PUTTING THINGS IN NEW PLACES:
VERB-BASED PREDICTION IN L1 AND L2 SENTENCE PROCESSING

Monique Flecken (Donders Institute, Radboud University) & Geertje van Bergen (CLS, Radboud University)

m.flecken@donders.ru.nl

Previous Visual World studies show that listeners anticipate sentence continuations on the basis of the available linguistic and visual context. In particular, *verbs* facilitate predictive processing (Altmann & Kamide 1999; Kamide & Altmann 2003). The present study investigates (1) whether *language-specific verb semantics* generates anticipatory eye movements in native listeners during incremental language understanding; (2) whether *L2 users* generate predictions on the basis of L2 semantic distinctions that are absent in their L1. We thereby focus on the semantic granularity of Dutch placement verbs: Whereas English uses the verb 'to put', Dutch distinguishes between *zetten* 'to put-stand' and *leggen* 'to put-lay', on the basis of the position of to-be-placed objects on a surface.

For 64 objects, prototypical positions were determined on the basis of a forced-choice sentence completion task, in which Dutch participants (N=30) filled in either *staan* ('to stand') or *liggen* ('to lie') to describe the position of objects (Experiment 1). In Experiment 2, participants (20 L1 Dutch, 20 L2 Dutch with L1 English) heard sentences describing placement events while viewing 4-object displays (192 trials) ('look and listen' task). We manipulated the factors *Verb type* (*zetten*, *leggen* or the neutral verb *plaatsen* 'to place') and *Object position*, both within objects (e.g., a standing vs. a lying bottle) and between objects (e.g., a standing frying pan vs. a lying ball) in each display. For each sentence (e.g., *de jongen legde kort geleden een blikje op de tafel* 'the boy put-lay recently a can on the table') the display contained (a) the target object in target position (a lying can), (b) a different object in target position (position-distracter, e.g. a lying fork), (c) the target object in a different position (object-distracter, i.e., a standing can), and (d) a different object in different position (distracter-control, e.g. a standing mirror), all placed on a table. We hypothesized that, upon hearing the placement verb, native speaker predictions should be biased towards objects whose position match the position implied by the verb, resulting in significantly *fewer* fixations on objects in non-target positions soon after verb onset. L2 users of Dutch should not generate predictions concerning sentence continuations on the basis of verb-specific semantics at all, or be slower in their predictions (cf. Martin et al. 2013).

Analyses show that native listeners are fast to narrow down possible sentence continuations (objects) to specific elements of the visual world. Factors that influence this process are (1) degree of match with the *specific* semantic granularity of information encoded in verbs, and (2) degree of conformity to *prototypical* object properties (prototypical positions, as established in Experiment 1. Furthermore, the L2 data show that predictive processing in this group is less automatized. We will discuss our findings in light of frameworks of prediction in incremental sentence processing. Overall, we support views of an incremental processor, using different sources of information (linguistic and 'world-knowledge' type of information) to reach an as rich as possible interpretation from early on (cf. Kamide et al. 2003). Furthermore, we will discuss how these findings are informative with respect to models of L2 processing.