

Temporal orientation and event types: an empirical study

Kazuko Shinohara

Tokyo University of Agriculture & Technology

Yoshihiro Matsunaka

Tokyo Polytechnic University

ICLC 12

University of Alberta, June 28, 2013

Introduction: Time Metaphors

- Experience in physical domain (*e.g.*, motion) can influence the way we conceptualize abstract concepts such as time.
- a large body of experimental studies on temporal orientation in time metaphors: mappings between FRONT/BACK directions and EARLIER/LATER temporal relations
- One of the topics of interest has been ambiguous cases in terms of temporal orientations.

Boroditsky and Ramscar's experiments (2002):
(After imagining oneself or some other entity
moving through space)

Next Wednesday's meeting has been moved
forward two days.

What day is the meeting now that it has been
rescheduled?

Monday or Friday?

Spatial priming (motion of oneself / other entity) was effective.

The participants who thought of themselves as moving forward tended to answer “Friday”.

The participants who imagined some other entity as moving toward them tended to answer “Monday”.

Two different construals of time

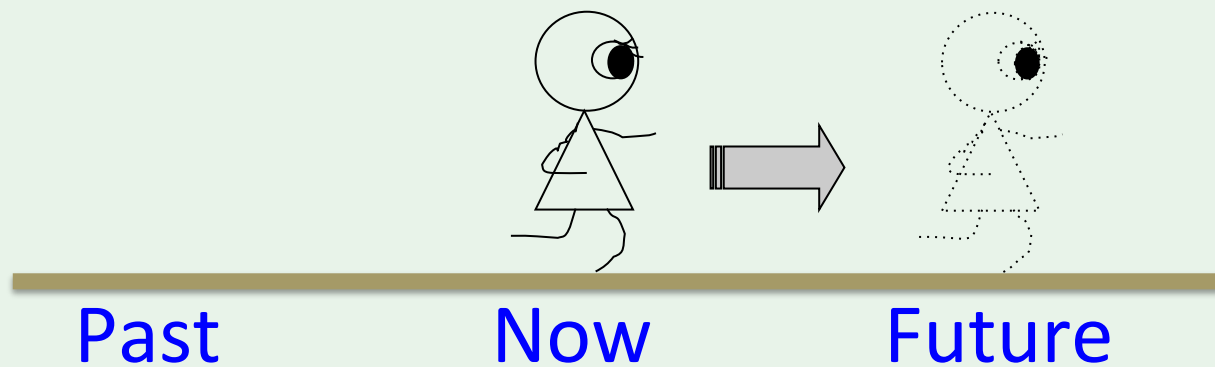
The ambiguity of the sentence

“Next Wednesday’s meeting has been moved **forward two days**” seems to come from the two different construals of time:

Moving Ego

Moving Time.

- Moving Ego



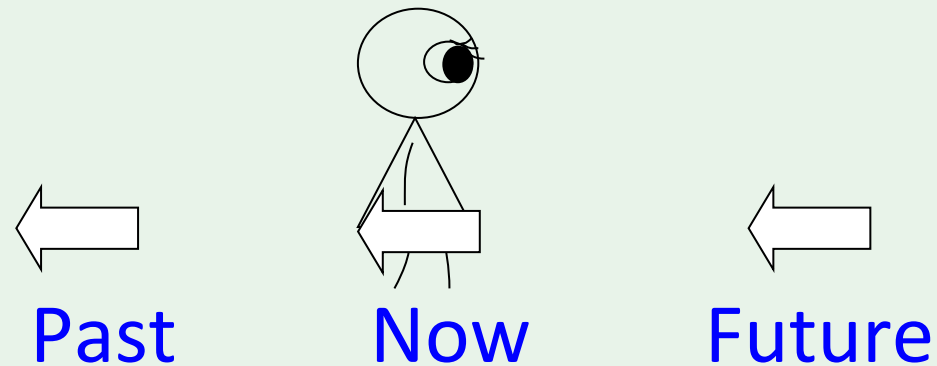
Ego is moving through time.

Time is static.

Ego's forward motion means time passing.

