

# Language, Communication, Grammar, and Linguistic Theory

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LCD 102: Analyzing Language

# **LANGUAGE V. COMMUNICATION**

# LANGUAGE?

- So that naturally leads us to the question of what is language?
- What do you think language is?

# LANGUAGE

- Language vs. Communication
- Communication
  - Animals have their own communication systems
    - Bees – vector dance
    - Ants – chemicals
    - Birds – song
    - Monkeys – vocalizations
    - Whales – song

# ANIMAL COMMUNICATION

- How is this not language?
- They are able to communicate effectively
  - Hunger
  - Fear
  - Danger
    - Predator in the sky
    - Predator in the air
  - They are able to lie and manipulate
    - Tufted Capuchin Monkeys make false predator calls to secure food
- They transmit their ‘language’ like we do our language
  - Zebra finches must learn their species specific song from others during a critical period otherwise they can’t acquire it.
- Arbitrary
  - An Arbitrary call is paired to a sign, such as food. Not onomatopoeic

# ANIMAL COMMUNICATION

- How is this not language?
- Spatial displacement
  - Bees communicate the location of a food source vast distances away from the source.
- Not atemporal
  - Must be face-to-face or within ear shot
- They only have a limited number of signs that they can manipulate
  - Food
  - Predator in the sky
  - Predator on the ground
  - Not able to combine these signs to create discrete infinity.
    - They cannot combine HUNGER and YESTERDAY to talk about how famished they were yesterday when they could not find any berries to eat.

# HUMAN LANGUAGE

- Humans have finite number of signs
  - Words are meaning paired arbitrarily with sound
  - Lexicon is the mental dictionary of words
    - Estimates of English
      - Average 6 year old knows 13,000 words
      - Average high school graduate knows 60,000 words
- Humans can combine these signs using a finite number of rules, principles and operations to create a discrete infinite set of sentences
  - You can always have  $\infty + 1$  sentences by embedding the last sentence in 'John said that...'
  - Recursion – repeating items in a self-similar way.

# HUMAN LANGUAGE

- You will likely say and hear sentences you have never heard before and will have no problem understanding them.
  - You are not limited by previous experience.
- Any language can express anything
- You can talk to any new person and provided you have the same language, you can speak to them
- Any human can learn to speak any language
  - Excepting those with genetic defects.

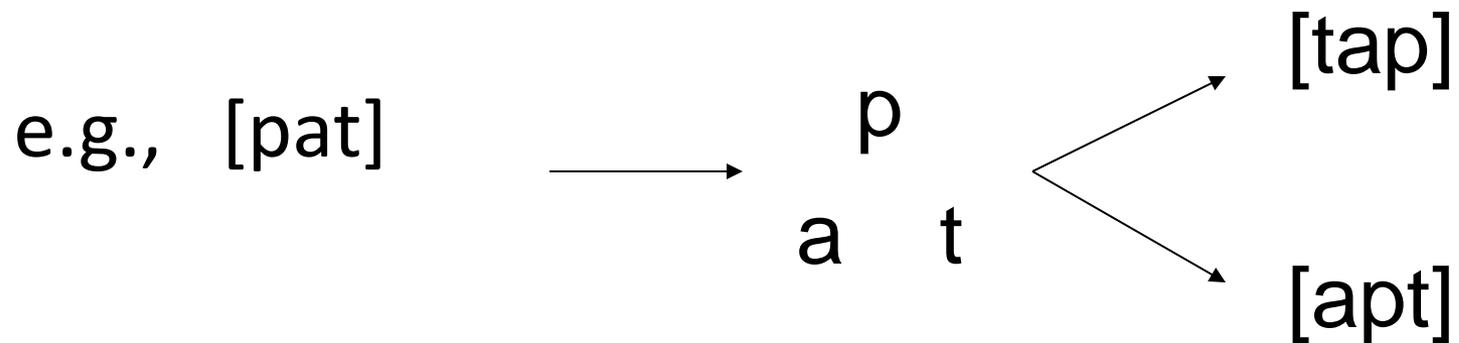
# **DESIGN FEATURES OF LANGUAGE**

# Features of language

- Language = A system that uses some physical sign (sound, gesture, mark) to express meaning.
  - Design features
    - Discreteness
    - Arbitrariness
    - Cultural transmission
    - Displacement
    - Interchangeability
    - Productivity

# Discreteness

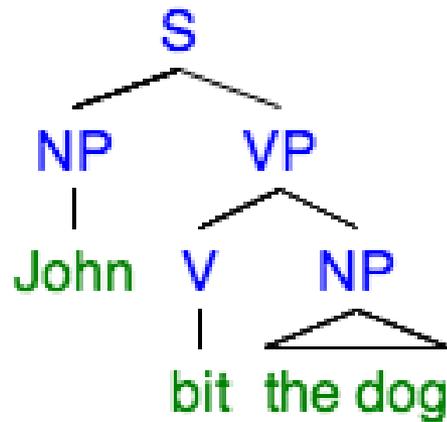
- Larger, complex messages can be broken down into smaller, discrete parts



