in (69) -in-, is the O-argument that is coreferenced with Set B affixes on the transitive verb.

(68) V: ii + DIR: tej -> iitej 'bring' (sp. traer)

aa-an-toj Ø-aw-iitej jun on tu'

'levántate y traeme ese aguacate!' Zavala 1992b.43

(get up and bring me this avocado)

(69) V: ii + DIR: toj -> iitoj 'take' (sp. llevar)

xawalta'a tol ch-in-aw-**ii-toj** b'ey komitan

'tú me prometiste llevarme a Comitán' Zavala 1992b.44

(you promised to take me to Comitán)

Thus, directionals map out either the path that the figure follows or the trajectory that the figure covers with its movement expressed in the main verb. The figure is coreferenced with Set B pronominal affixes on the verb. Transitive verbs can also occur with directionals of subgroup 2 as shown in (70).

(70) V: ii + DIR: el-toj, Figure: O-argument (skab')

chi-Ø -y -i' -on el -toj naj s -kab'
INC-B3-A3-carry-FOCAP out-DIR:thither PRO:man A3-brown.sugar
'he takes out his lump of brown sugar' MALTIN1.10

The following section will show that postverbal directionals in Akatek also occur after perception verbs thereby either focusing physical perception or extending their meaning into the cognitive or social domain.

5.3 PERCEPTION VERBS + DIRECTIONALS

The perception verbs il 'see' and ab' 'hear, perceive' are experiencer based perception verbs that encode experience as opposed to activity. In the following I will try to illustrate that these perception verbs – in combination with directionals – also encode activity, the perception is thereby focused and in many cases semantically extended into the cognitive domain.

In motion events, the function of postverbal directionals is to describe the trajectory or location of the figure in relation to the perspective or viewpoint from which the event is being described. Applying this analysis to perception instead of motion, directionals should express the physical or mental focus of the perception in relation to the perspective from which the event is being described.

Below, examples for occurrence of directionals of all three subgroups with perception verbs will be provided.

5.3.1 Directionals with Adverbial Function

The first subgroup contains only two directionals: pax and kan. They carry adverbial function. In (71) pax indicates the repeated 'not hearing'. The second directional, kan, indicates absence of movement in motion events. Here, it can be reanalyzed not as absence of perception but as the constant or complete focus of vision on the figure wal hun chee (72), i.e. in looking at horses his gaze stuck on the best one, which means that he chose that horse.

(71) <u>pax - once more, again (cyclic trajectory)</u>

palta k'am chi-Ø -y -**ab' pax** hun ch'een xin
but NEG INC-B3-A3-hear DIR:returning one rock then
'But again the rock didn't listen' RFSTOR1.72

(72) <u>kan - completely (without movement)</u>

max Ø -y -**il -on kan** naj xin wal hun chee
COM B3-A3-see-FOCAP DIR:stay PRO:man then truly one horse
'He chose the best one' NAJ.463

5.3.2 Directionals with Orientation to a Vertical Axis or a Limited Area

Subgroup two consists of five members: <u>ek'</u>, <u>ok</u>, <u>el</u>, <u>ey</u>, <u>aa</u>. These directionals express orientation in relation to a vertical axis (transverse, down, up) or a limited area (in, out).

In (73) the sense of <u>il</u> 'see' is extended to one of <u>il ek'</u> 'look at' describing the trajectory of the vision from the perceiver (A-argument) to the perceived 'our house' (O-argument).

(73) <u>ek' - through, across, passing (transverse trajectory)</u>

max-Ø -b'et Ø -w -**il ek'** ko -naa ma'i ti'
an
COM-B3-go from here B3-A1 -see DIR:towards A1p-house ma'i PROX
CL1s
'I went to see our house today' TAMARA2.82

(74) <u>ok - in (towards the inside)</u>

There is a high frequency of perception verbs with the directional <u>ok</u> in text. As illustrated below, <u>ok</u> extends physical perception into the cognitive domain (74a,b) and the social domain (74c, d) as has been described in Viberg's typological study on verbs of perception (1984).

