

EVIDENCE FROM HINDI FOR PROXIMITY AS A CONSISTENT TEMPORAL RELATION

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BACKGROUND

Temporal Frame Adverbials: denote an interval of time during which an event or interval occurs (Bennett and Partee 1978)

Frame adverbials in a language such as English have one of three consistent relational values (Smith 1980):

anteriority e.g. 'yesterday', 'last year'
simultaneity e.g. 'today', 'this year'
posteriority e.g. 'tomorrow', 'next year'

CLAIM

Hindi/Urdu has a word meaning both 'yesterday' and 'tomorrow' -- *kal*

Q: How do we account for the meaning of *kal*?
- a fourth temporal relation: **proximity**

Proximity: specifies the distance of the interval from the anchoring time
- distance measured on 'now - not-now' scale
- does *not* specify which direction from 'now' an interval is located
- akin to spatial relations 'next (to)', 'adjacent (to)'

DATA

Kal in a simple clause in the future tense, as in (1), means 'tomorrow'.

(1) *Uumaa kal jaa-yegii*
Uma kal go-FUT.3.F.SG
"Uma will leave *yesterday/tomorrow."

Kal in a simple clause in the perfective (past), as in (2), means 'yesterday'.

(2) *Uumaa kal ga-yii*
Uma kal go-PERF.F.SG
"Uma left yesterday/*tomorrow."

In an embedded 'going-to' clause as in (3), *kal* can mean either depending on the discourse context (a or b):

(3) *maiN us se kal milne-waalaa thaa*
I him COM kal meet-intention be.PST
"I was going to meet him *kal*..."

- a. (... but it rained (past) *kal* so I couldn't go to meet him.)
(*kal* ≈ 'yesterday')
- b. (... but Mom just said I will (future) have to be at home *kal*, so he and I will make plans for later.)
(*kal* ≈ 'tomorrow')

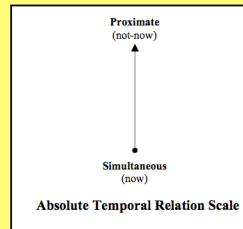
Abbreviations: COM - 'comitative', F - 'feminine', PST - 'past', PERF - 'perfective', SG - 'singular', FUT - 'future', 3 - 'third person'

ANALYSIS

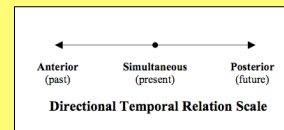
Q: How do we know *kal* encodes proximity?

Could *kal* in (3) be ambiguous between anterior and posterior homophones? - NO
- Hindi/Urdu also has *kaanewaalaa* 'the coming *kal*' and *guzaare kal* 'passed *kal*'
- these modifiers provide additional (directional) information not given by *kal*

Could *kal* have an empty slot for temporal directionality to be filled in by Tense/Aspect/Mood? - maybe
- it would follow from this assumption that *kal* is essentially like English 'yesterday' or 'tomorrow' plus a feature requiring checking
- in (3), *milne-waalaa* 'going-to' cannot provide both anteriority and posteriority



The simplest explanation: *kal* encodes **proximity**



COMPOSITION

Q: How do **proximity** and *kal* fit into formal compositional semantics?

'yesterday' has the denotation in (4), 'tomorrow' in (5), following Abusch (1998):
- *Q* is a property of times, *u* refers to utterance time
- 'day(-1,u)' names the day preceding the day in which the utterance time falls.

(4) 'yesterday': $\lambda Q\lambda t[Q(t \cap \text{day}(-1, u))]$ (5) 'tomorrow': $\lambda Q\lambda t[Q(t \cap \text{day}(1, u))]$

To account for *proximity*:

- two separate ordering functions, directional (DIR) and absolute (ABS)
 - each corresponding to one of the two temporal relation systems seen above
- day_{DIR} (anterior - simultaneous - posterior ordering)
day_{ABS} (simultaneous - proximate ordering)

Updated denotation of 'yesterday' must make reference to day_{DIR}, in (4'):

(4') 'yesterday': $\lambda Q\lambda t[Q(t \cap \text{day}_{DIR}(-1, u))]$

Denotation of *kal* according to this framework in (6):

(6) *kal*: $\lambda Q\lambda t[Q(t \cap \text{day}_{ABS}(1, u))]$

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Kal in action -- LF tree for (2) *Uumaa kal gayii* 'Uma left yesterday'
- denotation for PAST: $\lambda Q[Q((-\infty, n))]$

S: $\exists e[e \subseteq (-\infty, n) \cap \text{day}_{ABS}(1, u) \wedge \text{leave}(uma, e)]$
PAST S: $\lambda t \exists e[e \subseteq t \cap \text{day}_{ABS}(1, u) \wedge \text{leave}(uma, e)]$
kal S: $\lambda t \exists e[e \subseteq t \wedge \text{leave}(uma, e)]$
(2) Uma leave

CONCLUSION

Natural language encodes (at least) **two different temporal relation systems**:
- **directional** (anterior - simultaneous - posterior)
- **absolute** (simultaneous - proximate)

Hindi/Urdu uses both these systems:

- deictic day names use **absolute**
- also *parson* 'day before yesterday / after tomorrow' + 2 more
- terms like *picchla din* 'last day' or *aglaa din* 'next day' use **directional**

Other languages use the absolute temporal system (Tent, 1998):

- all deictic day names:
- Komba (Papua New Guinea), Capanahua (Peruvian Amazon)
- some deictic day names:
- Bolivian Quechua and Anejom (Austronesian)
- directional terms that developed from absolute terms:
- Kalam (Papua New Guinea), Veracruz Huasteco (Mayan)

Questions:

- Does any language use an absolute scale to the exclusion of the directional scale (in temporal adverbials)?
- What is the scope of the absolute temporal system?
- deictic year terms? eg. "last year / next year"
- Is there a typological link between proximity and other (relational, temporal, spatial, etc.) linguistic features?

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