10/2: Introduction

- Linguistics is the scientific study of language
    - We make observations about what people say
    - We form hypotheses and test them against data to revise them
    - We develop a theory matching the results
- Language is an instinct that we act on in daily life
    - Just like our visual system is a subconscious process
    - Many facets of language operate subconsciously
    - Conscious knowledge doesn't take away these processes effects
        - You can't force yourself to not understand language if you understand it
- Language is a kind of tool
    - A tool for communication used to express meaning encoded into sounds/hand shapes
    - Listeners decode speech into meaning
- Language is a kind of knowledge
    - What do you know when you know a language?
        - You have a system of knowledge - grammar - that gives us building blocks that we can use to create more complex structures
        - We know how to use this system
    - This is a type of unconscious knowledge
        - Expletive infixation → rules that we inherently follow without even knowing them
    - **Phonetics** - we understand the inventory of our language
        - **McGurk Effect** shows that we intuitively know the mouth shape of a particular sound
            - Mismatch between what we hear and what we see → changing perceptions
            - Doesn't matter if we consciously know what sound we're hearing
    - **Phonology** - understanding the possible sound patterns in our language
        - Tested with Jean-Burko Gleeson's **Wug Test** - forms plurals of nonsense nouns → shows we don't have a known list of plurals, we intuitively have a rule system to form plurals
    - **Morphology** - we know a variety of words in our language
        - We know potential words and we can form complex words from less complex ones
            - Differ → different → differentiate
        - We have a **lexicon** - our mental dictionary of words we know
            - We likely have words that are not in any written dictionary
        - We know there are constraints to how a word can be built
    - **Syntax** - we know how to build phrases and sentences
    - **Semantics** - we know how to assign meanings to words in sentences
    - Reading and writing are not part of knowledge of linguistics
        - For most of human history, reading and writing were not available
        - Focus on spoken language

    - Native speakers may not know the history of words in their language → doesn't play a role in the knowledge of language
    - Being a fully competent native speaker of a language is independent of educational level
        - Being more or less educated has no effect
- Distinguish between linguistic competence and linguistic performance
    - **Linguistic competence**: what you know in your mind, what you can do, systematic knowledge of building blocks
    - **Linguistic performance**: what you actually do, what actually comes out of your mouth, subject to physical limitations
        - Performance errors like slips of the tongue
- Can we find a set of properties that all human languages share?
- Features of language
    - **Arbitrariness** - the relationship between a form and meaning in a word is arbitrary
        - Pseudo-exceptions: onomatopoeic words → still have some differences between language
    - **Creativity** - speakers use a finite set of building blocks to create and understand an infinitude of novel sentences
        - Sentences cannot simply be memorized or learned by imitation
        - Especially evident in children
        - Emphasized by Noam Chomsky
        - There's no limit to how long a sentence can be
- The set of universal properties possessed by all human languages - **Universal Grammar**
    - Can be thought of as a set of laws for human language
    - All languages have a lexicon, phonetic system, phonology, morphology, syntactic structure, and semantics
    - True for spoken and signed languages
    - All languages have ways of forming questions, negating a sentence, have means to indicate action, possess a set of discrete sounds
- Development of grammar
    - All children
        - Acquire the language of their environment
        - Acquire language spontaneously
        - Exhibit linguistic creativity
        - Pass through similar stages as they build their own grammar
            - Babbling → babbling to specific language sounds → single-word utterances → two-word utterances → overgeneralizations → most fully acquire by 5
        - Suggests there's a strong biological component to language development → supports UG
- Two types of grammar
    - **Descriptive grammar** - linguist's description or model of the mental grammar

        - What speaker's rules actually are
    - **Prescriptive grammar** - rules of grammar used by teachers, for example
        - What the speaker's rules should be
        - Can you understand people when they break these rules?
        - Ex. Double negatives in English, stranded/dangling prepositions

10/7: Intro to Linguistics

- The language instinct
    - We humans, all of us, are all capable of intuitions about language
- Lingua - Latin for language and tongue
    - Linguistics and language both come from this root word
- Linguistics is the science of the human faculty of language
- Ferdinand de Saussure (1853-1917) → when it comes to language, we need to study human beings that speak it
- One human cognitive faculty → many languages spoken in the world
- Case study: Italy and its linguistic landscape
    - Italian is not the language of Italy → Italo-Romance varieties → called dialects
- Diglossia - speaker is able to speak 2 systems based on different social situations, functionally-determined language choice
    - Occurs in situations of long standing societal multilingualism
    - 2+ languages: high and low, used by virtually everyone in the society
        - High language: in formal domains
            - Used to talk to strangers, bosses, teachers, etc.
            - Largely school-learned
- Understanding the tension between language diversity and identity is one of the most fruitful research agenda of modern linguistic theory
- Grammar is knowledge of a language's sound system, its words (meanings and forms), and its sentences
    - Such knowledge is usually unconscious
    - The other component of language is called a lexicon
- Why study language?
    - The questions that we try to ask and answer when we study language contribute to answer the ultimate questions about human beings

10/12: Language and Dialect

- Language variations/dialect differences
    - Is the way that any one person or group of people speak better than anyone else's?
- What is a **dialect**?
    - Popular: a dialect is a type of pseudo-language spoken by uneducated people
    - Popular: a type of speech that's different from your own
    - Popular: a dialect is a corrupt form of the language it's derived from
    - Popular: dialect are perceived as lacking grammar
    - A dialect refers to any variety of language spoken by a group of speakers

        - Everyone speaks a dialect
        - There's no such thing as a god or bad dialect
        - A language is a collection of dialects, one of which has been adopted as the standard variety, which people think of as "the language"
            - Assigned for a variety of social/historical reasons
- Characteristics of a Standard Language
    - The dialect of the ruling or most influential class is adopted as the standard
    - Literacy → acquires a written form
    - Standardization → a grammar that provides the rules of the language
    - Has an authoritative dictionary
    - Spelling/writing is fixed → out of competing forms, a single one is adopted as correct
    - A correct pronunciation
    - Public life → taught in school, used in an official setting
- Language Variations
    - One dialect is often considered a prestige dialect
        - Often associated with positive attributes: education, sophistication, intelligence
    - Others are substandard
        - Associated with the reverse: ignorance, lack of education, laziness
- Understanding Variation
    - Language is used differently in different contexts
    - Varies according to geography, social class, political ideology, age, gender, sexual orientation, situation, time
- Geographic Variation
    - If variation is based on geography, we focus on geographic variations
        - Soda vs. pop vs. coke
    - American dialect vs. British dialect
- AAVE - African American Vernacular English
    - Sociolinguistic focus on AAVE after Civil Rights Movement for integration in schools
    - Be-deletion → occurs when SAE can use contractions
- Social Variation
    - **Eckert Study**
        - Studied a high school in Detroit, focusing on jocks vs. burnouts
            - Jocks - middle-class, intent to leave after graduation
            - Burnouts - working-class background, local friends, intent to stay
        - Strong correlation between social status and negative concord
            - Jock girls < jock boys < burnout girls < burnout boys < "burned out" burnout girls
    - Class-based h-deletion in Norwich
        - Social class up, h-deletion down
    - Variation in use of standard 3rd singular present -s in verbs
        - Social class up, -s drop down