The more in front, the later.

- Moving Time



Time is moving. Ego is static.

Time's forward motion means time passing.

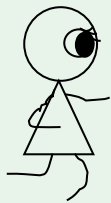
Future approaches Ego, and passes by Ego into Past.

The more in front, the earlier.

Applying the two models:

Next Wednesday's meeting has been moved
forward two days.

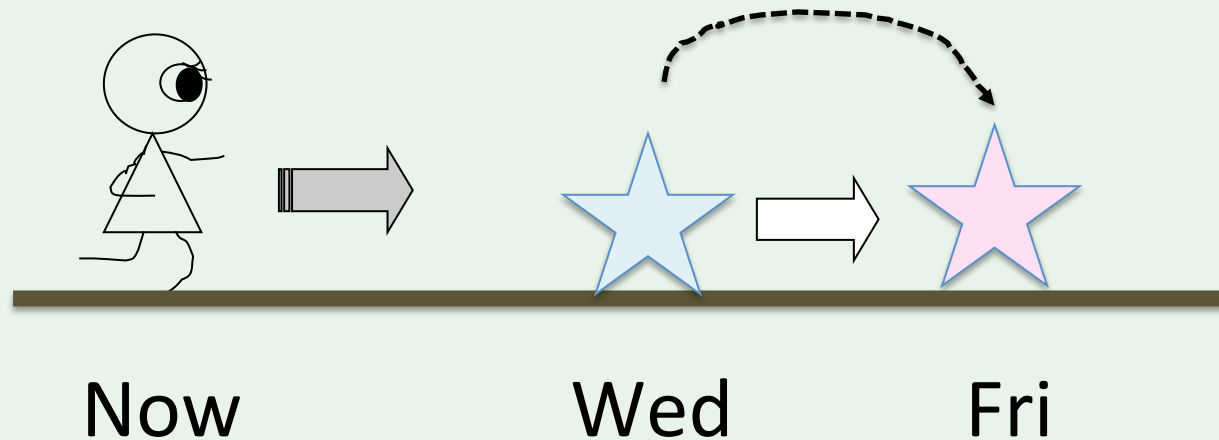
How is it interpreted?



Sun	Mon	Tue	Wed	Thu	Fri	Sat
	?		★		?	

“Forward” is later

- Moving Ego



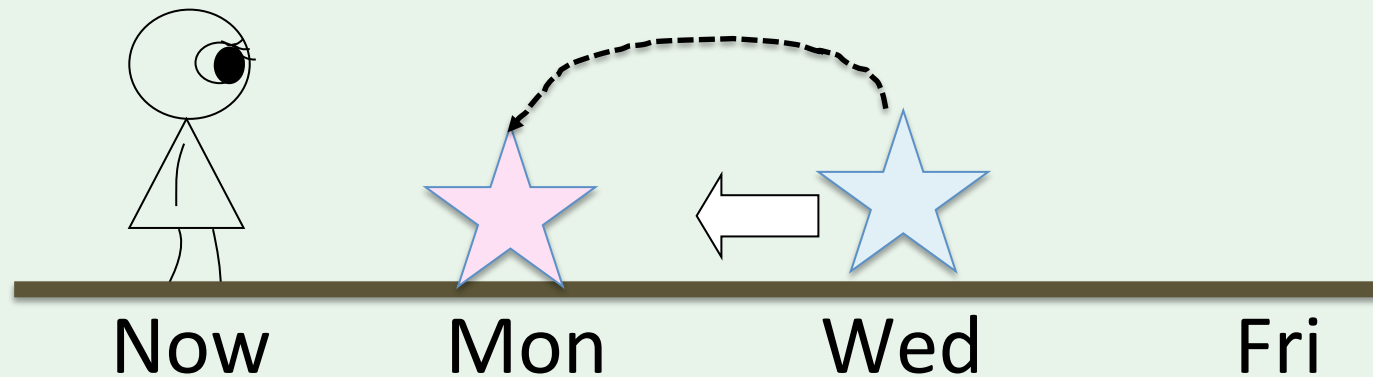
“Forward” = the forward motion of Ego.

