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causation triggers perspective shift on what is moving. The agent in an extended causation event can move along with the mobile object, and he can perceive the immobile object as if it were moving toward him. Such an illusion might lead the participants to interpret the immobile variants as the mobile ones. Moreover, such a shift can be calculated by making use of the object NPs before the verb appears.

Keywords: *theme/location alternation, causation, self-paced reading*

A11 The effect of linguistic bias on prediction over time.

Eunjin Chun¹, Joshua Daniels², Mitchell Tozian³, and Edith Kaan⁴

¹The Hong Kong Polytechnic University, Hong Kong, China SAR,

²University of Florida, Gainesville, the U.S.A.

eunjin.chun@polyu.edu.hk

Language users tend to adapt toward the statistical regularities of the language environment, including recently encountered syntactic structures. Error-based learning models account for such syntactic adaptation in terms of minimizing prediction errors; prediction errors are larger for less preferred structures, which leads to stronger adaptation (Chang, 2008). Under these accounts, comprehenders use their prior biases to generate predictions. This study investigated the effect of prior bias on prediction and change of predictions over the course of a visual world eye-tracking experiment. We identified participants' bias for relative clause (RC) attachment at the pre-test using ambiguous RC sentences. Then, forty eight L1 English speakers with different strength of low attachment bias were first exposed to sentences in which the RC attachment matched their initial bias (Low Attachment block: I see the woman of the cat that will wear the collar); next they were exposed to sentences with their less preferred structure (High Attachment block: I see the woman of the cat that will wear the shoes). We could not find effects of parsing bias on their initial prediction (i.e., no effect of Pre-bias on their predictive eye movements during the first half of each block). However, those with stronger bias showed more predictive looks to the targets than the competitors over time during exposure to their preferred structure, LA as well as less preferred structure, HA (Figure 1). These findings suggest that stronger bias toward a certain structure plays an important role in adaptation, regardless of structure type or prediction errors.

Keywords: *parsing bias, prediction (error), adaptation*

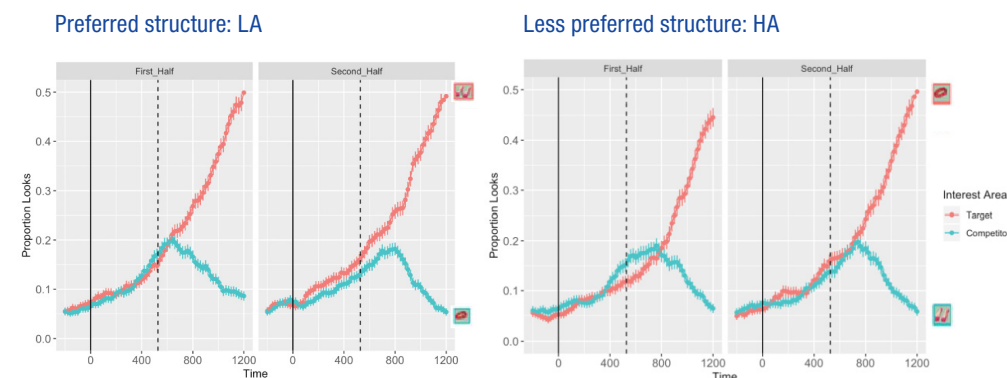


Figure 1. Fixation proportions on the targets and competitors during the first and the second half of each block (based on data from 48 participants with different strength of LA bias). Time 0ms: the onset of the verb. The vertical dotted line: the onset of the target noun.

A12

Lexical Processing of Affective Russian Nouns: evidence from yes/no and go/no-go lexical decision task.

Mikhail Vlasov^{1,2}, Oleg Sychev¹

¹Shukshin Altai State University for Humanities and Pedagogy, Biysk, Russia,

²Tomsk State University, Tomsk Russia

vlasov_mikhailo@mail.ru

The study presents linear mixed effects (LME) models for reaction times (RTs) to Russian nouns with different emotional valences extracted from ENRuN database (Lyusin & Sysoyeva, 2016). A set of stimuli included 120 words (40 positive, 40 negative and 40 neutral ones). The sample comprised 92 students: 44 participants performed yes/no visual LDT and 48 participants performed go/no-go LDT. Both LDTs confirmed the hypothesis of the effect of word valence on RT: the fastest reaction was observed on positive words, the slowest – on negative words (Fig. 1). The interaction of emotional valence and word frequency, that was found in Kuperman's study (2014), was not revealed in our yes/no LDT but this effect was observed in our go/no-go LDT. This interaction is observed in the fact that valence effect (faster responses to positive words than to negative words) is more typical for low-frequent Russian nouns. Fixed effects in our two LME models explain a rather low proportion of RT variance (4.9-5.8%) but, this, in general, corresponds to the results of other similar studies. The contribution of random effects (first of all, the effect of the random intercept for the subjects) is considerably higher. The total explained RT variance in our models reaches 49 and 53%. This may mean that despite the presence of some fixed effects the RT variance in yes/no and go/no-go LDT is mainly determined by stable or situational features of the subjects.

Keywords: *lexical decision task (LDT), emotional valence, Russian nouns*

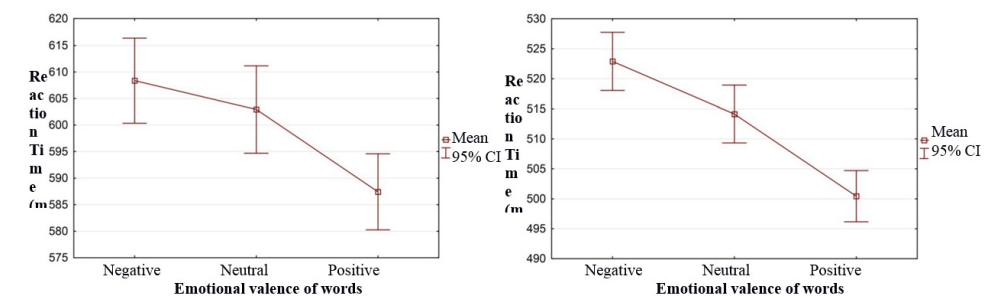


Figure 1. RTs for Russian nouns with different emotional valences in yes/no (on the left side) and go/no-go (on the right side) lexical decision tasks.

