TEMPORAL ORGANIZATION OF PHONOLOGICAL AND PHONETIC ENCODING: EVIDENCE FROM EXPERIMENTS AND SPONTANEOUS SPEECH

Mária Gósy

Hungarian Academy of Sciences,
Eötvös Loránd University, Budapest

E-mail: gosy@nytud.hu

ABSTRACT

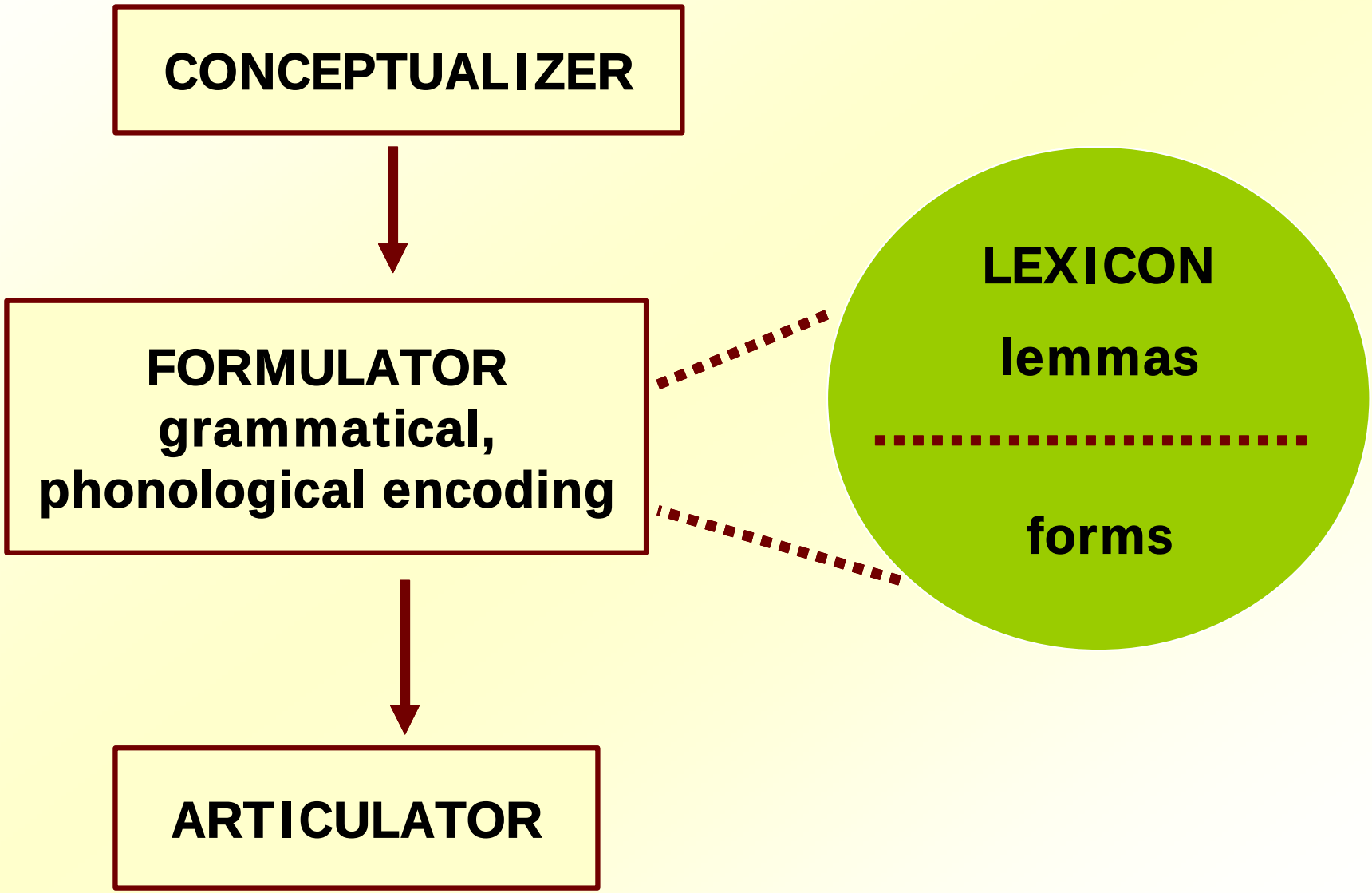
The interaction between pauses and the retrieval of the desired lexemes in the process of word production involves controversies that are worth investigating.

