

Discourse time is real

Katja Jasinskaja

One of the differences between incremental *noch* ‘still’ and additive *auch* ‘also’ in German according to Umbach (2012) is that *noch* interacts with discourse time in a way *auch* does not. In both versions of (1), the adverb *dann* ‘then’ can be understood to operate on the event time dimension, meaning that the event of Otto drinking the schnapps happened after the event of him drinking the beer. However, only (1-a) with *noch* also has the reading where *dann* operates on the discourse, or utterance time dimension, meaning ‘I am saying that Otto had a schnapps after I said that Otto had a beer’, which does not imply any specific order of the beer and the schnapps drinking events. Discourse time is an essential parameter of Umbach’s theoretical analysis of the semantics of *noch*, as it indexes and thereby differentiates the alternatives *noch* operates on.

- (1) (Otto hat ein Bier getrunken. ‘Otto had a beer.’)
- a. Dann hat er *noch* einen Schnaps getrunken.
 - b. Dann hat er *auch* einen Schnaps getrunken.
‘Then he drank a schnapps in addition.’

But what is discourse time? In this talk I question some common assumptions about the nature of discourse time and its relation to the event time. Ever since the seminal work of Reichenbach (1947), discourse/utterance/speech time has also played a central role in the semantic theory of tense. However, in most of that work it is an abstraction far removed from the actual time stamp of a sentence being uttered. Often utterance time is assumed to be static, i.e. not changing from one sentence to the other in discourse (e.g. Kamp et al., 2011). Clearly, such a notion of utterance time is not very useful for explaining the functioning of *noch* in German, which relies on the assumption that distinct utterances have distinct utterance times. Anand and Toosarvandani (2018) assume a forward-moving but instantaneous utterance time. The instantaneity assumption is useful for the analysis of canonical present tense uses, but is an obstacle for the analysis of play-by-play present, as in (2):

- (2) Commentator at USA vs. New Zealand, 2015 Women’s Soccer Friendlies:
- a. Wambach leads it back
 - b. and now Krieger has it.
 - c. Tobin Heath goes far.
- (<http://www.youtube.com/watch?v=Kqe9n7zvnnw>, 1:40:55)

Without going too deep into the semantics of tense, in this talk I explore the idea that utterance time is the real time stamp of a sentence being produced and/or perceived. Utterance time has a specific location in real time, it has a specific duration, and the utterance times of distinct speech acts of the same speaker are necessarily distinct. This is particularly evident in live commentaries like (2), where there is a direct causal connection between the event times and the utterance times, but also in some varieties of narrative discourse, where the temporal order of

utterances is exploited as an *iconic* sign reflecting the order of the described events (Jakobson, 1971). Recently there has been a lot of progress in the theoretical understanding of the semantics of iconic signs (Schlenker, 2018; Abusch, 2020; Maier, to appear). Unlike the arbitrary association between form and content in symbolic signs, the resemblance between form and content in iconic signs is captured by a form-preserving projection function. Applied to time in discourse, that means that there is a form-preserving function between utterance times and event times. The question is which temporal characteristics of the events are preserved in the discourse time dimension. Only the order? Or can other aspects, for instance duration, be preserved as well? If we could show that a range of different characteristics of time in the content dimension can be reflected by the respective characteristics of time in the discourse dimension, this would mean that the *real* utterance time can be very informative for the temporal interpretation of discourse. In this talk I present a pilot experimental study that attempts to establish a relationship between time at content and at discourse level, going beyond the temporal order of the events.

The idea that discourse time is real, meaning that the start time, the end time, and the duration of utterances should be taken into account as parameters of the utterance context, raises a number of questions both for the theory of tense and for the theory of incremental particles. How can we explain that depending on the discourse mode (“normal” vs. narrative vs. play-by-play) tense often disregards many real characteristics of the utterance time, reducing it to a mere abstraction? Which characteristics of utterance time are relevant for incrementals and why? In this talk I discuss possible directions for future research to elucidate these questions.

