TEMPORAL USES OF TRƯỞC AND SÀU: AN ANALYSIS OF TEMPORAL FRAMES OF REFERENCE IN VIETNAMESE

Le Thi Cam Van, Truong Thi Nhan
University of Sciences, Hue University, 77 Nguyen Hue St., Hue, Vietnam

Abstract. This paper assesses the temporal meaning of Trước and Sau in Vietnamese, concerning the temporal frames of reference. The Vietnamese words Trước and Sau mean FRONT and BEHIND. They originally mean spatial directions with a deictic center. When transferred to the domain of time, they appear in three situations: 1. Expressing the ‘future/past’ meanings correlating to an absolute frame of reference that motivates dynamic and static temporal events; the orientation of the absolute frame of reference in Vietnamese is provided with the arrow of time; 2. Expressing the ‘past/future’ meanings correlating to an intrinsic frame of reference; this frame of reference applies to binary temporal relations that encompass deictic events and earlier/later relations. FRONT is mapped onto the past in both cases; 3. Expressing ternary temporal relations correlating to a relative frame of reference: we argue that two variants of the relative frame of reference proposed by Bender and colleagues cannot be applied to describe ternary temporal relations in Vietnamese. In this language, if G occurs in the future, FRONT is assigned to the past of G which is the V’s future, and BEHIND to G’s future; whereas if G occurs in the past, FRONT is assigned to the G’s past, and BEHIND to G’s future which is also Ego’s past. The only difference between the intrinsic and the relative frame of reference in Vietnamese, therefore, is whether or not the Ground coincides with the Ego.

Keywords: Trước, Sau, Vietnamese, space, time, temporal frames of reference

1. Introduction

Temporal frames of reference have just become the object of Cognitive Linguistics in about two recent decades. Cognitive linguists have proposed numerous taxonomies of temporal frames of reference to describe temporal relations in many languages [2, 3, 5, 7, 8, 10, 11]; however, these results have not covered the case of Vietnamese. Otherwise, there have not been any works analyzing temporal frames of reference in this language. Therefore, in this paper, we analyze them in Vietnamese through the temporal uses of Trước and Sau, thereby contributing to developing the cognitive theory of temporal frames of reference.

The early accounts for temporal frames of reference are the results of attempts to get a mapping from spatial frames of reference to the domain of time [1–3, 5–8, 10, 11]. These accounts generally use the same conceptual components for construing temporal relations but
have different ways of combining the components [1]. The conceptual sources used to interpret

The temporal frames of reference that we describe in this paper are metaphorical. We use
the taxonomy proposed by Bender and colleagues [1, 2] as the background. After analyzing the
differences between the domain of space and the domain of time and the differences and the
similarities among other existing accounts of temporal frames of reference [1, 2], they claim that
spatial frames of reference can map onto the domain of time, then use the spatial frame of refer-
Their three temporal frames of reference are the absolute, intrinsic, and relative temporal frames
of reference. For the convenience of analyzing temporal frames of reference in Vietnamese, we
put a theoretical brief of these frames at the beginning of each subsection in Section 2.

A frame of reference, as developed by Talmy [9], is a coordinate system consisting of a
Figure and a Ground that is used to determine the position of F1 from a given perspective; this
G may or may not coincide with an observer’s viewpoint V. For example, in The car is in front of
the house, the car is F; the house is G; G does differ from V.

Our paper focuses on characterizing the temporal meanings of trước and sau in Vietnam-
ese, concerning temporal frames of reference. The words trước and sau are respectively to
FRONT and BEHIND terms. Initially, they have spatial meanings with an Ego-centered reference
point, in which trước means the space in front of a human body, and sau means the space be-
hind a human body. When being transferred to the domain of time, these words appear in the
expressions motivated by all the three temporal frames of reference, as we shall see.

The examples used in this paper are from the Vietnamese corpus at sketchengine.eu, Vi-
etnamese Dictionary (Hoang et al., 2009), and given by the authors by the judgmental method-
ology. For each example, the word-to-word translation is given in double quotes, and a sug-
gested free translation is given in single quotes.

In the following section, we will show the temporal uses of trước and sau, concerning the
absolute temporal frame of reference (Subsection 2.1), the intrinsic temporal frame of reference
(Subsection 2.2.), and the relative temporal frame of reference (Subsection 2.3). The last section
of the paper presents our conclusions.

