Linguistics 1 Notes

Chapter 1 - What is Language

- When you know a language, you can speak and be understood by others who know that language.
    - Have the capacity to produce sounds that signify certain meanings and to interpret the sounds produced by others.
    - You know which sequences of sounds are related to specific meanings and which are not.
    - You have a finite set of building blocks and rules by which we construct words, phrases, and sentences.
- When you don't know a language, the relationship between sounds and meanings is unknown.
- Sound symbolism are words whose pronunciation suggests the meaning.
    - Onomatopoeic words
- Inventory of sounds in our language is called **phonetics**.
- Knowledge of language enables you to combine sounds to form words, words to form phrases, and phrases to form sentences.
    - It also enables you to understand and produce new sentences.
- Linguistic knowledge involves knowing rules for forming sentences and making judgements about which sentences make sense.
- What we know about a language (knowledge of the rules) is our **linguistic competence** and how we apply this knowledge in actual speech is **linguistic performance**.
    - Sometimes people can perfectly know the rules of a language, but it may be hard to perform in some situations.
- Linguistic performance is affected by:
    - Memory limitations
    - Shifts in attention
    - Physical states
    - Linguistic context
- Linguistic knowledge is perfect, but linguistic performance is variable depending on the above factors and the skill of the speaker.
- The linguistic system, the sounds, structures, meanings, words, and rules for putting them together are acquired with no conscious awareness.
- **Grammar** is the knowledge speakers have about the units and rules of their language.
    - Rules for combining sounds into words = phonology
    - Rules for word formation = morphology
        - Lets use build complex words such as talks, talked, talking, etc
    - Rules for combining words into phrases, phrases into sentences = syntax
    - Ways in which sounds and meaning are related = semantics
- Mental dictionary = a **lexicon**
    - Grammar + lexicon = linguistic competence.

- All spoken language is governed by a system of rules called a grammar.
- Every speaker has a mental grammar of the rules of the language they follow in determining whether or not a phrase is grammatical.
- **Descriptive grammar** describes your basic **unconscious** linguistic knowledge or the capacity of speakers. This grammar describes the rules that people actually follow in speaking and understanding their language, and not necessarily prescribing a specific usage.
    - Not interested in telling people how they should speak.
- **Prescriptive grammars** are where the rules of grammar are **prescribed** and they are intended to teach people how they should speak according to some standard.
    - Example of a prescriptive rule is to never end a sentence with a preposition.
    - Led to prestige dialect, which was the variety of language spoken by those in power.
    - Similar to teaching grammars
        - Teaching grammars are used to help people learn a foreign language.
- A **gloss** is the parallel word in the person's native language.
- Property of human language is **creativity**, a speaker's ability to combine basic linguistic units to form an infinite set of "well formed" grammatical sentences, most of which are novel.
    - It is a universal property of human language.
    - Exists because we know a finite number of rules that can be applied repeatedly.
    - Rules combine sounds in words, words in sentences, and thus infinite number of messages.
- Every native speaker has a perfect knowledge of the *rules* of their language, but those rules may be different for different people, and this is shown though the fact that every speaker speaks a "dialect".
- All dialects and language are rule-governed and fully expressive and logical.
    - No merit in saying that some rules are better than others.
- All languages have:
    - Nouns/verbs
    - Ways to indicate whether an event has taken place
    - Ways of asking questions
    - Rules and finite number of symbols
    - Recursive rules that add to or embed one sentence inside another.
        - Responsible for the infinite number of sentences.
- Differences between languages
    - Word order
    - How questions are formed
    - How negation is done
- Rules representing the universal properties that all languages share constitute a **universal grammar**.
    - Chomsky said that there is a universal grammar that is part of the biologically endowed human language faculty.

    - UG are the laws of language, a blueprint that all languages follow.
- All languages are rule-governed. Some rules are specific to the language, and some are universal.
- American Sign Language (ASL) has its own grammar with phonological, morphological, syntactic rules, a mental lexicon of signs, all of which is encoded through a system of gestures, and is equivalent to spoken languages.
- Nearly all theories of language origin contain the belief that all languages originated from a single source (the monogenetic theory of language origin).
- **Linguistic determinism** holds that the language we speak determines how we perceive and think about the world.
    - Language is like a filter on reality.
- **Linguistic relativism** says that different languages encode different categories and speakers of different languages think about the world in different ways.
- Sapir-Whorf hypothesis is that the particular language we speak determines and influences our thoughts and perceptions of the world.
    - This really shouldn't because people's thoughts aren't bound by their language.
    - Understanding of the world is not at the mercy of what language we speak.
- Having a label or word for something, though, does make it easier to store and access that information in memory.
- Count nouns are discrete number measures and mass nouns are continuous number measures.
- **Spoonerism** is a kind of speech and performance error in which sounds are transposed.
    - You have hissed my mystery lecture.
- Innate language capacity = universal grammar = principles common to all languages, is innate in each child, and enables them to infer the specific rules of their particular language.

Chapter 2 - Morphology: The Words of Language

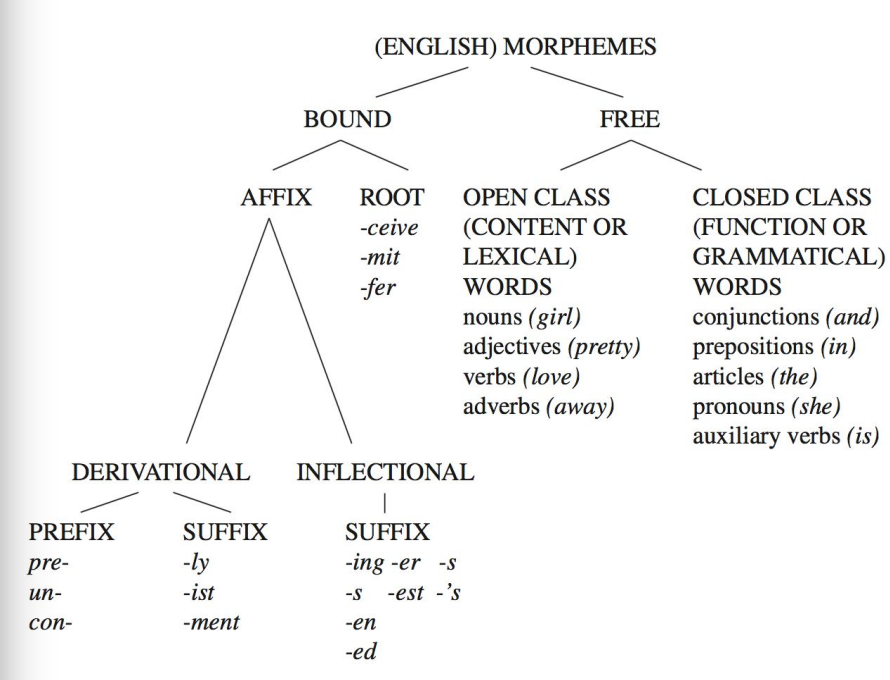
- Study of internal structure of words and the rules by which words are formed is **morphology**.
    - It is part of our grammatical knowledge of a language.
    - Allows us to know how to combine and decompose words
    - Lets us understand words we've never heard, judge the impossible words, recognize ambiguous words, and create new words.
- Spelling of words is also known as **orthography**.
- Nouns, verbs, adjectives, and adverbs are **content words**, meaning that they denote concepts such as objects, actions, and attributes.
    - Also called **Open class words**
- Conjunctions, prepositions, and articles are known as function words because they specify grammatical relations and have little or no semantic content.
    - Also called **Closed class words**, because you can't really think of words like these that have recently entered the language.

