Speaking two languages at once: Unconscious native word form access in second language production

(By Katharina Spalek, Noriko Hoshino, Yan Jing Wu, Markus Damian, Guillaume Thierry)

Submitted by Rahul Jadam
Overview

- Bilingualism research has established language non-selective lexical access in comprehension.
- Experiments were performed on German-English speaking bilinguals.
- The evidence for such an effect in production remains sparse.
Experiment
(Participants)

• Eighteen participants (11 women) were involved in the experiment (simple linguistic test).
• All were German–English bilinguals with a proficiency level of at least C1 according to the European reference frame.
• C1 reflects a level at which participants can understand complex demanding texts.
• Two independent variables were manipulated: Language of overlap and phoneme repetition.
Experiment
(linguistic test)

- Some line drawings (having different colors) were shown to the participants.
- Participants were asked to produce English adjective-noun sequences describing the color and identity of the object presented.
Phoneme repetition test

• **Overlapping condition**
  A picture was paired with a color starting with the same phoneme as the object name (L1 and L2)

• **Non-overlapping condition**
  (this was a controlled condition)
Overlap condition

**L1 condition**
It dealt with phoneme repetition in the German translation
  e.g. red skirt vs. green skirt
  *(German translation: roter Rock vs. grüner Rock)*

**L2 condition**
It dealt with phoneme repetition in English language
  e.g. blue bird vs. green bird
Result

• Phonological priming in English modulated event-related brain potentials over the front-central scalp region from around 440 ms after picture onset.

• Phonological priming in German was detectable even earlier, from 300 ms, even though German was never produced
How does this happen?  
(possible explanation)

• During speaking, we access mental representations via spreading of activation.
• In bilinguals, activation spreads to such representations not only in one but two languages.
• Language non-selective lexical access is well established.
• Some of these studies involve language switches or meta-linguistic tasks.
Conclusion

• These results establish the existence of non-selective access to phonological representations of the two languages in the domain of speech production.
Thank You!