



**misheard
.me**
oronym tree

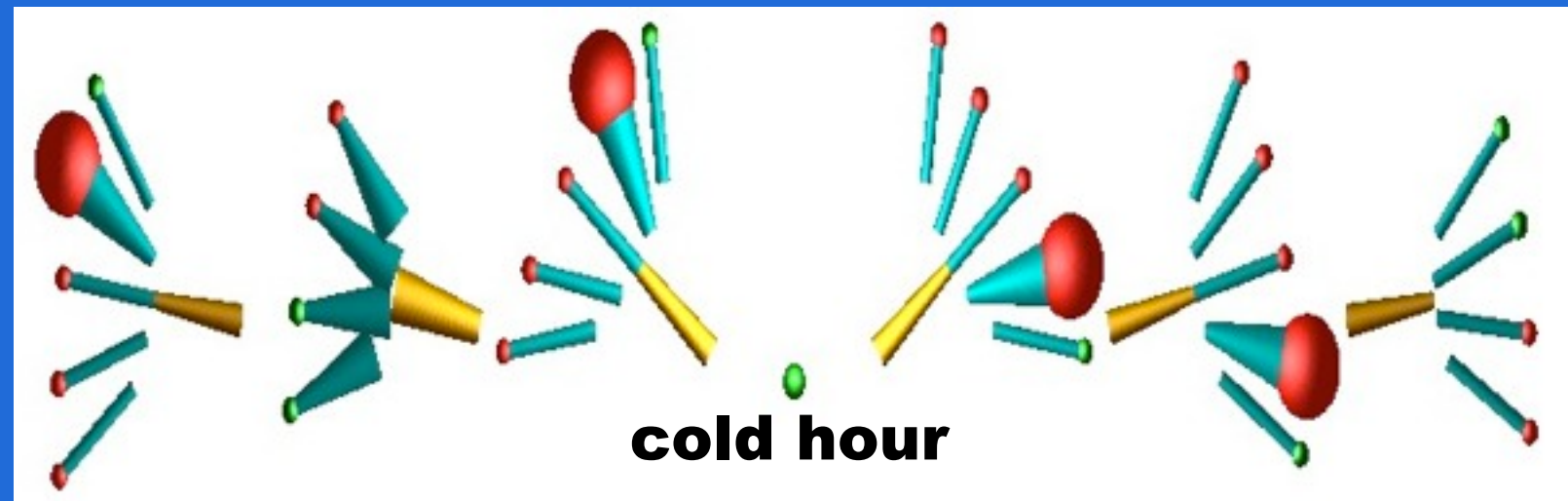
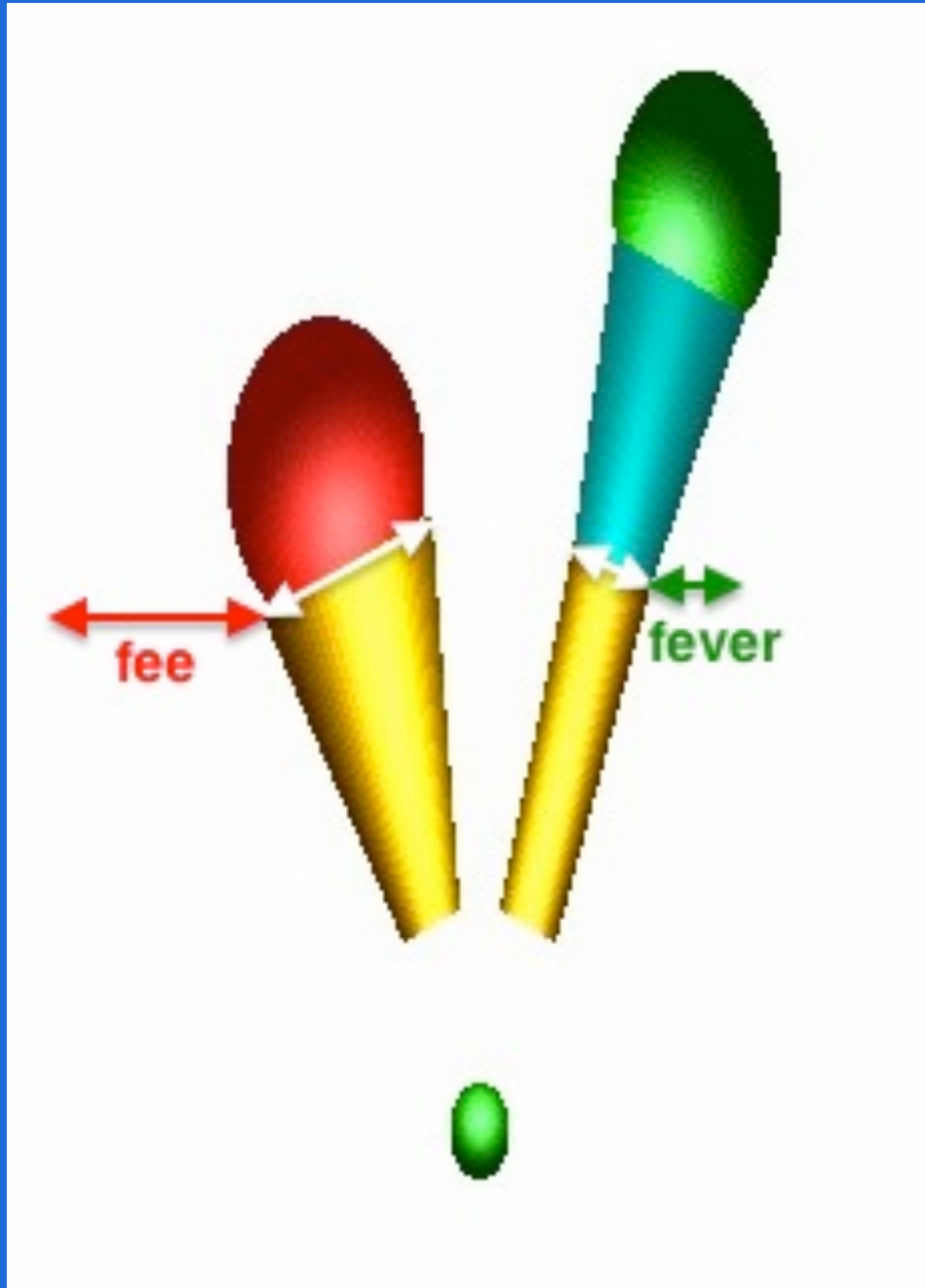
a visualization
of phonetic
ambiguity
in prose intended for
third-party performance

Jenee Hughes Thesis Defense;
2012-June-08

- Preliminary Vocab
- Introduction
- Implementation
- User Study
- Results
- Future Work
- Conclusion



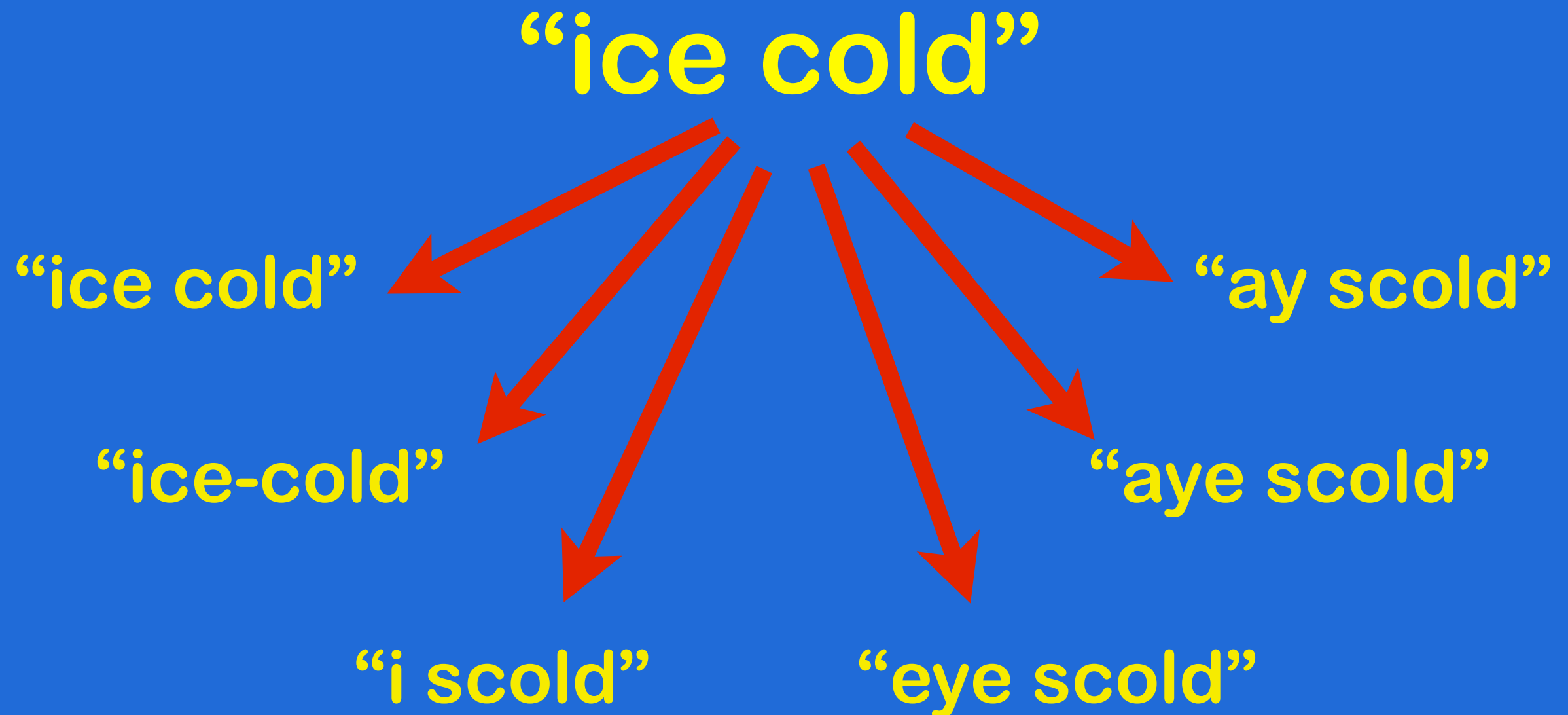
a Visualization



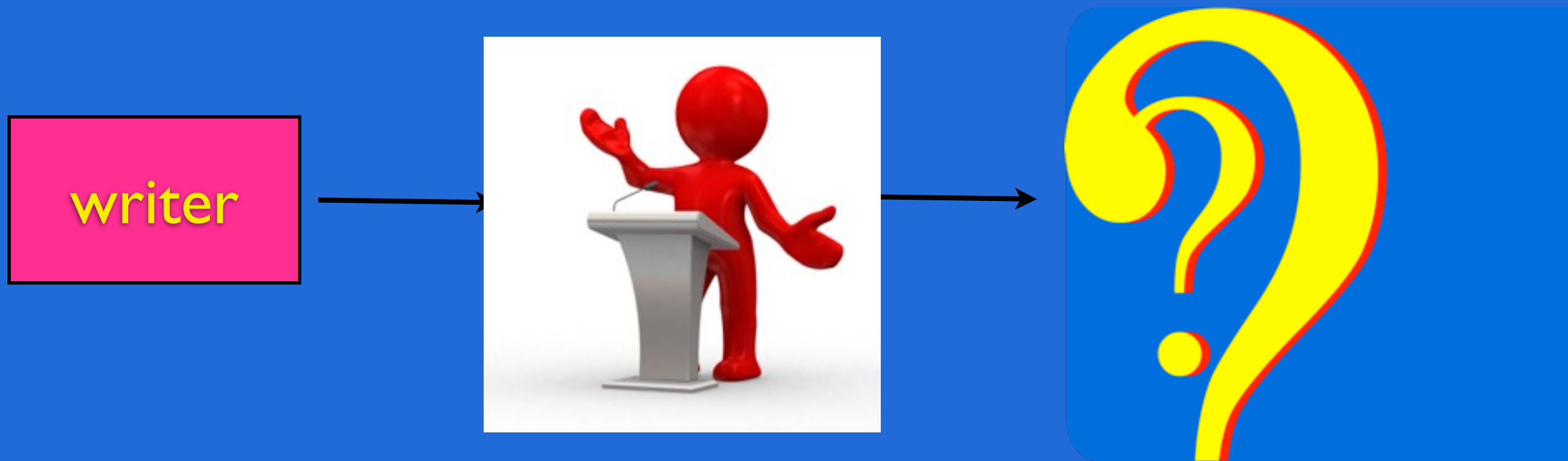
of Phonetic Ambiguity

“ice cold”

