# Tracking reading in Kalaallisut: The morpheme as the basic unit of analysis

**Johanne S. K. Nedergaard**[*1], **Solvej W. Jæger**[1], **Ivalo I. Mathiassen**[2]

[1]Department of Nordic Studies and Linguistics, University of Copenhagen
[2]Institute of Learning, Ilisimatusarfik

*contact: jskn@hum.ku.dk

Polysynthetic languages, such as Kalaallisut (West Greenlandic), are characterised by rich inflectional and derivational morphology where a complex word is often equivalent to a sentence in an analytic language like English. While it is important to include typologically diverse languages in large multilab collaborations such as MultiplEYE (Blasi *et al.*, 2022), transferring the measures and analysis methods used for e.g. eye-tracking while reading English is not straightforward.

The key difference when studying reading in Kalaallisut, compared to Indo-European languages, is that the word cannot be treated as the fundamental unit of analysis. Although little is known about how polysynthetic languages are read (but see Mathiassen, 2025; Jaeger *et al.*, 2026), a morpheme-based approach is likely more appropriate. To give a simple illustration of this, we here show a comparison between two word-based and morpheme-based measures of the MultiplEYE texts in Kalaallisut and in English (see Figure 1).

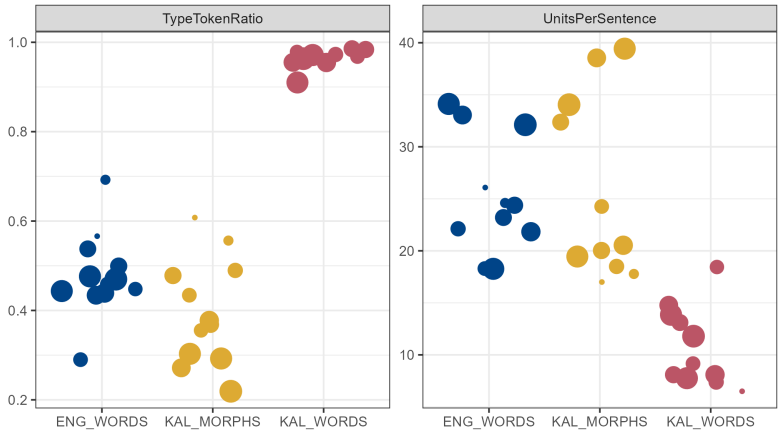


Figure 1: Comparison of type-token ratio (left) and units per sentence (right) for English words and for Kalaallisut morphemes and Kalaallisut words respectively. Each dot represents one of the MultiplEYE texts with the dot size scaled by text length.

As is clear from Figure 1, the morpheme-based measures are much more similar to the English word-based measures than the Kalaallisut word-based ones are. Morpheme-based analysis will enable us to answer several interesting, fundamental questions about how people read a polysynthetic language, such as: (how) do readers decompose multi-morphemic words? Could different decomposition strategies correlate with reading speed or reading comprehension?

## References

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