UNIVERSAL BIASES AND L1 TRANSFER IN VOWEL HARMONY: INSIGHTS FROM ARTIFICIAL GRAMMAR LEARNING EXPERIMENTATION

In recent years, research couched in the artificial grammar learning (AGL) paradigm has proved fruitful in addressing the extent to which phonological learning is driven by universal biases (e.g. Skoruppa & Peperkamp 2011, Baer-Henney & van de Vijver 2012, White 2014; see also Moreton & Pater 2012a,b for a review), but numerous questions still remain unexplored. At the same time, since most AGL experiments are not replicated across speakers of different L1s, our understanding of how L1 transfer effects and universal biases interact in AGL tasks is quite limited.

In this study, we conduct AGL experimentation that aims to broaden our understanding both in terms of universal biases as well as L1 transfer. Our experiment focuses on vowel harmony. Participants are first exposed to nonce CVCV stems paired with corresponding affixed forms (CV-CVCV or CVCV-CV). Training stems always present front/back harmony (front vowels: [i,e], back vowels: [u,o]), and the affix vowels alternate depending on the stem vowels. Participants are then tested (forced-choice) on disharmonic stems, where they can harmonise the affix vowel to the first or second vowel of the stem. Notably, their training is ambiguous; all stems are harmonic, schematically demonstrating A-AA or B-BB, so participants have no explicit information about which vowel should trigger harmony in disharmonic stems, e.g. A-AB (local vowel harmony) or B-AB (non-local vowel).

The experiment's design will allow us to examine several influences on vowel harmony, including locality biases (McMullin 2016), stress/prominence (e.g. Endress & Mehler 2010 on the prominence of beginnings and endings of words), and morphology (e.g. Nespor & Vogel 1986, Peperkamp 1997 on affix asymmetries). This work is part of an on-going project where the same experiment will be conducted across labs in six countries, with native speakers of six different languages (Dutch, English, French, German, Greek, and Hungarian) that display varying vowel inventories and stress systems. Of these languages, only Hungarian possesses vowel harmony. Comparison across languages will allow us to analyse the extent to which participant L1 has affected learning.

Preliminary results with limited data from English and German (Authors 2017) show a significant effect of Affix Type for speakers of both languages, with participants in the suffix group usually choosing local harmony, whereas those in the prefix group demonstrating no comparable preference. This asymmetry is in line with the idea that suffixes are more closely integrated with the stem, motivating a strong locality bias within that domain (Nespor & Vogel 1986, Peperkamp 1997). No significant effect of Stress Location appeared in these data, but the issue will be re-examined once the full set of data becomes available. For the remaining languages, data collection is currently taking place and their analysis will be shortly available.

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