of Phonetic Ambiguity



for performance prose



vocab



Oronyms

ice cream
pic

i scream
pic

ice cream

i scream

Preliminary Vocab

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oronym tree

Mondegreens

Ye Highlands and ye Lowlands,
Oh, where hae ye been?
They hae slain the Earl O' Moray,
And Lady Mondegreen.

Orthography

See Spot. See Spot run. Run Spot run!

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Preliminary Vocab



Phonetics & Phonology

“ice cold”

Preliminary Vocab



Phonetics & Phonology

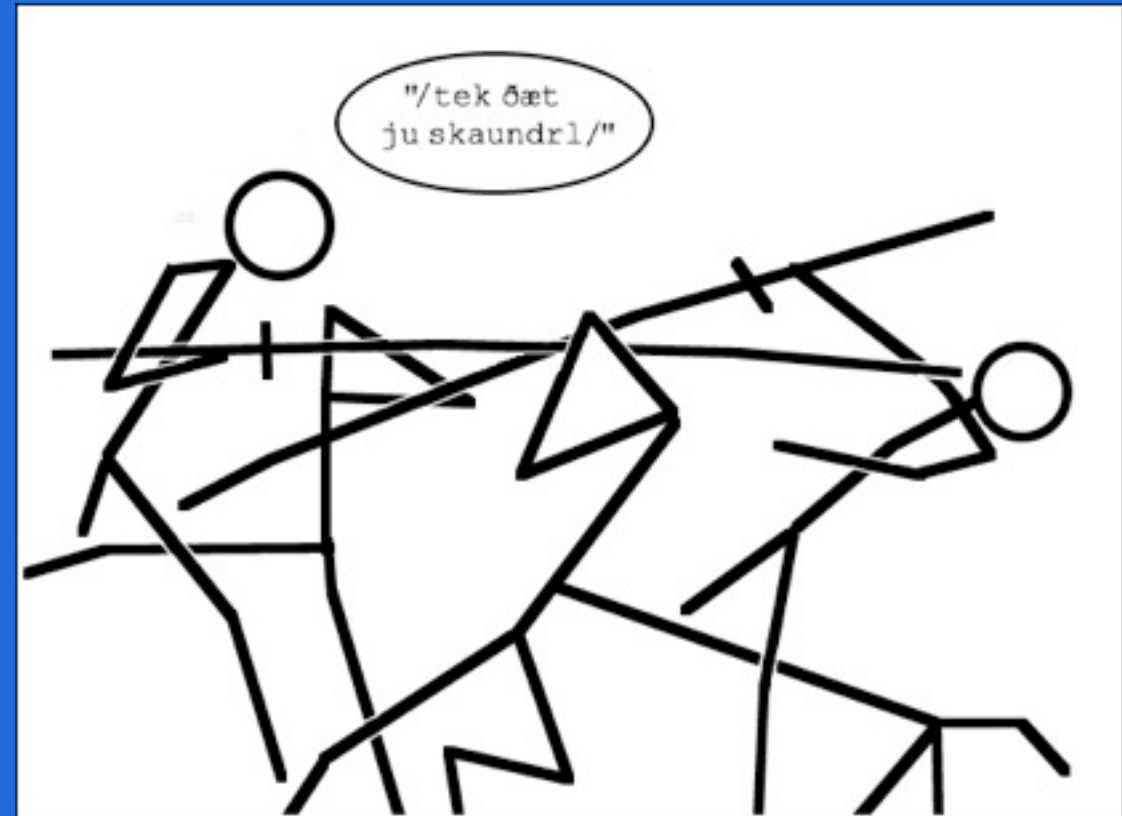
phonetics is descriptive

phonology is theoretical

Preliminary Vocab



Phonetics & Phonology



Preliminary Vocab

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oronym tree

Phonetic Alphabet

“ice cold”



aIs kould

Preliminary Vocab



intro

Introduction



Groovin'