- The two classes of words function differently in slips of the tongue.
    - We often switch nouns, but we don't really switch function words.
- Content words bear the brunt of the meaning whereas function words connect the content words to the larger grammatical context.
- The most elemental unit of grammatical form is called a **morpheme**.
    - Can be represented by a single sound.
    - Minimal unit of meaning
    - Examples: boy, desire, morph
- Every word in a language is composed of one or more morphemes.
- Sound units combine to form morphemes, morphemes combine to form words, and words combine to form larger units (phrases and sentences)
- Decomposition of words into morphemes illustrates one of the fundamental properties of human language, which is discreteness.
- **Free morphemes** are those are constitute words by themselves.
    - Ex: boy, desire
- **Affixes** (Prefixes or suffixes) that are part of words are **bound morphemes** (can't stand alone, need to have other morphemes attached to them)
    - Ex: -ish, -pre, -trans
- **Infixes** are morphemes that are inserted into other morphemes.
    - Ex: fucking, bloody
- **Circumfixes** are morphemes that are attached to a base morpheme both initially and finally.
    - Also called discontinuous morphemes.
- Morphologically complex words consist of a morpheme root and one or more affixes.
    - Ex: paint in painter, read in reread.
- When a root morpheme is combined with an affix, it forms a stem (or base).
- Bound roots do not occur in isolation and they acquire meaning only in combination with other morphemes.
- **Bound morphemes** are called derivational morphemes. When they are added to a base, they form a new word with a new meaning. They themselves have meaning.
    - The form that results from the addition of a derivational morpheme is called a derived word.
    - Derivational morphemes always change the meaning.
- When a new word enters the lexicon, other complex derivations are blocked.
    - When communist enters, communite and communian are not needed, so their formation is blocked.
- **Derivational affixes** modify the meaning and the syntactic category of the root.
    - Unhappy, lovable
- Derivational affixes come in 2 classes
    - One where the addition of a suffix triggers subtle changes to pronunciation.
    - One where the pronunciation doesn't change.
- **Inflectional morphemes** are those that never change the grammatical category of the stems to which they are attached.

    - The -s at the end of sails doesn't change grammatical meaning, it just specifies whether the noun is plural or singular.
    - Only 8 morphemes: -s, -ed, -ing, -en, -s, -s, -er, -est
    - They don't create new words, they create a "version" of the original word
    - Have a grammatical function (add an -s if depending on the plurality of noun)
    - They are productive because they apply freely to nearly every appropriate base.
    - Only open class words take inflectional affixes.
- Grammatical relation of a noun in a sentence is called the case of the noun.
- Morphologically complex words consist of a morpheme root and one or more affixes.
- When case is marked by inflectional morphemes, the process is called case morphology.
- Difference between inflectional and derivational

Inflectional	**Derivational**
Grammatical function	Lexical function
No word class change	May cause word class change
Small or no meaning change	Some meaning change
Often required by rules of grammar	Never required by rules of grammar
Follow derivational morphemes in a word	Precede inflectional morphemes in a word
Productive	Some productive, many nonproductive

- Classification of English morphemes



- A word is created with a hierarchical structure, because each word has different components and they have to interact with each other in rule-based ways.

    - Unsystem is not a word because there is no rule of English that allows -un to be added to nouns.
- 2 different meanings of the same word could be a result of the two different tree structures that the 2 meanings have.
- Irregular or suppletive forms are treated separately in grammar, where you can't use regular rules of inflectional morphology to add affixes to certain words.
    - Ex: child/children
    - Ex: bad/badder
- **Accidental gaps** in the lexicon are well formed, but non existing words.
    - Ex: blick, slarm, krobe
    - They are words that are technically well formed, but don't have a meaning associated with them.
- **Back-formations** are when new words enter the language because of an incorrect morphological analysis.
- **Compounds** are formed by uniting two or more root words in a single word, and can be represented by word trees..
    - The head of a compound bears the basic meaning. Most of the time, the head is the rightmost morpheme.
        - However, when the head is a preposition, it does not determine the category of the compound.
        - Prepositions and articles and pronouns are unique in the they are closed class because they don't admit new words.
        - Nouns, verbs, adjectives, and adverbs are open classes.
    - Complex words inherit grammatical properties from the head.
    - Inflectional meanings (plural past tense) are determined by the head.
    - Simple way of forming new words
- Compounds can be represented by word trees that show the internal structure of the word.
    - They label the grammatical categories of the parts and of the whole compound.
    - Word trees illustrate how speakers mentally form the words.
    - Can be of any word type (noun, adjective, etc)
- In a compound, the head comes last and the stress comes first. The head determines the category of the overall compound word.
    - Bluebird and Blackboard have the stress on the left hand member.
    - Blue bird and black board are noun phrases which have the stress on the right hand morpheme.
- When the right hand member is a preposition, it does not determine the category of the compound. Prepositions are unique because they are closed class, and they don't admit new words.
- **Productivity** refers to the degree to which we use a morphological process to create new words.
- The meaning of a noun phrase is compositional, basically it is predictable from the meaning of its parts.

    - In compounds the meaning is not compositional.
    - Ex) Blackboard could be green, but a black board is a board that is black.
- Some compounds are structurally ambiguous.
    - Ex) California history teacher
- Word trees are built by morphological rules, which represent our knowledge of the internal structure of the words.
    - Un + Adj = Adj (Ex: unhappy, unreal)
    - Un + Verb = Verb (Ex: unzip, unlock)
    - Adj + ness = Noun
    - Verb + able = Adj
    - Noun + in(al) = Noun
    - Noun + ize = Verb
    - De + Verb = Verb
    - Verb + ation = Noun
    - Noun + atic = Adj
    - Adj + al = Adj
    - Adj + ly = Adv
- Structural ambiguity in the word “unlockable”
    - Not able to be locked
    - Able to be unlocked
- We understand the meaning of novel complex words because we know the meanings of the individual morphemes and the rules for building structures of these morphemes.
- Children are acquiring rules and not just imitating language.
- There is a lexical entry for every morpheme we know
    - The pronunciation of that morpheme
    - The meaning of the morpheme.
    - The syntactic category of free morphemes
    - The category the bound morpheme attaches to.
- A morpheme that is free in one language may be bound in another.
- Earlier stages of English had case morphology, but we don’t really have it anymore.

Chapter 3 - Syntax

- PS rules generate the basic structures (D - Structures)
- Transformational rules describe the differences between the sentences and generate S structures (Aux movement rule).
- Flat Structure Hypothesis: A sentence is just a string or juxtaposition of words with no special structure.
    - This hypothesis doesn’t explain the ambiguity of sentences that have the same words but different meanings.
    - “Mary will hit the student with the book.”
- Hierarchical Hypothesis: A sentence does have inherent hierarchical structure.
- Rules of syntax combine words into phrases and phrases into sentences.

