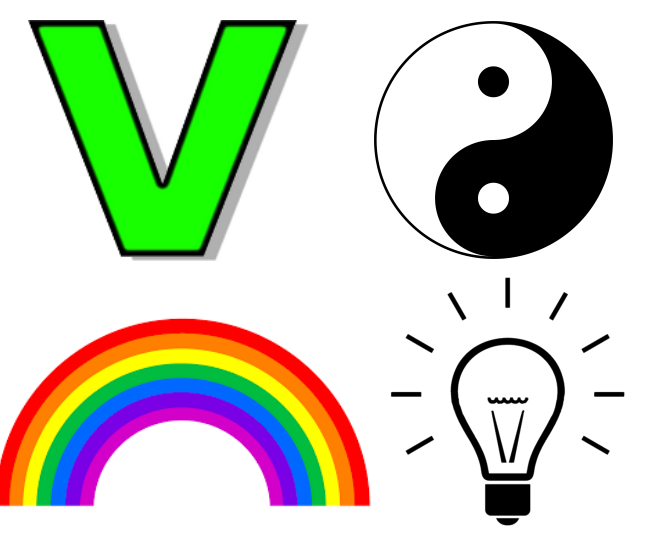


DIACHRONICALLY STABLE, LEXICALLY SPECIFIC VARIATION: THE PHONOLOGICAL REPRESENTATION OF SECONDARY /æ/-LENGTHENING



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Previous impressionistic reports

- 20th-century scholars report a 'split' /æ/ (TRAP) vowel in Southern England: certain words longer
- Jones (1918)
 - Short *lad, pad, cat, lamp*
 - Long *bad, sad, glad, bag, man, jam, back, that*
- Fudge (1977)
 - Dozens of words sorted into 'short' and 'long'
 - Many near-minimal pairs in own speech
- Wells (1982)
 - Short *lad, pad, cad, dad, fad*
 - Long *bad, glad, clad, mad, sad, jam, jazz*
 - "Contrastive length" mainly before /d/, especially adjectives