References

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Workshop on *Incremental constructions within and across languages*

ESSLI 2024, week 1

Leuven, Belgium

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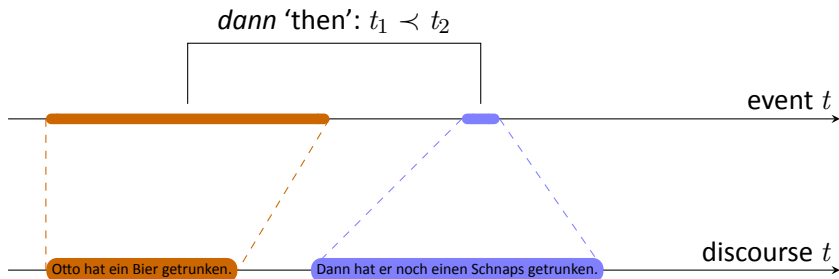
Carla Umbach 2012. *Strategies of additivity: German additive noch compared to auch*, p. 1844

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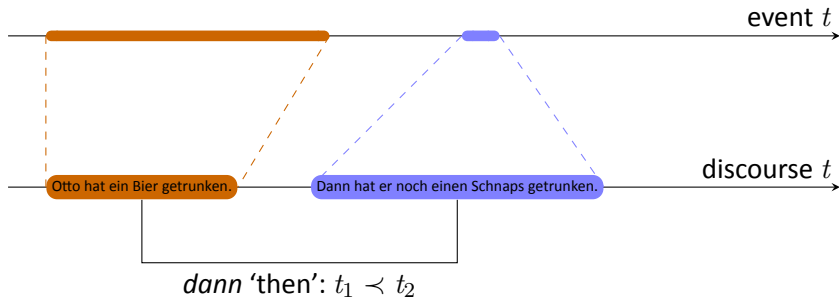
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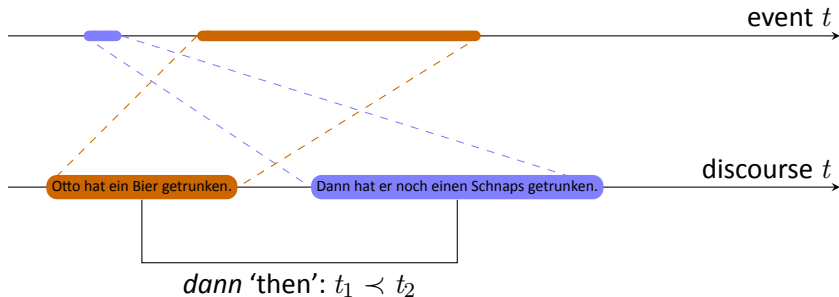
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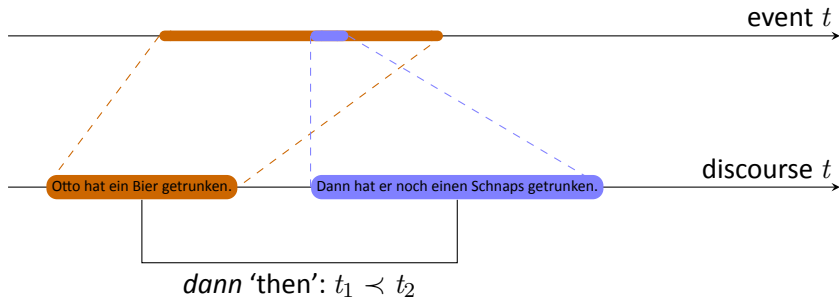
Incremental *noch*: the event time reading



Incremental *noch*: the discourse time reading





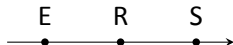


What is discourse time?

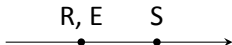
1. Discourse time in the theory of tense
2. Temporal iconicity
3. The duration of utterances: an experimental study
4. Desiderata for a theory of discourse time

Discourse time in the theory of tense

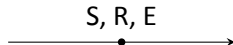
Past Perfect



Simple Past



Simple Present



S: speech time, utterance time

R: reference time

E: event time

is a constant!