(74a) asan chi-Ø -w -oche chi-Ø -w -**ab' ok** -oj ha'-ach mi
just INC-B3-A1-want INC-B3-A1-hear DIR:in-IRR FOC-B2 DUB
wal w -istil

really A1-wife

'I only want to know if you are really my wife' YISTIL6.192

(74b) tumi hun winaj ti' suk -Ø ta' chi-Ø -w -**il** **ok** an

perhaps one man PROX stupid-B3 IMPFP INC-B3-A1-see DIR:in CL1s

'I must have thought this man is a foolish man' YISTIL1.68

(74c) chi-too Ø -w -**il** **ok** ix an

INC-go from there B3-A1-see DIR:in PRO:woman CL1s

'so I could meet her' YISTIL6.115

(74d) ha'-ach chi-Ø -w -**il** **ok** -oj

FOC-B2 INC-B3-A1-see DIR:in-IRR

'I recognize you' YISTIL6.134

In (74e) <u>il ok</u> is used to indicate visual evidence - which is dubious as indicated by the irrealis suffix - for a preceding assumption 'he probably has lice'.

(74e) tejan ey-Ø y -uk' naj chi-Ø -q -**il** **ok**-oj

surely EX-B3 A3-lice PRO:man INC-B3-A1p-see in-IRR

'he probably has lice, we see that' NAJ.338-9

<u>Il ok</u> in connection with <u>k'ul</u> 'stomach' encodes emotion and allows interpretations of desire (74f) and feeling sorry (74g).

(74f) palta Ø -y -**il** **ok** s -k'ul naj y -iin hun lo'-lo' tu'

but B3-A3-see DIR:in A3-stomach PRO:man A3-in one eat-eat DIST

'but he wanted the candy' CANDYMAN.6

(74g) chi-Ø -w -**il** **ok** hin-k'ul y -iin no'

INC-B3-A1-see DIR:in A1 -stomach A3-in PRO:animal

'I feel sorry for him' MALTIN2.85

(75) <u>el - out (towards the outside)</u>

In her study on Mam directionals and verb semantics, England (1976) notes that el occurs with verbs that describe the removal of an outer covering so that the inside becomes visible, i.e. shelling corn. In Akatek, the combination of il 'see' and el results in the cognitively extended meaning 'learn' (75a), i.e. learning as taking away outer coverings to reach the core of things.

(75a) palta ta k'am ch -Ø -aw-**il** **el** oj
DISJ COND NEG INC-B3-A2-see DIR:out IRR
but if you don't learn' PEDRIM.29

In (75b) il el functions as higher predicate for a CS#2, this is in analogy to the encoding of 'ability' with CS#2 type complements (56). One *learns* 'how to do' things first, and as a result *knows* 'how to do' them.[41]

(75b) tol key -tu' -Ø oj Ø -y -u -n Ø -y -**il -on** **el**
that manner-DIST-B3 IRR B3-A3-do-FOCAP B3-A3-see-FOCAP DIR:out
Ø -y -a' -on -ok xhalma
B3-A3-put-FOCAP-DIR:in saddle
'(what Pedro Rimares had thought) that way he would learn how to put saddles on' PEDRIM.75

Perception verbs can also take more than one directional. In (76) il is followed by ey and toj, together expressing the path of the vision: 'look down and thither'.

41 In this context it would be most interesting to see how the language can encode a sentence like 'I saw him put saddles on'.

(76) <u>ey - down + toj - thither</u>

Ø -y -**il -on** **ey** **toj** naj y -ech -el ix ko -txitx

COM-A3-see-FOCAP DIR:down DIR:thither NCL A3-mark-VL PRO A1p-rabbit

y -ul ha'

A3-inside water

'and saw the reflection of the moon in the water' TAMARA1.68

5.3.3 Directionals with Deictic Function

Up to now I only observed two members of subgroup 3 with perception verbs: tej (77) and toj (78). They function deictically pointing the perception process in this or that direction.

(77) <u>tej - hither</u>

There are a lot of occurrences of tej with perception verbs in text. This directional carries deictic information. It implies proximity like in (77a) where Martin realizes right in his home that his wife is absent, or in (77b) where an object is found, or in (77c) where the pull of the rope is directly felt because the boy is holding onto the rope. In the last case, the presence of the here-directional in combination with the context releases the interpretation of <u>ab'</u> as 'feel' which is more physically immediate in perception than 'hear'. This interpretation is supported by one of Viberg's observations, namely that

> 'hearing seems also to be closely related to touch in many languages, since no noun is needed which specifies the sense modality when 'hear' is extended to touch, although such a noun is usually preferred when it is extended to taste or smell.'(1984:142)

(77a) '...he no longer had a wife...