The hypothesis of the present research was that certain pauses might refer to specific operations in the mental lexicon predicting the phonetic output.

The temporal analysis of word retrieval was carried out in a ‘tip-of-the-tongue’ elicitation experiment while pauses (i) marking the speaker’s word finding trouble and (ii) preceding restarts and repetitions were measured in spontaneous speech.

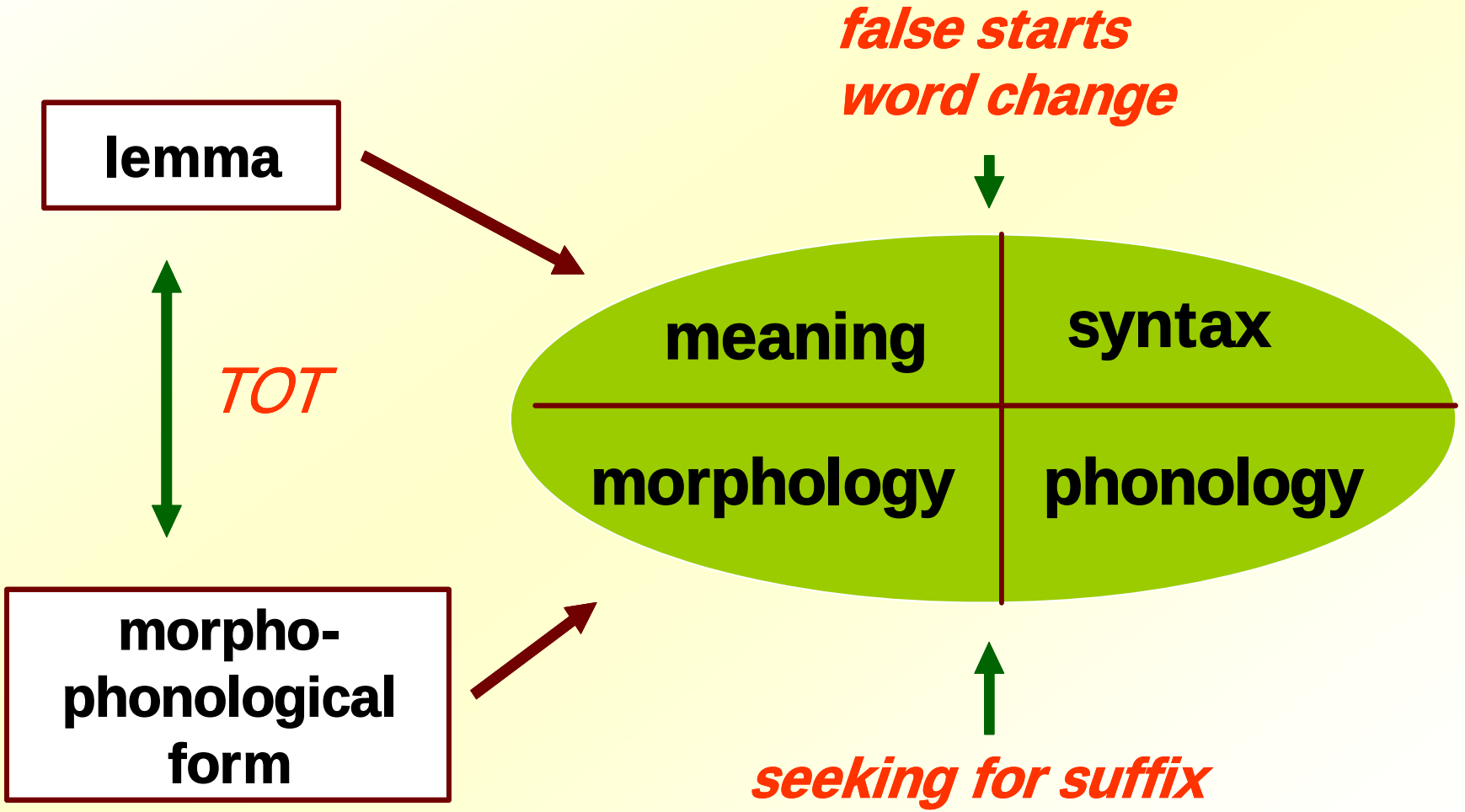
Results confirmed the existence of specific temporal organization underlying lexical access: a significantly different amount of time was measured depending on the subprocesses and on the mode of word retrieval between concept and articulation.

