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This paper examines the acquisition of a phenomenon called *Sequence of Tense*. In this paper Sequence of Tense will be seen as a long-distance phenomenon. As for other long-distance phenomena, such as Wh-movement, complementation plays an important role for Sequence of Tense. Complementation also plays a major role in expressing a false belief. In order to express somebody's belief that the child knows to be false, the child has to develop the cognitive notion of mind (and with that of other minds). This phenomenon is generally known as *Theory of Mind*. In order to express a false belief a person needs to be able to properly embed a proposition under an attitude verb. This paper reports on the findings of an experiment testing Sequence of Tense and those of an experiment with the same set of children testing Theory of Mind in first language acquisition. The paper shows that there is a correlation between passing a Theory of Mind test and thereby demonstrating adult-like complementation and giving adult interpretations to Sequence of Tense. The paper compares a linguistic phenomenon with a cognitive one. Both experiments were run for Dutch. The outline of the paper is as follows: in section 1.1 I will present the aspects of Sequence of Tense relevant for this paper. In section 1.2 I discuss the development of Theory of Mind and its relation with embedding. In section 2.1 the design and methodology of two experiments are given: one experiment testing the child's knowledge Sequence of Tense and another one testing the development of Theory of Mind. Section 2.2 gives the results of both experiments and section 3 addresses the implications of those findings for the grammar as well as the acquisition process.

New Perspectives on Language Acquisition

1. Sequence of Tense in Adult Language

This section presents a number of observations on a phenomenon called *Sequence of Tense (SoT)*. These observations form the basis of an experiment I will report on in section 2. This experiment was run in The Netherlands with Dutch children. Dutch is a Germanic language which uses a simple past tense to refer to a single period in time prior to the current time. The present perfect can also be used for this. Dutch lacks the progressive tense found in English. Progressive readings are expressed by using the simple past tense[1].

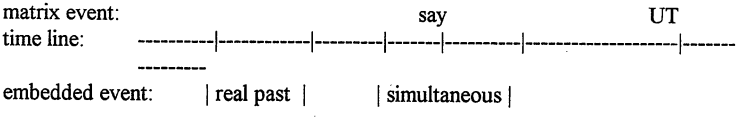
What is *Sequence of Tense*? In Dutch, and also in English, a past tense embedded under a matrix past tense can be interpreted not only as past w.r.t. the matrix event, but it can also be interpreted as simultaneous with the matrix event. Imagine a situation in which Cookie Monster literally said: "Ik heb een rood bordje." ('I have a red plate'). We can report on that using a past tense form embedding it under another past tense, as in (1). This reading for (1) is usually called *Sequence of Tense*.

(1) Koekiemonster zei dat hij een rood bordje had.
C.M. said that he a red plate-DIM had
"Cookie Monster said that he had a red plate."

The sentence in (1) can also be a report on the situation in which Cookie Monster said: "Ik had gisteren een rood bordje." ('I had a red plate yesterday'). This is generally referred to as the *real past* reading.

So, there are two readings for past tense embedded under another past tense: the real past reading in which the embedded event occurs before the matrix event and the simultaneous reading in which the embedded event overlaps with the matrix one. This is depicted in (2).

(2)



The fact that Dutch allows past and simultaneous readings indicates a certain freedom in how we relate events to each other in time. However, there are restrictions. For instance, sentence (1) cannot be a report of a situation in which the embedded event occurs after the time of the matrix one, e.g., if Cookie Monster literally said: "Morgen zal ik een rood bordje hebben" ('Tomorrow I will have a red plate'). In this case we have to

[1]The progressive can also be expressed by a somewhat informal, spoken language form: the *aan het* construction.

use a future tense, as in (3)[2]. Enç (1987) refers to this reading as the *forward shifted* reading.

(3) Koekiemonster zei dat hij een rood bordje zou hebben.
C.M. said that he a red plate-DIM would have
"Cookie Monster said that he would have a red plate"

In the introduction I stated that Sequence of Tense has properties in common with long-distance phenomena. Embedding plays an important role for long-distance Wh-movement. Embedding also plays an important role in Sequence of Tense. For relative clauses we see a different pattern of possible positions in time where to put the event of the relative clause (Enç, 1987)[3]. The pattern we see is different from the one we see in complement clauses. Consider a sentence like (4).