x -Ø -y **-il -on** **tej** naj

COM-B3-A3-see-FOCAP DIR:hither PRO:man

he realized that

...then he realized that he no longer had a house' MALTIN6.261-3

(77b) tzet-Ø max Ø -y -u -on Ø-b'et

what-B3 COM B3-A3-do-FOCAP B3-go.from.here

Ø -haw-**il -on** **tej** ha-sortija tu'

B3-A2 -see-FOCAP DIR:hither A2-SP:amulet DIST

'How were you able to find your magic ball?' MALTIN6.429

(77c) ... As the boy had caught him at the end of the rope, a signal was sent to his hand where he was caught in the rope...

x -Ø -y -**ab' -en** **tej** naj xin

COM-B3-A3-feel-FOCAP hither PRO:man then

He felt it

... and went to see' NAJ.426-9

Toj expresses that the perception covers distance as shown in (78) where the mother comes to a place and then sees into the direction where her son is lying on the ground, so that she sees him.

(78) toj - thither

'...She came to the place where her son had been left lying on his back...

max Ø -y -**il -on** **-toj** ix xin

COM B3-A3-see-FOCAP-DIR:thither PRO:woman then

she saw him (lit. she saw in that direction then)

...she noticed that his teeth were showing' TIGER.147-150

5.4 SUMMARY

In this section, it was shown how perception verbs in Akatek can express physical as well as mental focus of perception and semantically extend into the cognitive and the social domain as has been described by Sweetser (1990) for Indo-European and typologically by Viberg (1984). In Akatek, this process is achieved via the same class of verbal satellites - directionals - that encode path in a motion event (Zavala 1993). Thus, the lexicalization patterns established for motion events by Talmy (1985) seem to be useful for the analysis of other lexicalization field, i.e. perception. The Table below provides an overview of lexicalization patterns in Akatek for motion and perception.

Table 12. Lexicalization Pattern in Akatek

TYPE	MATRIX PREDICATE	SITUATION	PATH	FIGURE
verb-framed	intransitive motion verb	motion + path	DIR	S-argument
satellite-framed	transitive motion verb	motion	DIR	O-argument
satellite-framed	transitive perception verb	perception/ cognition	DIR	O-argument

Transitive verbs of motion or perception are what Talmy calls satellite-framed as opposed to the verb-framed intransitive verbs of motion. The path or the semantic extension or focus of perception is encoded via directionals.

6. EVIDENTIALS

As observed for Indo-European by Sweetser (1990), vision verbs commonly develop an abstract sense of mental activity. Physical sight is often mapped onto knowledge and intellect. She explains this by vision's primary status as a source of data which has been mentioned before. Accordingly, the hierarchy of sense modalities seems to reflect degree of implication or certainty of the proposition in conceptually positive perception as has been suggested for English, Polish, and Swedish (Viberg 1984 based on Kryk 1979):

(79) implicative	->	weak implicative	->	non-implicative
see		hear		feel

Studies of evidentials have also shown that direct visual data cross linguistically is taken to be the most certain kind of knowledge (Anderson 1982). Since this study focuses on perception, I will investigate whether perception verbs in Akatek developed into morphological evidential markers.

The purpose here is twofold. Since evidentials specify the degree to which information can be taken as reliable from the speaker's perspective, the presence of evidentials has to be taken as a clue that we look at propositions, and not at events. Evidentials thus belong to the criteria which have been established at the beginning of this paper for the distinction between events and propositions. In connection to this, secondly, should the presence of evidentials that originated from perception verbs indicate that perception verbs semantically extended into the domain of cognition. In other words, visual evidence is a connector between the physical process of vision and a factual claim, or auditory evidence a connector between hearing and a factual claim and so forth.

Evidential markers 'indicate something about the source of the information in the proposition' (Bybee 1985:184). More specifically, morphological evidentiality markers have been defined in the following way (Anderson 1982:274):

(a) Evidentials show the kind of justification for a factual claim which is available to the speaker:
    Direct evidence plus observation
    Evidence plus inference
    Inference
    Reasoned expectation from logic and other facts
    (evidence can be auditory, or visual, etc.)
(b) Evidentials are a specification added to a factual claim <u>about something else</u>.
(c) <u>Indication of evidence</u> is the primary meaning of evidentials.
(d) Evidentials can be inflections, clitics, or other free syntactic elements.

