



Max Planck Institute
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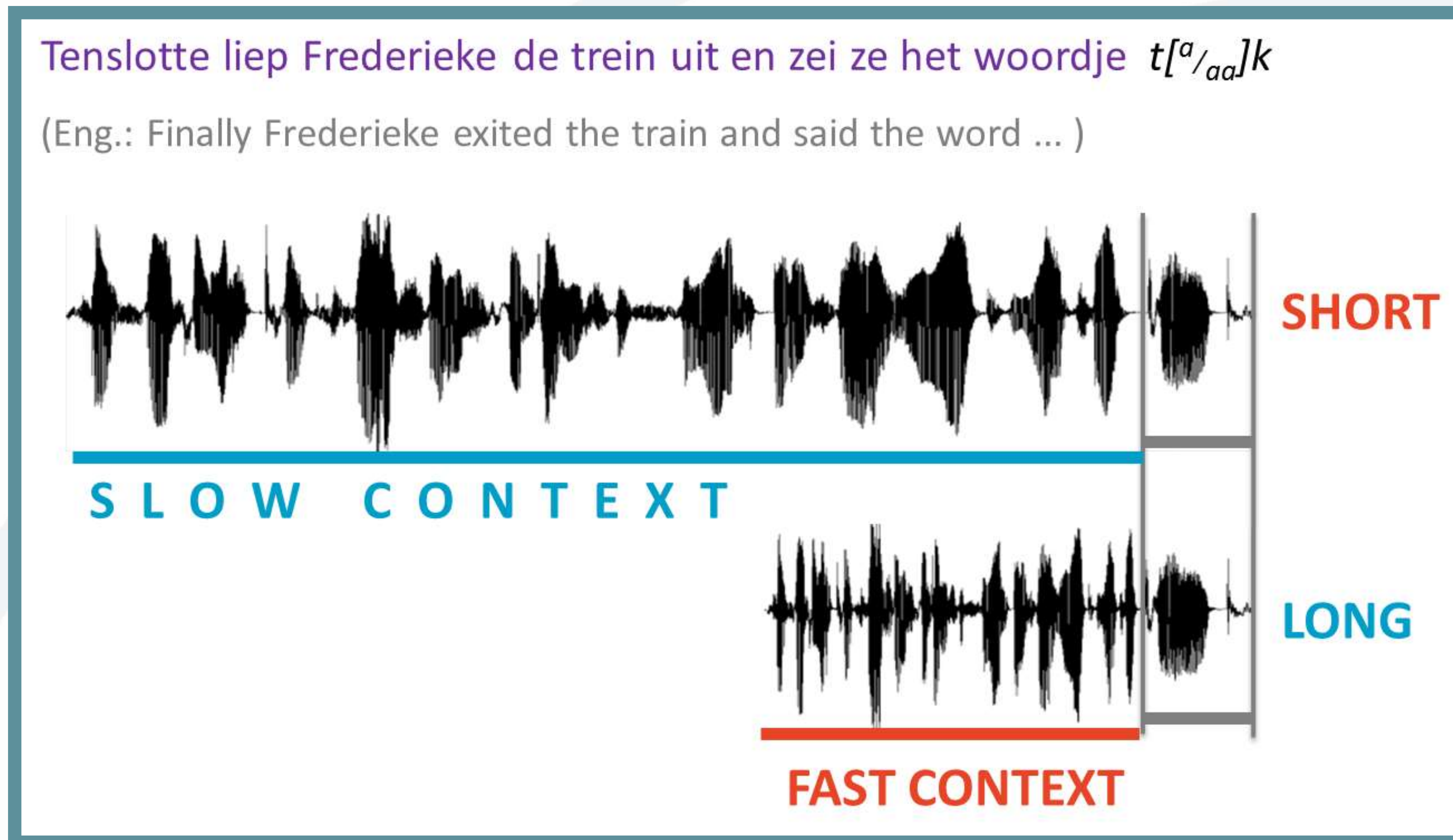
OUR OWN SPEECH RATE INFLUENCES SPEECH PERCEPTION

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Context effects

- Speech rate in the surrounding context can influence the perception of following words → *rate normalization*

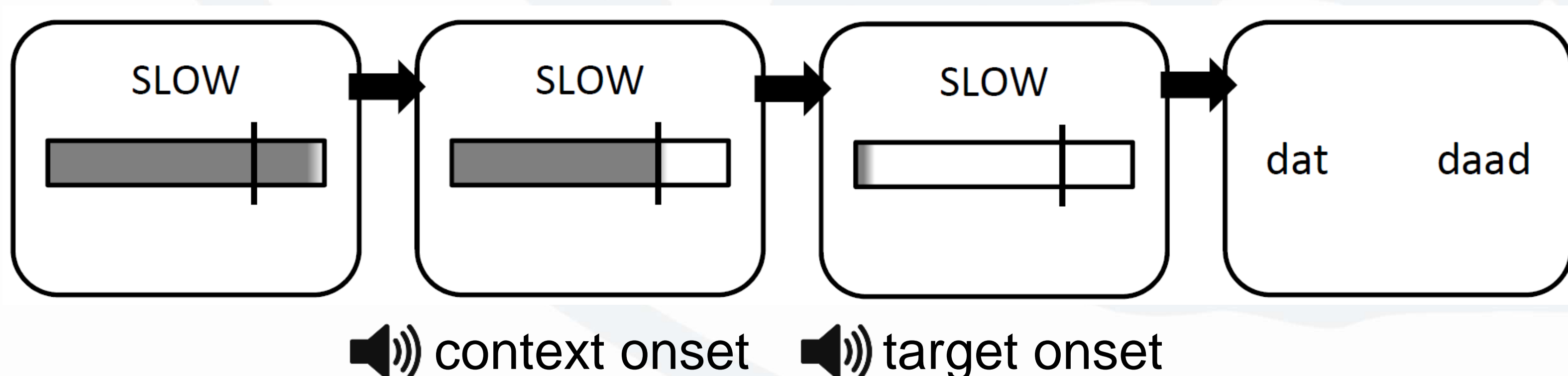


- Rate normalization appears to generalize across different speech (and non-speech) streams.
- Speech rate of one talker may influence perception of another.
Newman & Sawusch, 2009
- In natural conversation, our own speech and that of others follow each other in rapid succession.
- **RQ: Does our own speech rate influence how we perceive others?**

