LINA01 Fall 2018 Exam Notes

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Week 1 Notes

1. Linguistics:

- The scientific study of languages.
- If you know a language, you can understand it and communicate using it. Furthermore, you know which sounds exist and don't exist in that language.
- Lastly, you know which sentences are correct or incorrect.
- Linguistic knowledge/competence is unconscious.
- **Performance** is how the speaker uses his/her competence to produce and understand speech.
- Register/Style refers to the levels of formality. I.e. Formal/Informal.
- When you know a language, you know its real-world usage. You can make a distinction between familiarity and formality.

2. Grammar (Mental Grammar):

- A mental system of rules that exists in the heads of native speakers. This system of rules allows native speakers of a language to produce and understand sentences that have never been produced or heard before.
- Same as competence.
- Grammar has 5 components:
 - 1. Phonetics: Deals with perception and articulation of speech sounds.
 - 2. Phonology: Deals with possible sound combinations.
 - 3. **Morphology:** Deals with the structure of words.
 - 4. Syntax: Deals with the structure of sentences.
 - 5. **Semantics:** Deals with the meaning and interpretation of sentences.

3. Prescriptive Grammar/Traditional Grammar:

- Prescriptive grammarians believe in an absolute standard of correctness. This approach governs the version of English considered appropriate for use by educated speakers.
- A set of rules about language based on how people think language should be used.
- Deals with the should and shouldn'ts of grammar.
- Prescriptive grammarians believe that:
 - 1. Language is either correct or incorrect.
 - 2. One form is more logical than the other.
 - 3. There is an appeal to classical forms.
 - 4. There is a preference for older forms of the language.
- 5. There is an injunction against the use of foreign/borrowed words.

4. Descriptive Grammar:

- Studies and characterizes the language of specific groups of people in a range of situations.
- A set of rules based on how language is actually used.
- Doesn't bring any preconceived notions of "correctness" to the task, nor does it favour one language of one social group over others.
- Describes how grammatical systems operate.
- Linguists are descriptive grammarians.
- Deals with the do's and don'ts of grammar.
- Descriptive rules form the basis for grammaticality judgements, which are made relative to a particular dialect.
- Descriptive grammarians believe the following:
 - 1. All varieties of languages are valid systems with their own logic and conventions.
 - 2. There is no scientific reason to expect one language to match the mold of another.

- 3. Languages are continually changing in subtle ways without reducing their usefulness, preciseness or aesthetic value.
- 4. All languages have adopted words from other languages.

5. Characteristics of Grammar:

1. Generality:

All languages/dialects/speakers/signers have a grammar. However, individual grammatical systems differ in the use of structure formation rules

2. Parity:

All grammars are equal. There is no such thing as a "primitive", "good" or "bad" grammar. All grammars unconsciously instruct people how to form and interpret words and sentences of their language.

3. Mutability:

Grammars change over time, but they change within strict limits. Furthermore, older varieties of grammar cannot be better than newer versions. There is no reason to accept that languages attain a state of perfection and new changes corrupt or deteriorate it.

4. Inaccessibility:

Grammatical knowledge is unconscious. (Competence)

5. Universally:

All grammars are alike in basic ways and share an inventory or principles and properties (including the so called universals).

6. Standard/Non-Standard:

- There are many varieties of English.
- A standard language is the variety of any given language spoken by the most powerful people in a community. (Political elites or upper-class)
- This variety is seen as "correct" by prescriptive grammarians.
- People are considered standard speakers as long as they don't use any strongly stigmatized forms.
- Non-standard languages does NOT mean it is grammatically incorrect.
- A sentence can be both informal/non-standard and grammatically correct.
- A sentence that is grammatically incorrect in one dialect may be grammatically correct in another.

Week 2 Notes

1. Morphology:

- Is the division of linguistics that studies words and their structures.
- Language is creative and humans have the ability to produce and understand an infinite number of sentences we've never heard before.
- In our mental **lexicon**, we can store sounds and simple words.
- A word is the smallest free form in language.
- A **free form** is an element that does not have to occur in a fixed position with respect to neighbouring elements.
- Words are structured.
- Words are not the smallest units of meaning.

2. Morphemes:

- The smallest units of meaning.
- E.g. Unhappy has 2 morphemes: 1. Un 2. Happy
- Note: In order to be a morpheme, they must contribute meaning. E.g. Delight has 1 morpheme. Although it can be broken down into De and Light, neither contributes to the definition of delight. Therefore, neither are morphemes in this case. However, the word unhappy has 2 morphemes, "un" and "happy" because they both contribute meaning to it.
- A **simple word** is a word with only one morpheme.
- E.g. Desk, chair, table are simple words.
- A **complex word** is a word with more than one morpheme.
- Complex words have a root and one or more affixes. E.g. Unhappy, wishful, joyful are complex words.
- Free morphemes are morphemes that are words and can stand on their own.
- E.g. happy, joy, cry
- **Bound morphemes** are morphemes that must be attached to another element.
- E.g. ness, ed, ful
- 3. Allomorphs:
- Allomorphs are morphemes that vary in pronunciation.
- These different pronunciations depend on the context where the morpheme occur.
- E.g. Consider the morpheme "ed", and these 3 words: booked, begged, stated. In booked, "ed" is pronounced as [t]. In begged, "ed" is pronounced as [d]. In stated, "ed" is pronounced as [əd].

4. Roots and Affixes:

- A **root** is a lexical category morpheme that cannot be analyzed into smaller parts. The root contributes to the core meaning of the word.
- Lexical categories are nouns, verbs, adjectives, adverbs, prepositions.
- Roots may or may not be a word, so it can be free or bound.
- E.g. paint in painter is a word but ceive in receive is not a word. In painter, paint is a free morpheme but in receive, ceive is a bound morpheme.
- Affixes are bound morphemes that do not belong to a lexical category.
- A **prefix** is an affix attached to the beginning of a base.
- A **suffix** is an affix attached to the end of a base.
- An **infix** is an affix that is inserted inside another morpheme, usually the main morpheme.
- E.g. In "abso-freaking-lutely", the infix is freaking.

- A **circumfix/discontinuous morpheme** is an affix that is attached to both the beginning and the end of another morpheme, usually the main morpheme. There are no circumfixes in English.

5. <u>Bases:</u>

- A **base** is the form to which affixes are attached to.
- All roots are bases, but not all bases are roots.
- The number of bases equal to the number of affixes.
- The order in which you attach the affixes matter.
- E.g. In the word unhappy, happy is both the root and the only base. Unhappy is not a base because there are no more morphemes left that can attach onto it.
- E.g. In the word joblessness, job is both the root and a base. Jobless is another base because morphemes can still attach onto it. However, it is not a root. Joblessness is not a base because there are no more morphemes left that can attach onto it.

6. Derivation Affixes:

- **Derivational affixes** attach to another morpheme or word to create a new word that has a different meaning or a different category from the base.
- E.g. Friend is a noun, but adding the derivational affix "ly" creates the word friendly, an adj.

7. Inflectional Affixes:

- **Inflectional affixes** do not change the meaning or lexical category of the base they are attached to, but changes its grammatical information.
- In English, there are 8 inflectional affixes, all of which are suffixes.

| English Inflectional Affixes | <u>Example</u> |
|--------------------------------------|----------------------------------|
| Plural " s " (N) | The stones. |
| Possessive " 's " (N) | The kitten's paws. |
| 3rd Person Singular " s " (V) | She walks. |
| Continuous " ing " (V) | He is walking. |
| Past Tense " ed " (V) | They walked. |
| Past Participle " en/ed " (V) | You have eaten. You have played. |
| Comparative "er" (ADJ/ADV) | A bigger ball. |
| Superlative " est " (ADJ/ADV) | The biggest ball. |

- Some affixes can be either derivational or inflectional, depending on the context.
- E.g. The affix "er" can be both. E.g. Tall + er is inflectional but Teach + er is derivational.

Week 3 Notes

1. Ambiguous Words:

- Words that have more than 1 meaning.
- This means they have more than 1 tree diagram and we have to draw all of its tree diagrams, unless otherwise specified.
- E.g. Some ambiguous word are unlockable and unfoldable
- In our course, all ambiguous words will start with the prefix "un" and the suffix "able."
- Note: Not all words with "un" and "able" are ambiguous. Unbelievable is not ambiguous because unbelieve is not a word.