Introduction



Where it breaks down



Introduction

Where it breaks down



Where it breaks down

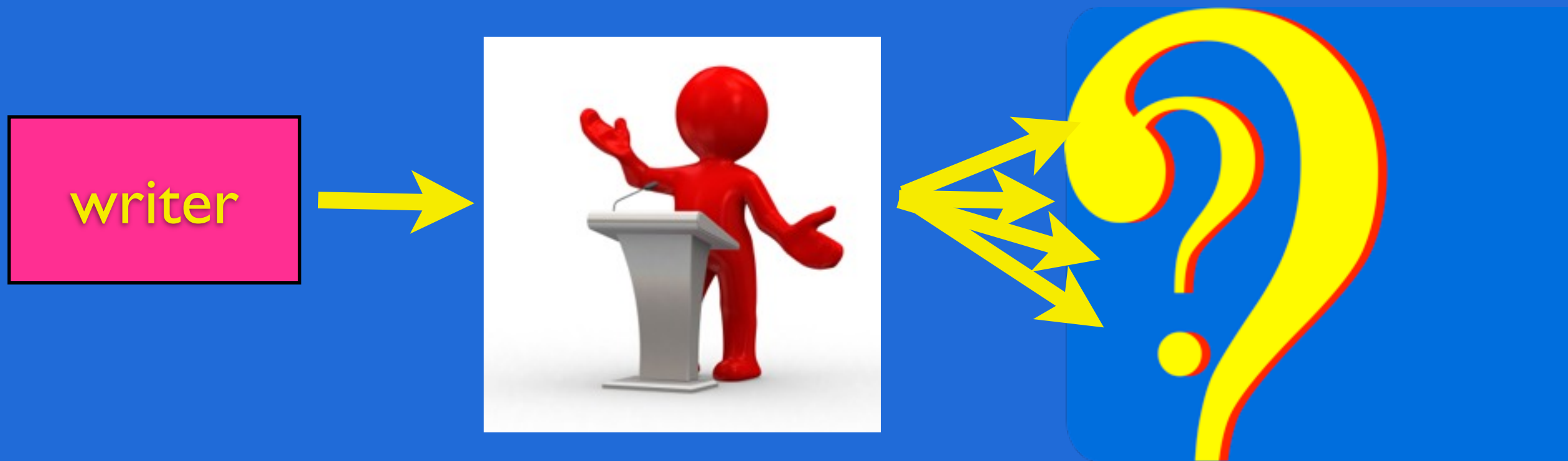


Introduction

Where it breaks down



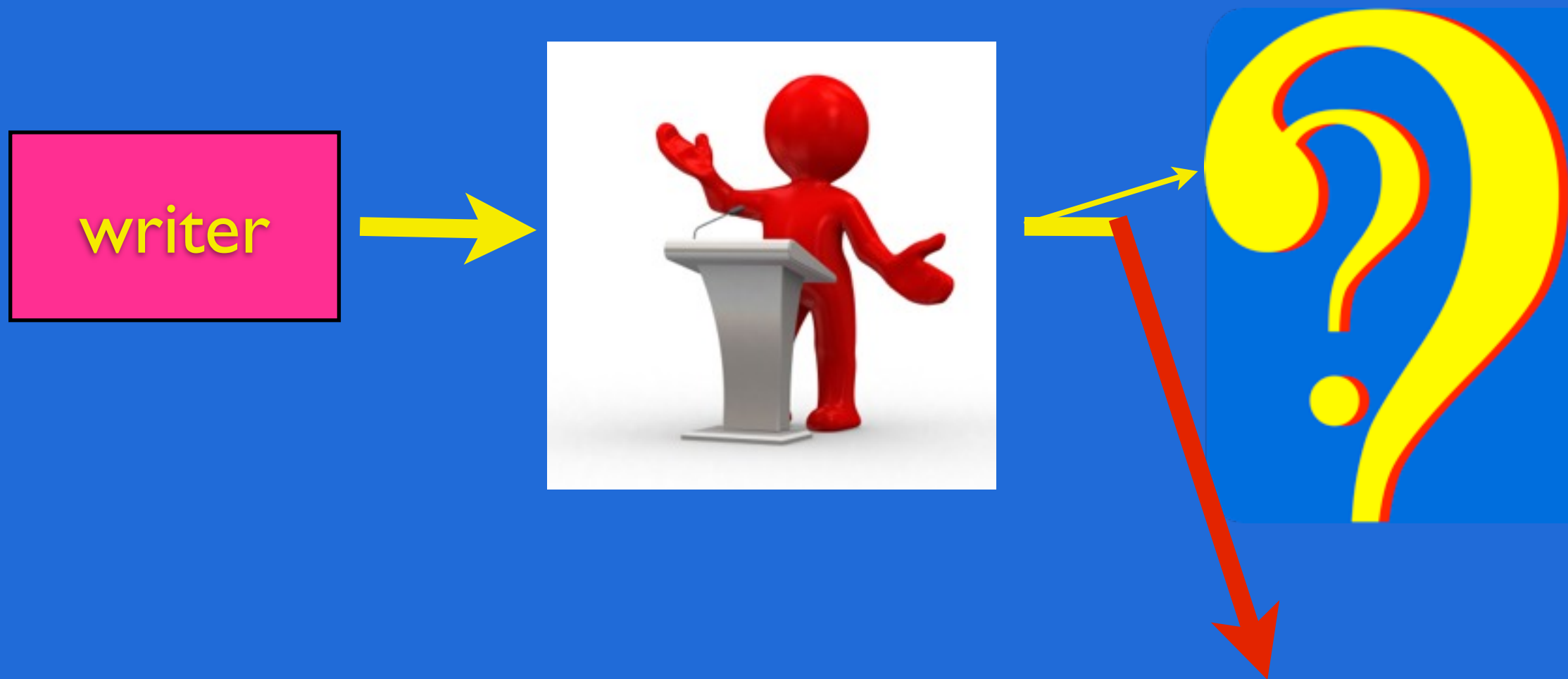
Where it breaks down



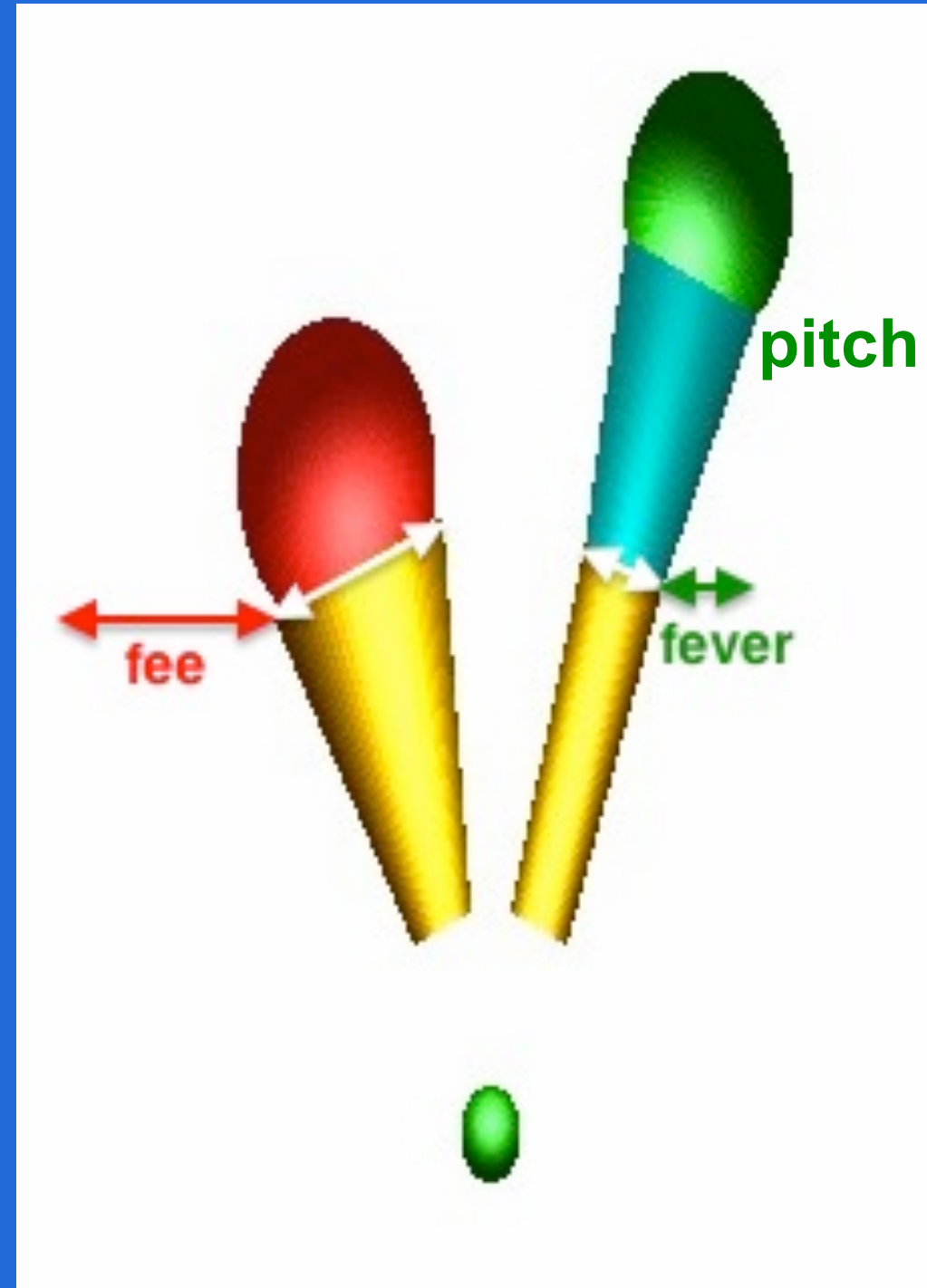
Where it breaks down



Where it breaks down



Introduction



implementation

Implementation



Three Parts

dictionary

command
line

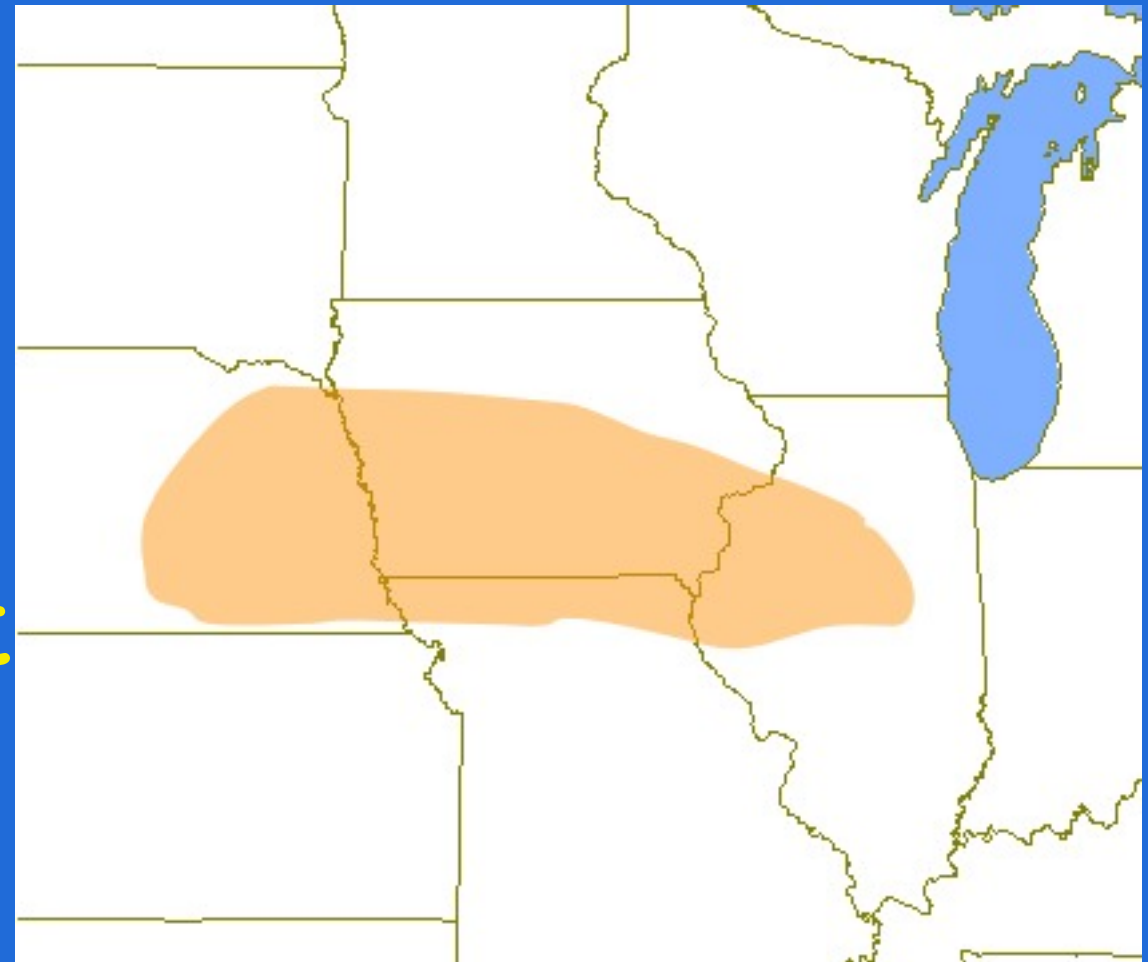
visualization

Implementation

Custom Phonetic Dictionary

UNISYN Lexicon

General American Accent



Implementation



Dictionary Entry

<ortho>:<uniqueID>:

<partOfSpeech>:<SAMPAspelling>:

<SAMPAnoEmph>:<extendedOrtho>:

<freq>

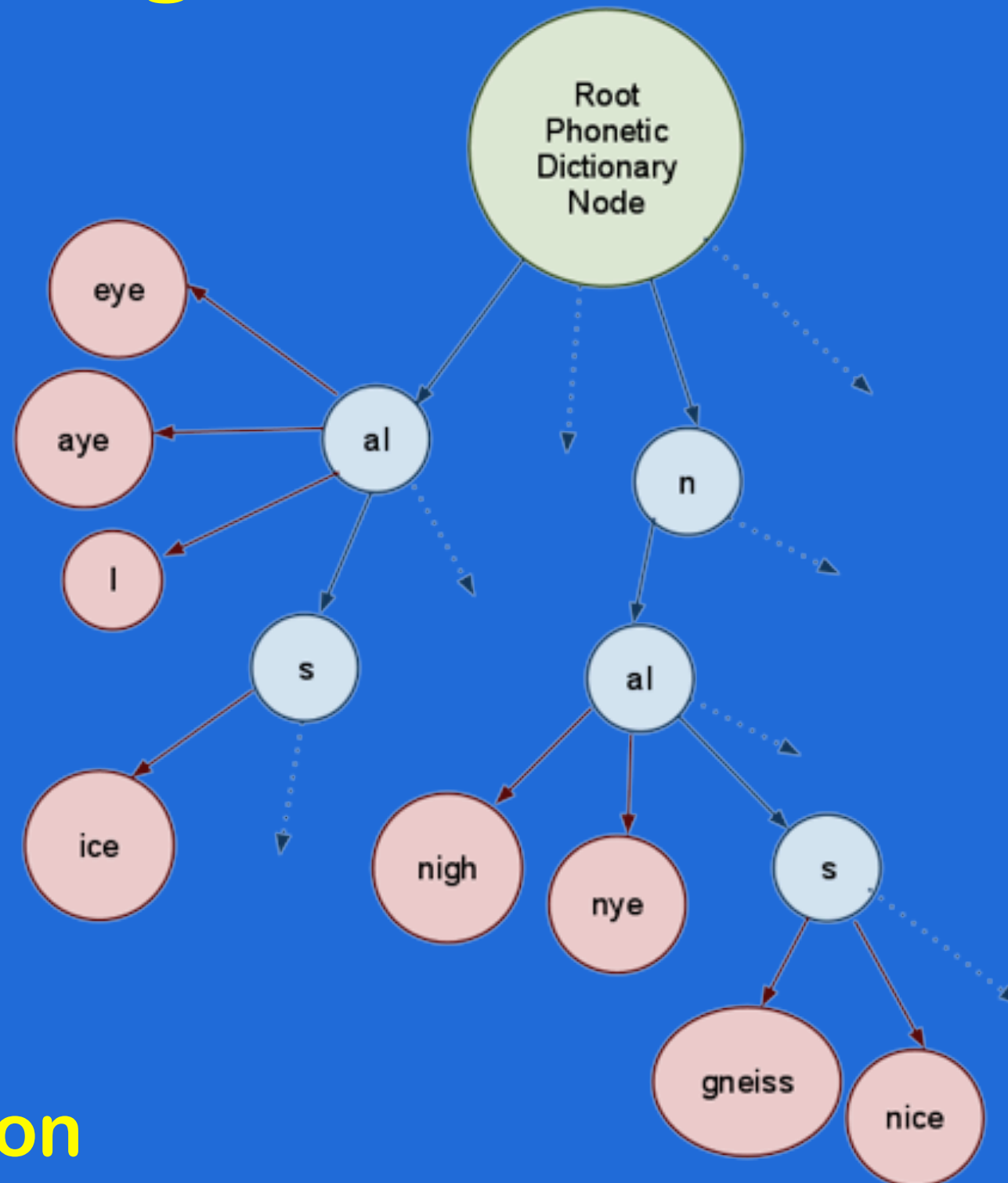
Example:

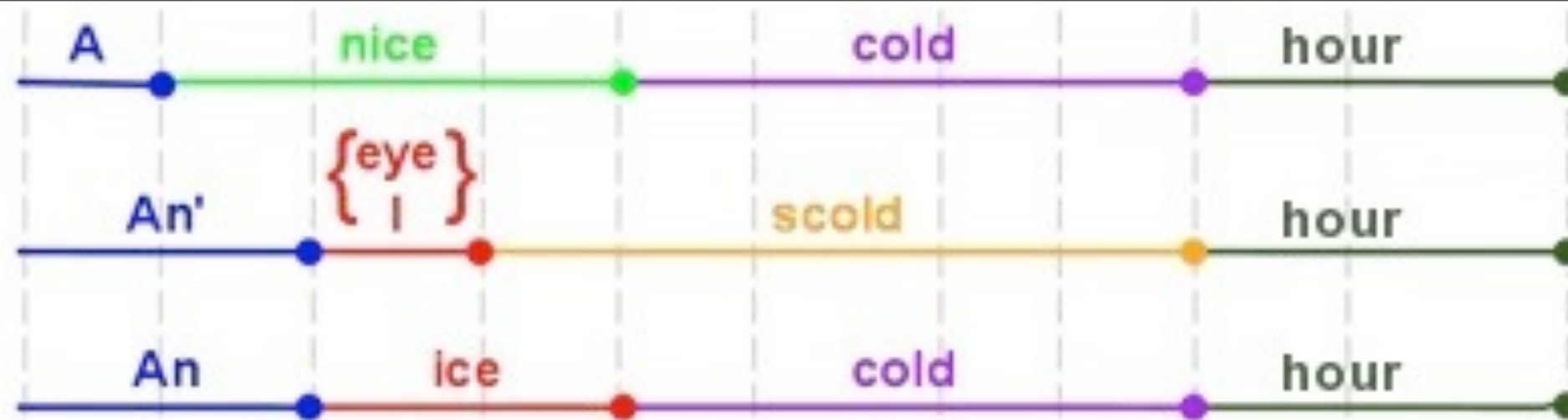
transfer:2:VB/VBP: tr{ns"f3`r :tr{nsf3`r:
{trans==fer}:7184

Implementation

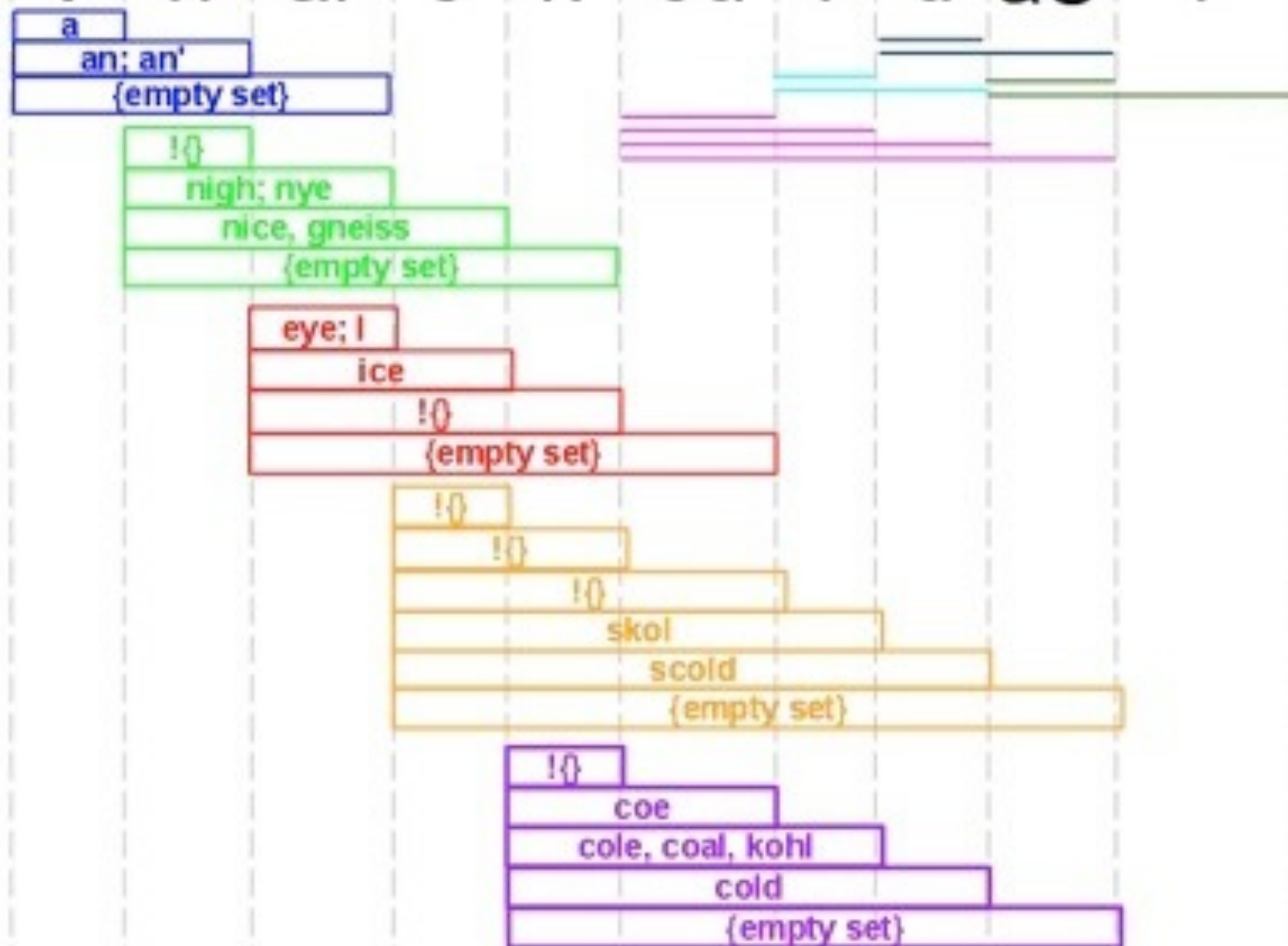
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Oronym Generation