The more in front, the later.

The meeting has been postponed to Friday.

“Forward” is earlier

- Moving Time



“Forward” = the forward motion of the time.

The more in front, the earlier.

The meeting is rescheduled on Monday.

- Thus, the interpretation of “forward” can be affected by whether people imagine themselves as moving forward (Moving Ego), or they imagine objects coming toward them (Moving Time).
- The interpretation tends to be iconic to the direction of metaphorical motion that people are imagining.

Other Factors

- However, it has also been demonstrated that differences in **lifestyle** (*e.g.*, students vs. administrators) can more strongly affect the ways people disambiguate between the **earlier** interpretation and the **later** interpretation. (Duffy and Feist, 2012)
- Compared with **administrators**, **students** tend more to think that the meeting has been postponed than to think it is going to be held earlier.

Other Factors

- There may be still other (pragmatic) factors that affect how temporal orientations are interpreted.

Questions

- (1) Does the difference in **event types** such as “enjoyable event” vs. “unenjoyable event” affect how people understand ambiguous temporal sentences?
- (2) Does the difference in **ego-involvement** affect the way of disambiguation?

We test them in Japanese, which has both Moving Ego and Moving Time metaphors, and a word similar to “forward”.

Experiment

Method

paatii-wa yotee-yori futsuka saki-ni

party-TOP schedule-than 2 days **ahead**-LOC

okonaimasu.

do

(Lit: The meeting will be held two days IN-FRONT of the schedule.)

Interpretations:

- two days earlier than the schedule
- two days later than the schedule

Two kinds of events:

paatii (party): enjoyable event for students

kaigi (meeting): unenjoyable event for students

Ego-involvement:

-- Participants are supposed to join the event

("You are going to have a party with your friends.")

-- Participants are not supposed to join the event

("Dr. Johnson is going to attend an important meeting...")

Procedure

147 Japanese speaking university students around Tokyo (109 males, 38 females, 18-26 y.o.)

[1] The participants were presented with a photograph of basketball players facing and coming toward the viewer, and were told to imagine the players were coming nearer and nearer.

Procedure

[2] The participants read the question and answered the day of the rescheduled party or meeting.

In analysis, we tested the two factors:

- The types of events
- Ego-involvement



Instruction:

Enjoyable, Ego-involved

You are going to have a party with your friends.
The party is scheduled on next Wednesday, but
you receive this message.

The date (of the party) has been changed.
We will have the party two days **SAKI** than the
schedule.

日程変更です。パーティーは、予定より2日先におこないます。

Now, when is the party going to be held?

Unenjoyable, no Ego-involvement

Dr. Johnson is going to attend an important meeting on next Wednesday, but she receives this message from the administration office.

The date (of the meeting) has been changed.
We will have the meeting two days **SAKI**
than the schedule.

日程を変更します。会議は予定より2日先におこないます。

Now, when is the meeting going to be held?

