

## What Is Linguistics?

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Linguistics is the study of language. Knowledge of linguistics, however, is different from knowledge of a language. Just as a person is able to drive a car without understanding the inner workings of the engine, so, too, can a speaker use a language without any conscious knowledge of its internal structure. Conversely, a linguist can know and understand the internal structure of a language without actually speaking it.

A linguist, then, is not an individual who speaks more than one language, more accurately called *polyglot* or *bilingual* or *multilingual*. Rather, a linguist is concerned with language as a human phenomenon. Linguists study grammar, the social and psychological aspects of language use, and the relationships among languages, both historical and present-day. The field of linguistics, like any complex field, includes several major divisions.

### Formal Linguistics

Formal linguistics is the study of the structures and processes of language, that is, how language works and is organized. Formal linguists study the structures of different languages, and by identifying and studying the elements common among them, seek to discover the most efficient way to describe language in general.

There are three main schools of thought in formal linguistics:

1. The *traditional*, or *prescriptive*, approach to grammar is probably familiar to most of us. It is what we are usually taught in school. "A noun is a person, place, or thing" is a typical definition in a traditional grammar. Such grammars typically prescribe rules of correct or preferred usage.
2. *Structural linguistics*, a principally American phenomenon of the mid-20th century, is typified by the work of Leonard Bloomfield, who drew on ideas of the behaviorist school of psychology. Structuralists are primarily concerned with phonology, morphology, and syntax (described below). They focus on the physical features of utterances with little regard for meaning or lexicon (Crystal, 1980). They divide words into form classes distinguished according to grammatical features. For example, a noun is defined in terms of its position in a sentence and its inflections, such as the -s for plural.

3. The *generative/transformational* approach to the study of grammar was introduced by Noam Chomsky in 1957 in his seminal work, *Syntactic Structures*. Here he traced a relationship between the "deep structure" of sentences (what is in the mind) and their "surface structure" (what is spoken or written). For example, the surface structure of the sentence, "The postman was bitten by the dog," was derived from the deep structure, "The dog bit the postman," through the application of a passive transformation. From transformational/generative grammar arose the theory of Universal Grammar. This widely accepted theory starts from the perception that all languages share certain linguistic features (universals). The goal of this theory is to explain the uniformity of language acquisition among humans despite ostensible differences in their native languages. Since Chomsky's original proposals in 1957, numerous elaborations and alternative theories have been proposed.

Formal linguistics includes five principal areas of study:

1. **Phonetics** is the study of the sounds of language and their physical properties. Phonetics describes how speech sounds are produced by the vocal apparatus (the lungs, vocal cords, tongue, teeth, etc.) and provides a framework for their classification.
2. **Phonology** involves analyzing how sounds function in a given language or dialect. For example, /p/ has two possible sounds in English depending on its position in a word. If you place a sheet of paper near your mouth and pronounce the words *pin* and *spin*, the paper will vibrate after the /p/ in the first word but not after the same sound in the second word. This puff of air occurs when /p/ is in the initial position of a word in English. Phonologists examine such phonetic shifts to construct theories about linguistic sounds in one language that can be used in comparing linguistic systems. The analysis of sounds in different languages can be very useful for foreign language teachers.
3. **Morphology** is the study of the structure of words. Morphologists study minimal units of meaning, called *morphemes*, and investigate the possible combinations of these units in a language to form words. For example, the word "imperfections" is composed of four morphemes: *im* + *perfect* + *ion* + *s*. The root, *perfect*, is transformed from an adjective into a noun by the addition of *ion*, made negative with *im*, and pluralized by *s*.
4. **Syntax** is the study of the structure of sentences. Syntacticians describe how words combine into phrases and clauses and how these combine to form sentences. For example, "I found a coin yesterday" is embedded as a relative clause in the sentence, "The coin that I found yesterday is quite valuable." Syntacticians describe the rules for converting the first sentence into the second.
5. **Semantics** is the study of meaning in language. The goal of semantic study is to explain how sequences of language are matched with their proper meanings and placed in certain environments by speakers of the language. The importance of meaning is revealed in the following well known example from Chomsky (1957): "Colorless green ideas sleep furiously." Though grammatical, this sentence is largely meaningless in ordinary usage.

## Sociolinguistics

Sociolinguistics is the study of language as a social and cultural phenomenon. The major divisions within the field of sociolinguistics are described below.

**Language Variation** describes the relationship between the use of linguistic forms and factors such as geography, social class, ethnic group, age, sex, occupation, function, or style. The combination of these various factors results in an individual's *idiolect*, that is, their particular and idiosyncratic manner of speech. When a variety of language is shared by a group of speakers, it is known as a *dialect*. A dialect, whether standard or nonstandard, includes the full range of elements used to produce speech: pronunciation, grammar, and interactive features. In this respect, dialect should be distinguished from accent, which usually refers only to pronunciation.