(4) Cookie Monster zag een man die gelukkig was.
C.M. saw a man who happy was
"C.M. saw a man who was happy"

There is a reading for (4) in which Cookie Monster saw an unhappy man who was happy before Cookie Monster actually saw him. This reading is parallel to the real past reading. The relative clause in (4) can also mean that Cookie Monster saw a happy man. So far the possible readings are parallel to the readings for complement clauses. Moreover, the sentence in (4) can also be a report of a situation in which Cookie Monster saw an unhappy man who was happy a day later. This is a reading parallel to the forward shifted reading, one not available for complement clauses. It is only available in complement clauses with future tense such as (3). However, there is a restriction on this reading: by the utterance time of sentence (4) the man has to be happy. The sentence in (4) doesn't have a reading in which Cookie Monster sees a man who will be happy in 2002 if at this moment we are in 1998. This means that only the utterance time of the sentence plays a role in restricting temporal relations for relative clauses.

Splitting up the forward shifted reading will play an important role for the experiment I will discuss in this paper. The two cases distinguished are the one in which

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[2]There are some cases in Dutch in which a forward shifted reading can be expressed by a past under past constructions (i). In Hollebrandse (in preparation) they are analyzed as cases concerning modality rather than tense.

(i) Ik dacht dat je pas om drie uur kwam.
I thought that you only at three hour came
"I thought you would come at three."

[3]Abusch (1988) notices that the tense in relative clauses in an intensional context behaves like complement clauses w.r.t. the interpretation of tense. For this paper we will abstract away from this important observation and use relative clauses in extensional context.

the event takes place between the time of another event and UT and one in which that event occurs after UT. We have already seen that the first case of a forward shifted reading is not available for embedded clauses. However we have not really wondered whether the forward shifted reading after UT is also available, or not. Consider a situation in which Cookie Monster said: "Ik zal een rood bordje hebben" ('I will have a red plate'), but he still doesn't have it at the moment of speaking. This cannot be reported on by using (4). Either (5a) or (5b) can be used.

(5) a. Koekiemonster zei dat hij een rood bordje zou hebben.
C.M. said that he a red plate-DIM would have
"Cookie Monster said that he would have a red plate"
b. Koekiemonster zei dat hij een rood bordje zal hebben.
C.M. said that he a red plate-DIM will have
"Cookie Monster said that he will have a red plate"

The comparison between complement clauses and relative clauses showed that tenses in relative clauses are independent, whereas in complement clauses they are not. Enç (1987) shows that events in complements to nouns are parallel with events in complement clauses. The sentence in (6) does not have a forward shifted reading. It cannot be a report of a situation in which there was an announcement that Bert was going to be happy the next day.

(6) Koekiemonster hoorde de aankondiging dat Bert gelukkig was.
C.M. heard the announcement that B. happy was
"Cookie Monster heard the announcement that Bert was happy.."

A relative clause with a present tense also shows the independence of tense in relative clauses, as in (7).

(7) Koekiemonster zag een man die op het podium staat.
C.M. saw a man who on the stage stands
"Cookie Monster saw a man who is standing on the stage."

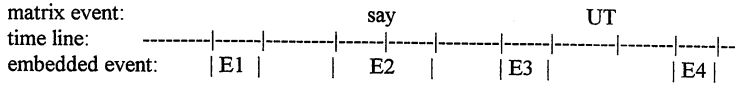
In this case the time of the event of the relative clause has to overlap with UT. It does not have to overlap with the time of the matrix event.

Summarizing, we have distinguished four readings; the real past reading, in which the embedded event takes place before the time of the matrix event; the simultaneous reading, in which the time of the embedded event overlaps with that of the matrix one; the forward shifted before UT, in which the time of the embedded event takes place between the time of the matrix event and the utterance time of the sentence and the forward shifted reading after UT, in which the time of the embedded event takes place after UT (and also after the time of the matrix event). We observed that for complement clauses no forward

shifted readings are available. We also noticed that we can place the event of a relative clause in time between the time of the matrix event and UT. A reading after UT is not available. The tense of a relative clause is independent and the tense of an embedded sentence not. In the graphical summary in (8) I refer to the respective SoT readings as E1 -E4.