Reichenbach 1947. *Elements of symbolic logic*

Kamp, Genabith, Reyle 2011. *Discourse representation theory*

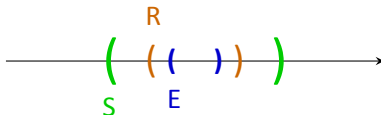
“When several sentences are combined to form a compound sentence, the tenses of various clauses are adjusted to one another by certain rules which the grammarians call the rules for the *sequence of tenses*. We can interpret these rules as the principle that, although the events referred to in the clauses may occupy different time points, the reference point should be the same for all clauses — a principle which, we shall say, demands *the permanence of the reference point*.”

Reichenbach 1947. *Elements of symbolic logic*, p. 293

- (2) a. Susan owns the farm.
b. #Mary reads the newspaper.
Intended: 'Mary is reading the newspaper now.'

Explanation:

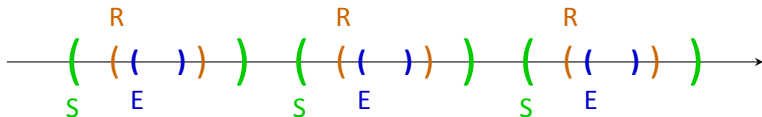
- The utterance time contains the reference time
- Without progressive morphology, the reference time contains the eventuality
- Utterances are conceived of as instantaneous



Anand & Toosarvandani 2018. *Unifying the canonical, historical, and play-by-play present*

US Women's National Team vs. New Zealand, April 4, 2015.
Live commentary.

- (3)
- a. Rapinoe
 - b. looking to make a move
 - c. Rapinoe trying to cross
 - d. she **does**
 - e. [it] **gets** all the way through
 - f. the shot **goes** high



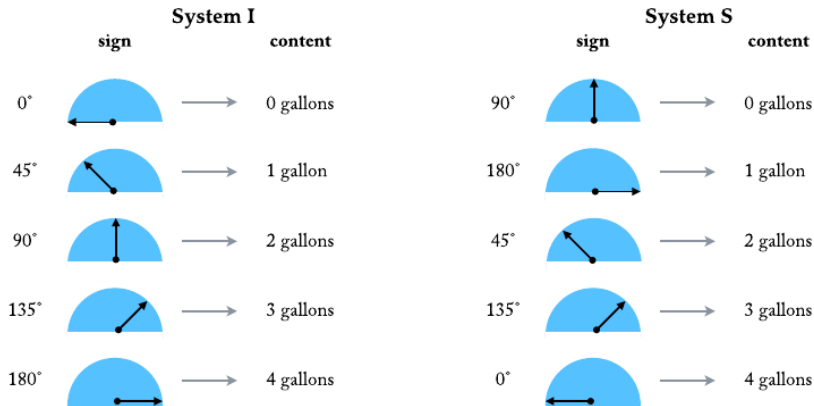
<https://www.youtube.com/clip/Ugkx58OH0EVJ1ipD8dyT033FPE1J8IPz4D4s>

Temporal iconicity

[N]ow let us attempt to approach the linguistic pattern in its iconic aspect and to give an answer to Plato's question, by what kind of imitation (mimêsis) does language attach the signans to the signatum.

The chain of verbs—Veni, vidi, vici—informs us about the order of Caesar's deeds first and foremost because the sequence of co-ordinate preterits is used to reproduce the succession of reported occurrences. The temporal order of speech events tends to mirror the order of narrated events in time...

Iconic vs. symbolic signs



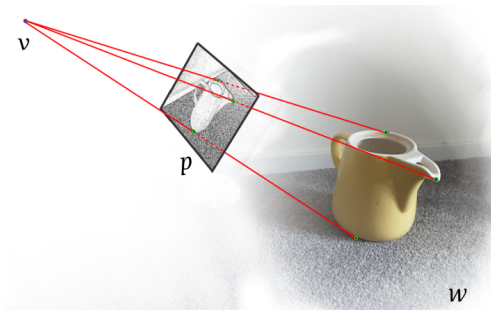
Gabriel Greenberg 2022. *The Iconic-Symbolic Spectrum*, p. 583

Iconic system

$$\llbracket s \rrbracket = \text{angle}(s) \times \frac{1}{45} \text{ gallons of water in the tank}$$