The primary distinction regarding the epistemic contrast available in languages is between direct (primary) and indirect (secondary) evidence. Direct evidence can be visually, auditorily or otherwise sensorily attested. Indirect evidence subdivides into reported (hearsay, folklore, general reputation, "quotative")[42] and inferring (results, reasoning).[43] In the following preliminary analysis of the evidential system of Akatek, I will present two evidentials observed in text material. Only one is a true morphological evidential in the sense of the above definition. The other is a quotative which morphologically still is a full verb with aspect and person marking. I do not want to claim that these two comprise the evidential system of the language but I do want to provide a description of what I observed so far, herewith suggesting further research.

6.1 THE QUOTATIVE CHI

The quotative chi occurs as a main predicate carrying aspect and person marking. It allows to identify the speaker in a story. Chi occurs very frequently in story text. So far, I am oblivious of other usages and functions it might have. Chi can indicate either 'say' or 'ask/answer' which are otherwise expressed via (at least) two separate verbs: al and ta'wi respectively. To illustrate the function of chi, I will provide a passage from a story (Peñalosa/Miguel Say 1992:YISTIL1.16-38). In the left column, for Akatek, only verbs of speaking are listed, whereas in the right column, the English translation of the whole text is given.

42 See Anderson (1986:289): "quotative" as only marginally an evidential marker.
43 See Willett (1988:57) for more details.

AKATEK VERB	ENGLISH TRANSLATION
chiq**al**k'al	let's say it
xhi (x-Ø-s-**chi**)	said the clever man to the foolish one
	so what do you want
chiw**al**	do you want me to tell you
xhi	asked the fool
chaw**al**	say it, then
chaw**al** paxoj	you are not going to lie
	there is money to it
	if you win
	I will pay you
	and if you don't win
	then you will pay me
xhi	said the clever man to the foolish one
	what do you want
xhi	the foolish man answered again
	what I want to know is
	whether you know
	where my wife's mole is
xhi	said the clever man
	all right
xhi	said the fool
	do you really want to know
xhi	asked the fool

6.2 GENERAL REPORTED EVIDENCE: AB'

The second evidential ab' might be the only true morphological evidential the language has. It meets all of the above established criteria for 'true' evidentials: (a) it shows that the speaker does have evidence for his claim, (b) it is added to a main predicate, (c) the indication of evidence is the primary meaning of ab', and (d) it is a clitic.

My hypotheses are that the evidential marker ab' originates from the perception verb ab', and that it indicates reported (indirect) evidence.

Typological observations regarding diachronic sources of grammatical evidentials (Willett 1988), show that attested (direct) evidentials often arise from sensory perception verbs, and reported evidence from verbs of speaking, whereas Anderson (1986:280) hypothesizes that 'the perception verb 'hear' often changes historically either into auditory or into hearsay evidentials.'

Based on the above, one would expect the evidential ab' to attest auditory evidence. I don't think this is the case. At this point I suggest that ab' indicates reported evidence in accordance with Anderson's hypothesis.

According to Anderson (1982:280), perception verbs that are the main-predication of a clause cannot be taken to be true evidentials. However, they do function within the evidential system of the language. In (80) one can see that visual evidence is used to assert a claim. (81) shows how hear and say are connected, the embedded clause is of type CS#2 expressing an event. Sentence (82) shows how the perception verb il 'see' in the imperative can occur with al 'say'. It seems peculiar at first to ask someone to look at what one says. The story context, however, created a situation where the tiger brings meat to the skunk mother, this is what he tells her, evidencing his utterance with the imperative of see, a case of 'show and tell'.

(80) yel chi-Ø -y -al ix max Ø -q -**il** y -etoj ix on
true INC-B3-A3-say PRO COM B3-A1p-see A3-with PRO CL1p
'she was right, we saw it with her' YISTIL3.99-100

(81) hoj Ø -hey-**ab**' Ø -w -al -on an
FUT B3-A2p-hear B3-A1-say-FOCAP CL1s
'you will hear as I speak' YISTIL5.101

(82) **il** -a' -Ø chi-Ø -w -al an
see-TTV-B3 INC-B3-A1-say CL1s
'see what I say' TIGER.55

As suggested above, Akatek does have a morphological evidential encoding reported evidence. In (83), the verb for 'hear' ab' has grammaticalized into a clitic on the complementizer tol. Its evidential character shows up in the English translation: 'it is said'. Ab' can also cliticize postverbally to the quotative chi (84).