(8) 4 cases:

i. real past:	$E_{being\_happy} > E_{saying} > UT$	(E1)
ii. simultaneous:	$E_{being\_happy} = E_{saying} > UT$	(E2)
iii. forward shifted:	$E_{saying} > E_{being\_happy} > UT$	(E3)
iv. forward shifted:	$E_{saying} > UT > E_{being\_happy}$	(E4)



acceptance complement clauses	⇑ ok	⇑ ok	⇑ *	⇑ *
acceptance non-complement clauses	ok	ok	**ok**	*

What are the elements for the acquisition of SoT? To acquire SoT the child has to acquire three crucial parts: tense itself, the relation between tenses and the relation between a verb and its complement.

Is the acquisition of simple past tense itself playing a crucial role? Weist (1985) claims that by the age of three the English simple past tense is fully acquired. This is supported for German in Behrens (1993).

Another factor can be the relation between two tenses. Comrie (1985) distinguishes two tenses: a relative tense and an absolute one. Although not the same as Comrie's, Partee (1973, 1985) observes that there are two tenses as well: an anaphoric and a deictic tense. Enç (1987) proposes that the anaphoric tense is the one participating in Sequence of Tense. In this case the child has to learn that there is a binding relation between the two tenses[4].

[4] This kind of approach can also be found in Guèron and Hoekstra's proposal on T-chains (Guèron and Hoekstra, 1988).

In this paper I will argue that the relation between the selecting verb and its selected complementizer plays a crucial role in the acquisition of SoT[5]. The acquisition of sequence of tense rather involves the acquisition of complementation as in other long distance phenomenon.

How can we tell if complementation plays a crucial role and not the language specific tense system? In the next section I will introduce a cognitive phenomenon *Theory of Mind* the child's understanding of which also depends on the acquisition of complementation but not on the understanding of tense. The acquisition of this Theory of Mind is correlated with the acquisition of SoT, then we may conclude that complementation is what explains the relative freedom in the interpretation of SoT with young children. In the section thereafter I will experimentally show the correlation between the acquisition of that phenomenon and the acquisition of SoT.

2 Theory of Mind tests as Tests for Syntactic Complementation

The previous section focused on complementation as a requirement for Sequence of Tense: SoT only occurs when a past tense in an embedded sentence and as such is in the scope of a tense in a higher sentence. This section focuses on a cognitive phenomenon called *Theory of Mind* (*ToM*). Human beings are aware of the fact that there are more minds in the world than their own. To become aware of this, one has to develop a concept of the mind, or, let's say, a Theory of Mind (Premack and Woodruff, 1978; Wimmer and Perner, 1983)

The following illustrates why complementation is crucial to develop a Theory of Mind. A sentence, such as in (9) can be false or true. However when such a sentence is embedded under an attitude verb, its truth value becomes less important. The sentence in (10) shows that we allow a false statement embedded in a true statement, i.e., we allow the whole sentence in (10) to be true even if we know that the embedded statement (*the world being flat*) is false. We handle such cases by assigning a false statement to somebody's belief. For the case in (10) we assign the belief that the world is flat to Cookie Monster's mind. In this way we express that this is Cookie Monster's belief and not necessarily ours.

(9) The world is flat

(10) Cookie Monster thinks the world is flat.

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[5]The possible influence of Stowell (1993) scoping out proposal and Abusch *Upper Limit Constraint* are considered in Hollebrandse (1998b).

In order to assign a (false) statement to another person's belief, we have to have developed an adult Theory of Mind. Children have to acquire this. Up to the age of about 4, they are not capable of attributing a belief different from their own to another person's mind (Astington, 1993; De Villiers and De Villiers, in press). For example, when we showed a child a familiar box and change the content of the box, the ToM failer will typically think that everybody knows about the change, even people that in reality do not know about it[6].

The important observation is that to express false belief in language, we typically have to embed a statement under an attitude verb. De Villiers and De Villiers (in press) propose that it is exactly complementation that the child has to acquire before s/he is able to demonstrate an adult Theory of Mind.

