

## Chapter 10: On Time

### Mysteries of Time

“Now then sleep my child” goes the lullaby, over and over, but what passes into the mind of the child about “when”? Or a parent might say, “Now then, let’s get to work.” Does the child feel like saying “Well ma, make up your mind, now or then.” What does the child think when a parent, showing a four-year-old a new video-player on Christmas Eve, says something like:

“now you can play all your videos, but you cannot play them all now, because you have to go to bed soon”

What could two different *nows* or the contradictory “now then” possibly mean?

The answer lies in what we call “logical” *now* that is like logical *then* (found in “if..then” connections). We can easily imagine a parent saying:

“If you can’t wait, then do it now.”

Beyond its logical use, *then* has two temporal uses. Compare these sentences:

a) John ate dinner and Bill ate dinner then too.

b) John ate dinner and then Bill ate dinner too.

In (a) we have identical time, and in (b) sequential time. Oddly the “identical” time is linked to the final position, and the sequential to the initial. This is surely not arbitrary, though we do not know exactly how to say why it works this way. One clue is that the final *then* is close to the verb and so may get linked to its time. If the two *eats* are identical, then their times are identical too. However this seems to be hard for children. They quickly see the sequential reading and say “and then...” but the identical reading comes much later.

How does a child cope with it? It is not clear, but it is not hard to see if a child has it straight.

**EXPLORATION 10.1: NOW AND THEN**

Give a child new sunglasses at night. Then say:

a) Now you can block out the sun, is that right?

or:

b) You can block out the sun now? Is that right?

*Caption: Temporal and logical now*

These are a little ambiguous---you can get the other reading if you try hard---but if you ask a series of questions, you should always get the “logical” now more often for (a) than (b).

What is the acquisition path for this array of meaning? It is hard to tell. The child may begin with either the temporal or logical meaning. Maybe they make a connection through moments when both are true.

If we get some ice cream, then we can eat.

could be seen as both logical and temporal. We might think that the child begins with the temporal meaning, but all the evidence of how they learn *well* or *and* or *so* suggests that often the abstract meaning is more immediate. We do not know.

### **Time Words**

Time words are stupendously tricky. Often adults cannot nail down what is meant:

Yesterday John said that he was coming tomorrow.

Does that mean “today,” taking the view of John when he spoke, or is it really tomorrow taking the speaker’s current point of view? Take another case:

John said yesterday that he came three days ago.

Did he come three days ago or four days ago? If we compute *ago* from yesterday, then it is four.

The stretch of time meant can be obscure too:

At dinner last night John said that Mary was coming soon.

Does that mean in an hour or in three days? Parents often say “don’t worry, Mom will be back soon,” but is that really clear to the child? The child must incorporate contextual information (a shopping list or a suitcase) to know what is meant.

Most of the time, of course, children can ignore these little words and grasp what is going on. In order to be a real speaker of English, though, they must master all of the various meanings of these time words.

What do children actually do? First they avoid using many time words, but later they appear. Deanna Moore (and Mary Ann Walter) found these examples from children whose grammar was otherwise quite advanced, long after past tense appeared:

"I missed you tomorrow"

"Can we go bowling tonight like we did tomorrow"

"Lisa come there tomorrow today"

Child: "Remember that ball we got when you played softball tomorrow"

Mother: "you mean yesterday"

Child: "yeah, yesterday tomorrow"

One wonders what the children are thinking. If "now then" means something, why not "yesterday tomorrow"? Though their moorings in a fixed meaning is insecure, children seem to have some abstract notion of these time words.

Perhaps they all mean emphatically "not today." We shall see that time inside grammar, not time vocabulary, is no simpler.

**"John said that the Yankees played the Red Sox tomorrow"**

Have you, at a party, ever said "what did you say your name was?"

Everyone answers with their current name, understanding "what my name is" (even if they did marry and change their names). They don't say to themselves "did they want my old name or did I change my name?" Have you heard someone say: "I didn't know you were over 6 feet tall" (you mean, I am no longer over 6 feet tall?), or someone say to a child "I didn't know

you were four-years-old!” (I have never heard a child respond “No I still am four years old.”) Or even into the future:

“You said that the Little League played tomorrow”

This is a strange property of English that is not found in most of the languages of the world. It is called “sequence of tense” and it means that the tense in the first clause is expressed in both clauses. How and when does a child get it? Do everyday examples like these put a cloud over the acquisition of all past tense forms? They are in the surface of language that every child must cope with.