- **Tree diagrams** say that words in sentences are organized into tree structures, and notjust a flat string of words.
    - Each subtree of a sentence is a constituent.
    - A constituent corresponds to a branching point (node) on the tree. To be a constituent **all and only the words under the node** must be included.
- Not all contiguous words in a sentence is a constituent.
- To determine a sentence's tree structure and if a group of words is a constituent,
    - If a group of words can stand alone, then they form a constituent.
        - In the example "Mary will visit the Getty"
        - "The Getty" and "visit the Getty" are constituents.
    - If a group of words can be replaced by a pronoun or a word like "do", it forms a constituent.
    - If a group of words can be moved together and remain grammatical, it is a constituent.
- If a sentence has more than one tree structure, there is **structural ambiguity**.
- If a word has two different meanings, there is **lexical ambiguity**.
- A family of expressions that can substitute for one another without loss of grammaticality is called a syntactic category, or part of speech.
- Speakers have knowledge of the categories and the order of the constituents.
- Three types of categories
    - **Phrasal** categories: Noun phrase, verb phrase, adjective phrase, prepositional phrase, adverbial phrase
    - **Lexical** categories: Noun, verb, preposition, adjective, adverb
    - **Functional** categories: The words don't have meaning by themselves, and they have more of a grammatical function.
        - Determiner: "the", "this", "that", "a", "your"
        - Auxiliaries or T(ense): "will", "might", "can", "must", "be", "have", "may"
            - Modify the tense of a sentence or describe the likelihood of the event.
        - Complementizers: "for", "if", "that", "whether"
            - When you have one sentence embedded inside another (John thinks that Mary is pretty.)
- T, Det, and Comp are functional categories, because their members have grammatical functions rather than descriptive meanings. Lexical and phrasal and both under the umbrella of lexical categories because they have meaning themselves.
- A tree diagram with syntactic category information is called a phrase structure tree or constituent structure tree.
- The higher node dominates all the categories beneath it.
    - Categories that are immediately dominated by the same node are sisters.
- The core of every phrase is a lexical category of it's same syntactic type, which is the head.
    - The sister categories of the head are called complements.
    - Specifiers are the elements preceding the head.

- Information about the complement types selected by particular verbs and other lexical items is called C-selection.
- S-selection is when a verb also includes in its lexical entry a specification that impose certain semantic requirements.
- RULES FOR PHRASE STRUCTURE
    1. TP -> NP T'
    2. NP -> Det N'
    3. VP -> V NP (transitive verb)
    4. VP -> V (intransitive verb)
    5. VP -> V PP
    6. VP -> V CP (Sentential complement)
    7. PP -> P NP
    8. CP -> C TP
    10. T' -> T VP
    11. N' -> N PP
    12. N' -> A N'
- Phrase structure rules and the trees they generate show 3 aspects of a speaker's knowledge.
    - The hierarchical structure of a sentence
    - The word order for the language
    - The syntactic categories of the words and phrases of a sentence
- Different types of words
    - **Transitive verbs** - Require a direct object NP
        - The man caught.
        - The man caught a ball.
    - **Intransitive verbs** - Do not take an object, but they can take a PP
        - The dog slept the cat.
        - The dog slept on the the bed.
    - **Ditransitive verbs** - Take an NP subject, an NP direct object, and an NP indirect object.
- Some verbs take a full sentence as complement.
    - The students know/think/hope that linguistics is fascinating.
- Put triangle in the tree structure when you have a noun phrase that could replace the proper noun.
- Complementizer phrase is when the head is a complementizer.
- Modal verbs
    - Can, should, would, could, etc
- Auxiliary verbs
    - Have
    - Be
- Tense
    - Past (-ed): The man washed the car.
    - Present (-s): The man washes the car.

- Recursion in NP helps when you have prepositional phrases within the noun phrases.
- All phrasal categories aren't just separated into a head and the phrase, but there are more general principles like X bar.
- N bar allows us to have adjectives (N' => A N')
- The phrase structure rules for a language define the set of well formed grammatical structures in that language.
- PS trees also provide a natural account of long distance dependencies where you have constructions in which 2 elements that depend on each other are separated by an arbitrary number of words.
- Rules are structure dependent and thus they are sensitive to sentence structure and not to the particular word or number of words in a sentence.
    - Doesn't matter if a noun phrase is one word or 25 words long, it still has to agree with the verb.
- PS rules generate the basic structure
- Transformational rules describe relationships between different sentences.
    - These rules are structure dependent.
- Coreference is a relationship where two noun phrases refer to the same individual.
    - Ex) I saw John yesterday. He seemed happy. (he = John)
- A pronoun and a name cannot corefer if the first branching node dominating the pronoun also dominates the name. Put another way, a pronoun cannot corefer with an element that follows it.
- The two children of a node can be identified as one being the head and one being the complement.
- Phrase structure trees specify the grammatical categories of words and groups of words in a sentence, the position of categories with respect to one another (word order), and the internal organization of words into phrases (the consistent structure).
- Phrase structure rules for a language define the set of well formed structures in that language.
- Structure dependency and rules for forming trees are principles of universal grammar.
- Structure dependent agreement rule says that the verb agrees in person and number with the subject of the sentence, where subject is defined as the NP immediately dominated by S.
- The part of grammar that represents a speaker's knowledge of sentences and their structures is called syntax.
- Rules of syntax combine words into phrases and phrases into sentences.
    - Specify correct word order
    - Describe relationship between meaning of a particular group of words and the arrangement of words.
        - I mean what I say
        - I say what I mean
    - Rules specify the subject and direct object.
- Ambiguities resulting from different structures are structural ambiguity.
    - Students cook and serve grandparents

- Some sentences are ambiguous because they contain ambiguous words.
- A family of expressions that can substitute for one another without loss of grammaticality is called a **syntactic category**.
- English has SVO (head first) word order, Japanese has SOV (head last), and Malagasy has VOS.
- Recursive sets are when the symbols occur on the left and right sides of rules.
- Complements occur next to (normally after) a head, specifiers occur preceding a head.
- Basic structure of sentences is called deep structure. The structures that follow the application of transformational rules are surface structures.

Chapter 4 - The Meaning of Language

- The study of the linguistic meaning or morphemes, words, phrases, and sentences is called **semantics**.
- Semantic/Sentence meaning is the literal compositional meaning of a sentence.
    - Meaning is composed of the individual words and structure
    - This meaning is called semantics.
- **Pragmatic meaning** can be built on top of the semantic (literal) meaning.
    - “Why is John tired”. “He has 3 kids” has the semantic meaning of just him being a father and the pragmatic meaning is that John is so tired b/c he has 3 kids.
    - The message the speaker intends to convey with his utterance.
        - Dependent heavily upon context.
- Compositional semantics calculates the truth value of a sentence by composing the meanings of smaller units.
- Knowing the meaning of a sentence will help you determine the truth value.
- Word meanings = lexical semantics
    - Some words have no meaning. They refer.
        - Proper nouns (John). They have no meaning but they just refer to an individual.
        - Pronouns
    - Example of word meaning is Dog = domesticated canine.
- Meaning should:
    - Group words into natural classes
        - Boy and bachelor
        - Girl and wife
    - Explain semantic anomalies (sentences that are grammatical but don’t really make sense)
        - Colorless green ideas sleep furiously.
        - Metaphors, however, also depend on these anomalies (Technically, metaphors are anomalies).
            - The clouds sailed across the sky.
    - Capture semantic relations.
        - Synonymy - Same set of semantic features

