**Introduction**

Is syntactic locality gradience attributable to different aspects of memory difficulty?

Memory difficulty can arise from activation, estimated by string distance, the Dependency Locality Theory (DLT) [3], or retrieval activation [9]. It can also arise from interference, estimated by intervening nominals or similarity-based interference (SBI) [9].

A computational model compares both types of memory factors to two locality phenomena: wh-island violations (WHVs) [11] and superiority violations (SUVs) [2].

**Gradience in syntactic locality...**

In WHVs, a wh-filler (who) is fronted across a wh-island (whether), leading to unacceptability (1).

(1) *Who did Diego find out whether they read the book?*

In SUVs the filler (what) is fronted across a syntactically superior wh-phrase (who) (2).

(2) *Diego asked what who read.*

Acceptability increases when the wh-filler (who, whom, whom, whom, whom, whom) or wh-intervenor (suv1, suv2, suv3) is changed. (Table 1).

**...by activation or interference...**

Surprisals from activation-based features pattern with WHV gradience (Table 3). Surprisals from interference-based features pattern with SUV gradience.

**Table 2: Memory-based probabilistic feature specifications.**

Table 3: Activation and interference model different aspects of syntactic locality.

**Conclusion**

The results from the computational model indicate that WHV and SUV gradience are attributable to different aspects of memory.

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*For Further Information, please visit mirrors.cornell.edu/mfb74.*

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**Marisa Ferrara**
**Boston**
**Cornell University**

**AMLaP, University of York**
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