



# Irregularization in the English Past Tense

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## 1. Overview

- Use "weird speech errors" as an insight into irregular past tense formation
- Predict the irregular forms speakers will accept and produce
- Speakers knew which vowels contained the semantic information of the irregular past

## 2. The Lexicalist Irregular Past

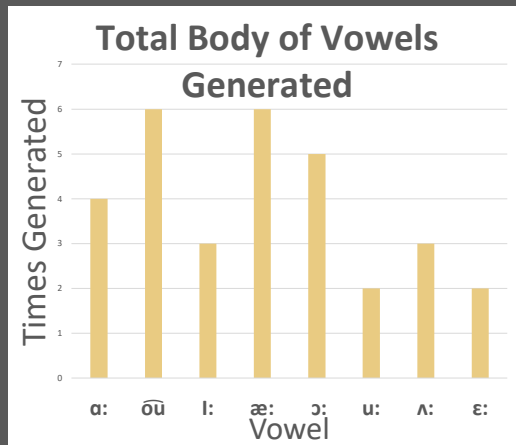
- The past tense is formed in the lexicon through analogy
- The lexicon generates vowel changes in the irregular past, forms them into words, and analogizes them with similarly structured words

## 3. Connectionist Irregular Past

- Phonological patterns and a system of weighted nodes create the past tense
- A neural network learns the appropriate vowels and generates them based on experience

## Lexical Analogy or Phonological Derivation?

### Using irregular verbs to decipher English Past Tense Formation



- The English irregular past is correlated with low/back vowels
- Out of all irregular forms produced, 86% were either back vowels or [æ]

Speakers favored the phonological derivations of the connectionist theory instead of lexical analogy (2) when forming the irregular past tense

Presented Form	Predicted Form	Plausible Form
Edit	Edit	Edat
Pind	Pint	Pand
Spell	Spelt	Spold
Tatch	Taught	Tutch
Chite	Chit	Chote
Vit	Vat	Vut
Rake	Rook	Roke
Snow	Snew	Snaw

Presented Word	Predicted Form	Plausible Form	Unlikely Form
Hud	Hud	Hod	Heed
Blend	Blent	Bland	Blant
Spell	Spold	Spall	Spold
Letch	Lought	Latch	Letch
Plite	Plote	Plit	Plat
Tring	Trang	Trung	Tronge
Hike	Hoke	Hack	Heek
Show	Shew	Shaw	Shee

## 4. Method

- I surveyed 50 English speakers
- Multiple Choice- 4 words, 4 nonce words, select the most grammatical conjugation
- Free Response- 4 words, 4 nonce words, supply the conjugation
- The answers were rated as predicted, plausible, or unlikely

## 5. Results/Conclusions

- Back vowels and [æ] resulted in 86% of all generated vowels
- In the multiple choice and the free response, my predicted form was chosen/provided 7/8 times
- These results suggest the phonological derivation of the connectionist model

## 6. Further Questions

- Is there an island regularity that contains the semantics of the English irregular past?
- What other languages have a past tense like this?
- Are there other categories that pattern the same way?