



# **11TH SYMPOSIUM OF PSYCHOLINGUISTICS**

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## **ABSTRACT BOOK**

**[PS-A.47] Theoretical evidence that frequency trajectory is not the opponent to, but the evolution of, age of acquisition theory**

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According to the age of acquisition (AoA) hypothesis, words acquired early in life are processed faster and more accurately than words acquired later. Connectionist models have begun to explore the influence of the age/order of acquisition of items (and also their frequency of encounter). The current study attempts to reconcile two different methodological and theoretical approaches (proposed by Zevin & Seidenberg, 2002 and Lambon Ralph & Ehsan, 2006) to age-limited learning effects. The current simulations extend the findings reported by Zevin and Seidenberg (2002) that have shown that frequency trajectories (FT) have limited and specific effects on word reading tasks. Using the methodological framework proposed by Lambon Ralph and Ehsan (2006), which makes it possible to compare word reading and picture naming tasks in connectionist networks, we were able to show that FT has a considerable influence on age limited learning effects in a picture naming task. The findings show that when the input-output mappings are arbitrary (simulating picture naming tasks), the links formed by the network become entrenched as a result of early experience and that subsequent variations in frequency of exposure of the items has only a minor impact. In contrast, when the mappings between input-output are quasi-systematic or systematic (simulating word reading tasks), the training of new items was generalized and resulted in the suppression of age-limited learning effects. At a theoretical level, we suggest that FT, which simultaneously takes account of time and the level of exposure across time, represents a more precise and modulated measure compared to the order of introduction of the items and may lead to innovative hypotheses in the field of age-limited learning effects.

**[PS-A.48] Attention, ventriloquism and audio-visual speech.**

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In 1996, Nature published a study by Jon Driver in which he demonstrated that accurate detection of audio-visual speech in a difficult attentional task was enhanced when the auditory source was displaced from the lip movements of the speaker. This finding appears to be at odds with the accepted conclusion that perception of audio-visual stimuli, including speech, is aided by temporal and spatial congruency. Since Driver's original report there have been no published replications of the effect. In a series of experiments we attempted to replicate the effect and determine under what circumstances this counterintuitive effect occurred. We demonstrated that it is possible to replicate the effect but that it is exceptionally fragile. In the final experiment we hypothesized that the effect depends on the reliable production of a ventriloquist illusion. In this experiment we changed the displacement between the visual and auditory stimuli to maximise the ventriloquist illusion. We also obtained an independent measure of the illusion with the same displacement, with the same subjects. As in the earlier experiments, participants (N=32) were required to shadow word triplets spoken by a female speaker. The auditory stimuli were the target words and simultaneous distractor words spoken by the same female speaker. The auditory stimuli emanated from either directly under the video of the female speaker (congruent condition) or 16 degrees to the side (displaced condition). We again failed to replicate Driver's effect with just the altered displacement condition. However, when the strength of the ventriloquist illusion was treated as a covariate in an ANCOVA, performance was enhanced in the displaced condition as predicted. We conclude that the enhancement of speech perception in noisy environments afforded by seeing the lip movements of the speaker depends on the perception of spatial congruency, either real or illusory.

**[PS-A.49] Turning a knight into a question mark – Priming effects in overhearers**

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Research on communication, largely focusing on dyadic situations, has shown that interlocutors converge in their use of referring expressions, syntactic structures, and the like. However, both the communicative scope and the cognitive basis of this