(83) **tol -ab'** chi-Ø -xiw pax eb' tet-Ø
that-EV INC-B3-be afraid again PRO:PL to -B3
'it is said they were still afraid' YISTIL3.118

(84) x -Ø -s -**chi-ab'** eb'
COM-B3-A3-say-EV PRO:PL
'it is said' YISTIL3.115

Ab' does occur in a variety of locations as shown below, it does not coincide with the tendency observed by Willett (1988) for evidentials to occur as verb suffixes. The evidential ab' can cliticize postverbally (85), post-aspect (86), post-positional (87), post-existential (88), post-adverbial (89), and post-focus (90).

(85) postverbal clitic
x-Ø-**ok-ab'**-toj no' kam-oj
COM-B3-entrar-EV-DIR PRO morir-IRR
`dicen que pasó a morirse (el animal)' Zavala 1992b:24
(they say that the animal began to die)

(86) post-aspect
chi-ab' Ø -tit ix kamposanto
INC-EV B3-come PRO:woman sp.cemetary
'she comes from the cemetery' YORONA.9

(87) post-positional
t'oyxin **chotan-Ø-ab'**-'ey naj
entonces sentado-B3-EV-DIR PRO
`y entonces, él estaba sentado' Zavala 1992b:39
(so then he was sitting)

(88) <u>post-existential</u>

```
y -et    kaw  peyxa     ey-Ø  ab' hun ix         ix    kaw
A3-when very long ago EX-B3 EV    a   NCL:woman woman very
      chi-Ø -oche ok     hun winaj
      INC-B3-want DIR:in a   man
'a very long time ago there was a woman who loved a man
      very much' YORONA.2
```

(89) <u>post-adverbial</u>

```
wal    ab' ja'-Ø  y -ok   ix         wan   k'opo sululi sat
really EV    FOC-B3 A3-look NCL:woman DEFPL girl  smooth face
'she looked very pretty like girls with smooth faces' YORONA.12
```

(90) <u>post-focus</u>

```
ha'-Ø -ab' hun kaan naj     nawal
FOC-B3-EV    one loft NCL:man devil
'It was the home of the devil' TX'ITAJ.238
```

6.3 SUMMARY

Research findings as summarized by Anderson (1982:286) suggest, that evidentials do not arise from perception verbs according to the sense modality hierarchy established by Viberg (1984). Overt morphologically distinct evidentials pattern according to the following hierarchy:

(91) auditory > non-visual sensory > visual

This does not imply, however, that auditory evidentials also encode the highest degree of certainty, but that if a language has evidentials that arose from perception verbs, it has at least auditory ones. The case of Akatek where the perception verb for hear/feel is used as an evidential marker supports the above hierarchy. In conclusion, the presence of a morphological evidential marker that arose from a verb of sensory perception supports the claim that perception verbs in Akatek semantically extended into the cognitive domain.