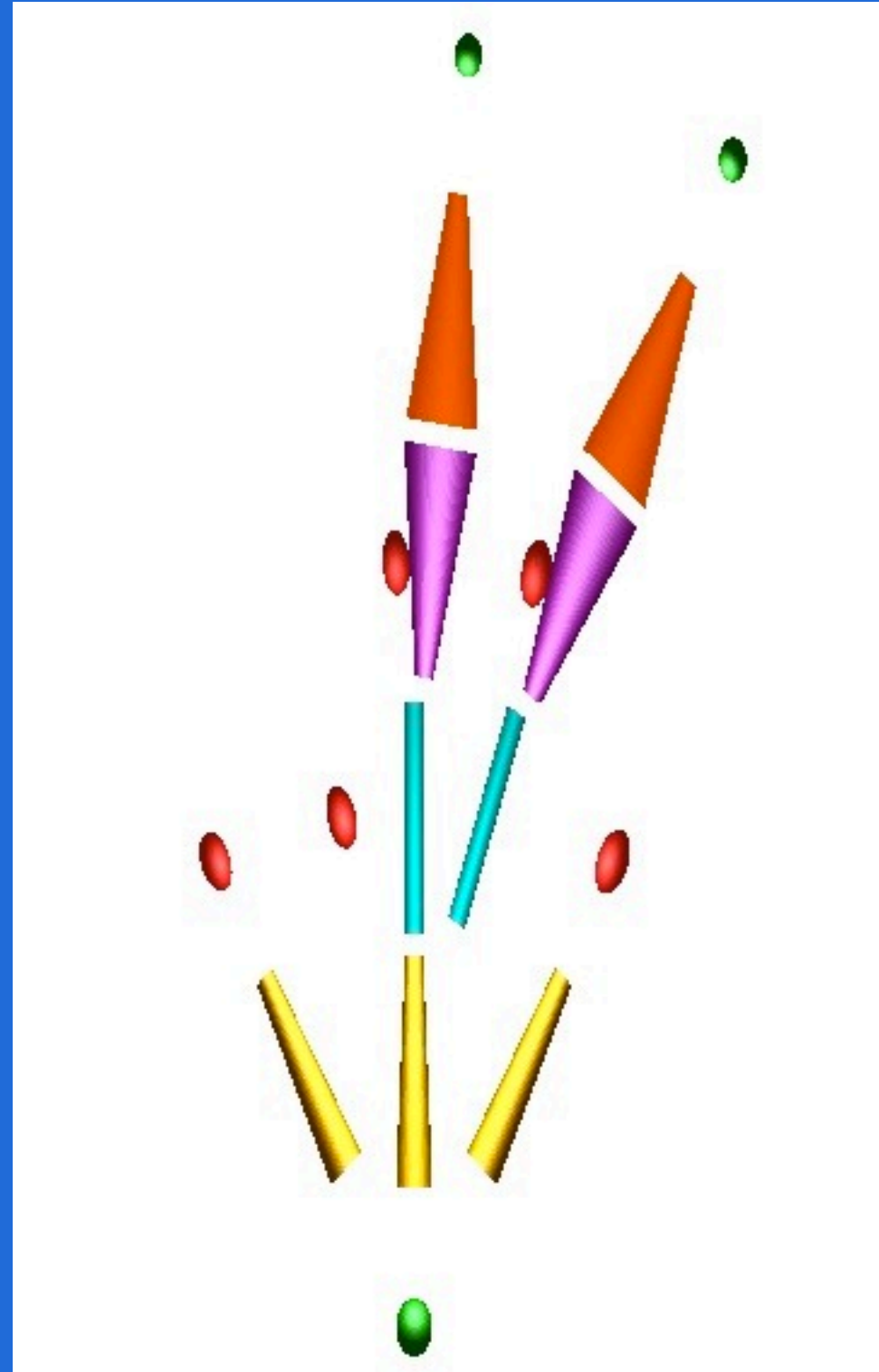




V n a l s k o u l d aU `r



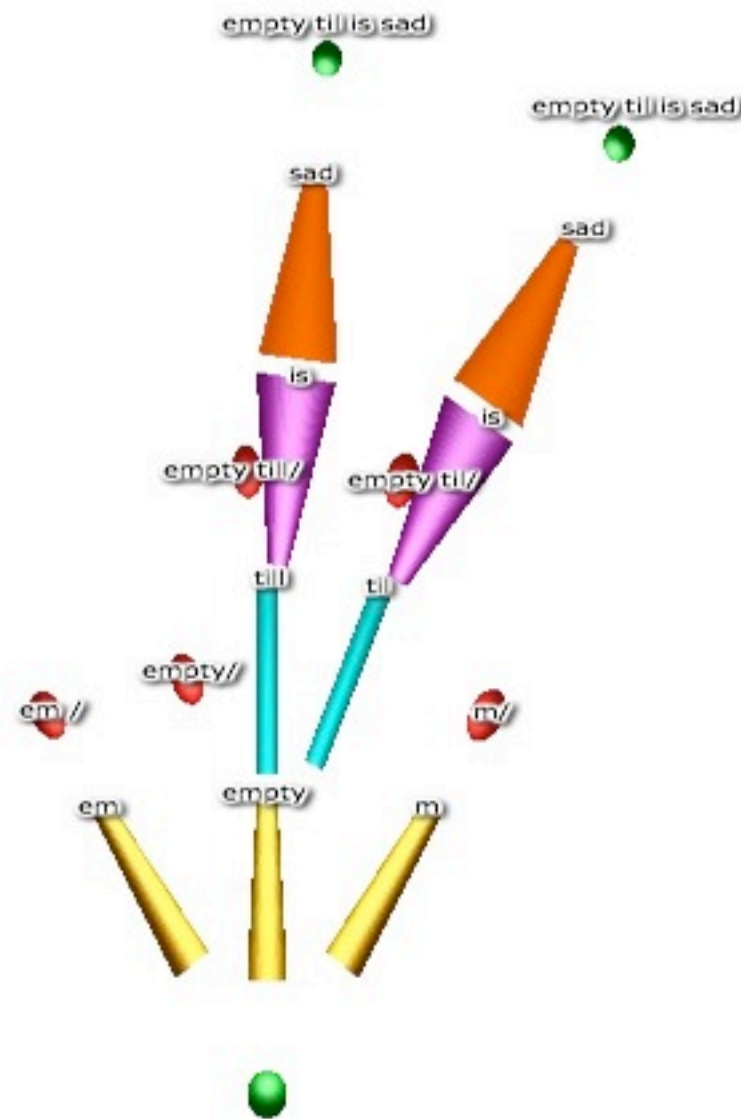
Visualization



Implementation

Visualization

make
words
bigger

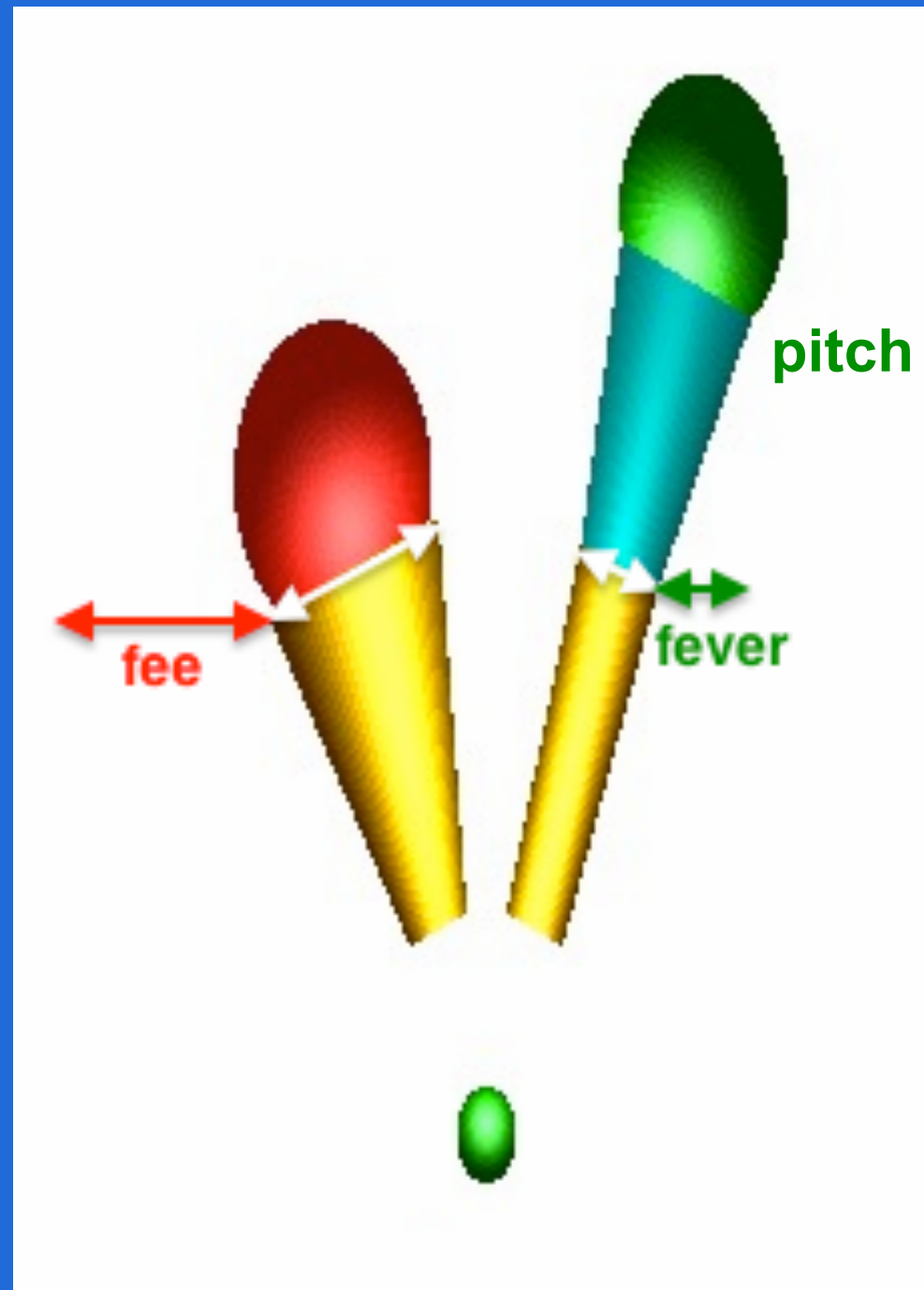


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Implementation

Frequency Scaling



Implementation

User Study

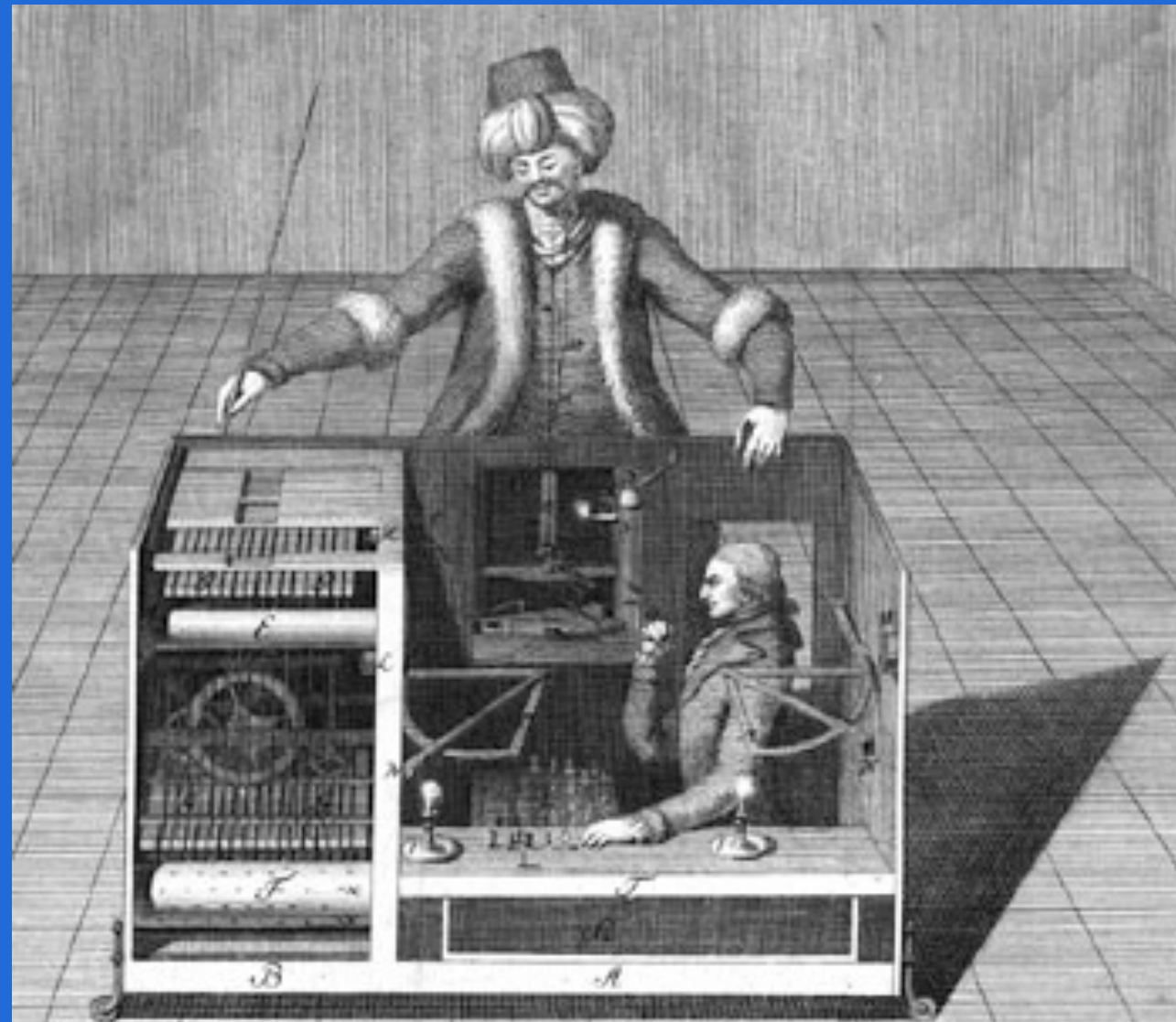
User Study



Methodology

- two-phase study
 - get recordings of oronyms
 - get transcriptions of recordings
- compare transcriptions to expected distribution from frequency metric

