

## Linguistic and co-speech gestural patterns of spatiotemporal metaphors in Indonesian

<sup>1</sup> Gede Primahadi Wijaya Rajeg, <sup>2</sup> Poppy Siahaan, <sup>3</sup> Alice Gaby

<sup>1</sup> Universitas Udayana, Indonesia, <sup>2</sup> University of Cologne, Germany, <sup>3</sup> Monash University, Australia

<sup>1</sup> [primahadi\\_wijaya@unud.ac.id](mailto:primahadi_wijaya@unud.ac.id), <sup>2</sup> [poppy.siahaan@uni-koeln.de](mailto:poppy.siahaan@uni-koeln.de), <sup>3</sup> [Alice.Gaby@monash.edu](mailto:Alice.Gaby@monash.edu)

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While research on spatiotemporal metaphors for other languages abounds (for overview, see Núñez & Cooperrider, 2013; Sweetser & Gaby, 2017), only two studies have investigated this topic for Indonesian (Casasanto et al., 2004 for experiments on duration metaphors; Prayogi, 2013 for a preliminary study). In this talk, we present the inventory of Indonesian spatiotemporal metaphors both in language (using ngram data from Indonesian Leipzig Corpus, c15 million-word tokens), and in co-speech gestures (using data from an Indonesian talk show titled *Just Alvin*, in an episode featuring four top Indonesian singers).

Evidence for spatiotemporal metaphors in Indonesian comes from the expressions for 'future' (*masa depan* 'lit. time/period front'; *masa mendatang* 'lit. time coming'; *masa yang akan datang* 'lit. time that will come') and 'past' (*masa lalu* 'lit. time passed'; *masa lampau* 'lit. time passed by'). While *masa belakang* 'lit. time behind' for 'past' is not attested in Indonesian, other expression with *belakang* 'behind' can still be associated with the 'past' as in *Kita harus optimis, jangan menoleh ke belakang* 'We must be optimistic, don't *look towards the back* (i.e. to the past)'. These linguistic expressions may suggest that Indonesian follows the widespread, future-front and past-behind model, pending further experimental study (as in Boroditsky, 2000 *inter alia*). As well as the time-moving metaphors, Indonesian also exhibits ego-moving metaphors, as in *kita sudah melewati zaman Orde Baru* 'we already *passed* the *era* of the New Order'. Further, our data includes examples evoking the simultaneous motion of time and ego, especially with respect to a landmark representing a scheduled or set-up time:

1. **Ber-kejar-an**                      *dengan*                      waktu                      (6 tokens in 3-gram data of *waktu* 'time')  
MID-chase-RECP                      with                      time  
'To race with *time*'
2. **Meng-(k)ejar**                      waktu                      (15 tokens in 2-gram data of *waktu* 'time')  
AV-chase                      time  
'To chase (the) *time*'
3. **Di-kejar**                      waktu                      (7 tokens in 2-gram data of *waktu* 'time')  
PASS-chase                      time  
'To be *chased by time*'

Data from co-speech gesture suggests a tendency for lateral organisation when participants describe a temporal succession of events, which earlier events placed to the left of the later events in the gestural space. Participants also tend to gesture from the left to the space in front of them when describing progression of events from the past to the present. This lateral pattern reflects an alteration in perspective (compared to the ego-based metaphor) where the ego acts as an external viewer to the progression of events, also called as the external deictic/D-time (Núñez & Cooperrider, 2013, p. 221).

### References

- Boroditsky, L. (2000). Metaphoric structuring: understanding time through spatial metaphors. *Cognition*, 75(1), 1–28.
- Casasanto, D., Boroditsky, L., Phillips, W., Greene, J., Goswami, S., Bocanegra-Thiel, S., ... Gil, D. (2004). How deep are effects of language on thought? Time estimation in speakers of English, Indonesian, Greek, and Spanish. *Proceedings of the Annual Meeting of the Cognitive Science Society*, 26(26). Retrieved from <https://escholarship.org/uc/item/9m92g1s5>
- Núñez, R., & Cooperrider, K. (2013). The tangle of space and time in human cognition. *Trends in Cognitive Sciences*, 17(5), 220–229. <https://doi.org/10.1016/j.tics.2013.03.008>
- Prayogi, I. (2013). Bentuk-bentuk metafora temporal Bahasa Indonesia (Tinjauan Awal) (Forms of temporal metaphors in Indonesian (A preliminary study)). In *Prosiding seminar internasional studi bahasa dari berbagai perspektif* (pp. 776–784). Yogyakarta - Indonesia: Program Studi S2 Linguistik & S1 Sastra Indonesia UGM. Retrieved from <http://kenallinguistik.com/metafora-temporal/>
- Sweetser, E., & Gaby, A. (2017). Linguistic patterns of space and time vocabulary. In B. Dancygier (Ed.), *The Cambridge handbook of Cognitive Linguistics* (pp. 625–634). New York, NY: Cambridge University Press. <https://doi.org/10.1017/9781316339732.039>