Given the relation between Theory of Mind and complementation, we can now make a link with Sequence of Tense. Recall that complementation plays an important role for SoT. Since both SoT and ToM have a complementation requirement, we can compare the results of tests on both phenomena. Following De Villiers and De Villiers (in press) idea that the child has to acquire complementation to be able to hold an adult-like Theory of Mind, we can test and compare SoT, a linguistic phenomenon and ToM, a cognitive phenomenon. I predict that the child that lacks complementation and therefor only his/hers second tense is independent from the "higher" tense. Therefore this child doesn't have adult sequence of tense and can only interpret the "embedded" past tense directly w.r.t. UT. The following hypothesis relating Theory of Mind and Sequence of Tense can be stated:

(11) Hypothesis: -if the child fails ToM, s/he lacks adult-like complementation and will allow the real past, the simultaneous AND the forward shifted reading before UT (E1-E3) and reject the forward shifted reading after UT.
-if the child passes ToM, s/he acquired complementation and will allow the real past and the simultaneous reading (E1-E2), but reject both forward shifted readings (E3-E4).

[6]This is the unexpected-contents-task, also known as the *Smarties* test (Perner, Leekam and Wimmer, 1987)

(12) Table I

Expected Patterns for the interpretation of tense in Complements				
	E1 real past	E2 simultaneous	E3 forward shifted before UT	E4 forward shifted after UT
ToM failer	ok	ok	ok	#
ToM passer (= adult)	ok	ok	#	#

The crucial reading is the forward shifted reading before UT. In this case the experimental set-up distinguishes between the ToM passers and failers. The ToM failers will typically allow this possibility as a possible reading for a SoT construction, but the ToM passers (like the adults) will reject it. I tested this hypothesis experimentally. The design and the results of two experiments, one testing SoT and another one testing ToM are described in the next section.

3 Experiments: the design

In the previous sections I focused on the complementation requirement for Sequence of Tense. We distinguished four potential readings, where the embedded event can be placed in time. Adults allow two readings, the real past (E1) and the simultaneous reading (E2). Forward shifted readings (E3, E4) are not available. A child lacking complementation can only interpret the "embedded" past tense directly to UT. This child will then also allow the forward shifted reading before UT (E3). S/he will not allow the forward shifted reading after UT (E4). This section discusses an experiment testing SoT and an experiment testing ToM.

Subjects Sixty two Dutch subjects in the age ranging from 2;7 - 7;2 were tested on both the SoT test and the ToM test[7]. Each subject was tested individually on both tests.

Procedure for the Theory of Mind test To test the child's development on ToM I used a test developed by Perner, Leekam and Wimmer (1987). It is the *unexpected-contents-in-a-familiar-box*, also known as the *Smarties* test. The protocol as I ran it is given in (13).

[7]Thanks for the hospitality and collaboration of the children and the teachers of the daycare *'t Sterretje* in Veldhoven, The Netherlands and the elementary school *Pius V* in Steensel, The Netherlands.

(13) Theory of Mind test

the unexpected object in a familiar container task	
The experimenter shows a box of bandages (labeled *Hansaplast*[8]) to the child.	
Exp:	"What is in the box?"
Child:	"Bandaids"
Exp:	"Well, why don't you have a look?"
Child will find a toy frog.	
Exp:	"What is that?"
Child:	"a frog"
Exp:	"Can you put it back in the box. Tell me! Who is your best friend?"
Child:	"X"
Exp:	"If I show the box to X what will s/he think is in the box?"
ToM failer:	"a frog"
ToM passer:	"bandaids"

This test tests the child's knowledge of Theory of Mind by asking the child what his or her best friend thinks is in a familiar box, while the child knows that the content has been changed. A "passer" will answer that question with the expected content (*bandaids* in the protocol used in (13)), demonstrating that s/he knows more than people not present when the current content of the box was discovered. However, a "failer" will typically answer that question with the current content of the box (*a frog* in (13)).

Procedure for the Sequence of Tense test For the Sequence of Tense experiment I designed a Truth Value Judgement task. The four potential SoT readings distinguished above were acted out to the subjects with hand-puppets and toys. A total of 12 *yes/no* questions were asked, all with a high and a low simple past. They were equally divided over the four cases.

The protocol to test a forward shifted reading before UT is given in (15). In this example the event of giving a red plate is simultaneous in time with the saying event. The question asked the child uses a past tense embedded under another past tense (see (14)). Notice that Dutch is a verb-second language and does not show *do*-support in questions. For the questions asked in the experiment this meant that the main verb is inflected.

