Word stress processing and the influence of cognate suffixes in second language English. An EEG study.

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EEG studies on the processing of word stress in a first language (L1; German, Polish and other languages, e.g. Domahs et al. 2008 on German and Domahs et al. 2012 on Polish) revealed that shifts of main stress (e.g. *KAsino or *KasiNO instead of Kasino) evoke qualitatively different brain responses for the correct and each incorrect pattern.

How the online processing of word stress proceeds in second language (L2) that is learned relatively late in life is, however, an open question. Therefore, the current study exploits the stress-shift design to shed light on the question how late L2 learners process word stress information of morphologically complex words:

- Do L2 learners show similar brain responses for correct and incorrect word stress as native speakers?
- Some cognate suffixes differ in stress position in L1 and L2 while others do not. Do these differences influence prosodic processing?

To this end, 26 native speakers of German with advanced proficiency in English took part in a neurolinguistic study utilizing event related potentials (ERPs). Morphologically complex English words with different stress patterns were presented visually (to exclude possible effects of lexical search) and auditorily, embedded in an invariant carrier sentence. These words were presented with incorrect (A) or correct (B) main stress:

(A) He said the word *equaTOR again.    (B) He said the word eQUAtor again.

Participants had to match the orthographic form (visual word, without any stress markers) with a stress pattern that was presented correctly or incorrectly (spoken word).

Furthermore, all words contained stress-affecting cognate suffixes with either an identical main stress position in English and German (e.g., aesthëtics and Ästhetik) or not (e.g., existence vs. Existenz).

The results of the study provide us with new insights on the role of word stress information for second language learners. Preliminary findings indicate that ERP effects in the L2 data are comparable to those from studies on L1 speakers (cf. Domahs 2008), where positivities are said to reflect how easy prosodic mismatches were detectable for the participants. The observed positivities differ in strength, and these differences are related to the type of prosodic violation (stress moved to a prominent position or not) and to the morphological structure of the critical stimuli.

References