

Formal Foundations of Linguistics (Linguistics 680)

Basic Facts about Linguistics

- Linguistics is the **scientific study of human language**. Thus it tries to formulate **empirical hypotheses** about language, i.e. general statements which:
 - a. are consistent with observed phenomena (**data**);
 - b. make correct predictions about as-yet unobserved phenomena; and
 - c. are as simple and understandable as possible.

Linguists often refer to this enterprise as “capturing linguistic generalizations.”

- Thus linguistics is **descriptive**, not **prescriptive**. Like biologists or physicists, linguists are concerned with uncovering the systematicity of certain natural phenomena, not with dictating literary stylistic norms or standards of correctness for effective oral expression.
- Linguists seek to understand the nature of human linguistic **competence**, the system of knowledge possessed by a member of a speech community that enables him/her to use the language of that community for communication. One usage of the term **grammar** refers to this system (also called **mental grammar**).
- Another usage of the term **grammar** refers to a linguist’s attempt to write down (or embody in a computer program) a precise **description** of this system (or part of it). A grammar in this sense, also called a **linguist’s grammar**, is a **scientific theory** of what a particular system of linguistic competence is like.
- Linguists are concerned with trying to (a) provide as complete descriptions as possible of **particular** languages, and (b) determine what is **universal** (shared by all languages). Ideally, they would like to have a general theory that predicts the range of what is **possible** in human language.
- Competence has to be distinguished from **performance**, which consists of actual utterances of linguistic expressions, complete with mistakes, false starts, interruptions, hesitation, drunken slurring, etc.
- The chief data of linguistics is judgments of grammaticality of native speakers. Although (especially with the advent of large on-line corpora and the Internet) written data is increasingly taken into consideration, linguists still regard spoken language as primary because:
 - Historically, writing emerged later (Sumer, c. 4000 B.C.);
 - Not all languages are written;

- Many normal speakers are illiterate;
 - Writing but not speaking must be explicitly taught.
 - Writing has been shown to employ parts of the brain not employed in speaking.
- Most linguists include their own grammaticality judgments among the data they consider. This is a convenience not enjoyed by other branches of science; but it has to be balanced against the risk involved (since the linguist often has a personal stake in which way a judgment falls).
 - Because of the overwhelming complexity of human language, most linguists specialize in just one or two linguistic **subdisciplines**, including (but by no means limited to) the following:
 - **Phonetics** is concerned with **phones** (human speech sounds): how they are produced (**articulatory** phonetics), the physical nature of the signal produced (**acoustic** phonetics), and how they are perceived (**auditory** phonetics).
 - **Phonology** deals with the part of competence having to do with the **patterning** of phones (both in particular languages and languages in general).
 - **Morphology** studies the part of competence responsible for the formation of **words**.
 - **Syntax** is concerned with the part of competence that governs how words are combined to form **phrases** (larger meaningful expressions).
 - **Semantics** is about the part of competence having to do with the **meanings** of linguistic expressions.
 - **Pragmatics** studies the part of competence concerned with language **use** and how the interpretation of linguistic expressions depends on the **utterance context**.
 - **Sociolinguistics** deals with **language as a social phenomenon**, including the ways that specific languages **vary** across different social groups and within social groups across different kinds of speech situations, and how distinct **languages in contact** influence each other.
 - **Historical Linguistics** is concerned with the principles that govern how languages **change over time**, and with the **reconstruction** of early languages.
 - **Psycholinguistics** is an experimental science concerned with the **acquisition, representation, and processing** of language by/in the brain.
 - **Computational Linguistics** is concerned with the construction of **computer-based models** of how humans acquire, represent, and process language; and with the development of computer programs to automate tasks involving the manipulation of speech and/or text.