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The role of visual attention in the semantic processing of item, container and default numeral classifiers in Chinese

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Theoretical background: Understanding spoken language puts high demands on attentional resources prior to comprehension, but how the online processing of an utterance happens is not yet fully understood. Several theorists have proposed that the visual environment plays an important role in linguistic processing. Tanenhaus et al. (1995) showed by using eye tracking that visual perceptual processes have an impact on potential ambiguity in syntactic processing, e.g. that a sentence like "Put the apple on the towel in the box" is interpreted differently when there are two apples in a picture and one is on a towel, than when there are two types of objects, say a pen and an apple. Altmann & Kamide (2007) used verbal stimuli to trigger anticipatory eye movements (saccades) that related to the past tense vs. future tense verb forms and object affordances (e.g. 'drink/drank' a full/empty glass).

Hypotheses and methodology: In an eye tracking experiment with Chinese speakers we are investigating the relationship between visual attentive processes and semantic processing in Chinese. In Chinese, special classifiers are used for all kinds of books, types of garments, tools, flat vertical objects like mirrors and flags, and long shaped objects like pens or bananas. Container classifiers constitute a separate type that turns mass nouns ('tea') into countable nouns, e.g. box of tea. Last, Chinese speakers frequently use a default classifier required by the grammar which is devoid of semantic content, and whose function is merely to be an anticipatory filler. In all classifier languages, a primary function of these markers is 'reference tracking', i.e. to direct attention towards certain groups of objects while people talk. We have designed a study where Chinese speakers are looking at pictures of a table covered with various objects whose nouns are preceded either by item, container or default classifier (e.g. an apple, a pot of tea, a letter). At the onset of the stimulus presentation, the participant hears a sentence (e.g. "There is an apple on the table") while he/she is looking at a picture. His/her eye movements are measured during the visual search. We predict that eye movements will be executed to the target object already at the time point of hearing the classifier and not at the noun itself. Additionally, we expect that anticipatory eye movements are firm and fastest in the case of container classifiers, slower and potentially more indecisive with item classifiers, and non-existent with the default classifier.

References.

Tanenhaus, Spivey-Knowlton, Eberhard, & Sedivy (1995). Integration of visual and linguistic information in spoken language comprehension. *SCIENCE, 268*, 1632-4.

Altmann & Kamide (2007). The real-time mediation of visual attention by language : anticipatory (and other) eye movements to linguistic processing. *Journal of Memory and Language , 57*, 502–518.

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