2. Word Formation Processes:

- Derivation
- Compounding
- Internal Change
- Suppletion
- Reduplication
- Zero Derivation/Conversion
- Clipping
- Blending
- Backformation
- Acronyms
- Initialism/Abbreviations
- Coinage
- Eponymy
- 3. Derivation:
- Adding derivational affix(es) to an existing word to create a new word.
- **Suffixation** adds a suffix to an existing word to create a new word.
- **Prefixation** adds a prefix to an existing word to create a new word.
- **Complex derivations** occur when derivations apply more than once. I.e. there are several derivational affixes. Because of this, it is possible to create word structures (trees) with multiple levels. However, not all tree diagrams are correct.

4. <u>Compounding:</u>

- Takes 2 or more existing roots, words or free morphemes and forms a new word by combining them in their entirety. The new word is usually a noun, verb or adj.
- The **head** is the element/word that determines the lexical category of a compound word. In English, the head is usually the second element/word.
- E.g. In blackboard, board is the head. Since board is a noun, blackboard is also a noun.
- In compound words the stress falls on the first element/word.
- In non-compound words the stress usually falls on the second element/word.
- **Endocentric Compounds** are compound words that get its meaning from the head. In this case, the meaning of the compound is predictable.
- E.g. train ticket, blackboard, earthworm.
- **Exocentric Compounds** are compound words that do not get their meaning from the head of the compound. In this case, the meaning of the compound is less predictable.
- E.g. redhead, boldface, bluebell

5. Internal Change (Type of inflection):

- One non-morphemic element is substituted for another to mark grammatical changes.
- **Ablaut** is when the vowel of the verb is replaced by another vowel to express some grammatical information. (Examples are below.)

| Internal change in English | | | |
|----------------------------|-----------------------|--|--|
| s <u>i</u> ng (present) | s <u>a</u> ng (past) | | |
| s <u>i</u> nk (present) | s <u>a</u> nk (past) | | |
| dr <u>i</u> ve (present) | dr <u>o</u> ve (past) | | |

6. <u>Suppletion (Type of inflection):</u>

- One morpheme is replaced by a completely unrelated morpheme. You cannot make a connection between the 2 forms.
- E.g. $Go \rightarrow Went$
- 7. <u>Reduplication (Type of derivation):</u>
- **Partial reduplication** is when you repeat a part of the morphological base. This can be either a sound or a syllable.
- **Full reduplication** is when you copy the entire morphological base to change meaning. The entire word is repeated.

8. Zero Derivation/Conversion (Type of derivation):

- Assigns a new lexical category to an already existing word, without changing the word's form.
- E.g. parent; to parent $(N \rightarrow V)$
- 9. <u>Clipping:</u>
- Makes a new word by omitting syllables from an already existing multisyllabic word.
- E.g. Mathematics \rightarrow Math

10. <u>Blending:</u>

- Creates new words by combining parts of several existing words.
- The difference between blending and compounding is that compounding takes 2 words and makes a new word using both words in their entirety while blending removes a part of at least 1 of the words.
- E.g. Brunch (Breakfast + Lunch)

11. Backformation:

- Creates new words by removing an affix (real or supposed) from an already existing word.
- E.g. Writer \rightarrow Write

12. Acronyms and Initialisms:

- **Acronyms** are created by taking the first letters of the words in a phrase and pronouncing them as a new word from that.
- E.g. NASA (National Aeronautics and Space Administration)
- **Initialisms/Abbreviations** are created by taking the first letters of the words in a phrase and pronouncing each letter.
- E.g. CD (Compact Disk)

13. <u>Coinage:</u>

- A process that produces new words from scratch.
- Responsible for creating product names and/or company names.
- E.g. Kleenex

14. <u>Eponymy:</u>

- A process that produces new words from the names of people.
- E.g. Sandwich came from Earl of Sandwich

Week 4 Notes

1. Syntax:

- Syntax is the study of sentences and their formations/structures.
- Words are not the minimal units in language and they have complex structures that follow rules.

2. Generative/Transformational Grammar:

- Initiated by Noam Chomsky in his 1957 book Syntactic Structures.
- A leading idea is the concept of Universal Grammar (UG).
- UG states that the system of categories, operations, and principles that are shared by all languages. Despite the numerous superficial differences, all languages share common aspects of sentence formation.

3. <u>The Syntactic Component:</u>

The Lexicon:

It is a mental dictionary that provides a list of the language's words, as well as information about their pronunciation, their category and their meaning.

The Computational System:

There are 2 main structure-building operations:

- 1. Merge: This combines elements to create phrases and sentences.
- 2. Move: This changes the position of an element within a particular structure.

4. <u>Sentences:</u>

- Sentences are not just made up of words, but rather, they have an internal, complex structure which they must follow.
- To form a sentence, words must conform to specific patterns determined by the syntactic rules of the language.
- Sentences are combinations of phrases.
- Every sentence is a sequence of words, but not every sequence of words is a sentence.
- Sentences can be ambiguous.
- **Well-Formed/Grammatical Sentences** are sentences that follow the standard rules of English. I.e. They follow the rules of syntax.
- **III-Formed/Ungrammatical Sentences** are sentences that don't follow the standard rules of English. I.e. They don't follow the rules of syntax.
- A sentence can be both grammatical and meaningless.
- Grammaticality is not based on meaning, on the truth of the sentences or on the topic discussed:

5. Syntactic Knowledge:

- As a native speaker, you should be able to use your syntactic knowledge to:
 - 1. Construct sentences.
 - 2. Recognize ambiguous sentences and state all possible meanings the sentence.
 - I.e. **Disambiguate** sentences that have more than 1 meaning.
 - 3. Give information about related sentences.
 - 4. Reveal the following information:
 - Word order
 - Grammatical Relation (Subject, Direct Object, Indirect Object, etc)

6. Lexical Categories (Open Class Categories):

- Express content and allow new words to be added into this category.
- Noun (N)
- Verb (V)
- Adjective (Adj)

- Preposition (P)
- Adverb (Adv)
- **Morphological evidence/Morphological distribution:** This looks at the affixes attached to the word.
- **Syntactic evidence/Distributional definition:** This looks at what comes before and after the word.
- I have put a table of derivational affixes on my website that can be used to determine morphological evidences. I only put syntactic evidences on here.
- Note: Preposition is the only category that does not have morphological evidence.

7. <u>Nouns (N):</u>

- Pronouns can replace nouns (They, He, She, I, Me, We).
- Preceded by determiners, prepositions or adjectives.
- Modified by adjectives.
- Is the subject or object of the sentence.

8. (Main) Verbs (V):

- Preceded by auxiliaries or the subject.

9. Adjectives (Adj):

- Preceded by degree words.
- Followed by and modifies nouns.

10. <u>Adverbs (Adv):</u>

- Modify verbs.
- Preceded by degree words.

11. Preposition (P):

- E.g. To, Of, In, On, For, During, After, Before, Across, Between, At, Under, Behind
- Followed by and connects nouns to the rest of the sentence.
- Preceded by adjectives.

12. Functional Categories (Closed Class Categories):

- Express function or grammatical information.
- This group is fixed with very limited members.
- Determiners (Det)
- Degree Words/Degree Adverbs (Deg)
- Auxiliary Words/Auxiliary Verbs (Aux)

13. Determiners:

- Followed by nouns.
- Articles: A, An, The
- Possessive (Show possession): My, Your, His, Her, Its, Our, Their
- Demonstratives: This, That, These, Those
- Quantifiers (Show amount): Some, Much, Several, Little, Many, Few
- Numbers: Two books, four pencils, etc

14. Auxiliary/Helping Verbs:

- Modal Auxiliary: Can, Could, Should, Shall, May, Might, Will, Must
- Regular Auxiliary: Be, Am, Is, Are, Was, Were, Have, Had, Has, Do, Did, Does
- Followed by main verbs.
- If a helping verb is the only verbs in the sentence, then it is treated as a main verb.
- E.g. He had breakfast already.
- There can be more than 1 auxiliary verb in a sentence.

