

Linguistics Review

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COGS 4780

Phonetics

- Two ways to think about speech sounds
 - Articulatory (speaker-focused)
 - Acoustic (hearer-focused)

Articulatory phonetics

- Consonants

- Voicing – status of the vocal cords (vibrating = voiced, not vibrating = voiceless)
- Place of articulation – where in the mouth the articulators are

CONSONANTS (PULMONIC)

	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b		t d			ʈ ɖ	c ɟ	k ɡ	q ɢ		ʔ
Nasal	m	ɱ	n			ɳ	ɲ	ŋ	ɴ		
Trill	ʙ		r						ʀ		
Tap or Flap			ɾ			ɽ					
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ç ʝ	x ɣ	χ ʁ	ħ ʕ	h ɦ
Lateral fricative			ɬ ɮ								
Approximant		ʋ	ɹ			ɻ	j	ɰ			
Lateral approximant			l			ɭ	ʎ	ʟ			

Where symbols appear in pairs, the one to the right represents a voiced consonant. Shaded areas denote articulations judged impossible.

nasal cavity

lips

alveolar ridge

hard palate

velum

tongue

mandible

epiglottis

thyroid cartilage

arytenoid cartilage

pharyngeal wall



Articulatory phonetics

- Consonants

- Manner of articulation – how the air is being obstructed
 - Stop – complete obstruction
 - Fricative – narrow gap
 - Affricate – stop+fricative
 - Nasal – velum lowered, air goes through nasal cavity
 - Others – approximant, liquid, glide

CONSONANTS (PULMONIC)

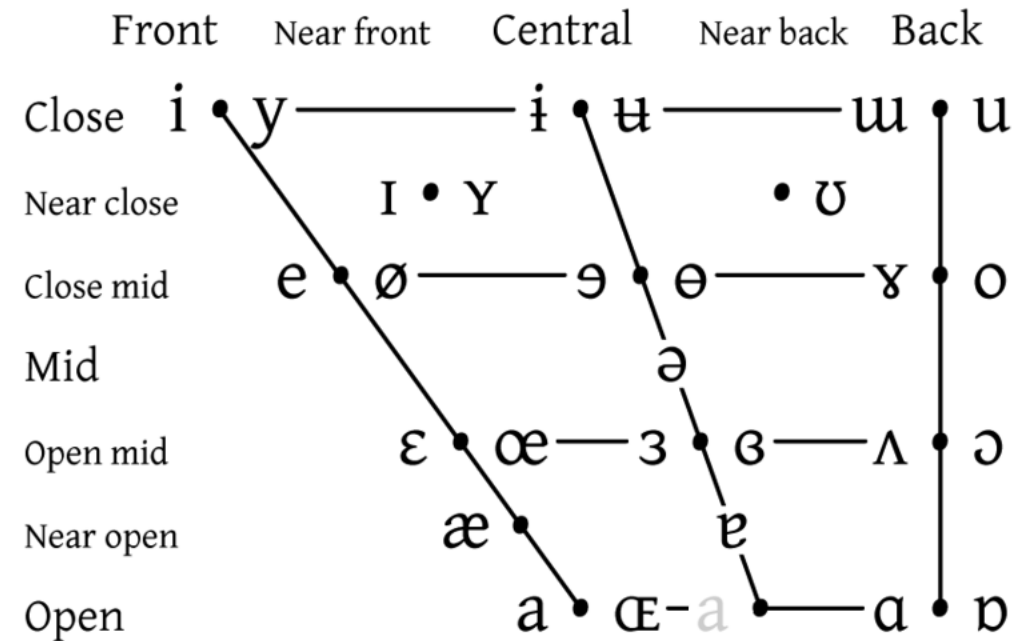
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Where symbols appear in pairs, the one to the right represents a voiced consonant. Shaded areas denote articulations judged impossible.

