

# ANOMALOUS L2 SYLLABLE COUNT JUDGMENTS

## AN EXPLORATORY STUDY OF BIASES

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## SYLLABLE COUNTING JUDGMENTS

- Wake-up exercise: How many syllables in each of the following words?

phonological	mare	games
fantastic	age	helping
Mpumalanga	dam	scammed

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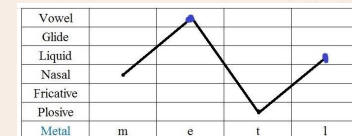
## BACKGROUN D

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## WHAT ARE SYLLABLES?

- Syllables are groups of segments.
- Ok, but not every group of segments is a syllable. What else we got?

- (C)V(C) in shape  
 ↳ esoterically characterized as  
 sonority peaks/contours...



- This is an idealized simplification
- Acoustically: sonority ↳ loudness ~ periodicity ~ distribution ~ whimsy
- Native “grain size” for various phonological patterns  
 (stress, tone, rhythm, text-setting/meter)

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### WHAT ARE SYLLABLES?

- A unit for phonological size/weight distinctions. Ex: minimality effects!
- in Xhosa, imperatives: *yiza* 'come!'     *\*za*  
→ short verb roots are augmented to bring Vstem up to 2 syllables
- in English: comparative *-er* is selective about syllable count of its base.
 

<i>huge</i>	<i>huger</i>	<i>lugest</i>		<i>gigantic</i>	<i>*giganticer</i>	<i>*giganticest</i>
<i>nice</i>	<i>nicer</i>	<i>nicest</i>		<i>pleasant</i>	<i>*pleasanter</i>	<i>*pleasantest</i>
<i>blue</i>	<i>bluer</i>	<i>bluest</i>		<i>chartreuse</i>	<i>*chartreuser</i>	<i>*chartreusest</i>
- Common threads across both cases: phonology can count the number of syllables in a thing, and grammars are sometimes sensitive to those counts

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### LING2 CLASS ACTIVITY: COUNTING SYLLABLES

2024 RU Ling2 class: larger than usual, virtually no L1 english speakers  
 Coarse approximation: group is basically *all* Xhosa/Zulu L1s

		σ count judgments			Proportions		
	total n	Words	1 SYL	2 SYL	UNSURE	%1syl	%2syl
coda ?	21	KISS	6	15		28.6	71.4
vowel?	21	KING	12	9		57.1	42.9
	21	KIT	19	2		90.5	9.5
	21	CAT	12	9		57.1	42.9
	22	CAN	13	9		59.1	40.9
morphology? spelling?	20	PEN	13	7		65.0	35.0
	21	STRETCH	14	3	4	66.7	14.3
	18	STRETCHED	1	14	3	5.6	77.8

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### SOME CASUAL ARMCHAIR SPECULATIONS

- the too-obvious possibility: "r TheY jUsT DuMn?" (let's hope not)
- Could it be a phonological transfer effect?
  - Bisyllabic minimality preferences leaking through from L1?
  - Something about syllable edge branching and phonotactics?
  - Are they counting moras in some unexpected way?
- What if the judgments are responding to actual knowledge about morphological/phonological/orthographic complexity of words?  
 ~ "it has more (X) so it oughta have more syllables"

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### METHODOLOGY

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## BASIC METHODOLOGICAL NITTY GRITTY

- On the basis of the pilot data, we assembled a list of words to probe the intuitions of the class.
- **Task:** forced choice style decision: 1, 2, 3, or 4 syllables?
- **Presentation:** paper worksheets, words in pseudo-random order, participants read & said words aloud, then circled a number
- Large class (≥60 on the day of). Participants cut from the sample if they missed ≥4 trials. **Final N=42**
- For simplicity of analysis, we assume all are isiXhosa L1s (pretend)

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## WORD LIST

Groups →	final dʒ	final tʃ	final N	final NC	affixed	distractors
Words →	age dodge judge charge merge lunge	scratch punch match stretch patch coach church watch	bring sing fling sin dam dine name climb	stand spend send jump find think blend dump blink cramp ant aunt	latched bridged binged banked jumped sinned dawned scammed	exit open recommending perform convince disappoint regulate designed examine understand explained imagine ...
Import →	'orthographically bisyllabic' (2 vowels)	letter-sound mismatch	final N allowed in Xhosa	clusters, transparent spelling	[t]-ed suffix	multisyllabic fillers to distract

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## RESULTS

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**Q:** "R THEY JUST DUMN"? **A:** NO!