Symbolic system

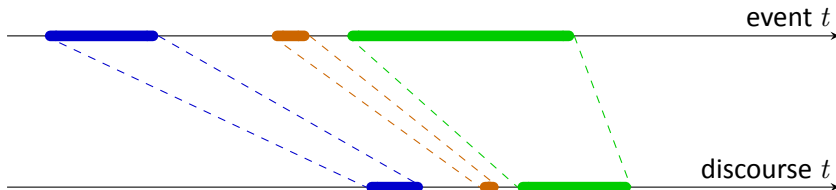
- (i) if $\text{angle}(s) = 90$, $\llbracket s \rrbracket = 0$
- (ii) if $\text{angle}(s) = 180$, $\llbracket s \rrbracket = 1$
- (iii) if $\text{angle}(s) = 45$, $\llbracket s \rrbracket = 2$
- (iv) if $\text{angle}(s) = 135$, $\llbracket s \rrbracket = 3$
- (v) if $\text{angle}(s) = 0$, $\llbracket s \rrbracket = 4$
gallons of water in the tank



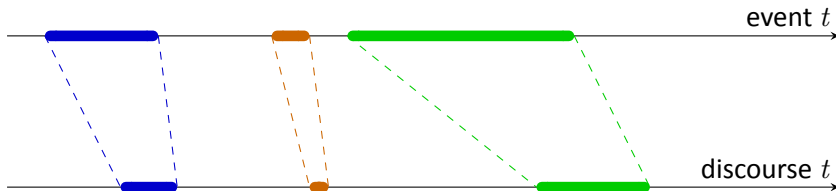
a form-preserving
transformation from a
set of points in a 3D
space to a set of points
in a 2D space

Emar Maier, to appear. *Pictorial language and linguistics*, p. 7

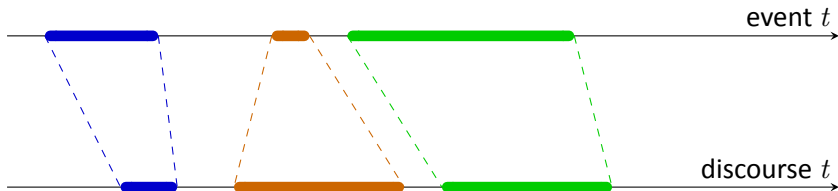
Preserving relative durations, distances, and order:



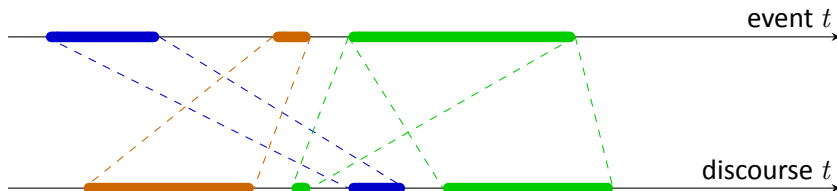
Preserving relative durations and order, but not distances:



Only relative order is preserved:



A non-iconic mapping:



- To the extent that and in contexts where there is an iconic mapping between event times and discourse times, which aspects of the temporal structure does that mapping preserve?
- Which characteristics of utterance time (relative order, duration, distance to other utterances) are relevant for the interpretation of the utterance?

The duration of utterances: an experimental study

The duration hypothesis

- If the event happens quickly, the narrator does not have time for descriptive detail.
- If the event takes longer to happen, the narrator does have time for descriptive detail.
- A more detailed event description will be interpreted as presenting an event that has longer duration

short A passenger put his bag on the seat.

long A restless sweaty passenger with a bushy moustache put his bag on the empty seat.

short	A passenger put his bag on the seat.	instant
long	A restless sweaty passenger with a bushy moustache put his bag on the empty seat.	1–5 sec
short	A patient spread jam over her toast.	short
long	A cheerful curly-haired patient in polka-dotted pyjamas spread apricot jam over her toast.	5–60 sec
short	An employee watered the flowers in the lobby.	medium
long	A slender elegant employee with a short haircut watered the flowers in the deserted lobby.	1–60 min
short	A contractor built a fence around the plot.	long
long	An inconspicuous local contractor in a grey over-all built a fence around the square plot.	>1 hour

The duration hypothesis, restriction to inherently short events

- If an event has inherent long duration, i.e. substantially longer than the duration of an utterance, than the narrator has all the time in the world to add descriptive detail.
- A more detailed description of an inherently longer event will not affect its perceived duration.
- Only the perceived duration of inherently short events, commensurate with the duration of an utterance, will be affected by the amount of descriptive detail.

