

K. AARON SMITH

LINGUISTICS

A Functionalist Introduction



Linguistics

Linguistics: A Functionalist Introduction is a concise, accessible guide to the fundamentals of language and expression for students that are new to the subject.

Unlike other introductions, this book uses a functionalist framework that reflects the way language users form, derive and change meaning in a holistic way: not just through the technical construction of sentences but from how language is experienced, used, stored and processed in the mind. Beginning by introducing the concept of linguistics and different approaches to the subject, the book progresses to introducing the building blocks of language, with chapters on phonetics, phonology, morphology, syntax and semantics. The scope then broadens out to examine language in context and use, including language change, writing systems, sociolinguistics, psycholinguistics and language acquisition. Each chapter is enriched with examples to aid learning.

This textbook is an ideal choice for students or instructors looking for a more intuitive approach to learning the fundamentals of linguistics, and is ideal for introductory linguistics classes within a variety of programs, including and especially future language arts teachers.

K. Aaron Smith has been a professor of linguistics and Latin at Illinois State University for 21 years. He authored several articles and book chapters on language change and grammaticalization, and is the author of *A New Form-Function Grammar of English*, as well as co-author with Susan M. Kim of *This Language, A River: A History of English*.



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Linguistics

A Functionalist Introduction

K. Aaron Smith

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Preface

This is an introduction to linguistics. Preparing an introduction to a field as vast as linguistics is daunting, to say the least, and I don't think anyone could ever feel that they have covered as much as they could or should e.g. signed languages. Guiding me in the preparation of this introduction, however, has been a desire to put out a new kind of introduction based on functionalist and usage-based theories and studies, although I have also recognized the need for students to understand some of the traditional concepts of language and linguistics too.

The book is based on my having taught many courses on the introduction to linguistics, first as a teaching assistant at the University of New Mexico and then as a faculty member at Illinois State University. This introduction attempts to present a body of information in the field of linguistics that can be comfortably treated in a 16-week semester undergraduate course. After completing this book, a student should be well prepared to go on to more advanced study in linguistics.

I have benefited greatly from great teachers: Joan Bybee, Margaret Winters, Geoffrey Nathan, S. Lee Hartman and many others, too many to name. I have also been fortunate to have many, many wonderful students during my career. Much inspiration for my work in linguistics writing and teaching has come from colleagues. Here I would like to thank Susan M. Kim and Dawn Nordquist especially.

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1 Introduction

Linguistics: The Scientific Study of Language

Virtually every student of an introduction to linguistics course has learned the definition: “Linguistics is the scientific study of language.” But what does that mean? By identifying linguistics as a science we are saying that it employs the scientific method for the discovery of knowledge about human language(s). You may remember that the scientific method involves the steps:

Observation → Background Research → Hypothesis → Test (data collection) → Analysis of data → Conclusion

Let’s consider how this might work for an actual linguistic problem. Let’s say that I notice younger people use *slayed* as the past tense for *slay*, instead of *slew*. It might lead me to suspect that the irregular past tense form of the verb is being replaced by a regular form. Next, I would turn to research what others have carried out on verb regularization, from which I would find out that irregular past tense verb forms have been being replaced by regular forms for the entire history of English. This would lead me to observe more closely the kinds of verbs that have become regular and the kinds that have not. My hypothesis then might be that it is more likely that a verb of high frequency would resist regularization and that verbs of lower frequency would be more likely to regularize. Now I need to test that hypothesis.

In fact, this inquiry was carried out in a study by Bybee (1985:119–120). In her study, she looked at verbs that showed regularization and compared them to verbs that did not, and, using a frequency list, she was able to show that verbs of high frequency resisted regularization. However, it is also clear that other factors come into play besides frequency, and those factors would give rise to other hypotheses and experiments, which we will discuss in later chapters.

While the example here shows a relatively circumscribed hypothesis, observation and analysis, such studies inform larger theoretical questions about the nature of human language. We might note that the data reported about the regularization of verbs point to a mental representation of language that is derived from domain general principles. That is, language in the mind interacts with other cognitive activities, in this case something like memory. Irregularities among frequent forms are, in some sense, remembered better and that is why high-frequency irregular verbs, among them the verb BE, do not regularize at the same rate or perhaps even at all.

Functionalist Approaches to Linguistics¹

This book is a functionalist introduction to linguistics and the example of the linguistic method just described showcases a few important matters of that approach to language study. Functionalism generally attempts to explain the nature of human language by understanding certain aspects of

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language behavior in light of the uses to which language is put. Such an approach may obviously seem desirable, but it has not always been the case in the history of linguistics. Many dominant schools of language study have focused on describing the structure of language, often with little or no mention of the uses of language, including meaning. Such approaches have instead been more interested in writing out a set of rules that will generate the legitimate forms of a language. (It will be discussed in more detail below that “rules” and “legitimacy” of forms in language are quite different concepts in linguistic study from the way that most people think about such terms.) Functionalist linguistics, instead, observes a linguistic pattern and then attempts to explain it. Explanation, then, may include factors from many different domains: language internal pressures on forms, interaction with other cognitive domains, social context of language, among others.

At this point, we will review some of the theoretical positions of functional linguistics that distinguish it from other approaches.

1. One important aspect of functionalist linguistic theory has already been mentioned. Language is believed to derive from domain general principles. In dominant models of language for the most part of the 20th and into the 21st centuries, language in the mind (perhaps brain too) has been viewed as a *sui generis* entity, that is, a thing unique unto itself. In fact, terms such as “language faculty” and “language acquisition device” give the impression of a “language organ” in the human mind (and possibly brain). In contradistinction to this view, functionalists take many aspects of language to fall out from cognition generally. This view then explains why language change, like regularization of irregular verbs, resembles other types of memory and categorization tasks. So in the same way that we don’t forget people’s names in the case that we frequently interact with those people (and vice versa—we forget the names of people we meet only once or twice), we don’t forget the irregular forms of verbs that we frequently encounter in use. Other domain general functions of cognition include categorization and pattern seeking and we will discuss these functions in other parts of the book.
2. Much work in modern linguistics has sought to articulate a universal grammar, inherited by every member of the human species at birth (this is one of the ways that the term “language organ” discussed in the last chapter makes sense). It is uncontroversial that humans are evolutionarily “geared” for language, and this proclivity is nowhere more obvious than in first language acquisition. The relative uniformity of the timing and stages of acquisition among children, regardless of culture or language, along with the seeming ease with which children acquire language, makes it clear that there is some degree of “instinct” about language in humans. However, language emerges in the mind of a child along with and in some cases because of the maturation of cognition more generally. That is not to say that functionalists have not been interested in universals. A strong tradition of looking at the similarities across languages in a more functionalist framework has existed since at least the 1960s. But instead of seeking to write out the rules that characterize the universal grammar supposed to be in every child’s mind at birth, functionalist-focused universals research has attempted to motivate or explain the similarities found among languages, which exist because of the same or very similar uses to which every human puts language for purposes of communication.
3. Linguists typically like linguistics because they are attracted to descriptions of the structure of language, but some very influential schools of linguistics have taken the focus on structure to the extreme such that they hardly consider the meaning of language at all. On the other hand, meaning is central in functionalist theories and is often evoked for explanation. Consider, for example, a sentence like, *Zach is going to send us an email*. The verb *go* in this sentence doesn’t really mean “go” in the sense that we are not really interested in whether Zach’s body will move forward in space to send the email—he may or may not. What we are interested in is making a future predication about what Zach will do.

Go doesn't express movement, but future time. But, the fact that it is a verb *go* that has come to mean future is not accidental and there are certain aspects of the meaning of *go* as a movement verb that lends to its development into a future auxiliary verb. Note that when one moves forward in space, one also moves forward in time, necessarily. If the meaning of time comes to eclipse the meaning of movement, then we have a future marker. While the explanation in and of itself sounds correct, further support that we are onto a valid explanation is the fact that verbs meaning "go" have developed into future markers in many different and unrelated languages. For example, in the language Bari (spoken in Africa), the future is also expressed with a verb meaning "go."

Nan tu kən
I go do
"I am going to do"

(Heine and Kuteva 2002:161)

4. Several theories that arose during the course of the 20th century made a distinction between language as it exists in the mind and language as it is used in actual conversational exchange. Probably the most famous such construct was the difference between competence and performance. Adherents to that division made the argument that it was competence that should be the focus of linguistics; they, of course, never denied that one could study performance, but that such study would be something other than theoretical linguistic theory. Functionalists, however, do not separate competence and performance for theoretical purposes, and in fact, those linguists who I called functionalists earlier see a very important role in performance, or usage, in that it shapes the structure and meaning of language in the mind. For example, the same people who might offer *slayed* as the past tense of *slay*, are not surprised to hear the past tense *slew*; they also have that form stored, and might even at other times, given the right context, offer it as the past tense. How can it be that *slay* has two past tenses in the mind? The issue here is the fact that language change happens gradually, but gradualness in linguistic change is difficult to account for in formalist theories of change because a form or rule either is or isn't.

In functionalists linguistics, storage of language (which includes information both on form and on meaning) occurs in clusters of specific instances of language experience instead of being concatenated into a set of rules and derivations. Thus, the cluster that stores *slay* is associated with the past tense form of the verb which has representations of both *slayed* and *slew*. For those who have more experience with *slayed*, again probably younger speakers among whom such expressions like "I slayed that test" are more frequent, they would offer *slayed* as the past tense, only accessing *slew* when it is brought to their explicit attention. In other words, the change of the past tense of *slay* to *slayed* appears gradual and probabilistic rather than abrupt and "complete."²

Language Description and Prescription

Earlier in this chapter, linguistics was defined as the scientific study of language with the goal of discovering the nature of human language. In that section, the importance of data was stressed as a means of analyzing a given hypothesis. But, what does linguistic data look like? Obviously, the short answer to that question is "language forms." The past tense forms that we have been looking at are a good example. However, something that shocks non-linguists is that there is no requirement in linguistics that the language forms we observe be "grammatically correct" in the sense that such forms are "approved" for good writing, correct speech and the like. In fact, all linguistic forms are potential data given the specific question(s) being asked.

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Concerns with correctness constitute a prescriptive approach to language, and it has its place in education and language use. The language forms we choose affect the way our audience might accept, or reject, our language. When writing a paper for a history class, one will choose language that is correct for the activity—i.e. edited academic English. We can also think here about the fact that what is “correct” for one setting may not be correct for another. Edited academic English is mostly not appropriate for writing pop music in which genre forms like *ain’t*, multiple negation (as in *I can’t get no satisfaction*), etc., would be more “correct.”

As a science, linguistics has as its goal actual description of language, just the way it is. And, in fact, it is often by looking at language that is not regulated by grammar books and dictionaries that we find some of the most interesting things going on in a language. Consider the expression “trying to,” often pronounced and written “tryna.” While beginning as an expression meaning “attempt,” observation of its uses show that it is becoming more centered in desire/willingness (example taken from the Corpus of Contemporary American English:

This time Duane was tryna borrow the car. Dad was yelling, saying he shouldn’t be asking for shit he ain’t contribute to.

The desire meaning of tryna is obvious in so far as Duane is not attempting to borrow the car exactly but he wants to borrow the car, a desire his father is apparently not willing to fulfill.

In some other cases, tryna behaves more like a future, a use that makes good sense since desire/willingness is future-oriented; the future auxiliary “will” related to the noun “will,” as in “where there is a will, there is a way,” was a verb expressing desire in earlier English. In the example below (adapted from actual language use), *tryna* expresses the outcome or prediction of what “you” will be doing in the case that you cause trouble for the speaker.

you lie to me and you tryna get kicked out.

Prescription and Description: A Note for Future Teachers

For some, the very notion that one can think of language apart from correctness, and especially school correctness, challenges fundamentally their ingrained beliefs about language—maybe even the world—as if to say that taking a descriptive approach precludes any need for attention to correct language choice. Nothing could be further from the truth. When I am studying the evolving meanings of *tryna*, it is most appropriate for me to take a descriptive approach. As I write this book for publication, my mind needs to be on correct language choices for the genre of a textbook. In short, I employ both description and prescription in my job depending on what I am doing with language at the time. However, it is not only linguists, but teachers too need to develop a facility with the two types of language work.

Few students walk into a classroom speaking a variety of English that is identical to Standard English—whatever “Standard English” may be. Teachers, in order to be effective teachers, have to recognize not only the legitimacy of student dialects but also what the forms themselves mean. That is to say, that the task of a teacher is to start from the variety of English that the student knows and then expand that student’s knowledge of English so that the student can make the appropriate grammar/word choices based on rhetorical context and effectiveness of expression.

Language: Coming Up with a Definition

Certain questions, when presented, would seem quite simple to answer, such as the question “what is language?” However, upon trying to give a definition, the complexities of an answer become quite apparent. Defining language, in fact, is no easy task. Part of the complication has to do with

the fact that the term “language” is used by some in very broad ways, often metaphorically, as, for instance, “animal language” or “computer language.” We can begin our definition by looking at some of the unique features of human language.