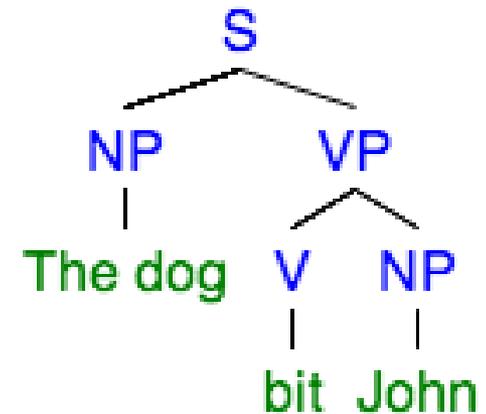
# Discreteness

- Larger, complex messages can be broken down into smaller, discrete parts

John + bite + Dog

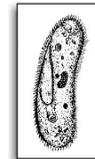
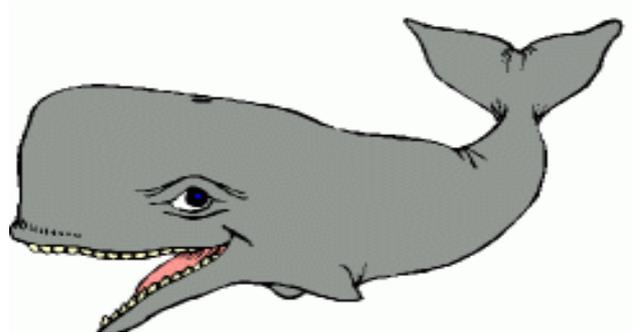


OR



# Arbitrariness

- There is no (necessary) connection between the *form* of signal and its *meaning*  
e.g., ‘whale’ is small word for big animal,  
‘microorganism’ is just the reverse



# Cultural transmission

- At least some aspect of communication system is learned from other users

e.g., child of French-speaking parents will learn French

# Displacement

- Ability to talk about things not present in space or time

e.g.,

A long time ago in a galaxy far,  
far away...

# I Interchangeability

- A user can both receive and broadcast the same signal

e.g., speaker can be listener and vice versa

# Productivity

- Speakers can create *infinite* number of *novel* utterances that others can understand

e.g., “Little purple gnomes living in my sock drawer said, ‘Elvis lives’ .”



**GRAMMAR**

# Performance

- Not concerned with what a speaker *actually* does
- Many performance errors
  - Slips of the tongue
  - False starts
  - Drunk speech
  - Memory limitations

# Competence

- We are only concerned with what a speaker knows
  - Intuitions
  - Grammaticality judgments
  - Nonce words

# Studying Grammar

Descriptive  
Grammar

Represents the  
linguistic knowledge  
of speakers

What you  
already say

Prescriptive  
Grammar

A list of “correct”  
rules and usages

What your  
English  
teacher told  
you to say

Teaching  
Grammar

A text comparing  
aspects of different  
languages

What your  
French teacher  
told you to say

Metalinguistic  
Knowledge

Conscious  
awareness about  
language

What’s the  
plural of  
“walkman”?

# Grammar

- Grammar is what makes it possible to communicate through language.
- To linguists, *grammar* means the knowledge speakers have about the rules of their language:
  - Morphology (word formation)
  - Phonology (sound combinations)
  - Syntax (word order)
  - Semantics (assigning meaning)

**PRESCRIPTIVE V. DESCRIPTIVE**

# Prescriptive vs. Descriptive

- When most people think about grammar rules, they think about the kinds of rules you see in a “grammar book”.
- These are **prescriptivist** rules – rules created by people for standardization purposes. These are inherently racist, classist, and elitist
- These are not the kinds of rules that we will be talking about in this class.

# Prescriptive vs. Descriptive

- **Descriptive** rules are much “deeper”. They are the kinds or rules that people are not aware of, but that make up a part of the “computer” in your head that allows you to understand and speak a language.
- Linguists believe that all languages / dialects / language varieties are equally correct and complex.
- Every piece of speech produced by a normal, healthy human is perfect language. There’s no such thing as ‘right’ or ‘wrong’

# Prescriptive vs. Descriptive Rules

- Prescriptive Rules – E.g., Don't split the infinitives. A pronoun must agree in gender and number with the noun to which it refers.
- Descriptive Linguistics – Implicit knowledge of rules that are inherent in the language.

**Grammar is descriptive**

# Descriptive Grammar

- *Descriptive grammar* describes the basic rules that make it possible to speak and understand a language.
- If a linguist says a sentence is *grammatical*, it means it conforms to the rules of **mental grammar** (e.g., “The dog ran out the door”).
- *Ungrammatical* sentences do not (e.g., \*“The door out dog the ran”).