            - automobile/car, purchase/buy
        - Antonymy - Different by one feature value
            - aunt/uncle, hot/cold
        - Polysemy - Same sounding words with the same meaning
            - Face (of a person, of a wall), iron, diamond (stone, baseball field)
        - Homonymy - Same pronunciation, different features
            - bat/bat, tail/tale
            - These (polysemy as well) create lexical ambiguity
- Syntactic Effects of Meaning
    - Count/Mass nouns
        - Count nouns:John has read (many) books.
        - Mass nouns: John has eaten salt.
    - Stative/eventive verbs
        - Eventive verbs: John is kissing Mary. Kiss Mary! *John hugs Mary today.
        - Stative verbs: John needs Mary today. *John is knowing Mary.
    - Verbs of motion
        - NP PP -> NP NP
- **Semantic priming** is when a response to a target word (dog) is faster when it is preceded by a semantically related prime (cat) compared to an unrelated prime (car).
    - This is because in our mind, we have a sort of semantic network where we have cat and dog close together in the feature space.
- Word learning is a complicated task, but we do know:
    - Young children don't always have the same meaning as adults (overextension). Basically when a child uses a word to explain a broader range of categories than what the word actually is.
        - Doggie = dogs, cats, horses, etc
        - Ball = baseball, orange, etc
    - Overextension gets overcome when children realize the specific features that define certain objects.
- Speakers can understand the meanings of sentences they've never heard before.
- They know when a sentence is structurally ambiguous when it has more than one meaning because it has more than one structure.
- 2 Important components of sentence meaning
    - Principle of Compositionality
        - The meaning of a sentence is determined by the meaning of the words and its syntactic structure.
    - Truth Conditions
        - Knowing the meaning of a sentence involves knowing the conditions under which it would be true.
- The meaning of a word or concept is divisible into smaller units, semantic features.
- Sentences that are true regardless of circumstances are called **tautologies**.
    - It's raining or it's not raining.
- Sentences that are false regardless of circumstances are called **contradictions**.

    - It's raining and it's not raining.
- If you know that "Jack swims beautifully" is true, then you also know that "Jack swims" is true. This meaning relation is called **entailment**.
    - Technically speaking, entailment is whenever S1 is true, then S2 is necessarily true.
- Two sentences are **synonymous** if they are both true or both false with respect to the same situations. They are also synonymous if they entail each other.
    - Congress passed the bill.
    - The bill was passed by Congress.
    - Congress postponed voting on the bill.
    - Congress put off voting on the bill.
- Two sentences S1 and S2 are **contradictory** if S1 and S2 can never be true in the same situation.
    - John came to class
    - John didn't come to class
- The meaning of [NP VP] is the following truth condition
    - If the meaning of NP is a member of the meaning of VP, then S is true, otherwise it is false.
- S1 **presupposes** S2 if and only if S1 entails S2 and 'not S1' entails S2.
    - John stopped smoking presupposes John used to smoke
    - John didn't stop smoking presupposes John used to smoke.
    - Different from entailments because the entailment **holds even when the statement is negated**.
        - To test for presupposition, negate the first sentence and then see if the second one still holds.
- Presupposition triggers
    - John is in the library **again**.
    - John bought a puppy **too**.
    - (Factive verbs) John **knows** that …
- Pragmatic meaning is the meaning of a sentence that comes about as a result of how a speaker uses the literal meaning in context or as a part of a discourse.
    - Pronouns
    - Implicatures
- Pragmatic meaning can be different from the semantic meaning, because it is very context dependent.
- Meaning is extra truth conditional when it comes about as a result of how a speaker uses the literal meaning in conversation or as a part of discourse. The study of this meaning is called pragmatics.
- Some words having meaning regardless of context, but other words (deictic) words get their meaning from the context.
    - I'm hungry. You're mean.
        - Depends on who the speaker is, and who the speaker is talking to.
    - That boy there ….

- Reference resolution is the process of looking at context to determine the referent of a pronoun. This depends on linguistic and situational context.
    - Linguistic: Anything that has been uttered in discourse prior to or along with the pronoun.
    - Situational: Anything non-linguistic
- The following sentence has different meanings depending on the speaker who utters it.
    - “I’m having an old friend for dinner”
- **Implicatures**
    - Mary: “It’s cold in here”
        - Can be a statement on temperature or refers to that Mary wants to turn the heat up.
        - She chooses to implicate it, instead of directing saying to turn the heat up.
    - Implicatures are basically inferences drawn from an utterance that aren’t expressed directly and aren’t strictly implied though entailment. These implicatures come up because of conversational maxims.
    - Implicatures are different from entailment b/c entailment means something is necessarily true, while while implicatures are probably true (depending on context).
- Conversational Maxims
    - Quantity: Don’t say too much or little
    - Quality: Don’t lie or say you don’t have evidence for something.
    - Relation: Be relevant.
    - Manner: Clarity (Avoid obscurity, ambiguity, unnecessary wordiness).
- **Cooperative principle** says that speakers and hearers assume other language users are being cooperative and are following the maxims.
- Scalar implications
    - John ate some of the cookies -> John did not eat all of the cookies.
    - When you use a member of a scale that’s weaker, it triggers the implication that you’re not using the stronger member because it’s not true.
    - Some is logically compatible with all, but pragmatically, some implicates not all.
- Understanding meaning involves lexical semantics (literal meaning of words), compositional semantics (literal meaning of sentences), and pragmatics (meaning resulting from how speaker uses the literal meaning in conversation. Basically how context affects meaning).

Chapter 5 - Phonetics: The Sound of Language

- When you know a language you know the sounds of that language, and you know how to combine those sounds into words.
- The sounds of all the languages of the world together constitute a class of sounds that the human vocal tract is designed to make.
- Physical sounds we produce are continuous stretches of sound, which are physical representations of strings of discrete linguistic segments.

- The study of speech sounds is called **phonetics**.
- Everyone who knows a language knows how to segment sentences in words, and words into sounds.
- **Acoustic phonetics** focuses on the physical properties of sounds
- **Auditory phonetics** is concerned with how listeners perceive these sounds.
- **Articulatory phonetics** is the study of how the vocal tract produces the sounds of language.
- A phonetic alphabet (IPA) symbolizes the sounds of all languages, and it should include just enough symbols to represent the fundamental sounds of all languages.
- Speech sounds are produced by pushing lung air through the vocal cords, up to the throat, into the mouth/nose, and out of the body.
    - Opening between vocal cords is the glottis and is located in the voice box or larynx. Tubular part above larynx is the pharynx. Mouth is called the oral cavity. All of these together make up the vocal tract.
- Consonants and vowels refer to types of sounds, not to the letters that represent them.
    - Consonants are produced with some restriction or closure in the coal tract that impedes the flow of air. Consonants are classified according to their **place of articulation**, which is where in the vocal tract the airflow restriction occurs.
- **Bilabials** [p] [b] [m]: We articulate these by bringing both lips together.
- **Labiodentals** [f] [v]: Also use our lips and touch the bottom lip to the upper teeth.
- **Interdentals** [theta] These sounds are produced by inserting the top of the tongue between the teeth.
- **Alveolars** [t] [d] [n] [s] [z] [l] [r] All of these sounds are pronounced with the tongue raised in various ways to the alveolar ridge.
- **Palantals** [tf] [d3] Sounds produeed by raising the front part of the tongue to the palate. Words like cheap and judge.
- **Velars** [k] [g] Sounds produced by raising the back of the tongue to the velum.
- **Uvulars** [R] [q] [G] Sounds produced by raising the back of the tongue to the uvula, which is the thing that hangs down in the back of our throats.
- **Glottals** [h] Sound from the flow of air through the open glottis and past the tongue and lips.
- **Manner of articulation** refers to whether or not the vocal cords vibrate (voiced) or don't vibrate (voiceless).
- If the vocal chords are together, the airstream forces its way though and causes them to vibrate.
    - Voiced 'z-z-z' as opposed to the voiceless 's-s-s'
- **Stops** [p] [b] [m] [t] ... are consonants in which the airstream is completely blocked in the oral cavity for a short period of time. All other sounds are **continuants**.
- **Fricatives** [f] [v] [theta] ... are where the airflow is so severely obstructed that it causes friction. These can either be voiced or voiceless.
- **Affricates** [tf] [d3] are sounds produced by a stop closure followed by a release of the closure that produces the effect characteristic of a fricative. Church and judge are two examples.

