

Tense, Aspect, Mood and Evidentiality

Lecture 5:

TAME and memory

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Hmm... what was the topic of my talk?

- In this talk, I will discuss the possible relationships between the structure of human memory and TAME.



Focal points

- I will focus on three features of memory, as described by memory researchers:
 - the distinction between episodic and semantic memory
 - the notion of consolidation of stored information over time
 - the notion of sensory memory



TAME categories: a challenge for processing theories

- The processing of TAME in speech production and understanding must be extremely fast and without conscious attention
- It can only be allocated a restricted amount of processing resources
- This raises the question of the nature of the mechanisms behind TAME



Linguistic information and memory

- All information that is expressed linguistically has necessarily been stored at least briefly in the speaker's memory...
- ...but remembered events must belong to the past.
- Thus, there is a special relationship between memory and past time reference.

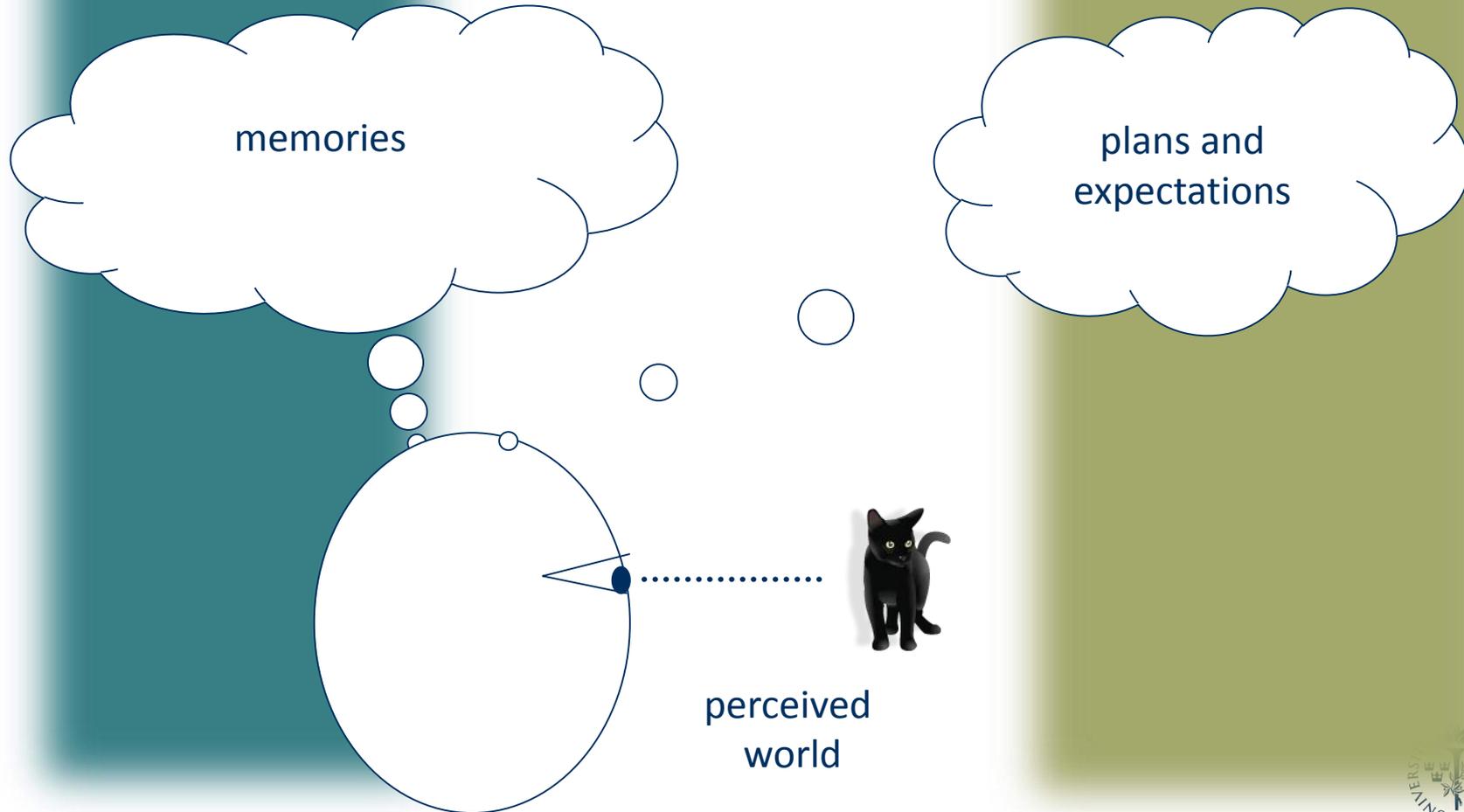


"Embodied time"

past

present

future



Differential marking of past time reference

- Most languages in the world have more than one kind of TAME marking when referring to the past
- I shall focus on three categories that contribute to differential past marking:
 - Evidentiality
 - Remoteness distinctions
 - Perfect
- At least one of these categories can be found in (approximately) three languages of four.