15. Degree Words/Degree Adverbs:

- Followed by adjectives and adverbs and shows the amount of the quality of the adjective or adverb. (Intensifier)
- E.g. so, really, extremely, more, very, extra.

16. Differences Between Lexical and Functional Categories:

- The reason for this categorization is due to three qualities:

1. Inventory refers to the number of items in each category.

Lexical: Unlimited

Functional: Limited

2. **Productivity** refers to the possibility of creating new items.

Lexical: New words are almost always part of the lexical category.

Functional: New words are almost always never part of the functional category.

3. **Semantics** refers to the meaning behind the words/items.

Lexical: Carries a lot of meaning.

Functional: Carries little or no meaning.

Week 5 Notes

1. <u>Constituency:</u>

- In linguistics, sentences are not made of words, but are made up of larger units called **constituents/phrases** which are the basic units of sentence structures.
- Every sentence is made up of 2 main constituents, the **subject** and the **predicate**.
- Every constituent has a **head**, which is the main element of the phrase.
- The **subject** is the doer/experiencer of the sentence. The head of a subject is always a noun. Subjects are noun phrases.
- The **predicate** is the part of the sentence that is NOT the subject. Predicates give information about the subject. The head of a predicate is always a verb. Predicates are verb phrases.
- Everytime there is a preposition and a noun phrase after it, they form a phrase together. Always count the preposition and the noun that comes after it as 1 phrase. The head of this phrase is the preposition. Furthermore, the noun phrase that comes after the preposition is another phrase.
- Adjectives form their own phrase.
- If the head of the phrase is a noun, then it is a **noun phrase (NP)**. In a NP, there could be a determiner, an ADJP, or a PP, but there must be a noun.
- If the head of the phrase is a verb, then it is a **verb phrase (VP)**. In a VP, there could be an ADVP, a NP, a PP, but there must be a verb.
- If the head of the phrase is a adjective, then it is an **adjective phrase (ADJP)**. In an ADJP, there could be a degree word or a prepositional phrase, but there must be an adjective.
- If the head of the phrase is a adverb, then it is an **adverb phrase (ADVP)**. In an ADVP, there could be a degree word, but there must be an adverb.
- If the head of the phrase is a preposition, then it is a **prepositional phrase (PP)**. In a PP, there must be a preposition and a NP after it.
- Note: Rounded brackets, "()", means it's optional.



Phrase 1: The children (Subject) Phrase 2: Are playing in the park. (Predicate) Phrase 3: In the Park. Phrase 4: The Park

We already counted "Are playing" as the predicate, so we don't count it again.

- E.g. 2: The smart students of linguistics submitted their assignments today.
 - Phrase 1: The smart students of linguistics. (Subject)
 - Phrase 2. Submitted their assignments today. (Predicate)
 - Phrase 3: Of linguistics
 - Phrase 4: Linguistics
 - Phrase 5: Smart
 - Phrase 6: Their assignment.
 - Phrase 7: Today

Week 6 Notes

1. Examples of Finding Constituents:

- The smart students of linguistics are completing their projects now.
 - 1. The smart students of linguistics (Subject)
 - 2. Are completing their projects (Predicate)
 - 3. Smart (ADJP)
 - 4. Of linguistics (PP)
 - 5. Linguistics (NP)
 - 6. Their projects (NP)
 - 7. Now (ADVP)

2. <u>Constituency Tests:</u>

- Substitution Test/Replacement Test/Pro-form
- Movement Test
- Clefting Test
- Stand Alone (Q/A) Test
- Note: Sometimes the tests will work even though the bracketed item is NOT a constituent.
- Note: Sometimes the tests won't work even though the bracketed item is a constituent.
- You just need 1 test to succeed for something to be a constituent. However, for something to not be a constituent, all 3 tests must fail.

3. <u>Substitution/Replacement Test/Pro-form:</u>

- If you can replace one word or a group of words with a single word, then the selected text is most likely a constituent.
- To test if an item is a NP/constituent, replace it with a pronoun and check if the sentence is still grammatically correct. If the sentence is still grammatical, then it is a constituent, otherwise, it is not.
- E.g. [John] went to the store. Is "John" a constituent? Answer:

He went to the store. The sentence is still grammatical after substitution, so it's a constituent.

 E.g. [The smart students] of linguistics are completing their projects. Is "The smart students" a constituent? Answer:

They of linguistics are still completing their projects. The sentence is not grammatical after substitution, so it is not a constituent.

- There are very few substitutions you can make for ADJP, so we can't use this method for ADJP.
- To test if an item is an ADVP/constituent, if it refers to time, you can replace it with "Then."
- To test if an item is a PP/constituent, if it refers to a place, you can replace it with "There."
- To test if an item is a VP/constituent, we use the "Do So Too" test and check if the sentence is still grammatical.

- E.g. John [left the office early]. Is "left the office early" a constituent? Answer: John left the office early and Judy did so too. Since the sentence is still grammatical, it is a constituent.
- E.g. [The happy children] are playing [in the park].
 Is "The happy children" a constituent?
 Answer: They are playing in the park. The sentence is still grammatical after substitution, so it's grammatical.
 Is "In the park" a constituent?
 Answer: The happy children are playing there. The sentence is still grammatical after substitution, so it's grammatical.

4. Movement Test:

- Works best with NP and PP.
- Works well sometimes with ADVP.
- You move the bracketed part to the beginning of the sentence and check if the new sentence is grammatical or not. If the new sentence is grammatical, then the bracketed part is a constituent. Otherwise, the bracketed part is not a constituent.
- E.g. I love [icecream]. Is "icecream" a constituent? Answer: Icecream, I love. Since the sentence is still grammatically correct, "icecream" is a constituent.
- E.g. He left the office [in the evening]. Is "in the evening" a constituent? Answer: In the evening, he left the office. Since the sentence is still grammatically correct, it is a constituent.

5. <u>Clefting Test:</u>

- A type of movement.
- You do "It + is/was (Depending on the tense) + [Bracketed part] + rest of the sentence. If the new sentence is grammatical, then the bracketed part is a constituent. Otherwise, it is not.
- E.g. I love [icecream]. → It is icecream that I love. The new sentence is grammatical, so icecream is a constituent.
- E.g. [John] told the truth. → It was John who told the truth. The new sentence is grammatical, so icecream is a constituent.

6. Stand - Alone (Q/A) Test:

- You ask a question about whatever is inside the square brackets.
- For NP, you ask who or what.
- For PP and ADVP, you ask why, where, when and/or how.
- E.g. [He] left the office [in the morning].
 Who left the office? → He
 Because the Q/A pair works, therefore it's a constituent.
- E.g. When did he leave the office? → In the morning Because the Q/A pair works, therefore it's a constituent.
- For VP, you ask what the person does/did/will do.
- E.g. He [will arrive early.]
 - What will he do? \rightarrow He will arrive early.

Because the Q/A pair works, therefore it's a constituent.

7. Phrase Structure Rules:

- Find the head of the phrase. The head carries the most meaning.
- If the head of the phrase is a noun, then it is a **noun phrase (NP)**. In a NP, there could be a determiner, an ADJP, or a PP, but there must be a noun.
- If the head of the phrase is a verb, then it is a **verb phrase (VP)**. In a VP, there could be an ADVP, a NP, a PP, but there must be a verb.
- If the head of the phrase is a adjective, then it is an **adjective phrase (ADJP)**. In an ADJP, there could be a Degree word, but there must be an adjective.
- If the head of the phrase is a preposition, then it is a **prepositional phrase (PP)**. In a PP, there must be a preposition and a NP after it.
- If the head of the phrase is a adverb, then it is an **adverb phrase (ADVP)**. In an ADVP, there could be a Degree word, but there must be an adverb.
- If the sentence starts with a predicate, it's most likely a PP.
- If the sentence starts with a verb, it's most likely a VP.

8. <u>Phrase Trees:</u>

- The head of the tree is the type of the phrase.
- E.g. Draw the tree for "The children."



E.g. Draw the tree for "smart."



- E.g. Draw the tree for "The very smart children."



E.g. Draw the tree for "In the morning."