Let’s look at a few examples:

“Johnny said he wore a hat yesterday and today he is wearing shoes.”

“What did Johnny say he was wearing?”

An adult would answer: “yesterday a hat and today shoes.” Why do we include the “is wearing shoes” part as an answer to “did he say was wearing”?

We can easily say:

I am wearing a hat. And I just told you that I was wearing a hat.

In sum, "did you notice that I was wearing blue" means the same thing as "did you notice that I am wearing blue." This happens constantly.

Bart Hollebrandse has intriguing evidence that Dutch children allow sequence of tense interpretation to go into the future. (nn1) Consider this threesome:

"yesterday I was reading a book, today I am reading a magazine, and tomorrow I will read a newspaper."

"What did you say you were reading?"

If one takes was to be referential, then "book" is the only answer. If one allows the present to be included, then "book" and "magazine" are acceptable, and if the future can also be included, then all three are all right. Children, interestingly, with experimental sentences somewhat like these, allowed the future as well. Together with Ayumi Matsuo, they showed that Japanese children did the same. (nn2)

It is easy to probe a five-year-old's mind on these questions. I have done it many times and not one child has even blinked.

**EXPLORATION 10.2: WHERE IS TIME?**

Yesterday I wore shorts, and today I am wearing long pants

“What did I say I was wearing?”

“Long pants” is a more likely answer than “shorts.”

*Caption: Past as present*

The seemingly contradictory subtleties never seem to end. They create a maze that continues to bewilder professional linguists. One thing is sure: children rarely seem bewildered. So they must have a direct unconscious route into these features of grammar. Linguists continue to ponder what the exact limits on sequence-of-tense might be. Let’s follow the trail a little.

A large proportion of sentences, looked at carefully, are infested with utterly confusing references to time. Here is a famous one from current discussions (nn3 Oghara ):

John wanted to eat a fish that was still alive.

One might think that “was alive” means dead, but speakers of English know that it means exactly “is alive.” The tense moved from one clause to another.

What principle lies behind this phenomenon? At the root, it is the same notion of an invisible link that connects nouns and pronouns in sentences like:

Every boy thought that he was the tallest.

[every boy = he]

The *he* is linked to each boy separately, and sequence of tense seems to come along too (he was the tallest = he is the tallest). (Maybe something links them both at once, but so far theoretical research has not been able to state with precision what it is.) We can say (oversimplifying): Grammar and discourse have a time map that relates all times to each other. One operation is to copy one time in the position of another. The notion of “copying” comes up more often, as we shall see shortly.

### **Copying Time Backwards**

Now let us take potential confusion to the ultimate: we can also copy tense backwards.

Forward: John said that he was tall =>

said [+past] => is [+past] = was

time => copy of time

Backwards: I didn't think you had a hat

= I think [present] you didn't [past] have a hat =>

didn't [think] < == didn't have

copy of time < == time

(That is, the time is copied backward. Note that the “not” in the sentence is also represented in the “wrong” clause.)

In the backwards case, the sentence does not mean that some time in the past you failed to think, but rather that right now you think that something in the past was not true. So the past and the negative in the lower clause, moved backwards to be marked on the word expression I think => I didn't think.

A teacher of English pointed out that this often leads to errors among Second-language (L2) learners: (nn4)

“I didn't hope it would rain”

really means: “I hoped it wouldn't rain” and the Negative and Past hopped up to the higher clause. Clearly the L2 learner got the idea, but applied it too broadly to all thinking verbs.