Definitions of evidentiality

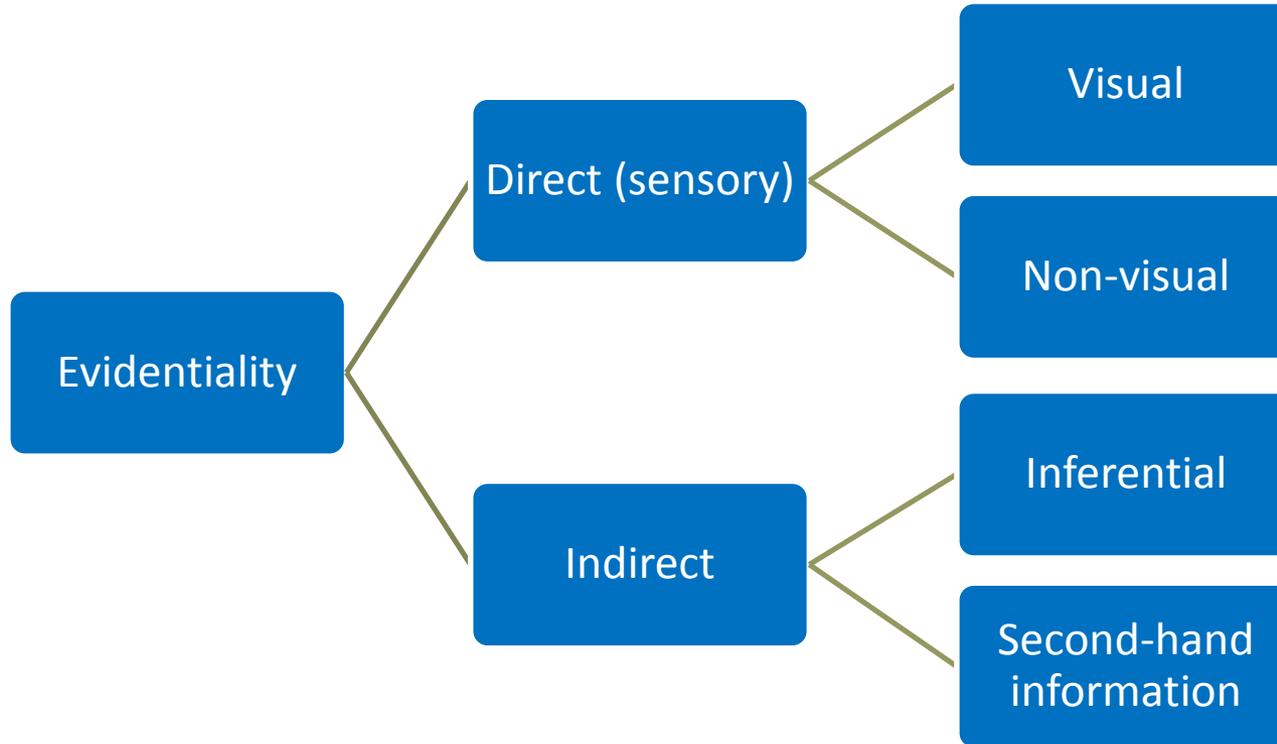
- “Markers of evidentiality express the evidence a speaker has for his/her statement.”
- “evidentiality...marks the source of information the speaker has for his or her statement”

(Ferdinand de Haan in WALS)

- Controversial point: Does evidentiality also include degree of certainty?



Evidentiality systems



Evidentiality in Turkish

Ahmet gel-di.

Ahmet come-PST.DIR

'Ahmet came/has come.'

(witnessed by the speaker)