Results 1

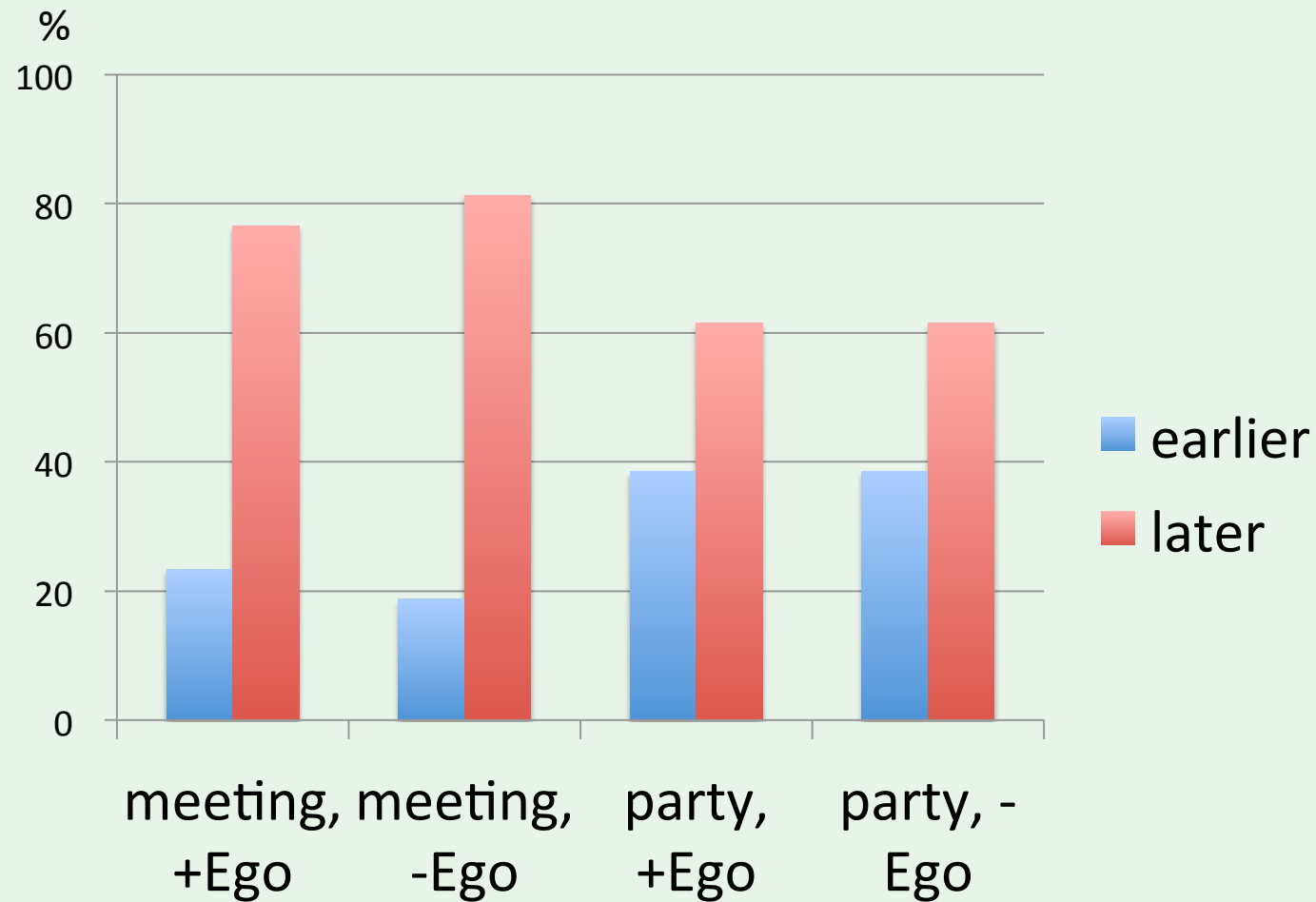


Figure 1. Overall results.