- Notions of Correctness
    - Standard language form is thought of as the correct form → speakers have higher prestige
    - Educational System - teaches correct and incorrect grammar
    - Government - only standard form is used in official gov't business
    - Social class - linguistic properties are often correlated with socio-economic status
- Stigmatization
    - Double negation
    - Regularized verb forms
    - Different subject-verb agreement patterns
    - Ain't
- English Dialect Case Study - Singlish
    - Singapore is a highly ethnically diverse country
    - Lot's of native speakers
    - Singapore is highly multilingual → get to see what kind of English arose as a result of this
        - 4 official languages: Malay, Mandarin,Tamil, and English
        - English is the de facto language of gov't
        - English promoted as a neutral language
    - Strongly stigmatized → "English corrupted by Singaporeans"
        - Speak Good English movement
    - Discourse particles
        - Spoken indication of speaker's attitude
        - "Lah" - reassurance, impatience
        - "What" - marks obviousness or a contradiction
        - "Meh" - indicates surprise or skepticism
- Register Variation
    - Level of formality
    - Case study - "like" - not a marker of a particular dialect, used colloquially across multiple dialects
        - Critics concerned with the supposed deterioration of the English language
        - Use is meaningless, thought of as indicative of a limited vocabulary → wrong
            - Used as a quotative complementizer
            - Used as signal approximation/an approximative adverb
            - Used as a discourse marker → signals relationship between sentences
                - Could be exemplification, illustration, explanation, etc.
            - Used as a focus marker → indicates that what follows is important
        - Often associated with young people - "Valley Girl" → also false
        - Multiple uses of like have been around for a century
- Linguistic Profiling - using the characteristics of a person's speech to identify them as a member of a particular group

    - Purnell, Idsardi, and Baugh - can you connect the way a person speaks and discrimination
        - Baugh found discrimination in landlord appointments when switching between SAE, AAVE, and Chicano English
        - The “hello” was clipped out of the introduction, the listener was able to identify the correct dialect 70% of the time
- Sign Languages
    - Diversity often goes unrecognized
    - 2-3 in 1000 babies born deaf, 2 million profoundly deaf people, 90% born to hearing parents, 100,000+ ASL users in US
    - Myth 1: Sign language is universal
        - There are many different sign languages (~300)
        - Mutually unintelligible
        - Different sign languages use different signs
        - There can be dialects of sign language
    - Myth 2: Sign language is iconic/just gestures
        - Some signs are iconic
        - Most signs are unguessable and are not iconic
        - If iconic, most signs would be similar across variations of sign language
            - Abstract concepts would be impossible to sign
    - Myth 3: Sign languages are encodings of spoken languages
        - Probably fostered by the existence of fingerspelling
            - Manual representation of the letters of a language, oftentimes if there is no sign for the word
    - Myth 4: Signed languages are just strings of hand motions
        - “Signed languages don’t have grammar” → false
            - If this were true, you could sign whatever you want
            - 5 basic parameters: shape of the hand, place of articulation, movement, palm orientation, facial expression
        - Each signed language has a restricted set of hand shapes that can be used

10/14: Variation in Language

- About Languages
    - We all have high-level grammatical insights without even being aware of it
    - These grammatical insights are described by linguists
    - Linguistics is the scientific field that scientifically studies language
    - Language is a cognitive faculty and can be expressed by speakers in multimodal dimensions
        - Sign languages - SLs provides some of the best evidence of a universal language device
    - We live in a multilingual world
        - Bilingualism/Multilingualism
        - Language diversity

        - **Diglossia** - same speaker using 2 languages in 2 distinct social occasions, one formal and the other informal
- Space/Place
    - Regional differences are something everybody acknowledges
    - There are differences at any level of language use
        - Ex) American vs. British English
    - Why do regional/local differences develop?
        - Different places/varieties established by people from different places, backgrounds, varieties
        - Barriers to interaction let each variety develop in its own way (or avoid changes that happen elsewhere)
        - Different varieties are in contact with different other languages or varieties
        - This is easier to understand by looking at an actual example:
            - Sardinian varieties are different from the rest of Italo-Romance varieties
                - Geographical barrier - island
            - Extreme south Italy varieties are different from the rest of the dialects spoken in the Peninsula
                - Long-standing contact with Greek-speaking people - Magna Graecia
- Time/Age
    - Languages vary in time
        - The same language shows remarkable differences based on the time of attestation
    - The way the speakers speak changes in a lifetime
    - What does it mean if two people speak differently?
        - Two different possibilities
            - Age grading
                - There are stable ways of talking based on our age
                    - When today's younger people age, they'll adopt older generation way of speaking
                - These changes across the lifespan could be due to different changes in life (entering the workforce, etc.)
            - Apparent time hypothesis
                - People born in 1930 reflect a 1930s way of talking, people born in 1990 reflect a 1990s way
                    - This assumes that the way we speak is more or less steady the same throughout our lives
                - Comparing generations lets us see change as it happens
                - What does this mean for linguistics? We can study change while it happens
- Variation and Change
    - Languages do not change quickly
        - We all use both old and new forms together for a while

        - Some of us use the old form, some use the new
    - So change over time is reflected in variation at any single time point
        - Not all variation is part of a change
        - Some variation is stable, sticks around for centuries
- Language Variation: Sign Languages
    - SLs
        - Fully developed human languages
        - Languages of deaf communities
        - Express meaning and convey grammatical features through a visual-gestural system (body, hands, facial gestures)
    - Universality confirmed!
        - Despite the different modality in which meaning and grammar are expressed, SLs confirm that language is a biological ability and a cognitive faculty acquire by all human beings
    - ASL varies from place to place
        - Two-handed vs. One-handed variants of the ASL cow based on southern region vs. other regions of the US
    - Change in time in BSL

10/15: Discussion 2

- Linguistic Variation
    - People speak differently from each other
    - Basic question: Is one person's way of speaking better than everyone else's
        - If yes, how is this determined?
        - If no, why not?
    - Habitual/Invariant Be: African American Language
        - Used to describe an action that occurs regularly over time
            - Adverbs: often, usually, always
        - Does not give any indication of whether they are currently in the process of doing that thing
        - Cannot mean that something has just happened once
    - All dialects are equally rule-governed and equally correct, but one dialect is considered a prestige dialect while others are considered (by non-linguists) to be substandard
        - Prestige dialects are associated with positive attributes (education level, sophistication, etc.)
        - Other dialects are considered the opposite
- Popular Notions of Dialect
    - A dialect is a pseudo-language spoken by uneducated or country people
- What is a dialect?
    - A dialect refers to any variety of a language that is shared by a group of speakers
    - Everyone speaks a dialect
- Thinking about Variation

    - We have seen in the lectures that the dialects of AAVE and Singlish hae grammar structures just like SAE
- Summary
    - Negative attitudes about non-standard speech are pervasive
    - We have seen these negative attitudes have no linguistic basis
    - Native speakers may be unaware of the grammar rules of non-standard speech

10/17: The Brain and Language

- Where is language processed in the brain?
    - Are all aspects of language processed in the same part of the brain?
    - What happens to language when this part gets damaged?
- Physical structure of the brain
    - 2 hemispheres
    - 2 cells: neurons and glia
        - Neurons have a soma (body), dendrites (electrical impulses bring info through these), axon (electrical impulses go out of the cell)
    - Outer shell is called the cortex
        - Cortex composed of billions of neural cell bodies
        - Sometimes called gray matter
    - Corpus callosum
        - Bundle of axons/white matter that connects the 2 hemispheres and allows them to communicate
    - Contralateral control
        - Stimuli from one side of the body is sent to the opposite side of the brain
            - Presentation of the stimulus in the right visual field of both eyes is processed through the left hemisphere, crosses the corpus callosum, and is communicated to the right hemisphere
        - Plays an important role in our understanding of language/its location in the brain
- Early ideas on the brain → phrenology
    - Developed parts of the brain are bigger and create bumps in your skull
    - Pseudoscience
    - Introduced the idea of locality in the brain
        - Left hemisphere
            - Written and spoken language
            - Dichotic listening
                - Simultaneously play 2 distinct sounds → subjects only report hearing one sound → almost always the right ear
                - This sound is the sound presented to the left hemisphere → suggests strong left hemisphere preference
            - Split brain patients
                - Patients with severed corpus callosum → hemispheres cannot communicate with each other
                - Words/images flashed into the left/right visual field

