

## Future Conceptualizations in English Speech and Co-Speech Hand Gesture: Direction and Orientation

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Studies have reported that for English, a time-line is conceptualised gesturally along the sagittal and lateral axes, with hand gestures forward and to the right marking future, and backwards and leftwards gestures marking the past (see overviews in Núñez and Cooperrider 2013; Cooperrider et al. 2014). I challenge this traditional scholarship by arguing that these oppositions are not absolute and any outward-directed gesture can potentially conceptualise future on a time-line.

As first step I researched depictions of the future, engaging empirically in data-driven analysis of 47 snippets, each 20 seconds long, from RT's English-language show *SophieCo Visionaries* (2020). Those were selected based on corpus searches for 'will' + hands visible' and subsequent manual annotation in the Rapid Annotator –software designed by Uhrig<sup>1</sup> - and in ELAN<sup>2</sup>. Two coders annotated all data for speech and gestural units marking future. Seven categories of speech units which mark future contextually were identified in the video data analysed:

- 1) The verb 'will', including 'will' with or without negation, e.g. 'will', 'will never', in a full form, or reduced, e.g. "I" or 'won't';
- 2) Conditional or 'when' clauses and counterfactuals, including clauses introduced by conjunctions 'once', 'if', 'whether', 'would', and 'when'. E.g. 'Would you looking back at this pandemic see something that will transform the humanity?' or '[...] yeah we will probably beat it at the end of a summer but come autumn and the temperatures drop we are going to be bracing the second wave'
- 3) Modal verbs, e.g. in 'you're saying it should change and it won't be growing steadily anymore.'
- 4) Time expressions, including future expression, e.g. 'in the future', and expressions and adverbs making future in the context, e.g. sooner rather than later, eventually, anymore.
- 5) Verbs in the present tense with future references, e.g. 'we are going to be bracing the second wave'.
- 6) Lexical units with a future semantic component, e.g. change, leap, threat, futurist, predict.
- 7) Lexical units which acquire a future reference in the context, e.g. 'architect' acquires a future semantic component in the context through being labelled as 'futurist' as discourse unfolds.

Speech units co-occurred with hand gestures, 139 of which were analysed. Gestures forward, to the right, to the left, downwards, and hands spread were viewed as potentially marking future (cf. Valenzuela et al. 2020). In order to verify whether those gestures mark future I performed comparative analysis of future and past depictions. To make analysis manageable, I focused on 'will' + infinitive for future speech markers and verbs in the present perfect and past tenses. I compared future (47 snippets) and past depictions<sup>3</sup> (50 snippets) by analysing verbs with the same core semantics. My analysis revealed a gestural feature discriminating between future and past conceptualisations. This allowed for a new interpretation of time conceptualisation in hand co-speech gesture and shed some light on understanding hand gesture more broadly.

A dataset composed of video snippets for future and past depictions, which was annotated for respective speech units and gesture, will be made available with this paper once it is published.

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<sup>1</sup> Uhrig, Peter 2022. *Large-Scale Multimodal Corpus Linguistics – The Big Data Turn*. Habilitation Thesis, FAU Erlangen-Nürnberg.

<sup>2</sup> <https://archive.mpi.nl/tla/elan>

<sup>3</sup> Past depictions were selected through searches in the SophieCo corpus and NewsScape dataset. <http://newsscape.library.ucla.edu>

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## References

Cooperrider, Kensy, Núñez, Rafael and Eve Sweetser 2014. The conceptualization of time in gesture. Cornelia Müller, Alan Cienki, Ellen Fricke, Silva Ladewig, David McNeill, and Jana Bressem (eds.), *Body-language-communication*. Vol. 2, Ch. 134. pp. 1781-1788. Berlin/Boston: De Gruyter Mouton.

Núñez, Rafael & Kensy Cooperrider 2013. The tangle of space and time in human cognition. *Trends in cognitive sciences* 17.5, 220-229.

Valenzuela, Javier, Cristóbal Pagán Cánovas, Inés Olza & Daniel Alcaraz Carrión 2020. Gesturing in the wild: Evidence for a flexible mental timeline. *Review of Cognitive Linguistics*. Published under the auspices of the Spanish Cognitive Linguistics Association 18.2, 289-315.