

Event-Based Time: What can anthropological linguistic research tell us about the cultural evolution of concepts of time?

The study of ancient cosmologies often addresses the question of what archaeological investigations tell us about the evolution of concepts of time. Ancient artefacts, from Inca quipu to Stonehenge and the pyramids of Egypt, prompt fascinating speculation about the cultural evolution of calendric systems, and their use in measuring time and predicting astronomical events. However, we have compelling evidence that numerically based metric time (“calendar time” and “clock time”) is not universal in extant human cultures. We report on our research on four Amazonian languages and cultures in which temporal landmarks and intervals are exclusively event-based. The languages are Amondawa (Tupian) (Sinha et al. 2016), Huni Kuĩ (Panoan), Kamaiura and Awetý (Tupian) (Silva Sinha 2019a, 2019b).

We employed in this research a multi-methodological qualitative approach, using ethnographic observation, structured elicitation tasks and interview. Our data comprise lexical and phrasal expressions for time intervals in three domains for each of the four languages: seasons, times of day and night, and human life stages. We present evidence of the employment of event-based time concepts, and of cognitive artefacts for event-based time reckoning, in everyday life.

Event-based time concepts, we hypothesize, are universal in human cultures, and almost certainly antedate the emergence of non-universal metric time systems. The invention of metric time brings with it changes in language and cognition, most importantly, the construction of a mental timeline and the spatialization of time in conceptual metaphors (Sinha 2015; Sinha and Bernárdez 2015). In the languages and cultures we studied, metaphors for time are not derived by mapping from the spatial domain, but by mapping from the domain of embodied perception and cognition. We conclude by suggesting that events, and event structure, are the fundamental building blocks of human conceptualization (Sinha and Gärdenfors, 2014). We highlight the ontological primacy accorded to objects in Western philosophies, and suggest that research into cultural variations in temporal concepts needs to take into account possible differences in cultural ontologies (fundamental world views).

Keywords: EVENT-BASED TIME, METRIC TIME, AMAZONIAN LANGUAGES, CULTURAL EVOLUTION, WORLD VIEWS

References

- Sinha Sinha, V. da (2019a) Event-based time in three indigenous Amazonian and Xinguan cultures of Brazil. *Frontiers in Psychology* (Section Cultural Psychology)10, 454 1-21. doi: 10.3389/fpsyg.2019.00454
- Sinha Sinha, V. da (2019b) Time and Happening. What is event-based time? TEDx talk, TEDxVienna <https://www.youtube.com/watch?v=EWCGeHxBh0> <https://www.tedxvienna.at/abouttime/>
- Sinha, C. (2014) Is space-time mapping universal? Time for a cultural turn. In Filipović, L. and Pütz, M. (Eds.) *Multilingual Cognition and Language Use: Processing and Typological Perspectives*. Human Cognitive Processing Series 36. Amsterdam: John Benjamins, pp. 183-201.
- Sinha, C., Silva Sinha, V. da, Zinken, J. and Sampaio, W. (2016). When time is not space: The social and linguistic construction of time intervals and temporal event relations in an Amazonian culture. In Lewandowska-Tomaszczyk, B. (Ed.) *Conceptualizations of Time*. Human Cognitive Processing Series 52. Amsterdam, John Benjamins, pp. 151-186.
- Sinha, C. and Bernárdez, E. (2015) Metaphors, maps and fusions: Space, time and space-time. In Sharifian, F. (Ed.) *The Routledge Handbook of Language and Culture*. New York: Routledge, pp. 309-324.
- Sinha, C. and Gärdenfors, P. (2014) Time, space and events in language and cognition: a comparative view. *Annals of the New York Academy of Sciences* 1326: 72-81. doi: 10.1111/nyas.12491