[8]*Hansaplast* is the Dutch version of *Bandaid*.

(14) Zei Koekiemonster dat hij een banaan op zijn bordje had?
say-PST CM that he a banana on his plate have-PST
'Did Cookie Monster say that he had a banana on his plate?'

The English translation is given between brackets and what is acted out between square brackets.

(15)

excerpt of experiment	
B:	Zal ik eens kijken of ik een banaan voor je kan vinden, Cookie Monster? (Let me have a look whether I can find a banana for you, CM)
KM:	Ja Bert, ik wil een banaan op mijn bordje hebben. (Yes Bert, I will have a banana on my plate) [B puts the banana on CM's plate]
Exp:	Zei Cookie Monster dat hij een banaan op zijn bordje had? (E3) (Did Cookie Monster say that he had a banana on his plate?)

Results In an analysis of variance I found a significant effect of ToM on both the forward shifted reading before UT (E3) and after UT (E4), but as predicted a larger effect on the first one (E3). To tease out the effects of age, which is highly correlated with ToM, I performed an analysis of covariance with age as the covariate and ToM as the predictor variable on each of the potential SoT readings. The covariate had a significant effect on the forward shifted reading after UT (E4) ($p=.022$), but not on the other cases. With age held constant in the analysis, ToM had an almost-significant effect ($p=.07$) only on the forward shifted reading before UT (E3), as predicted (The effect is not as strong as it might be because age and ToM are very highly correlated so it is virtually impossible to tease them apart statistically).

These results show that passing or failing ToM determines the answer on the case of a forward shifted reading before UT (E3). Passing or failing ToM does not have any influence on the answer in the case of a forward shifted reading after UT (E4). In the latter case we do find an effect for age, meaning that the older the child is, the better it is in rejecting the forward shifted case after UT.

4.0 Consequences for the Grammar

4.1 Sequence of Tense and the Structure of CP

Two important observations can be made based on the results of the experiment. First, young children allow more freedom than adults do in interpreting simple past tense in embedded contexts. However the same children show certain restrictions. Second, the point at which they start to show adult-like SoT interpretations correlates with the point when they start to understand ToM as adult.

How do we represent Sequence of Tense? Sequence of Tense only occurs with propositional attitude verbs. These verbs select an operator. This operator binds the variable that is introduced by the tense morpheme. There are two ways of interpreting the Operator - variable binding relation. One way results in the real past reading and the other in the simultaneous reading. The structure in (16a) is the representation of a real past reading and (16b) of a simultaneous reading[9].

(16) a. Op_i Koekiemonster zei$_i$ [Op_j dat hij een rood bordje had$_j$]
b. Op_i Koekiemonster zei$_i$ [Op_i dat hij een rood bordje had$_i$]

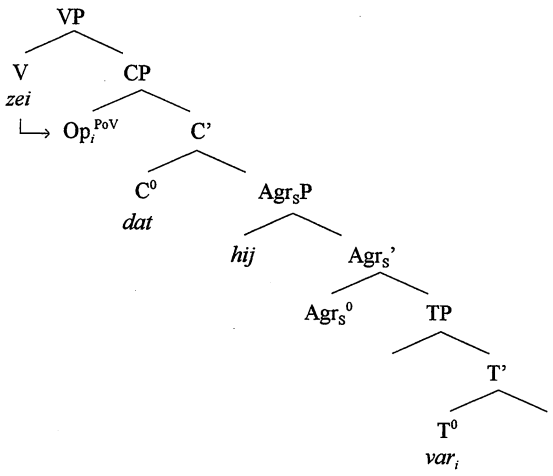
I propose that the difference between the two SoT readings is a difference in perspective, or point of views. For this reason I will call this operator a *Point of View (PoV)* operator. The relation between indirect speech and direct speech is represented by the two different points of view, *past* and *present.* The sentence in (17a) corresponds to the one in (16a) and the one in (17b) to the one in (16b).