        - Correct reporting of what is seen in the right visual field
        - Cannot report what is seen in the left visual field → could still draw what they saw → linguistic response unavailable
        - Very strong evidence that language is lateralized to the left hemisphere
    - Wada Test
        - Anesthetizes one hemisphere of the patient's brain
        - Ask patient to identify an object in their left hand
            - No response when left hemisphere is anesthetized
                - Could still identify the object
            - Linguistic responses possible when the right hemisphere is anesthetized
    - Brain imaging techniques
        - We can look at healthy brains to see what's going on
        - FMRI - Function Magnetic Resonance Imaging
            - A giant electromagnet
            - Can measure changes in magnetic properties in the brain
            - Activated neurons use more oxygenated blood → magnetic properties different between oxygenated and deoxygenated
                - Have the patient perform certain tasks to see which areas of the brain respond
                - Measure the patient's base signal and their signal when they're performing the task
- Language Ares in Left Hemisphere
    - Broca's Area
        - Observed Tan's brain → lesion in the local area, connected to linguistic disability
        - Damage to this part is called Broca's Aphasia
            - Speech is broken and halted - telegraphic speech
            - Words make some sense, but structure is incorrect → semantics are ok, syntax is not
            - "Agrammatic aphasia"
            - Good comprehension of simple sentences, poor comprehension of complex sentences
            - Writing ability
                - Few words, but they make sense
    - Wernicke's Area
        - Observed language deficits that didn't involve Broca's Area
        - Identified damage association in the temporal lobe
        - Damage to this part is called Wernicke's Aphasia
            - Speech is fluent, but doesn't make much sense
            - Grammar is not usually affected

                - Problems with word choice and meaning → semantics off, syntax is ok
                - Comprehension severely impaired
                - “Semantic aphasia”
                - Writing ability
                    - A lot of words, but they don’t make sense
    - Aphasia
        - A disruption of linguistic ability due to brain damage
        - Language isn’t just housed in a simple box in the brain
            - It’s localized to specific areas in the left hemisphere
- Sign Languages
    - Neuroimaging sign languages
        - Looked at hearing English speakers, hearing BSL signers, and deaf BSL signers
            - English speakers saw Broca’s and Wernicke’s lighting up
            - Hearing BSL signers saw Broca’s and Wernicke’s lighting up
            - Deaf BSL signers saw Broca’s and Wernicke’s lighting up
                - All groups pattern more or less the same for both hemispheres
    - Even though spoken languages and signed languages use different modalities, they're both processed as language in the brain
- Are language abilities related to general intelligence?
    - People often associate language ability with intelligence
        - If this is true, what should we find?
            - Low IQ → poor language ability
            - High IQ → high language ability
    - Specific Language Impairment (SLI)
        - Affects ~7-8% of kindergarten age children
        - Deals with very specific types of difficulty in grammar
            - Functional words, tense, plurality, etc.
        - May start speaking late and be hard to understand
        - Thee children have normal IQ and have equal cognitive ability in other areas
            - Only linguistic ability is affected
        - Doesn’t agree with hypothesis, expected correlation doesn’t hold
    - Williams Syndrome
        - If language is separate, we should find high language skills but low IQ cases
        - Overall IQ: 40-90
        - Limited spatial and motor skills
        - Extremely social and friendly
        - High level of vocabulary and grammar
        - Better than average facial recognition
        - Often love music

        - Result of deletion of one copy of approx. 20 contiguous genes on chromosome 7
    - Linguistic savants
        - People who have low general intelligence, but very high language intelligence
        - Another case of dissociation between language ability and IQ

10/21: Biological Linguistics

- How do we know that language is a biologically-determined ability?
- Language development and age/time
    - Language involves a critical period of language acquisition
        - A span of time after which complete acquisition is difficult or impossible
        - "Window of opportunity"
    - Critical period is widely documented, not only for our species
- Types of critical period in other species: acquisition of songs by birds
    - Young birds reared away from their species fail to acquire the song
    - Even when returning to their original habitat
    - If chaffinches isolated during 4th month, they do not acquire the birdsong of its species
        - Hearing the song before or after: useless
        - They need direct trigger during specific period
- Types of critical period in other species: kittens
    - Sight development in kittens
        - One eye temporarily closed when young
        - Fail to "wire up" their natural circuitry for that eye
        - Do not make up for that deficit later
- Types of critical period in other species: chickens
    - Pecking behavior triggered by exposure to light during the first 2 weeks of life
    - Chickens raised in the dark and fed with droppers for 2 weeks will not learn how to peck
- Experiments on humans? No
    - Humans cannot be directly tested the same way
    - Cases of lunatic or criminal behavior by parents
        - Well-studied case - Genie
    - Accidental situations (illness) have occasionally created such situations
        - Chelsea
            - Profoundly deaf from birth
            - Came from a loving home
            - Initially misdiagnosed as being intellectually disabled
            - Started learning language at age 32 when she was correctly diagnosed
            - Developed a fairly good lexicon
            - Syntax was broken
            - Some functional items present, but totally unprincipled

        - E. M.
            - Profoundly deaf from birth
            - No contact with the deaf community
            - Hearing aids at 15 years
            - Normal IQ, cognitively functional
            - Severe deficiencies in verbal comprehension and production
                - After 4 years trying to learn Spanish
- Language is a biologically-based ability
    - E. Lenneberg (1967)
        - Hypothesized a critical period for language development
        - Biologically-determined ability
            - Language = walking upright
        - Critical period - period of time when the brain is undergoing a process of lateralization
            - Brain is divided into 2 parts
    - Lennenberg's Hypothesis: based on studies of recovery after aphasia
        - Children recover well, but adults do not
    - Maturational constraint on language acquisition
        - Issue of maturational changes in brain plasticity
            - Time affects brain plasticity
    - Different account: **neural commitment hypothesis**
        - During language acquisition, brain adapts to the structure of L1(s)
        - Language exposure tunes the system to select the useful input
        - Neurons become committed to encoding linguistically relevant properties of L1
        - Neurons cannot be recommitted upon L2 exposure
- What is an L2?
    - Natural language acquired after the L1
        - When the critical age of L1 acquisition is closed
    - L1 vs. L2 = acquisition differences
        - Not performance differences - L1 does not always correspond to the language in which an L2er is more proficient
- Comparing L1 and L2 acquisition
    - Is 2nd language acquisition in adults like first language acquisition in children
    - L1 and L2 acquisition are generally different
        - They start out differently
        - Clear-cut distinction: native language or not?
    - L1 and L2 acquisition are also comparable
        - L2ers like L1ers are creative in the process of language acquisition
        - L2ers construct grammars too
    - Fundamental Differences hypothesis
        - L1 and L2 adult acquisition - fundamentally different processes
            - L1 acquisition
                - A biologically-driven program specific to language

