

# Monday is before Tuesday in speech, but left of Tuesday in gesture.

**Daniel Casasanto**

Max Planck Institute for Psycholinguistics, Donders Institute for Brain, Cognition and Behaviour

**Kyle Jasmin**

Max Planck Institute for Psycholinguistics

**Abstract:** Do English speakers gesture about time the same way they talk about it? In spoken English, time appears to flow along the sagittal (front/back) axis: we look forward to the future and back on the past. Yet, when English speakers produce spontaneous gestures they often use the lateral axis, gesturing leftward for earlier times and rightward for later times, consistent with the flow of time on calendars and graphs.

Here we show that speakers spatialize time on the lateral axis overwhelmingly more often than on the sagittal axis in spontaneous co-speech gestures. This is true despite the prevalence of spoken front/back metaphors and complete absence of left/right metaphors for time in spoken language. Interestingly, front-back gestures, though rare, were more common during deictic language, consistent with predictions based on signed languages. We propose possible pragmatic, kinematic, and mnemonic motivations for this dissociation between spatio-temporal metaphors in speech and gesture.