**To select or not to select – what DOES pitch focus do with focus alternatives?**

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Focus signals that alternatives are relevant for interpreting an utterance [e.g., 1]. In Ex. (1), pitch focus (marked by capital letters) indicates that *virtual* is contrasted with the "real-life-mode" in which the AMLaP was held pre-COVID-19. Husband and Ferreira ([2], from here onwards HF) provided evidence (for English) that pitch focus 'selects' contrastive alternatives from a larger set of related words. As part of a large project on focus alternatives with German participants and stimuli, we wanted to replicate HF's study for German.

HF had presented spoken sentences, where a critical word (the prime) was either produced with L+H* accent ('focused') or with H* or !H* accent ('neutral'). Immediately after the prime (Exp. 1) or with a 750 ms delay (Exp. 2), a written word (the target) was presented and participants made a lexical decision: the target was either a contrastive alternative of the prime, non-contrastively related, or unrelated (or a non-word). With no delay, contrastive alternatives and non-contrastively related targets were recognized faster than the baseline (neutral prosody; unrelated target) for **focused** primes. For **neutral** primes, only contrastive alternatives were primed. With 750 ms delay, only contrastive alternatives were primed by a **focused** prime, while both types of targets were primed by a **neutral** prime. This was interpreted as a selection process which operates in the case of focused prosody: Initially, all related words are primed, independent of prosody (HF argue that non-contrastively related targets after neutral primes "lag behind" in Exp. 1). Later, words that are not focus alternatives are de-activated, but only for focused primes.

We repeated the study in German with the same number of participants (n = 61) but more items (n = 96 instead of n = 72, i.e., 16 per condition) and 750 ms delay. As in HF, conditions where determined by prosody (focused vs. neutral) and relatedness of the target (contrastive, non-contrastive, unrelated). We changed one aspect of the original study: A word that is related to the focused prime can be 'not a focus alternative' if replacing it for the focused word makes the sentence (i) ungrammatical or (ii) implausible. HF used both, which resulted in some part-of-speech-mismatches between prime and target. We decided to avoid this confound between relatedness and part-of-speech (see Ex. 2 and 3 for stimulus examples).

Following HF, logarithmically transformed reaction times (RTs) were analysed with linear mixed effects models. CONDITION was a fixed effect, with "neutral prosody, unrelated target" as reference level. Random effects structure included random intercepts for participant and item. RTs were significantly faster for all related targets (contrastive, focused: $t$ = -6.1; contrastive, neutral: $t$ = -5.6; non-contrastive, focused: $t$ = -6.3; non-contrastive, neutral: $t$ = -3.5; all $p$s < .001) (Fig. 1). This is the ideal result pattern for HF's Exp. 1, i.e., without delay between prime and target. There are good reasons why processing German words might take longer than English ones and why, therefore, we observed the "immediate" pattern after a short delay. Accordingly, we carried out another experiment (n = 58) with a delay of 3000 ms. All targets were now presented after the entire prime sentence. This should be enough time for a selection process to de-activate non-alternatives and leave only alternatives activated. Again, all related targets were recognized faster than the baseline (contrastive, focused: $t$ = -5.8, $p$ < .001; contrastive, neutral: $t$ = -5.1, $p$ < .001; non-contrastive, focused: $t$ = -3.4, $p$ < .001; non-contrastive, neutral: $t$ = -2.4, $p$ < .05) (Fig. 1). A more stringent test to find out if prosody affects priming differently for different target types would be to look for a prosody-by-relatedness interaction. We did so, but such an interaction was not obtained in either of our two experiments. These results cast doubt on the original influential finding (and its interpretation). An obvious difference between the two studies is the presence/ absence of prime-target-pairs from different parts-of-speech. A shared part-of-speech-node in the mental lexicon might help sustain activation of related words. Thus, we need to re-examine whether and if so, how, these data inform us about processing focus in language comprehension - or about something else.