            - Uniformity, absence of error, speed and ease of acquisition
        - L2 acquisition
            - Adults use general problem solving skills
            - Learning process is goal-oriented, uses feedback and direct instruction
    - The role of the learning context
        - Positive influence of naturalistic exposure on L2 sociolinguistic development
        - Effects of context of acquisition exerts a significant effect on multilinguals later pragmatic use of language
        - Languages learned only in a formal context
            - Use of L2 mostly in a formal context → lack of socio-pragmatic competence

10/22: Discussion 3

- Brain and Language
    - Localization of language in the brain
    - Aphasias
    - Intelligence
- Lateralization
    - What evidence do we have to say that language is processed in the left hemisphere?
- Dichotic Listening
    - What happens in a dichotic listening experiment?
        - Different sounds are played simultaneously to different ears
        - People almost always report the sound played to the right ear
    - Music is processed in the right hemisphere
        - In the dichotic listening test, subjects report hearing music in the left ear
- Wada Test
    - One hemisphere of a patient's brain is temporarily put to sleep
    - The patient is then asked to count numbers, identify objects, and answer questions
    - Left brain asleep?
        - Subject unable to produce language
        - Can identify picture of object
            - Left hemisphere is capable of subconscious language activity
- Split Brain
    - Corpus callosum severed - no communication between hemispheres
    - Based on contralateral nature of brain organization
- Two Types of Aphasia
    - Broca's Aphasia
        - Broken syntax
        - Semantically coherent

        - Relatively good comprehension, can understand simple sentences but not complex sentences
    - Wernicke's Aphasia
        - Patient can produce fluent sentences
        - Utterance doesn't make sense in meaning
        - Grammar usually not affected
        - Problem w/ word voice
        - Comprehension severely impaired
        - Semantic aphasia
- Sign Languages
    - Sign languages activate the same brain centers as normal language
    - Sign language uses visual-spatial cues
        - Usually processed in right hemisphere
        - Sign language processed in left hemisphere
- Language and Intelligence
    - People oftentimes associate language ability with general intelligence
        - Specific Language Impairment (SLI)
            - Very specific types of difficult with language, omission of function or grammatical words
            - Fall in the typical IQ range, normal ability in all other areas like speech comprehension and hearing
        - Williams Syndrome
            - Avg. IQ: 55
            - Limited spatial and motor skills
            - Extremely social and friendly
            - Typically have strong affinity for music
            - May have exceptional sense of rhythm, be moved emotionally by music
        - Linguistic Savants
    - Language is not tied up with general intelligence
        - Develops separately from other aspects of intelligence
- Sapir-Whorf Hypothesis
    - When we learn a new language, does our way of thinking change?
    - Wilhelm von Humboldt argued that certain language types are more adequate for thought and civilization
    - Whorf proposed a specific mechanism for how language influences thought
        - Guide to the interpretation of experience
        - Speaker interpretation → language-specific meanings
        - Language suggests associations not entailed by experience
    - Formulations

<u>10/24: Phonetics</u>

- **Phonetics** is how speech sounds are produced, transmitted, and perceived
    - We're going to focus on their production

- When you know the phonetics of your language, what do you know?
    - The phonetic inventory - the set of sounds in the language
        - SAE includes subsets of consonants and vowels
        - Doesn't include other types of sounds
    - What do you know when you know the phonetic inventory of a language?
        - You know how to separate a continuous stream of speech into distinct words and a word into distinct sounds
- Vocal tract
    - Structures that work together to produce speech sounds
    - The way we pronounce vowels and consonants is directly related to this structure
    - Alveolar ridge
    - Hard palate
    - Soft palate/velum
    - Uvula
    - Pharynx
    - Glottis
- Spelling
    - Why do we need to use articulators to define sounds?
        - Why can't we rely on orthography/spelling?
        - Spelling is full of inconsistencies when it comes to sounds
    - **Orthography**
        - Phonetics != spelling → same symbols make different sounds/same sounds made by different symbols/symbols that aren't pronounced
    - **International Phonetic Alphabet** (IPA)
        - Why use the IPA?
            - Each symbol has a one to one correspondence with a sound
            - It can be used to represent any human language
            - IPA symbols enclosed in square brackets
                - phone = [fon]
        - Consonants vs. vowels
            - Sounds of language fall into these 2 classes → different kinds of sound
            - Consonants:
                - Produced with some closure in the vocal tract that impedes the flow of air from the lungs
                - **Place of articulation -** where is the consonant produced?
                    - **Articulation** - part of the mouth touches or interacts with another area of the vocal tract → 7 places of articulation
                        - **Bilabials** - [p], [b], [m] → sounds produced by bringing both lips together
                        - **Labiodentals** - [f], [v] → bottom lip to the upper teeth

- **Interdentals** - thigh, thus → sounds produce by inserting the tip of the tongue between the upper teeth and the lower teeth
- **Alveolars** - [t], [d], [n], [s], [z], [l], [r] → sounds produced by raising the tip of the tongue to the alveolar ridge
- **Palatals** - mission, measure, cheap, judge, you → sound produced by raising the front part of the tongue to the hard palate
- **Velars** - [k], [g], [n] → sounds produced by raising the back of the tongue to the soft palate or velum
- **Glottals** - [h], [?] → produced with the flow of air through the open glottis
    - uh-oh - [?] → produced when air is stopped completely at the glottis - glottal stop
- **Labio-velar** - [w] → sounds produced by a combination of pursed lips and raising the back of the tongue to the velum

- **Voicing** - are the vocal folds vibrating (voiced) or not (voiceless-open glottis)
    - Pie vs. Buy
    - Tie vs. Die
    - Cap vs. Gap
    - Voiceless vs. Voiced
        - **Voiceless** - vocal folds/cords are apart, air flows freely through the glottis - [s]
        - **Voiced** - vocal folds.cords are together, air forces through, causing vibrations - [z]
- **Manner of articulation** - how is the consonant produced?
    - **Stops** - there is a complete obstruction of airflow somewhere in the vocal tract
        - **Oral stops**
            - The velum is raised to block the nasal cavity so that when the stop is released, the air flows out through the mouth
        - **Nasal stops**
            - The velum is lowered to open the nasal cavity
        - **Aspiration** - a brief puff of air that escapes after the stop is released and before the vocal cords begin vibrating

            - [p^h]
            - Voiceless oral stops are aspirated in word-initial position
        - **Fricatives** - major, but not complete, obstruction in the vocal tract
            - The opening through which the air escapes is small, so a turbulent noise is produced as a result
            - [f], [v], [theta], etc.
            - The articulators are really close, so there is a lot of friction in a small space
        - **Affricates** - made by briefly stopping airflow completely, then slightly releasing closure so that a fricative-like noise is made
            - Stop quickly followed by a fricative
        - **Liquids** - some minor obstruction of airflow, but air still passes through
            - [l], [r]
            - [l] is a lateral liquid
                - Air flows on the sides of the tongue
            - [r] is a retroflex liquid
                - Tongue is curled back behind the alveolar ridge
        - **Glides** - very small obstruction of airflow, articulators move closer together, but not by much
            - [j] - palatal glide
            - [w] - labio-velar glide
        - **Trilled [r]** - Indian English, not present in American English
            - One articulator touches another in a very rapid-fire, repeating motion
            - Dialects of the same language differ by their phonetic inventories
            - Knowledge of your native language includes knowing what's in your phonetic inventory
- Vowels:
    - **Tongue position** - front, center, or back?
    - **Tongue height** - high, mid, or low?
        - High - beet, bit, boot, book
        - Mid - bait, bet, about, but, boat, bought
        - Low - bat, cot
    - **Tenseness** - is your tongue tense or lax?
        - Tense - muscles tensed and mouth is relatively narrower, slightly higher and longer than lax vowels