2. Findings and discussions

1 The following abbreviations are used in the paper: F – Figure, G – Ground, V – observer viewpoint, SUBJ – subject, OBJ
2.1. ‘Future/past’ meanings: temporal uses of truóc/sau in the absolute frame of reference

This section illustrates how an absolute frame of reference is instantiated with FRONT/BEHIND vocabulary in Vietnamese. Let us begin with a brief of this frame of reference. According to Bender and colleagues [1, 2], the absolute frame of reference describes the binary temporal relation between two objects, in which an event F is in front of an event G, i.e., the event F is in the future of G. The orientation of this frame of reference is time itself and depends on cultural conventions. The corollary of this is that its FRONT varies across different languages and cultures. It may be in line with the arrow of time [2] or the opposite direction (like in Aymara language, Núñez & Sweetser [8]) or up-hill (Tenejapan Tzeltal language, Levinson [4]), and so on. The G’s intrinsic front and the speaker’s position in time are irrelevant for an absolute frame of reference.

With the above background, let us see the following examples in Vietnamese:

(1) Trưởng lai dang ở phia truóc.

future PROG live front

‘The future is in front of (us).’

In (1), truóc “front” means ‘future’. The sentence describes the future as an object that is always ahead in the timeline. This fact shows that the future/past axis is metaphorically in line with the arrow of time.

Below is another example of this temporal use of truóc.

(2) Truóc mắt, hãy cứ đợi xem đã.

front eye let’s still wait see PART

‘We must see and wait how things happen.’

Being different from (1), which expresses a dynamic situation, (2) represents a static one. However, similar to (1), truóc in (2) metaphorically means ‘future’; exactly, it points to the temporal interval that begins right after the time of speech. Thus (1) and (2) are the absolute frame of reference cases, and in the Vietnamese language, as we have seen, FRONT is assigned in line with the arrow of time.

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3 Source: Vietnamese Dictionary (Hoang et al., 2009, p. 1307)
By contrast, *sau* is used to express the past, as in the following example:

(3)  Bỏ lại sau lưng bao tháng năm cuộc đời tâm tôi⁴

“leave PART behind back QUAN month year life dark”

‘Leaving the very dark period in his life behind’

For example (3) above, *sau lưng* “behind one’s back” inherently means the space behind the human body. When being transferred to the domain of time, this expression refers to the Ego’s past. The Ego is moving to the future with the future in front of the Ego. Therefore, the BEHIND/Front axis is mapped onto the past/future relation. This means that the temporal relation in (3) is structured by the Moving Time metaphor and motivated by the absolute frame of reference. In this case, the Ego coincides with G. It is moving ahead to the future, i.e., the Ego’s moving direction is in line with the arrow of time.

To summarize, we have seen that temporal *trước* and *sau* in Vietnamese are metaphorically used to express the future and past in the absolute frame of reference. The orientation of the absolute frame of reference in this language is provided by the arrow of time.

2.2. ‘Past/future’ meanings: temporal uses of *trước/sau* in the intrinsic frame of reference

Bender and colleagues [1, 2] describe an intrinsic temporal frame of reference as a frame of reference, in which the ground object G is also the origo of the coordinate system. Its orientation is derived from G and only enacts when orientation is assigned to G. In an intrinsic frame of reference, an event F that happens before the event G will be in front of G, i.e., the asymmetry of events is used to determine their orientation: FRONT is assigned to that part of the time that is at the beginning of event G. The observer, if there is, has to serve as G, and therefore, the position of a potential observer that is different from G is not relevant. Below we exemplify this frame of reference by using data from Vietnamese.

(4)  a. Mười năm trước tôi đã đến nơi này.

“ten years front I SUBJ PERF come place DEM”

‘I came here ten years ago.’

b. Tôi sẽ đến thăm anh sau.

“I SUBJ FUT come visit you OBJ after.”

‘I will visit you later.’

The Ground in the examples above is the moment of utterance, i.e., Ego’s ‘now’ serves as G. In referencing to G, F in (4a) is a point of time in the past (ten years ago); in (4b), it is a point of time that is indefinite in the future. In these metaphorically temporal uses, trước “front” means ‘past’, and sau “behind” means ‘future’. This fact shows that the above expressions are motivated by the intrinsic frame of reference.

To express a point of time that is indefinite, Vietnamese has a construction that consists of bây ‘now’ expressing G as an object of the preposition trước ‘front’. The preposition phrase trước bây refers to the temporal interval from the time of speech to the past. By contrast, the construction sau này expresses the interval from the time of speech to the future. As a result, both trước bây and sau này make the expressions using them become the cases of the intrinsic frame of reference.