Features of Human Language

1. The first feature of human language that we will discuss is **cultural transmission**. Cultural transmission refers to the fact that the specific human language(s) a person speaks is a product of the environment in which a person uses that language. So a child born to Mandarin Chinese-speaking parents will speak Mandarin Chinese. However, if that same child were adopted by German-speaking parents in infancy, that child would speak German. The child would have no genetic proclivity for learning Mandarin Chinese, or any other language.³ Thus, while it is true that humans have an “instinct” to learn a language, it is not fixed on a specific language based on genetics.

This is not true for most animals, however. There are not, as far as we know, different varieties of “cat” for cats born in different locations. Instead, cats, bats, dogs, etc., communicate with one another in truly instinctive ways. Cats the world around hiss and raise their fur when threatened, purr when content and rub against people and objects to “mark” them. However, there are some species of certain animals, like frogs and birds, that do show “dialect” differences. For example, certain frog species will show different chirping patterns depending on the locale of its group and so obviously there is something like learning going on. However, the different varieties of “frog” are nothing like the variety found among different human languages and, more importantly, research shows that a frog that has grown up in one group cannot learn the “dialect” of a different group. Humans, of course, can and do learn other languages in addition to the one they were born into.

2. Another feature of human language is **productivity**. Productivity is the feature by which human language can change. A good example of this feature would be the addition of new words into a language based on the introduction of a new object, notion, etc. For example, there was no word for “app” before such software was developed and used on computers, cell phones, etc. One can easily think of many words that have entered English based on technological innovation.

It should not be thought, however, that language change, like the addition of new words, is always due to necessity. Sometimes a new word comes into the language because speakers come up with a new cultural category, such as with the word “NOOB,” used to refer to an uninitiated participant in, usually, online gaming activities. Expressions like “green horn” existed already and could have just as easily been used to describe such initiates. Also, as we have already had a chance to observe earlier in this chapter, changes may occur over time in the grammar of a language. A good example would be that of the past tense of the verb “slay” discussed above. There was no “need” for some speakers to change the past tense from “slew” to “slayed,” and instead other kinds of “invisible” pressures led to the change. Animal communication systems may certainly change over very long periods of time, but there is no evidence of widespread sporadic change in those systems of the type so common to human languages.

3. The third feature of human languages is that of **displacement**, which refers to the ability to use language and language forms to talk about matters that are not in the here and now. For example, by adding the suffix *-ed* to the verb “live” in the sentence, “I lived on Main Street,” I am signaling to the hearer that the situation obtained in the past and not in the present moment. Similarly, if I say, “If I were a butterfly...” I am stating rather overtly (through the use of the

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verb form “were”) that I am NOT a butterfly, but only want the hearer to go along with my imagined proposition.

Animal communication systems especially seem to lack this feature. An oft-touted example of displacement in animal communication, however, has been the so-called bee-dance, a communication by scout bees to other members of their hive as to the location of a food source not in the immediate environment. Another likely example of displacement may be found in apes, who at times may fake the location of a food source by pretending to eat. When the other apes come to join in, the “lying” ape is free to go to a real food source and partake. We would want to notice, however, that in both of these instances the animals are motivated by their primary desire to get food, and that even if we were to consider these instances of displacement, they are limited and not really like the use of language by humans to talk about other worlds.

4. The fourth feature of human language is **arbitrariness**. Arbitrariness refers to the property of human language by which the form of a given linguistic expression and the meaning of that expression are not necessarily related. By “not necessarily” it is meant that there is no obvious relationship between how we say something and what it means, in the majority of cases. For an example, let us focus on the form and meaning of a word, say, *chair*. Phonetically, the word is made up of three sounds [tʃ] (you may think of this as a “ch” sound for now, but in the next chapter we will learn about phonetics and the symbols we use to represent those sounds), [ɛ] (like the “e” in “bed”) and [ɹ] (like the “r” in “red”). We also know that the meaning of the word is a four-legged piece of furniture used for sitting. But, of course, there is no natural reason that these three sounds have to have this particular meaning, other than simply convention.

The arbitrariness can easily be uncovered by considering other languages. If there were a natural relationship between these sounds or the combination of these sounds and the meaning, we would expect that to find at least some other languages in which these sounds, or ones very similar, would convey the same meaning. But as we look at a set of languages, we see that the words for “chair” are equally arbitrary.⁴

Words for Chair in Various Languages

Spanish	silla
Dutch	stoel
Mandarin	fūshǒuyǐ
Hawaiian	noho
Punjabi	kurasī

There certainly are words in languages, however, that may be more “naturally” motivated, as in the case of onomatopoeic words, an area of language analysis we might call sound symbolism. Onomatopoeia is the phenomenon by which expressions are meant to mimic their natural sounds. In English, we might think about *boom*, *splash*, *screech*, *flick*, etc., as having their origin in imitation of a sound associated with the meaning of the word. But even though the expressions may be imitative, there is something else going on. If we compare these words to those in other languages in which the words are also onomatopoeic, the language-specific basis becomes obvious.

Boom	Lettish	uzplaukums
Splash	Russian	vsplesk
Screech	Scots	sgread
Flick	Kannada	phlik

The differences between the onomatopoeic shape of these words in English and other languages may be due to sound restrictions in those languages, i.e. some sounds simply do not occur, or some imaginative layer in thinking about how the sound might be made with human words.

Another example of sound symbolism may be found in the phenomenon of phonesthemes. Phonesthemes are sounds or combinations of sounds that somehow call up a predictable and even productive form-meaning relationship. For instance, in English the sound combination of *gr-* at the beginning of a word is frequently associated with a malcontented attitude or disposition: *grouch*, *grumble*, *groan*, *gripe*, *grouse*, *grimace*, etc. As another example, words that begin with the sound combination *gl-* often have to do with light, as in *glimmer*, *glow*, *glitzy*, *gleam*, *glitter*, etc. So it's really not a big surprise that if Dr. Seuss wants to create a being so mean that he would steal Christmas from the Whos, it would be *The Grinch*. Likewise, if Frank Baum wants to create a good witch from the north who appears in bright and blinking white, her name should be *Glinda*.

On an even more abstract level, consider the following. Let's say that I find two objects in an archaeological dig. One is made of a very polished metal and it is shaped like a star with pointed spikes. The other is made of clay so that its surface is matte, and its shape is obtusely rounded. Now along with these objects, I also find a small tablet with writing that I was able to decipher well enough so that I know that one of these objects is called a "patiki" and the other "muwomba." Nearly everyone presented with such a puzzle would assign *patiki* to the shiny, sharp object and *muwomba* to the matte, rounded object. For whatever reasons, it seems that sounds like p, t, k and vowels like i make us associate notions of shiny and sharp, while m, w, b and u, o, a make us associate the opposite. While intriguing, little is known about such associations.

To return for a moment to animal communication systems, many signals are naturally explained. Cats raise their fur and hunch their backs when threatened in order to look bigger and more threatening. Many species of male birds dance around females in order to show their physical potential to produce similarly well-fit offspring. However, there are many signals among animals that we don't understand and more study may reveal more arbitrariness than we might suspect. Still, those relationships appear to be instinctual and thus "natural."

5. The final feature of human language that we will discuss is **reflexivity**. Reflexivity refers to the feature of human language to refer back to itself in a metalinguistic way. A good example of this is that I can use my language, English, to talk about the English language itself, and even other languages, which is in fact the basis of a book such as this. Thus, I may say "this sentence contains five words." Or, "In French the pronoun 'tu' is used for familiar address and 'vous' for formal address." This feature seems to be wholly lacking in animal communication systems.

The point of this section was to help us move toward a definition of language, and our review of a few of the features of human language presented here might help us to do just that. *Language is a dynamic, abstract symbolic system in the mind, learned by humans so that they may communicate with one another.* It is my belief that limiting "language" to humans is beneficial and while there is no harm in metaphorical uses of the term, we run the risk of "concept creep" and in such instances the metaphors can begin to confuse the utility of the original concept.⁵

My own sense is that the use of "language" to describe animal communication is an attempt to see something human in them, a desire as old as humans themselves. Currently, such desires may be bound up in movements toward animal equality and challenges to bio-hierarchies in which humans occupy the top position. However, if one needs to be convinced that cruelty to animals is ethically wrong, they're probably not going to listen in the first place, whether we claim that those animals have a language or not.

Chapters in This Book

This book is an introduction to the academic field of linguistics, a very broad and growing area of scientific inquiry into the nature of human language. The approach taken here, as mentioned earlier, is functionalist and a list of some of the guiding principles of that approach were given above. As with any introduction, it is not possible to cover everything of interest or importance and so the selection of topics is somewhat governed by the interests of the author. However, after studying the chapters in this book, the reader will have a solid sense of what linguistics is and the various areas of research therein.

The first several chapters deal with the terms and concepts for describing language on the levels of sounds, word forms and the order of words. After that, we will discuss topics within the study of the meaning of language and how we can discover what language means. The remaining chapters of the book give overviews of some other subdisciplines of linguistics having to do with language change (historical linguistics), sociolinguistics (how language is used in society), psycholinguistics/neurolinguistics, first language acquisition and second language acquisition.

Notes

- 1 The school of functionalism that has informed this book is that typically associated with T. Givón, J. Bybee, P. Hopper, S. Thompson, W. Croft, to name a few. Even more specifically, the type of functionalism embraced here may be called usage-based.
- 2 In fact, it isn't sure at all that *slayed* will replace *slew*. Things can happen that might drive *slew* back into vogue. Or it may be that the two will survive but take on different meanings, as, for example, between *melted* and *molten*, both past participles of the same verb originally.
- 3 This runs against some popular notions that such children “remember” the language of their birthplace or ethnic group, but, in fact, a child born to Mandarin speakers without exposure to Mandarin would find it just as difficult or easy to learn Mandarin later in life as would anyone else.
- 4 The attentive reader may notice that the word for chair in Dutch is similar to “stool” in English, “stol” in Swedish and even “stol” in Russian. Indeed, we do find similarities in the forms of words across languages, but for reasons not having to do with “natural” forces. For example, English, Dutch and Swedish are related languages and so the words for “stool” have been co-inherited from a common ancestor language (and see Chapter 9). In the case of Russian the word was borrowed, probably from German, another language related to English, Dutch and Swedish. So then of course once we start to look at the social or historical reasons for the forms of a word or other expression has, there may well be motivations for a given form, but again these reasons are not “natural” or necessary.
- 5 This is not to say that the study of computer programming or animal behavior is meaningless or silly, nor is it to claim any such aspect of their study is trivial.

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2 Phonetics

Different Approaches to Phonetics Study

Phonetics is the study of human speech sounds, but that study may be approached in different ways. One is the approach known as **acoustic phonetics**, which studies the physical properties of sounds as “waves” of alternating higher and lower air pressure. The particular form of the wave is a result of the shape of the speech organs as air is pushed out of the lungs. Another way of studying phonetics is to take an **auditory** approach by looking at the way the ear picks up and processes speech sounds. For our work, we will focus mostly on **articulatory phonetics**, which studies the way speech sounds are made in the human vocal tract.

Airstream

The initial source of energy for producing speech sounds is made with air in the lungs, and we can say that most speech sounds are made with **egressive air flow**, meaning that the air leaves from the lungs when the diaphragm is relaxed, raises and pushes the air outward. There are, however, other airstream mechanisms used for the production of sounds in the world’s languages. For example, an **ingressive velaric airstream** is used to make so-called “clicks” found in some African languages.

- [ɪ] dental
- [ɬ] alveolar lateral
- [ʈ] palatal alveolar
- [ʈʰ] post-alveolar
- [ʋ] bilabial

These click sounds are made by drawing air into the mouth as far back as the velum (or soft palate) and then releasing the built-up air pressure. Thus, the click labeled “dental” sounds like the interjection “tsk” that we might use when we are disappointed. The bilabial click is a kissing sound and the alveolar lateral is like the gesture made to signal to a horse to start moving. So-called “**implosives**” involve an ingressive glottal airstream. In some languages, then, a type of “b” is made by building up air pressure in the vocal tract by lowering the glottis and then releasing it.

In this introduction to phonetics, we will only note such sounds in passing and will concentrate our learning on sounds that are likely to be familiar to you, mostly from English, but also a few other popularly studied languages such as Spanish, German, French, Japanese, among others.

We will first consider consonants and then vowels. We will conclude the chapter with some remarks on pitch, intonation, tone and stress.

Voicing

A fundamental distinction among sounds in the languages of the world is that between voiced and voiceless sounds. To understand the difference, it is necessary to know a few things about the human larynx. The larynx is located in the throat and is popularly called the “Adam’s apple” or “voice box.” The larynx is a hollow, tube-like structure and it contains the **vocal folds**, which are sometimes called vocal cords (Figure 2.1).