Ahmet gel-miş

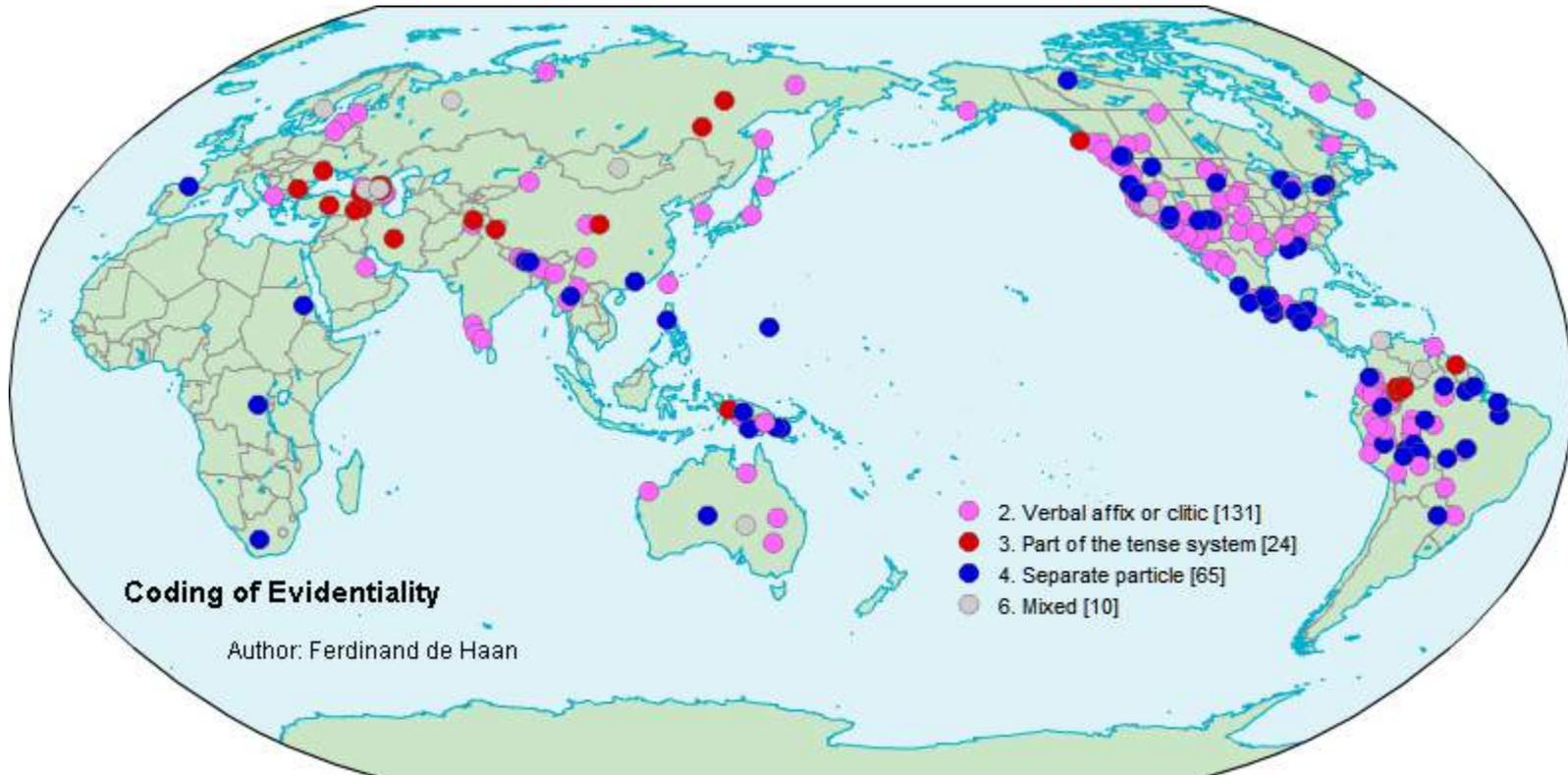
Ahmet come-PST.INDIR

'Ahmet came/has come.'

(unwitnessed by the speaker)



Evidentiality in the languages of the world

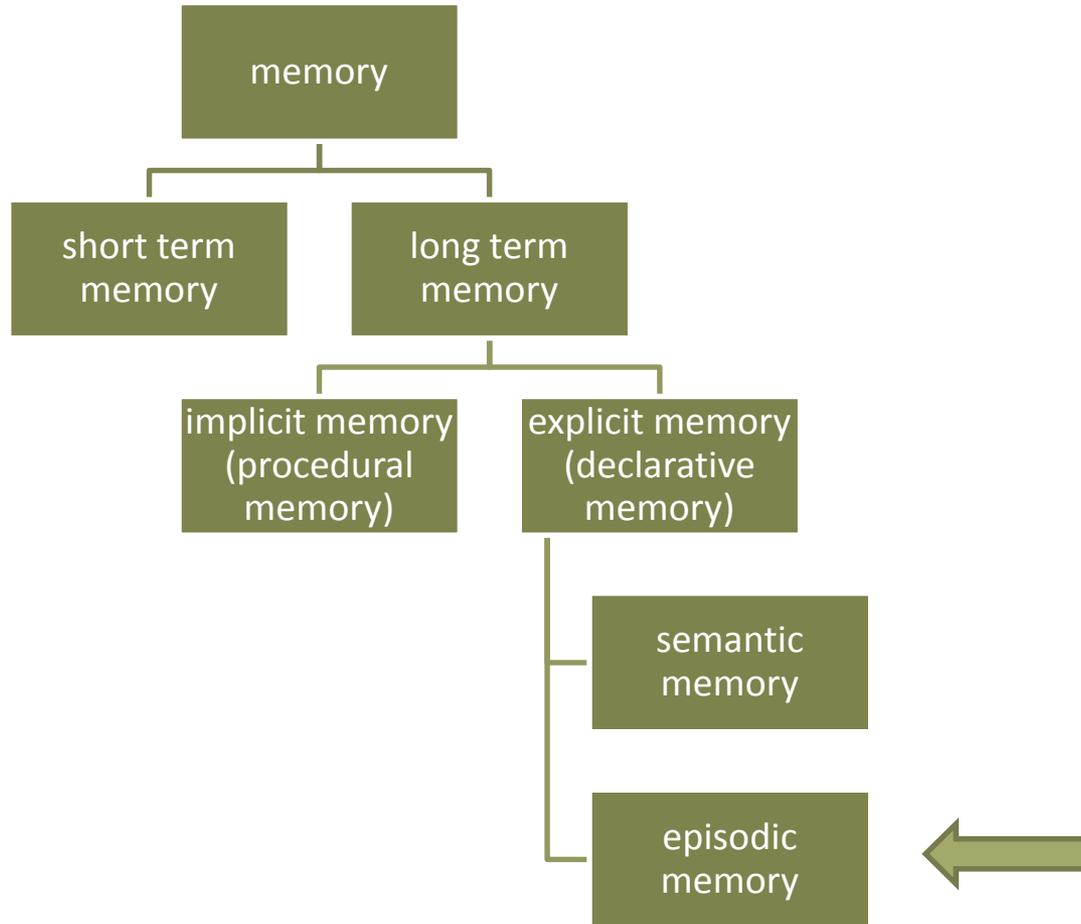


Evidentiality and time: past time bias

- “Many languages make a distinction of witnessed (direct) versus unwitnessed (indirect) actions in the past tense... Because evidentials are used to describe the speaker’s involvement with events, they tend to occur in realis contexts, especially in past tense situations.”
- The past time bias means that grammaticalized evidentiality tends to concern whether the event is one that speakers remember as having witnessed themselves



Human memory

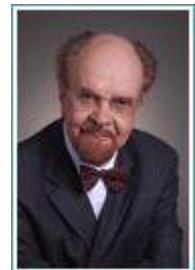


Two declarative memory systems

- episodic memory – memory for personally experienced events

episodic memory--the kind of memory that allows us to "mentally travel" in time, and thus recollect our own past experiences, events we have observed and participated in.