Besides, trước and sau are deictically recruited in noun phrases that mean the point of time in the past or the future, as in (5):

1. tuần trước
   “week front”
   ‘last week’
2. tuần sau
   “week behind”
   ‘next week’

The temporal uses of trước/sau in (5) are also applied for other temporal units such as day, month, quarter, and year. What we can imply from these examples is that Ego is explicitly coded as G; the temporal relations here, therefore, are binary with FRONT being assigned to the past. In other words, they are cases of the intrinsic frame of reference.

In Vietnamese, later times can be talked about as being behind the earlier times, and vice versa. Let us see the example below:

6 Sau khi đánh răng, tôi đi ngủ.
   “behind when brush tooth 1.SUBJ go sleep”
   ‘After brushing my teeth, I went to sleep.’

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5 Bây originally is a spatial word that means ‘here’. When being transferred to the domain of time, it means ‘now’, therefore, makes trước deictic.

6 Này is also a spatial word in Vietnamese. It inherently refers to the position of the speaker, i.e., ‘here’. When being transferred to the domain of time, it combines with sau to express the interval from the time of speech to the future.
In (6), the event đánh răng ‘brushing my teeth’ is G. It happens before the event tôi đi ngủ ‘I went to sleep’ which is the Figure. This relative order assigns the orientation for the sequence of these events, in which the Figure is behind the Ground, and the past/future relation is reflected on the FRONT/BEHIND axis. The temporal relation is only between two events, therefore, independent of the position of the observer. The frame of reference applied in this sentence is thus the intrinsic frame of reference.

The analysis above allows us to conclude that in the Vietnamese language, for the case of the intrinsic frame of reference, the temporal relations can be determined with or without an Ego as G. In both cases, FRONT is mapped on the past.

2.3. Expressing ternary temporal relations with trước and sau: a proposal for a model of relative frame of reference in Vietnamese

Bender and colleagues [1, 2] define a relative frame of reference a frame, in which its observer’s viewpoint is different from G, i.e., this is a ternary temporal relation. This viewpoint in a temporal frame is the subjective present of the observer. It is used to determine FRONT and BEHIND of a temporal sequence instead of the beginnings or endings of events or the direction of time itself as in the intrinsic or absolute frame of reference. There are two subtypes of the relative frame of reference: reflection and translation. In the reflection subtype, FRONT is assigned to the time between G and V because it reflects the primary coordinate system originating in V onto G. In the translation subtype, the observer’s perspective is shifted into G, thus leading to F behind G if it is between G and V and F front G if it is beyond G.

For this frame of reference, we recognize that none of its subtypes is completely applied in Vietnamese. In fact, the assignments of FRONT and BEHIND in ternary temporal relations on Vietnamese data do not belong to any of the cases proposed by Bender and colleagues. We analyze this below.

(7) [Ngày mai chúng ta sẽ về khách sạn lúc 9 h.]
   “tomorrow we FUT turn back hotel when 9:00 a.m.”
   ‘We are turning back the hotel at 9:00 a.m. tomorrow.’

   Trước đó mọi người sẽ tham quan khu phố cổ.
   “front DEM every people FUT visit area city ancient”
   ‘Before that, we are visiting the ancient city.’

   Sau khi về khách sạn, chúng ta ăn trưa tại nhà hàng khách sạn luôn.
   “behind when go back hotel we eat lunch at restaurant hotel PART
‘After turning back the hotel, we are having lunch at the hotel’s restaurant.’

In the example, G is a point of time in the future (9:00 a.m. tomorrow), and the time of speaking is the observer’s subjective present. The word dó in the second sentence is a demonstrative pronoun that refers to the time going back to the hotel, i.e., the Ground. The phrase trước dó points to the temporal interval from G to the observer’s viewpoint V. This means that the Figure: (the event visiting the ancient city) is positioned behind the observer’s viewpoint and in front of G. FRONT in this case, therefore, is assigned to the time between V and G. The temporal relation, thus, is motivated by the reflection variant of the relative frame of reference. Meanwhile, the Figure: (the event having lunch) is localized behind G. The phrase sau khi in the third sentence points to the temporal interval beyond G. This means that BEHIND is assigned to the time beyond G. Thus, we see that with G positioned in the future, the ternary temporal relation in Vietnamese belongs to the reflection subtype of the relative frame of reference.