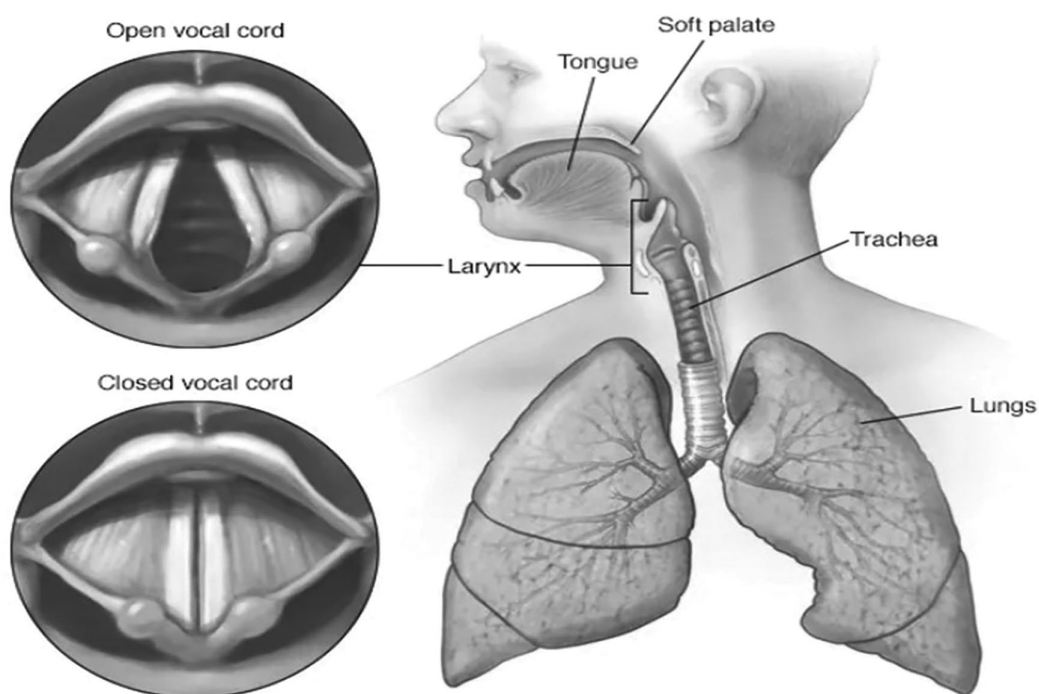


Figure 2.1 The Vocal folds (also known as Vocal Cords).

The vocal folds are controlled by the positioning of the arytenoid cartilages. In one position, the vocal folds are held closely together so that they vibrate as air from the lungs passes through them, creating a voiced sound, but in another position, they are separated so that there is no vibration during the articulation of a sound, thus creating a voiceless sound. The contrast between a voiced and voiceless sound can be heard by articulating an “s,” as in the first sound of the name “Sam.” As you say the “s” sound, place your hand on your larynx and you will feel no vibration or buzzing. That “s” sound, then, is said to be voiceless. Now articulate the “z” sound, as in the first sound of the word “zoo.” Again, place your hand on your larynx as you say that sound and you will perceive a vibration or buzzing. That vibration is caused by your vocal folds, as described above, and therefore that “z” is a voiced sound. Note carefully as you pronounce the “s” and “z” sounds that your mouth is roughly in the same position for both and so the important difference is really

in the voicing contrast. Other voiceless and voiced contrasts along similar lines are given below. Pronounce each sound and focus on the vibration or lack of vibration in your larynx:

Voiceless	Voiceless
“th” sound in “ <u>thin</u> ”	“th” sound in “ <u>that</u> ”
“f” sound in “ <u>fine</u> ”	“v” sound in “ <u>van</u> ”
“sh” sound in “ <u>sure</u> ”	“zh” sound in “ <u>measure</u> ”

We might note that in English, and most other European languages, all vowels are voiced, but that is not so in all languages. For example, Japanese has a voiceless “u” that occurs at the end of words, as in the word for “to be,” *desu*. Likewise, nasal sounds like “m” and “n” are voiced in English, but there are languages in which voiceless nasals may occur. For example, in Nuosu, a language spoken in China, there is an “m” sound that is voiceless, as in the first sound of the word *hmi* “name.”

Place of Articulation

In describing the articulation of sounds, and particularly consonant sounds as we will discuss in greater detail later, we make reference to the place in the vocal track in which the articulators are especially active in the production of a sound. Therefore, it is necessary to understand the physiology of the human vocal tract and the terms used to refer to places in that track.

Lips

Obviously, the lips are important in the production of several sounds, like the “b,” “m” and “f” sounds, among others. Sounds that involve the lips are referred to as “labial.” Now in the case of “b” and “m,” both the upper and bottom lips are involved and so, appropriately, such sounds are called “bilabial.” In the case of “f” and “v,” the bottom lip is in contact with the upper row of teeth.

Teeth

Sounds that are made with the teeth as the place of articulation are known as “dental.” Thus, “f” and “v,” involving as they do the lips and the teeth, are called “labio-dental.” The voiceless and voiced “th” sounds as in the first sound in the words *thin* and *there* are dental sounds and some introductory textbooks will even identify them as “interdental” since the apical region of the tongue (i.e. the tip of the tongue) is placed between the teeth, at least to some degree. The quality of dental is also what distinguishes “t” and “d” sounds in English to those in Spanish and Italian, since in those languages the “t” and “d” sounds are made with the tip of the tongue against the back of the upper row of teeth.

Alveolum

The alveolum, or alveolar ridge, is the bony structure that lies right behind the teeth. If you pronounce “t” as in the first sound in the word “tea,” you will feel the tip of your tongue making contact with the alveolum and likewise for the “d” in, say, “dog.” “t” and “d” in English, then, are alveolar sounds. As mentioned in the previous paragraph, the “t” and “d” of Spanish and Italian are NOT alveolar, but instead made with the tongue tip pressed against the back of the teeth and so it is more accurate to describe “t” and “d” in those languages as dental.

Hard Palate

Behind the alveolum, you notice that there is a dome-like area between the teeth and above the tongue. Popularly we think of this as the “roof” of our mouth. The anatomical name of that structure is the hard palate. If you pronounce the “y” sound, as in the first sound of the word “yet,” you will feel the dorsal section of your tongue (the middle of the tongue) approach the hard palate. “y” is known as a palatal sound. If you know Spanish, you may make the “ñ” sound and notice that the middle part of the tongue also approaches the hard palate.

Soft Palate

The back part of the roof of the mouth just behind the hard palate is the soft palate, which is also known as the velum. It is fleshy and not bony like the hard palate. If you pronounce the sound “g,” as in the first sound of “go,” you will notice that the back part of your tongue presses up against the soft palate. “g” is a velar consonant.

Uvulum

Attached to the back of the soft palate, or velum, is the uvulum, which is a piece of flesh that hangs at the back of your throat and uvular sounds are made by raising the back of the tongue toward it. A uvular trill can be heard in careful pronunciations of the first sound in the German word *richtig*, meaning “right/correct,” and in the first sound of the French word *rapide*, “fast.” Uvular sounds also occur in Eskimo, Greenlandic and other languages.

Pharynx

The space between the velar/uvular region at the back of the mouth and the larynx is called the pharynx, and sounds made in that region of the vocal tract are pharyngeal sounds. Arabic and Hebrew have pharyngeal sounds, although there is variation between making such sounds against the pharyngeal wall versus using the epiglottal region. It is likely that such pharyngeal sounds in a language like Arabic have led people to describe the language as “guttural,” bearing in mind that terms like “guttural” are not current linguistic terms and do not help us understand the production of sounds since the term is based on the popular impression of the sound and not on how the sound is made.

Glottis and Larynx

The importance of the larynx in articulatory phonetics is, as pointed out above, that it houses the vocal folds, which control the configuration of the glottis. The glottis, again the space between the vocal folds, may take different shapes resulting in voiced and voiceless sounds, but the state of the glottis may also produce other effects, such as breathy voice (or murmur) and creaky voice, which are important for making certain sound contrasts in some languages of the world.

Finally, it should be mentioned here that sometimes multiple places of articulation might be involved in the production of a sound. For example, if you pronounce the “w” sound as in the first sound in a word such as *woke*, you should be able to notice that both the lips and the velum are engaged and, consequently, such sounds are sometimes called “labio-velar.”

Manner of Articulation

Another important descriptor for human speech sounds is manner of articulation, which has to do with what happens to the flow of air in the vocal tract as sounds are made. That is, the air may be

stopped, significantly constricted or otherwise manipulated by the shaping of the vocal tract. Provided below are the different manners of articulation we will consider in our investigation into phonetics.

Stop

A stop articulation is one in which the flow of air is completely stopped in the vocal tract and this can happen at various places. For example, if you pay attention to the “p” sound, as in the first sound of the word *pot*, you will notice that there is a complete blockage of the air by pressing the two lips together. Likewise, if you concentrate on the first sound in the word *take*, you will notice a similar stoppage, but at the site where the tip of the tongue is pressed up against the alveolar ridge. And if you think of the “k” sound at the beginning of the word *cash*, you feel that closure with the back of the tongue pressed up against the velum.

Thus, the sounds “p,” “t” and “k” are stop sounds. You will recall earlier that a distinction was made between voiced and voiceless sounds and to illustrate that difference, we observed the vibration (or lack of vibration) caused by the vocal flaps in the larynx by contrasting sounds like “s” and “z.” The reason that we focused on sounds like “s” and “z” for that exercise was because those sounds allowed for continual flow of air through the vocal tract; they are not stops (see below). We also made the point that “s” and “z” were formed identically except for the quality of voicing. Now consider the following comparison:

voice	voiceless	voiced	
[p]	<u>pot</u>	[b]	<u>big</u>
[t]	<u>take</u>	[d]	<u>dead</u>
[k]	<u>cat</u>	[g]	<u>gape</u>

You should be able to tell that the underlined sounds in the “voiceless” column are formed identically to the corresponding sounds in the “voiced” column, but herein lies a question: how can a sound be voiceless or voiced if the air is completely blocked?

Voice Onset Timing (VOT)

The way that we distinguish voiceless and voiced quality among stops has to do with what is called “**voice onset timing**.” Note first that the vowels following the stop consonants in the lists above are voiced. With the voiceless stops, there is no voicing during the articulation of the stop and the voicing for the vowel occurs roughly at the release of the stop. However, with the voiced stops, there is voicing during the closure and so there is vibration of the vocal folds much earlier than there is with a voiceless stop. You can likely feel the difference in vibration or lack of vibration in a stop by saying “buy” and “pie,” but not releasing the stop. With the “b,” you can feel the activation of the vocal folds and a slight lowering of the larynx, which you don’t have when articulating the “p” sound.

Fricative

A fricative articulation is made by bringing the articulators (e.g. top row of teeth and the lower lip) closely together such that a narrow passage is formed through which air from the lungs can pass and create turbulent airflow. “s,” “v” and “th,” as the first sounds in *same*, *vast* and *thorn* (among others), are all fricative sounds.

Nasal

Nasal sounds are produced by lowering the velum such that it shuts off airflow through the mouth, diverting it through the nasal passage. “m” and “n” as the first sounds in the words *make*

and *never* are nasal sounds and if you place your hand under your nose while producing those sounds you can feel the airflow leaving from your nostrils. In fact, if you observe closely the way you produce a “b” and an “m,” you will notice that your articulators are in very similar positions with both lips pressed together. They are both bilabial sounds, with the difference being airflow coming through the mouth or nasal passage. Technically speaking, all nasal sounds are also stops, since they stop the airflow in the vocal tract. However, at the beginning levels of learning phonetics, it is better to think of nasal sounds as constituting a class of sounds distinct to those we will learn as stops.

Approximant

Approximant sounds are understood as those sounds that involve minimal drawing together of the articulators and thus allowing good airflow through the vocal tract. We can make a distinction between those sounds that are “liquid” and those that are “glides.” The sound “r,” as in the first sound of the word *right*, for example, is commonly called a liquid, as is the sound “l,” as in the first sound of the word *light*. The “r” sound is a central liquid, since the air leaving the vocal tract exits over the tongue and through the center of the mouth, while the “l” sound is a lateral liquid, since the air escapes through the sides of the tongue. If you hold your hand around your mouth while articulating “r” and “l,” you can feel the passage of air in each direction.

Affricate

The final manner of articulation that we discuss is that of an affricate. An affricate begins as a stop articulation and then exits the mouth as a fricative. For example, if you pronounce the “ch” sound, as in the first sound in the word *chat* very slowly, you should notice that you begin by articulating a “t” (albeit with the tongue more spread out along the alveolar ridge) and as you transition to the later part of the sound, it ends up like an “sh.” Similarly, a “dg” sound begins as a “d” and exits as a “j,” as in the first sound in the word *jump*. It is a theoretical question to some extent whether such sounds should be considered a single segment or two. Justification for the single-sound analysis is that there is a certain amount of co-articulation, meaning that as you pronounce the stop portion of the affricate, your mouth is already positioning for the next sound. (That is why the “t” part of “ch” involves more spreading of the tip of the tongue along the alveolar ridge than would a “t” at the beginning of a word like *time*.)

In the German language there are two more affricate sounds, “pf” as in the initial sound of the word *Pferd* “horse” and a “ts” sound as in the beginning of the word *Zahn* “tooth.” That “ts” sound can be approximated by pronouncing the first sound of the word “tse-tse” as in *tse-tse fly*, or *tsunami* in a closer-to-native-Japanese pronunciation. Many English speakers pronounce *tsunami* with an initial “s,” since English does not allow for words that begin with “ts.”