- 9. <u>Tense Phrase:</u>
 - In English, the tense comes from auxiliaries.
 I.e. Auxs tell us whether or not the tense is past, present or future.
 - E.g. She is running. The aux "is" is telling us that the sentence is in the present.
 - E.g. She was running.
 The aux "was" is telling us that the sentence is in the past.
 Notice how running stays the same in both cases, so it's not telling us whether the sentence is in the past or present.
 - You need a tense to complete a sentence.
 - In syntax, we call a sentence a tense phrase.
 - You can also draw trees for sentences.



E.g. Draw the tree for "He left early."

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Week 7 Syntax Notes

1. Tense Phrases:

- Every sentence is comprised of a subject and a predicate.
- The subject is always the answer to who or what.
- If you have prepositional phrase(s) at the beginning, add it to the end when you are drawing its tree.
 - I.e. Attach it to the end of the predicate.
- E.g. Usually, during summers, many people run in the morning becomes "Many people run in the morning during summer, usually."

2. <u>Ambiguous Sentences:</u>

- Recall from morphology when we had ambiguous words we had multiple tree diagrams. It is the same for ambiguous sentences.
- Sentences can be ambiguous and if they are ambiguous, we need to draw all of its tree structures.
- The preposition(s) attach in different places.
- E.g. He ate the cookies on the counter.

Meaning 1: He ate the cookies while he was on the counter. I.e. [He][Ate the cookies on the counter]



Meaning 2: He ate the cookies that were sitting on the counter. I.e. [He][Ate][The cookies on the counter]



E.g. He painted the painting in the kitchen.
 Meaning 1: He painted the painting while in the kitchen.
 I.e. [He][Painted the painting in the kitchen]





Meaning 2: The painting he painted is now in the kitchen. I.e. [He][Painted][The painting in the kitchen]

Week 7 Semantic Notes

1. Introduction:

- **Semantics** is the study of the meaning of words and sentences.
- The meaning comes from words and the structure of the sentence.
- E.g.

Sentence 1: The cat followed the dog.

Sentence 2: The dog followed the cat.

Even though both sentences have the same words, they have different structures.

In sentence 1, the cat is following the dog.

In sentence 2, the dog is following the cat.

- The doer of the action is usually the subject.
- The meaning of a sentence can be ambiguous.
- E.g. I caught the dog with the leash.
 - Meaning 1: I used a leash to catch the dog.

Meaning 2: I caught the dog that had a leash on it.

2. <u>Types of Ambiguity:</u>

- Lexical Ambiguity
- Morphological Ambiguity
- Syntactic/Structural Ambiguity

3. Lexical Ambiguity:

- The ambiguity comes from the meaning of the word(s).
- E.g. I brought a bat to the game.
- Meaning 1: I brought the animal bat to the game.
- Meaning 2: I brought a sports bat to the game.

The ambiguity comes from the meaning of the word "bat."

- E.g. Stolen painting found by tree.

Meaning 1: Tree found the stolen painting.

Meaning 2: The painting was found beside a tree.

The ambiguity comes from the word "tree." Tree could be a person's name, or it could be a tree.

4. Morphological Ambiguity:

- The ambiguity comes from the word(s).
- E.g. This bed is unfoldable.
 - Meaning 1: The bed cannot be folded.
 - Meaning 2: The bed can be unfolded.
 - The ambiguity comes from the word "unfolded."
- The affixes attach differently.

5. Syntactic/Structural Ambiguity:

- The ambiguity comes from the structure of the sentence.
- E.g. I caught the dog with the leash.
 - Meaning 1: I used a leash to catch the dog.
 - [I][Caught the dog with the leash]

Meaning 2: I caught the dog that had a leash on it.

[I][Caught][The dog with the leash]

The ambiguity comes from where the preposition is attached to.

- The preposition(s) attach in different places.

6. Lexical Semantics:

- Lexical means related to words.
- Lexical semantics is the meaning of words.

Types of lexical semantics:

- 1. Polysemy
- 2. Homonymy
- 3. Homophones
- 4. Homograph
- 5. Antonyms
- 6. Synonyms
- 7. Phantonyms:
- 8. Semantic Shift:

7. Polysemy:

- **Polysemy**: A word has more than 1 meaning and those meanings are related.
- E.g. lip
 - Meaning 1: The body part.

Meaning 2: The edge of something.

- E.g. chair
 Meaning 1: A piece of furniture we sit on.
 Meaning 2: The head of an organization.
- Bat is NOT an example of polysemy.
- With polysemy, if you know one of the word's meanings, you can guess the other meaning(s).

8. <u>Homonymy:</u>

- **Homonymy:** A word that has more than 1 meaning and those meanings are unrelated.
- E.g. Bat
 - Meaning 1: The animal bat.
 - Meaning 2: The sports bat.
- E.g. Pen Meaning 1: A writing utensil.
 - Meaning 2: An onelegure
 - Meaning 2: An enclosure.

9. <u>Homophones:</u>

- Phone means sounds.
- Homophone: A word with the same sound but have different spellings.
- E.g. Bough and Bow.
- E.g. Flour and Flower
- E.g. Dear and Deer

10. Homograph:

- Graph means writing.
- **Homograph:** A word with the same spelling, but different pronunciation.
- E.g. Lead, Bow, Tear

11. Antonyms:

- Two words that have opposite meaning.
 - There are 3 types of antonyms.
 - 1. Gradable:

These words have different degrees and can be attached to intensifiers/degree words.

E.g. Hot/Cold (boiling/freezing, super hot/super cold)

E.g. Tall/Short (very tall/very short, not tall/not short)

2. Complementary:

These words cannot be both at the same time. It's either this one or the other.

There is no between. You can't use degree adverbs.

- E.g. Dead/Alive (You can't be both dead and alive at the same time.)
- E.g. Taken/Single

3. Relational:

These words have a 2-sided relationship.

- E.g. Teacher/Student
- E.g. Borrow/Lend
- E.g. Lawyer/Client
- E.g. Parent/Child
- E.g. Doctor/Parent

12. Synonyms:

- Two words that have similar meaning.
 - There are 3 types of synonyms.

1. Dialectal Variation:

These words have similar meaning, but it's spoken in different places. In England, they use the word "lift" while in Canada, we use the word "elevator." Both have similar meaning, but it's spoken in different places.

- E.g. Couch and Sofa
- E.g. Lift and Elevator

E.g. Apartment and Flat

2. Register/Style:

Recall that register/style means the level of formality. So these words have similar meaning, but it depends on the context (formal or informal). To a professor, you would say "hello", but to a friend, you would say "hi."

E.g. Ride and Car

E.g. Hi and Hello

3. Euphemism:

Euphemism is when you replace a word with a politer word. This goes back to register/style.

- E.g. Washroom and Loo and Toilet
- E.g. Die and Passed Away

13. Phantonyms:

- **Phantonyms:** Words that seem to mean one thing, but mean something else.
- E.g. Fulsome (You may think it means full, but it means disgusting.)
- E.g. Enervated (You may think it means energized, but it means weakened.)
- E.g. Presently (You may think it means now, but it means later.)

14. Semantic Shift:

- Semantic Shift: Words that have their meanings changed over time.
- There are 4 types of semantic shift:
 - 1. **Narrowing:** Words that had a broader meaning, but now has a specific meaning.

E.g. Hound (It used to refer to all dogs, but now it refers to a specific type of dog.)

2. **Broadening:** Words that had a specific meaning, but now has a broader meaning.

E.g. Bird (It used to mean young birds only, now it means all birds.)

3. **Amelioration:** Words that had a negative meaning, but now has a more positive meaning.

E.g. Nice (It used to mean awful, but now means nice.)

4. **Pejoration:** Words that had a positive meaning, but now has a more negative meaning.

E.g. Silly (It used to mean nice, but now means foolish.)

E.g. Gaudy (It used to mean pious, but now means awful.)

15. Sentence Semantics:

- This looks at the relationship between sentences.
- Sentences may include the meaning of other sentences.
- There are 3 types of sentence semantics:
 - 1. **Entailment:** When the truth of a sentence guarantees the truth of another sentence.

E.g. The man was killed. \rightarrow Entails \rightarrow The man is dead.

E.g. My brother is older than me. \rightarrow Entails \rightarrow I have a brother.

2. **Contradiction:** When one sentence is true, another sentence must be false.

E.g. I am single. \rightarrow Contradicts \rightarrow I am taken.