- Stops and affricates are non continuants where there is a total obstruction of the airstream in the oral cavity.
- The non nasal stops, the fricatives, and affricates form a class of sounds called obstruents where the airstream may be fully obstructed or nearly fully obstructed.
    - Sounds that aren't obstruents are called sonorants.
- **Liquids** [l] [r] have some obstruction of the airstream in the mouth but not enough to cause any real construction or friction.
- **Glides** [j] [w] are sounds where there is little obstruction of the airstream as the tongue glides quickly into place for pronouncing the next vowel.
- Vowels are produced with little restriction of the airflow.
    - We classify vowels according to how high or low in the mouth the tongue is, how forward or backward in the mouth the tongue is, and if the lips are rounded or pursed.
- A **diphthong** is a sequence of two vowel sounds squashed together.
- A tilde is placed over a vowel to show the nasalization of it.
- Vowels can be tense or lax and this refers to the tension of the tongue muscles.
- Aspirated sounds are where a brief puff of air escapes before the glottis closes. Unaspirated is where the vocal cords start vibrating as soon as the lips open.
- Oral sounds are those that escape through the oral cavity (air is blocked through the node), and nasal sounds are those that escape through both the nose and mouth.
- All speech sounds can be divided into voiced, voiceless, nasal, and oral.
- There are many different problems with alphabets
    - One of the problems withe English is that different letters are used for the same sound
        - C -> k and k -> k in cat and kite
    - Another problem is that the same letter is used for different sounds.
        - C -> s or k in nice and cat
    - Some sounds have no letter to represent them
        - The -tt in butter
    - Some sounds don't correspond to any sound. Once, there was a time where these sounds were pronounced, but people changed the spoken word, but not the written one, I guess.
        - The k in knight
- In actual running speech, there's no clear breaks in words and you can't really say when one word ends and another begins.
    - There is an illusion of speech discreteness.
- Sounds are composed of features that correspond to gestures used to produce the sounds.
- IPA provides unambiguous symbols for speech sounds.
    - In actual speech production, sounds are not separate discrete units. Discrete categories are imposed by our own mental lexicon.
- When you get [s] for plural, the stem sounds are voiceless when you get [z] for plural, the stem sounds are voiced and when you get [ez], the stem sounds are sibilants.

- Basically, you get voiceless morphemes after voiceless ones, voiced after voiced, etc.
- The reason is voicing assimilation which makes pronunciation easier for the speaker. Basically, you're just extending the voicelessness. Kind of like the idea of inertia.

Chapter 6 - Phonology: The Sound Patterns of Language

- The study of how speech sounds form patterns is phonology.
  - Patterns on why g is silent in sign but not in signature.
- Knowledge of phonology determines how we pronounce words and morphemes.
- The final sound of plural nouns can be [z], [s], [ez], or something irregular.

Allomorph	Environment
[z]	After [b], [d], [g], [v], [ð], [m], [n], [ŋ], [l], [r], [a], [ɔɪ]
[s]	After [p], [t], [k], [f], [θ]
[əz]	After [s], [ʃ], [z], [ʒ] , [ʧ], [ʤ]

- Variant of morphemes are called allomorphs. This happens because

Allomorph	Environment
[z]	After voiced nonsibilant segments
[s]	After voiceless nonsibilant segments
[əz]	After sibilant segments

- The particular phonological rules that determine the phonetic form of the plural morpheme and other morphemes of the language are morphophonemic rules, which are concerned with the pronunciation of morphemes.
- The rule with the distribution of allomorphs is to change the place of articulation of the nasal negative morpheme to agree with the place of articulation of a following consonant.
  - The above is the homorganic nasal rule.
- Minimal pairs are two words with different meanings that are identical except for one sound segment that occurs in the same place in each word.
  - Pat and bat
- We can either use list of sounds hypothesis where we say the plural morpheme is pronounced as [s] after [t,p,k,f] or we can use the feature hypothesis where the plural morpheme is pronounced as [s] after [voice, sibilant]
- If the rule applied to a sounds that is not in the list in the LSH, but meets the description in the FH, then the FH is correct.
- Ease of articulation is the tendency to prolong an articulatory gesture.
- Ease of perception is the tendency to avoid the creation of identical or near identical consonants in sequence.
  - The above two ideas compete with each other.

- Language is a vehicle of communication and must be efficient for both the speaker and the hearer.
- Dissimilation is the insertion of a buffer vowel between similar consonants to make them easier to hear.
    - Example
- Voiced alveolar flap instead of a voiceless stop???
    - We use a flap because it doesn't obstruct the sound??
    - "T" is sometimes pronounced as a normal stop and sometimes it's a flap.
- The intervocalic flapping rule applies to butter, water, latter, and utter.
- The tilde over a vowel means that the pronunciation is nasalized.
    - Automatic rule that we follow when pronouncing morphemes.
- Aspiration is the brief period of voicelessness that follows the release of the stop.
- Phonemes are the basic form of a sound as sensed mentally rather than spoken or heard.
    - Allophones are the perceivable sounds corresponding to the phoneme in various environments.
        - The phoneme /p/ is pronounced with the aspiration allophone in pit but without the aspiration in spit.
- Contrastive sounds represent different phonemes.
- Every language has a set of contrastive sound units from which words are built. These are called phonemes.
- A phoneme may have different pronunciations (systematic realizations) in actual speech. These sound units are called allophones.
- Phonological rules of a language describe how a phoneme is pronounced (its allophones) in different phonetic contexts.
    - Allophones are not contrastive. They are predictable. Their meanings don't change. Rules tell you where they should be pronounced with contrastive and where not.
- 2 levels of representation in phonology.
    - Phonemic level - Shows the phoneme symbol like in the IPA chart. It is a mental level of representation. It doesn't mean pronunciation. Phonemes are not heard or spoken. They aren't physical sounds and they aren't observable.
    - Phonetic level - Shows the different allophones. Provides the actual pronunciation. The allophones are what come out of your mouth.
- A pronunciation of a phoneme is called a phone. The aggregate of phones that are the pronunciations of the same phoneme are called the allophones of that phoneme.
- Speakers of a language can hear differences that are contrastive in their language.
    - Allophones, however, tend to be treated as the same sound, even though we don't consciously say the difference. Speakers are unaware that the vowels in bead and bean are different phones because we produce and hear phonemes, not phones.
- Adult L2 learners typically impose the phonological system of their L1 to L2.