- semantic memory – memory for all other kinds of knowledge, such as general factual knowledge



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Episodic memory – some characteristics according to Tulving

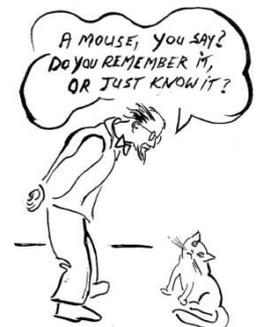
- "autonoetic" ("self-knowing") consciousness
- "chronesthesia" ("subjective sense of the past, present, and future time.")
- relatively recent evolutionary origin

<http://www.rotman-baycrest.on.ca/index.php?section=219>



Relatively recent evolutionary origin of episodic memory

- “A third (hypothetical) feature that makes episodic memory different from other kinds is that it is of relatively recent evolutionary origin, and that as such, at least in its full-fledged form, it exists in human beings only.
- Many animals--mammals such as mice, squirrels, dogs, elephants, and chimpanzees, as well as most if not all birds--have excellent "semantic" memory.
- However, there exists no evidence that they can mentally travel in time in the same way as humans do, to remember the past and to plan for the future.
- It is in this sense that remembering the past and envisioning the future can be thought of as uniquely human brain/mind capacities.”



Differences between episodic and semantic memory

Table 1. Summary of differences between episodic and semantic memory

Diagnostic feature	Episodic	Semantic
<i>Information</i>		
Source	Sensation	Comprehension
Units	Events; episodes	Facts; ideas; concepts
Organization	Temporal	Conceptual
Reference	Self	Universe
Veridicality	Personal belief	Social agreement
<i>Operations</i>		
Registration	Experiential	Symbolic
Temporal coding	Present; direct	Absent; indirect
Affect	More important	Less important
Inferential capability	Limited	Rich
Context dependency	More pronounced	Less pronounced
Vulnerability	Great	Small
Access	Deliberate	Automatic
Retrieval queries	Time? Place?	What?
Retrieval consequences	Change system	System unchanged
Retrieval mechanisms	Synergy	Unfolding
Recollective experience	Remembered past	Actualized knowledge
Retrieval report	Remember	Know
Developmental sequence	Late	Early
Childhood amnesia	Affected	Unaffected

Episodic memory and TAME systems

direct evidentiality

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perfective aspect vs.
imperfective (generic) aspect



Remoteness distinctions

- Remoteness distinctions = distinctions between forms and constructions that depend on the distance between two points in time...
- ...most commonly the point of event and the point of speech
- Distances may be
 - subjective: "close" – "distant"
 - objective: referring to an objective time measure, usually in terms of elapsed days or nights ("circadian tense")
- Objective and subjective distances may be mixed in the same system