REFERENCES

Anderson, Lloyd B. 1986. "Evidentials, Paths of Change, and Mental Maps: Typologically Regular Asymmetries." In Evidentiality: The Linguistic Coding of Epistemology, W. Chafe and J. Nichols (eds.), 273-312. Norwood: Ablex Publishing Corp.
Andrews, A. 1985. "The Major Function of the Noun Phrase." In Language Typology and Syntactic Description, Vol. I, Timothy Shopen (ed.), 62-154. Cambridge: Cambridge University Press.
Barwise, J. 1981. "Scenes and Other Situations." Journal of Philosophy 77:269-397.
Barwise, J. 1989. The Situation in Logic. Stanford: CSLI.
Bennett, J. 1988. Events and Their Names. Oxford: Clarendon.
Bloomfield, L. 1933. Language. New York: Henry Holt and Company.
Bolinger, D. 1974. "Concept and Percept: Two Infinitive Constructions and Their Vicissitudes." In World Papers in Phonetics: Festschrift for Dr. Onishi's Kiju, 65-91. Tokyo: Phonetics Society of Japan.
Bybee, J. 1985. Morphology: a Study of the Relation between Meaning and Form. Amsterdam: John Benjamins.
Campell, Ventur, Stewart and Gardner. 1978. Bibliography of Mayan Languages and Linguistics. Institute for Meso-American Studies. Publication No. 3. Albany: State Unversity of New York at Albany.
Comrie, B. 1978. "Ergativity." In Syntactic Typology, Winfred P. Lehmann (ed.), 329-394. Austin: University Of Texas Press.
Comrie, B. 1981. Language Universals and Linguistic Typology. Chicago: University Of Chicago Press.
Cooper, W.E. 1974a. "Syntactic flexibility among English sensation referents." Linguistics 133.
Cooper, W.E. 1974b. "Primacy relations among English sensation referents." Linguistics 137.
Craig, C. 1976. "Disambiguation and Hierarchies in Jacaltec." In Mayan Linguistics I. Marlys McClaran (ed). Los Angeles: University of California.
Craig, C. 1977. The Structure of Jacaltec. Austin: University of Texas Press.
Craig, C. 1979. "The antipassive and Jacaltec." In Papers in Mayan Linguistics, L. Martin (ed.), 139-164. Columbia, Missouri: Lucas Bros. Publishers.
Craig, C. 1986. "Jacaltec noun classifiers. A study in grammaticalization." Lingua 70:241-284.
Dakin, K. 1976. "Verb Phrases as Morphological Bases in Kanjobal and Acatec." In Mayan Linguistics I. Marlys McClaran (ed), 161-167. Los Angeles: University of California.
Day, Chr. 1973. The Jacaltec Language. Bloomington: Indiana University Press.
Dik, S. C., Hengeveld, K. 1991. "The Hierarchical Structure of the Clause and the Typology of Perception-Verb Complements." Linguistics 29: 231-259.
Dixon, R.M.W. 1979. "Ergativity." Language 55:59-138.
Dretske, F.I. 1969. Seeing and Knowing. London: Routledge and Kegan Paul.
England, N.C. 1976. "Mam Directionals and Verb Semantics." In Mayan Linguistics I. Marlys McClaran (ed), 201-211. Los Angeles: University of California.
Gruber, J.S. 1965. Studies in Lexical Relations. Doctoral dissertation, MIT, Cambridge.

Hamm, F. and U. Mönnich. 1995. Sprachvergleichende Untersuchungen zur Semantik von Perzeptionsverben und Nominalisierungen. Antrag, Seminar für Sprachwissenschaft, Universität Tübingen.

Hatt, H. 1990. "Physiologie des Riechens und Schmeckens." In Vom Reiz der Sinne. A. Maelicke (ed.), 93-126. Weinheim: Vch.

Higginbotham, J. 1983. "The Logic of Perceptual Reports: An Extensional Alternative to Situation Semantics." The Journal of Philosophy 80.2:100-127.

Higginbotham, J. 1994. "Some Philosophy of Language." In The Semantics and Syntax of Event Reference (reader prepared for ESSLI '94, Copenhagen).

Hopkins. 1967. The Chuj Language. Austin: The University of Texas.

Horie, K. 1993. A Cross-Linguistic Study of Perception and Cognition Verb Complements: A Cognitive Perspective. Ph.D. Dissertation, USC.

Jackendoff, R and B. Landau. 1992. "Spatial language and spatial cognition." In Jackendoff. Languages of the Mind. Cambridge:MIT.

Jackendoff, R. 1983. Semantics and Cognition. Cambridge: MIT.

Jeffers, R.J. 1976. "Typological Shift and Change in Complex Sentence Structure." In Papers from the Parasession on Diachronic Syntax, S.B.Steever, C.A. Walker and S.S. Mufwene (eds.), 136-149. Chicago:Linguistic Society.

Kaufman, T. 1974. Idiomas de Mesoamerica. Guatemala: Seminario de Integración Social.

Kirsner, R. And S. Thompson. 1976. "The Role of Pragmatic Inference in Semantics: A Study of Sensory Verb Complements in English." Glossa 10:200-240.

Koptjevskaja-Tamm, M. 1993. Nominalizations. London: Routledge.

Kryk, B. 1979. "How factive are SEE, HEAR and FEEL and their Polish counterparts." In Papers and Studies in Contrastive Linguistics, Vol. 9, J. Fisiak (ed.). Poznann and Arlington, Va.: Center for Applied Linguistics.

Larsen, T.W. and W.M. Norman. 1979. "Correlates of Ergativity in Mayan Grammar." In Ergativity. Towards a Theory of Grammatical Relations. Frans Plank (ed.). London: Academic Press.

Lyons, J. 1977. Semantics. Vol. 2. Cambridge: CUP.

Mönnich, U. 1992. Ereignisse und Gedanken: Syntax und Semantik von Perzeptionsverbkomplementen. Manuskript, Universität Tübingen.