Narrative summary:

It was really lucky that Harry now had Hermione as a friend. He didn't know how he'd have gotten through all his homework without her, what with all the last-minute Quidditch practice Wood was making them do. She had also lent him *Quidditch Through the Ages*, which turned out to be a very interesting read.

Harry learned that there were seven hundred ways of committing a Quidditch foul and that all of them had happened during a World Cup match in 1473; that Seekers were usually the smallest and fastest players, and that most serious Quidditch accidents seemed to happen to them; [...]

J.K. Rowling. *Harry Potter and the Philosopher's Stone*

Scenic narrative:

“Confuse it!” Harry said desperately to Ron, and, seizing a tap, he threw it as hard as he could against the wall.

The troll stopped a few feet from Hermione. It lumbered around, blinking stupidly, to see what had made the noise. Its mean little eyes saw Harry. It hesitated, then made for him instead, lifting its club as it went.

Only scenic narrative “pretends” to be play-by-play.

J.K. Rowling. *Harry Potter and the Philosopher’s Stone*

The temporal distance hypothesis

- The narrator is only pressed for time when reporting a sequence of events.
- If the event has short duration but the narrator has nothing else to report, they have all the time in the world to add descriptive detail.
- The amount of descriptive detail will affect the perceived temporal distance between the (critical points of) events in a sequence, rather than the duration of individual events.

short Olivia pulled the cord and the curtains swished open.

long Olivia pulled the cord and the sheer lace curtains
with delicate floral patterns swished open.

The bearded greengrocer in a red Adidas jacket counted the money

- Participants were asked to read the sentences and imagine the situation as vividly as they could.
- How long did that take?

- Attention questions targeting descriptive detail after some trials



Photo by Tahia Loukil on Unsplash



Duration items: 4×2 , 8 items per condition, 64 items total

4 inherent durations: instant, short, medium, long.

2 sentence lengths: short (6–10 w), long (12–18 w).

difference between short and long: 6–10 words.

Temporal distance items: 10 items per condition, 20 items total.