Articulatory phonetics

- Vowels
 - Height
 - Frontness
 - Roundedness
 - Tense/Lax
 - Monophthong/Diphthong

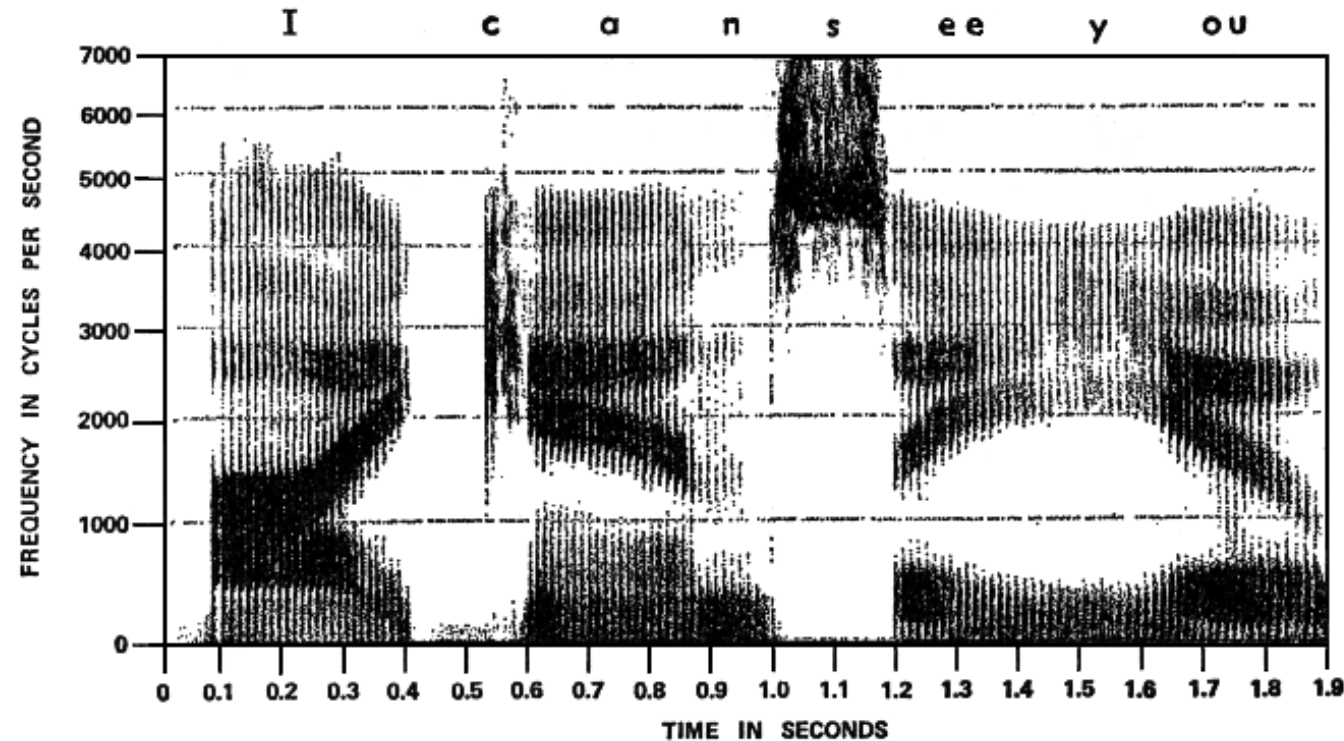
VOWELS



Vowels at right & left of bullets are rounded & unrounded.

Acoustic phonetics

- Describes sounds in terms of their acoustic properties
 - Frequency
 - Amplitude
 - Time
- **Formants** – horizontal bands of increased amplitude
 - Especially useful for vowels
- **Voice Onset Time (VOT)** – timing difference between consonant and vowel
 - Voiced sounds have 0 VOT
 - Voiceless sounds have ~60 ms VOT



Phonology

- Sound categories and patterns of a language
- **Phonemes** – distinct sound categories in a language
- **Allophones** – distinct sounds that belong to the *same* sound category in a language
- A **minimal pair** demonstrates that two sounds are separate phonemes
 - “lick” vs. “kick”
 - “lick” vs. “lock”
 - “lick” vs. “lit”

Phonology

- **Phonemes** – distinct sound categories in a language
- **Allophones** – distinct sounds that belong to the *same* sound category in a language
- These are **language-specific**, *not universal*
- English: [lɪft] “lift” vs. [wɔɫ] “wall” → two allophones of the same phoneme
- Albanian: [lum] “river” vs. [ɫum] “sludge”, [mal] “mountain” vs. [maɫ] “goods” → two different phonemes

Syllables

- Described in terms of consonant and vowel makeup
 - CV, CVC, VC, CVCC, etc.
- Component parts of a syllable: (Onset) – Nucleus – (Coda)
 - “cat”: onset [k] – nucleus [æ] – coda [t]
 - “oh”: nucleus [o]
 - “bricks”: onset [br̩] – nucleus [ɪ] – coda [ks]

