

Do we really need
reference time in the description of the tense?*

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1. Since Reichenbach(1947)¹ every scholar dealing with tenses in natural languages has considered the following points specifically centered around the notion of reference time.

- (1) a. What is reference time?
- b. Is reference time needed in the description of the tense?

In Tanaka(1990) we have argued against Reichenbach's tense system, suggesting that we need no reference time to describe a temporal structure of sentences. We have claimed that his tense system cannot appropriately account for temporal interpretation of sentences, in particular, showing that his present perfect tense scheme, E, R--S,² for instance, cannot describe the sentence, Megumi has lived in Fukui since three years ago.

In this paper we will answer the question in (1b), particularly paying much attention to the simple tenses(i.e., present, past and future tenses), and considering what reference time is like.

To begin with, we will consider (1a) in the next section.

2. As many linguists have mentioned, the notion of reference time never receives an adequate technical definition in Reichenbach. This is why there seems to be hardly any agreement on its meaning and function among linguists who recognizes the notion of reference time in their tense system. In Reichenbach(1947, p.288) 'reference time' is introduced in informal terms in the description of a particular tense (i.e., the past perfect).³ As far as we can judge from his examples and comments, reference time must be something like a speaker's temporal viewpoint, or the vantage point from which a speaker views the situation referred to (Nakau, 1985; Declerck, 1986⁴).

Under the assumption that reference time is like a vantage point,

Reichenbach's tense system could appropriately account for our linguistic intuition. Let us, for example, take a look at 'the present perfect tense' and 'past tense' sentences as in (2):

- (2) a. I have visited Karuizawa.
b. I visited Karuizawa.

It is widely accepted that the present perfect describes a situation in the past related to the present by 'current relevance'⁵ (recency and current news value) while the past only describes a situation in past time as the past. The validity of the above is shown by the following examples:

- (3) A: I am planning to visit Karuizawa this summer.
B: a. I have visited there many times.
b. ? I visited there many times.

- (4) A: Weren't you at home last week?
B: a. I visited Karuizawa.
b. ? I have visited Karuizawa.

As the linguistic context shows explicitly, (3) is focused on the present while (4) is focused on the past. It is attributable to this difference that the speaker B in (3) prefer to use the present perfect in response to A's utterance, whereas the speaker B in (4) prefer to use the past tense in response to A's utterance.

Under the Reichenbach's theory the past and the present perfect has the following tense representations respectively:

- (5) a. E, R---S past
b. E---S, R present perfect

Representation (5) shows that when we use the present perfect we refer to a situation in past time from a temporal viewpoint simultaneous with speech time, and in the case of the past tense we refer to a situation in past time from a vantage point in the past. This is in

keeping with our common observation above.

In the next section we will consider the necessity of introducing reference time in tense representations.

3. Do we really need reference time functioning as a speaker's temporal view point in the description of the tense? Up to now many linguists have tackled this problem; e.g., Comrie(1985), Declerck (1986), Nakau(1985), and many others. Most of the analyses have started from the basic assumption in Reichenbach that every tense involves reference time.

3.1 Comrie(1985) claims that there is no need for reference time especially when we are talking about simple tenses (i.e., present, past, and future tenses). Thus, in his theory all we need for representing the three simple tenses is two time points (speech time(S) and event time(E)) and three relations (simultaneity, anteriority, and posteriority):⁶

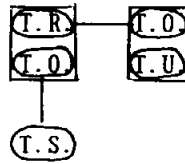
- (6) a. present: E siml. S
- b. past : E before S
- c. future : E after S

3.2 Declerck(1986) develops a tense theory which both retains the good points from Reichenbach and Comrie, and remedies their defects. In his system, there are four theoretical entities involved in the description of the tense: Time referred to (T.R.), Time of orientation (T.O.), Time of situation (T.S.) and Time of utterance (T.U.). According to Declerck (ibid., p.320), "T.O. indicates the time to which a situation is related: whenever we use a tense to describe a situation this situation is located relative to a T.O." and T.R. is established by a time adverbial. In his tense theory the simple tense schemes are below:

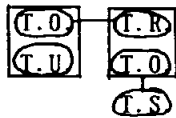
(7) a. present tense



b. past tense



c. future tense



The major advantage of Declerck is, it seems to me, the introduction of more than one reference time.^{7, 8} In essence, his theory is along the lines of Reichenbach. Thus, he claims that reference time is needed in all tense representations.