3. **Paraphrase:** Two sentences that have the same meaning are said to be paraphrases of each other.

E.g. Joe kissed Mary. \rightarrow Paraphrases \rightarrow Mary was kissed by Joe.

Week 8 - 10 Notes

1. Introduction:

- **Phonetics** is the study of sound.
- Facts:
 - 1. Humans can communicate by using a wide range of modalities, such as writing, gestures, sign language, etc, but speech has a particular importance in natural languages. It is the most common way humans communicate. Speech is made of sounds, so humans use sounds to communicate.
 - 2. Humans spoke long before they started to write, and this is reflected in their anatomical specialization.
 - 3. Moreover, humans also appear to have specialized neural mechanisms for the perception of speech sounds.
- There is no one-to-one correspondence between sounds and spelling in English.
- E.g. Face has 4 letters, but 3 sounds.

2. Basic Ways of Analyzing Speech Sounds:

1. Articulatory Phonetics:

- Looks at the physiological mechanisms of speech production (what organs are involved, where specifically sounds are produced). We will focus mainly on this approach.

2. Acoustic Phonetics:

- Measuring and analyzing the physical properties of the sound waves produced in speech.

3. Different Sounds:

- The alphabets created for writing systems of various languages are ambiguous.
- E.g. Consider "ough"
 - In the "ough" of rough, there are 2 sounds.
 - In the "ough" of through, there is 1 sound.
 - In the "ough" of though, there is 1 sound.
 - All 3 pronunciations are different, despite them all having "ough."

4. Phonetic Transcription:

- Because there is not a 1-1 correspondence between sounds and spelling, linguistics created the IPA (International Phonetic Alphabet).
- The IPA is a system of phonetic notation giving a standardized representation of speech sounds.
- The purpose of the IPA is to create a 1-1 correspondence between sounds and spelling.
- Therefore, one symbol represents one sound.
- The IPA does not represent the spelling system of a particular language.
- We need the IPA because:
 - 1. Same spelling for different sounds.
 - 2. Combinations of letters representing 1 sound.
 - 3. Silent Letters
 - 4. Lack of a 1-1 correspondence between letters and sounds.
- **Phones/Speech Sounds** are the building blocks of human language.

- **Segments** are individual speech sounds. We know that words can be segmented because of:
 - 1. Slips of the tongue.
 - 2. Sounds across languages are similar enough to transcribe them in the same way.
 - 3. Sounds like *s* and *d* are consistently distinct and are assigned different IPA symbols.

5. Basic Classification of the IPA Chart:

- All sounds (phones) are classified under these 3 major types/classes:
 - 1. Vowel
 - 2. Consonants
 - 3. Glides
- **Class of sounds:** The grouping of sounds based on shared phonetic characteristics.
- The phones found in each of the three major classes can be further distinguished based on their **articulation properties**.

6. Consonants:

- Square brackets [] indicate sounds.
- Consonants can be described in 3 ways:
 - 1. Place of Articulation
 - 2. Manner of Articulation
 - 3. Voicing (state of the glottis)
- Consonants Chart

| | Bilabial | Labio- dental | Inter- dental | Alveolar | Alveo-palatal | Palatal | Velar | Glottal |
|---------------------|------------------|--------------------|-----------------------|--------------------|-------------------------|---------|---------------------|------------------|
| Stop | pʻpan' bʻban' | | | t 'tan' d 'Dan' | | | k 'can' g 'gone' | ? 'uh-oh' |
| Nasal | m 'beam' | | | n 'bean' | | | ŋ 'being' | |
| Fricative | | f 'fan' v 'van' | θ 'three' ð 'this' | s 'sap' z 'zap' | ∫ 'shone' 3 'vision' | | | h 'heap' |
| Affricate | | | | | t∫ 'cheap' dʒ 'Jeep' | | | |
| Lateral Liquid | | | | l 'lap' | | | | |
| Retroflex Liquid | | | | r (л) 'rap' | | | | |
| Glide | w 'weep' | | | | | j 'yes' | w 'weep' | |

- The placement of the tongue and the positioning of the lips are the crucial factors.
- The tongue:
 - The primary (active) articulating organ.
 - Extremely mobile: can be raised, lowered, thrust forward, retracted, rolled back. Its sides can also be raised or lowered.

7. Places of Articulation:



- Looks at the parts of your body do you use to articulate words.
- Places of articulation are found at the lips, within the oral cavity, in the pharynx and at the glottis.
- Sounds, based on their place of articulation, are in different groups, shown in the chart above.
- Note: Speech sounds can be differentiated from each other by how the air stream is affected as it goes from the lungs up and out of the mouth.
- The places of articulation are
 - 1. Labial
 - 2. Interdental
 - 3. Alveolars
 - 4. Alveopalatal
 - 5. Palatal
 - 6. Velar
 - 7. Glottals

8. Labial (Lips):

- Main articulator is your lips to produce these sounds.
- There are 2 types of labial sounds, bilabial and labiodental.
- Bilabial Sounds (Use two lips):
 - [m], [p], [b], [w], [M] (Sounds produced with your two lips.)
- Labiodental Sounds (Use lips and teeth):
 - [f] and [v] (Sounds produced with your upper teeth and your lips.) [m], [p], [b], [f], [w], [M] and [v] are labial sounds.

9. Interdental (Between teeth):

- You put your tongue between your teeth to produce these sounds.
- [ð] and [θ] are interdental sounds.

10. Alveolars (Alveolar ridge):

- Your tongue moves to what is called the alveolar ridge (the ridge which protrudes from just behind the upper teeth).
- [n], [t], [d], [s], [z] and [l] are alveolar sounds.

11. Alveopalatal (Alveopalatal/Palatoalveolar) :

- These sounds are articulated behind the alveolar ridge, where the roof of the mouth rises; this area is known as the alveopalatal (or palatoalveolar) area.
- Between the alveolar ridge and the hard palate.



12. Palatal (Roof of the mouth):

- This is the highest part of the roof of the mouth; it is called the (hard) palate, and the sounds produced here are the palatals.
- [j] is the only palatal sound.

13. Velar (The Soft Area on the Roof of the Mouth):

- Now we're further back in the mouth, using a part of the tongue further in the back.
- [ŋ], [k], [g] are velar sounds.
- Labio Velar:
 - With the tip of your tongue at the alveolar ridge, slowly move it back. The hard part right behind the alveolar ridge is the hard palate. When it gets soft after the hard palate, you've reached the velum.
 - [w] and [M] are **labio-velar** sounds, because tongue is raised near the velum (primary place of articulation) and the lips are rounded (secondary place of articulation) the at the same time.
 - [w] is a voiced, bilabial and velar sound.
 - [M] is a voiceless, bilabial and velar sound. [M] is a voiceless counterpart of [w]. It is rarely used in English.

14. Glottal (Vocal Folds):

- Sounds produced with the vocal folds as primary articulators.
- [h] is a glottal sound.



____ is another glottal sound.

15. Voicing:

- Consonants are either voiced or voiceless.
- If there is a vibration of the vocal folds inside the larynx, then those sounds are **voiced sounds**.

I.e. If our vocal cords are close together, then the air passing through will force the vocal cords to vibrate, causing a voiced sound.

- If there is no vibration of the vocal folds inside the larynx, then those sounds are **voiceless sounds**.

I.e. If the air passed freely through the glottis, voiceless sounds result.

- Voicing Tests:
 - 1. Touching the fingers to the larynx as the sound is produced.
 - Voiceless sounds do not produce vibration, while voiced sounds do.
 - 2. Touching the fingers in the ears as the sound is produced.
 - Voiced sounds produce greater resonance.
 - 3. Covering one of the ears while producing the sounds. Voiced sounds resonate stronger than voiceless ones.