Nichols, J. 1986. “Head-Marking And Dependent-Marking Grammar.” Language 62:56-119.

Noonan, M. 1985. "Complementation." In Language Typology and Syntactic Description, Vol. II, T. Shopen (ed.), 42-140. Cambridge: Cambridge University Press.

Norman, W. M. and L. Campbell. 1978. “Toward a proto-Mayan syntax: a comparative perspective on grammar.” In Papers in Mayan Linguistics. University of Missouri Miscellaneous Publications in Anthropology, No. 6, Studies in Mayan Linguistics, No. 2, Nora C. England (ed.), 136-56. Columbia, Mo.: University of Missouri.

Peñalosa, F. and P. Miguel Say. 1992. Ik'ti' Yuu Naj Pel Mekel Ana. Cuentos De Don Pedro Miguel Say. Los Angeles: Ediciones IXIM.

Saarinen, E. 1983. "On the Logic of Perception Sentences." Synthese 54, 1:115-128.

Schüle, S. 1993. Word Order Flexibility in Akatek. MA Thesis, University of Oregon, Eugene.

Silverstein, Michael. 1974. “Hierarchy of features and ergativity.” In Grammatical Categories in Australian Languages, Robert W. Dixon (ed.), 112-71. Canberra: Australian Institute of Aboriginal Studies.

Stassen, L. 1985. Comparison and Universal Grammar. Oxford: Basil Blackwell.
Stieve, H., Wicke, I. 1990. "Wie unsere Augen sehen." In Vom Reiz der Sinne. Alfred Maelicke (ed.), 25-45. Weinheim: Vch.
Sweetser, E. 1990. From Etymology to Pragmatics. Metaphorical and Cultural Aspects of Semantic Structure. Cambridge: CUP.
Talmy, L. 1985. "Lexicalization Patterns: Semantic Structure in Lexical Forms." In Language Typology and Syntactic Description, Vol. III, T. Shopen (ed.), 57-149. Cambridge: Cambridge University Press.
Talmy, L. 1991. "Path to Realization. A Typology of Event Conflation." Proceedings of the Berkeley Linguistic Society, Vol. 17:480-519.
Vendler, Z. 1967. Linguistics in Philosophy. Cornell University Press: Ithaca.
Vendler, Z. 1968. Adjectives and Nominalizations. The Hague: Mouton.
Vendler, Z. 1970. "Say what you think." In Studies in Thought and Language, J.L. Cowan (ed.), 79-97. Tucson: University of Arizona Press.
Vendler, Z. 1975. "Causal Relations." In The Logic of Grammar, D. Davidson and G. Harman (eds.), 255-261. Dickenson.
Viberg, A. 1983. "A Universal Lexicalization Hierarchy for the Verbs of Perception." In Papers from the Seventh Scandinavian Conference of Linguistics, F. Karlsson (ed.), Department of General Linguistics, University of Stockholm.
Viberg, A. 1984. "The Verbs of Perception: A Typological Study." In Explanations for Language Universals, Butterworth, Comrie, Dahl (Eds.) Berlin: Mouton de Gruyter.
Vlach, F. 1983. "On Situation Semantics for Perception." Synthese 54, 1:129-152.
Willett, T. 1988. "A Cross-Linguistic Study of Grammaticalization of Evidentiality." Studies in Language 12.1:51-97.
Zavala, R. 1992a. El Kanjobal de San Miguel Acatán. México: UNAM.
Zavala, R. 1992b. Se les está moviendo el tapete: Gramaticalización de verbos de movimiento en Akateko. University of Oregon, Eugene (ms).
Zavala, R. 1993a. Clause Integration with Verbs of Motion in Mayan Languages. M.A. Thesis, University of Oregon, Eugene (ms).
Zavala, R. 1993b. Raising of Object Markers or Climbling in Akatek, University of Oregon, Eugene (ms)
Zavala, R. 1994. La pragmatica de las voces en Akateko. UdeG, Guadalajara, UNAM, México, University of Oregon, Eugene (ms).
Zavala, R. ?. Functional Analysis of Akatek voice constructions. UdeG, Guadalajara, University of Oregon, Eugene (ms).
Zenner, H.-P. and E. Zrenner. 1994. "Einführung" In Physiologie der Sinne. Heidelberg: Spektrum.
Zucchi, A. 1993. The Language of Propositions and Events. Dordrecht: Kluwer.