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A13 Word order preference in the on-line processing of multiple adverbial constructions of Korean.

Jewook Yoo¹, Yunju Nam¹, Soojeong Kim¹, Upyong Hong¹

¹Konkuk University, Seoul, Korea

tendi0918@gmail.com

The current study investigated word order preference in the processing of Korean sentences with multiple adverbial phrases, i.e. nouns marked with temporal (T), locative (L), or instrumental (I) postpositions respectively. Experiment sentences included a subject, T, L, I, a direct object (DO), and a sentence final verb, and were manipulated in terms of the order between T, L, and I (hence 6 condition). 36 Korean native speakers' reading time for 36 target sentences (plus 72 fillers, 6 targets per condition) were recorded in the self-paced reading experiment (Exp1), and 18 other participants' neural responses to the DO and the verb were also recorded in the ERP experiment (Exp2). In Exp1, the RTs for the region of the final verb turned out to be identical in terms of the relative position of T and L, but RTs to the T(L)-I-L(T) order were significantly longer than those to the I-T(L)-L(T) or T(L)-L(T)-I order ($F(2,34) = 2.730, p = 0.072$). Correspondingly, the P600 was elicited by the verb of the former sentences compared to the latter ones in Exp2 ($F(2,32) = 3.652, p = 0.052$). These results indicate that the word order of so-called free word order languages might well be constrained at the performance level. Moreover, the observed P600 implies that the word order between adverbials is constrained syntactically (cf. Cinque, 1999), and not semantically (cf. Ernst, 2004): We suggest that the I is preferred to be placed nearest to the verb; whereas the scrambling of I as a VP adjunction does not cause any processing load, that in between the T(L)-L(T) string leads to an extra processing load in Korean.

Keywords: *Word order preference, Korean, SPR, ERP, P600*

A14 Word properties over experience-related factors: Investigating the masked translation priming asymmetry.

Adel Chaouch-Orozco¹, Jorge González Alonso², Jason Rothman

¹University of Reading, ²The Arctic University of Norway, ³Universidad Nebrija

a.chaouchorozco@pgr.reading.ac.uk

Research in the processing of non-cognate translation equivalents by (unbalanced) bilinguals under masked priming conditions shows an asymmetry in lexical decision tasks (e.g., Wen and Van Heuven, 2016). Responses to L2 targets are faster with L1 translation equivalent primes than with unrelated ones. In the opposite direction (i.e. L2 primes – L1 targets), the effects are significantly smaller. The Bilingual Interactive Activation + (BIA+) model (Dijkstra and Van

Heuven, 2002) claims slower L2-word processing causes the priming asymmetry: factors like word frequency or L2 proficiency modulate processing speed. The Sense Model (SM, Finkbeiner et al., 2004) adduces a representational asymmetry in the senses (meanings) known for L1 and L2 translation equivalents. Priming is proportional to the amount of target senses activated, and the few meanings known of an L2 prime only activate a small proportion of the many known of an L1 target. Finally, the Revised Hierarchical Model (RHM; Kroll, et al., 2010) claims that L2 proficiency crucially modulates L2-L1 priming. We tested 60 Spanish-English unbalanced bilinguals in a masked translation priming LDT. The participants' L2 proficiency (upper-intermediate to upper-advanced) and factors related to their linguistic background were treated as continuous variables in mixed-effects models (Baayen et al., 2008). Results showed a priming asymmetry (47 ms vs 39 ms, $p < .001$). Crucially, prime and target frequency modulated the L2-L1 priming effect. Against the RHM's predictions, L2 proficiency did not affect priming. The results challenge the SM, which cannot account for the role of prime frequency, a finding that the BIA+ can accommodate.

Keywords: *lexical processing, psycholinguistics, second language acquisition*

A15 Timing of application of bilingual inhibitory control.

Iva Ivanova

University of Texas at El Paso, El Paso (TX), USA

imivanova@utep.edu

Bilinguals inhibit the non-response language to avoid wrong-language intrusions (Green, 1998), but theories of inhibitory control do not specify when inhibition is applied. It could be applied once, immediately after a language switch (Zheng et al., 2019) or cumulatively over time (Kleinman & Gollan, 2018). Here, 85 Spanish-English bilinguals dominant in English named pictures first in the dominant, then in the non-dominant, and then again in the dominant language. Participants were divided into three groups depending on the length of non-dominant naming: long (9 repetitions of 32 pictures), medium (6 repetitions) or short (3 repetitions). To further investigate influences of global and local inhibition, the last dominant-naming phase contained three sets of 16 pictures each: 1) ones previously named in both the dominant and non-dominant language, 2) ones previously named only in the non-dominant language, and 3) new pictures. For pictures never previously named in the dominant language, dominant-language naming was slower after non-dominant naming (demonstrating recovery from previous inhibition). If inhibition is cumulative, dominant language responses should be slowest after the long non-dominant phase and fastest after the short non-dominant phase; if inhibition is once-only, dominant language RTs should be unaffected by the length of non-dominant phase. Reaction-time differences between the first and last dominant-naming phases were analyzed to account for between-group differences in naming speed. Overall and within each item set, there was no significant effect of the length of the non-dominant phase. Results (Figure 1) are more consistent with once-only than cumulative application of inhibition.

Keywords: *bilingualism, language control, blocked picture naming*