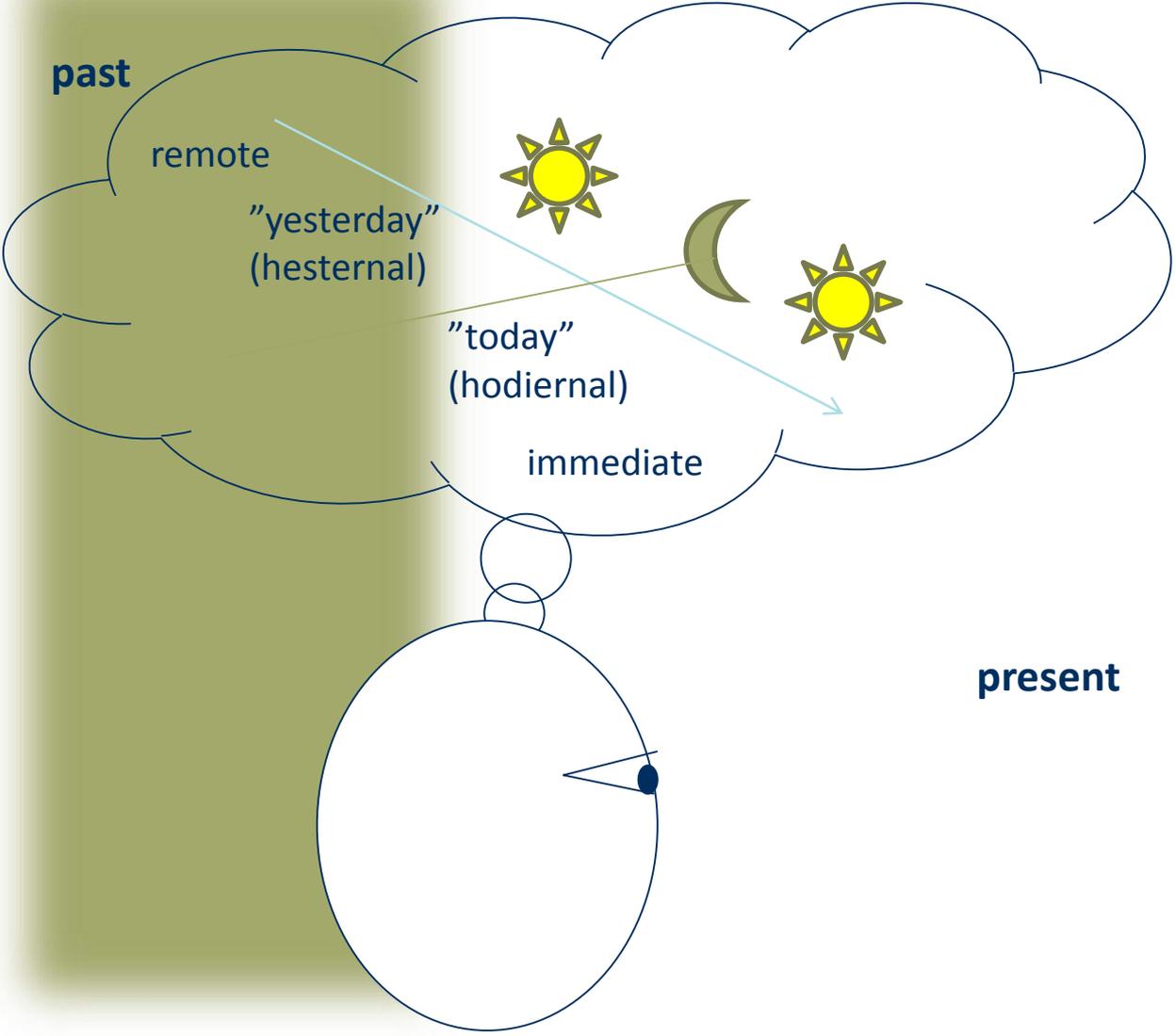


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 - **subjective:** "close" – "distant"
 - **objective:** referring to an objective time measure, usually in terms of elapsed days or nights ("circadian tense")
- Objective and subjective distances tend to be mixed in the same system



Remoteness distinctions in the past



Common systems

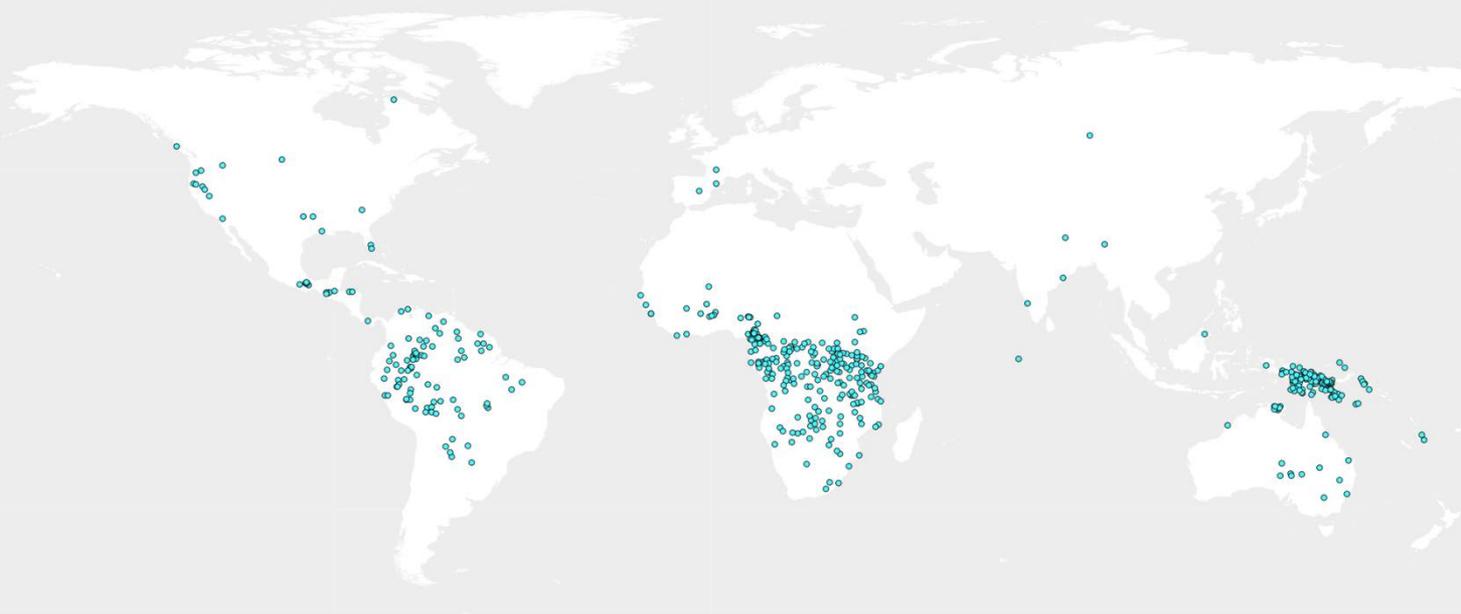
- recent:remote (no precise cut-off points)
- hodiernal:prehodiernal (HOD:PHD)
- hodiernal:hesternal:remote (HOD:HST:REM)
- immediate:hodiernal:prehodiernal (IMM:HOD:PHD)
- immediate:hodiernal:hesternal:remote (IMM:HOD:HST:REM)
- hodiernal-hesternal:prehesternal (HOD:HST:PHS)
- The least remote tense is sometimes non-distinct from the present

An example of an elaborated system: Diyari [dif] (Pama-Nyungan)

Distant Past	tends to cooccur with waru 'long ago'	participle + wanti- 'search' + -yi 'PRES'
Intermediate Past	'one to two months prior to the present'; 'a good while ago'	participle + wapa- 'go' + -ya
Recent Past	'one to two weeks prior to present'	participle + pada- 'lie' + -ya
Yesterday Past	'between this morning and yesterday morning'	future + widi- 'enter' + yi 'PRES'
Immediate Past	'between now and this morning'	participle + wara- 'throw' + -yi 'PRES'

Austin, Peter. 1981. A grammar of Diyari, South Australia. Cambridge studies in linguistics, 32. Cambridge: Cambridge U.P.