# Support for Innate Rules

Competent speakers of a language don't know the principles that form grammatical judgments.

- They never learned these rules in school, nor were they taught them by their parents.
- Linguistic knowledge is unconscious or tacit.

# Descriptive Rules

- When a descriptive rule is violated it feels like...
  - An error
  - Incomprehensible
- Evidence
  - Grammatical Illusions
  - P600

# Event-related potentials (ERPs)

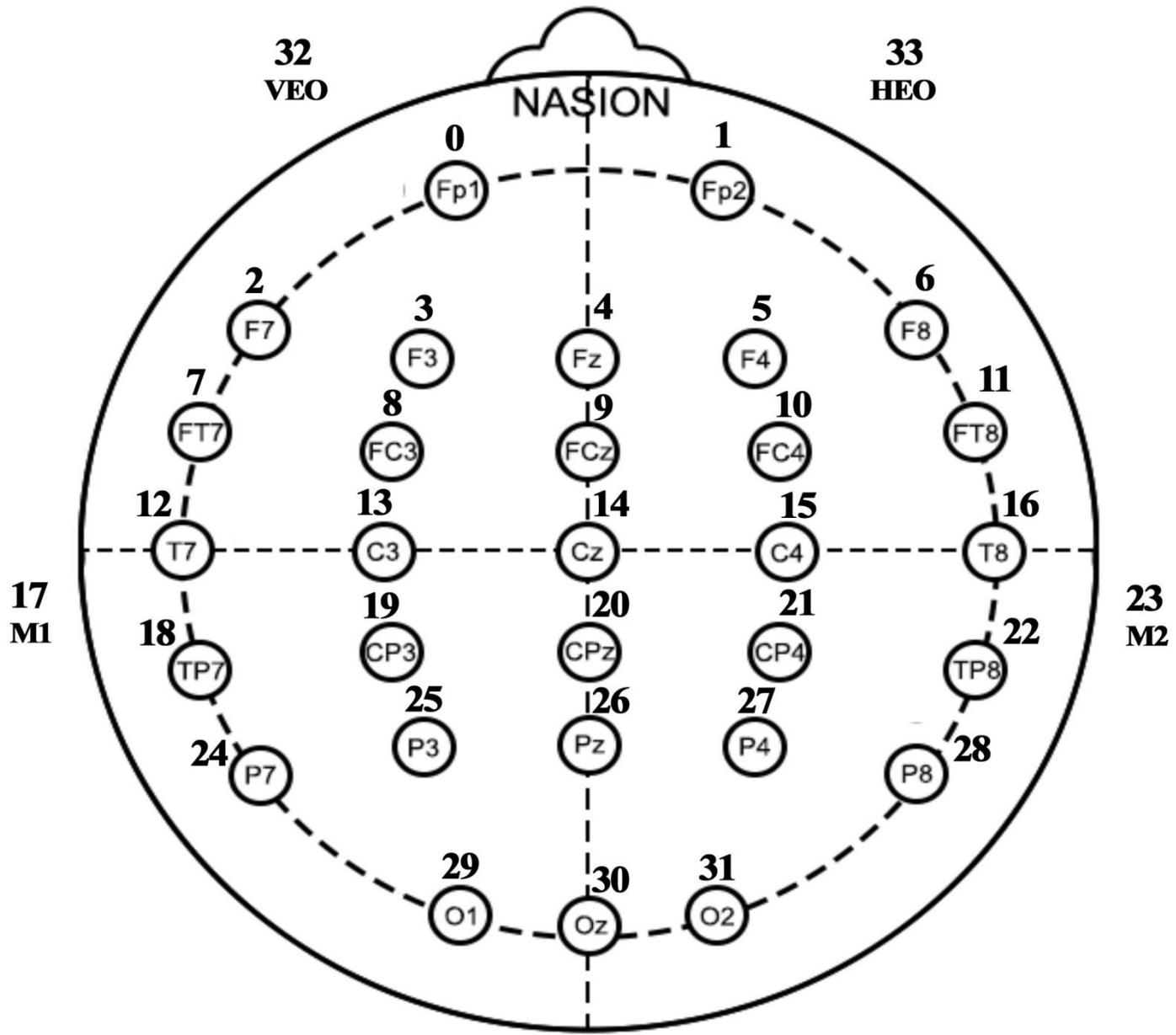
- record the fluctuations of voltages in various scalp sites
- reflect synaptic activity
- consist of precisely timed waves, or components
- index the activation of neural networks by external stimuli