Moving on to the International Phonetic Alphabet (IPA)

Up until this point, we have been considering sounds through their representation within the orthographic (or spelling) system of, mostly, English. But we cannot continue to do so because the English spelling system is woefully unpredictable for such representation. Even the merest reflection offers many examples of multiple sounds represented by the same symbol; <c>,¹ for instance, may represent very different sounds as it does in the first sounds of the words *cake* and *city*. Conversely, a single sound, like the first sound in the word *shake*, may be written as <sh>, but in other words as <ch> (*Chicago*), <s> (*sure*) or <t> (*commotion*). Clearly, English orthography would hamper

our investigation into human speech sounds. For these reasons, linguists utilize the International Phonetic Alphabet (or IPA for short) in which each symbol represents one sound and each sound is represented by a single symbol.

And so now we are ready to put all we have learned so far in this chapter into a comprehensive table showing the IPA symbols and their description of voice, place and manner. As discussed earlier in the chapter, we will focus on the sounds of English for introductory purposes, but we will also investigate some sounds found in other commonly studied languages.

Those sounds are put in bold in Figure 2.2.

	Bilabial		Labio-dental		Inter-dental		Alveolar		Alveo-palatal		Palatal		Velar		Glottal	
	+V	-V	+V	-V	+V	-V	+V	-V	+V	-V	+V	-V	+V	-V	+V	-V
Stop	b	p					d	t					g	k		ʔ
Fricative	β	ɸ	v	f	ð	θ	z	s	ʒ	ʃ		ç	ɣ	x		h
Affricate									dʒ	tʃ						
Nasal	m						n						ŋ			
Approximant	w										j					
Liquid:Central							ɹ									
Liquid:lateral							l									
Lateral	[b] <u>bank</u> [p] <u>pet</u> [m] <u>make</u> [w] <u>wine</u>		[v] <u>veer</u> [f] <u>fair</u>		[ð] <u>then</u> [θ] <u>thin</u>		[d] <u>dog</u> [t] <u>take</u> [z] <u>zap</u> [s] <u>soon</u> [n] <u>no</u> [ɹ] <u>reach</u> [l] <u>leave</u>		[ʒ] <u>measure</u> [ʃ] <u>shame</u> [dʒ] <u>jury</u> [tʃ] <u>chance</u>		[j] <u>yes</u>		[g] <u>get</u> [k] <u>keep</u> [ŋ] <u>sing</u>		[h] <u>hot</u>	

Figure 2.2 Phonetic Alphabet for Consonants.

It is a fair statement to say that an English reader has a certain degree of “privilege” when learning the IPA, because many of the symbols represent sounds that they would expect from knowledge of English and other European writing systems. There are some symbols worthy of note, however.

[ʔ] is a voiceless, glottal, stop. This symbol is most likely new to learners of linguistics and it is not represented in the English alphabet. But still, the sound is very frequent in a great many of English words (in certain varieties of pronunciation). One way of focusing on the sound is to think of the expression of disappointment/surprise/chagrin *uh-oh*. While the expression is commonly written with initial vowels, you are not really saying a vowel sound first. Instead, you have a short clip or stop of the air flow at the beginning of each part; that sound is a glottal stop. Another context in which the sound is heard occurs in careful or “authentic” pronunciations of the state name *Hawaii*. Some speakers place a break between the two final i’s, which is even represented by an apostrophe, Hawai’i. That clipped sound between the i’s is a glottal stop. Still another way that some may be able to think about the glottal stop is in the pronunciation of “tt” between vowels in a word like *better* in Estuary English.

[β] is a voiced bilabial fricative. It is made by pronouncing a [b] but with the lips slightly opened so that air flows continuously through the vocal tract. A fricative “b,” as it is called, is found in the middle sound of the Spanish word *cabo* “cape,” in which the b-sound is not a stop but a fricative.

[ɸ] is a voiceless bilabial fricative. It is made by pronouncing a [p] but with the lips slightly opened so that air flows continuously through the vocal tract. This fricative “p” is heard at the beginning of the Japanese word *Fuji*, i.e. the mountain. Although we write the word in English with an <f>, it is not [f] but [ɸ] in Japanese.

[ð] (“eth”) and [θ] (“theta”) represent interdental fricatives, voiced and voiceless, respectively. Both are regularly spelled <th> in English and for that reason it is sometimes difficult for literate English speakers to learn to distinguish the two after having experienced the language in writing for so many years. Special care should be taken to learn the distinction and you can do so by pronouncing the “th” sounds in *then* and *thin* with your hand on your larynx to feel the buzzing of the voiced sound [ð] in *then* and lack of that buzzing of the voiceless sound [θ] in *thin*.

[ʃ] (esh) and [ʒ] (yogh) are alveo-palatal fricatives, voiceless and voiced, respectively. Note that the actual IPA description for such sounds does not specify that they are alveo-palatal but “post-alveolar,” a term which may be less descriptively meaningful for the first-time learner of phonetics. Literate speakers of English associate [ʃ] with <sh> and [ʒ] with <j> or <g>. Generally, the IPA symbols do not cause much confusion since the sounds are isolatable and analyzable to most speakers of English and so it is really a matter of learning the symbols to match the sounds.

[ç] is a voiceless palatal fricative. In standard German, the sound is found as a reflex of <ch> in the pronunciation of the word *ich* “I” or by the letter <g> especially at the end of a word following [ɪ] *billig* “cheap.” Many English speakers find the sound “exotic” when experienced out of context, but in fact it occurs in many varieties of English. For example, if you pronounce the word *human* and focus on your pronunciation of the “h” sound, you may well be pronouncing [ç], but some speakers of English do not and may have more of a “y” sound in that context.

[ɣ] is a voiced velar fricative. It is made by pronouncing [g] but not with the root of the tongue pressed completely against the velum so that air flows continuously through the vocal tract. It is the sound represented by <g> between two vowels in Spanish, as in the word *lago* “lake.”

[x] is a voiceless velar fricative. It is made by pronouncing [k] but not with the root of the tongue pressed completely against the velum so that air flows continuously through the vocal tract producing a slight “rasping” sound in the back of the throat. The sound occurs in German in which it is represented by <ch> as in *Buch* “book.” It is also found in some varieties of peninsular Spanish in which it is represented by <j> or <g>, the latter when followed by <i> or <e>, as in *jugar* “play” or the first “g” in *gigante* “big.”

[ŋ] is a voiced, velar, nasal. Most English-speakers will associate the sound with “ng,” with in the last sound of the word “sing.” Because of their knowledge of spelling, most speakers may be convinced that they actually have a [g] in the pronunciation, but if you pay close attention to the final sound, you will notice that you most likely do not. The absence of a [g] and the presence of just [ŋ] may be perceived also by contrasting the middle sound in the words *singer* and *finger*. In the former, you probably only pronounce [ŋ] but in the latter [ŋg].

R-sounds

On the chart in 2.2, only [ɹ] is included and it represents a voiced alveolar liquid, which is the typical pronunciation for the “r” sound made by most American English speakers. (Some speakers may have more of an [ɹ̥] sound in which the tip of the tongue is curled backward in the mouth and consequently such sounds are commonly referred to as “retroflex.”) There are other types of “R” sounds that are worthy of our notice. [r] represents a voiced, alveolar trill (trill being another type of manner of articulation). It is the “r” sound that one hears in Spanish or Italian at the beginning of a word like *rojo* “red” in Spanish, or *rabbino* “rabbi” in Italian. Another cross-linguistically common “r” sound is [ʀ] which is a voiced uvular trill, as in the French or German “r” in *rouge* “red” in French, or *richtig* “right” in German. For those not familiar with French or German pronunciation, the character Cat Woman, played early on by actress Eartha Kitt in the original Batman television series, produces a uvular trill when she “growls/purrs.” In actual speech, however, French and German speakers may make more of a [ʁ], which is a voiced uvular fricative sound. One final sound that we can put together with other “r” sounds is [r̥], which is a voiced alveolar tap. A tap

sound is made with a very quick, short closure of the vocal tract articulators—in this case the tip of the tongue and the alveolum. It is the sound that most American English speakers make for the “tt” sound in a word like *butter*, and in fact it is the same sound that one makes in Spanish for the so-called “r-simple,” or a singly written <r> in a word like *caro* “expensive.” It may then seem curious that a sound so common in English is the same sound in Spanish, particularly a sound that many English speakers claim they have trouble with when learning Spanish! Why don’t English speakers recognize the r-simple in Spanish as being the same sound for the <t>, <d>, <dd> or <tt> in *atom*, *raider*, *ladder* and *butter*? We will return to this question and attempt a partial explanation in the next chapter when we discuss phonology.

Vowels

While somewhat oversimplified, vowels differ from consonants in that they do not involve constriction of articulators in the vocal tract and they are most often the nucleus (i.e. greatest peak of energy) of the syllable. However, it is important for us to keep in mind that some consonants, like [h] and [j], involve nearly as little constriction of the vocal tract articulators as do vowels, and that some consonants can bear syllabic weight, as do the [l], [ɹ] and [ŋ] in *tackle*, *over* and *Clinton*. In phonetics, consonants that bear syllabic weight have a subscript line under them and so the phonetic transcription of those sounds would be [l̩], [ɹ̩] and [ŋ̩], as in the words *cable*, *offer* and *Clinton*.

Typically, vowels are arranged in a triangular or trapezoidal figure in which they are placed according to tongue height and front to back position in the mouth (Figure 2.3).

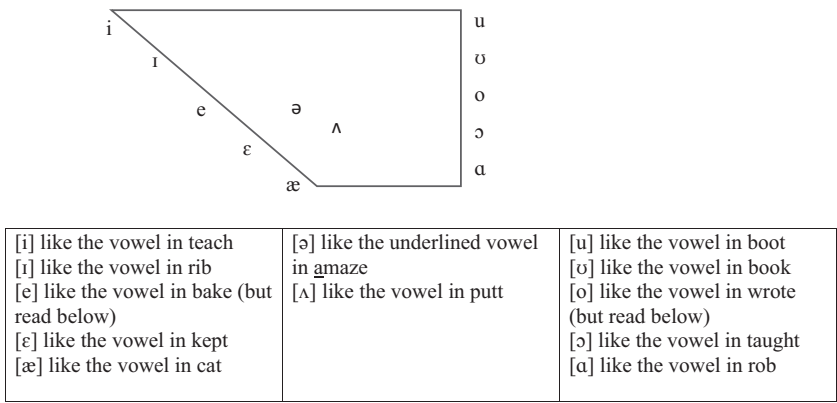


Figure 2.3 Vowel Chart of American English.

Interpreting the information in the vowel figure, we can identify the vowels as:

- | | | |
|----------------------|--|---------------------|
| [i] high front tense | [ə] mid central lax | [u] high back tense |
| [ɪ] high front lax | [ʌ] mid central lax (and see below on the distinction between [ə] and [ʌ]) | [ʊ] high back lax |
| [e] mid front tense | | [o] mid back tense |
| [ɛ] mid front lax | | [ɔ] mid back lax |
| [æ] low front lax | | [ɑ] low back lax |

There are several matters having to do with vowels that you should note:

Lax-Tense Distinction

The tense-lax distinction, whatever the terms might suggest, is convenient for classificatory purposes; it distinguishes the two high vowels, for instance, and we note that the tense-lax distinction is irrelevant among the low vowels. However, the phonetic distinction has more to do with the distribution of the two types of vowels. For example, tense vowels tend to occur in stressed syllables.

Tense Mid-Vowels

The two tense mid-vowels in the front and back of the trapezoidal figure, [e] and [o], do not occur alone in stressed syllables in most varieties of English, but instead occur with another vowel. Consider, for instance, the way you say *take* and *boat* by pronouncing them very slowly. You should be able to notice that you do not have a single vowel in either word, but that the [e] in *take* ends with an articulation somewhere in the area of [ɪ], and similarly the [o] of *boat* ends in an articulation in the area of [ʊ]. For that reason, those words are better transcribed with the second vowel, that is, [teɪk] and [boʊt], respectively.

The combination of vowels seen in [teɪk] and [boʊt] are called “diphthongs,” which may be thought of as a situation in which there are two vowel sounds in a single syllable. More accurately, however, we would want to say that there is movement between the two vowels. Diphthongs vary a lot among different varieties of English and as has been our practice in this chapter, we will focus on general American in our description.

In addition to eɪ and oʊ described above, there are three other diphthongs that are important in English, which we will transcribe as:

- [aɪ] as the diphthong in *kite*
- [aʊ] as the diphthong in *mouse*
- [ɔɪ] as the diphthong in *toy*

The transcription of these diphthongs follows regular practice. In reality, however, what we hear in the diphthong is the movement from one vowel space to another, and the beginning and end points are not going to be exactly [a] or [ɪ] for [aɪ], and the same is true of the other two diphthongs shown here. The starting point for [aɪ] is actually more central and toward the low end of the vowel space, while the ending point is more in the area of [e]. If you say the word “I,” for example, and slow down your pronunciation, you can hear that beginning and end of the diphthong and will realize that it does not necessarily start as in the [a] in *father* or end as the [ɪ] in *bit*. In fact, if you do pronounce the diphthong with those starting and end points, your pronunciation will sound exaggerated.