SPEECH PRODUCTION PROCESS



- **MODELS of word production may differ in various ways; however, they seem to agree on the two stages of the process concerning the activation of a syntactically specified representation prior to phonological specification.**
- **PAUSES can refer to specific operations in the mental lexicon, and can predict the phonetic output even in spontaneous speech.**
- **DURATION of pauses shows the activation time during lexical access.**

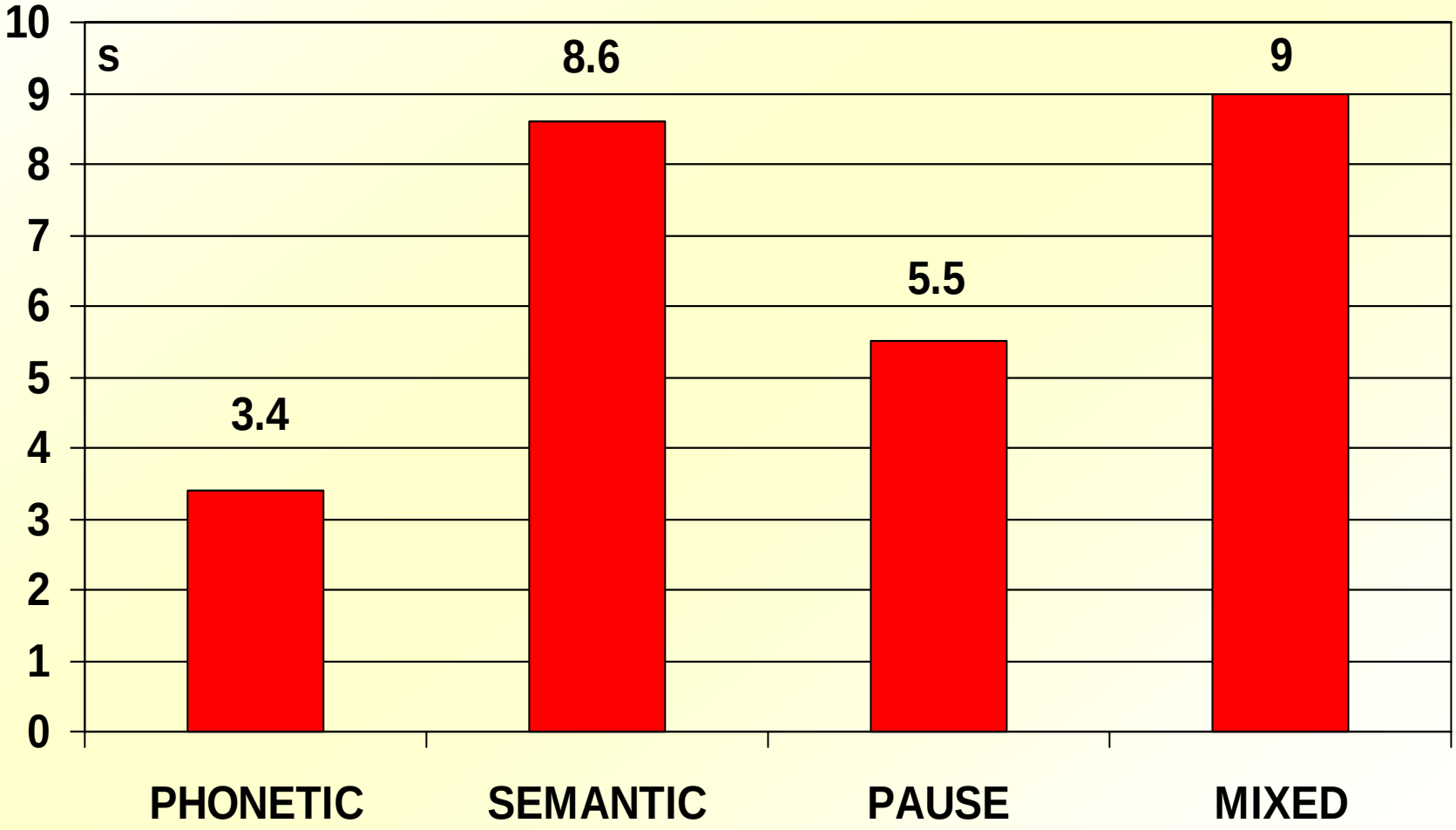
PLACES OF WORD FINDING DIFFICULTIES IN A LEXICAL ENTRY