All speakers of a language speak a dialect of that language. For example, the speech of an Alabaman is quite different from that of a New Englander, even though the language spoken by both is English. Further differentiation is possible by investigating factors such as social class, age, sex, and occupation.

**Language and Social Interaction.** This is the province of language and its function in the real world.

Three subfields of sociolinguistics investigate this relationship.

1. **Pragmatics** looks at how context affects meaning. As a function of context, the intended meaning of an utterance is often different from its literal meaning. For example, "I'm expecting a phone call" can have a variety of meanings. It could be a request to leave the phone line free or a reason for not being able to leave the house; or it could suggest to a listener who already has background information that a specific person is about to call to convey good or bad news.
2. **Discourse analysis** examines the way in which sentences relate in larger linguistic units, such as conversational exchanges or written texts. Matters of cohesion (the relationship between linguistic forms and propositions) and coherence (the relationship between speech acts) are also investigated. The links between utterances in sequence are important topics of analysis.
3. **Ethnography of communication** uses the tools of anthropology to study verbal interaction in its social setting. One example of ethnographic research is the study of doctor-patient communication. Such study involves microanalysis of doctor-patient interaction, noting not only what is said but also pauses between turns, interruptions, questioning and response patterns, changes in pitch, and nonverbal aspects of interaction, such as eye contact.

**Language Attitudes.** The attitudes people hold toward different language varieties and the people who speak them are important to sociolinguists. Whereas studies in language and social interaction investigate actual language interaction, language attitude studies explore how people react to language interactions and how they evaluate others based on the language behavior they observe.

**Language Planning** is the process of implementing major decisions regarding which languages should be used on a societal scale. Language attitude studies are an essential component of language planning. In the United States, issues such as establishing bilingual education programs or whether to declare English the official language are major language planning decisions.

It is in multilingual nations, however, that language planning is most significant. Governments must decide which of a country's many languages to develop or maintain and which to use for such functions as education, government, television, and the press. *Corpus* planning involves the development or simplification of writing systems, dictionaries, and grammars for indigenous languages, in addition to the coining of words to represent new concepts. In such contexts, language planning is an important factor in economic, political, and social development.

### **Psycholinguistics**

Psycholinguistics is the study of the relationship between linguistic and psychological behavior. Psycholinguists study first and second language acquisition and how humans store and retrieve linguistic information, referred to as *verbal processing*.

**Language Acquisition.** The study of how humans acquire language begins with the study of child language acquisition. Principally, two hypotheses have been put forth. The first, deriving from the structuralist school of linguistics, holds that children learn language through imitation and positive-negative reinforcement. This is known as the behaviorist approach. The second, or innateness hypothesis, proposes that the ability to acquire language is a biologically innate capacity. Furthermore, innate language learning ability is linked to physiological maturation and may atrophy around the time of puberty. The innateness hypothesis derives from the generative/transformational school of linguistics.

Such descriptions of language acquisition are further tested in exploring how adults acquire language. It appears that most adults learn language through memorization and positive-negative reinforcement: a manifestation of the behaviorist model. Whether this is a result of the post-pubescent decay of the innate ability described above or a result of other psychological and cultural factors is a question of great interest to the psycholinguist.

**Verbal Processing** involves speaking, understanding, reading, and writing, and therefore includes both the production of verbal output and reception of the output of others. For example, although the sentences of a language may theoretically be infinitely long, there are constraints placed on their length, as well as on their structural characteristics, by our processing capabilities. Although we readily comprehend "The dog bit the cat that chased the mouse that ran into the hole," we have some difficulty sorting out "The mouse the cat the dog bit chased ran into the hole." Why this is so, in terms of cognition, perception, and physiology, is of major interest to the psycholinguist.

### **Applied Linguistics**

The findings of linguistics, like the findings of any other theoretical study, can be applied to the solution of practical problems, as well as to innovations in everyday areas involving language. This is the mandate of applied linguistics.

Applied linguists draw from theories of language acquisition to develop first and second language teaching methodologies and to implement successful literacy programs; they may draw from theories of sociolinguistics to develop special teaching strategies for speakers of nonstandard English. Applied linguists may also engage in language planning by developing alphabets and grammars for unwritten languages and by writing dictionaries. They are sometimes asked to be expert witnesses in legal cases involving language. Computer corporations employ applied linguists to examine speech synthesis and speech recognition by automated machines. In short, applied linguists apply the theories and tools of formal linguistics, sociolinguistics, and psycholinguistics in a wide variety of socially useful ways.

### **For Further Reading**

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