Introduction

A speaker’s native language influences their learning of phonological non-adjacent dependencies (NADs) [1]. Learning of morphological NADs, such as root-and-pattern (R&P) morphology, has not yet been studied, and in particular, not with speakers of Semitic languages.

Does the type of morphology in your native language influence your learning of an artificial language with similar or different morphology? Could that point to a typological bias toward concatenative morphology?

Materials

2 artificial grammars comprising:
- R&P or concatenative morphology
- phonemes common to MSA, English, & Maltese
- 80 phonotactically possible but unattested triconsonantal roots in both grammars
- vowels interleaved between root consonants
- unattested patterns & affixes

Wug Test only:
- 10 practice “wugs”, 70 test “wugs”

Results

Wug Test
- Coding in progress! Lang x Word; Lang x Grammar
- English speakers tended to overgeneralize: altered syllable structure on the non-concatenative grammar, used default affix on concatenative grammar, etc.
- Triconsonantal root is preserved
- Vowels are only preserved in the concatenative grammar

Segmentation Task

Task results support previous findings about L1 influence on learning non-adjacent dependencies [1]
- Wug Tests allow us to see patterns in implicit learning that segmentation tasks do not
- English speakers realize there is something important about the triconsonantal root and the vowels are allowed to change, although they do not always provide the correct response
- Arabic speakers seem to be more sensitive to R&P morphology, but are outperformed on the concatenative grammar in spite of Arabic’s productive concatenative morphology
- The advanced Arabic learner’s performance indicates they can follow the NADs, but may rely on their English background for the more difficult “is this a possible word?” phase.
- Root-and-pattern and concatenative morphology are acquired at the same rate by infants [6], so there is no innate bias toward concatenative morphology
- This bias must be learned, and with enough exposure and experience, could be un-learned
- Alternate possibility is the prevalence of concatenative morphology due to linguistic colonialism: Lots of empires using concatenative morphology & forcing non-concatenative morphology out via language contact & change
Figure 1: Wug Test screens during training period
Figure 2: Wug Test screens during test phase
Fig. 3: Coding schemes for wug responses
Mean Wug Scores by Language Spoken

Overall Mean
Arabic Native Speakers
English Native Speakers
Grammar Scores per Native Language

- Arabic Native Speakers
- English Native Speakers

Concatenative

Non-Concatenative
References