Dialect Variation

It is in the area of vowels that there is the greatest dialect variation among various Englishes. Globally, we note that even the standard varieties of Southern UK English, Scottish English, Irish English, American English, Australian English and others show great differences in their vowel systems. However, even in more local contexts, there will be a lot of geographical (and social) difference between dialects. Within an American context, competing vowel shifts in the north and south are making those dialects even more different (at least among some speakers). Another important dialect difference is that certain dialects of American English, like those of the midlands and western regions, do not regularly distinguish [ɔ] and [ɑ] and so speakers of those dialects struggle more when trying to hear and transcribe words with those sounds. A speaker from Buffalo,

NY, will make a difference in the vowels in caught and cot ([kɒt] and [kɑt]); a speaker from Albuquerque will likely have [kɑt] for both.

Suprasegmentals

Also important for phonetic description are those qualities of voice that “set atop” the sounds, and give groups of sounds particular contours. Here we will talk about pitch, intonation, tone and stress, which, following the metaphor of sitting atop the sounds or segments, are called “suprasegmental” features.

Pitch

Pitch is correlated with fundamental frequency, a measurement of the variation in air pressure caused by the opening and closing of the vocal folds. Thus, pitch is a product of the tension of the vocal flaps and generally speaking tighter vocal folds will result in higher pitch and laxer states of the vocal flaps will render lower pitch, although strictly speaking pitch is probably better thought of as an auditory perception. The perception of pitch will be higher or lower, which you can appreciate by pronouncing [i] and contrasting it to [ɑ]; [i] will likely have a higher pitch, all other things being equal. In actual language pitch perception is independent of the actual segment and so you can pronounce either [i] or [ɑ] with higher or lower pitch and that pitch will be perceived independently of the fundamental frequency of the vowel.

Pitch plays an important role in all languages because alternations in pitch play into the linguistic message in a few ways. It may be taken up as a marker of the speaker’s attitude, but in other cases changes in pitch are important to the meaning of the message. We will consider this point in light of intonation and tone.

Intonation

It is likely that the feature of intonation is already familiar. It refers to the variations in pitch or tone that occur over a string of segments (again meaning sounds) and is often associated with some particular meaning. For example, yes/no questions in English are typically expressed with a rather sharp rise in pitch at the end of the question, e.g. Do you want to talk? The power of intonation is strong and by using a question intonation, one can turn what would otherwise be a statement into a question. One important thing to note too is that intonation patterns are not universal and may vary quite a bit from language to language. Part of learning a foreign language should be to learn the intonational patterns of that language, and in fact failing to do so can result in miscommunication.

Tone

Pitch variation may also be focused on a syllable in which case we talk about tone, and changes in pitch, or tone, may in fact change the meaning of a word. A good example of a tonal language is Mandarin Chinese. Mandarin distinguishes four tones, which we can present here (in a simplified way), using diacritic marks as:

High-level	mā	“mother”
Rising	má	“hemp”
Falling	mà	“scold”
Falling-rising	mǎ	“horse”

As you can see, then, the difference in tone results in different words. Other languages that are tonal in this way (specifically so-called “contour tone languages”) include Thai, Vietnamese and others in Southeast Asia. Outside of Southeast Asia, there are other tonal languages around the world, including Native American languages in both North and South America, and many languages in Africa. These types of tonal languages differ from the contour tonal languages of Southeast Asia because they show “target tone” structure, the difference being that in the former, speakers vary pitch on the syllable to express the tone, and in the latter, speakers go for a target tone, which is usually high or low and that tone may not appear on every syllable. So, for example, in Japanese the words for *chopsticks* and *bridge* are segmentally the same [hɕɸi], but in the word for chopsticks, the pitch is higher on the first syllable, whereas with the word for bridge, the higher pitch is on the second syllable.

For another example, consider Mohawk (a Native American language spoken mostly in Quebec and Ontario). The word oká:ra? (with higher pitch on the second syllable) means “story” while oka:ra? (with lower pitch on the second syllable) means “eye” (Mithun 1999:24). These types of tonal languages are also called “pitch accent” languages.

Stress

The last suprasegmental feature we will cover is stress, which should be familiar to speakers of English. Stress is the situation in which one syllable in the word (or utterance) is produced with more pulmonic energy and at a greater amplitude; it’s louder than the other syllables. Consider the way you say “atomic.” You will notice that the *-to-* syllable is more accentuated and louder than the others; it is the stressed syllable. An important difference among languages of the world is that some of them have fixed stress while others have floating stress. An example of a language with fixed stress is Turkish in which stress generally falls on the last syllable of the word (note that the bolded syllable is the stressed one):

cuma	Friday
kitap	book
Gömlek	shirt
anne	mother

There are some exceptions in Turkish, however. For example, some foreign words may not show the pattern and some suffixes cannot be stressed.

Note

- 1 At this point, we will begin using the convention of writing letters of the alphabet in consideration of their use in a writing system between angled brackets, <>. Thus, <c> should be read as “the letter c.”

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3 Phonology

Introduction

In the last chapter we studied phonetics, which we defined as the study of human speech sounds. Although we focused mainly on speech sounds in English in order to limit our study to a reasonable amount of information in an introduction to linguistics course, phonetic description is not limited to a single language. Thus, if both English and German have the phone [d], it is described as a voiced, alveolar, stop. If the [d] in the two languages did not have the same description in the two languages, then they wouldn't be the same sound and different phonetic symbols would be necessary for the sound in each language.¹

Phonology, on the other hand, has to do with describing the patterning of sounds in a specific language (or sometimes related languages or even language families); that is, phonology is a description of the ways that sounds pattern in specific languages. The difference between phonetics and phonology may be interestingly presented by considering the voiceless, interdental, fricative [θ] as it appears in English and in Peninsular Spanish. As we saw in the last chapter, [θ] occurs in English as the first sound in the word *through*, the middle sound in the word *ether* and the final sound in the word *bath*. In Peninsular Spanish, [θ] occurs as a pronunciation of the letter <c> when it occurs before <i> or <e> or for the letter <z> wherever it occurs; thus, *cazar* “to hunt” [kaθaɾ] and *cero* “zero” [θero].

Similarly, English and Spanish (all varieties) both have the phone [ð]. In English it is the first sound in the word *the*, the medial sound in the word *either* and the final sound in the word *breathe*. In Spanish, the letter <d> when it occurs between two vowels is [ð]; thus, *miedo* “fear” [mieðo] and *pido* “I ask” [piðo].

Given that the two languages have, more or less, the same sounds, one might believe it an easy matter for a Spanish speaker learning English to pronounce [θ] and [ð] in English words like *through* or *either*, but that's not the case. Many Spanish-speaking learners of English, especially adult learners, struggle with those sounds in English and substitute [t] or [d] or some other sounds instead. Similarly, English-speaking learners of Spanish struggle with those sounds in Spanish words. But why should this be so? The answer is phonology. [θ] and [ð] pattern differently in the two languages and when we speak our own language or a second language, it is not only the sounds that we access and process but the patterns and associative relationships among sounds as well.

As we will see in this chapter, there is a lot more phonetic detail for the sounds we make while speaking than was presented in the last chapter and native speakers are mostly completely unaware of such details. This is why it is inaccurate to say of a consistent alphabet, like that in Spanish or German, in contrast to the English alphabet, that it is “phonetic.” An alphabet that truly attempted to capture phonetic detail would be exceedingly overloaded with symbols and quite inefficient outside of doing linguistic work. Instead, alphabets, to more or less degrees, have symbols representing the phonological level of the language's sound system.

Classical Phoneme Theory

To begin our study of phonology, consider the following lists of English words:

Column A	Column B
spat	pat
spore	poor
space	pace
spin	pin
spy	pie
spoke	poke

Now, concentrating on the [p]-sound, pronounce each word from each column in a normal-speaking voice and volume, but place your hand on your lips as you do so. What you will notice is that the [p]-sound in the words in Column A is different from that in the words in Column B. Those in Column B are attended by a puff of air, which is not so prominent with the [p]-sound in the words in Column A. The puff of air is referred to as “aspiration” and so the [p]-sound in Column B is called “an aspirated [p]” and a superscript [h] is used to symbolize aspiration, thus [p^h].

Recalling that we earlier defined phonology as the study of patterns of sounds in a language, the next thing to do is to describe that pattern in such a way that a person reading that description would understand precisely how to operationalize that description. In other words, we want to write a phonological rule.² Later we will see that writing such rules is not the only way to conceive of phonological patterns (or other patterns of linguistic structure). Observation of the two lists reveals quite straightforwardly that:

the aspirated [p] occurs at the beginning of a word, while the unaspirated [p] occurs after [s].³

Here we are ready for some important terms and concepts. However, to understand those terms and concepts, it might help to first consider the following graphic (Figure 3.1).

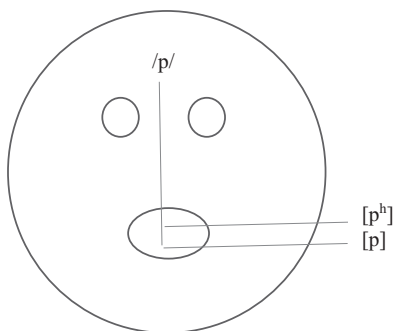


Figure 3.1 Phoneme and Allophones.

What the graphic shows is that in an English speaker’s mind (not brain), they have an abstracted notion of a phoneme /p/. (At this point, you should note that phonemic representation of sound is placed between slanted lines, //.) A phoneme then will be defined as a mentally stored

representation of a collection of similar sounds. Thought of in this way, then, the phoneme /p/ contains the potential for the aspirated or unaspirated [p]. (Note that when we talk about the actual sounds in speech, the representation of the sound is placed inside square brackets, [].) We say then that [p^h] and [p] are allophones of the phoneme /p/. Allophones then are defined as the actual speech manifestation of phonemes.

Returning now to our description of the distribution of the two allophones [p] and [p^h], the description of the pattern in a sentence as in the statement above is adequate for understanding this rather simple phonological pattern. Linguists do, however, have a shorthand notation for expressing phonological rules, as shown here:

/p/ → [p^h]/ # _____ (the hashtag represents the word boundary)
 → [p]/ s _____ (again the s is understood to be the sound, NOT the letter)

We might read the rule as “the phoneme /p/ is realized as an aspirated [p^h] at the beginning of a word and it is realized as an unaspirated [p] after [s].”

Extending the Pattern

Now consider the p-sound in Columns C and D (and remember that the spelling is not significant and so the fact that some of the words have <pp> does not figure into the phonological analysis). The acute accent in the word represents the primary stress in the word.

Column C	Column D
appéar	ápple
repáir	répo
deplóy	dépot
depónent	kéeper
Dupónt	súpper
repéat	tópping

Performing the same exercise as we did above, pronounce each of the words in the two lists, concentrating on the p-sound, with your hand against your lips. You should have noticed that the p-sounds in Column C are aspirated while those in Column D are not. But in this case, it does not have to do with the previously mentioned environments of /p/ at the beginning of a word or following [s]. Instead, in the words in Columns C and D, we will note that the deciding factor for aspiration is stress placement, such that an aspirated [p] occurs at the beginning of a stressed syllable and unaspirated [p] before an unstressed syllable. Therefore, we need to extend our rule concerning the two allophones of /p/, which we may do, again, in sentence form as:

the aspirated [p] occurs at the beginning of a word or at the beginning of a stressed syllable, while the unaspirated [p] occurs after [s] or at the beginning of an unstressed syllable.

Notationally, we could represent this rule as:

/p/ → [ph] / # _____
or
_____ σ (stressed)

→ [p] / s_____

or

_____ σ (unstressed)

(The Greek letter sigma, σ , stands for syllable.)

The Idea of Natural Classes

A natural class of sounds is one in which a group of sounds can be grouped together by shared features. For example, we could consider [m], [n] and [ɳ] as constituting a natural class of nasals. [f], [s] and [θ] can be classed as a natural class consisting of voiceless fricatives. One of the important reasons for thinking about natural classes is that sometimes very similar phonological rules may apply to natural classes of sounds. So consider the [k] sound in the following lists, which we will label Column E and Column F (remember that [k] is often spelled with <c>):

Column E	Column F
cat	scat
cold	scold
kit	skit
kip	skip
care	scare

If you pronounce each of the words in the two columns, again while holding your hand to your lips, you will notice that the same pattern of aspiration occurs with the [k] sound. That is, the phoneme /k/ at the beginning of the word is aspirated as [k^h], while /k/ after [s] is not.

Now consider the [t] sound in the following two lists, which we label as Column G and H:

Column G	Column H
tear	steer
take	stake
tab	stab
top	stop
tough	stuff

Here again, we see that the same pattern of aspiration occurs with the [t]-sound as it did with /p/ and /k/. /t/ at the beginning of a word is realized as [t^h] and as [t] after [s]. Now we want to ask ourselves, why should the same pattern hold for all three sounds? What do /p/, /t/ and /k/ all have in common? In order to answer these questions, let's consider again the phonetic descriptions of these sounds:

/p/ **voiceless**, bilabial, **stop**
 /t/ **voiceless**, alveolar, **stop**
 /k/ **voiceless**, velar, **stop**

As the bolded parts of the descriptions indicate, all three sounds constitute a natural class made up of voiceless stops. And, therefore, we can write the aspiration rule for voiceless stops as: voiceless stops are realized as aspirated at the beginning of a word and as unaspirated after [s]. Notationally, the rule would look something like:

/voiceless stop/ → [aspirated] / # _____
 → [unaspirated] / s _____

You will recall that the rule for aspiration of /p/ was in fact more complicated since the aspirated allophone [p^h] occurred not only at the beginning of a word but also before a stressed syllable, and, similarly, the unstressed allophone [p] occurred after the s-sound but also before an unstressed syllable. Consider now the following lists, which we will label as Column I, Column J, Column K and Column L.