        - **Lip rounding** - are your lips rounded or not?
            - 4 rounded vowels
            - 8 unrounded
            - Cot-caught merger → [upside-down c] and [a] merge
            - By itself, lip rounding makes no distinctions between vowels
        - **Diphthong** - combinations of two vowels
            - At least 3 in English
            - eye, boy, house → combine a vowel and a glide
    - Natural Classes:
        - Groups of sounds that can be identities by sharing particular features
        - Helps us understand differences between dialects
            - Ex) Canadian Raising → happens before voiceless consonants
    - Transcription - rendering a word in IPA
        - Can be more sounds in a word than there are letters
        - Other times there are far fewer sounds than letters
        - Letters and sounds have a disconnect
    - Reverse Transcription - IPA → English
    - Syllabic Sounds
        - Every language has rules about which sounds can function as the center of a syllable
        - Syllable nuclei in English - almost always vowels, but occasionally we allow liquids and nasals to act as the nucleus
        - Marked with diacritics
        - Can also be represented with a schwa + the letter
- William Labov in NYC
    - Systematic variation in [r] pronunciation based on social class, attention paid to speech, linguistic context of a variant
    - NYE has a dropped [r] → word-final position and when the [r] sound precedes another constant
    - Pronunciation of [r] is prestigious
    - Dropping of [r] is perceived as nonstandard speech
    - Went to 3 classes of stores and asked for sale on the fourth floor
        - 2 kinds each → casual and careful articulation
        - 2 environments of [r] sound
            - Floor [r] pronounced 63%, 44%, 8% from high society → low
                - Second attempt: 64%, 61%, 18% → marker of the speech of people lower on the socio-economic ladder
    - Separate study looked at realization of [r] before a constant

        - Looked at realization in casual speech, formal speech, reading style, word lists
        - Follows results of shopping center study
- Received Pronunciation (RP)
    - Prestige dialect → [r]-less dialect
    - Disconnect between social classes in British English and NYE
    - Studied by Peter Trudgill in Reading, England
        - Direct relationship found, direct opposite from NYE study
    - Phonetic markers of social class are arbitrary
        - Prestige or lack of prestige associated with particular phonetic markers is not random
            - More marginalized speakers = more marginalized speech forms
            - Can see how attitudes towards non-standard dialects are shaped
- Phonology - how speech sounds are organized in different languages
    - Phonology is the linguistic knowledge a speaker has of the sound patterns that are possible in a language
        - Pan - alveolar nasal end n
        - Pancake - velar nasal end n → n precedes velar nasal c
        - Pan bread - bilabial nasal end n → precedes a bilabial stop b
    - [t^hjun] vs. [t^hun]
        - American English prohibits certain combinations of sounds in word initial position
            - Yod is dropped when it follows word-initial alveolar sounds
    - What is the organization of sounds in a given language?
    - Which sounds are predictable and which are unpredictable based on the environment?
    - What are the phonetic contexts which allows us to predict the appearance or disappearance of these qualities?
- Sign Language
    - To what extent are signed languages like spoken languages?
    - Can we find phonetics in sign language?
    - Differ in the handshapes that are permissible
    - In spoken language the individual sounds in a word are meaningless
        - Similar to how the individual handshapes in ASL are meaningless
    - When we think about sounds in language, we can characterize them in terms of features
        - We can do the same with handshapes
            - Parameters (or primes) - discrete units of a sign
                - Handshape
                - Place of articulation
                - Movement
                - Palm orientation

10/28: Linguistic Change

- Case of Martha's Vineyard
    - Island in the US East coast
    - Shift in the phonetic position of the first elements of the diphthongs /ai/ and /au/
        - Studied the frequency and distribution of phonetic variants in:
            - Several areas
            - Different age groups
            - Different occupational groups
            - Different ethnic groups
    - Island speech was characterised by the mild centralization of the first element of /ai/ in words such as wife, night, right, etc.
    - Little to no centralization of the first element of /au/ in house, out, about, etc.
        - Centralization means a goes from low to mid schwa
    - Demographics in the early 60s:
        - Permanent pop. - 6000
            - Consisted of Yankees (descendants of early settlers), Portuguese (more recent arrivals), and Native Americans + misc. group (15%)
        - Big influx of visitors in summer - 40,000
        - Eastern part of island - "Down Island"
            - More densely populated and favored by visitors
        - Western part of island - "Up Island"
            - More original inhabitants and strictly rural
        - Chilmark: center of once important fishing industry (~2.5% of ppl.)
            - Chilmark fishermen antipathetic to the summer people
            - Chilmark fisherman regarded by other islanders as independent, skillful, physically strong, courageous
    - Labov's Study
        - Face to face interviews with 69 informants
            - Lexical questionnaire
            - Questions about value judgements (to explore the social orientation of the speaker) and elicit as many diphthongs as possible
        - Recordings of school pupils reading texts
        - Recordings in very casual situations (bars, stores, etc.)
    - Initial results:
        - Plotted use of centralized vowel against various parameters
            - Age, pop. group, occupation, location
        - Summary:

            - Centralization of diphthongs most prevalent in
                - Age: 31-45
                - Origin: Yankees, only by a little
                - Occupation: Fisherman mostly, less in people working in tourism
                - Location: Up Island residents, esp. around Chilmark
        - Explanation:
            - Centralizing tendency was actually diminishing in the 1930s
            - Remained in dialect of middle-aged rural fisherman
            - With the advent of tourists, there was an unconscious change among those who most closely identified with the island
            - Expression of strong resistance to the incursions of the summer people
- Significance?
    - Until Labov, dialect studies had focused on rural speakers and had ignored social factors
    - Urban accents were thought to be too adverse and to heterogenous to study
    - Labov's conclusion: social factors were in fact the most significant and important

10/29: Discussion 4

- Consonants
    - Place of articulation: where is the constant produced
        - Bilabials - bringing both lips together
        - Labiodentals - touching the bottom lip to the upper teeth
        - Interdental - inserting the tip of the tongue between the teeth
        - Alveolars - tongue raised in various ways to the alveolar ridge
        - Palatals - raising the front part of the tongue to the palate
        - Velars - raising the back of the tongue to the velum/soft palate
        - Uvulars - raising the back of the tongue to the uvula
            - Sounds do not ordinarily occur in English
        - Glottals
            - Glottal stop (uh-oh)
    - Voicing: are the vocal folds vibrating
        - Voiceless - vocal cords are apart so that air flows freely through the glottis
        - Voicing - vocal cords ae together so that the glottis vibrates
    - Manner of articulation: degree of constriction in the vocal tract

        - Stops - consonants in which the airstream is completely blocked in the oral cavity for a short period of time and the velum is raised so that no air can escape from the nasal cavity
        - Nasal stops - consonants in which the airstream is completely blocked in the oral cavity for a short period of time and the velum is lowered so that air can escape from the nasal cavity
        - Fricative - airflow is so severely obstructed that it causes friction
        - Affricates - these sounds are produced by a stop closure followed immediately by a gradual release in closure
        - Liquid - there is some obstruction of the airstream in the mouth, but not enough to cause any real constriction or friction
        - Glides - produced with little obstruction of the airstream
- Vowels
    - Tongue position - front, central, back
    - Tenseness - tense, lax
    - Tongue height - high, mid, low
    - Roundness - rounded, unrounded