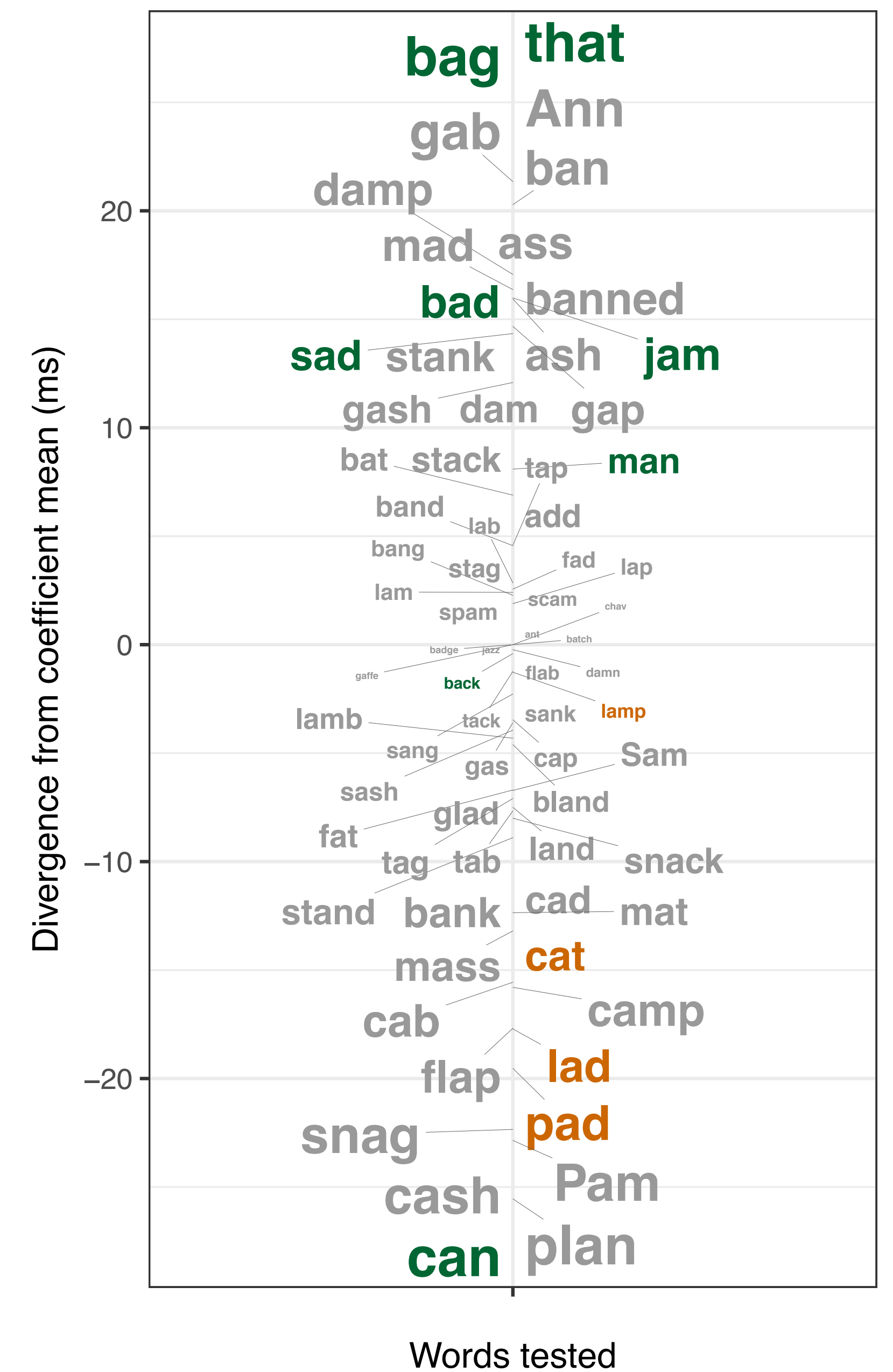
Results: By-word lengthening effects

- Subset analyzed in linear mixed effect model run in R with lmerTest package (R Core Team 2016; Kuznetsova et al. 2016)
 - 73 monosyllabic words (token n=1,774)
- Duration (ms) predicted by:
 - Fixed effects: word frequency (LogZipf); voicing, manner, place of articulation (postvocalic consonants) + interactions
 - Random effects (intercepts only): word, subject, word:subject