Column I	Column J	Column K	Column L
accrúe	ácre	attíre	áttic
accóunt	ácrimony	atóne	átom
encúmber	pércolate	retúrn	báttle
recount	táckle	untíl	bétter
occúr	blácker	betwéen	mátter

Contrasting Columns I and J, you will notice that the same pattern involving stress applies to /k/; it is aspirated before a stressed syllable and unaspirated before an unstressed syllable. However, Columns K and L reveal that something else is going on. While it is true that /t/ is aspirated before a stressed syllable, it is not merely unaspirated before an unstressed syllable. Listen carefully to the /t/ sounds in Column L. You may think that it sounds more like a [d], but, in fact, it is shorter than a regular [d]; it is a voiced, alveolar, tap, [ɾ], and was described in Chapter 2. Therefore, we need to have a different phonemic rule for /t/:

/t/ → [t^h] / # _____
 or
 _____ σ (stressed)
 → [t] / s _____
 → [ɾ] / _____ σ (unstressed)

Phonemic Contrast, Minimal Pairs and Complementary Distribution

A basic but very important concept of phonology is that phonemes are distinctive. By distinctive we mean that phonemes have the ability to make different words even if the rest of the sounds of those words are identical. (For this reason we can also think of them as contrastive.) In this way, we note that *car* and *bar* are different words because the initial sounds are different; in other words, the k-sound in *car* and the b-sound in *bar* are distinctive or contrastive.

In fact, the exercise that we just went through in the preceding paragraph is a test for determining whether two sounds constitute separate phonemes. It is commonly referred to as a minimal pairs test. *Car* and *bar* are a minimal pair and we know that the k-sound in the first and the b-sound in the latter constitute separate phonemes, which we would represent, obviously, as /k/ and /b/ (although we could also discuss so-called subphonemic [allophonic] details, such as the aspiration of the k-sound, as discussed in the sections above).

Let's walk through another example of a minimal pair. Consider the following phonetic string:

[____ itʃ]

Now let's place the sound [ɹ] into the string, which would give us [ɹɪtʃ]. Is that a word in English? Yes, *reach*. Now let's put [l] into the string, which would give us [lɪtʃ]. Is that a word in English? Yes, *leech*. Now the important question: did the substitution of [l] for [ɹ] give us two different words? Yes, and therefore we know that [ɹ] and [l] must be allophones of different phonemes, which we would most likely represent as /ɹ/ and /l/. In summary, this minimal pairs test allowed us to determine that English has two different phonemes, /ɹ/ and /l/ (again there is subphonemic detail, but the point here is to determine the phonemic status of the two sounds, not their respective allophonic distributions).

Although the examples we have looked at so far have exemplified distinctive sounds, or phonemes, at the beginning of words, that contrast may appear in any other place in the word and may involve vowels as well as consonants. Here are some further examples:

big [bɪɡ] ~ bit [bɪt] Since the two words share identical phonetic strings, except for the last sound, and since the difference in the last sound of each makes two different words, we can conclude that [ɡ] and [t] are allophones from separate phonemes, which we would likely represent as /b/ and /g/.
beet [bi:t] ~ boot [bu:t] Since the two words share identical phonetic strings, except for the middle sound, and since the difference in the middle sound of each makes two different words, we can conclude that [i] and [u] are allophones from separate phonemes, which we would likely represent as /i/ and /u/.

Now let's consider a minimal pairs test that doesn't work by looking at the phonetic string:

[____ æk]

Let's place the sounds [p^h] and [p] at the beginning of the phonetic string. In the first instance, we would get [p^hæk] *pack*, but in the second instance we would get [pæk], which is not a word in English (just an odd pronunciation of *pack*, perhaps). As you know from the last section, [p^h] and [p] are in fact allophones of the same phoneme /p/. Now while the appropriate allophones of two separate phonemes can occur in the same part of a phonetic string and often make two different words (which is the basis of the minimal pairs test), allophones, by definition, cannot. That should be logical; if the appearance of [p^h] and [p] are determined by where they occur in the word, [p^h] at the beginning of the word and [p] after [s], then it follows that they can't both occur in the same place in a word. We say then of allophones of a single phoneme that they are in complementary distribution.⁴ Complementary distribution is defined, abstractly, as where X appears Y does not. As a non-linguistic example, you can think of Superman and Clark Kent. Those two identities are in complementary distribution in so far as Clark Kent can never be present when Superman is and vice versa.

A Usage-Based Approach to Phonology

So far in our investigation of phonology we have taken a classical approach and in that approach we have attempted to write input rules that operate on phonemes in order to derive the allophones of those phonemes. Again, this may be a very convenient way to teach pronunciation of a foreign language or to collect and analyze the sounds of a language. However, there is a different way to approach phonological study, one which does not write input rules as such, but instead considers sound distribution and then attempts to arrive at an explanation of that distribution.

Phonological Processes

In this section, we will study a number of phonological processes, which we can define as operations that sounds undergo because of the influence of surrounding sounds.

Assimilation

Assimilation is the phonological process by which a sound (or sounds) become more like another sound to which it is near. An example of assimilation can be seen in the expression *kiss you*. Now one can pronounce this string carefully and deliberately as:

[kɪsju]

But in a more casual, non-deliberate pronunciation, one might say instead:

[kɪʃju]

What has happened here? In the most general terms, the [s] in the careful pronunciation has become [ʃ] in casual speech. The way that this works as assimilation is that the **alveolar** place of articulation in the [s] has changed to the **alveo-palatal** [ʃ] because of its occurrence before the **palatal** [j]. In other words, the alveolar has taken on a palatal quality because it is next to a palatal sound. This particular assimilation is called regressive assimilation because the feature of [palatal] spread backward onto a sound before it. In other cases, assimilation may be progressive and the spreading feature may move forward to a sound following the source of the assimilation. As an example, consider the regular pronunciation of the word *no*, which is [nɒʊ]. In this example, we can see that the quality of nasality has spread from the [n] to the vowel (note that the ~ symbol indicates nasal quality for a vowel).

In the examples we have seen so far, the source of the assimilating feature is in a sound immediately adjacent to the affected sound, but assimilation can also happen at a distance, as in the case of vowel harmony. For example, a word in Hungarian is made plural by suffixing -ok, -ek or -æk. (These suffixes are written with phonetic symbols and not with the Hungarian letters. æ is a front, mid, rounded vowel.) The choice of the specific vowel in each variant of the plural ending is determined by the vowel(s) that appear in the stem to which the suffix is added. So if the stem contains only back vowels, then the suffix variant with the back vowel is selected: *asztal* “table” → *asztalok* “tables.” However, if the stem contains front vowels and the last vowel is unrounded, the -ek is selected: *füzet* “notebook” → *füzetek* “notebooks.” If the stem contains only front vowels and the last vowel is rounded, then the variant -æk is selected: *ismeræs* ‘acquaintance’ → *ismeræsæk* “acquaintances.”

In a usage-based approach to phonology, assimilation is interesting because we notice that phonological events like assimilation do not occur equally among all context where it might occur. For example, a student at Illinois State University would likely assimilate /s/ to /ʃ/ when talking about their ISU, but perhaps not so in reference to Iowa State University. In other words the sounds of, the word ISU are sensitive to frequency, reference and familiarity.

Dissimilation

Dissimilation is in some sense the opposite of assimilation; that is, a sound becomes more unlike a surrounding sound. An example from contemporary English can be seen in dialectal pronunciations of *chimney*. Consider the following sentence, taken from the short story “The Sheriff” (Arthur 2012):

“He was up on our roof,” said Jimson, suddenly recollecting his story. “Behind the kitchen chimley.”

What has happened in this pronunciation of chimney is that the [n], a nasal sound, has changed into [l] a non-nasal sound, and thereby has become less like the [m] before it.

Another example can be found in the pronunciation of *etcetera* by some speakers. The standard pronunciation of the word is [ɛtʃɛrə], but it is not at all uncommon to hear the pronunciation

[ɛksɛrəɪə]. This is an example of dissimilation since the alveolar [t] changes to the velar [k] and becomes less like the alveolar [s] next to it.

Epenthesis

Epenthesis is commonly described as a phonological process by which a sound is inserted into a word. As an example, ask yourself how you spell the type of common furry rodent that many children keep as pets. Is it *hamster* or *hampster*? Many English speakers experience uncertainty (myself included!). The standard spelling is *hamster*, but the confusion is generated by the fact that when we say *hamster*, we have a [p] sound between the [m] and the [s], so that we say [hæmpstɪ], not [hæmstɪ]. (Try saying [hæmstɪ] out loud and you will notice the unnaturalness of the pronunciation.) However, it should be noted that it isn't really the case that a [p] is simply being inserted here and it is more accurate to say that a [p] is created in the transition from [m] to [s]. Note that [m] is a bilabial nasal consonant and [s] is a voiceless, alveolar oral consonant (oral referring to sounds being made in the mouth). Since nasals are technically oral stops, as one moves from the nasal to the oral cavity, the feature of bilabial articulation persists and a [p], a voiceless bilabial stop sound, is produced. For this reason, this kind of epenthesis is sometimes called excrescence, literally "growing out of."

Another common epenthesis is the insertion of vowel sounds to ease articulation between two consonants that are not easily moved between. For example, a number of speakers of English pronounce the word *athlete*, as [æθəlɪt] instead of [æθlɪt]. The fact is that the transition from [θ] to [l] is a difficult one, since one is moving from an interdental fricative to an alveolar liquid, which requires a lot of movement with the tongue tip. Therefore, the insertion of the schwa [ə] between the two consonants breaks up the transition making articulation easier at least for an English speaker who doesn't encounter [θl] very frequently.

Metathesis

Metathesis is the phonological process by which two adjacent sounds are juxtaposed. Consider the word ask [æsk], which in some dialects of English is pronounced [æks].⁵ In the first pronunciation of the word the [s] precedes the [k], but in the second it is the other way around.

For another example, we can consider the prefix *hit-* in Hebrew, which is used to express that something is completed in the past, a type of past tense. Often when *hit-* is added to a verb, it results in a consonant cluster:

hit + nakem	→	hitnakem	"he took revenge"
hit + raxec	→	hitraxec	"he washed himself"

However, if the verb begins with /s/, the /s/ of the verb and the /t/ of *hit-* metathesize:

hit sader	→	histader	"he got organized"
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Deletion

Finally, we can consider the phonological process of deletion, in which a sound is seemingly lost, although it can at times be viewed as the features of the sound coming to overlap with neighboring sounds. For example, in normal, casual speech, the [t] in the expression *don't listen to him* may be

lost, [dʊʊn(t)lɪsəntaɦɪm]. In this instance, we note that an alveolar nasal precedes the alveolar stop and a liquid alveolar follows. Therefore, the alveolar articulation remains over the three-alveolar cluster and all that is really being lost is the stop articulation. In other examples from English, we can find instances in which a sound has been deleted. Thus, the consonant cluster [kn] at the beginning of a word has been simplified by dropping the velar stop:

	Older English	Modern English
knight	[knixt]	[naɪt]
knee	[kne]	[ni]

Notes

- 1 While this is true in principle, the reality of the situation is a little different and sounds that may be transcribed by the same symbol in two languages may actually be produced slightly differently by speakers of the two languages.
- 2 Note carefully that the use of the term “rule” here is not like the kinds of rules that you may have learned in prescriptively oriented language-arts classes. The kind of rule we are talking about here is descriptive in nature (see Chapter 1 again) that is trying to capture a generalization about what people actually do. In fact, native speakers of English, or those who acquire English through naturalistic exposure, do not have to be taught this rule; they just do it automatically. Such rules, however, are very beneficial for second language learners, despite the opinion of some educational theorists who eschew direct instruction of foreign or second languages (and see Chapter 13).
- 3 Great caution is needed here. Note that I did not say that unaspirated [p] occurs *after the letter* <s>. We are talking about speech and, generally, the alphabet and writing of the language under description will not be of any concern. This, however, is not to say that the way we write our language cannot have some effect on how we use the language. For example, in “spelling pronunciation” sometimes sounds are added that were not pronounced historically, e.g. the /t/ in *often*.
- 4 One thing that can help you make sense of the concept of complementary distribution is to pay attention to the spelling of *complementary*. As you can see, the root of this word is the same as that in *complete*. So complementary distribution “completes” the distribution by filling in the various contexts in which the allophones can appear.
- 5 The pronunciation [æks] is stigmatized in present-day English; however, it is quite old in English, dating back to Old English at which time the [æks] pronunciation was more common. It is still found in writing up through the Early Modern period.

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4 Morphology

Introduction

In this chapter, we now turn our attention to morphology. Morphology, in broadest terms, refers to the study of word formation, which we can cast as the study of words and parts of words. The basic unit of morphology is the morpheme, which is regularly defined as the smallest unit of language that has meaning, although as we will see later in this chapter that definition does not cover certain “fuzzy” areas within the study of morphology.