- 2 or more sounds are allophones of the same phoneme when they are phonetically related and never occur in the same phonetic context.
    - The sounds are complementary distribution with one another.
- Distribution of allophones is predictable by rule because they appear in different contexts.
- Phonological rules are instructions from your brain to your mouth on how to pronounce phonemes in specific environments.
- Distinctive/contrastive features can result in a new word with new meaning: voicing and nasalization on consonants.
    - Voicing: Difference between -b and -p (bat and pat)
- Non distinctive features do not affect meaning: aspiration and nasalization on vowels.
- In other languages, however, aspiration can result in distinctive features. For example, in Thai, aspiration cause different meanings in the words.
- Vowels are nasalized before a nasal consonant within the same syllable.
- When oral vowels occur, nasal vowels don't occur, and vice versa. The phones are said to complement each other and are in complementary distribution.
- When a feature distinguishes one phoneme from another (or one word from another), it is a distinctive feature, or a phonemic feature.
- Aspiration is not a distinctive feature for consonants. Same with nasalization of vowels in English.
- A natural class is a group of sounds described by a small number of distinctive features such as being voiced, or being a continuant, etc.
- Phonemic representations are minimally specified in that we don't care about some of the features which are predictable (all nasal consonants are voiced).
- Coarticulation is the spreading of phonetic features either in the anticipation of in the preservation of articulatory processes.
- The process of inserting a consonant or vowel is called epenthesis.
- Aspiration and nasalization on vowels is non distinctive, while voicing and nasalization on consonants are distinctive.
- The two phonetics realizations of English vowels are being aspirated and unaspirated

+Aspirated		-Aspirated	
[tʰap]	'top'	[stap]	'stop'
[kʰat]	'cot'	[skat]	'Scot'
[pʰat]	'pot'	[spat]	'spot'
[pʰæt]	'pat'	[spæt]	'spat'
[pʰik]	'peek'	[spik]	'speak'
[pʰɪk]	'pick'	[æpəl]	'apple'

Chapter 7 - Language in Society

- The language of an individual speaker with its unique characteristics is referred to as the speaker's idiolect.
- Each group of people can speak a dialect of a language. Linguistic difference can accumulate in a geographical area, and this version of the language is referred to as a regional dialect.
- When dialects become mutually unintelligible, the dialects become different languages.
- Mutually intelligible languages are those where the differences are not that great and that the two parties can still understand each other.
    - Hindi and Urdu
- Linguistically distinct languages are those that are mutually unintelligible when spoken, but are referred to as a dialects of the same language because they have a common writing system.
    - Mandarin and Cantonese
- There is no sudden major break between dialects. The dialects merge into each other, forming a dialect continuum.
- Not possible to precisely define the difference between a language and a dialect.
- Dialect diversity develops when the changes that occur in one region or group don't spread.
- Dialect leveling is movement toward greater uniformity and less variation among dialects. This happens when different speaker communities are in contact with each other.
- Dialect variation can happen because of
    - Geographic region
    - Social class
    - Ethnicity
    - Level of education
- Dialects can differ in terms of
    - Phonology
    - Lexicon
    - Morphology
    - Syntax
- In US, most differences are lexical (different words we use) or phonological (pronunciation).
- Accent refers to the characteristics of speech that convey information about the speaker's dialect.
- Dialects can be distinguished by lexical differences (using different words such as pail or bucket), syntactic differences (different word order or different pronouns).
- Different word usages and varying pronunciation form dialect areas. On a map, the lines to separate these areas are called isoglosses.

- The DARE (Dictionary of American Regional English) documents the varieties of English that vary from region to region.
- Different dialects also start to appear within social groups, which are called social dialects.
- Language purists consider the dialect used by political leaders as the correct form of the language.
- The dominant or prestige dialect is often called the standard dialect.
    - Standard American English (SAE) is a dialect of English that many Americans nearly speak.
    - However, since this isn't defined formally, nobody actually speaks it
- Non-U (Upper) speech habits often contain hypercorrections which are deviations from the norm thought to be proper English.
- AAE is different from SAE because it has r-deletion, neutralization of [i] and [e] before nasal consonants, diphthong reduction, loss of interdental fricatives, multiple negatives, deletion of the verb be.
- In areas where groups who speak different languages want social or commercial communication, one language is used by common agreement and the language is called a lingua franca.
- A language that is developed to communicate with one another that isn't native to anyone is called a pidgin.
    - The language of the more dominant group is the superstrate language.
- When two languages come into contact, one language is considered the dominant language.
    - Often the language spoken by the group of people with the greater political power.
    - Children may grow up hearing that dominant language, and when they start to speak that one, that's when the non dominant language starts to die out.
- There are 20 dominant languages, and 96% of people speak one of them.
- A language is lost about every 2 weeks.
- Loss of a language means that we lose a lot of information about language diversity and the loss of a culture and a wealth of knowledge within that culture. And this language data helps linguists understand the range of lingual complexity
- Many linguistics try to document languages that are in danger of being lost.

Chapter 8 - Language Change: The Syllables of Time

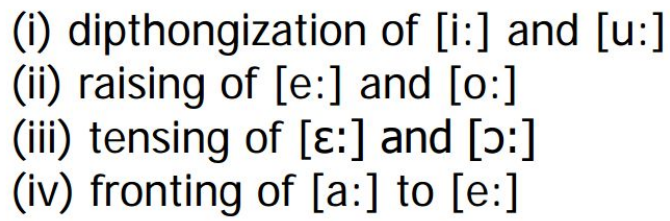
- The stages of English are
    - Old English (449 - 1100)
    - Middle English (1100 - 1500)
    - Modern English (1500 - present)
- The Romance languages are Italian, Portuguese, Spanish, French, and Russian. They all came from Latin.

- The branch of linguistics dealing with how languages change and what kind of changes occur is called historical and comparative linguistics.
- Changes in language are changes in the grammars and the lexicon of the people who speak it.
    - All parts of grammar are subject to change over the course of time.
- The correspondence of two dialects is an example of regular sound correspondence.
- Sound shifts are phonological changes.
- Languages can be offspring of other languages, meaning that they are genetically related.
- A protolanguage is the ancestral language from which related languages have developed.
- The Great Vowel Shift was when sevon long/tense vowels of Middle English underwent the following changes.