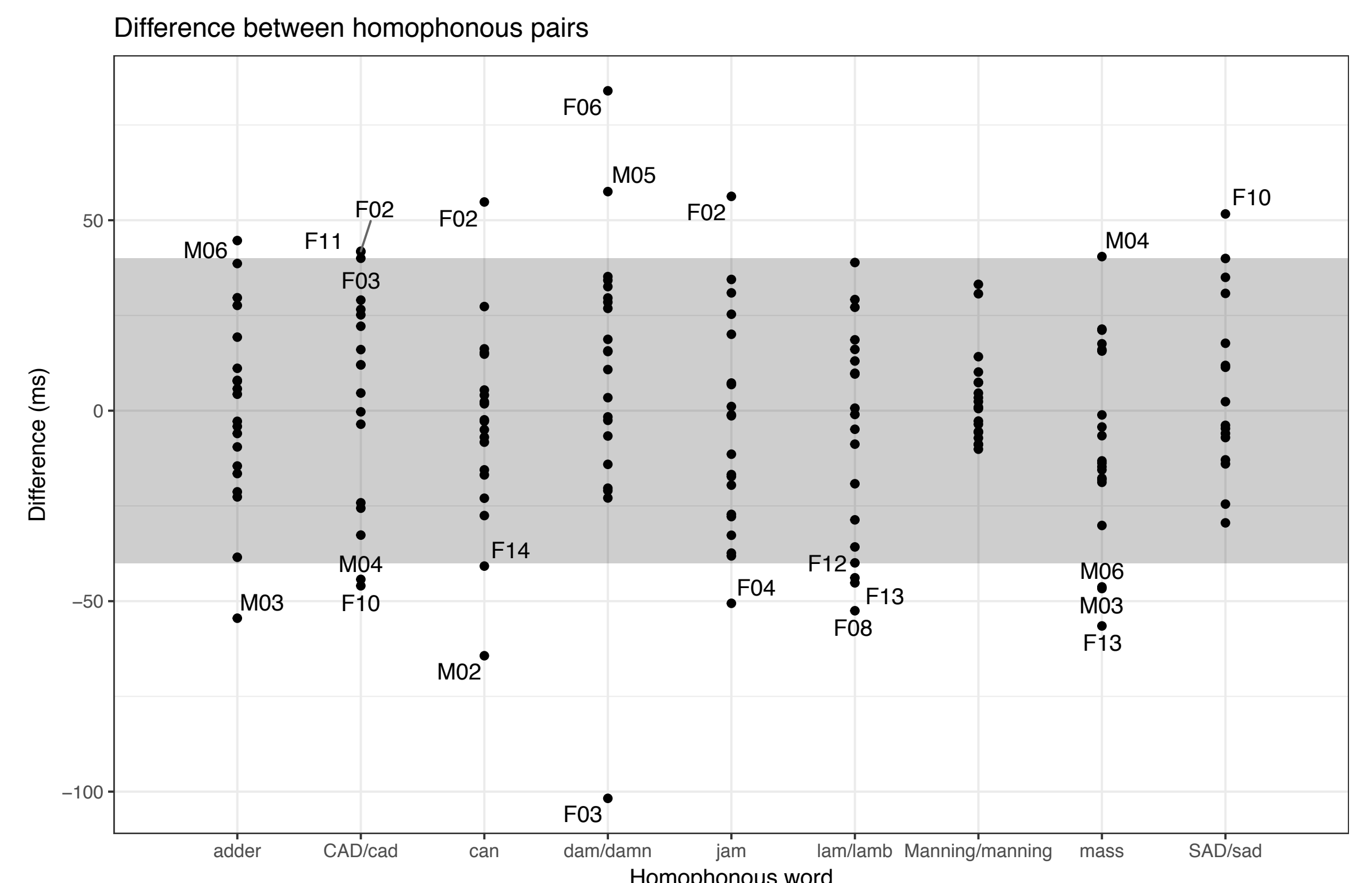
Fixed effects	Est.	Std. Err.	df	t value	p value
(Intercept)	207.9616	5.9436	84.64	34.989	<.001
voicing (voiced)					
voiceless	-59.1146	8.4721	70.02	-6.978	<.001
manner (stop)					
fricative	33.1292	15.8604	71.71	2.089	0.040
nasal	-18.3736	8.6006	69.51	-2.136	0.036
nasal + stop clust	-30.5759	8.385	70.62	-3.647	<.001
place (alveolar)					
labial	-23.6262	8.7276	71.26	-2.707	0.008
palatal-alveolar	-15.4879	15.8727	71.74	-0.976	0.332
velar	6.7242	9.0621	71.05	0.742	0.460
frequency	8.5271	2.4147	71.78	3.531	<.001
interactions					
nasal:labial	30.1981	11.8503	70.84	2.548	0.013

