

**The Department of Linguistics
is pleased to present**

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speaking on

Resolving illusions of plausibility: ERP and computational modelling findings

Friday, November 18, 2022

11:20 AM via Zoom

(Zoom information will be emailed on Thursday, November 17th)

Abstract:

Integrating multiple streams of information during reading often creates conflict. For example, the grammatical constraints of the sentence “the cop that the thief arrested” give a meaning that conflicts with our world knowledge about the usual thematic roles of cops and thieves. According to this world knowledge, “arrested” is a semantically implausible action for the agent “thief”, so we would expect to see a large N400 brain potential at “arrested”. Instead, studies have shown that such role-reversal constructions elicit only small N400s, suggesting that readers experience an illusion of plausibility. The Sentence Gestalt (SG) model (Rabovsky et al., 2018) provides an account of this illusion as uncertainty about meaning caused by conflict, which reduces N400 amplitude. The model also predicts that the illusion can be lifted by adding contextual information before the verb. However, experiments have shown that temporally delaying the verb is sufficient to lift the illusion, without adding any new contextual information. In this talk, I will present preliminary modelling work in which we adapt the SG model to account for this finding via the “settling” of different contextual cues over time. I will also present our first ERP experiment testing the adapted model’s predictions, which replicates and extends previous empirical work on the temporal delay effect. Ultimately, the goal of the work is to provide a computational account of how an understanding of meaning unfolds over time as multiple streams of information converge.