- Responses are not randomly distributed over the space of options
  - **3s & 4s are vanishingly rare** among trial responses
  - **they aren't just guessing!**
  - (nor do they seem confused by the task)
- primary type of "error" is inflating 1-syllable words to 2 syllables (and not, e.g. adding +1 syllable across the board)
- **ergo: most of our results are framed in terms of 1 v 2**  
(Reminder: all words are monosyllables; 1 : 2 :: 'correct' : 'incorrect')

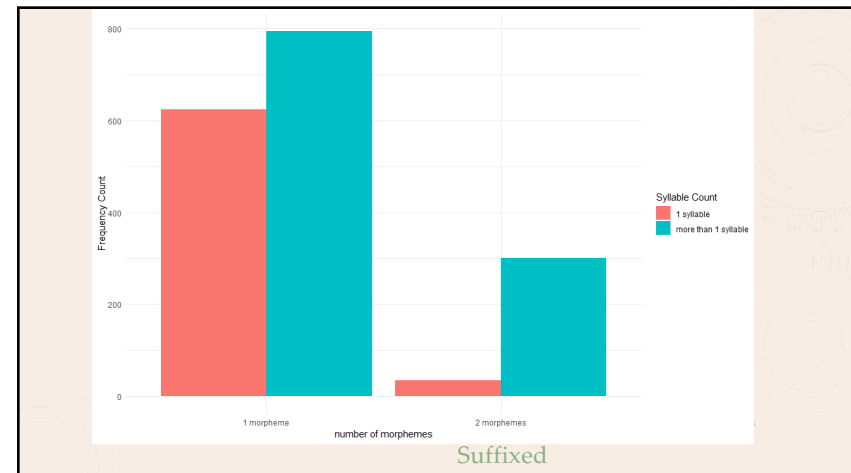
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## MORPHOLOGY MATTERS

- One thing our students *are* doing: projecting greater length onto **morphologically complex** forms
- Compare judgments for monomorphemic words (left) to the **bimorphemic group** (right)
- Still to be seen whether this effect holds after factoring out orthographic length

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## DOES THE PHONOLOGY MATTER?

What should we expect to find if there's transfer from L1 phonology?

Xhosa's potential lineup of coda consonants

- word-final -m (cf. mu, mi across Nguni; coda ~ syllabic nasal unclear)  
lam, wam, uxam, zobom
- first half of an NC cluster  
intlanzi, umculo, khulunkulu, bangabamba, impumlo
- obstruent clusters in loanwords; very often in root-initial syllable  
lokshini, maspala, skaftini, skotlani, asma  
(other clusters allowed in loans too, e.g. skribilisha 'scribble', ukuskora 'score')

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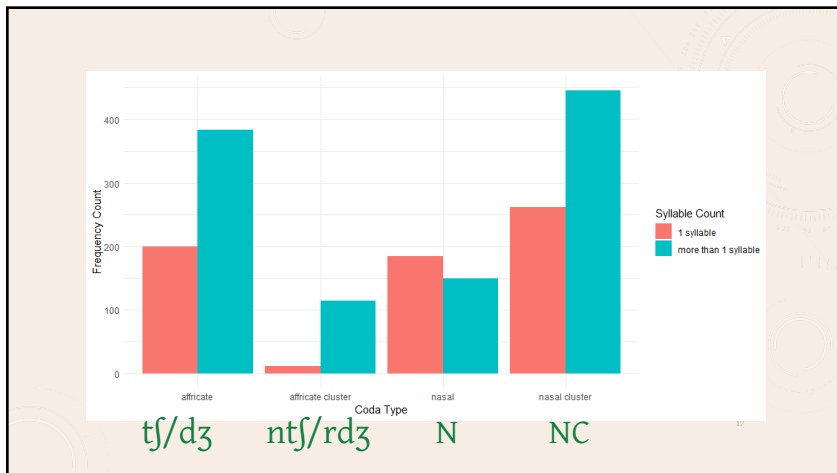
## DOES THE PHONOLOGY MATTER?

What should we expect to find if there's transfer from L1 phonology?

- $H_0$ : students are counting moras rather than syllables, and maybe they are assigning moras to final nasals  
~> words with final N should be judged as longer. la.m :: ne.m
- $H_1$ : students are syllabifying the English strings as if they were Xhosa syllables; only nasals are okay in coda positions  
~> words with final N should be judged as shorter  
[.nem.] works as one syllable, \*drank; ?dranj.k? must be 2 syllables
- The effect we find in the data is the latter one (!)
  - there is a baseline skew towards two syllables
  - nasal codas are the only group that trends in the other direction

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## WHAT ABOUT THE PHONETICS?