Sample Population



User Study

misheard
.me
oronym tree

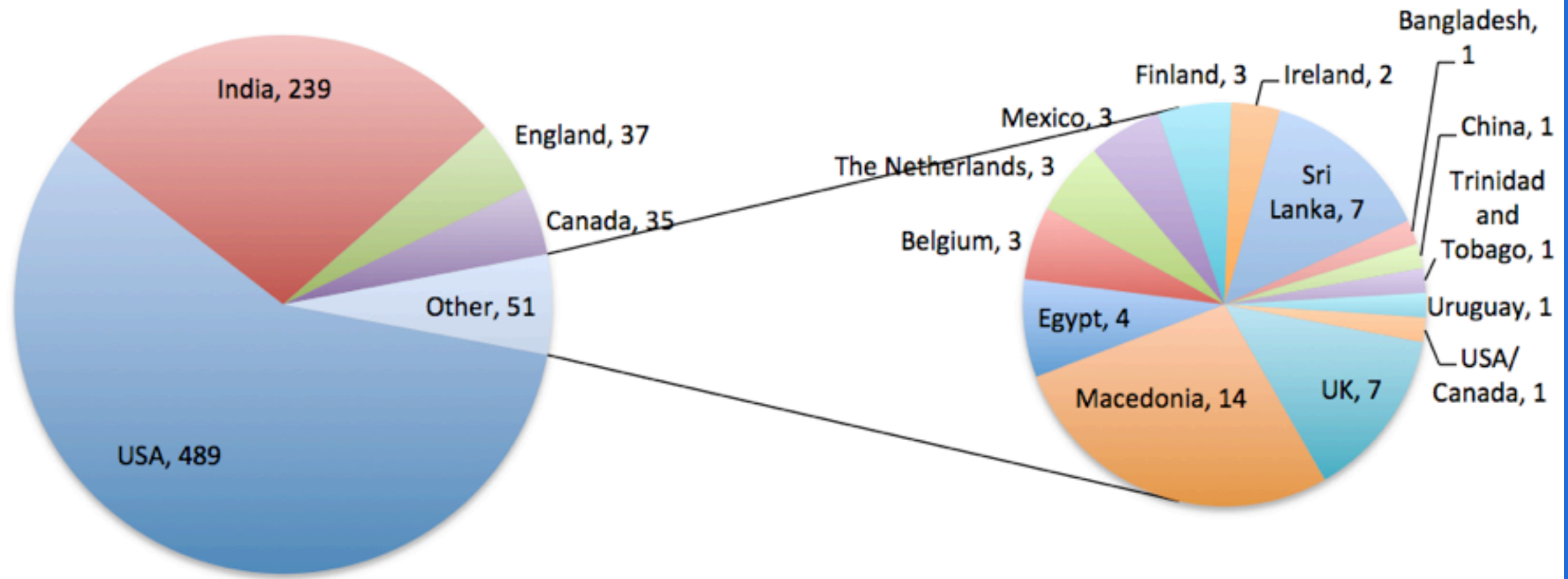
Sample Population



User Study

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oronym tree

Responses per country



Phase 1

writer
pen



recording
button

64 written
oronyms of
two root
phrases

12 Users

72 oronym
recordings

User Study



Phase 2

recording
button



listening
ear & pen

15 oronym
recordings

208 Users

851 oronym
transcriptions

User Study



results

Results



Results: Phase 1

recording
button

72 total
oronym
recordings

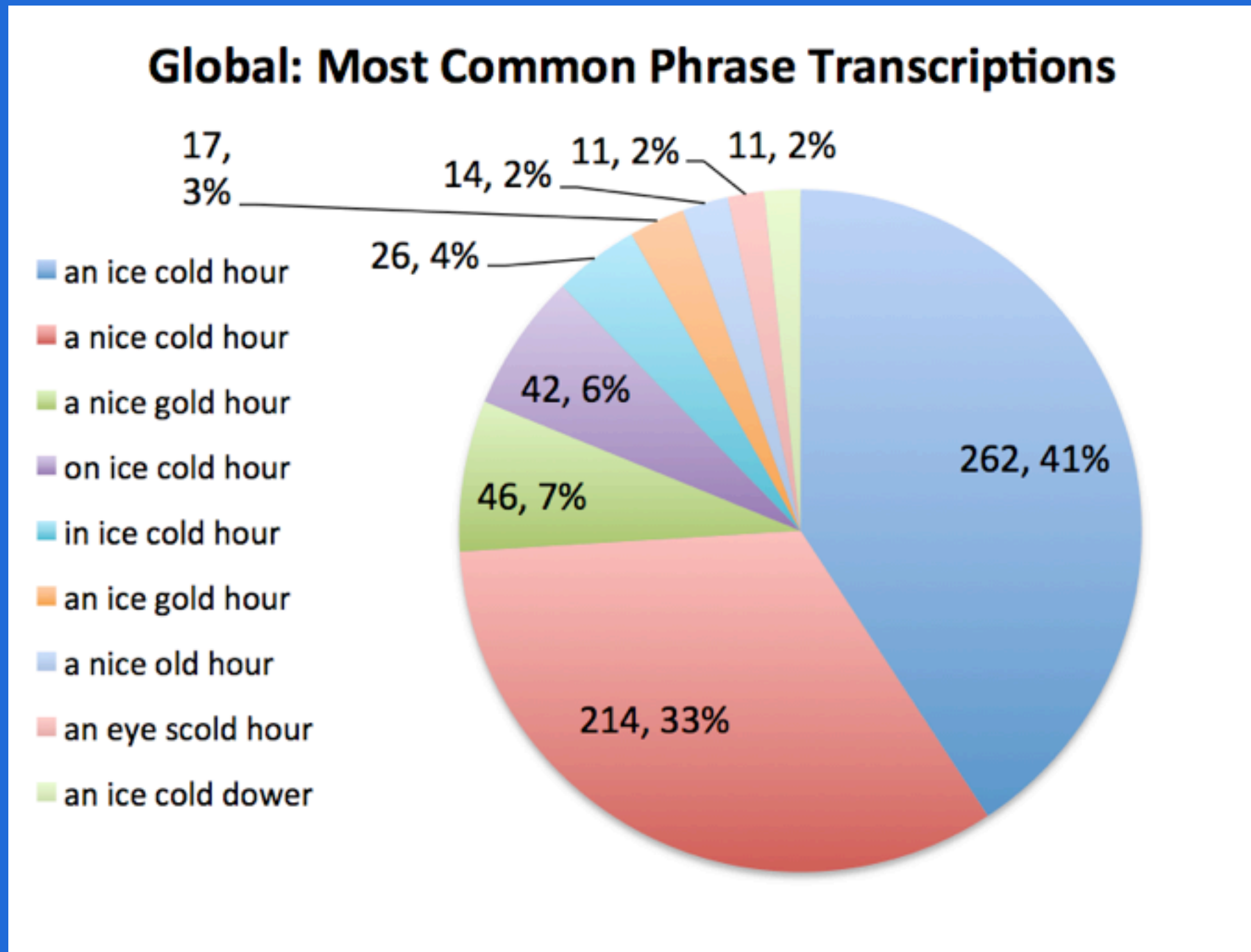
recording
button

11
anomalous
oronym
recordings

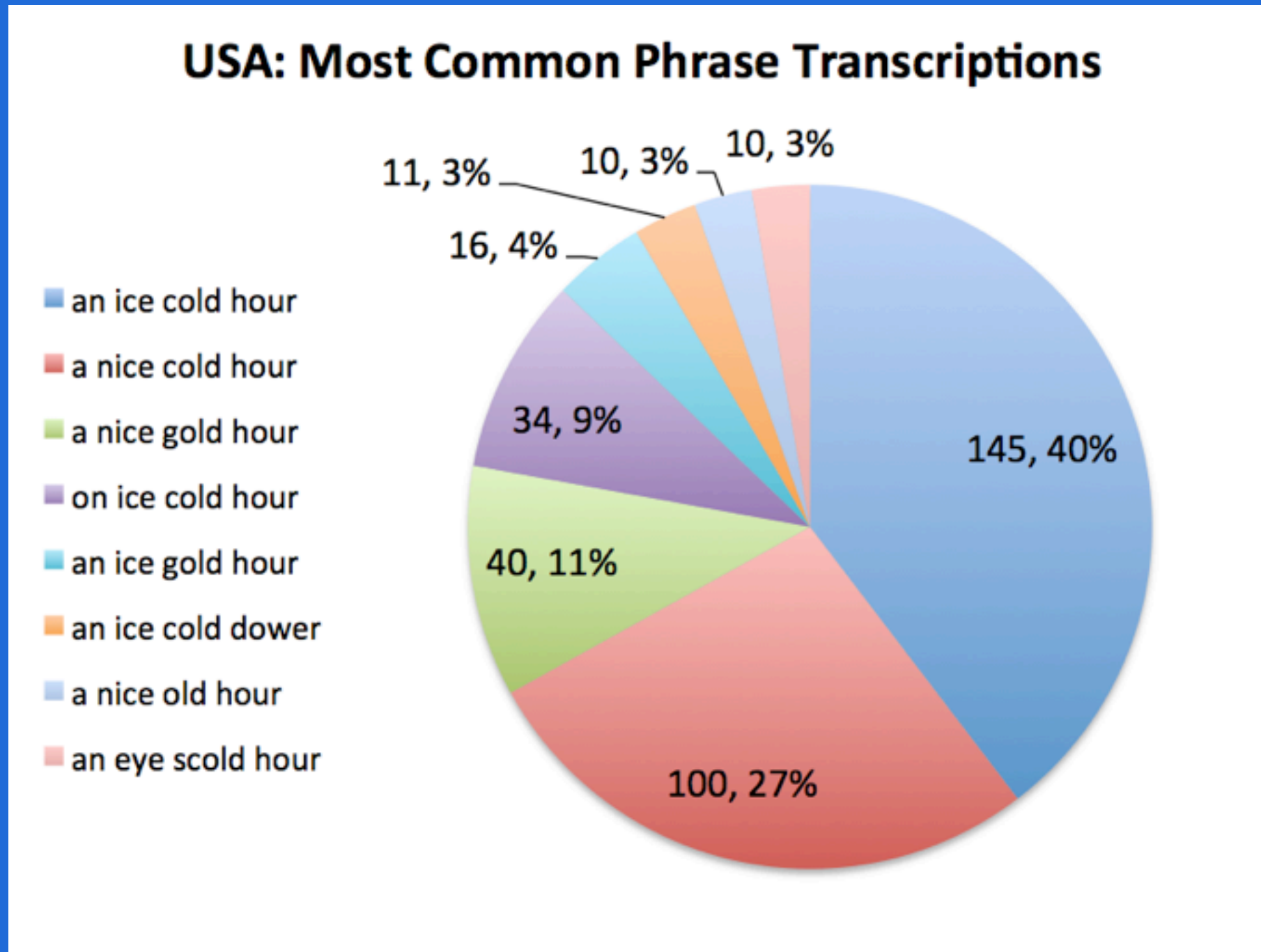
Results

misheard
.me
oronym tree