As is so often the case, children show us that they have the rule, even if they do not know exactly where it applies. Consider this remark, noted by Rick Cromer from a famous corpus of Adam: (nn5)

“Was this is the boat I saw”

I have been puzzling over this sentence for 25 years. I mentioned it as a cute mistake for a long time. It was difficult to really focus on the possibility that an abstract rule was involved. Only recently could I see that the child had done a similar backwards-tense-movement rule: he moved the past on *saw* up and copied it on the question word *is*. That kind of copying with auxiliaries happens commonly in child language:

“can I can sing”

“Is Tom is busy”

“did he didn’t come”

“do you don’t want to go outside”

“Long-distance” copying is not so common for auxiliaries. But again, long-distance relations are common as we have seen over and over again. Thus we can have:

What did you say Bill said that Sue intimated that Fred wanted ( \_)?

But now the moral emerges: most “mistakes” are an example of a rule that a child has made too abstract. The ingredients tense-movement, copying and long-distance are found elsewhere. The child just put the abstract ingredients together in a novel way.

The real challenge then is to see how a particular language uses these ingredients to create just the right rules that belong only to that language.

Let’s see if we can trace the connections. The child must learn to constrain the rule to a smaller domain. Here the rule for the child is:

Tense Rule: you can copy tense from a lower clause to a  
higher one

In contrast, the adult rule incorporates what we can call “barriers to copying or movement” that prevent what the child is doing:

Tense Rule Barrier: you can move or copy a tense from a lower  
clause to a higher one, but not from inside a relative clause. (nn6)

(The concept of “barrier” is important in grammar and acquisition and has been the topic of a mountain of research.) The child has moved the past tense from inside the relative clause (the boat that I saw) to mark a question-auxiliary, jumping over the present tense *is*. Adults would not do this. But we do have a similar construction: (nn7)

What John was saying is that Bill was tall.

Here we have a sequence of *was, is, was* in which the second *was* is a copy of the first *was* which, via our grammatical powers, was able to jump over the *is* in-between. How do we know? Because the assertion is that Bill is tall and not that he was tall. But how does the grammar get there?

### **Tense Dance: Forwards and Backwards**

Here’s a quick tour that will feel incredibly strange and implausible as I present it. It should have the same feeling of implausibility that one might have if I suddenly show you a carburetor and tell you that it makes your car run. The sentence involves both forward movement and then backwards movement of tense.

Here are the formal operations that the grammar needs to do it. It involves creating a presentational sentence on top of a sequence of tense sentence:

Start: John was saying that Bill is tall

a) copy *was* onto lower clause (Bill was)

John was saying that Bill was tall.

b) add " It is that " at the beginning

It is that (John was saying that Bill was tall)

c) Changed *that* to *what*

d) Move first clause to replace "it" :

“what John was saying is that Bill was tall”

That quick tour probably leaves the reader breathless, but it should be no surprise if we accept that grammar involves a mechanism with many hidden parts. This process should seem as alien to you as a picture of your liver (or as we said, a car's carburetor). There is no way to unpack such a sentence without alluding to a sequence of unconscious psychological events. Seemingly anomalous sequences by a child like “was this is the boat I saw” stop boggling the mind once we identify the system behind it.

## **Beyond Our Time**

We have barely touched the real edifice of time in grammar. (nn8)  
 We showed how past tense acts strange, but we have not said how children coordinate, past, past perfect, future, future perfect and the other concoctions grammar has. Little is known about just how they are acquired.

The reader who has been drawn into our method can see that there is much to be done. How, for instance, does a child know the difference between:

He had an umbrella.

He had had an umbrella.

The challenge would be to think of a situation that pulls the meaning apart where a child can be asked a yes/no question. Our brief visit to Tense will not be our last. We return to the topic when we consider dialectal variation.

## **Summary**

This chapter has focused on time but it has repeatedly alluded to the heart of modern grammar: discontinuous dependencies---things that have invisible links. The child hunts wherever he can—among nouns, negatives, tense, questions---for invisible links within sentences. The links are

manifested by something moved, something copied, or two things being the same (noun and pronoun).

Let us make a little list:

Noun-Pronoun: every boy thinks he

Tense morphemes: John said he was five feet tall.

Negative morphemes: He don't got no socks.

Movement: what did John buy\_\_\_

The child is always looking for these invisible links in every grammar in the world. It is, like recursion, part of the essence of the human language machine. What we can see here is that it is an active process of looking and invention, based on small hints. The child is inventing grammar as much as discovering it.