**Example (1):** This year's AMLaP will be held as a [VIRTUAL]$_F$ conference.

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|---|---|---|---|---|---|---|---|---|
| **Example (2):** | Der | Ingenieur | plante | die | Brücke | auf | seinem | Computer. |
| | The | engineer | planned | the | bridge | on | his | computer. |

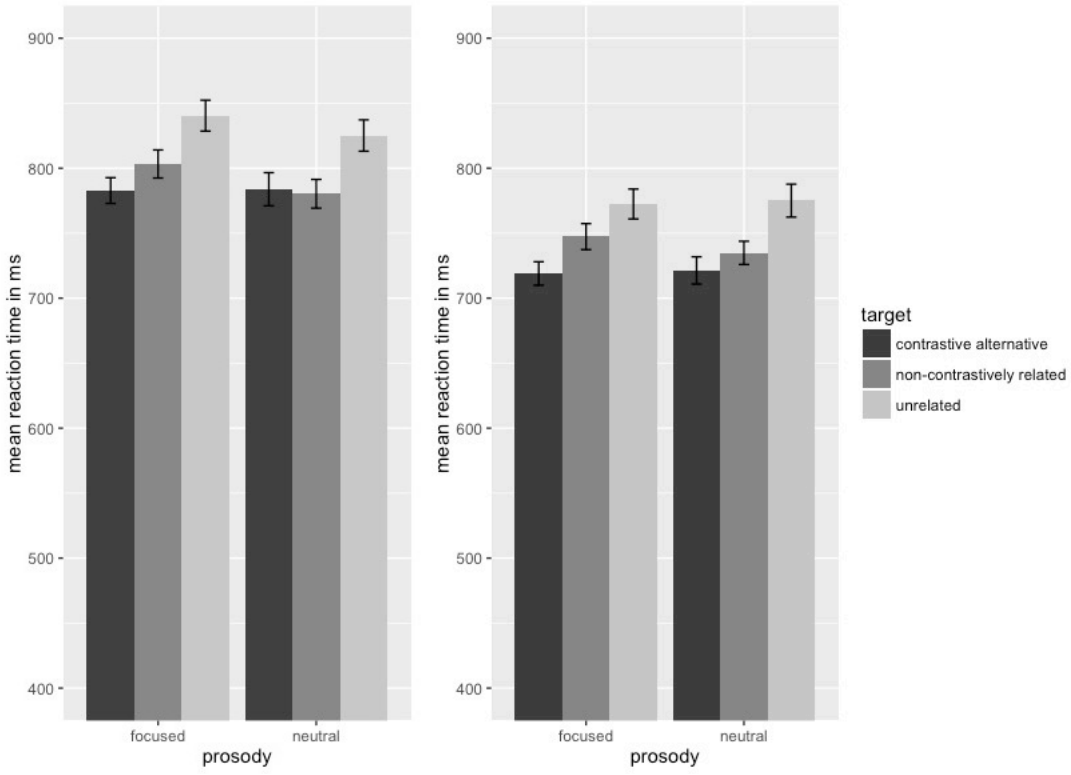
| | | |
|---|---|---|
| Contrastively related target: | Tunnel | (tunnel) |
| Non-contrastively related target: | Fluss | (river) |
| Unrelated target: | Husten | (cough) |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Example (3):** | Der | Mann | im | Park | fütterte | die | Ente | am | Morgen. |
| | The | man | in-the | park | fed | the | duck | in-the | morning. |

| | | |
|---|---|---|
| Contrastively related target: | Schwan | (swan) |
| Non-contrastively related target: | Schnabel | (beak) |
| Unrelated target: | Akku | (battery) |

Note: The prime is underlined. The prime was always followed by another noun phrase or a subordinate sentence.

**Figure (1). Lexical decision latencies with 750 ms delay between (spoken) prime word and (written) target (left panel) and 3000 ms delay between prime and target (right panel).**




**References**

[1] Krifka, M. (2008). In: C. Féry, G. Fanselow, & M. Krifka (eds.). *The Notions of Information Structure,* 14-42. Potsdam. [2] Husband, E. M. & Ferreira, F. (2016). *Language, Cognition and Neuroscience, 31*, 217-235.