Remoteness distinctions in the languages of the world



Little information about possible origins

- While it is relatively easy to get data about the shape of the markers or markings used, and to a somewhat lesser extent about their function, it is only rather seldom that grammars give any information about their possible origins.
- This is explainable partly by the lack of historical data, partly by the almost exclusively synchronic perspective of most works in field linguistics, but it may also be simply because a large part of the systems are quite opaque, using highly fused and irregular ways of distinguishing degrees of remoteness

Remoteness in Diyari

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Remoteness distinctions in Yagua

Proximate 1	'a few hours previous to the time of utterance'	<i>-jásiy</i>	<i>rayáásiy</i> 1SG:go:PROX1 'I went (this morning)'
Proximate 2	'one day previous to the time of utterance'	<i>-jay</i>	<i>rjñnújeñíí</i> 1SG-see-PROX2-3SG 'I saw him (yesterday)'
Past 1	'roughly one week ago to one month ago'	<i>-siy</i>	<i>sadíichímyaa</i> 3SG-die-PAST2-PERF 'He has died (between a week and a month ago)'
Past 2	'roughly one to two months ago up to one or two years ago'	<i>-tíy</i>	<i>sadíítímyaa</i> 3SG-die-PAST2-PERF 'He has died (between 1 and 2 months and a year ago)'
Past 3	'distant or legendary past'	<i>-jada</i>	<i>raryúpeeda</i> 1SG-be:born-PAST3 'I was born (a number of years ago)'

Dagaare system (Bodomo 1997, [Schwenter \(1998\)](#))

hodiernal	'today (also once upon a time)'	da
hesternal	'one day away'; 'yesterday'	zaa
prehesternal (remote)	'two or more days away'; 'two to six (or more) days ago'	daar



Conservative areal pressure?

- A common phenomenon is structural homogeneity combined with diversity in the shape of grammatical markers
- This suggests that systems may be renewed by the introduction of new markers but without deviating from the structural template that is prevalent in the region
- Example: remoteness distinctions in the Grassfields languages (Niger-Congo; Cameroon and Nigeria)
- Grassfields languages tend to have highly elaborated remoteness systems marked uniformly by preverbal particles
- ...but the shape of these particles is extremely diverse

Diversity of remoteness markers in Grassfields languages

Ring				Mbarn-Nkam												Momo		
West	Center		North	Ngemba			Nun		Bamileke									
Aghem	Kom	Oku	Vengo	Mbili	Ngemba	Bafut	Bamun	Baba	Ghomálá'	Medumba	Fe'fe'	Ngomba	Ngombale	Ngiemboon	Nda'nda'	Yemba	Meta'	Mundani

mò, læ, kè, níi, bæ, lõ ngě, lîN-nîN, pi, mé N,
ê, fà, mfú, lá, yá, ně', áà, ghî

hst		ti	né	sí	gə	ka yé`	kí			ka/kě	lò	kā	H + L	kè	kà	à	kè		à	
mid				yàa	lúgú			kà pí							là		lè			
phd								kə / L											lè/li	
phs										ná?										
rem		læ	nè	nà	mí	yé`	lîN	kápì	kəŋá	m	lě	lê	ka	čērē	là +	lá?	ná'	p4 +	lá	nà?á
rmx					míj	ngé		kà pá				H	lê lá?	ka lá		à ná'				

Hodiernality

- Hodiernal past = referring to "earlier today"
- Hesternal past = referring (primarily) to "yesterday"
- Hodiernality = distinction between "today" and "before today"
- ...the most common way of making the distinction precise is at the beginning of the night
- Hodiernality is involved in
 - hodiernal past
 - hesternal past
 - present-hodiernal forms



The relation between remoteness distinctions and memory

- Subjective remoteness distinctions for experienced events have to rely on whether the event is felt to be close or remote
- Even if it is not clear how such a subjective evaluation of temporal distance is made, it is a reasonable hypothesis that it has to do with the representation of the event in memory



How are objective remoteness distinctions related to memory?

- The big question is now: do objective (“circadian”) remoteness distinctions also reflect how an event is represented in memory?
- Given that objective and subjective distance measures seem to flow into each other in actual usage, there ought to be a close relationship between them



Why hodiernality?

- Another question is: why is hodiernality – the today/before-today cut-off point – so pervasive?
- This takes us to the neurocognitive notion of **consolidation**



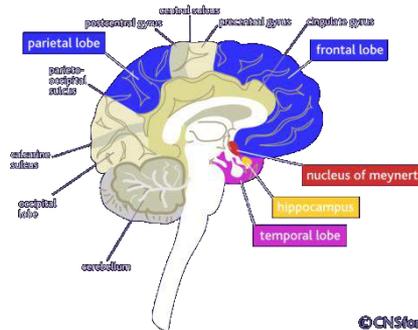
Consolidation of memory

- New information has to be **consolidated** in long time memory to be preserved for a longer time
- Evidence is accumulating that this consolidation large takes place during sleep

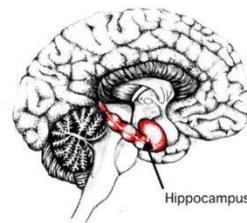


Consolidation: episodic memory

- For episodic memory consolidation involves a dialog between hippocampus – where memories are stored first – and neocortex
- It is not quite clear what the division of labour between these parts of the brain look like
- During “slow wave sleep” episodes from waking periods are replayed in hippocampus