In order to illustrate the concept of a morpheme, imagine if I were to ask you what the <s> in *spot* meant. It would be a confusing question because you would know that the <s> has no meaning; it is merely a sound within the word. But now, if I were to ask you the meaning of the <s> in *pots*, you would identify that the meaning is “more than one” or PLURAL. (We will refer to the names of morphological categories in small caps in this way, and by morphological category we will mean the collection of morphemes that convey that meaning.) Thus, the <s> in *spot* is merely a phone or sound in a word, but the <s> in *pots* is a morpheme. Also, then, the analysis of these two words indicates that *spot* represents a single morpheme, while *pots*, in fact, represents two: *pot* + *-s*.

Free and Bound Morphemes

Let’s consider for a moment the following sentence:

The birds had landed on their perch in the sun where they were chirping loudly.

A morphological analysis of each word would reveal the following:

the	one morpheme
birds	two morphemes—bird + -s
had	one morpheme
landed	two morphemes—land + -ed
on	one morpheme
their	one morpheme
perch	one morpheme
in	one morpheme
the	one morpheme
sun	one morpheme
where	one morpheme
they	one morpheme

were	one morpheme
chirping	two morphemes—chirp + -ing
loudly	two morphemes—loud + ly

For each of the multi-morphemic words above we see that there is a part of the word that could stand alone, for example, *bird*, *perch*, *chirp* and *loud*. But the morphemes that are attached to them, that is, *-s*, *-ed*, *-ing* and *-ly*, must be attached to a word, or, as we will call it, a stem. Put this way, *bird*, *perch*, *chirp* and *loud* are stems and *-s*, *-ed*, *-ing* and *-ly* are affixes (specifically all suffixes in these instances since they attach to the end of the stem). The other words in the sentence, namely, *the*, *had*, *on*, *their*, *perch*, *in*, *sun*, *where*, *they*, *were* are all one-morpheme words and stand alone. Many of them are potential stems in so far as some could appear with affixes; for example, *perch* could be plural, *perches*. We distinguish affixes from the stems shown here as bound and free morphemes, respectively, but as we will see later, not all stems are free morphemes. In other words, bound morphemes must affix to a stem, but free morphemes can stand alone.

Lexical versus Grammatical Free Morphemes

Now let's look at the free morphemes in the example sentence that we have been studying by considering the two lists given below. Note that I present the stems of the two-morpheme words without the affixes, and I have, for now, omitted the prepositions. Prepositions are sometimes treated as lexical and sometimes grammatical depending on the theoretical approach.

- (a) bird, land, perch, sun, chirp, loud
- (b) the, had, their, where, they, were

You will notice that the words in (a) are different from those in (b) in that they are more concrete in meaning, while the words in (b) are more abstract. For instance, if you were playing a game in which you had to pick a word out of a hat and draw it so that your teammates could guess the word, *sun* would be much easier to draw than it would be to draw *the*. We then make a distinction among free morphemes between those that are lexical, like those in (a), and those that are grammatical (or functional), as in (b). In this division, lexical morphemes carry what we call referential meaning (i.e. they refer to more or less actual people, things, ideas, events, actions, states or descriptions) while grammatical morphemes provide the more abstract relational meanings, such as definiteness, possession, progressive aspect, etc. (all of which we will be defined later). As we will see, however, the division is sometimes not so clear.

Another distinction that is often made between grammatical and lexical morphemes is that the former are made up of closed classes and the latter of open classes, by which it is generally meant that open classes will accept new members relatively easily while closed classes only develop new members quite slowly over time. The development of new grammar is called grammaticalization and will be taken up in some detail in Chapter 9. Another way to envision this idea of open class is to consider how frequently languages acquire new nouns, verbs and adjectives. For example, recent new nouns in English include *DILF* (a sexually attractive older male), *glamping* (camping with a lot of fancy gear), *COVID-19*. Recent new verbs include *to facepalm*, *to mainsplain*, and some new adjectives that are heard today are *hangry* (hungry to the point of anger), *OG* (original gangster, an early member of some movement or practitioner of some activity), *grammable* (worthy of social media posting). It would also seem that new nouns are generated more frequently than new verbs, which in turn are more frequent than new adjectives, and it is obvious that new technology and interaction through electronic media are fertile areas of new word creation in modern times.

You will probably notice too that the new words given above are not so “new” in some regards. They are all made up of words or elements of words that already existed in English. In fact, it is very difficult to find any new word in a language that is not in some sense motivated by already existing lexical material in the language. Some of the common ways that languages get new words are listed here.

Eponym It is often enough the case that the invented word for a new product by a company will become the more general word for that type of product no matter the producer. Kleenex, Q-tip, jacuzzi and zipper. The list is quite long. We might note, however, that while such names are invented, they are not unmotivated in so far as Kleenexes should be “clean” and pharmacy-associated, cf. Rx. And, obviously, the tip part of Q-tip is semantically motivated, and I’ve always thought it more pleasant to insert a Q in my ear over a Z, W, X or some other jagged letter.

Borrowing English has a number of words in its lexicon that have as their source other languages. Many of these words are recognizable, for example, *taco*, *sushi*, *Kwanzaa*. But there are many other words that might not be so recognizable as loan words: *skin* (Norse), *judge* (French), *ultimate* (Latin), *ecstasy* (Greek) and on and on. Some estimates put the number of loan words in English at about 80%, which is a rather high number.

It may be an obvious point, but languages themselves do not borrow; instead, it is the speakers of languages that borrow, and so borrowing necessarily involves speakers of one language coming into contact with speakers of another language. Often enough, the linguistic flow from that contact may be asymmetrical with one group borrowing from the other group more than the opposite. That asymmetry may be due to economic or other structures of power differences, and it may also be simply perceived cultural superiority in one or more areas. Youth from around the world commonly borrow trendy English terms that they learn from music or on the internet. And, for several hundreds of years, the English borrowed many French terms and expressions because they sounded more cultured. Otto Jespersen made the observation many years ago that the native expression “a hearty welcome” sounds very different from the French “a cordial reception,” in that the former is more humble and down-to-earth while the latter is “high-falutin.”

A special kind of borrowing is called calquing or loan translation. In those instances, an expression may be borrowed from another language, but its parts are translating into the borrowing language. For example, in Spanish *luna de miel* is literally “moon of honey,” that is, a *honeymoon*. Or, also in Spanish *un perro caliente* is literally “a hot dog.”

Compounding The process of compounding is putting words together to make new words. So, *black board*, *paper back*, *cough drop*, *hand sanitizer*, *sidewalk*, etc., are examples of compounds. Sometimes there is a difference made between endocentric and exocentric compounds. An endocentric compound is one in which the object is a member of the set indicated by a part of the compound. For example, *hand sanitizer* is a type of *sanitizer*. With an exocentric compound, however, no part of the compound actually names the compound per se, as, for example, a *pick-pocket*.

Compounds in English can be made up by combining many different kinds of words: *paper bag* (noun + noun), *pick pocket* (verb + noun), *a run-on* (verb + prep), *away-game* (adverb + noun), etc. While the spelling of compounds may cause some problems in English since some are written as two words, some as one word and some with a hyphen, there is regularly a typical stress pattern in compounds, particularly discernible in two-syllable compounds, with heavier stress on the first syllable and lighter stress on the second. Contrast, for example, the two pronunciations of green + house, one being the compound noun meaning a place to grow plants and the other a two-word phrase with an adjective + noun, describing a house that just happens to be green.

gréénhóuse (compound) versus gréen hóuse (adjective + noun)

If you go back and pronounce the compounds listed above, you will note they are all stressed in a similar way.

Clipping Clipping is a word formation process in which part of the word is clipped away to create a new word. Obvious examples include those for which speakers do not even realize that the clipped word ever had a longer form, as in *cab* from *cabriolet*, or *wig* from *periwig*. But there are many cases in which the clipped and the longer word coexist: *gym*~*gymnasium*, *auto*~*automobile*, *con*~*convict*, etc. Many nicknames are also the result of clipping, *Michael*~*Mike*, *Ronald*~*Ron*, *Cheryl*~*Cher*, *Mary*~*Mare*, etc. Clipping, at least in English, need not always involve omission of the later part of the word. *Gator*, for example, shows clipping of the first part of the word, and *fridge* shows preservation of the middle part.

Blending Blending is when multiple clipped words are put together to create a new word. In English, for example, *spoon* + *fork* yields *spork*, *jeans* + *shorts* yields *jorts*, *breakfast* + *lunch* gives *brunch* and *gigantic* + *enormous* ends up as *ginormous*.

Acronym In some cases, an acronym becomes the word for the thing, organization, etc., it denotes. NRA (National Rifle Association), SAT (Scholastic Assessment Test), and MBA (Masters of Business Administration) are just a few examples. Internet and texting language have introduced many new acronyms: OTW (on the way), ATM (at the moment), BTW (by the way) and of course WTF, which we all know the meaning of, LOL. Some distinguish between acronyms proper and initialism. The difference is usually given that an initialism involves the pronunciation of each letter of the phrase, as in the examples above, while a true acronym pronounces the initials together into a new word: laser (light amplification by stimulated emission of radiation), radar (radio detection and ranging—the first “a” of radio is kept to make the word utterable) or scuba (self-contained underwater breathing apparatus).

Conversion Conversion (sometimes called functional shift) is the use of a word from one word class or part of speech category to another and in the process creating a new word. *Read*, for example, begins its lexical life in English as a verb, but has taken on a noun meaning in which it refers to the source or things read, as in “E. M. Forster’s novel *Maurice* is a really good *read*.” The noun use of *read* in this sense seems to have become quite popular in recent times, seen, for example, in lots of social media postings, and has given rise to analogous uses of *watch*, “That movie is a really good watch,” and even *listen* “a really good listen” to endorse, say, a podcast.

Conversion is very productive in English and has been for a long time. Think about how many words can be either verbs or nouns: *to run*~*a run*, *to drive*~*a drive*, *to hit*~*a hit*, etc. Pairs such as those just given are so frequently used as either noun or verb, it is impossible to know which sense came first without some reference. However, by consulting a dictionary with good etymological (history of words) information, we can find out. For example, the Oxford English Dictionary (OED) shows the first instances of the verbal meaning of *run* to date to Old English (before 1100) while the first instance of the noun *run* occurs in 1475. Some conversions are so recent or local that the OED does not even list their use. For example, the use of *beer* as a verb as in “Beer me,” meaning “give me a beer,” is not in the OED.

Derivation Finally, we can discuss derivation which involves the addition of morphemes to a stem in order to create a new word. For example, the suffix *-ness* has the ability to create a new

noun, *happiness*, from the stem *happy*. Not all derivational morphology involves suffixes in English, but also prefixes: *take~retake*, *apply~misapply*, etc. In the next section, we look more closely at derivation in contrast to inflection.

Derivational versus Inflectional Affixes

Traditionally, affixes are classed into two broad types, derivational and inflectional affixes. In broadest terms, derivational affixes create new words while inflectional affixes, similar to grammatical free morphemes, express grammatical relationships. For illustrative purposes, let's consider the suffix *-ity* and the plural suffix *-s* on words like *purity* and *birds*. When suffixed to an adjective, like *pure*, *-ity* derives a noun from an adjective (and consequently *purity* would be called a deadjectival noun); it is a derivational affix. *-s*, on the other hand, shows the noun *bird* to be plural. Note that it does not create a new word, but a different form of the same word in the plural; it is an inflectional affix.

There are a few other criteria that distinguish derivational and inflectional morphology. For one, we notice that the suffix *-ity* changed an adjective to a noun; we can say that it shifted the word class of the stem it was attached to. Inflectional morphology never involves such a shift, although it should be remembered that not ALL derivational affixes shift word class in this way. For example, the prefix *re-* creates a new word when added to a verb like *take*, *retake*, but both *retake* and *take* are verbs. Also, whereas inflectional affixes apply broadly to words within a given word class such that *-s* (-or *-es*) will attach to many, many nouns to make them plural (*cars*, *tiles* *wheels*, *parents*, *bushes*, *fences*), *-ity* will only attach to some adjectives to create nouns; thus, *pure* → *purity*, *scarce* → *scarcity*, *electric* → *electricity*, but not *big* → **biggity*, *rough* → **roughity*, *hard* → **hardity*, etc. (Remember that an asterisk indicates that the form is not a word in English.)

Other Types of Morphemes

Bound Stems

As mentioned earlier, not all stems upon which complex morphological words are built are free morphemes because there do exist in languages bound stems. Consider the following list of words:

conceive
deceive
receive
perceive

Intuitively, you probably recognize each of the words as consisting of two morphemes and if you pushed that intuition a bit, you would likely come up with the morphological division as *con-ceive*, *de-ceive*, *re-ceive* and *per-ceive*, because you recognize *con-*, *de-*, *re-* and *per-* as prefixes that appear in many other words: *detract*, *contest*, *renew*, *perform*, etc. However, when those prefixes are removed from the word, we are left simply with *-ceive*, which is not a free morpheme; it is a bound stem. Other bound stems include the *-fer* in *defer*, *confer*, *refer* and *-cussion* in *percussion*, *concussion*, *discussion*.

Many such bound morphemes came about because the words in which they occur were borrowed whole. For example, *deceive* was borrowed from Old French *decevoir* (in the 14th century) and it is only because we borrowed several other words from Old French (and later Latin) with the same *de-* prefix that we are able to recognize *de-* as a prefix with the meaning something like “away from.”