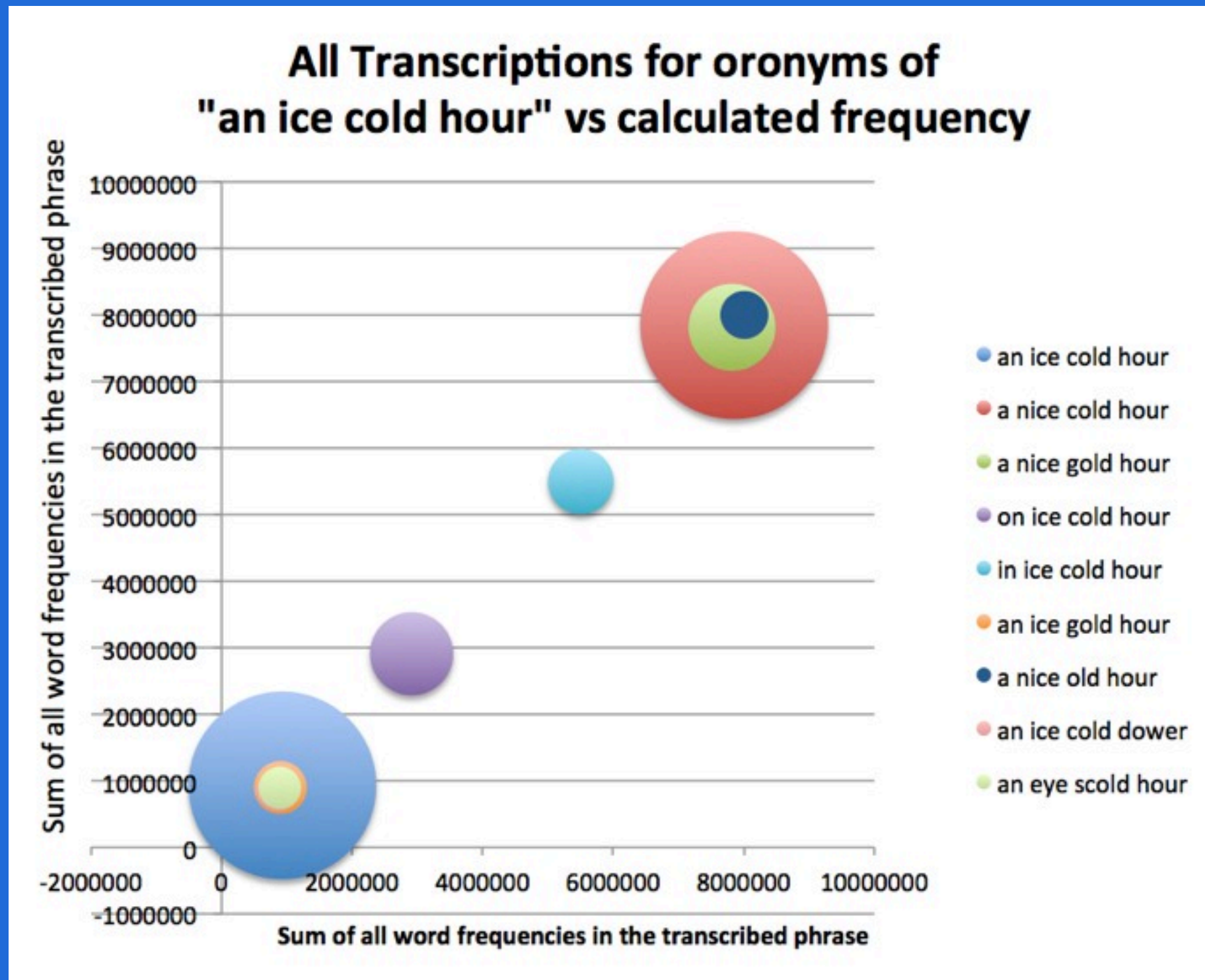
Results: Phase 2



Results: Phase 2



Results: Frequency



future work

future work



Fixing frequency

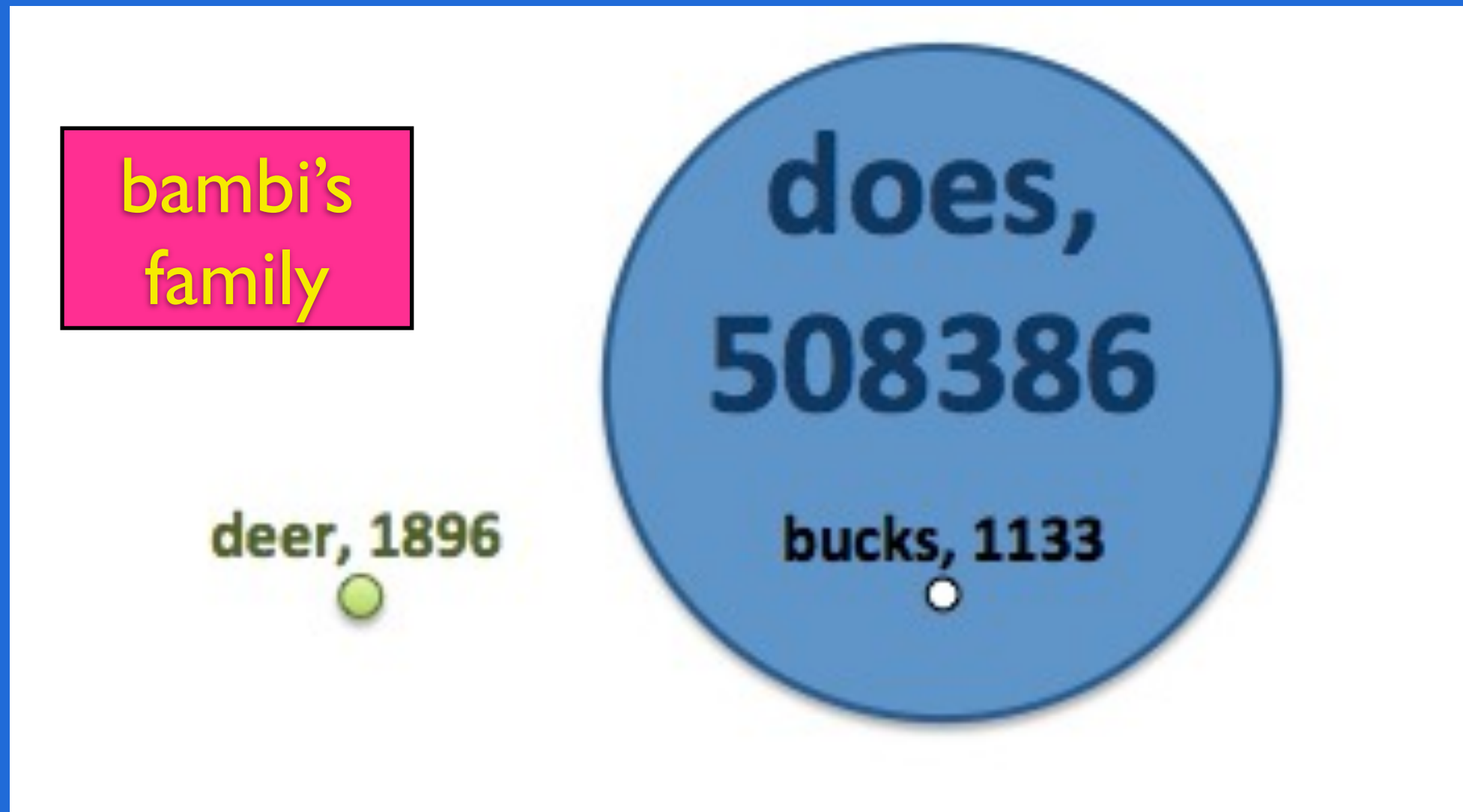
“Unfortunately there is currently **no method for distinguishing between homographs** by frequency. ”

-UNISYN Lexicon website

future work



Fixing frequency



future work

Fixing frequency

“...it should be noted that the frequency field ... **is not particularly reliable**”

-UNISYN Lexicon website

future work



Frequency anomalies

	UNISYN
an	794,169
a	7,536,297

future work



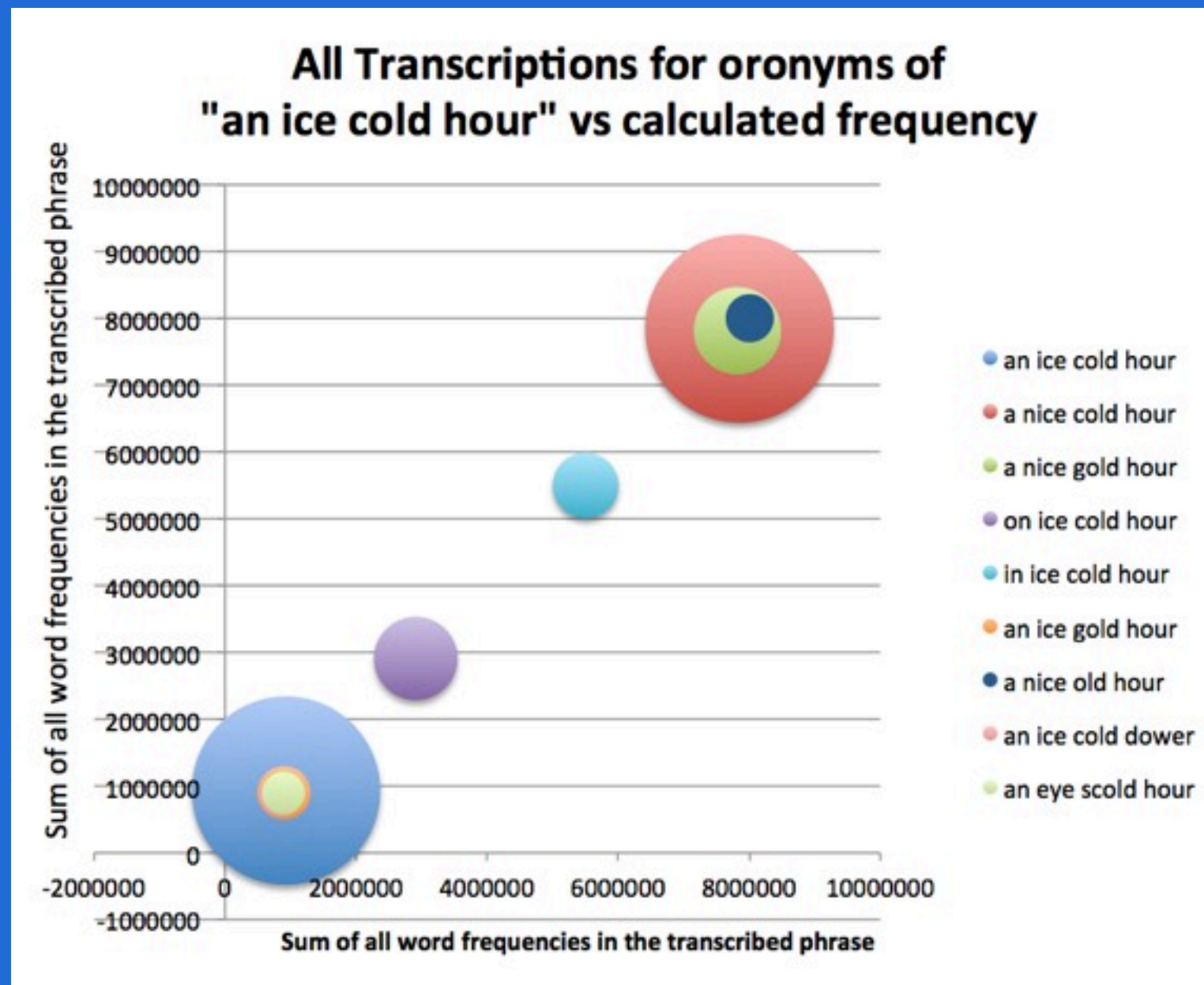
Frequency anomalies

	UNISYN	COCA occurrences	COCA #texts
an	794,169	9,247,774	168,619
a	7,536,297	1,365,998	159,720