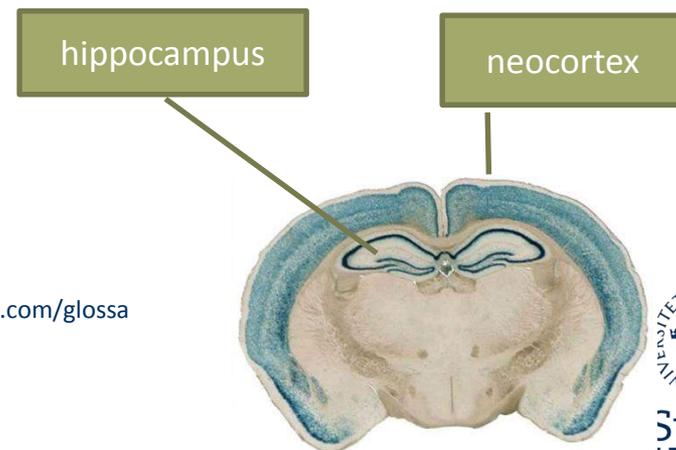


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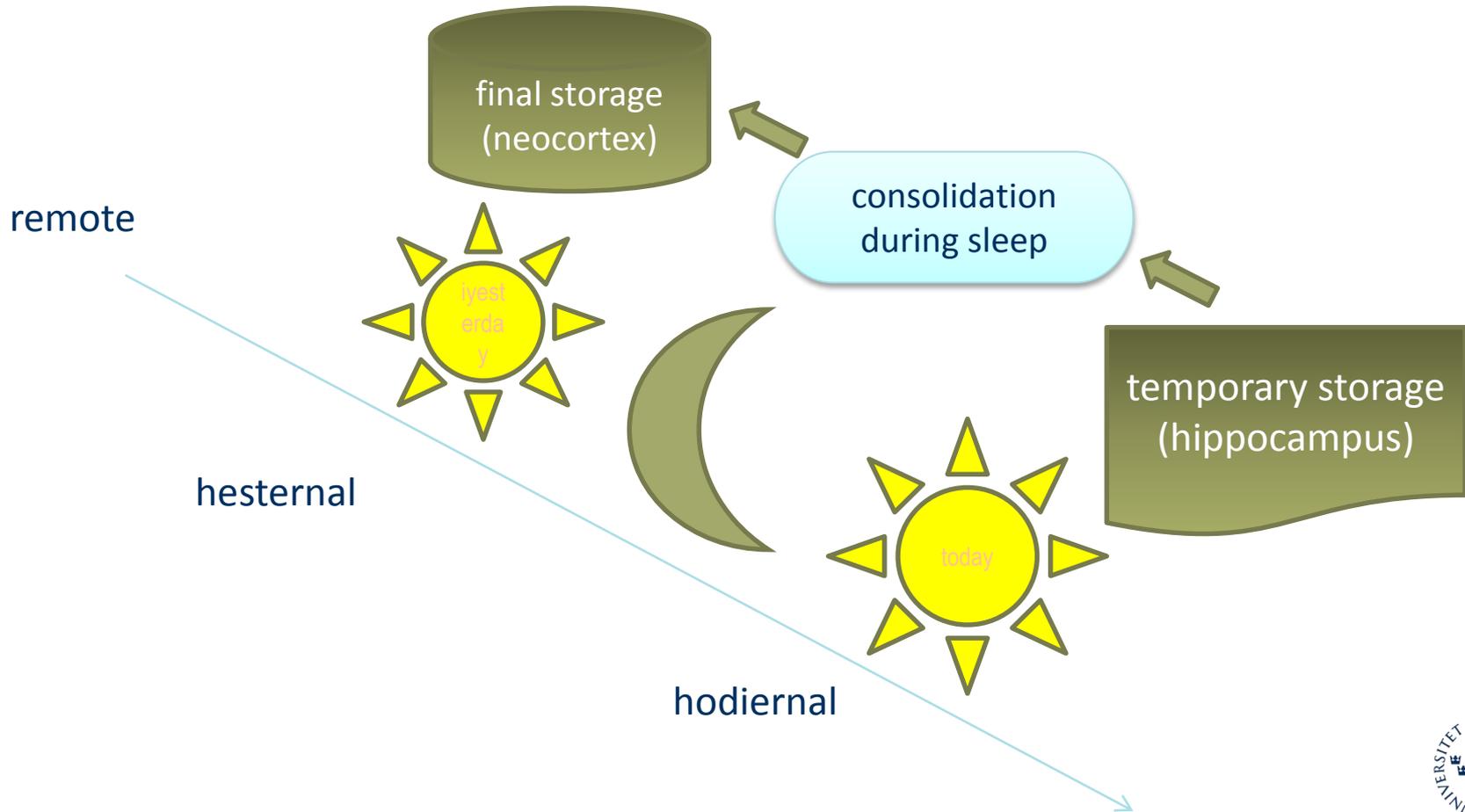


<http://www.memorylossonline.com/glossary/hippocampus.html>

A mouse brain



Remoteness distinctions



Relation between hodiernality och memory

- Hypothesis: hodiernal past concerns events that have not yet been consolidated in episodic memory
- Normally at least a whole night should have elapsed before a prehodiernal tense is possible



Remoteness distinctions and evidentiality – anything in common?

- That grammaticalized remoteness distinctions and grammaticalized evidentiality have partly complementary geographical distributions may be accidental
- However, it is noteworthy that hodiernal pasts and indirect evidentials share a major diachronic source - **perfects**



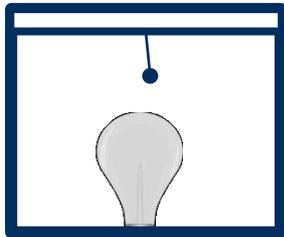
Is there a relationship between the perfect and episodic memory?