16. Manner of Articulation:

- Refers to the way air passes through the oral cavity.
- Types of manner of articulation:
 - 1. Oral & Nasal
 - 2. Stops
 - 3. Continuants
 - 4. Fricatives
 - 5. Affricates
 - 6. Strides and Sibilants
 - 7. Liquids
 - 8. Glides
- 1. Consonants are either **oral** or **nasal**.
 - When the velum is raised, which cuts off the airflow through the nasal passages, oral sounds are produced.
 - I.e. Air flows through the oral cavities (mouth).
 - **Nasal sounds** are articulated when the velum is lowered and allows air to pass through the nasal passages (nose).
 - Nasal sounds are voiced by nature.
 - List of nasal consonants:



- Everything else is an oral consonant.
- 2. Stops:
 - If during the articulation of these consonants, the airflow is completely blocked, then the consonants are called **stop consonants** or **stops**.
 - Chart of Stop Consonants:

| | Bilabial | Alveolar | Velar | Glottal |
|-----------|----------|----------|-------|---------|
| Voiceless | [p] | [†] | [k] | [?] |
| Voiced | [b] | [d] | [g] | |
| Nasal | [m] | [n] | [ŋ] | |

- Opposite of stops.
- The airflow out of the mouth is continuous (not stopped).
- All language sounds can be classified as either stops or continuants.
- Continuants include:
 - 1. Vowels
 - 2. Fricatives
 - 3. Liquids
 - 4. Glides

4. Fricatives:

- **Fricatives** are consonantal sounds made with continuous airflow. The airflow passes through a narrow opening in the vocal tract, creating a continuous, loud noise.
- A type of continuant.
- Fricatives are loud and noisy.
- Chart of Fricative Consonants:

| | Labiodental | Interdental | Alveolar | Alveopalatal | Glottal |
|-----------|-------------|-------------|----------|--------------|---------|
| Voiceless | [f] | [θ] | [s] | ប្រ | [h] |
| Voiced | [v] | [ð] | [z] | [3] | |

5. Affricates:

- Made by producing a stop which is immediately followed by a slow release of the closure. So the second part is like a fricative.
- Chart of Affricate Consonants:

| | Alveopalatal | |
|-----------|--------------|--|
| Voiceless | [tʃ] | |
| Voiced | [dʒ] | |

6. Strides and Sibilants:

- Fricatives and affricates can be further subdivided into two types based on their relative loudness.
- The noisier or louder fricatives are called stridents or sibilants.
- Their quieter counterparts (such as $[\theta]$ or $[\delta]$) are called non-stridents.

| Place of Articulation | Stridents | | |
|-----------------------|-----------|--------|--|
| | Voiceless | Voiced | |
| Alveolar | [s] | [z] | |
| Alveopalatal | ប្រ | [3] | |
| | [t] | [d3] | |

- 7. Liquids:
 - A subgroup of continuants, but your tongue gets close to an articulator. The air flows through the sides of the tongue.
 - When producing an [I] the air passes more freely.
 - In the case of [I], the tip of the tongue is at the alveolar ridge. the sides of the tongue are let down, allowing the air to pass freely over the sides. this makes it a **lateral liquid**.
 - [r] is the only other liquid sound found in English. It is a **retroflex alveolar** in many dialects.
 - Another type of [r] is the flap/tap. The flap/tap is produced when the tongue tip strikes the alveolar ridge, as it passes across it. Transcribed



as . It is a variant of the retroflex alveolar.

- E.g. butter, bitter.
- a) The tip of the tongue is curled back behind the alveolar ridge. b) The air passes freely so it is a continuant.
 - c) There is no real friction so it is a liquid.
 - d) The vocal cords are vibrating so it is voiced.

8. Glides:

- A type of continuant.
- Made with little or no obstruction of airflow in the mouth.
- In a word, they must either immediately precede or follow a vowel.
- They are transitional sounds (transitions to or from vowels) and are sometimes called semi-vowels/semi-consonants.
- The 3 glides are:
 - [j], [w], [M]

17. How to describe consonants:

- E.g. Describe [g].
- Solution:

-

- 1. Voiced (Voiced/Voiceless)
- 2. Velar (Place of articulation)
- 3. Oral Stop (Manner of articulation)
- E.g. Describe [n].
- Solution:
- 1. Voiced
- 2. Alveolar
- 3. Nasal Stop

18. <u>Vowels:</u>

- All vowels are voiced sounds, a type of continuant and involve a continuous flow of air through the oral cavity. Compared to consonants, vowels are also much higher in resonance and are produced with little obstruction of the vocal tract. Due to this lack of major constriction in the vocal tract, it may be difficult to distinguish the differences in height, backness, tenseness, and so on.
- Can be described in terms of 4 properties:
 - 1. Height
 - 2. Backness
 - 3. Roundness
 - 4. Tenseness



- Note:

is called a schwa and it only occurs as an unstressed vowel.

- Note: is called a caret and it only appears as a stressed vowel.
- Note: Some English speakers (for example, speakers from New York or from various British dialects) pronounce the first vowel in a word like coffee with a sound which is transcribed as [o].

19. <u>Height:</u>

_

- Describes the height of the tongue.
 - I.e. The vertical position of the tongue in the mouth how high or low the tongue is.
 - There are 3 categories to describe the height of the tongue:
 - 1. High
 - 2. Mid
 - 3. Low

20. <u>Frontness:</u>

- Describes if the tongue is in the front or back of the mouth.
 - I.e. The horizontal position of the tongue in the mouth how far forward or backward the tongue is.
- There are 3 categories to describe the frontness of the tongue:
 - 1. Front
 - 2. Central
 - 3. Back

21. Tenseness:

- Describes if the tongue is tense or lax during the pronunciation of the vowel.
- Usually, tense vowels are longer in duration.
- Usually, lax vowels are shorter in duration.

22. <u>Rounded:</u>

- Describes if the lips are rounded or not during the pronunciation of the vowel.

23. Diphthongs (Complex Vowels):

- Simple vowels remain stable in quality for the duration of their production.
- Diphthongs, on the other hand, change quality within the same syllable.
- In English diphthongs, the tongue begins in the vowel position, but changes to a glide position within the same act of articulation.
 - I.e. Diphthongs are two-part vowels but count as a single sound because two vowels are articulated together. They start with a vowel and end with a glide.
- Note: Even though diphthongs change in quality, they still act as single vowels.
- There are 2 types of diphthongs:
- Major Diphthongs:
 - Have a large, noticeable change in quality

- Minor Diphthongs:

- Have a less noticeable change, which is why we often omit the glide portion of the diphthong in transcription.

| Simple | Vowels | Minor D | iphthongs | Major Di | phthongs |
|--|--|-------------|----------------------|------------------|----------------------|
| Pit Set Put Cut Cat Dog Heat Lose | [I] [&] [V] [A] [æ] [a] [i] [u] | Say Grow | [e] [ej] [o] [ow] | My Now Boy | [aj] [aw] [oj] |

- Note: for aj and aw, there has to be a hook at the top.
- I.e. a

24. How to describe vowels:

- E.g. Describe the vowel . Solution: Mid Back Rounded Lax
- E.g. Describe the vowel . Solution: Mid Central Unrounded Lax
- E.g. Describe the vowel _____. Solution: Low Back Unrounded Tense

25. Describe the differences between the 2 sets of vowels:

- Note: This question always appears on the final exam. -
- -E.g. Describe the differences between:



-

Solution: Front vs Back and Unrounded vs Rounded E.g. Describe the differences between:

av a



Solution: Mid vs Low and Lax vs Tense

26. Write these words in their phonetic form:

- [æ] Planting:[pl _
- Roamed:[rowmd] _
- Fried:[fr [aj] d] _

Week 11 - 12 Notes

1. Introduction:

- Phonology is the study of the sound systems of human language.
- When talking, people do not speak each sound separately. We put them together.
- Speech is a very complex phenomenon.
- When sounds are next to each other, they can affect each other.
- As articulatory organs operate independently of each other, many adjustments have to be made in order to produce fast speech. As a result of these processes, the articulation of one sound affects the surrounding sounds.
- Quite often, more than one articulator is active in order to allow the production of fast speech.
- E.g. When we produce a sound sequence like [pl], we do not articulate the sound [p], then stop, and then articulate sound [l]. Instead, as the sequence [pl] is produced, the tongue tip will start to move toward the alveolar ridge before the lips separate. This is called **coarticulation**.

2. Coarticulation:

- When more than one articulator is active, articulatory adjustments take place. This is called **(articulatory) processes**.
- Articulatory processes change the nature of individual segments.