11/2: Morphology

- Morphology is the study of words - their structure, function, and distribution
    - Goal is to understand how words are represented in the mind of the speaker
- Knowledge of words
    - What do we know when we know a word?
        - The arbitrary sounds associated with a word
        - The word's meaning
        - The word's syntactic category
            - Syntactic categories will be important when we talk about word and sentence formation
    - What do we not know?
        - We might not know how a word is written
        - We may or may not know the etymology of the word
    - Lexicon - our own personal store of words
        - Every word we know has a lexical entry
        - Our mental dictionary includes all the words we know and everything associated with those words
        - Difference between physical dictionaries?
            - Physical dictionary contains many words we don't know
            - Printed dictionaries often don't contain words that speakers use

- Looking inside words
    - Morphemes - the smallest linguistic unit that has meaning
        - A morpheme is not equivalent to a word
        - All words consist of at least one morpheme
        - Discreteness of language - each morpheme is a discrete unit of meaning, which we can manipulate
        - We can combine morphemes to create words
        - We can decompose words into their morphemes
        - Property of all human knowledges
        - Free vs. Bound
            - Free morpheme - a morpheme that can stand alone as a free word
                - 2 types:
                    - Content/lexical - most nouns, verbs, and adverbs → open class, we can add more to create new content words
                    - Functional - serve some grammatical purpose
                        - he, she, it, a, the, etc.
                        - Closed class, we can't usually create new words in them
                - Lexical vs. Functional
                    - Broca's aphasia patients leave many functional morphemes out of their speech
                        - Leaves lexical morphemes alone
                        - Selective in impairment
            - Bound morpheme - must be attached to a free morpheme
                - -ed, -ing, -s, pre-, re-, un-
                - 2 types:
                    - Inflectional - grammatical, they affect the grammar of the word they attach to
                        - Do not typically change the category of a word
                        - 8: -s, (3rd person singular present, plural, possessive), -ed, -ing, -en/ed, -er, -est
                        - Attach to a particular category of word → can attach to almost any word of the particular category
                        - Refine meaning, don't change the core meaning

            - Derivational - help to derive new word categories
                - Often change the part of speech
                - Usually not as productive as inflectional morphemes
        - We can transform words into something else all the time, but we know what's ok and what's not → allows us to create novel words
        - Words have structure and morphemes are the building blocks → creative, yet structured
        - Affixes combining
            - Certain affixes attach to certain kinds of words
        - Word trees:
            - Runner → run -er
            - Greasy → grease -y
            - Create a roadmap of how to build a word
            - Only combine in a particular order and only with specific categories of other morphemes
            - Be careful of ambiguous words
                - Unlockable
    - Affixation
        - One process which we use to build new words
        - We can adapt the meaning of a word by piling more affixes onto it
        - Affix - any morpheme that attaches to a root (bound morpheme)
            - Suffix - affixes that attach after the root
            - English causatives - -en → derivational suffix
        - New bound morpheme? -ass
            - Acts as an intensifier → bound morpheme
    - Infixation
        - Infix - an affix that attaches inside the root
        - Expletive infixation
        - Iz infixation
        - Homeric infixation
    - Circumfixation
        - Circumfix - affixes that surround the root both initially and finally
- Morphological Analysis
    - Case Study: Kanuri
        - Chadic language of Nigeria
        - n[schwa]m- is the morpheme that derives nouns from adjectives
    - The absence of an affix can be significant
    - Null symbol identifies an unmarked morpheme

    - The English plural morpheme
        - [s], [z], [Iz] are allomorphs of the plural morpheme
        - Wug Testing
        - [s] - voiceless
        - [z] - voiced
        - [Iz] - sibilants
- Inflection
    - Inflection morphemes are purely grammatical - tense, number, gender, case, etc.
    - Often very productive
    - Typically come after derivational morphemes in a word
    - Can perform a great number of things
    - English doesn't make great use of this property - case marking
- Word Formation
    - Affixation, prefixation, suffixation, infixation, circumfixation
    - Reduplication - forming new words by duplicating part or all of an existing word
        - Contrastive Focus Reduplication
            - "We're not living together-living together"
            - Puts focus on the most prototypical, stereotypical example of something
        - Singlish
            - Makes extensive use of reduplication
            - Allows for reduplication of nouns, adjectives and verbs
            - Adds a closeness aspect to it
            - Constrained by one syllable for proper names
            - Adjectival reduplication
                - Plain adjective and comparatives can be replicated
                - Superlatives cannot be
            - Verb reduplication
                - Reduplicating once - to do something a little bit
                - Replicating twice - continuous action

11/4: Morphological and Syntactic Variation

- Reduplication in Italo-Romance
    - The case of the formation of superlatives
    - At least 3 ways of expressing the superlative degree of an adjective
        - One is a pure morphological derivation: -issim- suffix
            - SID lacks this superlative formation method
- Variation in Syntax: Comparing Latin American Spanish and Iberian Spanish

    - Majority of Spanish speakers who exported Spanish in Latin American came from the Andalusia
        - Many dialects of Latin American Spanish share a variety of features with Andalusian varieties
    - Word and syllable final /s/ > [h]
        - Aspiration of /s/ when placed at the end of a syllable
        - Iberian Spanish [s] is pronounced
        - Latin American Spanish [s] → [h]
        - Andalusian Spanish
            - /s/ can be deleted
            - Possible morphological consequences
    - Points of Difference
        - Phonetics, morphology, syntax, lexis
        - LAmSp weak pronouns can be reduplicated

11/5: Discussion 5

- Types of morphemes
    - Free: lexical and functional
        - Lexical morphemes form an open class → we can coin new words from the available morphemes
        - Functional morphemes form a closed class → we cannot coin or create new items from this class
            - Prepositions
            - Pronouns
            - Conjunctions
            - Determiners - a, an, the, etc
    - Bound: derivational and inflectional
        - Derivational - can changes the syntactic category of the word they attach to
        - Inflectional morphemes never change the category of the root word

11/12: Syntax

- Syntax is the study of how phases and sentences are constructed
- There are a lot of similarities between word construction and sentence construction
- 2 approaches
    - Ordered linearly - no hierarchy
    - Words have internal structure, grouped into constituents
    - Words are not linear in a sentence
- Constituents

    - Words are grouped into units called constituents
    - Sometimes more than one grouping is possible
    - Infinitely extended length
    - Word order is constrained
        - Known when we know a language
        - Basic word order varies greatly across languages
            - English - subject - verb - object
        - Matters in meaningless sentences
            - Disassociate syntax and meaning - “colorless green ideas sleep furiously”
    - Similar building blocks across languages
        - Same syntactic categories - nouns and verbs, maybe adjectives, adverbs, conjunctions, articles, prepositions, etc.
    - Determining constituency
        - Even though we have not been taught, we have intuitions about what counts as a consistent or a unit of the syntax
        - This kind of knowledge is part of native speakers’ knowledge of language
        - There are a number of linguistic tests that we can use to test whether or not a given string of words is a constituent
            - Perform multiple tests - 1 failed test is not enough to give up
            - Every sentence/word is a constituent
- Syntactic categories
    - Traditional approach is to determine syntactic categories by looking at meaning
    - Behavioral approach
        - A word is what it does
        - Determine a word’s syntactic category by how it behaves, not what it means
    - Nouns - follows a definite article, indefinite article, numeral, which phrase, or a possessor
        - The book, a book, six books, which book, Mary’s book
    - Verbs - a word that can combine with the tense suffixes
        - Wiped, wipes
    - Adjectives - an item that can appear in the position following seem/seems
        - He seems happy
        - If -er or -est can be added to the word, or the word can follow more or most
            - Happier, happiest, more promising, the most promising
- Constituency Tests

- Replacement test:
  - There are 2 types of replacement
    - Pronoun replacement test - many constituents can be replaced by pronouns
      - The resulting sentence must be grammatical and have the same meaning
      - I found the puppy at the park → I found him at the park
        - The puppy is a constituent
    - Do so/do too replacement test
      - Can the string of words be replaced by do so or do too → verb phrases
      - Must maintain the original meaning
      - The old man found a dollar → The old man did so
        - Found a dollar is a constituent
- Stand-alone test
  - A chunk of words that can stand on its own as an answer to a question is a constituent
- Movement test
  - When a group of words can be moved around within a sentence, it's a constituent by definition
    - Fronting - moving a group of words to the beginning of a sentence → grammatical + same basic meaning = constituent
    - Clefting - breaking up a sentence and feeding it into the formula: it is/was _____ that _____.