Shift			**Example**			
Middle English		**Modern English**	**Middle English**		**Modern English**	
[iː]	→	[aɪ]	[miːs]	→	[maɪs]	mice
[uː]	→	[aʊ]	[muːs]	→	[maʊs]	mouse
[eː]	→	[iː]	[geːs]	→	[giːs]	geese
[oː]	→	[uː]	[goːs]	→	[guːs]	goose
[ɛː]	→	[eː]	[brɛːken]	→	[breːk]	break
[ɔː]	→	[oː]	[brɔːken]	→	[broːk]	broke
[aː]	→	[eː]	[naːmə]	→	[neːm]	name

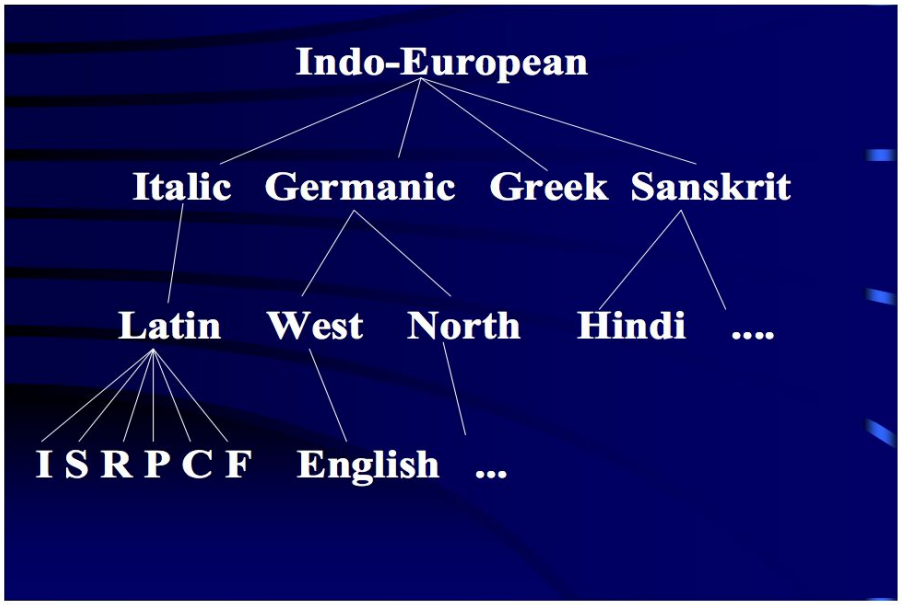
- Before the Great Vowel Shift, there was the Early Middle English Vowel Shortening rule.
- Our spelling still reflects the way words were pronounced before the Great Vowel Shift occurred.
- An example of morphology change i that Latin once had case endings, but now it doesn't.
- Changes in syntax were influenced by changes in morphology, and these by changes in the phonology of the language.
- One big change in Modern English was that it specifies grammatical relations structurally.
- Another syntactic change in Enlgish affected the rules of comparative and superlative constructions.
- Changes in the lexicon occur, and among which are changes in the lexical category of words, parts of speech, addition of new words, the borrowing of words from other languages, the loss of words, and the shift in meaning of words over time.
- Blends are similar to compounds in that they are produced by combining two words, but in blends parts of the words that are combined are deleted.
    - Smog from smoke + fog

- Reduced words are abbreviated words where the messages that we want to convey are shortened.
- Clipping is the abbreviation of longer words into shorter ones by leaving out one or more syllables.
    - Telly for television
- Acronyms, or alphabetic abbreviations, are words derived from the initials of several words.
- Borrowing words from other languages is an important source of new words, which are called loan words. It occurs when one language adds a word or morpheme from another language to its own lexicon.
- When an expression is borrowed and then translated into the borrowing language, then it is called a loan translation.
- Lexicons can be divided into native words and loan words.
- A native word is one whose history or etymology can be traced back to the earliest stages of the language.
- When the meaning of a word becomes broader, it means everything it used to mean and more. Opposite for narrowing.
- Words can undergo 3 types of semantic changes: Broadening, narrowing, and meaning shifts.
- Cognates are words in related languages that developed from the same ancestral root.
    - They often have the same meaning in different languages.
- Once we know that several languages are related, their protolanguage may be partially determined by comparative reconstruction.
- Unconditioned sound change is when every instance of the sound is affected regardless of context.
    - The Great Vowel Shift is an example of this.



- The Regularity Hypothesis is that sound change is ordered and systematic. Language don't change in random ways.
- The Relatedness Hypothesis is that when differences among two languages are systematic and regular, the languages are related and descended from a common source.
- Language change is a really gradual process.
- The written language is more conservative than the spoken language.
- Between 1300 and 1400, English went from a variable word order to fixed word language, as case morphology was lost.

- The romance languages are Italian, Portuguese, Spanish, French, Catalan, and Russian (And everything spawned off of Latin).
- The Germanic languages are Dutch, German, English, Flemish, Yiddish, Swedish, Danish (And everything spawned from Germanic).



Chapter 9 - Language Acquisition

- Knowledge of Language
    - What do we KNOW when we know a language?
        - Finite set of building blocks from which we can construct words and phrases and sentences.
    - How do we acquire this knowledge as children?
- Children must acquire word meanings and sound systems (phonetics and phonology) and morphology and syntax and pragmatics.
- Investigate children's development at various stages to understand what they know and don't know.
- Children are very literal, they get the meaning but not the implicature.
    - They are given a picture of 4 strawberries on the table and the statement "Some strawberries are on the table". Most of the children say this is true, and it technically is, but it's infelicitous.
- Children develop language in the same way and arrive at an adult grammar in a few short years.
- Stages of child language
    - Babbling (6-12 months)
        - About language, not about speech
        - A few weeks: Baby is able to distinguish sounds
        - Babies are discovering the basic sound units in their language and ways to combine them.

        - Illustrates the readiness of the human mind to respond to linguistic input from a young age.
    - First words (1 year) - one word stage
        - This is called the holophrastic stage because the one word occurrences seem to convey the meaning of an entire sentence.
    - First word combinations (18-24 months) - telegraphic speech
        - Word order is always correct
        - Know about the structure of language.
    - Rapid grammatical growth after 2-3 years
- Language acquisition is a creative process.
    - Predisposed to discover rules in the input and make generalizations.
    - At each stage of development children have a set of rules, a grammar.
- Children regularize irregular morphology.
    - Holded instead of held.
    - This process is morphological overgeneralization.
    - Basically a way that children generalize the rules they've learned in the past and then applying them to new words.
- Between ages 2 and 3, grammar development is extremely fast.
- The input to children is unsystematic.
    - The children's inputs are independent of whatever their current knowledge level is. We (adults) just speak in the same way as always when talking to children.
- No explicit instruction
    - "You have to put a verb phrase after the noun phrase".
- No correction on the form of the utterances.
- No evidence of abstract rules, tree structures, principles like subject verb agreement.
- What accounts for the ease, rapidity, and uniformity of language acquisition in the face of impoverished input?
    - Universal grammar is the answer because we have a set of innate rules.
- Which aspects of our linguistic knowledge are innate and which are learned?
    - Innateness Hypothesis: Children must learn language particular properties that are shown in the input. They inherit the universal properties of language.
    - Subject verb order needs to be learned.
    - Morphology (-ed, -ing) has to be learned.
    - Move Aux rule to form questions has to be learned.
    - Coreference and X-bar are apparently not learned???? Obviously, you need to wait until the children are at some knowledge level, until you can test them.
- If all languages don't do it the same way, then it's not universal and thus it has to be learned and it's not innate.
- The innateness theory leads us to expect that children will take time and make errors where there is learning.
    - Overgeneralization of morphological rules such as treating irregular verbs and nouns as if they were regular.
    - Should not make errors with the universal principles, which should be innate

- Children have to learn the specific movement rule for forming questions in English, AUX movement.
    - Did I saw that in my book?
    - Does he makes it?
- AUX movement is constrained by the UG principle of Structure Dependency, so children shouldn't violate this dependency.
    - They make errors with the rule itself, but never to the point where they make errors with the structure dependency.
- Even during the telegraphic stage, the children "errors" are UG compliant.
- Mean length of utterances is the average length of the utterances the child is producing at a certain point.
- Semantic bootstrapping is using the meaning of a word to figure out its category.
- The innateness hypothesis gets its strongest support from the observation that grammars ultimately end up with many abstract rules and structures that aren't directly represented in the linguistic input that children receive.
    - The child is impoverished and the argument for the innateness of UG is called poverty of the stimulus.
- Infants can actually differentiate between the allophones of a phoneme.
- Prosodic bootstrapping is the method of using the stress patterns of a language to start word learning.
- Syntactic bootstrapping is the method of using syntax to help word learning.
- Semantic bootstrapping is knowing the meaning of a word to figure out its category.
- Mean length of utterances (MLU) is the average length of utterances the child is producing at a certain point. This is measured in terms of morphemes.