3. Processes:

- The articulatory movements that occur during connected speech.
- We have these processes to make it easier to articulate the sounds.
- Types of Processes:
 - 1. Assimilation
 - Place Assimilation
 - Voicing Assimilation
 - Voicing
 - Devoicing
 - Manner Assimilation
 - Flapping
 - Nasalization
 - 2. Dissimilation
 - Deletion
 - Epenthesis/Insertion
 - 3. Metathesis
 - 4. Aspiration
 - 5. Canadian Raising

4. Assimilation:

- A sound becoming more like a nearby sound in terms of one or more of its phonetic properties.
- E.g. If a sound is voiced, and a voiceless sound beside it becomes voiced.
- E.g. If a sound is bilabial and a non-bilabial sound beside it becomes bilabial.

- Assimilation is either regressive (affecting the preceding sound) or progressive (affecting the following sound). <u>Note:</u> We need to specify if it's regressive or progressive assimilation.
- Types of Assimilation:
 - 1. Voicing Assimilation:
 - Voicing assimilation is common across languages.
 - There are 2 types of voicing assimilation:
 - 1. Voicing
 - 2. Devoicing
 - **Voicing** occurs when a voiceless sound becomes a voiced sound because it's beside a voiced sound
 - **Devoicing** occurs when a voiced sound becomes a voiceless sound because it's beside a voiceless sound. This only affects liquids.
 - Liquids and glides are devoiced if they are after a voiceless stop.
 - When [I] and [r] is preceded by a voiceless sound, in particular, [k], [p] or [t], they become **devoiced**.
 - E.g. In "Lot", the [I] is voiced. In "Plot", the [I] is voiceless. This is called **devoicing**.
 - To transcribe devoicing, we put a little circle underneath the [I] or [r] sound.
 - E.g. Plan: [pl.æn], Trick: [tr. ık]
 - Here are some examples of voicing assimilation.
 - E.g. The plurals "S" in English is pronounced differently based on what word it's attached to.
 - Bag + s: "S" is now pronounced as [z], a voiced sound. This is because [g] is voiced, which affects "S". This is an example of progressive voicing assimilation.
 - Book + s: Here, both [k] and [s] are voiceless, so there is no voicing assimilation.
 - E.g. "ed" in English is pronounced differently based on what word it's attached to.
 - Walk + ed: "ed" is now pronounced as [t], a voiceless sound. This is because [k] is voiceless, which affects "Ed." This is an example of progressive voicing assimilation.
 - Beg + ed: Here, both [g] and [d] are voiced, so there is no voicing assimilation.
 - 2. Place Assimilation:
 - When the place of articulation of 2 sounds becomes similar, because they are next to each other.
 - Consider the prefix "In".
 - <u>In + Complete:</u> The pronunciation is [Iŋk...] Here, [k] is velar, which makes [n] velar, too. This is an example of place assimilation.

 $[n] \rightarrow [n].$

2. <u>In + Tolerable:</u> Here, both [n] and [t] are alveolar, so everything stays the same.

- In + Possible: The pronunciation is [Imp...]. Here, [p] is bilabial, which makes [n] bilabial, too. This is an example of place assimilation.
 - $[n] \rightarrow [m].$
- 3. Manner Assimilation:
- Least common type of assimilation.
- Types of Manner Assimilation:
 - 1. Nasalization:
 - When vowels are immediately followed by nasals, the nasal affects the pronunciation of the vowel and the vowel becomes nasalized.
 - This means that when pronouncing the vowel, part of the air flows through the nose.
 - Regressive in English, but progressive in Scottish Gaelic.
 - To show that a vowel is nasalized, we put ~ on top of the vowel.
 - E.g. Gone: [gan]; E.g. Bond: [bond]
 - 2. Flapping:
 - Occurs when an alveolar stop turns into a flap [r].
 - In North American English, when [t] and [d] occur between vowels, they usually sound like a flap [r].
 - The flap/tap is produced when the tongue tip strikes the alveolar ridge, as it passes across it.
 - Recall that [r] is a continuant, so this is assimilation because the stop becomes weakened between vowels.
 - E.g. bitter [bɪrər]; rider [rajrər]

5. Dissimilation:

- Opposite of assimilation. Two sounds become less similar.
- E.g. If both sounds are originally fricatives, and one of them becomes a stop.
- E.g. Consider the word "fifths."
 - Fifths: [f1f θ s] \rightarrow [flfts]
 - $[\theta]$ and [s] are fricatives, but [t] is a stop. The 2 sounds become less similar.
- There are 2 types of dissimilation.
 - 1. <u>Deletion:</u>
 - This process removes a segment from a word. This often occurs in rapid speech.
 - The Schwa, [ə], is often deleted in English. Schwa usually gets deleted before liquids and nasals.
 - Vowels get deleted before liquids or nasals.
 - E.g. suppose: $[s \Rightarrow powz] \rightarrow [spowz]$.
 - Difficult consonant clusters are also often deleted in English. E.g. fifths: [f1fθs] → [f1fs]
 - 2. Epenthesis/Insertion:
 - Inserts a segment within the existing string of segments to make it easier to articulate the word. Opposite of deletion.
 - E.g. Hamster: [hæmstər] \rightarrow [hæmpstər]

6. Metathesis:

- Reorders a sequence of segments to make a sequence easier to articulate.
- E.g. Prescribe being pronounced as perscribe.

7. Aspiration:

- Consider the words "peak", "pin", "car", "cat", "took". If you put your hand in front of your mouth when you are speaking, you will feel a puff of air. This puff of air is known as **aspiration**.
- At the beginning of a stressed syllable, if a voiceless stop is immediately followed by a vowel, the voiceless stop becomes aspirated. This is why the word "speak" is not aspirated.
- Sounds are NOT aspirated at the end of words.
- Note: The voiceless stop does NOT have to be the first sound.
 The word "upon" is aspirated even though [p] is not the very first sound.
- To show aspiration, we write a superscript h after the aspirated sound.
- E.g. top: [thap]
- If aspirated stops occur next to liquids and glides, coarticulation tends to affect the voicing of the said liquids and glides (devoicing).

8. Canada Raising:

- In Canadian English, the diphthong /aj/ is pronounced as [ʌj] before voiceless consonants and [aj] elsewhere. Since [ʌ] is higher than [a], this characteristic is known as Canadian Raising.
- In Canadian English, the diphthong /aw/ is pronounced as [ʌw] before voiceless consonants and [aw] elsewhere. Since [ʌ] is higher than [a], this characteristic is known as Canadian Raising.
- E.g. rice [rʌjs]; right [rʌjt]; flight [flʌjt]

9. Phonemes:

- Abstract sounds that exist in the head of native speakers.
- Denoted by "//." E.g. /i/.
- E.g. In "book', there are 3 phonemes and the combination is stored in our mental lexicon.
- Once a phoneme is pronounced, it becomes physical and becomes an allophone. Allophone is another word for pronunciation or realization.
 I.e. Once you pronounce a sound, it becomes physical and an allophone.
- Consider aspirations. In our mental lexicon, the phoneme /p/ is stored.
 However, p has 2 pronunciations, [p] and [p^h]. They are allophones.
- Consider nasalization. In our mental lexicon, the phoneme /æ/ is stored.
 However, /æ/ has 2 pronunciations, [æ] and [æ]. [æ] and [æ] are allophones.
- We say that an allophone is predictable if there is a specific rule to when that sound is produced. Usually, predictable allophones have a limited environment. Aspiration and nasalization are predictable. We say that the other allophone is elsewhere because it has a wider environment.
- E.g. $[\tilde{a}]$ is predictable and [a] is elsewhere.
- When two sounds occur in different environments (i.e. cannot occur in the same environment), they are said to be in **complementary distribution**.
- E.g. [p^h] and [p] are complementary.

- **Phonetic transcriptions** are the actual sounds you hear. This includes the processes.
- **Phonemic transcriptions** are the abstract sounds that exist in the head of native speakers.
- E.g. Consider the word peak.
 /pik/ is the phonemic transcription.
 [p^hik] is the phonetic transcription.

10. Sonorant/Obstruent Sounds:

- Vowels, glides, liquids, and nasals are **sonorant sounds**.
- A **sonorant** is a voiced speech sound produced with an air flow that is neither interrupted nor turbulent. I.e. The air flows easily.
- Sonorous sounds are usually louder.
- Vowels are the most sonorous. Because of this, usually consonants are formed around vowels.
- In a syllable, the vowel is the peak (center) of the syllable. This is why the number of syllables equals the number of vowels.