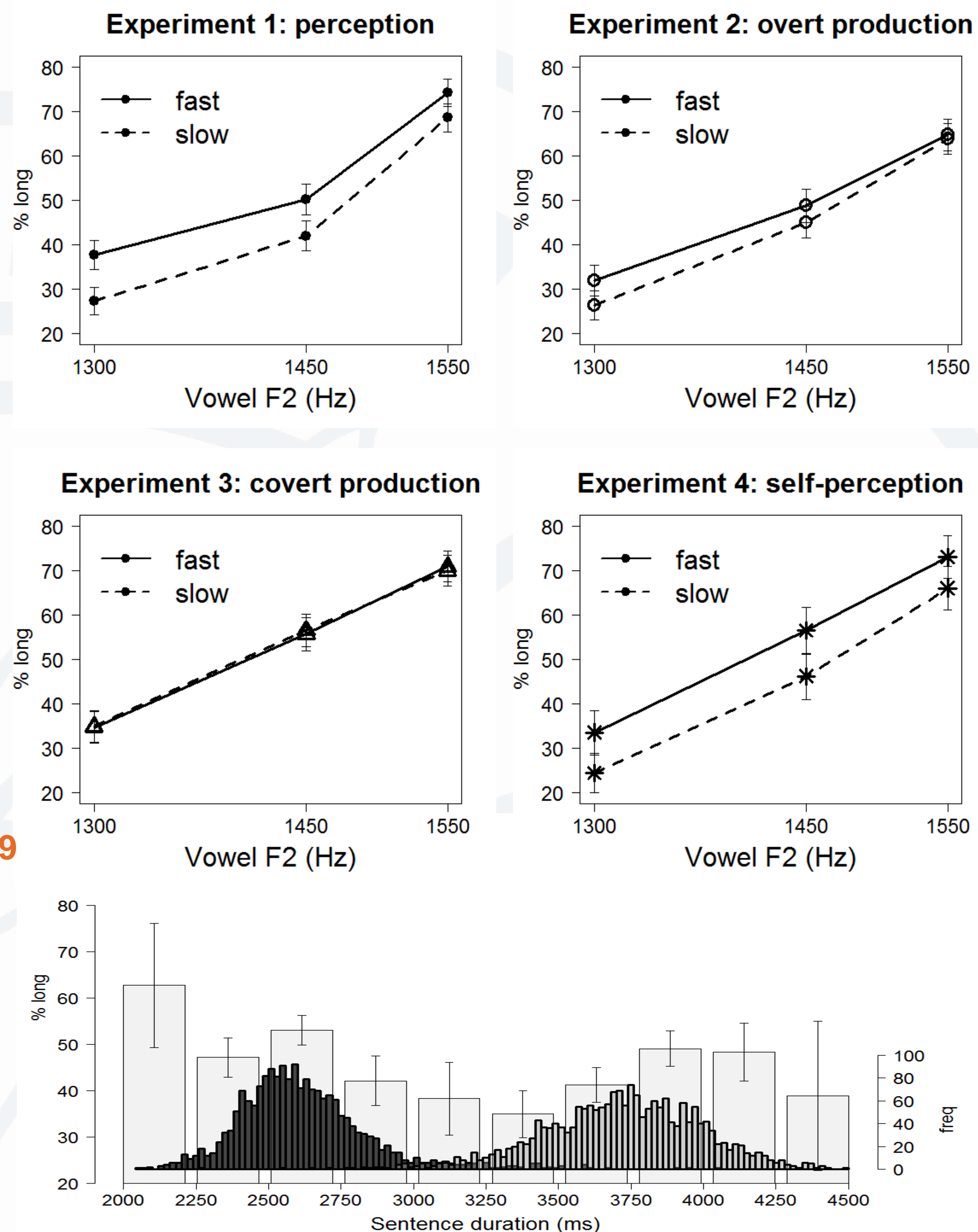
Method

- **PARTICIPANTS**
 - 45 native Dutch participants
 - Within-participant design; same sample in all experiments.
 - 2AFC word categorization task
- **CONTEXT SENTENCES**
 - Expt 1: listen to fast and slow context sentences
 - Expt 2: *overt* production of fast and slow context sentences
 - Expt 3: *covert* production of fast and slow context sentences
 - Expt 4: listen back to your own fast and slow context sentences
- **TARGET WORDS**
 - Minimal word pairs ambiguous between short /a/ and long /a:/, e.g., *zak – zaak; dat – daad; gas – gaas*, etc.

VISUAL DISPLAYS



Results



Discussion

- **Yes, our own speech rate influences our perception.**
- Self-produced speech rates induce rate normalization.
- Our own speech rate can change our perception of others. (cf. Expt 2)
- Provides potential novel rationale behind phonetic convergence on speech rate.
- Mechanism: through monitoring of external signal (cf. Expt 3)
- Effect of self-produced speech rate (Expt 2) is reduced relative to perceived speech rate (Expt 4).
- Cannot be explained by acoustic factors.
- Potential influence of *speaking-induced suppression*.

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