Keynote 1:

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Language beyond grammar: Emotionality effects on gender agreement processing.

There is emotion in language, but can emotionality affect how we process grammar? Modular and interactive models of language processing propose discrepant responses to this question, and empirical evidence is inconsistent. While some studies report interactive effects between emotionality and grammaticality in the Left Anterior Negativity (LAN) component, others have failed to find evidence of such an interaction. Interestingly, recent data from number agreement studies has shown that there are individual differences in how the human brain processes grammar. These individual differences challenge the functional interpretation of the LAN and the P600, two ERP components commonly understood as indices of two subsequent phases of morphosyntactic processing.

This is precisely the context in which my thesis is situated. Its aim was to conduct a comprehensive investigation into the neural and behavioural correlates of the interplay between grammar and emotion, with a particular focus on several variables—namely, individual differences, gender type, and gender class—that may modulate whether the interaction between the two occurs during linguistic processing. Hence, three gender agreement studies were conducted, two centred on Event-Related Potential (ERP) data and one on behavioural measures. In each study, participants performed a grammaticality judgement task where the critical word could either agree (match) or disagree (mismatch) with the gender of the preceding word (e.g., *la_f $cuchillo_m$ [the knife]). Additionally, the emotionality of the critical word was manipulated (neutral vs. unpleasant). In Studies 2 and 3, gender properties, such as gender type and gender class, were also manipulated (arbitrary vs. natural; feminine vs. masculine).

In a nutshell, our results indicate that high-arousal unpleasant words can affect gender agreement processing and that these effects can be observed at both the neural and behavioural levels. Although the specific results differed across studies, the effect of unpleasantness on agreement processing was consistently detrimental. Furthermore, our findings indicate that both individual differences and gender properties seem to modulate these effects. The interactive effects of grammar and emotion were limited to participants with a positive dominance profile (larger P600 effects and no LAN effects) and to natural gender nouns. These findings challenge the idea of a universal, strictly modular syntactic processor, emphasising the importance of considering how these variables may affect linguistic processing in future research.