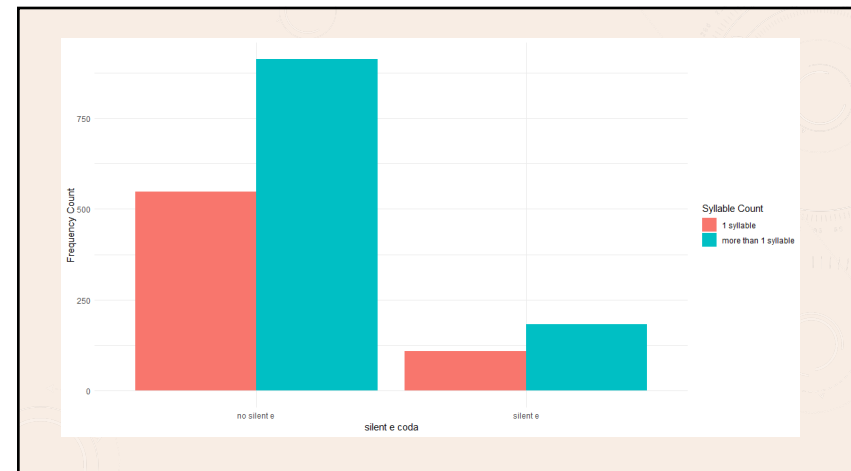
- Final affricates, clusters: they bias (significantly) our students towards 2-syllable judgments for 1-syllable words
- Possibly the **phonetic complexity** of word-final sequences induces a bias towards judging them to be longer?
  - affricates are one phoneme, but multiple acoustic phases
- Still to be seen if this effect holds after more rigorously compensating for orthographic length and sample balance

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## HUBRIS: WE ARE ALL A LITTLE DUMB...

- Silent -e group is not large enough in our data set to reveal much of anything about **orthographic length**, a key factor we want to disentangle
- **An idea:** *name* isn't 2 syllables, but *is* spelled with two vowels; has the same "orthographic shape" as truly bisyllabic words (*café, forte, Cele, spaza*)  
 ~ *lace* looks "more bisyllabic" than *lab, lack, law*
- **Intuition:** maybe the spelling similarity biases them towards a bisyllabic judgment? (there could be vowel quality effects as well?)
- **Results:** slight skew evident in following graphs
  - ...but there's only 5 words with silent e
  - not enough data to pull any effect of silent e out from the general tendencies over the whole set

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## LAST WORD

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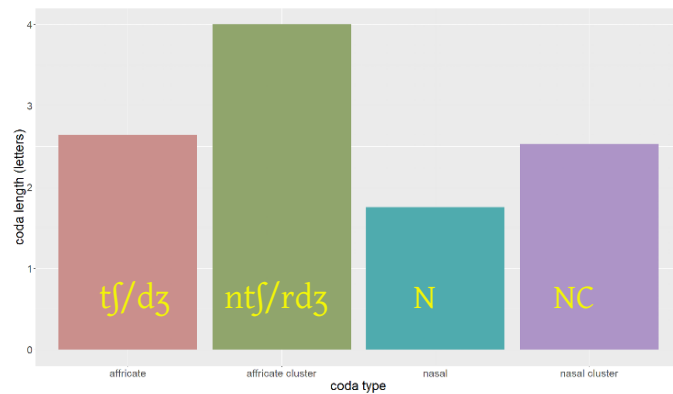
## WHAT ARE SYLLABLES?

- If you don't know, don't ask our ling2 students...
- If you already know, then *do* ask them! It might teach us something about syllable structure and the perception & mental representation thereof.
- → Let's hope it does! I don't have any other way to explain why so many people are judging monosyllabic words to be 2 syllables (or even 3 or 4)
- A frustration: *every* kind of linguistic complexity (necessarily?) correlates with greater orthographic length! More sounds ~> more letters.

Much more statistical analysis still to be done, to see if the judgments reflect sensitivity to phonological factors after we adjust for bias from letter count(!)

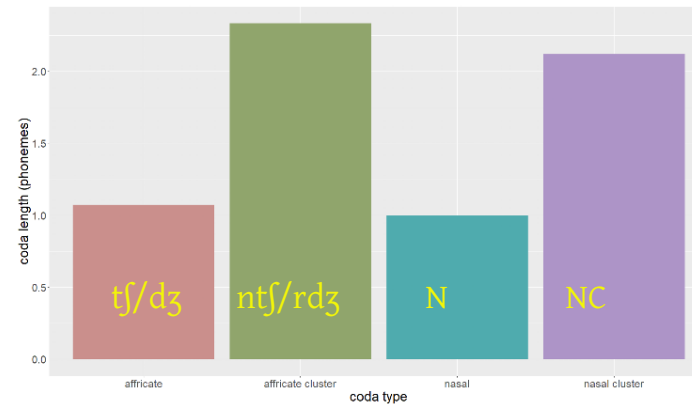
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average coda length (orthographic) by coda type:



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average coda length (phonemes) by coda type:



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SIYABULELA



FINSH

THANKS

28 NOV 2024

WITS

SAMWOP