Results 2

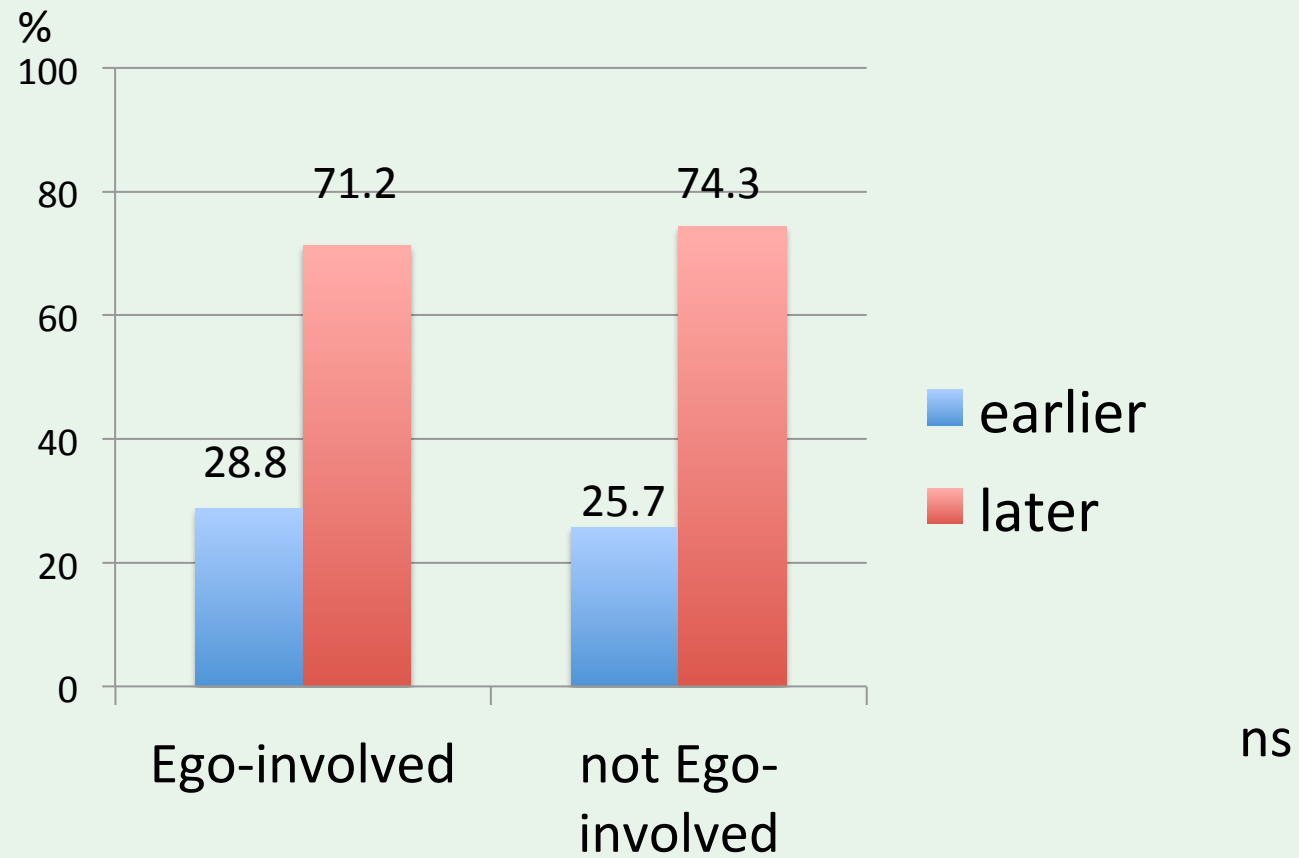
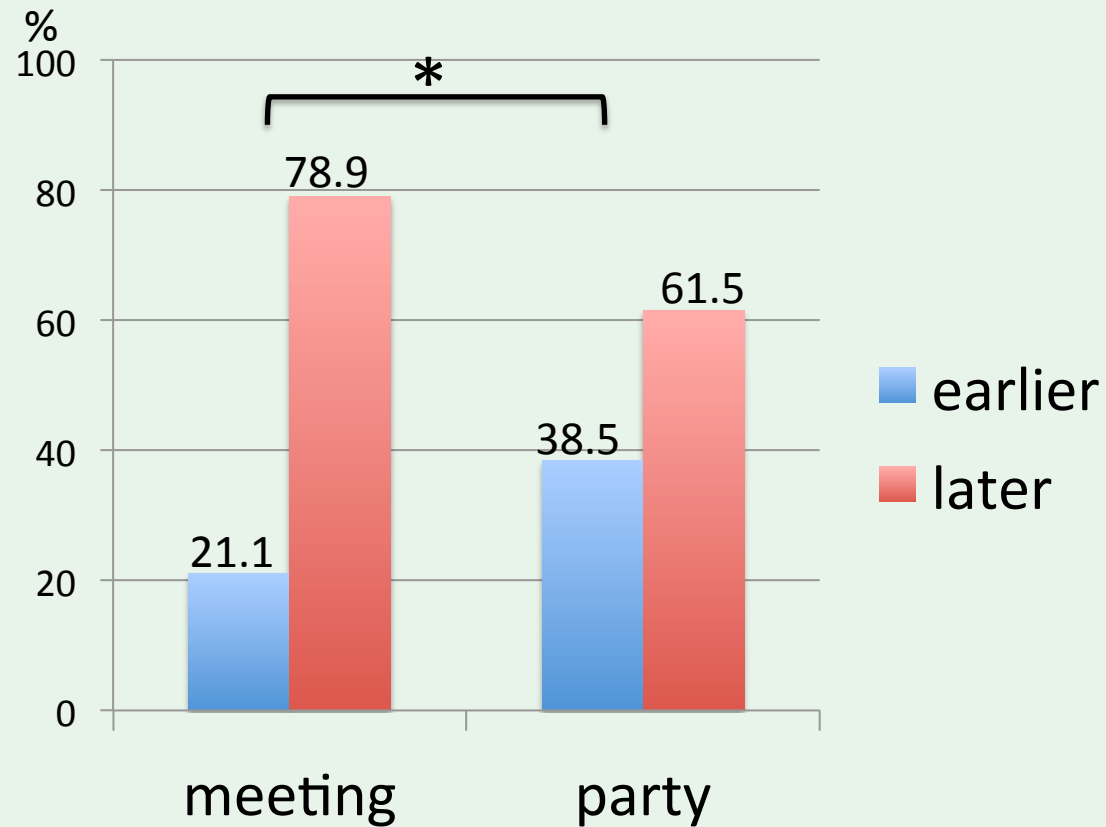