- Constituency tests to trees
  - All English sentences must contain (minimally) a noun and a verb
    - Noun phrase and a verb phrase
  - Phrase structure rules
    - S → NP VP
      - A sentence must contain a noun phrase and a verb phrase
    - NP → (DET) (Adj) N (PP)
      - Noun phrases have an optional determiner, optional adjective, mandatory noun, and optional prepositional phrase
      - NPs are interchangeable in sentences, you can replace an NP with another NP
      - Targeted by pronoun replacement
    - VP → V (NP) (PP) (Adv)

                - Verb phrases have a mandatory verb, optional noun phrase, optional prepositional phrase, and optional adverb
                - VPs can be inserted into a sentence in a position which requires a verb
                - Do so/do too targets VPs
            - PP → Prep (NP)
                - Prepositional phrases have a mandatory preposition and an optional noun phrase
- Phrase structure trees
    - Syntactic trees allow us to see.encode the constituency of a sentence directly
    - When we use trees, we must do 2 things:
        - Accurately represent word order
        - Identify constituents
    - Are like blueprints for a sentence
        - Show us how sentences are built
        - How they can be broken down into pieces
    - Where do these trees.constituent structures come from?
    - How do speakers correctly structure their utterances?
    - Leading hypothesis: speakers appeal to unconscious/internalized phrase structure rules
    - Part of knowledge of native language - you know phrase structure rules that enable you to make hierarchy constituent structures effortlessly
    - Terminology:
        - Node - a labeled branch point, where the syntactic category is labelled
        - Domination - every higher node dominates all the categories beneath it
        - Sisters - 2 categories that are directly under the same node
        - Head - the lexical item which determines its syntactic category
            - Head of a NP is always a noun, head of a BP is always a verb
        - Complement - gives additional info about the head
            - Will be a sister of the head
            - Every category can have a complement
            - The complement may be another phrase with another head inside of it
- Crosslinguistic differences
    - English - head precedes the complement, Japanese - complement precedes the head

        - Japanese - phrase structure: VP → NP V
- Structural ambiguity
    - Sometimes the meaning of sentence is straightforward
        - Sometimes may have multiple interpretations
    - Lexical ambiguity
        - A single word may have multiple meanings
    - Word structure ambiguity
    - Syntactic structure ambiguity
- Habitual be in AAVE
- Multiple modals in Southern US English
- Syntactic processes
    - Subject auxiliary inversion - inversion of subject and auxiliary verb positions
        - Appears in AAVE → negative inversion
        - Wh-questions - wh-words end up at the front of the sentence
        - Conditional inversion - if...then clauses
        - Varies based on the English dialect → use in different contexts

11/12: Language Acquisition

- How do children acquire their first language?
    - Who's the teacher?
        - Direct instruction doesn't work, much of the knowledge is subconscious
        - Acquisition happens effortlessly
    - What is the input data?
        - Adults only utter grammatical sentences → positive evidence
        - Ambient linguistic data available to children does not include ungrammatical sentences → negative evidence
        - Only input available to children is positive evidence
        - Children can distinguish between grammatical and ungrammatical
    - How do children interpret novel data?
        - Children are only exposed to a finite number of sentences
        - However, they eventually acquire the ability to generate and understand an infinite number of sentences
    - What errors do children make?
        - They speak differently from adults
        - Pattern of their errors seems to be selective or limited
        - They would not make certain errors that would be overgeneralized from what they hear in adult speech
        - Regular vs. irregular verbs

                - Regular → -ed
                - Irregular → no -ed
                - Overgeneralized by children
            - Auxiliary verbs
                - Not overgeneralized with -ed
    - 4 facts: no instruction is involved, no negative evidence, finite input leads to infinite productivity, non-adult-like errors → Logical Problem of Language Acquisition
        - “Poverty of the Stimulus” → input from the child’s linguistic environment doesn’t seem to be enough to produce fluent speech
- Theory of Imitation - children imitate the adults around them in certain situation
    - Overgeneralizations tells us this theory is wrong
    - Children make errors that adults don’t make
- Theory of Correction/Reinforcement - children learning is based on correction of bad sentences + positive reinforcement for correct speech
    - There seems to be no systematic positive or negative reinforcement from adults
        - Approval expressed after 45% of grammatical and ungrammatical sentences
    - Theory bad
    - Piedmont/Inuit/K’iche’/Mohawk
- Theory of Innateness
    - Model of innateness: developed with primary focus of addressing PoS
    - Language knowledge is innately specified
    - Richly structured
    - Innate knowledge of a language is called UG, blueprint for language
    - If language is innate, why do people come to acquire various different languages as their first languages?
        - UG component (categories of linguistic expressions, structured sentences and phrases) + specific properties (nouns/verbs/subjects/objects representation in the language, sentence structure)
        - UG is like the seed of a grammar of any language
    - UG is like the OS of a computer, variations of language are software → must fit with the OS
- What is acquired?
    - Word order acquisition
    - Phonetic and phonological acquisition
- What is acquisition driven by?

    - Example suggests language acquisition does not seem to be driven by imitation, correction, or reinforcement
    - Children's knowledge of language is complex and shows subtle implicit knowledge of rules
    - Since we are not overly taught these things, the claim is that this knowledge is hard-wired into the human genome
    - UG therefore facilitates first language acquisition, which explains why children develop language so effortlessly, rapidly, and uniformly across species
- Critical Period Hypothesis
    - Chaffinches acquiring song
    - Kittens and vertical/horizontal sight
    - Goslings and moving objects
    - Environmental input required during critical period for development
    - Birth → onset of puberty
    - Victor
        - Language progress was generally poor after 5 years of training
    - Genie
        - Learned how to communicate a message, acquire vocabulary
        - Could not use grammatical morphemes, use complex syntax structures
        - Showed language processing in the right hemisphere
        - Unclear if related to abuse
    - Chelsea
        - Deaf, misdiagnosed as mentally retarded until 31
        - Raised in loving and supportive environment
        - Developed a 2000+ word vocabulary
        - Able to hold a job, read, and write
        - Unable to acquire simple word order or complex syntax
    - Acquisition of ASL
        - Deaf children whose parents don;t sign
        - Normal early childhood, except for lack of language input
        - Early exposure are far superior in signing than later learners
        - Compared 3 groups:
            - Native signers
            - Early learners
            - Delayed learners
            - Native → early → delayed
            - All signers had been signing for 20 years
- Second language acquisition

    - Age of arrival is a better predictor of accent than number of years speaking
- Childhood Aphasia
    - Recovery is faster and much better
    - Right hemisphere can step in and take over if needed
    - 0-3 months - no effect
    - 21-36 months - language accomplishments disappear, re-acquire all stages
    - 3-10 years - aphasic symptoms, tendency for full recovery
    - 11+ years - aphasic symptoms persist
    - Lateralization tied to the critical period

