



Max Planck Institute
for Psycholinguistics

Taking a second or a third look at symbolic but not at literal haiku: An eye-tracking study

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Background

A long standing controversy in the psycholinguistic literature is whether the literal and figurative meaning of a sentence are simultaneously activate¹ or the literal meaning is activated first and a figurative interpretation is sought only when a the literal meaning is not available².

Past research has mainly focussed on the processing of metaphors³ and other figures of speech such as metonymy⁴. No published studies have used instances of figurative language as found in original poetry.

Our aim was to investigate whether authentic instances of figurative language are processed in the same way or differently from literal versions of the same texts.

Stimuli

Highly symbolic haiku were selected from a number of haiku collections. The chosen haiku juxtapose two seemingly unrelated images prompting the reader to draw inferences about their relationship. A pilot study established which word was the most symbolic in each text (the keyword hereafter). In the literal haiku, keywords were substituted with words matched for frequency and length.

SYMBOLIC HAIKU

turning from her **grave**
the tug of a rose thorn
on my padded sleeve

LITERAL HAIKU

turning from her **plot**
the tug of a rose thorn
on my padded sleeve

The effect of the keyword manipulation was measured on:

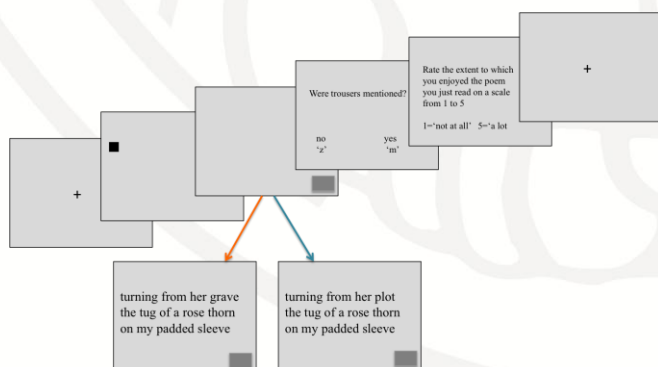
- overall reading times (trial dwell time);
- dwell time on the referent 'tug', i.e. the word that allowed for a symbolic reading of the text when connected to the keyword 'grave';
- dwell time on the last word 'sleeve', to measure wrap-up effects.

Prediction: Trial dwell time and dwell time on the referent and last-word regions would be longer for haiku with the symbolic keyword than with the literal keyword.

Methods

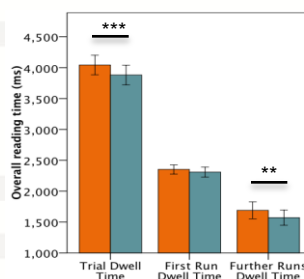
- 31 native English speakers (10 males, mean age 21).
- a block of **13 symbolic haiku** followed by a block of **13 literal haiku**.

Trial sequence:



Results

Trial reading times



Trial dwell time (TDT): sum of all the fixations on the text.

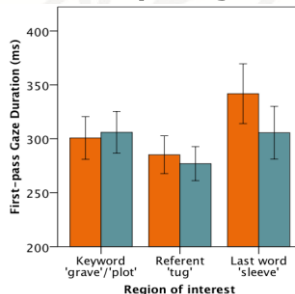
First run dwell time (FRDT): sum of all the fixations on the text during first reading pass.

Further runs dwell time: sum of all the fixations on the text during second or further re-readings of the text (TDT minus FRDT).

→ Trial dwell time was longer for original than literal haiku.

→ This difference arose late, during Further runs.

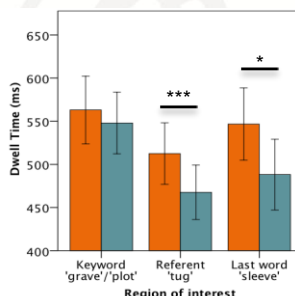
First-pass gaze duration



First-pass gaze duration: sum of all fixations to a word during first gaze.

→ No significant differences between original and literal haiku.

Dwell time



Dwell time: sum of all the fixations to a word throughout the trial.

→ No significant difference between the two keywords indicating that stimuli were well controlled.

→ Longer processing time for the referent and last in original than literal haiku

Conclusions

- The first pass reading patterns for the two versions of the texts were very similar. Differences arose when participants re-read the text.
- This suggests that the symbolic meaning of original haiku was discovered late.
- Eye tracking can be used to study the processing of original literary texts.

References

- ¹Gibbs, R. W. Jr. (1994). *The poetic of mind: figurative thought, language, and understanding*. Cambridge, UK: Cambridge University Press.
- ²Searle, J. (1979). Metaphor. In A. Ortony (Ed.), *Metaphor and Thought* (pp. 92-123). New York: Cambridge University Press.
- ³Glucksberg, S., Gildea, P., & Bookin, H. B. (1982). *Journal of Verbal Learning and Verbal Behaviour*, 21(1), 85-98.
- ⁴Frisson, S., & Pickering, M. J. (2001). *Metaphor and Symbol*, 16(3&4), 149-171.

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