(17) a. Cookie Monster: "Ik had een rood bordje"
I have-PST a red plate
b. Cookie Monster: "Ik heb een rood bordje"
I have-PRS a red plate

In section 1 I showed that complementation is important, but what is it exactly that we mean by that? I propose that complementation involves this *Point of View* operator and the acquisition of its relation with the higher verb. I will show that the operator is selected by the higher verb. A tree is given in (18).

[9]The matrix clause has an operator by default. This operator either has the UT as its value, or picks up a time from the discourse. For the purpose of this paper this is not important and we focus on the embedded operator, since that one involves SoT.

(18)



4.2 Generalized Point of View Operators

In the previous section I proposed that the different time interpretations for embedded tense are arranged by a PoV operator in the specifier of the CP. In this section I will explore the effect of this PoV operator in other phenomena than SoT.

PoV operators play an important role in other constructions as well. In Hollebrandse (1998a,b) and Hollebrandse and Roeper (1998), we proposed that quotes are also headed by a PoV operator. Consider the situation as described in (19).

(19) sit: Two days ago, a doctor was at Cooley Dickinson Hospital in Northampton and he asked: "Am I the only doctor operating on this patient here?"

Suppose we are now, two days later, at UMass and we want to report on what happened two days ago. We can use the indirect speech as in (20a), but we can also use an exact quote, as in (20b), repeating (quoting) exactly what the doctor said.

(20) a. The doctor asked whether **he was** the only doctor operating on **that** patient **there**.
b. The doctor asked: "**Am I** the only doctor operating on **this** patient, **here**?"

Comparing the points of view of both the indirect speech is in the perspective of the speaker of the sentence. This is clear from the form of the tense (on the second verb), the pronoun, the demonstrative and the locative. This is different for quotes. In (20b) the

matrix clause is in the perspective of the speaker, however, the quote, itself is in the perspective of the matrix clause subject. Again this is shown by the form of the tense (on the second verb), the pronoun, the demonstrative and the locative.

The examples in (20a) and (20b) are not the only reports possible for the situation described in (19). It is also possible to use (21). Notice that in this example the tense is changed from present to past, the pronoun from first person to third, the demonstrative from *this* to *that* and the location from *here* to *there*. Nevertheless, the sentence in (21) still has the form of a quote. We can tell this from the inversion. In Hollebrandse and Roeper (1998) some tests are provided to show that (21) still is a quote[10]. I call this a semi-quote.

(21) The doctor asked was he the only doctor operating on that patient there?

However, the examples in (22a) and (22b) are invalid reports of the situation described in (19). In (22a) the tense is changed, but the pronoun reference, the demonstrative and the locative are left unchanged. The example in (22b) is an additional example in which the pronoun is changed and the other elements are left unchanged[11].

(22) a. #Bert asked was I the only doctor operating on this patient here?
b. #Bert asked is he the only doctor operating on this patient here?

Based on (21) and (22) we can conclude that the reference of the pronoun, the demonstrative, the locative and the tense co-vary. We have to change the point of view of all referential elements in indirect speech or not change at all in direct speech and still maintain the same reading. But we cannot change the point of view of just a few of them without losing the same reading.

In line with the proposal made for SoT in the previous section, I propose that a quote is a sister of a verb and is selected by it[12,13]. The quote itself has a PoV operator on top of it. I propose the structure as in (23).

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[10] For instance, *please* can only occur in a quote and not in an embedded sentence:
(i) John asked: "Please hand me the book".
(ii) John asked whether you could please hand him the book".
(iii) John asked could you please hand him the book.

[11] The #-sign is used here not to indicate that these examples are ungrammatical, but rather that they express a non-intended reading.

[12] Collins (1997), for different reasons though, reaches the same conclusion.

[13] In fact American English has verbs that select quotes and not complement sentences.
(i) He went/is like: "I am never going to do that."

(23) The doctor asked [*PoV* Am I the only doctor operating on this patient here?]

It is the specific point of view that results into a specific form of the deictic/referential elements. Depending on the point of view the subject pronouns have the form of first or third person, the locative, *here* or *there*, the form of the tense present or past, etc. The interpretation of the PoV operator expresses in whose point of view the quoted part *Am I the only doctor operating on this patient here?* is. The only difference between an exact quote (20b) and a semi-quote (21) is point of view. For (20b) the point of view of the quoted part is that of the matrix subject and for (21) it is that of the speaker.

