



# The Syllabification of American English Evidence from a Large-scale Experiment



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## Research Question

What factors influence how people syllabify English words?

## Short Answer

People syllabify along morpheme boundaries, make syllables that begin and end in phonologically and orthographically licit units, and place sonorants in codas.

## Stimuli

4,990 bisyllabic words

- High and low frequency (*about, hallow*)\_
- 1 to 4 medial consonants (*never, victim, astray, obstruct*)\_
- Morphologically complex and simple (*deaden, about*)\_

## Method

Words given in orthographic and quasi-phonemic form:

### victim

- \_\_ VI / KTUHM
- \_\_ VIK / TUHM
- \_\_ VIKT / UHM
- \_\_ I'm not sure

- Subjects choose one of the options.
- Each subject did 125 items.
- Average of 22 responses per item.
- About 110,000 responses.

## Subjects

- 841 native English speakers from U.S.
- Most were young college students.

## Analysis

Multiple regression was performed which allows influence of each factor to be determined independently of all other factors.

## Factors Included

- Sonority of medial consonant
- Stress
- Legality of first V word-finally
  - Stressless lax vowels and tense vowels are legal [n\_ni]
  - Stressed lax vowels are illegal [næn\_]
- Legality of Cs word-initially and finally
  - [s, b, sp] are legal in both
  - [\_] is illegal initially
- Legality of spelling word-initially and finally
  - ck, gg are illegal initially
  - wh, qu, s are legal initially but not finally
- Morphological type: simple, complex, compound
- Place of morpheme boundary

## What Factors Favor .C over C.?

62% of variance accounted for

(In descending order of influence)\_

- Morpheme boundary before C (*gai.ly*)\_
- Non-sonorant C (*a.ppear*)\_
- Preceding V is legal word-finally (*ta.per*)\_
- Spellings that are legal both word-initially and finally versus legal finally only (*a.ssume*)\_
- Stress on the second syllable (*a.t tack*)\_
- C is legal both word-initially and finally versus legal finally only (*ne.ver*)\_

## What Factors Favor .CC?

75% of variance accounted for

(In descending order of influence)\_

- CC is legal word-initially (*a.t tract*)\_
- Morpheme boundary coincides (*ad.verb*)\_
- sC is legal word initially (*su.spend*)\_
- Spelling is legal initially only (*tre.bly*)\_
- Preceding V is legal word-finally (*va.grant*)\_
- Stress on the second syllable (*a.cross*)\_

## What Factors Favor C.C?

69% of variance accounted for

(In descending order of influence)\_

- Morpheme boundary coincides (*come.back*)\_
- First C is sonorant (*an.chor*)\_

## What Factors Favor .CCC?

60% of variance accounted for

(In descending order of influence)\_

- sCC exists word initially (*a.stray*)\_
- spelling of CCC is legal initially (*pre.scribe*)\_
- Preceding V is legal word-finally (*a.skew*)\_
- Word is a compound vs. other complex words

## What Factors Favor C.CC?

76% of variance accounted for

(In descending order of influence)\_

- Morpheme boundary coincides (*sheep.skin*)\_
- xCC is legal word-initially (*up.state*)\_
- xsC occurs word-initially (*per.spire*)\_
- Spelling of xCC is legal (*pol.troon*)\_
- First C is sonorant (*in.trigue*)\_

## What Factors Favor CC.C?

67% of variance accounted for

(In descending order of influence)\_

- Morpheme boundary coincides (*trans.pose*)\_
- CCx is legal word-finally (*wolf.ram*)\_

## What about CCCC?

- Too few items for statistical analysis
- But, 76% of syllabifications followed morpheme boundaries
- CsCC were C.sCC

## Conclusion

- Syllabification follows morpheme boundaries.
- Syllables result that follow the phonotactics and orthotactics of extant English words.
- Sonorants are placed in the coda of the first syllable.