Figure 2. Ego-involvement.

Results 3



$\chi^2(1)=4.301, p < .05$

Figure 3. Event Types.

Discussion

- The **types of events** did affect the construal of temporal orientation: “party”, an enjoyable event, was more often understood as being coming earlier than “meeting”, a less enjoyable event.
- Expectation for enjoyable events can affect inferences about EARLIER/LATER relations.
- Not only physical motion, but also other pragmatic factors can influence how temporal metaphors are interpreted.

Additional Discussion

- We also carried out the same experiment **without** the picture of basketball players (*i.e.* without priming by a motion toward the viewer), but this did not have any significant influence on the responses.

Conclusion

- At least from the results of our experiment, it may be concluded that **affective factors** can influence the way people interpret the sentence with temporal ambiguity.
- That is, enjoyable events tend to be interpreted as coming sooner than unenjoyable events.

Remaining Issues

- Since the Japanese word “saki” reacts sensitively to linguistic contexts in which it is used, we need more investigation on its temporal uses.
- It is to be investigated if actual physical motion influences the interpretation of the ambiguous sentence with “saki”.

Thank you!

- Contact address:

k-shino@cc.tuat.ac.jp

This study is partially supported by the Japanese government grant (JSPS) #25370425.

paatii-wa yotee-yori futsuka saki-ni

party-TOP schedule-than 2 days ahead-LOC

okonaimasu.

do ... EARLIER/LATER

ugokashi-masu / nari-masu

move / become ... only LATER reading

paatii-wa yotee-yori saki-ni okonaimasu.

party-TOP schedule-than ahead-LOC do

... only EARLIER reading

Experiment group

	earlier	later	total
meeting (E+)	11	36	47
meeting (E-)	9	39	48
party (E+)	10	16	26
party (E-)	10	16	26
			147

Event-type	earlier	later	
meeting	20	75	95
party	20	32	52

$\chi^2(1)=4.301, p<.05$

Ego-involvement	earlier	later	
Ego +	21	52	73
Ego -	19	55	74
			ns

Control group Ego-involved

	earlier	later	total
meeting	7	22	29
party	8	21	29
			ns

MEETING	earlier	later	total
priming	11	36	47
no priming	7	22	29
			ns

PARTY	earlier	later	total
priming	10	16	26
no priming	8	21	29
			ns

Control group Not Ego-involved

	earlier	later	total
meeting	11	17	28
party	7	20	27
			ns

MEETING	earlier	later	total
priming	9	39	48
no priming	11	17	28
			ns

PARTY	earlier	later	total
priming	10	16	26
no priming	7	20	27
			ns