3.3 Nakau (1985), assuming the Aux-as-main verb hypothesis, mainly discussed in Ross (1969) and Huddleston (1976), rejects reference time in all tenses,⁹ and proposes an alternative tense system¹⁰ in which tense should be represented with speech time and event time.

3.4 In the previous subsections we have shown that there is hardly any agreement on the necessity of reference time in the description of the tense. In the next section we will show that reference time is dispensable in tense representations, arguing that Declerck's tense system is deficient.¹¹

4. In this section we will claim along the lines of Nakau (1985) that we can do without reference time in the description of the tense, particularly simple tenses. Before going on to our claim, let us review the tense scheme proposed in Declerck (1986). In particular we will focus on the reason why he needs to introduce reference time to describe a temporal structure of simple tense sentences. It is

because Declerck (pp. 312-316) insists on the necessity of introducing reference time in the description of the tense, particularly, with the help of the simple tense.

4.1 Declerck argues against the past tense scheme proposed in Comrie (1985), which is represented with event time and speech time only as in (8):

(8) E before S (E---S)

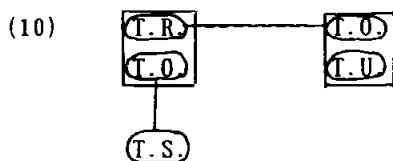
In this representation, E is the 'time point or interval which is occupied by the situation to be located in time' (Comrie, p. 122). The relation 'before' is defined as 'wholly before'. Under these specifications the representation in (8) must necessarily mean that the situation referred to is located exclusively in the past, i.e., is no longer continuing up to the moment of speech.

Declerck argues that the tense representation in (8) cannot seem to account for the past tense appropriately, suggesting that it is actually no more than an invited inference that the situation no longer holds at the speech time. For example, consider the sentence in (9):

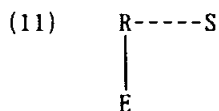
(9) Yuka was in Osaka yesterday.

It is generally argued that the past tense in (9) does not exclude the possibility that Yuka no longer lives in Osaka or that she may remain in Osaka for some time in the future. Thus, use of the past tense only locates the situation in the past, without saying anything about whether that situation continues to the present or into the future.¹²

Declerck, showing that the observation above cannot be accounted for by the past tense representation proposed by Comrie as in (8), claims that the past tense can be taken to represent the situation as being simultaneous with reference time. His past tense scheme is below:



If we simplify his scheme without distorting his crucial points, we may have the following scheme:



What is the most important point in (11) is that "the past tense does not simply locate the time of the situation before the moment of speech. Rather, it relates the time of the situation to some reference time and locate this reference time before the moment of speech" (Declerck, p. 313). Thus, representation (11) is in keeping with the observation about (9) that the situation of Yuka's living in Osaka extends beyond the time at which it is said to obtain.

Declerck concludes as follows: it is because Comrie relates the time of the situation to the moment of speech directly as shown in (8) that his past tense scheme cannot appropriately account for the past tense.

4.2 On the face of it, Declerck's argument above seems to be right. But, further consideration will reveal that his scheme should be criticized in the following way.

Almost all linguists agree to admit that the past tense in (9) does not exclude the possibility that the situation referred to in the sentence (i.e., the situation of Yuka's being in Osaka) extends to the present or into the future. But, how about the following example, then? Do they admit that the past tense in (12) does not exclude that possibility just as the past tense in (9)?