Syllables

- Languages differ in what types of syllables they allow
 - English is pretty flexible
 - Hawaiian allows V and CV syllables, that's it
 - Japanese syllables can't have a coda unless it's a nasal
 - Georgian can have a CCCCCCCCV

Suprasegmental features

- Stress
- Pitch
- Tone

Morphology

- A **morpheme** is the smallest *meaningful* unit of language

- “cats”

- cat
- -s
- CAT-P

hyphen used to separate morphemes

- “geese”

- goose (plural)
- GOOSE.P

period used to indicate different components of same morpheme

Morphology

- **Allomorphs** are phonological variants of the same morpheme
- English plural:
 - [s] – cats, trucks, flips
 - [z] – dogs, lids, bees
 - [ɪz] – horses, dishes, watches
- These aren't *different* morphemes, they're different allomorphs of the same morpheme

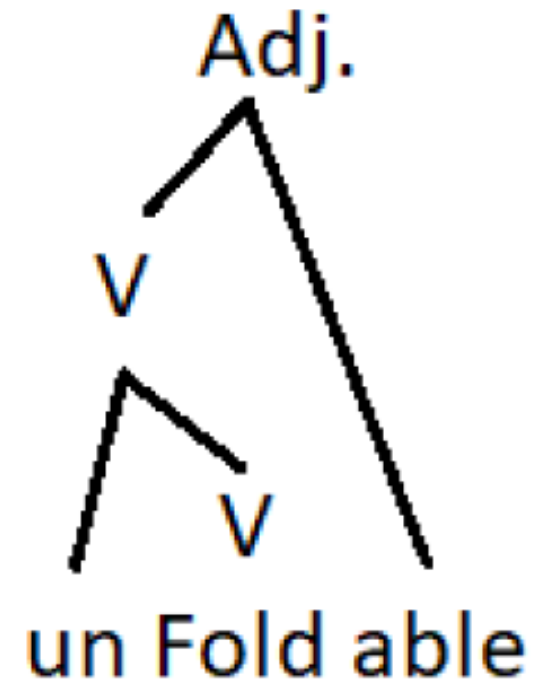
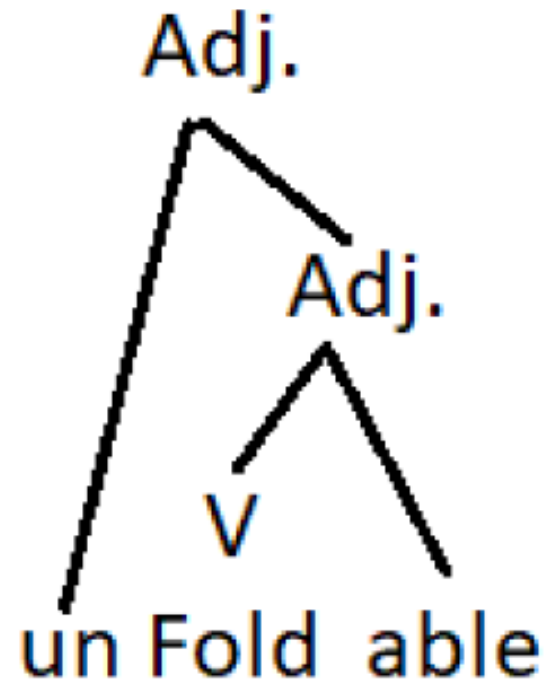
Morphology

- **Free** morphemes can stand on their own
 - The **root/stem** is often a free morpheme in English
- **Bound** morphemes must be attached to other morphemes, can't stand on their own
 - **Affixes** (prefix, suffix, [circumfix, infix]) are common examples of bound morphemes

Morphology

- **Inflection** does not create a new lexeme (dictionary entry)
 - cat → cats
 - walk → walked
 - eat → eating
- **Derivation** does create a new lexeme
 - develop → development
 - quick → quickly

Morphology



Word Classes

- **Nouns** (hopefully you remember/know what these are)
- Nouns can feature **case** marking
 - Not that much in English, but very important in other languages
 - **I** ate dinner quickly
 - Give **me** some snacks
 - This is **my** favorite food
 - **The cat** ate dinner quickly
 - Give **the cat** some snacks
 - This is **the cat's** favorite food