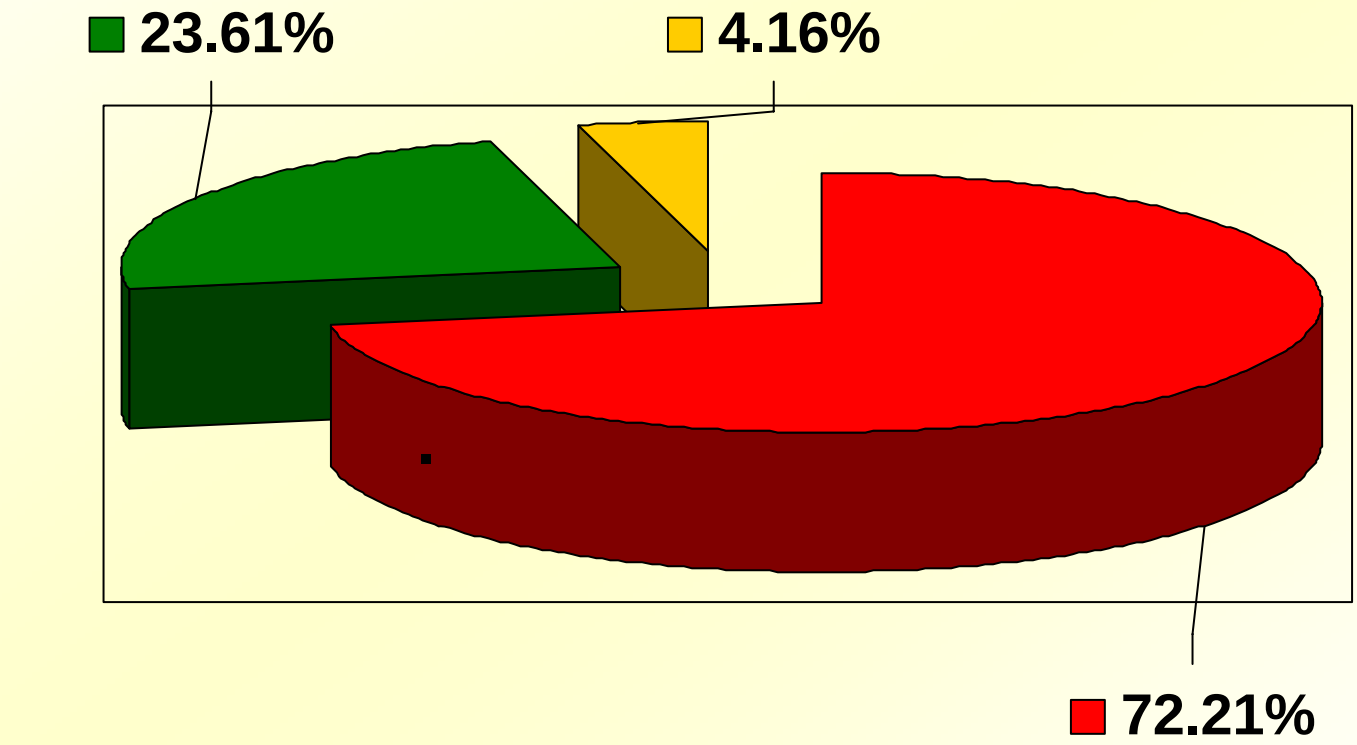
EXPERIMENTS

- **87 Hungarian-speaking adult subjects were given word definitions and asked to say aloud all responses that came to mind in the course of their attempts to retrieve the target words**
- **All different parts of the subjects' verbal communication were measured from silent intervals through laughing, groaning, or sighing as well as the duration of words and utterances up to the target word**
- **Pauses were marked in a 7-hour continuous speech sample where the speaker was assumed to seek for the appropriate word**