(12) Yuka hit Kazuhiko yesterday.

In the case of (12), the situation of Yuka's hitting Kazuhiko is always understood to be wholly in the past. Why can't the situation referred to in (12), unlike that referred to in (9), extend to the present or into the future? Declerck's cannot solve this problem. In the next subsection we will tackle it.

4.3 Let us have a closer look at the two sentences in question here again:

(9) Yuka was in Osaka yesterday.

(12) Yuka hit Kazuhiko yesterday.

What we can see first from the above two sentences is that both have the same tense, past tense. This is simple but very important for further consideration. Thus, this surely shows that it is not attributed to the tense itself that the situation described in (9) can extend to the present or into the future while that in (12) cannot.

Then, what is a difference between (9) and (12)? The difference is, it seems to me, only that the situation described in (9) is static, whereas that in (12) is nonstatic.¹³ This difference is much concerned with whether a situation can extend to the present or into the future, or not; static situations, which are supposed to be durative, will be likely understood to extend beyond the time at which they are said to obtain (in the case of (9), the past time, yesterday), so that it does not necessarily follow from (9) that Yuka no longer is in Osaka, whereas nonstatic situations, which are considered to be nondurative, or punctual, will be often understood to hold only at the time at which they are said to obtain, so that it excludes the possibility that the situation described in (12) extends to the present or into the future.

Exactly the same thing can be argued about the present tense and the future tense. Let's begin with the present tense first, on the basis of following example:

(13) Yuka lives in Osaka now.

According to Declerck, (13) must have the tense scheme as in (14) for the present tense not to exclude the possibility that the situation of Yuka's living in Osaka extends beyond the moment of utterance;

(14) S
 |
 R
 |
 E

What is the crucial point in (14) is also that it does not relate the time of situation to speech time directly, which is considered by Declerck not to exclude the possibility that the situation referred to by the present tense as in (13) began before the present moment and may well continue beyond the present moment.

We can also object to his present tense scheme in the same way we have argued against his past tense scheme above. Have a look at the following sentences.

(15) Yuka lives in Osaka now.

(16) Yuka knocks Kazuhiko down.

It is usually understood that the situation referred to in (15), her living in Osaka, may extend beyond the moment of utterance while that referred to in (16), her knocking him down, cannot. Then, what causes this difference?

As you can see clearly from the above sentences, both have the same tense, the present. This means that it is not due to the tense that (15) is different from (16) in their temporal interpretations. As argued about the past tense before, this difference is also attributable to whether the situation referred to in the sentence is static or not; In the case of (15), its situation, which is considered to be static, can have much greater duration than the moment of speech, whereas in the case of (16), its situation, which is dynamic, cannot.

Then we turn to the future tense as in (17):

(17) Next year Yuka will still live in Osaka.

The most normal interpretation of (17) is that Yuka are now living in Osaka and have been living there for some time. In order not to exclude this interpretation, the future tense scheme must be considered by Deckerck to be that as in (18):

(18) S-----R
 |
 E

The most important point in (18) is that there is no direct relation between speech time and event time. Declerck insists that this accounts for the fact that the future tense leaves vague the precise relation between speech time and event time: event time may begin to hold only after speech time, but may also already hold at, and even before, speech time. Apparently this claim is also right. But we can clearly object to his tense scheme. Take a look at the example below:

(19) Next year Yuka will move to Kanazawa.

The normal interpretation of the sentence in (19), which, though, is considered to have the same tense as that of (17), is different from that of (17); in the case of (19), the situation of Yuka's moving to Kanazawa only holds at the future time, next year. Thus, this difference is also attributable to the situation type of the sentence; the static situation, which is durative, holds beyond the time specified by time adverbials but the nonstatic situation, which is nondurative, cannot.

4.4 In this section I have shown that it is not due to the tense but, rather to the situation type described in the sentence (i.e., whether it is static or nonstatic) that there is some difference in their temporal interpretations between (9) and (12), (15) and (16), and (17) and (19).