Word Classes

- **Content words** mostly contribute to meaning
 - Nouns, verbs, adjectives, adverbs
 - **Open-class** – new words can be added to these sets
- **Function words** mostly contribute to grammar
 - Determiners, conjunctions, prepositions, pronouns
 - **Closed-class** – new words (usually) cannot be added to these sets

Word Order

- Described in terms of the relative locations of three main categories – Subject – Verb – Object
- SVO (English) – The chef_S cooked_V the rice_O
- SOV (Japanese) – The chef_S the rice_O cooked_V
- VSO (Irish) – Cooked_V the chef_S the rice_O
- VOS (Malagasy) – Cooked_V the rice_O the chef_S
- OVS (Urarina) – The rice_O cooked_V the chef_S
- OSV (Nadëb) – The rice_O the chef_S cooked_V

Word Order

- Some languages have no fixed word order (Hungarian)
- The rice cooked the chef
- The chef cooked the rice
- Cooked the rice the chef
- Subject/Object roles assigned via case markings, context

Phrases

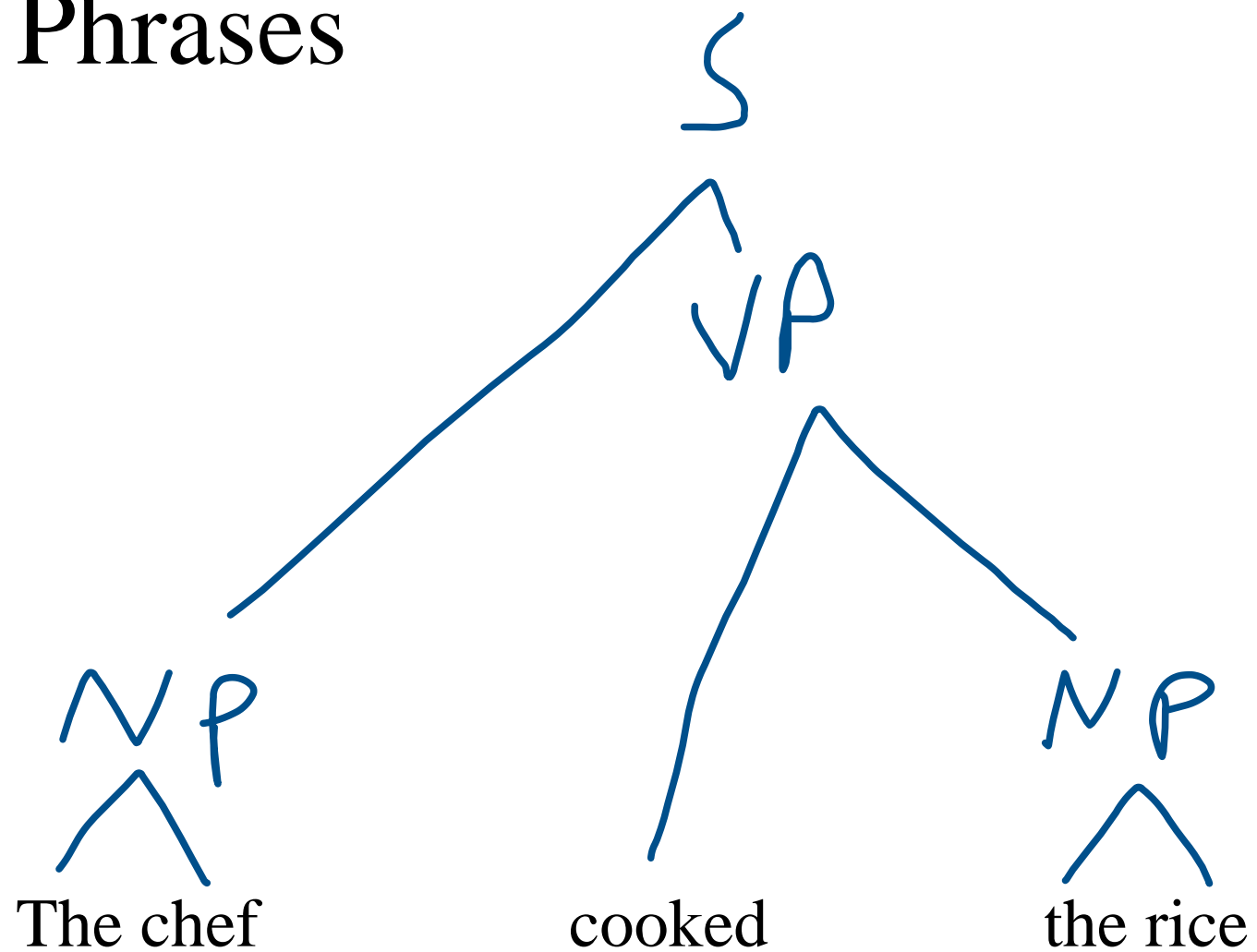
- Words in a sentence can be packaged together in **phrases/constituents**
- Sentence structure is *hierarchical*, not linear