4.3 Triggers

In the previous section I proposed that the relative freedom that Dutch children show in interpreting embedded past tense can be explained in terms of the relation between the "embedded" CP and its selector, the higher verb. In this section I am concerned with why these children decide to exclude the forward shifted reading before UT. What is the trigger in acquisition for excluding forward shifted readings?

The first factor involved are other long distance processes in the language, such as overt Wh-movement. In Hollebrandse (1997) I showed that adult SoT is acquired after long distance Wh-movement. Modern approaches to the structure of CP provide an explanation for the discrepancy. In the fashion of split IP structure Müller and Sternefeld (1996) and Rizzi (1996) proposed to split up the CP as well. The *Split CP* hypothesis, as I argued in Hollebrandse (1997) that gives the flexibility that accounts for the difference in time of both long distance phenomena. Acquiring Wh-movement then triggers the "awareness" by the child that her/his language has long distance phenomena and it makes the child to go and look out for other ones. Realizing that her/his language has long-distance dependencies, the child might look for more of them (for instance, Sequence of Tense and negative polarity across clause boundaries).

Another factor is the child's awareness of different points of view. Certain linguistic elements can have different perspectives depending on the point of view. According to Tanz (1980) the adult use of personal pronouns (in matrix clauses) is acquired quite early. This way the child gets the idea that a single word can refer to different people. For instance first, second and third person pronouns are used interchangeable in conversations. The same holds for locatives. *Here* and *there* can refer to the same location, just depending on the point of view.

For the acquisition of Sequence of Tense this means that the child notices the similarity between (24) and (25).

(24) Cookie Monster: "I am at the store".

(25) Cookie Monster said that he went to the store.

This predicts that languages that have no overt movement should lack Sequence of Tense, because there is simply no trigger available. For example for Japanese this seems to hold. Japanese lacks overt (long-distance) Wh-movement and does not have Sequence of Tense. The behavior of negative polarity provides another example of opaqueness: Japanese has negative polarity items, as in (26), but they are strictly clause-bound (see the ungrammaticality of (27). All of this might be due to the opaqueness of the Japanese subordinate clause (Matsuo and Hollebrandse, 1998)[14].

(26) John-wa nani-mo iwanakatta
John-wa anything-NPI say-NEG-Pst
'John didn't say anything'

(27) *John wa Mary-ga nani-mo katta to iwanakatta
John-Top Mary-Nom anything-NPI buy-Pst that say-NEG-Pst
'John didn't say that Mary said anything'

How does the PoV operator relates to the development of a Theory of Mind? It is conceivable that the same PoV operator as applied in Sequence of Tense is part of acquiring Theory of Mind as well. To be able to assign a false statement to somebody's mind we have to switch the point of view from our mind to the mind of somebody else's. It is exactly the PoV operator that can do this. This point of view operator is a λ-operator. Tense introduces a variable that gets bound by the operator. The λ-operator also binds other variables, like the world variable and the variable that is introduced by locative predicates, as *here* and *there*.

Summarizing, there are two factors that play an important role as the triggering experience for sequence of tense: other long-distance phenomena and the awareness of different references to one element depending on the different points of view. To acquire Sequence of Tense is to become aware the similarity between indirect and direct speech.

4.0 Conclusion

This paper dealt with the acquisition of Sequence of Tense. Four different potential readings were distinguished: the real past reading, the simultaneous reading, the forward shifted reading before UT and the forward shifted reading after UT. Adults only allow the first two readings. However, the child lacking complementation can only use the utterance time as a point in time to refer and therefore s/he will overgeneralize and allow the forward shifted reading before UT, because this reading is prior, or *past* to the utterance

[14]Alternatively, if there are two types: clause-bound and non-clause bound (like short and long distance) then Japanese might have only one type, the clause bound ones.

time. The same child will exclude the forward shifted reading after UT, since this reading is after the utterance time. The findings correlated with passing/failing theory of mind. Following De Villiers and De Villiers (in press) the development of a theory of mind is only possible when the child has acquired complementation. In this paper I proposed that the acquisition of complementation means the acquisition of a Point of View operator in the specifier of the embedded CP. The Point of View operator plays a role in both Sequence of Tense and in Theory of Mind.

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