However, when G is localized in the past, the constellation of V, G, and F differs from what Bender and colleagues [1, 2] describe as the reflection variant. In Bender et al. [2], the reflection frame of reference is described as follows:

When applying the reflection subtype (Figure 2c), the observer’s perspective is reflected in the reference point G: events F that fall between the observer’s viewpoint V and G are in front of G (irrespective of whether G occurs in the past or future of V’s present), while events F beyond G are at G’s back or behind. [2, p. 291]

Contrary to the claim above, in Vietnamese, when G occurs in the past, the reflection subtype is not afforded because the event F that is in front of G does not fall between G and V, and the event F that is behind G is not beyond G. Instead, F is in front of G if it is beyond G, and behind G if it is between G and V. FRONT thus corresponds to the past, and BEHIND corresponds to the temporal interval restricted between the event G and the subjective present of the observer. The corollary of this is that when G occurs in the past, the frame of reference applied is not the reflection but the translation variant. Let us see (8) below:

   “year 2010 I move to Hue front DEM I live in Sai Gon”
   ‘I moved to Hue in 2010. Before that, I lived in Sai Gon.’

   “year 2010 I still do work in Sai Gon behind DEM I move to Hue”
   ‘I still worked in Sai Gon in 2010. After that, I moved to Hue.’
In the two examples, the demonstrative pronoun **đó** refers to the times used as G. In (8a), G is the year 2010, and the subjective viewpoint is the observer’s present. Similar to (7), **trước đó** in (8a) refers to the time before G. The difference between them is that in the case (8a), G occurs in the past of V, so the interval represented by **trước đó** is not restricted between G and V; instead, it is from G to the past. FRONT, therefore, is assigned to the G’s past. By contrast, **sau đó** in (8b) refers to the temporal interval restricted between G and V, BEHIND in this example thus is constrained to that part of Ego’s past which is also in G’s future. Therefore, we can see that the frame of reference applied in this case differs from the reflection subtype described by Bender and colleagues [1, 2]. In fact, when G occurs in the past, temporal expressions are motivated by the translation subtype. Combining (7) and (8), we imply that, in Vietnamese, FRONT and BEHIND in the relative frame of reference are determined like in the intrinsic frame of reference despite whether the G’s position is in the past or the future. Therefore, the only point to distinguish between these two frames of reference is that G coincides with the Ego in the intrinsic frame of reference, but in the relative frame of reference, G differs from the Ego.

Figure 1 demonstrates the differences between the intrinsic and relative frames of reference in Vietnamese, as described above:

(a) Relative t-FoR

(b) Intrinsic t-FoR

Figure 1. The relative and intrinsic temporal frame of reference in Vietnamese. The grey arrow represents the time line. F represents the Figure to be located. G is the ground event and V the observer’s viewpoint.

To summarize, we have argued that the relative frame of reference proposed by Bender and colleagues [1, 2] cannot be applied for the case of Vietnamese. For this frame of reference on the Vietnamese data, if G occurs in the future, FRONT is assigned to the past of G which is the V’s future, and BEHIND is assigned to G’s future; if G occurs in the past, FRONT is assigned to the G’s past whereas BEHIND is assigned to G’s future which is also Ego’s past.
3. Conclusion

This paper has analyzed temporal uses of Trước “front” and Sau “behind” concerning three temporal frames of reference: an absolute, an intrinsic, and two variants of a relative frame of reference. These words inherently have spatial meanings with an Ego-centered reference point and are respectively FRONT and BEHIND terms in Vietnamese.

Trước and sau in Vietnamese are metaphorically used to express the future and the past in the absolute frame of reference. This frame of reference applies to both dynamic and static temporal events. The orientation of the absolute frame of reference in Vietnamese is provided by the arrow of time.

For the intrinsic frame of reference, Trước means ‘past’ and Sau means ‘future’. This frame of reference applies to binary temporal relations that encompass deictic events and earlier/later relations. FRONT is mapped onto the past in both cases. When G coincides with the observer’s subjective present, the phrases with Trước represent the temporal interval from the time of speech to the past; the phrases with Sau represent the temporal interval from the time of speech to the future. When G differs from Ego, the earlier/later temporal relation is only between two events and independent of the observer’s position; the past/future relation is reflected on the FRONT/BEHIND axis.

Ternary temporal relations in Vietnamese are motivated by the relative frame of reference; however, two variants of the relative frame of reference proposed by Bender and colleagues cannot be applied to describe the data we have. In this language, FRONT is assigned to the past of G which is the V’s future, and BEHIND to G’s future if G occurs in the future. In contrast, FRONT is assigned to G’s past and BEHIND to G’s future which is also Ego’s past if G occurs in the past. The difference between the intrinsic and the relative frame of reference in Vietnamese is that for the first one, G coincides with the Ego, and for the second one, G differs from the Ego.

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