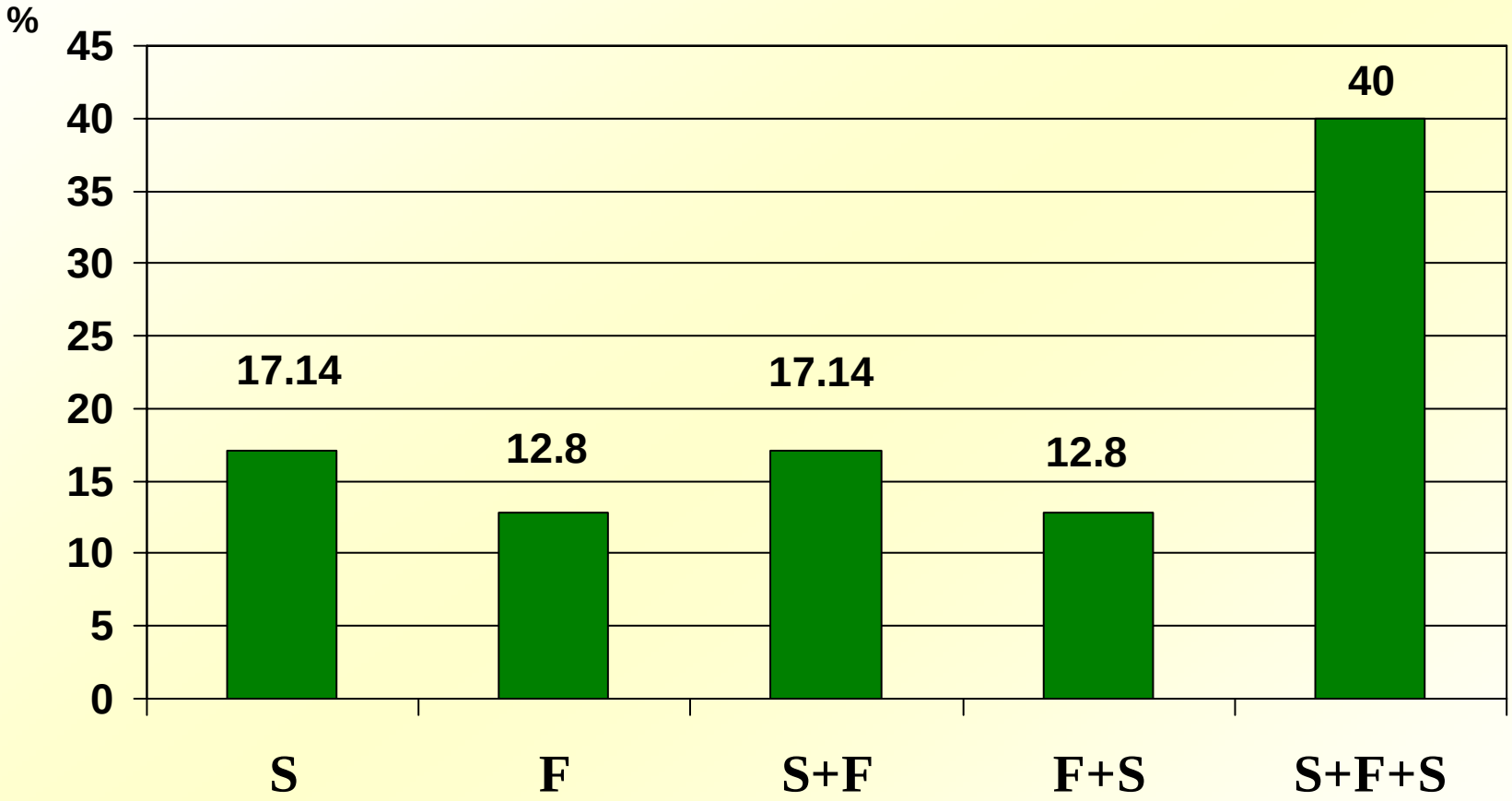
ROUTES IN THE TOT-EXPERIMENT



WORD CLASSES IN HUNGARIAN SPONTANEOUS SPEECH

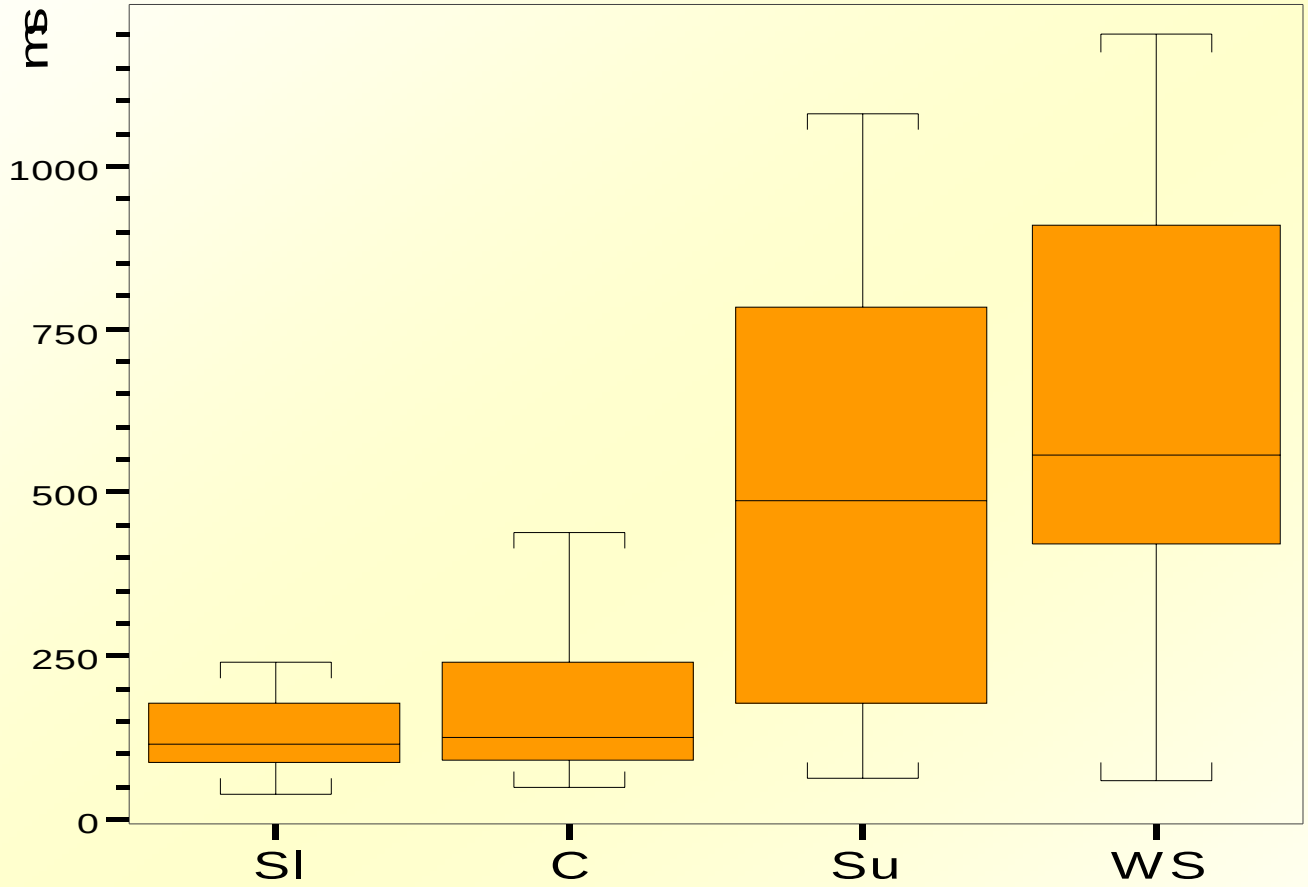


TYPES AND PROPORTIONS OF PAUSES IN LEXICAL ACCESS



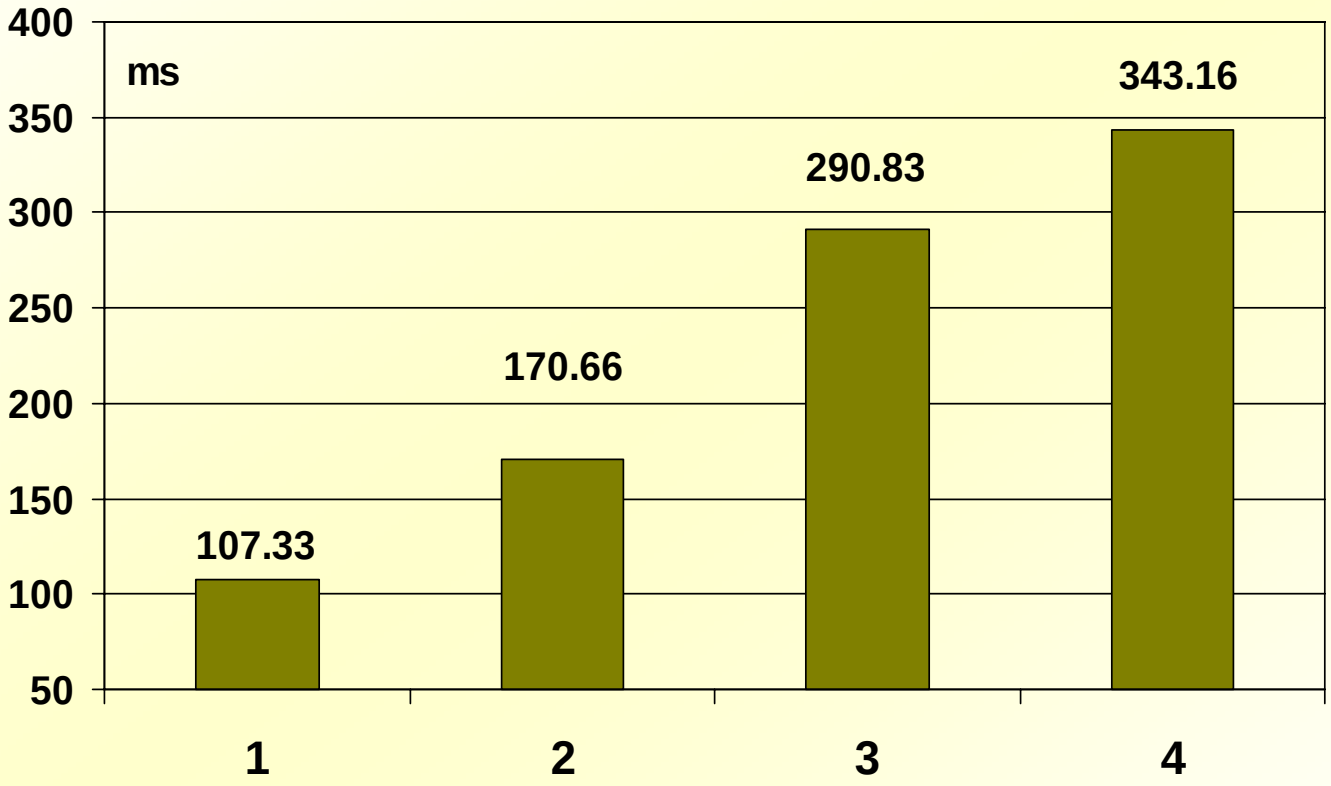
S = silent pause, F = filled pause

PAUSE DURATIONS BEFORE WORDS



Sl = slip, C = completing word, Su = correcting suffix, W = word seeking

MEAN DURATION OF PAUSES WITHIN WORDS



1 = within non-compound words, 2 = between word stem and suffix, 3 = within compound words,

4 = between prefix and word stem

CONCLUSIONS

- Troubles that need higher organized corrections like change of suffixes or selecting the appropriate words, cannot be done fast
- The duration of pauses is characteristic of the repairing process therefore pauses predict the type of processes in lexical access
- The seeking time of a target word is much longer in case of semantically related words than in case of phonologically related words
- The speaker needs the longest time when he has problems with semantic selection, shorter time for correcting morphological troubles while the shortest pause is required to correct phonetic errors