future work

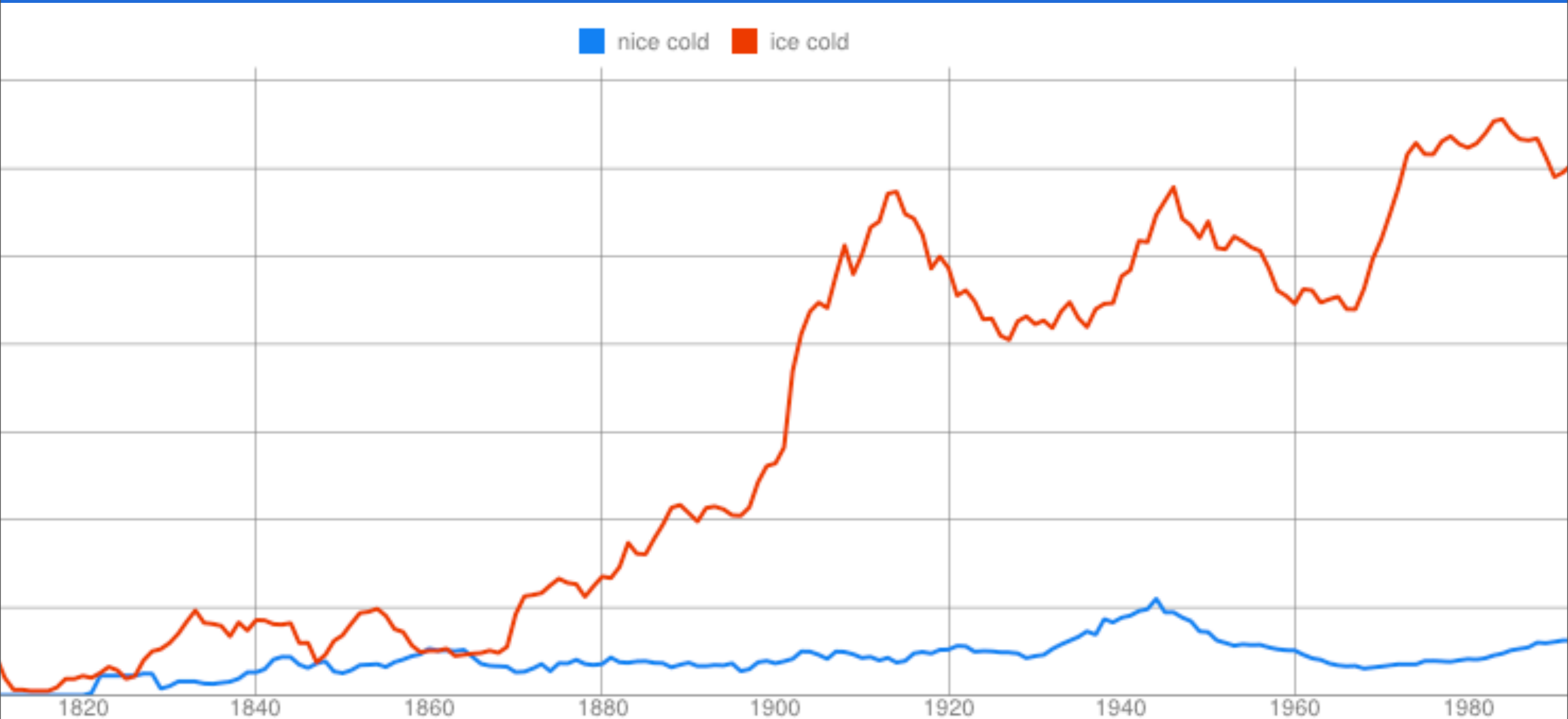


Fixing Frequency



future work

Ngrams



future work

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.me
oronym tree

conclusion

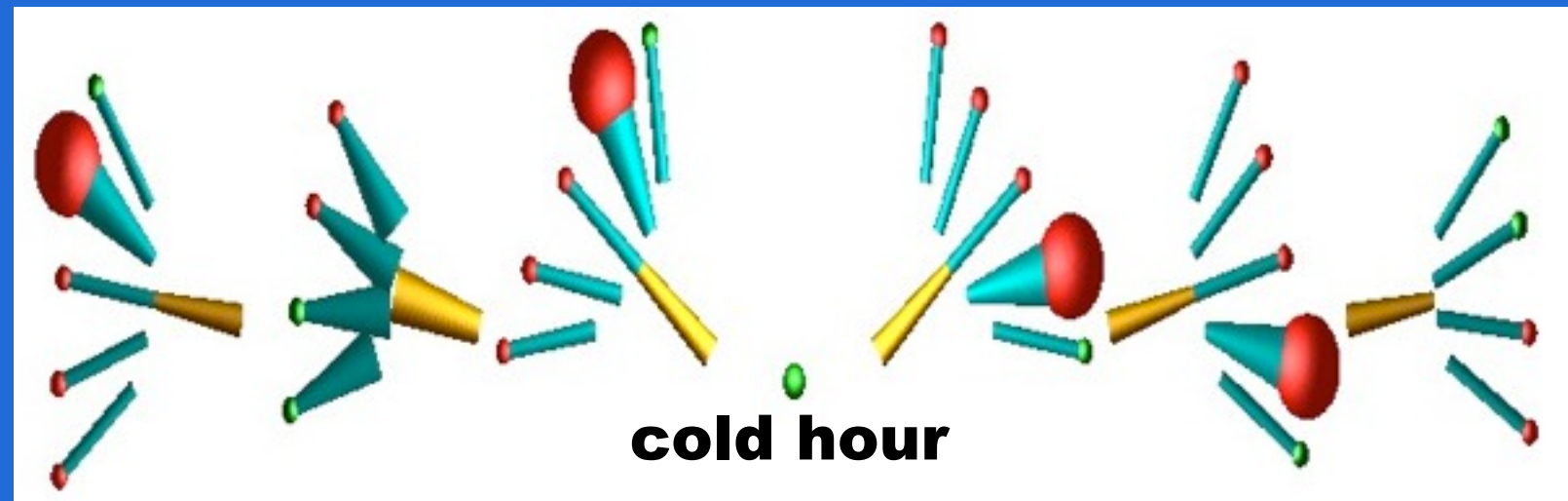
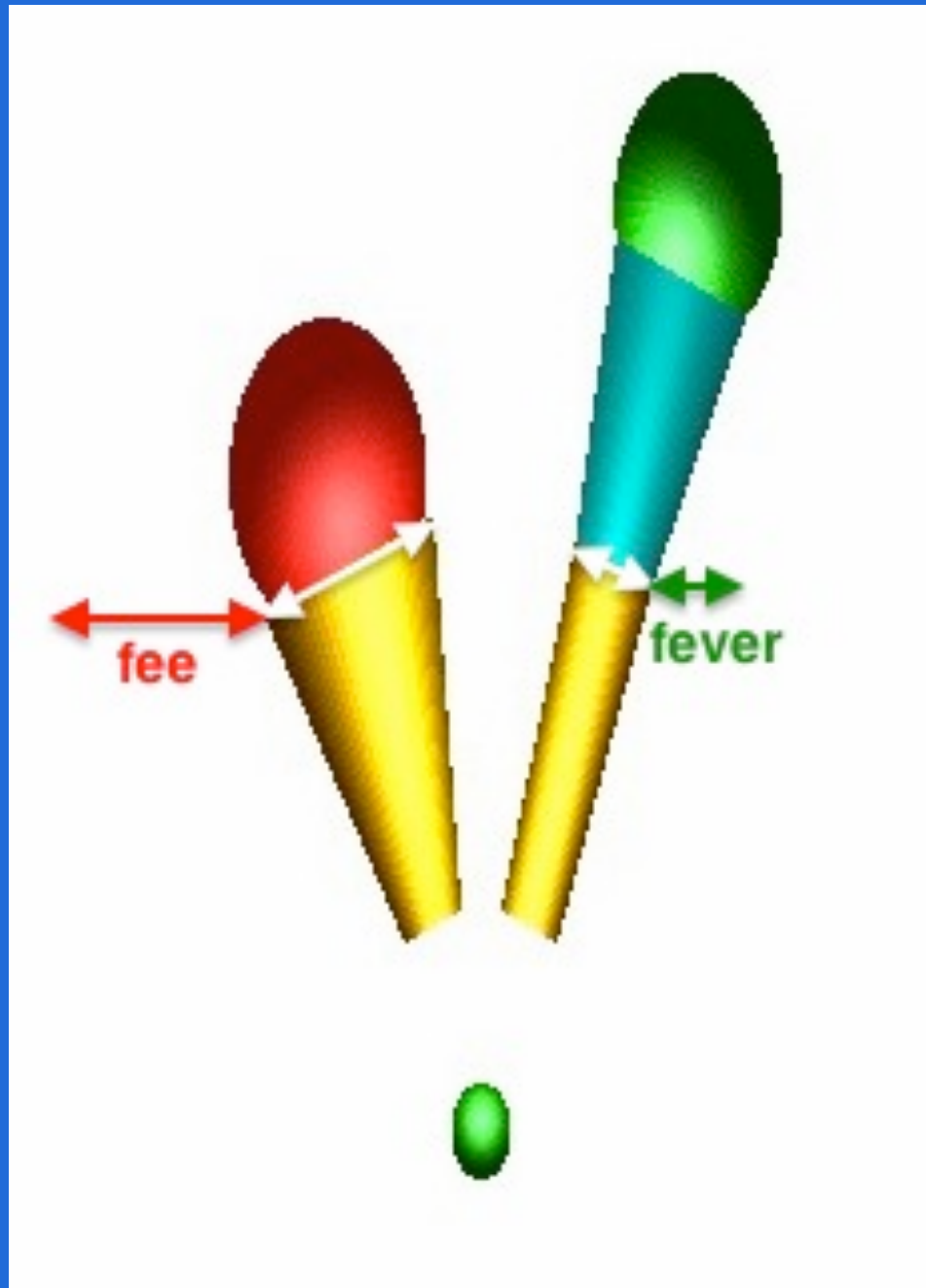
conclusion



We have....



a Visualization



of Phonetic Ambiguity

```
23: ' 'n' ice cold our ____ SUCCESS! ____ '  
24: ' 'n' ice cole dour ____ SUCCESS! ____ '  
25: ' 'n' ice cole dower ____ SUCCESS! ____ '  
26: ' 'n' ice kohl dour ____ SUCCESS! ____ '  
27: ' 'n' ice kohl dower ____ SUCCESS! ____ '  
28: ' 'n' ice-cold hour ____ SUCCESS! ____ '  
29: ' 'n' ice-cold our ____ SUCCESS! ____ '  
30: 'a gneiss coal dour ____ SUCCESS! ____ '  
31: 'a gneiss coal dower ____ SUCCESS! ____ '  
32: 'a gneiss cold hour ____ SUCCESS! ____ '  
33: 'a gneiss cold our ____ SUCCESS! ____ '  
34: 'a gneiss cole dour ____ SUCCESS! ____ '  
35: 'a gneiss cole dower ____ SUCCESS! ____ '  
36: 'a gneiss kohl dour ____ SUCCESS! ____ '  
37: 'a gneiss kohl dower ____ SUCCESS! ____ '
```



SUPER THANKS!

- Long list of people to
thank

text goes here



“ice cold”

aIs kould



“ice cold”

“ice cold”

aIs kould

“ay scold”

“ice-cold”

“aye scold”

“i scold”

“eye scold”



Business Model

- Ad-based
- Freemium mobile web app





Jenee Hughes
Tim Asp
Elliot Perkins
Ryan Swigler
James Pearson
Kelli de Vlught
Alexandra Danell

misheard
.me



Competition

- A. Some of the well known games:
 - 1) Words with Friends
 - 2) Scrabble
 - 3) MadGab
- B. Game market across three platforms
 - 2011 iPhone-79,077
 - 2011 iPad-28,683
 - 2011 Android-46,045



Revenue

- 1) In-App purchases generate approx.- \$9-\$14 per user
- 2) Advertising costs to obtain new users- \$.75 to \$2.00
- 3) Freemium and IAP Models account for 48% of revenue



Business Model

- 1. Freemium model with web-based and iPhone app
- 2. Used as a proof of concept to larger ideas down the road
- 3. Free web-based app (played through browser on phones)