I.e. If there are 4 vowels in a word, then there are 4 syllables.

- Note: Not every syllable will have both vowels and consonants.
 E.g. In the word "Upon" the first syllable is U, a vowel and there are no consonants.
- Stops, fricatives, affricates are **obstruent sounds**.
- An **obstruent** is a speech **sound** that is formed by obstructing airflow.
- All obstruents are consonants, but sonorants include both vowels and consonants.
- Obstruents are the least sonorant sounds. Their sonorous capacity allows vowels, as well as glides, liquids and nasals, to support segment groups, that is to form the peak of syllables.
- Here is a list of sounds from the most sonorous (vowels) to the least sonorous (obstruents).

Vowels > Glides > Liquids > Nasals > Stops, Fricatives, Affricates

11. Syllables:

- Syllables are groups of segments with internal organization.
- If you're a native speaker of a language, based on your intuition, you can tell how many syllables are in a certain word.
- We can show the internal structure of a syllable using a diagram (tree).
- The structure of a syllable tree.



- **Onset**, denoted by O, is the initial consonants.
- **Rhyme**, denoted by R, is the nucleus plus the code.
 - Nucleus, denoted by N, is the vowels.
 - **Coda**, denoted by C, is the consonants that come after the nucleus.
- Note: Never write out the full word in the tree. Write its shortened form.
- Note: The diagram shown above is only for 1 syllable. We need to draw a tree for every syllable a word has. I.e. If a word has 5 syllables, we need to draw 5 of those trees.
- All languages have syllables.
- In all languages syllable structure is subject to constraints.
- Universal tendencies are observable:
 - 1. Syllable nuclei usually consists of one vowel.
 - 2. Syllables usually begin with onsets.
 - 3. Syllables often end with codas.
 - 4. Onsets and codas usually consist of one consonant.
- E.g. Draw the syllable tree for the word upon.
 - **Step 1:** Write out the phonemic transcription of the word.

The phonemic transcription of upon is /əpan/.

Step 2: Count the number of syllables in the word.

In upon, there are 2 syllables.

Step 3: Show the syllables in the word. We use a dot, •, to show separation between syllables. The dot is called the syllable boundary. It shows where a syllable ends and where a syllable starts.

/ə•pan/

Step 4: Draw all of the trees. The very first step after you draw out the basic structure of the tree is to write out the nucleus.

Since upon has 2 syllables, we need to draw 2 trees.

Step 5: Connect all the trees at the top, and write <u>wd</u>. This means that the syllables form a word.

- Examples:



- Sometimes, the schwa, or another vowel gets deleted. Then, non-vowel sonorants, like liquids and nasals take over the vowel. In that case, in the tree diagram, you must be a dash above and after the item that took over the vowel. We call the item that took over the vowel syllabic. Note, we don't have to delete the schwa.
- E.g. Compare the word 'kitten' in slow and fast speech: [kirən] and [kirn.].
 Notice that the vowel in the final syllable is deleted, forcing the final nasal stop

[n] to become syllabified. I.e. Become the nucleus or the most sonorous element of the syllable.

12. Maximize Onset Principle (MOP):

- Onsets can be as large as possible.
- If there is a consonant in the coda of a syllable that can be moved to the onset of the next syllable, we have to move the consonant to the onset of the next syllable. This means that the if we move the consonant to the next syllable, it is a possible syllable.
- E.g. Consider the word explain:
 We can have either /lk•sple(j)n/ or /lks•ple(j)n/. However, by MOP, /lk•sple(j)n/ is the version that we will use for the tree diagram.
- **Consonant cluster** is when there is more than 1 consonant next to each other.

13. Phonotactics:

- The set of constraints on how sequences of segments pattern, and which forms part of the speaker's knowledge of her native language phonology.
- In English, onsets are allowed to contain more than one consonant.
 Nevertheless, there are very strict phonotactic constraints on the shapes of English onsets.
- If an onset in English contains three consonants, the structure is the following:
 - 1. The first segment is always [s].
 - 2. The second segment is always a voiceless stop.
 - 3. The third segment is either a liquid or a glide.
- The sound pattern can be formally represented in this way:



- The consonant combinations allowed in English onsets are not random.
- They are dependent on:
 - 1. The manners of articulation of the consonants.
 - 2. The position of the sonorant consonants (liquids and glides) being closer to the nucleus than that of stops and fricatives.

Consonants Chart

| Consonants | Voicing | Place | Manner | Sound |
|--------------|-----------|--------------------------------------|----------------------------------|--------------------------------------|
| [p] | Voiceless | Bilabial | Oral stop | <mark>p</mark> an |
| [b] | Voiced | Bilabial | Oral stop | ban |
| [m] | Voiced | Bilabial | Nasal stop | man |
| [w] | Voiced | Bilabial and Velar (Velar-Labial) | Oral glide | weep |
| [M] | Voiceless | Bilabial and Velar (Velar-Labial) | Oral glide | This sound is not common in English. |
| [f] | Voiceless | Labiodental | Oral fricative | fan |
| [v] | Voiced | Labiodental | Oral fricative | van |
| [θ] | Voiceless | Interdental | Oral fricative (Non-strident) | three |
| [ð] | Voiced | Interdental | Oral fricative (Non-strident) | this |
| [t] | Voiceless | Alveolar | Oral stop | tan |
| [d] | Voiced | Alveolar | Oral stop | <mark>d</mark> an |
| [n] | Voiced | Alveolar | Nasal stop | bea <mark>n</mark> |
| [s] | Voiceless | Alveolar | Oral fricative (Strident) | sap |
| [z] | Voiced | Alveolar | Oral fricative (Strident) | zap |
| [] | Voiced | Alveolar | Oral lateral liquid | Іар |

| [r] | Voiced | Alveolar | Oral retroflex liquid | rap |
|--------------|-----------|---------------|------------------------------|---------------|
| []] | Voiceless | Alveo-palatal | Oral fricative (Strident) | shone |
| [3] | Voiced | Alveo-palatal | Oral fricative (Strident) | vision |
| [t] | Voiceless | Alveo-palatal | Oral affricate (Strident) | ch eap |
| [႖ၟ] | Voiced | Alveo-palatal | Oral affricate (Strident) | jeep |
| [j] | Voiced | Palatal | Oral glide | yes |
| [k] | Voiceless | Velar | Oral stop | can |
| [g] | Voiced | Velar | Oral stop | gone |
| [ŋ] | Voiced | Velar | Nasal stop | being |
| ? | Voiceless | Glottal | Oral stop | uh-oh |
| [h] | Voiceless | Glottal | Oral fricative | hat |

Vowels Chart

- These are simple vowels.

| Vowels | Height | Backness | Roundness | Tenseness | Sound |
|--------------|--------|----------|-----------|-----------|-----------------------|
| [i] | High | Front | Unrounded | Tense | sh <mark>ee</mark> p |
| [u] | High | Back | Rounded | Tense | p <mark>oo</mark> l |
| [I] | High | Front | Unrounded | Lax | ship |
| [ប] | High | Back | Rounded | Lax | pull |
| [ə] | Mid | Central | Unrounded | Lax | fam <mark>ou</mark> s |
| [3] | Mid | Front | Unrounded | Lax | b <mark>e</mark> t |
| [\] | Mid | Central | Unrounded | Lax | but |
| [æ] | Low | Front | Unrounded | Lax | b a t |
| [a] | Low | Back | Unrounded | Tense | sp <mark>a</mark> |
| Э | Mid | Back | Rounded | Lax | more |

- These are diphthongs.
 The first 2, [o] and [e] are minor diphthongs. The rest are major diphthongs.

| [o] or [ow] | Mid | Back | Rounded | Tense | boat |
|-------------------|-----|---------|-----------|-------|---------------------|
| [e] [ej] | Mid | Front | Unrounded | Tense | b <mark>ai</mark> t |
| [oj] | Mid | Back | Rounded | Tense | b <mark>oy</mark> |
| [aj] | Low | Central | Unrounded | Tense | b uy |
| [aw] | Low | Central | Unrounded | Tense | how |