- In order to see how the semantics of the perfect is related to the notion of episodic memory, we have to look at the cognitive status of events

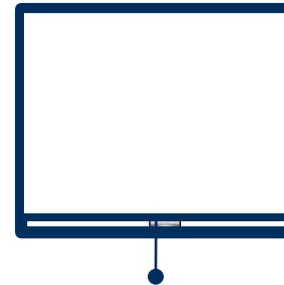


Experienced och (re)constructed events

experienced event

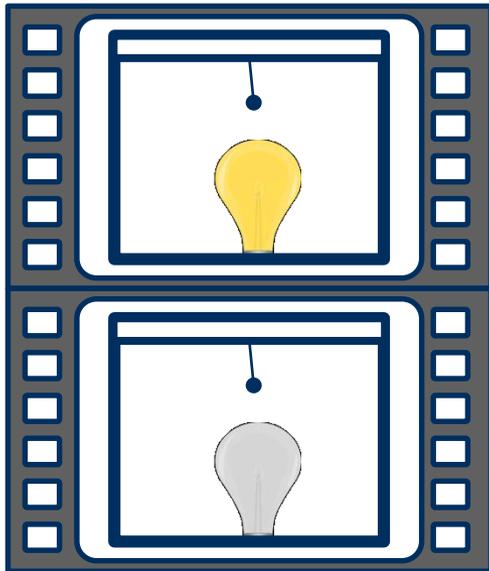


(re)constructed event

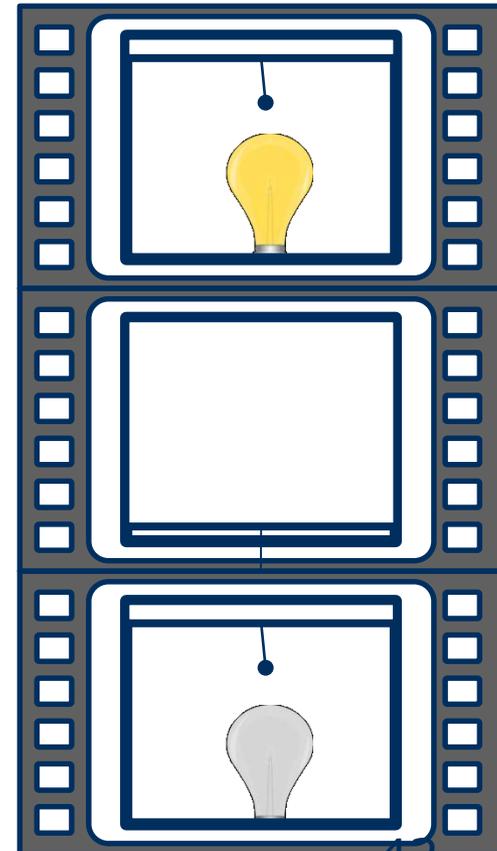


Experienced and (re)constructed events

experienced event

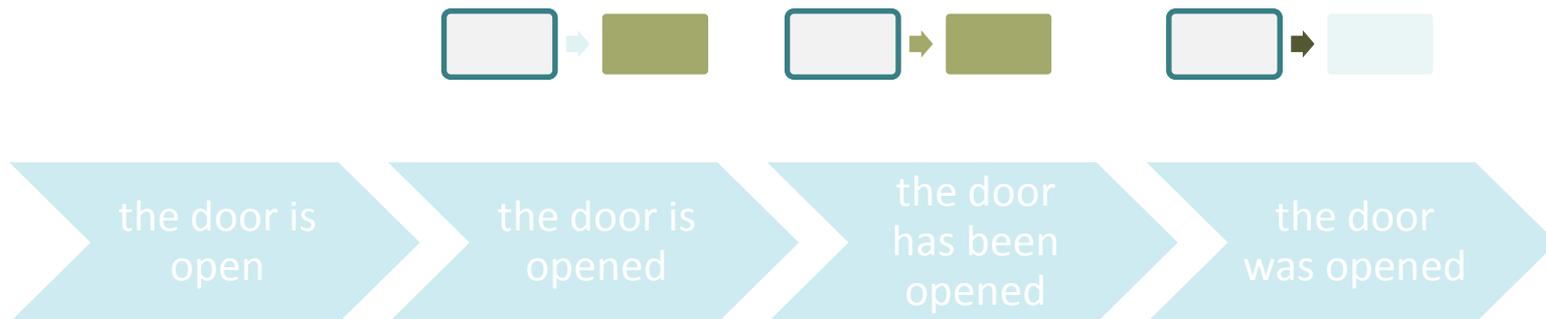


(re)constructed event



Reification of events

- When we experience an event directly, reification takes place at a subconscious level – in sensory memory
- The event is reified automatically
- When an event is (re)constructed, the reification may be more or less complete – focus can remain on the states (most often on the post-state)



Reification of events

- A fully reified event in the past is taken from episodic memory
- Events referred to using the perfect tend not to be wholly reified...
- ... and are not always retrieved from episodic memory, rather they are constructed by comparing the present state of the world with an earlier state



Do perfect, hodiernal past and indirect evidentiality have anything in common?

- Hypothesis:
 - Perfect, hodiernal past and indirect evidentiality have in common that they deviate from a prototypic remembered event, that is:

a specific event which is well established in the speaker's episodic memory



Open questions

- What about other distinctions than episodic-semantic?
- What is the structure of episodes in episodic memory (cf. narratives)?
- What is the status of second-hand information?
- How can we get better empirical evidence for the relationship between TAME and memory?

