

Linguistics Basics

Linguistics:

- Linguistics is the scientific study of **language**. Linguists apply the scientific method to conduct formal studies of **speech sounds** and **gestures, grammatical structures**, and **meaning** across all the languages. [\[Ref\]](#)
- It entails a comprehensive, systematic, objective, and precise analysis of all aspects of **language**, particularly its nature and structure. It traditionally encompasses **semantics, syntax**, and **phonology**. [\[Ref\]](#)

Language: [\[Ref: Chapter 3.1, 4.2\]](#)

- A language is a **structured system of communication**. The structure of a language is its grammar, and vocabulary.
- A language organizes the flow of speech within structured patterns.
- A human language selects from the **human articulatory potential** and systemizes that selection. "Speakers operate within the limits of such selection and systemization". Hence, language influences are prominent when learning another language.
 - "v" vs "bh" difficulties
 - Consonant cluster difficulties
 - "Voiced" vs "Unvoiced" variabilities.
 - "sh" vs "zh" and "s" vs "z"
 - "w" vs "v" difficulties
- Though there are limitations on speech sounds, the individual makes the sense considering following cues.
 - **Context-sensitive or dependent information**.
- Units of a language are determined in **relation with structure and system** of the particular language.
 - Across the language the units may be comparable.
 - Obtaining units a challenging task: need to **segment the connected speech** into chain of sounds.
 - Units of written and spoken system are different and they **do not have exact analogy between them**.
 - Speech units should have clear discrimination in the **acoustic and articulatory realization**.

Speech Sound/Phoneme: [\[Ref: Chapter 2.2\]](#)

- Represents certain **gross characteristics of speech sounds** that are adequate for description and classification of words in vocabulary of the targeted language.
- Represent the subset of phonetic phenomena that are crucial for meaning.
- **Phoneme** is used to denote any of the minimal units of speech sound in a language that can serve to distinguish one word from another.
- Phoneme is symbolized resemblance with English letter.
 - Ex: /b/, /p/, /ah/, etc.
- **Phone** is an **acoustic realization** of a phoneme.

- Ex: English phoneme /t/ have two very different acoustic realizations in the words “sat” and “meter”.
- The set of phonemes will differ in realization (i.e. Phones) across individual speakers, but maintain the function of word discriminability. Ex: Pat vs Bat.
- **Allophone:** **Coarticulation** causes perceptual variations to the phoneme. These variations are categorical. Modified phonemes **due to the coarticulation** is called allophones.
 - The variations can be represented with small set of symbols or diacritics on the basic phoneme symbols.
 - Ex: Pin vs Spin; bat vs bad.
 - Coarticulation is the process by which the neighboring sounds influence one another.

Phonology: [\[Ref: Chapter 2.2\]](#) is the study of the distribution and patterning of speech sounds in a language and of the tacit rules governing pronunciation.

- Consonant clusters
- Reasons for the above examples such as “v” vs “bh” etc.

Phonetics: [\[Ref: Chapter 2.2\]](#) refers to the study of speech sounds and their production, classification, and transcription.

Syllable: [\[Ref: Chapter 2.3\]](#) These typically centered around the vowels, often referred to as syllable center or syllable nuclei. These can be thought as peaks in amplitude and strong formant structures.

- Phonemes may not be contributed towards language meaning.
- Ex: tomcat-tOm . cAt;
- A big syllable in English: “strengths”.

Words: [\[Ref: Chapter 2.3\]](#) It is a lexical item.

- Associated with Parts-of-Speech tags.
- Parts-of-Speech are based on traditional grammatical structures and lexical items in the language.

Syntax: [\[Ref: Chapter 2.4\]](#) is the study of the patterns of formation of sentences and phrases from words and the rules for the formation of grammatical sentences.

- Syntactic constituents represent the way a sentence can be divided into its grammatical subparts as constrained by common grammatical patterns.

Semantics: [\[Ref: Chapter 2.4\]](#) is dealing with the study of meaning, including the ways meaning is structured in language and changes in meaning and form over time.

- It provides a vocabulary for us to answer the basic question who did what to whom.
- The theory of semantic roles posits a limited number of universal roles.
- **Lexical semantics:** The specification of particular meaning templates for individual senses of particular words.
 - Ex: Crow – Bird