We can conclude as follows: Declerck's idea is deficient in that all kinds of temporal interpretation is accounted for by the tense system (tense scheme) alone. Some of them can be explained by other factors than the tense system.¹⁴ In particular, whether the situation

referred to may have greater duration than the time at which it is said to obtain is determined by the situation type of the sentence, not its tense.

5. In this paper we have tried to answer the question below:

(18) Do we really need reference time in the description of the tense, in particular the simple tense?

We have shown at least that we have no positive reason to insist on the necessity of introducing reference time in the description of the simple tense, contrary to Declerck's insistent claim. And we also have claimed that temporal interpretation of sentences must be explained by interaction of some factors both in the grammar and outside it.¹⁵

Notes

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¹ The central point of Reichenbach's tense system is the introduction of the concept of reference time to supplement those of event time and speech time in the description of the tense.

² Reichenbach suggested a tense system in which every tense is defined in terms of linear combinations of three theoretical entities: Speech Time(S), Event Time(E) and Reference Time(R). The line indicates temporal distance, and the comma temporal coincidence.

³ 'Let us call the time point of the token the point of speech (...) From a sentence like "Peter had gone" we see that the time order

expressed in the tense does not concern one event, but two events, whose positions are determined with respect to the point of speech. We shall call these time of points the point of the event and the point of reference. In the example the point of the event is the time when Peter went; the point of reference is a time between this point and the point of speech. In an individual sentence like the one given it is not clear which time point is used as the point of reference. This determination is rather given by the context of speech.'

(Reichenbach, 1947: p. 288)

⁴ According to Declerck (p.322), "a speaker refers to a time, he does so from a particular temporal point of view".

⁵ Comrie (1985) claims that the two tenses (the present perfect and the past) differ only in aspect; the present perfect implies 'current relevance' while the past tense does not. Declerck (1986, pp. 310-311) argues against this claim. He insists that the notion of current relevance could not explain why we have to use the past tenses in the following example, which is no doubt considered to have current relevance:

- (i) a. I know what Tom is like. *I have spent my hollidays with him two years ago.
 b. I know what Tom is like. I spent my hollidays with him two years ago.

Thus, the two tenses differ in the way where the situation is located in time, not only in aspect.

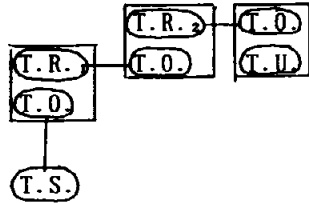
⁶ For the representation of other tenses, one more time point is necessary, viz reference time (R):

- (i) a. past perfect : E before R before S
 b. future perfect : E before S after S

⁷ For example, his past perfect tense scheme has two reference

points:

(i) past perfect



⁸ Originally Prior (1967) pointed out that Reichenbach's tense scheme is too simple in that it provides for only one reference point, while at least two reference points are necessary to account for complicated tenses. Declerck and Comrie agrees to his claim against Reichenbach.

⁹ According to Nakau, reference time is a secondary notion which is to be derived from an interaction of speech time and event time.

¹⁰ See Nakau (1985) and Tanaka (1990) for detail.

¹¹ In the present article we won't deal with the deficiencies of Comrie's tense system. For in the description of the simple tenses, his tense scheme and our tense scheme is almost the same in essence.

¹² This observation is made also by Comrie (1986: pp. 41-42)

¹³ Whether the situation described in a clause is static or non-static is determined by the highest (i.e., left most) verb in the sentence: if the highest verb is a stative verb, the situation referred to by it is static; if it is a nonstative verb, the situation non-static.

¹⁴ According to Tanaka (1988), the following six factors, Tense System, Temporal Specifiers (Time adverb), Situation Type, Predicate Semantic Class, Discourse Factors and Pragmatic Factors, are deeply involved in temporal interpretation of sentences in discourse.

¹⁵ See Tanaka(1988, 1990) for detail.

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