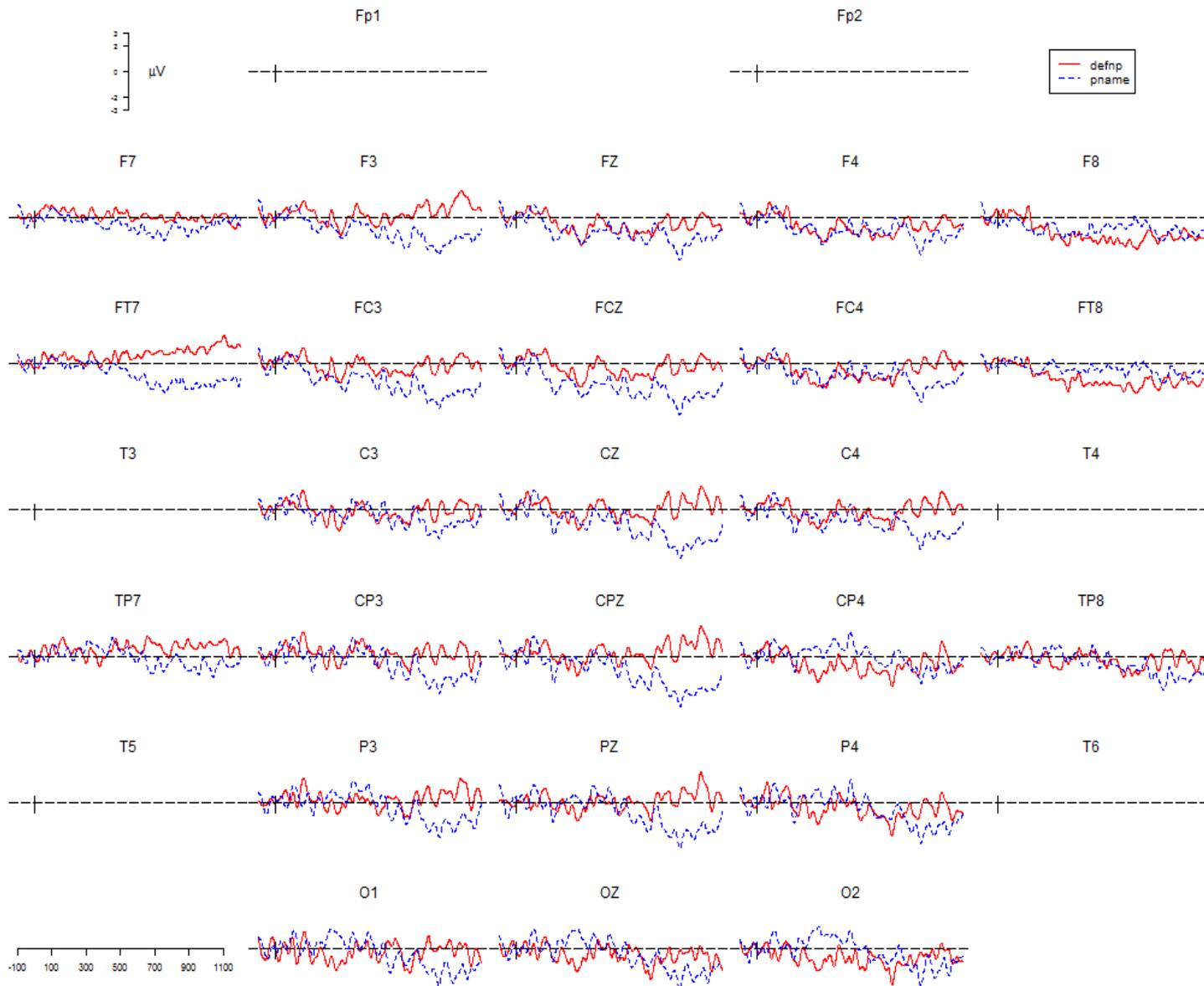


<http://lcb.unc.edu/Photos/ERP%20booth.jpg>

# Dimensions of Measurability

- **Amplitude**
  - size of the wave (relative to a control, not 0)
- **Latency**
  - when the wave starts and/or peaks relative to a stimulus event
- **Polarity**
  - whether the wave is positive or negative (relative, not absolute)
- **Scalp distribution**
  - where the wave occurs on the scalp (left/right/center, anterior/posterior)





# Comp-Trace

## Island Constraints

### Condition: COMP-trace

base: Inés confesó que su hermana había comido la tarta.  
Inés confessed that her sister had eaten the cake

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what sister confessed Inés that had eaten the cake  
‘What sister did Inés confess had eaten the cake?’



