Morphological priming of sound and broken plurals in the Standard Arabic mental lexicon

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Introduction

- German and English show processing differences between ablauting and affixal inflections with various methodologies [1-5]
- Tucker, Almeida, and Idrissi [6] find reading time differences for sentences with different plural types in Modern Standard Arabic: broken plurals patterned with singulars
- Is the locus of difference in reading times is early (at lexical access) or late (post-lexical)?
- Visual masked priming detects early, automatic, and lexical effects [7] - Measure reaction times
- Unconscious priming effects

Predictions

- Different priming effects for sound and broken types, plural types are stored or accessed differently (i.e. dual route model)
- Identical priming effects, reading time differences must be post-lexical in nature

Methods

Participants: 72 female participants at UAEU per experiment, late Arabic-English bilinguals
Procedure: Visual masked priming (50ms primes) with lexical decision task (prime font: 24pt regular, target: 30pt bold)
Stimuli: 120 target MSA words (common, unambiguous, definite, unvoiced, frequency matched) and 120 nonwords as filler
Conditions: Experimental Manipulation (Control, Related, Repetition), Plural Gender (Masculine/Human, Feminine/Non-Human), Strength (Sound, Broken)
Target Types: Exp. 1—singles, Exp. 2—plurals
Analysis: LMER (random slopes, model comparison)

Procedure

Stimuli

Plural Type Singular Plural Control
Sound Masculine/ Human
Non-Human
Sound Feminine/ Human
Broken Masculine/ Human
Broken Feminine/ Non-Human

Results

Exp 1: Singular Targets

Exp 2: Plural Targets

Discussion

- No meaningful difference for plural type or gender during lexical access [8]
- Reading time differences [6] must be post-lexical in nature
- No need to resort to dual-route models [9] for Arabic plurals
- Priming results are in line with robust root priming in MSA [10-13] but not with irregular inflection for German and English

References