Colorless Green Ideas

In the first film *The Human Language: Colorless Green Ideas*, I learned about the more precise definitions and meanings associated with the term 'language', the ways in which language is structured, as well as how people communicate using this system. The film opens by asking questions about how we use language and how it functions in the human brain. It has been proven that language is a rule based system that has the function of allowing people to convey creative and novel ideas to one another in an understandable way. One of Noam Chomsky's books claimed that there is some process or rule inside your head that allows you to produce novel sentences that have

never been created before, and yet can be understood by everyone who speaks the language. The film goes on to discuss the definition of words, which are the actual components of the sentences we speak. I found it interesting that not a lot of people had clear mental definitions as to what 'word' actually meant. During the movie, I thought about how I would answer the question, and couldn't come up with a solid definition either. One of the answers which I agreed with the most was that "A word is the smallest separate piece of language that all by itself will still have meaning". Other interpretations included thinking about words as the combination of letters in between spaces. One of the final topics the film addresses is that of universal grammar. UG is the idea that there are rules that all languages share, regardless of the apparent differences we hear between all 5000 of them. All humans are said to have been born with the knowledge of the ideas from this universal grammar. This idea is expanded upon more in the second film.

Acquiring the Human Language

In the second film *The Human Language: Acquiring the Human Language*, I learned about the ways in which children are able to speak and understand a specific language. The child, from the moment it is born, is said to be already equipped with the basic structure of any human language. While there are some that believe that children are born with some of the building blocks of language, there is a school of thought that believes in the imitation theory, where children learn based on what they hear from others. These linguistics also believe that language has to be learned because of the all the different languages there are in the world. The classic imitation vs innateness

discussion is one that has puzzled linguistics for quite a while. Most linguistics believe that imitation theory does not account for the fact that children can say completely new sentences they've never heard before. This leads to the idea that language acquisition does not necessarily entail learning in the typical ways we expect learning to occur. Learning a language is not like learning how to ride a bike. Language acquisition has the properties of normal physical growth, as we quickly develop a working competence and performance of the language by the time we are 5 or 6 years old. This knowledge arrives unconsciously and is different from the conscious effort and trial/error that goes into learning how to ride a bike.

American Tongues

In the third film *American Tongues*, I learned the different dialects and ways of speaking there are in the United States. The video begins with interviews of people speaking in their native dialect and talking about different topics and using local words and phrasings. Viewers can immediately see the lexical and phonological differences between each of the dialects. It was interesting to see that speakers believed their local dialect was "normal", while viewing speakers from other geographical regions as being different from the norm. This idea of viewing people differently as a result of their speech manifests itself into social and professional situations. In situations where two strangers who speak different dialects of English come into contact with each other, the speakers can inadvertently fall into the trap of labeling each other with specific racial or ethnic stereotypes simply by their speech patterns. In the video, a man from Boston felt that the way he talked was beneficial in keeping his public image, staying out of trouble, and attracting women. The large impact of speech patterns is also prevalent in the

workplace, where employees often feel that a distinct dialect or accent can hurt their chances to fit in with the company and display professionalism. In the video, one speaker in particular claimed that she was proud of her dialect and did enjoy the close ties that it gave with her peers. However, she did feel the need to speak a more “proper” form of English while she was at work. The main takeaway I got from the video was that although there are lots of English dialects in the US and a lot of stereotypes associated with them, it is important to realize that one dialect shouldn’t be preferred over another, or viewed at a different level. Each dialect has unique characteristics and rules, and thus we should accept them as they are, instead of praising or discouraging certain ones.

ASL - Ben Lewis Talk

- American Sign Language is used in the US and Canada.
    - It started in France
- ASL is not a universal sign language.
    - Just like we don’t have any one single spoken language, we don’t have one sign language.
- In sign language, your eyes become your ears, and your hands become your voice.
- Signs can either be iconic or abstract.
- Big differences between how to teach ASL for those who are born deaf and those who became deaf at some later point in life.
- ASL is a language, not just a gesture based system.
- William Stokoe was a professor that learned ASL while he was teaching, and he found a lot of parallels in that there is morphology and syntax, and he published a book, and proved that ASL was in fact a deaf language.
- Lose 70% of information when trying to read lips.
- 5 parameters of ASL
    - Location, movement, handshape, facial expression, and palm orientation
- Even ASL has different dialects, who sign in different ways.
- There are non manual signs in head position, facial expression, eyebrows, and eye gaze.
- ASL uses classifiers and they can describe the size and shape of an object.
- ASL morphology refers to compounds, frames, numerical incorporation, degree, and temporal aspect.

- The need to express yourself through some sort of way
- ASL also has rhetorical questions. In ASL, you need to answer your rhetorical questions to represent it is rhetorical.
- No sign for because. This means that you have to shift the grammar around in the sentence.
- Sarcasm is based on facial expression.

Language Acquisition - Adam Chong Talk

- To understand speech, we need to know the language the other person is speaking, the relevant sounds, and the word/morpheme boundaries.
- To test what infants know or don't know, we have to take the following measurements.
    - Listening times
    - Looking times
    - Number of head turns
    - Amplitude of sucking on pacifier
    - Heart rate
    - Event related potentials
- Basically the above methods are testing whether infants show different looking and listening behavior based on what they are hearing.
- Fetus has access to speech signals and the auditory system is already functional before birth.
- Newborns prefer utterances in their maternal language and can discriminate languages that differ in sentence melody and rhythm (English vs Japanese).
- Speech signal is a continuous space and thus in order to really understand it, we learn to categorize different portions of the space.
    - Different languages can have different categories.
- Infants start with initial ability to distinguish between sounds which are not presents in their language.
    - By 10 months, difficult to discriminate between contrasts that don't exist in their native language.
- Infants use statistical clustering to spot discontinuities in the physical space and infants are sensitive to distribution of specific instances in the input.
- By the end of the first year, infants already know which sounds are contrastive and which aren't.
- Timeline of understanding speech
    - 6 months: Use familiar words to segment words and are universal listeners
    - 7.5 months: Use stress to segment words
    - 8 months: Use statistics to segment words
    - 10 months: Only pay attention between sound categories that are relevant to their native language.
    - 18-19 months: recognize mispronunciations