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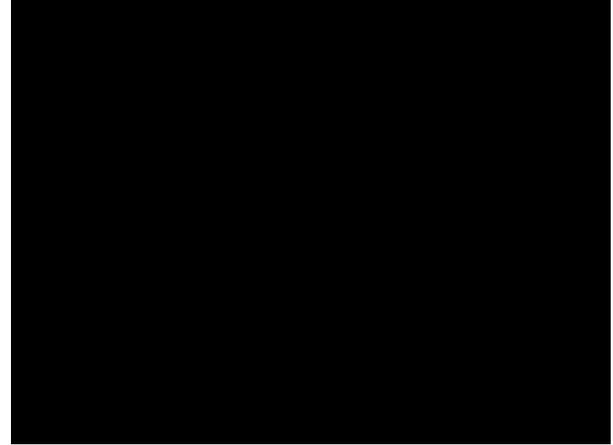
  
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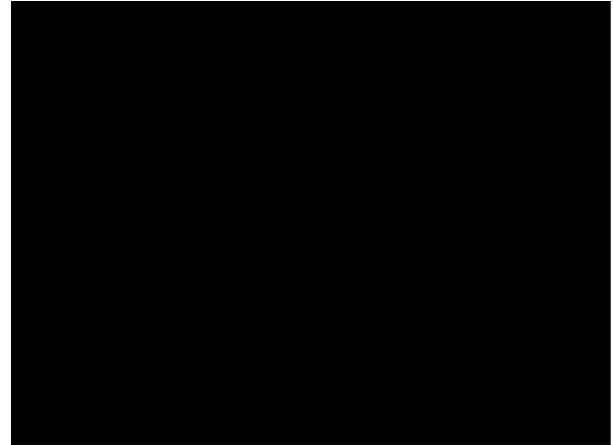
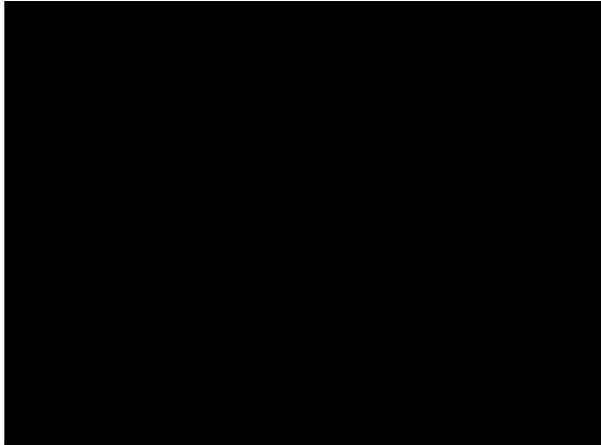
# Comp-Trace Sentences with Subject

Grammatical      Extraction      Ungrammatical

First Generation  
Bilingual



Second Generation  
Bilingual



# LANGUAGE IN THE MIND

- We are studying language in the mind
- Not the brain per se although obviously there is a strong connection between the two
- The brain, the center of the nervous system, is a mass of neural cells that are interconnected and communicate with one another. We share this with other animals.
- The mind is our consciousness. It includes thought, perception, memory emotion, imagination, and reason.

# LANGUAGE IN THE MIND

- Language is represented in the mind abstractly and we are trying to understand how it is organized.
- As such, we do not expect to find language in one part of the brain, localized, like the hypothalamus which regulates sleep cycles and controls body temperature, among other things
- The faculty for language is an organ, like any other system that is interconnected and dependent of other systems however we can't just cut open one's head and find it.
- Language uses systems that are domain specific such as pattern recognition and ontological categories.
- We would not expect to find an organ for language like we wouldn't expect to find an organ for a frog's ability to catch flies although we know that this exists.

# **PRESCRIPTIVE RULES**

# Prescriptive Grammar

- Humans create *prescriptive grammar* rules, which argue that there are certain correct ways of speaking and/or writing a language.
- PG is not universal; it's not even realistic.
- PG tells people how they “should” speak, it is a social construction, not biological.

# Prescriptive Grammar

- PG is fundamentally judgmental
  - Racist
  - Elitist
  - Classist
- While writing is standardized. Note that writing must be taught.

# Prescriptive Rules

- When a prescriptive rule is violated it feels like...
  - “slang”
  - “not proper”
  - “not correct”
  - Most of the time unnoticed

# Some Odd (and Possibly Unrealistic) Prescriptive Rules

- Don't use "impact" as a verb; it's only a noun.
  - It has a greater impact if it doesn't negatively impact the structure.
- Don't end a sentence with a preposition.
  - "Who do you want to talk to?"
- Don't start a sentence with "Hopefully."
  - The girl looked hopefully at the grammar book.  
Hopefully she'll find what she's looking for.
- Don't start a sentence with a conjunction ("and," "but," "or).
- And that's not all...

# **TEACHING GRAMMAR**

# Teaching grammar

- When you learn another language, you'll often use a teaching grammar, which explicitly states the rules of the language compared to the rules of your native language.
- A gloss (definition) is used to show the meaning of foreign words.
- Teaching grammars are prescriptive, but the goal is to be a learning tool, not a social tool.

