

Visual trimorphemic compound recognition in a morphographic script



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Summary of the Findings

When Japanese trimorphemic words are visually recognized...

- There is left-branching advantage in a late time frame.
- The 1st and 3rd (but not 2nd) constituents are important.
- The morphological processes are not line with tree structures.

Background & Aims

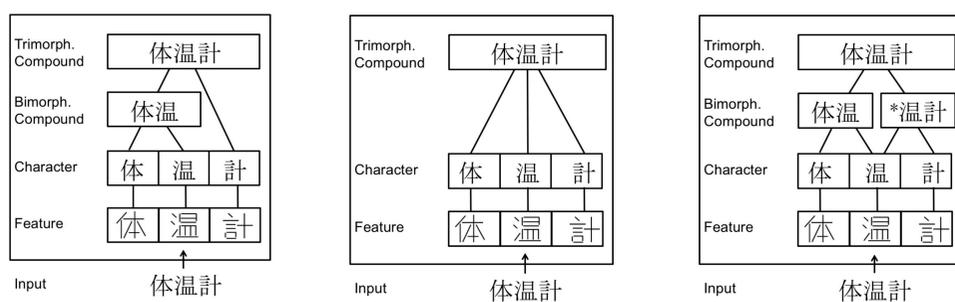
Background

- It is known that, in the recognition of compounds (e.g., *blackboard*), all constituent morphemes are activated, indicating that compounds are decomposed into constituents.
- Trimorphemic compounds (e.g. *science fiction writer*) provide us with an opportunity to study how constituents are composed, because there are multiple possibilities for composition.
- Japanese trimorphemic compounds are largely left-branching.

Questions

- Is morphological processing of trimorphemic compounds tuned for a specific branching structure?
- Are the three constituents equally important and processed serially from left to right?

Possible processing architectures tested



Experiment

Participants

- 21 native speakers of Japanese

Materials

- 100 left-branching compounds
- 100 right-branching compounds
- 200 non-existing compounds

Procedure

- Lexical decision with eye-tracking

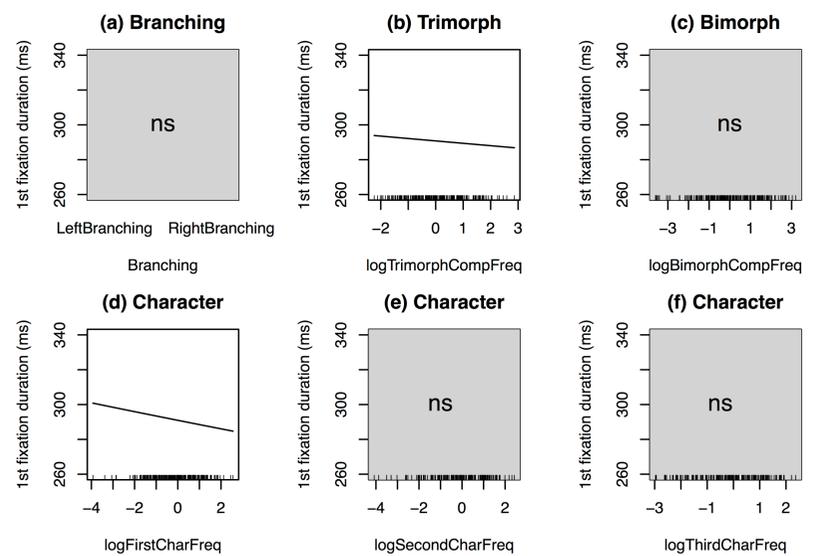
Lexical Predictors Considered

- Branching (levels: *Left Branching*, *Right Branching*)
- log Trimorphemic Compound Frequency
- log Bimorphemic Compound Frequency
- log First / Second / Third Character Frequency

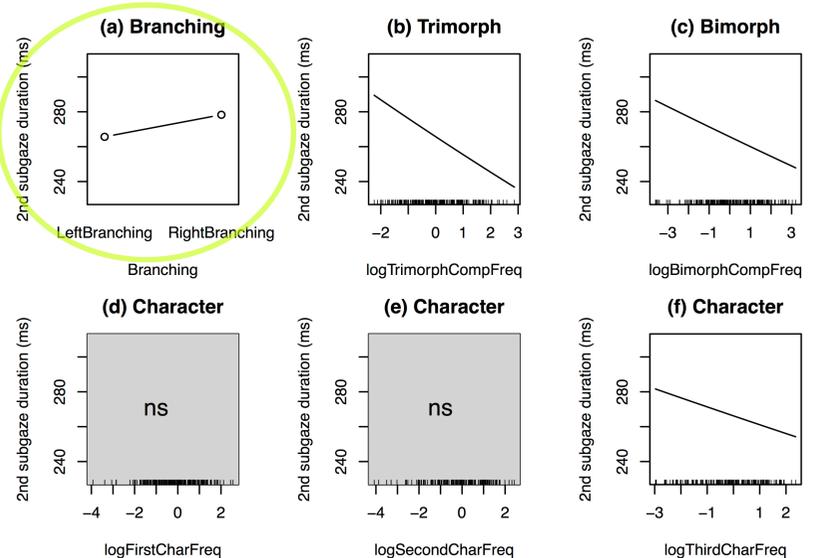


Results (LMER Analyses)

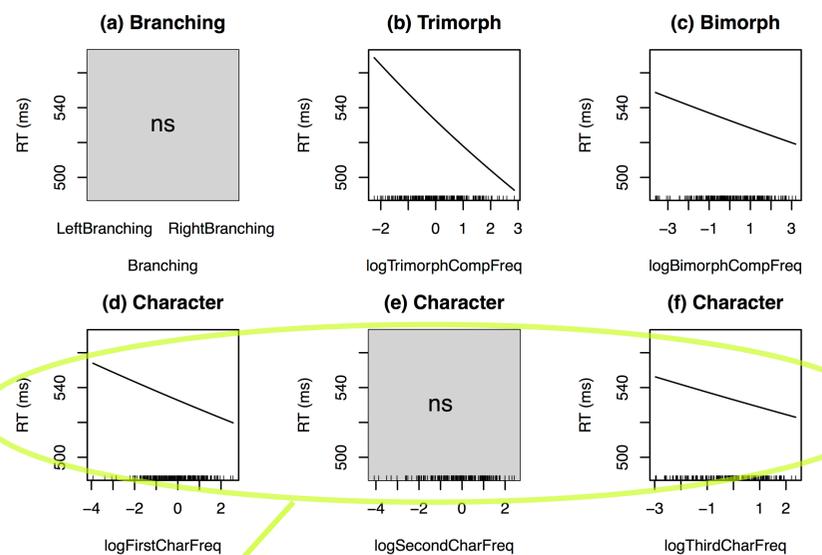
1st fixation duration



2nd subgaze duration



Response time



- The Bathtub-like effect is consistent with lexical statistics: The 2nd constituent is most predictable.