Random effects	N=
Word:Subject	1469
Word	72
Subject	21

Jones (1918)
a Long
a Short
a No mention



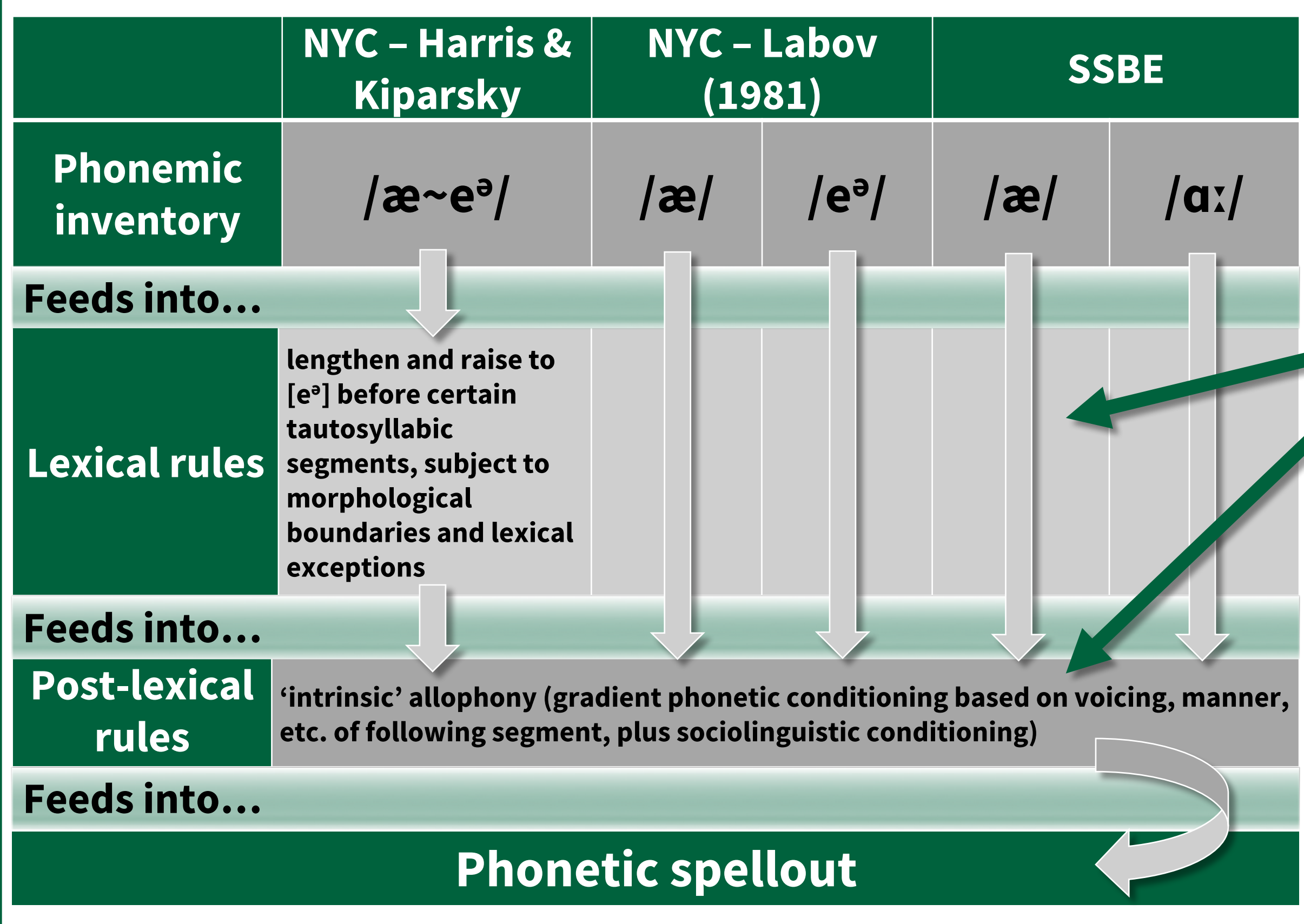
By-word coefficients measure excess lengthening



Differences between homophonous pairs show no signs of minimal pairs (shaded area = differences under 40 ms)

Treatments of primary /æ/-lengthening (TRAP-BATH split) in Lexical Phonology

- Within the framework of Lexical Phonology, diachronic change can be located in either:
 - Lexical rules (lexical diffusion)
 - Post-lexical rules (Neogrammarian change)
- Kiparsky (1988) and Harris (1989) propose that lexical rules can explain outputs in NYC/Philadelphia systems
- Labov (1981) treats them as two separate phonemes with no lexical rules in play
- Primary /æ/-lengthening phonemic in SSBE, but what about secondary /æ/-lengthening?



Where would secondary lengthening fit?

- Labov (1981): series of diagnostics to decide between Neogrammarian change and lexical diffusion

No clear place in Lexical Phonology

- Any other modular, feed-forward theory (e.g. Stratal OT) faces same challenge
- Outputs of post-lexical rules "never involved in lexically-selective change" (Harris 1989) – false!

	Neogrammarian change (Post-lexical rules)	Lexical diffusion (Lexical rules)
Discrete	no ✓	yes
Phonetic conditioning	fine ✓	rough
Lexical exceptions	no	yes ✓
Grammatical conditioning	no	yes ?
Social affect	yes	no ?
Predictable	yes	no ✓
Learnable	yes	no ?
Categorized	no	yes ?
Dictionary entries	1	2 ?

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Exemplar Theory (Bybee 2001; Pierrehumbert 2001): A better framework

- Usage-based approaches have no strict separation of lexical/post-lexical rule strata
- Phillips (2006): gradual phonetic changes always lexically diffused
- Pierrehumbert (2002): long-term word-specific phonetic patterns predicted
- But positive frequency effect of duration goes against generally predicted reduction