# **TYPES OF LANGUAGE**

# Language

- When we speak of language we are talking about three different things
  - I-language
  - E-language
  - P-language

# i-language

- When we acquire language, we internalize it
  - I-language
    - Internal
    - Idiolect
    - Individual
    - Personal Grammar
    - Mental Grammar
- I-Language
  - We each have our own that differ
  - We may have more than one
  - The only true language that can be studied

# E-language

- Language we are exposed to
  - E-Language
    - External
    - Dialect
    - Local community
    - People whose I-Language closely approximate one another's.
- E-Language is a collection of I-Languages
- Studied in Corpus analysis
- Averaging over many individuals may not get at the nature of one true grammar

# P-language

- The notion of a Language
  - P-Language
    - Platonic
    - Not real
    - Abstract
    - The 'English' or 'French' we think of
- P-Language
  - Notion of languages as entities outside of the community that speaks them
  - Idealization – like platonic ideal form
  - Cannot be scientifically studied

# **TERMS FOR DESCRIBING LANGUAGE**

# Freewrite

- How many languages are there?
- List ten languages
- List ten dialects
- List ten accents
- How are dialects, accents and language different?

# Language

- There are 7,106 living languages
  - Countless more have become extinct
- How do we define 'language'?

# Language Terminology

- Lots of terms
  - Variety
  - Lect
  - Accent
  - Vernacular/Slang
  - Jargon
  - Register
  - Dialect
  - Language

# Variety & Lect

- Cover terms for a kind of speech.
- Neutral term
- Refers to just any speech type
  
- Also
  - Ethnolect
  - idiolect

# Accent

- Accents within a Variety
  - Varieties of speech that differ from each other phonetically & phonologically
  - Aspects of pronunciation of a variety of a language
  - For example, Staten Island English and Bronx English
- L2-Accented Variety
  - A accent which is derived from the speakers L1
  - The accented English of someone who speaks Mexican Spanish as a first language
- They just sound different, but the other aspects of the language are the same
  - Words
  - Syntax
  - semantics

# Slang/Jargon

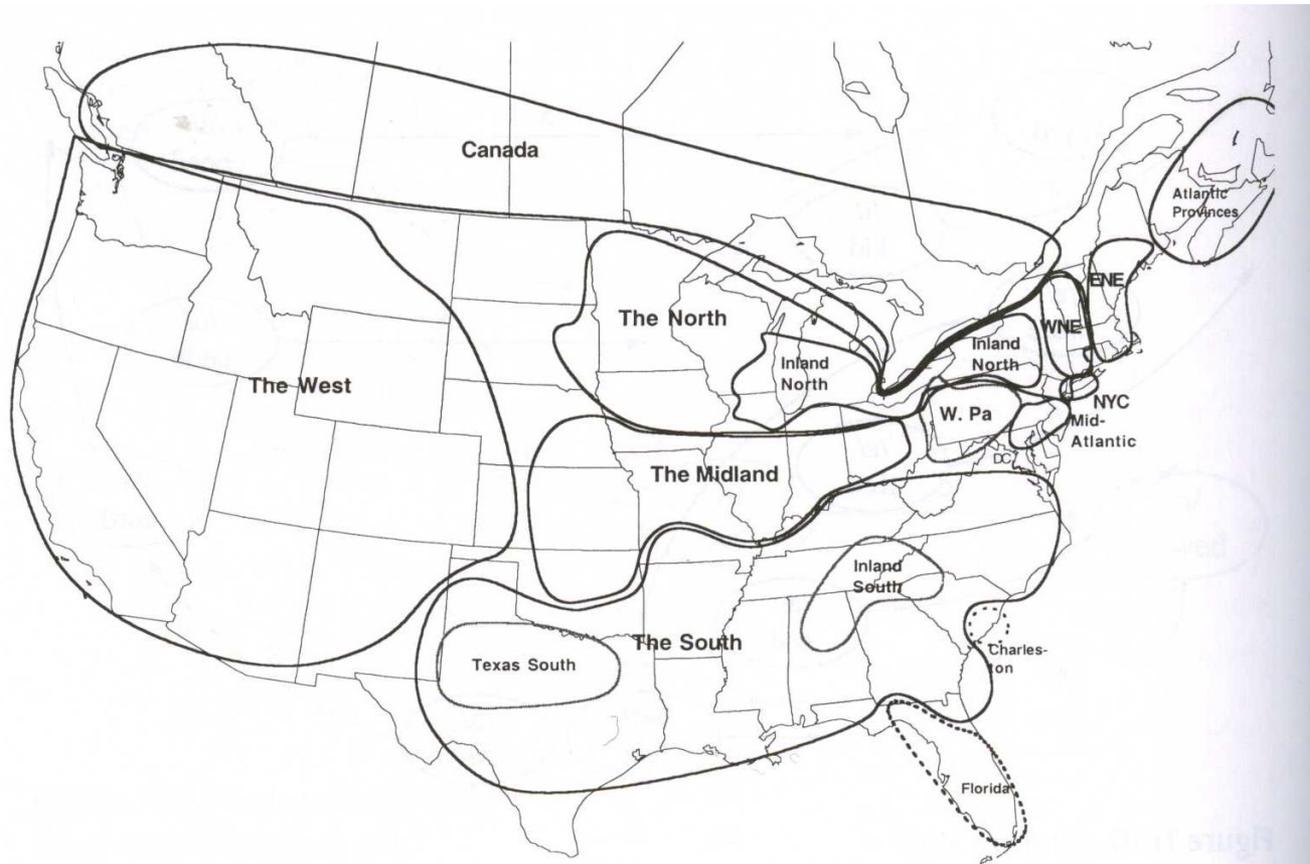
- Slang
  - Words and phrases used by those who are typically outside established higher status group
  - Usually used more often in informal registers
- Jargon
  - Special technical vocabulary associated with a specific field
  - “Zanaxyn is a nonsteroidal anti-inflammatory drug for arthritis, bursitis and tendonitis.”