short 9–15, long 15–24, difference 6–14 words

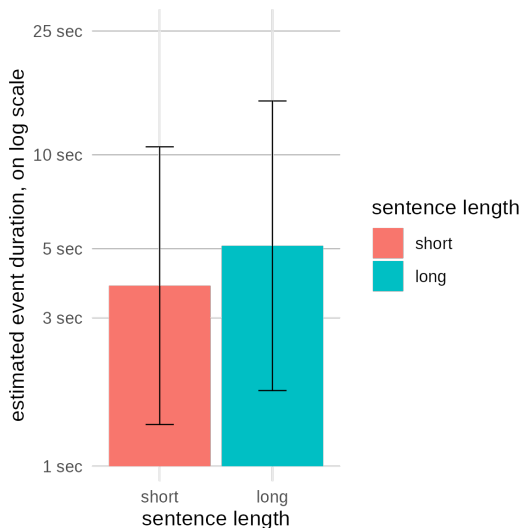
Latin square design: two lists

Fillers: 34

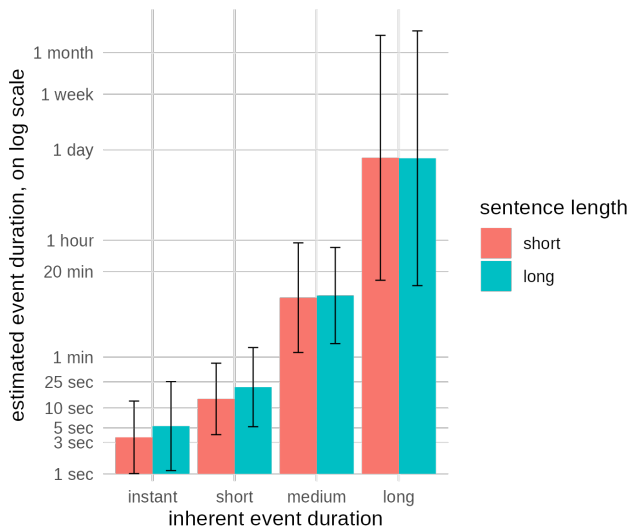
Procedure: Implemented in Gorilla experiment builder. Experiment duration up to 35 min. Participants received £5,25.

Participants: 50 participants from the UK and Ireland
self-reported native speakers of English
17 male, 33 female; age 26–70
recruited via Prolific

Results: temporal distance



Results: duration



It looks like:

- Sentence length has an effect on the perceived duration of sequences of two events
- Sentence length has an effect on the perceived duration of single events whose inherent duration is short, i.e. is measured in seconds

Problems:

- descriptive detail \neq sentence length \neq utterance time
- What does it really tell us about utterance time?

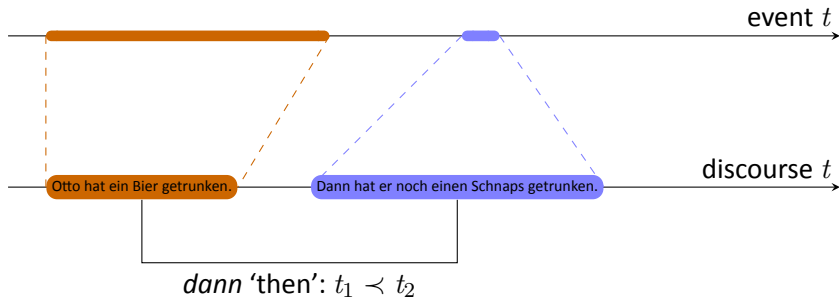
Desiderata for a theory of discourse time

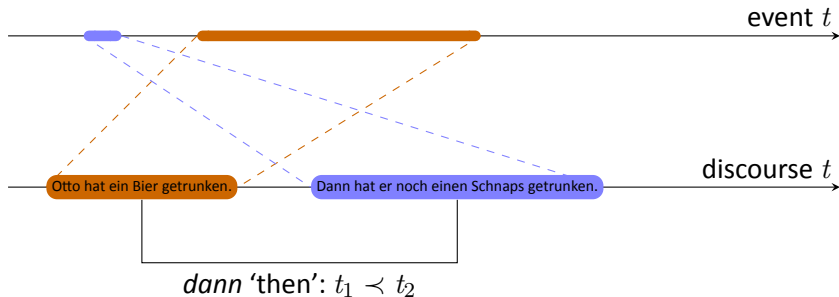
- The *real* utterance time, incl. its starting and end point, duration, relative order and distance to other utterances, enters utterance interpretation as a contextual parameter.
- In all those cases where it seems that utterance time is static, instantaneous, or otherwise more abstract than the real utterance time, we should have a theory about when and why this is the case, rather than making assumptions.

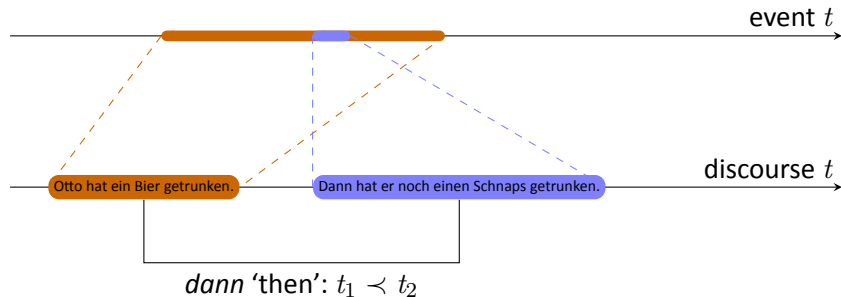
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Carla Umbach 2012. *Strategies of additivity: German additive noch compared to auch*, p. 1844







Thank you!

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