LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

LIQUID METATHESIS

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EXPERIMENT

Subjects: Six native listeners of Greek (from Athens, same socio-economic background).

Figure 1: presentation: "Hello, my name is [stimulus]."

Figure 2: answer sheet (sample)

template	l-condition	r-condition	mixed condition I	mixed condition II	syllable position type
V.CV.CV.CV.CLa.Li	akatatoplali	akatatoprari	akatatoprali	akatatoplari	CLV
V.CV.CV.CV.La.Li	akatatolali	akatatorari	akatatorali	akatatolari	VLV
V.CV.CV.CVL.Ca.Li	akatatolpali	akatatorpari	akatatorpali	akatatolpari	LCV
V.CV.CV.CLV.Ca.Li	akataklopali	akatakropari	akatatropali	akataklopari	CLV
V.CV.CV.CLV.Ca.Li	akatalopali	akataropari	akatatopali	akatalopari	VLV
V.CV.CVL.CV.Ca.Li	akataltopali	akatartopari	akatartopali	akataltopari	LCV
V.CV.CLV.CV.Ca.Li	akaklatopali	akatartopari	akatratopali	akaklatopari	CLV
V.CV.LV.CV.Ca.Li	akalatopali	akaratopari	akaratopali	akalatopari	VLV
V.CVL.CV.CV.Ca.Li	akaltatopali	akartatopari	akartatopali	akaltatopari	LCV
V.CLV.CV.CV.Ca.Li	akatatopali	akatatopari	akatatopali	akatatopari	CVL
V.LV.CV.CV.Ca.Li	alatatopali	aratatopari	aratatopali	alatatopari	VLV
VL.CV.CV.CV.Ca.Li	alkatatopali	arkatatopari	arkatatopali	alkatatopari	LCV

Table 1 : Stimuli templates and stimuli (n = 48). L = liquid.
Non-words – phonotactically possible in Greek

In 115 out of 864 trials (=13.3 %), participants' transcription errors could be classified as liquid metathesis.

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QUESTIONS & ANSWERS

(A) DO SOME SYLLABLE POSITION TYPES FAVOUR LIQUID METATHESIS MORE THAN OTHERS?

(a) The type of syllable position in which a liquid occurs significantly influences its likelihood to undergo metathesis ($\chi^2 = 33.24$, df = 2, p < 0.0001).
Liquids in complex coda clusters yield most often to metathesis, followed by those in complex onset clusters, and finally by intervocalic liquids.
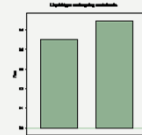
ALBANIAN

ardhi 'vine, grapes'
dialectal variants: *hardhi, erdhi, rdhi, dhri, urdhi*
(OREL 1998: 7)
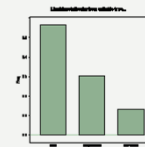
(B) ARE LATERALS AND ALVEOLAR TAPS EQUALLY PRONE TO METATHESIS?

(b) Laterals and rhotic taps do not differ in their tendency to undergo metathesis ($\chi^2 = 1.26$, df = 1, p = 0.2614). There was, however, a numerical tendency for the tap to participate more in metathesis than the lateral.


ENGLISH

Old English *bridd, bird*
Middle English *bryd, byrd*
Modern English *bird*
(CZAPLICKI 2013)

(D) DOES METATHESIS OPERATE PREFERABLY SYLLABLE-INTERNALLY, AND IF NOT, HOW FAR DOES A LIQUID MOVE?

(d) Metathesis moved the liquid with overwhelming frequency into an adjacent syllable (in 90 out of 115 cases (= 78.3 %)) ($\chi^2 = 176.58$, df = 3, p < 0.0001). In only 7 cases (= 6.1 %), the liquid remained within the same syllable.

ANCIENT GREEK

βάτραχος 'frog'
variant βρόταχος (Ionian)
(LIDDELL & SCOTT 1940)
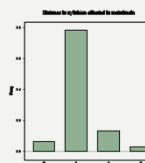
(C) DOES METATHESIS MOVE THE LIQUID INTO THE SAME TYPE OF SYLLABLE POSITION (E. G. FROM A COMPLEX ONSET CLUSTER INTO A COMPLEX ONSET CLUSTER IN A DIFFERENT SYLLABLE), AND IF NOT, IS THERE A PREFERRED TYPE OF SYLLABLE POSITION TYPE FOR THE OUTCOME OF LIQUID METATHESIS?

(c) Only liquids in a complex onset cluster have a significantly greater likelihood to move to another complex onset cluster than into another syllable position type ($\chi^2 = 20.15$, df = 2, p < 0.0001). Numerically, however, this observation is also true for complex coda clusters and the intervocalic position.
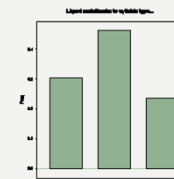
LATIN

cloaca, variant *couacla* 'sewer, drain'
(CONSENTIUS, 5th c. CE, in NIEDERMANN 1937)

ORIGINS OF METATHESIS

PRODUCTION

Changes in gestural phasing between syllables with a preference of in-phase gestures (Proctor 2009: 118)
→ explains metathesis from complex coda into complex onset

PERCEPTION

Confusion due to
- long-distance resonances in approximants
- the presence of a svarabhakti vocoids in taps and trills (Czaplicki 2013)
→ in need of experimental testing (in preparation; grant proposal submitted)

THEORETICAL PHONOLOGY (OT)

Metathesis achieved by a specific (re)ranking of relevant constraints such as
- NO-CODA[rhotic]C (to achieve metathesis of rhotics from a complex coda into a complex onset)
- *COMPLEX-ONSET/Right-Stem or *COMPLEX-ONSET/Middle-Stem (to achieve leftward metathesis from a complex onset into another complex onset)
- LINEARITY (to prevent overgeneralisation of metathesis)
- step-by-step metathesis (e.g. *cabra* > **carba* > *craba* in Algherese Catalan) predicted by Torres-Tamarit, Pons-Moll, & Cabrera-Callís (2012)
- COINCIDE-σ1 (to achieve metathesis into the first syllable in the word)
- *MAP constraint family (to achieve only metathesis of liquids in complex clusters) (Coffman 2013)

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