**DIALECT**

# Dialect

- Dialect
  - Aspects of the grammar, vocabulary and pronunciation of a variety of a language
  - **Everyone speaks some dialect of their L1**
    - “languages” are really bundles of mutually understandable dialects

# Dialect



**Figure 11.11** Urban Dialect Areas of the United States, Based on Pronunciation

Source: Adapted from Labov 1996.

# GENERIC NAMES FOR SOFT DRINKS BY COUNTY

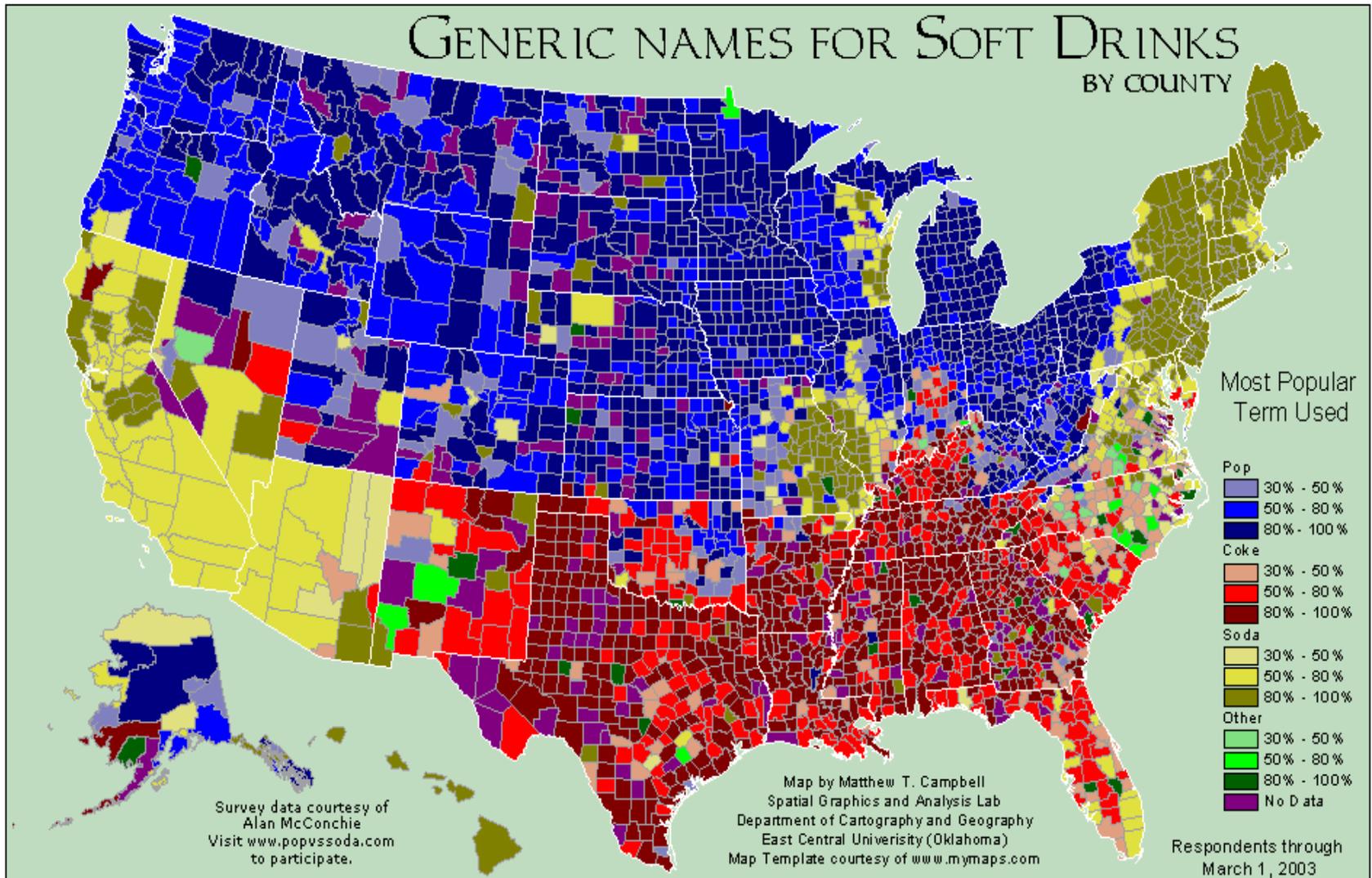
Most Popular  
Term Used

- Pop
- 30% - 50%
  - 50% - 80%
  - 80% - 100%
- Coke
- 30% - 50%
  - 50% - 80%
  - 80% - 100%
- Soda
- 30% - 50%
  - 50% - 80%
  - 80% - 100%
- Other
- 30% - 50%
  - 50% - 80%
  - 80% - 100%
  - No Data

Respondents through  
March 1, 2003

Survey data courtesy of  
Alan McConchie  
Visit [www.popvsoda.com](http://www.popvsoda.com)  
to participate.

Map by Matthew T. Campbell  
Spatial Graphics and Analysis Lab  
Department of Cartography and Geography  
East Central University (Oklahoma)  
Map Template courtesy of [www.mymaps.com](http://www.mymaps.com)

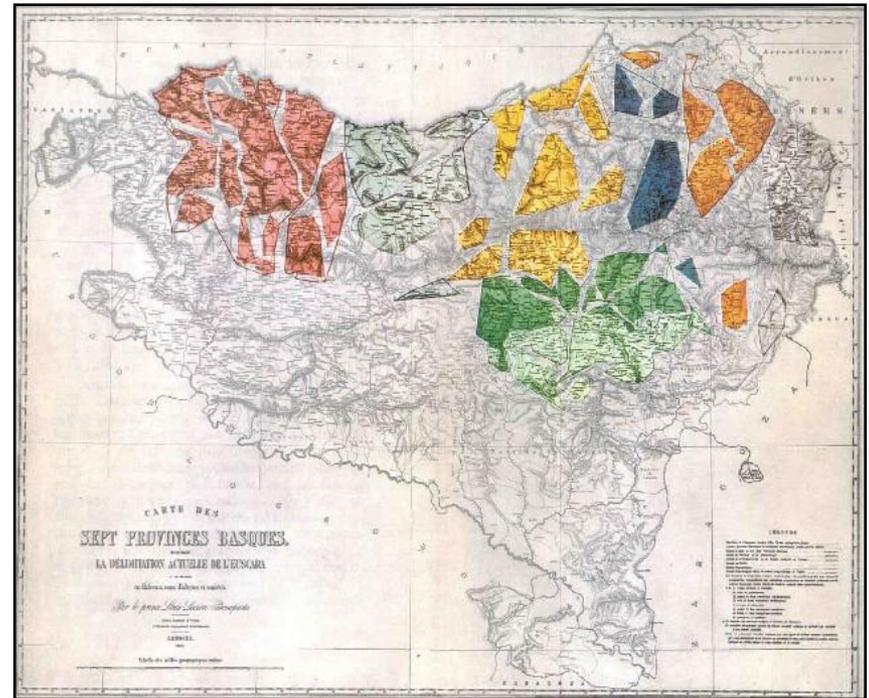


# Dialect and Language

- Popularly
  - “A language is a dialect with an army and a navy.”
  - political factors influence what’s called what
    - Chinese “dialects”
    - Scandinavian “languages”
- Scientifically
  - mutual intelligibility
    - if speakers of the two dialects understand each other, then they are speaking dialects of the same language
    - if not, they are speaking two different languages
  - dialect continuum
    - Speakers of A understand speakers of B who understand speakers of C → ABC are dialects of one language

# Dialect

- Problematic
- Used multiple ways
  - Geographically bounded variety
  - Non-Standard variety
  - Limited in the extent to which it differs from other dialects (e.g. mutually intelligible).



# Dialects

- Between two varieties it is impossible to:
  - Quantify the differences
    - How measure “difference”
  - Establish cut-off points
    - Where does one start and the other one end
    - Fuzzy borders
  - Determine intelligibility
    - People understand who they *want* to understand

# Dialect v. Language

- What gets called a 'dialect' and what called a 'language' is dependent on social/political factors
  - Basque/Spanish
  - Nahuatl/Spanish
  - Chinese 'dialects'
  - Hindi/Urdu
  - Bosnian/Serbian/Croatian
  - Bokmål/Nynorsk/Danish



# Language

- So...
  - Everything is a language
  - Everything is a dialect
- Best to refer to something as a dialect/variety

# Language

- Recall that there really isn't any "language"
- Language = p-language
- Only!
  - i-language
  - Idiolect
  - Personal variety