The chef

cooked


the rice

Phrases



Phrases

- Words in a sentence can be packaged together in phrases
- Sentence structure is *hierarchical*, not linear
- Noun Phrases (**NP**) – Noun as the head + any modifiers (adjectives, relative clauses, determiners, etc.)
- Verb Phrases (**VP**) – Verb as the head + anything else (NPs, adverbs, full sentences, etc.)
- Prepositional Phrases (**PP**) – Preposition as the head + NP

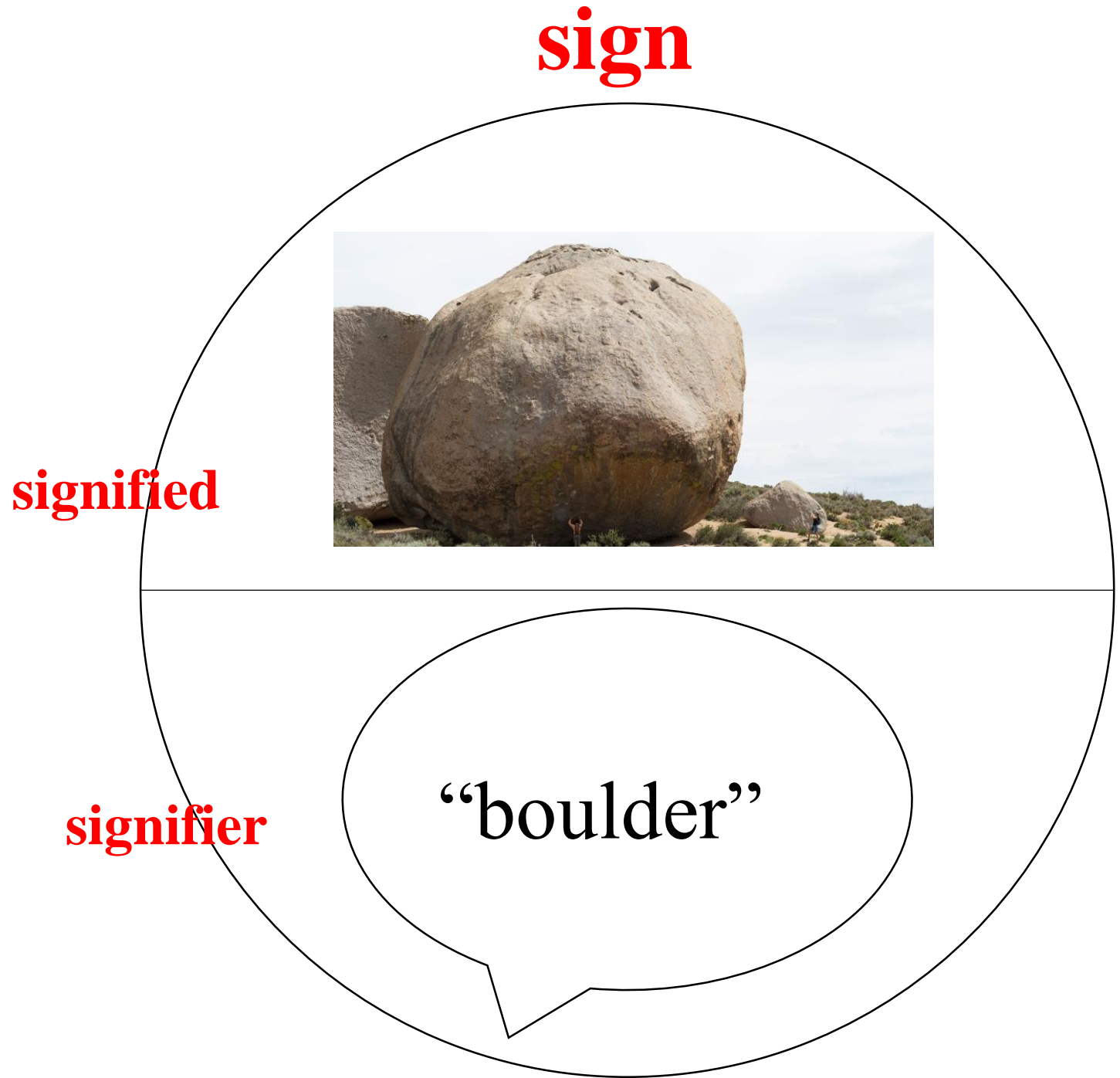
Syntax trees

- Syntax trees are utilized to represent language structure
 - *Not* necessarily supposed to represent how language works in the mind
- Syntax aims to study linguistic **competence**, not linguistic **performance**

Semantics

- **Reference** is the entity in the world that a word picks out
- **Sense** is the knowledge contained in the mind of the speaker/hearer that allows them to associate the word with the reference (like an internal definition)

Semiotics



Semantics

- **Truth-conditional** semantics aims to describe how we know the meanings of sentences
 - Knowing what “The coyote chased the rabbit” means involves knowing the component parts and how they interact
 - Knowledge of coyote + knowledge of rabbit + knowledge of chased + syntactic relationship between the parts
 - **Truth conditions** are what need to be true in order for the sentence to be true
 - Comes from language knowledge
 - **Truth value** is whether or not the sentence is actually true
 - Comes from what the real world is like
- Not all sentences have truth conditions
 - Questions, for example, aren’t the sort of thing that can be true or false

Pragmatics

- The meaning of language *in context*
- The use of *inferences* in language
- Implicature:
 - “Tom and Sam got married”
→ [to each other]
 - “Maria won the lottery and bought a house”
→ [in that order]
 - “Some of the students passed the test”
→ [not all of the students]

Pragmatics

- Grice's maxims attempt to explain norms for generating implicatures and inferences
- Maxim of Quality – say things that you believe to be true
- If that maxim is blatantly violated, maybe it's for a specific communicative reason (this is how irony works)
 - Imagine a person throws a tantrum and storms out of a room
 - “really nice guy!” (obvious violation of quality maxim)
 - really not nice guy!

Speech Acts

- **Speech Act** theory aims to categorize utterances according to their purpose in conversation
 - A statement contributes something different to a conversation than a request or a question or a promise