11/22: Language Contact

- Language contact occurs when 2 or more languages or dialects come into extended contact with each other
- Languages and speakers do not exist in isolation, but in social settings
- When we talk about language contact, we're talking about human contact
- Outcomes
    - What happens when cultures with multiple different languages come into extended contact?
    - Widespread bilingualism/codeswitching
    - Selection of a lingua franca - any language used to enable communication between groups of people with differing native languages
    - Language creations - pidgins and creoles
    - Language shift/endangerment and language death
    - Borrowing
        - Extremely common and need not be the result of extended contact between languages
        - Words, phonetics, morphology, syntax
- Language contact occurs in situations where groups of speakers of different languages come into contact with one another through
    - Geography
    - Conquest/war
    - Trade
- Terminology
    - Adstrates - languages in contact that equal prestige
    - Superstrate - language of dominant group
    - Lexifier language - the input language that provided most of the basic vocabulary or lexicon
    - Substrate - language of the less dominant group

        - Typically provides most of the phonological and grammatical features
- Pidgins and creoles
    - Speakers of mutually unintelligible languages are often brought together, perhaps through economic, political, or social factor
    - In order to communicate, they need to overcome the lack of a common language
    - Pidgin language - simplified language used in specific interactions such as business, trade, and service
        - Found across the globe
        - Has no native speakers
        - Governed by convention, have established vocabulary and grammatical structures
        - Have grammars that are simpler than the grammars of their source languages
        - The vocabulary is usually highly restricted and contains few terms for abstract objects
        - Pidgins are not mutually intelligible with their sources
        -
    - Creole languages - Once children begin to acquire a pidgin as a native language, it becomes a creole
        - As children acquire a pidgin as an L1, they transform its minimal grammar into a thorough, complex grammar
        - Not broken versions of another language → perception comes from presence of the lexifier language
        - Essentially the result of colonization, arose because groups of speakers needed to communicate
            - No group large enough to strongly push their own language
    - Phonetics and phonology
        - Simplified consonant clusters
        - Stopping of fricative
        - Pidgins and creoles tend to have sounds that are common across languages
            - Cross-linguistically rare sounds are not found
            - Pidgins are not tonal, even when the input languages are tonal
        - Pidgins lack inflectional morphology
            - Use of reduplication to indicate plural
            - Not uncommon for creoles to lack inflectional morphology, but some do have it

        - Pidgins may have flexible word order
            - Creoles tend to have more fixed word order
            - Basic word order tends to be subject-verb-object
        - No complex sentences in pidgins
            - Creoles have complex sentences since they have fully developed grammars
        - Pidgins don't have definite or indefinite articles
            - Many creoles lack articles, but some do have them
        - Creoles have fully developed tense systems
- Endangerment and death
    - This occurs when people no longer speak a particular language
        - Usually because they adopt another language
    - Scale of language loss (ethnologue)
        - 5% of the world's languages are spoken by 94% of people
        - ~7% are almost extinct
        - Unequal distribution → hotspots of linguistic diversity
        - Ahout 90% of the human languages are on the verge of being lost
    - Language death - when the last speaker of a language dies
    - Language shift - process by which a language community adopts another language
        - Almost always precedes language death
    - Based on study that there will be 50% language loss in the next 100 years
    - Why do we care?
        - We need diversity
        - Human cultures are the result of this diversity
        - Analogy to ecosystem diversity → the ecological system and its residents re valuable in and of themselves
        - Language is an integral part to culture → loss of language is a loss to the culture in which the language is embedded
        - Each language expresses a unique realization of the human experience
        - Language expresses identity
        - Languages are repositories of history
            - Lexicon can give us a window into the past of the speakers of the language
            - For many histories, they are recorded in only a spoken language
        - As languages are lost, speakers lose access to part of their history
        - Languages contribute to the sum total of human knowledge

                - Each language is a repository of shared and accumulated knowledge of speakers over centuries
                - Also counts as the potential loss of future knowledge
            - Languages are interesting in themselves
                - Incredibly complex manifestations of the human mind
                - Loss of language → loss of chance to understand how the mind works
    - Why do languages die?
        - Factors which put people in physical danger
            - Natural disasters leading to death/destruction of habitat
            - Disease
            - Economic exploitation
            - Genocide/war/ethnic murder
        - Factors which change the people's culture
            - Cultural assimilation
            - Military dominance
            - Urbanization
            - Media
            - Bilingualism
        - Stages of assimilation
            - Pressure on people to speak dominant language
            - Results in emerging bilingualism in children
            - Younger generations gifts to the dominant language
            - Results in shame at using the minority language
            - Leads to self-conscious semilingualism
            - Leads to dominant language monolingualism
                - Can occur in a single generation
                - Discovery of what has been lost
            - Forced assimilation → native children forced to assimilate
        - Language death is similar to language shift in that it's a gradual process
        - Functions of one language are taken over in one domain after another by a different language
        - Language death is manifested as a gradual loss of fluency by its speakers, competence gradually erodes over time
        - Language shift is almost inevitable without active language maintenance
        - Thinking that a language is no longer useful may result in language loss
        - Rapid shift occurs when speakers are eager to fit in to society

- What can we do to prevent language death/shift
  - Understand factors that affect language shift in the first place
    - Attitudes of the members of the dominant culture → accept the idea of linguistic diversity
      - Applies to dialects of a language as well as minority languages
    - Patterns of languages use: socio-economic factors
      - The more domains a minority language is used it, the easier it is to maintain it
    - Demographic factors
      - Large enough community of speakers
      - The community is able to isolate itself from the influences of the majority
      - Improved roads, buses, TV, etc. are agents of language shift
      - Intermarriage can accelerate language shift towards language of partner who speaks majority language, unless multiplingualism is the norm in society
    - Attitudes to the minority language from the speakers
      - Pride and respect for the language
      - Language shift is faster in communities where the ethnic language is not highly valued
      - Symbol of the ethnic identity → less likely for language shift to occur
      - Language is an important component of identity and culture, maintaining a group's identity and culture is important to them → they maintain their ethnic language to maintain their identity
    - Speakers need to have a say in the educational system
      - Show that the language can be used in education, such as the creation of bilingual educational materials
      - Training of native speakers as teachers
      - Creation of language materials that are easy to use
      - Development of written literature, both traditional and new
    - Speakers must have access to electronic technology
      - Allows speakers of minority languages to be in contact with each other

12/1: Language Change Over Time

- Why are languages diverse?
    - Divine intervention - Tower of Babylon
    - Romance languages come from Roman Empire's spread over Europe
        - Various regions get descendants of Latin
    - Social use
    - Maintenance of identity between social groups
        - Notice diversity and act on it
    - Separation from original community followed by innovation in future generations
        - Builds on top of itself
        - Analogous to Darwin's finches
    - Movement
- Learned vs. innate
    - Requires hierarchical grouping
    - Learn how language works by growing up in the community the language is prominent in
    - Instinctually group sound into meaningful units
    - Explains whether languages are similar or diverse
- Can see progression from earliest examples of English to modern English
- Early Middle English Vowel Shortening
    - Long vowel becomes short when it was followed by either 2 consonants or 2 unstressed syllables
- The Great English Vowel Shift - distinguished middle English from modern English
    - Vowels move up
- Languages are genetically related if their histories can be traced back to a single ancestor
    - Comparative method - requires languages have systematic sound correspondences
    - Mass comparison method - find resemblances across language
        - Can statistically rule out missed correspondences or accidental matches if enough data is present