- Speech acts (part of pragmatics) depend on context
 - Can you open that window?

Language variation

- Within a single language, there can be variation that aligns with non-linguistic factors
 - Region, age, gender identity, race, ethnicity, socioeconomic status, class, etc.
- This variation can affect different parts of the language
 - Phonology, lexicon, morphology, syntax, pragmatics
- From a descriptive linguistics perspective, variation is expected and normal
 - No one feature can be better or worse than another, they're all arbitrary
- From a societal perspective, certain variants/features have more prestige than others (language ideology)
 - (the ones that belong to the dialects of powerful/dominant groups)

Language and identity

- Because that language variation exists, language is a tool at the disposal of language users to mark certain aspects of their identity
- If you ever use language differently in different scenarios, you're marking identity (explicitly or implicitly)

Multilingualism

- Simultaneous multilingualism – when multiple languages are both learned from birth (or from a very young age)
 - May achieve fully native fluency in all languages
- Sequential multilingualism – when second+ languages are learned later on
 - Will never achieve fully native fluency in the later languages
 - (although may become completely functionally fluent)
- Heritage speakers have a societally dominant L1 and a minority L2 that they're exposed to (usually at home)
 - Fluency can range from not fluent at all to completely fluent

Cross-Linguistic thinking

- Languages differ in all of these dimensions (phonetics, phonology, morphology, syntax, semantics, pragmatics)
 - Languages that are more closely related (historically) will likely have more in common with each other
 - Languages that have shared cultural/physical proximity may borrow from one another, resulting in having things in common (even if not historically related)

Psycholinguistics

- Conjunction of mind and language
 - Specifically, what are our minds doing when we *do* language?
- Doing language: reading, writing, speaking, hearing, seeing, thinking, understanding, etc.
- Doing language: sounds/letters, morphemes/words, grammatical relations, sentence structure, word meaning, phrase meaning, sentence meaning, discourse, background information, inferences
- The “cognitive psychology” part of linguistics
 - (or the “cognitive psychology” of language)