Cranberry Morphemes

In some cases, speakers of the language have an intuition that a word is segmentable into morphemes, but after breaking the word into its parts, one is left with a meaningless morpheme. Consider the word *cranberry*, for instance. Clearly, *-berry* is a recognizable morpheme, but the remaining part of the word, *cran-*, is not meaningful in that same way. *Cran-* is a cranberry morpheme and obviously the source of the term. Sometimes the meaning of the word part makes sense historically. The word *cranberry* was borrowed from Low German, in which the *cran-* element was *kraan-* and meant the bird *crane*. Other cranberry morphemes include *cobweb*. We know what a *web* is, but what is *cob*? Its etymology lies in the Old English word for *spider*, but Modern English speakers do not know this.

One interesting thing about such morphemes is that speakers of the language may make such “unmotivated” linguistic material meaningful and use it in novel compounds, like *cranapple*. If you recall the definition of a morpheme as “the smallest unit of language that has meaning,” it is not surprising that speakers try to “make sense” out of otherwise meaningless language and it is to that point that we turn next.

False Segmentation and Folk Etymology

The word *hamburger* is a term borrowed from German and originally referred to a resident of the city Hamburg. While not entirely clear how, the word came to refer to a ground beef patty (and ground beef generally), but perhaps because the word is so enticingly segmentable and because *ham* is a clearly free morpheme in the language, *burger* has become analyzed as a separate free morpheme and as such is combinable with a number of other free morphemes: *turkey burger*, *fish burger*, *veggie burger*, etc.

A similar example involves the suffix *-scape*. Originally found in the borrowed Dutch word *landscap* “land shape,” the *land* portion of the compound was available to English speakers and so the *scap* or *scape* portion become available for novel affixation as in *seascape*, *mountainscape*, *rockscape*, etc.

In some other cases, unmotivated linguistic material may become “motivated” by speakers, particularly, it would seem, if the word is “exotic” in some way. The process by which this occurs is called “folk etymology” and an example is provided by the term *muskrat*. Originally borrowed from the Algonquian language Massachusetts as *musquash*, English speakers changed the word based in part on the rodent’s similarity to a rat, but also because the rodent excretes a musky odor and so reinterpreted the *musq-* part of the word as the English word *musk*.

A funny sort of re-etymologization that I once encountered in a grocery store deli involved the term “devilled eggs.” The grocery store was located in a small and religious town in Southern Illinois and the eggs in question appeared with the label “doubled eggs.” Presumably to avoid ingesting eggs sanctioned by the prince of darkness, the store had changed the term *devilled eggs* to *doubled eggs*. While the motivation for this change may have been a way of avoiding a taboo reference, the solution “makes sense” because devilling eggs involves removing the yolk of a boiled egg, preparing it, and then replacing it into the hardened egg whites.

Clitics

Clitics may be thought of in some regard as a morpheme that resides somewhere between word and affix status. While they are phonologically dependent on a host, they are relevant at the syntactic level. For example, the *'m* part of *I'm* is a clitic. While it combines with the pronoun to make a single intonational word, it represents an auxiliary verb that is important to the syntax of the verb phrase. (You will learn more about syntax in the next chapter.) Normally we think of auxiliary verbs as combining with lexical verbs as in *am reading*, *am taken*, etc. Another example is the very

reduced pronunciation of *and* as *n*, as in *bread'n butter*. Together with *bread*, the enclitic *and* forms a single intonational string, but obviously its real work is to link the two nouns together.

The fact that we write clitics as contracted forms is merely an orthographic convention and it is really the phonological status of forms like *n't* (not), *'ll* (will), *'d* (would), *'m* (am), etc., that determine them to be clitics. In other languages, like Spanish, clitics are not written as contracted forms. For example, many pronouns in Spanish are clitics, but they are written as separate words or attached to the host word with no apostrophes:

Marco vino aquí para ayudarle con la tarea.
Marco came here to help-her with the homework.

Morphological Types

Since very early on in the field of linguistics, there have been attempts to locate different languages within morphological types. This typology has cast languages as isolating, agglutinative, synthetic and polysynthetic. For example, Mandarin (Chinese) has often been held up as the example par excellence of an isolating type of language. In such a system (at least ideally), each morpheme is a separate word and carries a single function.

jiāzhōu	qìhòu	hǎo (example based on Thompson and Li 1981)
California	climate	good

“The climate in California is good.”

As you can see from the example, isolating languages like Mandarin may be less explicit about certain grammatical notions. For example, the place is not expressed with a preposition and the copular verb BE is not expressed. Another example is:

wǒ	yǒu	yíge	píngguǒ	hěn	hǎo	chī
I	have	one	apple	very	good	eat

“I have an apple which is very delicious.”

However, it should not be thought that Mandarin is “missing” anything. It is only in comparison to another language that a language might appear to be missing something.

In an agglutinative language, like Turkish, morphemes may be both free and bound, but each morpheme, at least ideally, is segmentable from the morphemes around it and carries a single function. Consider the Turkish sentence (example based on Kornfilt 1993:630):

eve gitmek istiyorum “I am wanting to go home.”

The parts that make up each word can be segmented and assigned a single meaning:

ev	house
e	to
git	go
mek	infinitive (like the <i>to</i> in <i>to dance</i>)
isti	want
yor	progressive (e.g. why we use <i>-ing</i> in English)
um	I

Synthetic languages are those in which the boundaries between morphemes are sometimes obscure and morphemes carry multiple functions. For example, in German, the ending on a verb might show not only tense but also person and the ending on a noun might show number and case.

Ich	schikte	dem	Manne	den	Brief.
I	sent	the	man	the	letter.

The *-te* suffix on *schikte*, however, shows both past tense and first-person singular agreement. The suffix *-e* on *Manne* indicates that the noun is singular and also that it is dative (= recipient).

English, like other languages, shows structures of various types from isolating to inflecting. However, whereas English used to be much more inflectional, it has over its history lost much of its inflectional material. If we consider for a moment the present, imperfect, preterite and future forms in Spanish, it is clear that Spanish is highly inflectional since there are inflections for each person and the different tenses/aspects.

Present

hablo	hablamos
hablas	habláis
habla	hablan

Imperfect

hablaba	hablabamos
hablabas	hablabáis
hablaba	hablaban

Perfect

hablé	hablamos
hablaste	hablastes
habló	hablaron

Future

hablaré	hablaremos
hablarás	hablaréis
hablará	hablarán

English, however, does not show this kind of inflectional complexity in any part of its present-day grammar, although in its past it did (and see Chapter 9). The result is that English is left with just eight inflections, and even some of them are not particularly as robust as one would expect from an inflectional system.

The first two inflectional categories in English are involved with the noun. The first is the regular plural *-s* as in the following examples:

1.
beds
trees

2.
rats
tacks

3.
buses
roses

If you pay close attention to the pronunciation, you will notice that the -s in the three sets is different. It sounds like [z] in the first, [s] in the second and [əz] in the third. However, the distribution is not random. The -s plural morpheme will sound like [z] if the last sound of the noun is voiced, such as [d] or any vowel. It will sound like [s] if the final sound of the noun is voiceless, such as [t] or [k]. When the noun ends with a sibilant sound, the plural -s sounds like [əz]. The study of the way that a morpheme is pronounced differently in different phonetic environments is called morphophonology, and [z], [s] and [əz] are referred to as allomorphs of the -s plural.

We can also note here that some nouns in English do not form their plural with -s, but instead show what we would refer to as an irregular plural:

ox-oxen
child-children
foot-feet
mouse-mice
sheep-sheep
syllabus-syllabi
etc.

In this way we can think of the morphological category as being {PLURAL} and all of the various plural forming strategies as allomorphs of {PLURAL}. In such a configuration, [z], [s] and [əz] would be phonetically conditioned, while the others would be lexically conditioned, that is to say, you simply have to know that the word in question takes an irregular plural form (Figure 4.1).

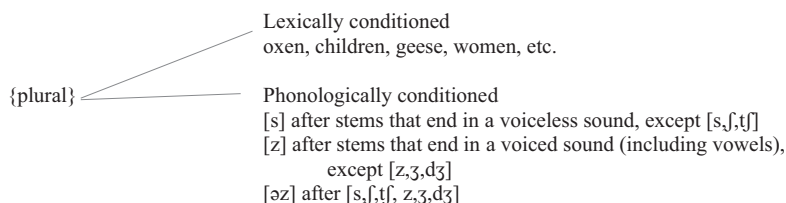


Figure 4.1 Allomorphy of {PLURAL} in English.

The other inflectional category that has to do with nouns is the possessive -'s as in *Tom's car*. However, whereas the plural -s was a good inflection in so far as it attached fairly generally to most members of the word class noun, possessive -s does not behave so typically of inflectional material. First of all, we can note that it competes with another possessive construction made up of the preposition *of*, as in *the father of the bride*. While *father of the bride* and *bride's father* are both possible, in another context there is a clear preference for the *of*-construction as in *the leg of the table* over *table's leg*.

Also, a good inflectional ending will always attach to the same word class, but possessive *-s* “floats around” and attaches to linguistic units of various sizes.

Tom’s car (attaches to a noun)

the mayor of Simpleton’s wife (attaches to a prepositional phrase)

the student who got an A on the exam’s presentation (attaches to a clause)

In this way possessive *-s* does not act like an inflection but more like a clitic.

The next inflection ending of English is involved with verbs and it is the *-ing* suffix that builds the present participle as in *dancing, talking, reading, sitting, stocking*, etc. As far as inflections go, *-ing* is a very good one since it will apply to every verb in English, except perhaps *beware*, a defective verb in English to begin with.

Another inflection that involves verbs is the regular past tense suffix, written *-ed*, as in the following examples:

1.

buzzed

played

2.

kicked

missed

3.

needed

wanted

As with the regular plural *-s* suffix discussed above, we have a good example of a morphonological pattern in that the *-ed* has three different phonological shapes. In the verbs in 1 it sounds like [d], while in 2, it sounds like [t]. In 3, it takes the form [əd]. Then, since we have identified it as a morphonological pattern, there must be some way of describing the distribution. In short, the [d] pronunciation manifests itself when the suffix is attached to a verb that ends in a voiced sound (including all vowels), like a [t] when the verb *-ed* attaches to a verb that ends in a voiceless consonant, and [əd] when the suffix is attached to a verb ending in [t] or [d].

Of course, we know well enough that not all verbs take the *-ed* morpheme to show past tense, such as *sing-sang, buy-bought, tell-told*, etc. Therefore, we would count [d], [t] and [əd] as phonologically conditioned allomorphs of {PAST TENSE} while the past tense strategies for the others would be lexically conditioned.

Another inflectional suffix that attaches to verbs is the *-s* that signals third-person singular present, as in *she takes, he knows, Alberta discusses*, etc. The morphonological distribution of the three allomorphs [s], [z] and [əz] shows the exact same distribution as the plural *-s*: [s] after a voiceless sound, [z] after a voiced sound, [əz] after sibilants. There is no lexically conditioned allomorphy and the third-person singular present *-s* attaches to all lexical verbs under the relevant conditions, that is, when the subject is a third-person singular noun or pronoun in the present tense. (We will discuss later the fact that not all dialects of English have this suffix.)

The last inflectional verbal suffix is the *-en* of the past participle, as in *written, taken, spoken, smitten*, etc. This particular inflection is not terribly widespread, affecting only a handful of irregular verbs in Modern English, although it was more productive in older periods of English.

The last two inflectional suffixes in English involve adjectives and they are the comparative and superlative endings *-er* and *-est*, respectively: *big-bigger-biggest*, *old-older-oldest*, *fast-faster-fastest*. Of course, not all adjectives form the comparative and superlative in this way, a point we will return to later.

Types of Affixes in the Languages of the World

Throughout this chapter, it has already become apparent that there is great diversity in the way that languages are structured morphologically. In this section, we look at that diversity in more detail by considering the different ways that affixes, or bound morphology, may be attached to a host.

Prefixes

Prefixes are self-explanatory in that they are affixes that attach to the beginning of a stem.¹ Examples from English include:

prefix
reorder
overcook
delimit
misdial

Examples of prefixes from other languages include:

Greek:	podia “foot”	platupodia “flat foot”
Russian:	pisát “to write”	opisát “to describe”
Yoruba:	be “to cut”	abe “razor”

Suffixes

Suffixes are affixes that attach to the end of a stem. Examples from English include:

basement
purity
darkness
running
approval

Examples of suffixes from other languages include:

Albanian:	mal “mountain”	mali “the mountain”
Turkish:	yorgun “tired”	yorgun um “I am tired”
Japanese	ki “to wear”	kite “wore”
Quechua	qam “you (sing)”	qam kuna “you (plural)”

Infixes

Infixes are affixes that attach to the interior part of the stem. In Tagalog, for example, the present form and imperative of the verb is made by infixing *-um-* after the first consonant.

shout	sigáw	shout!/shouts	sumigáw
howl	tambaw	howl!/howls	tumambaw
disobey	suway	disobey!/disobeys	sumuway

Circumfixes

Circumfixes are affixes that attach to both sides of the stem. For example, the German past participle for certain verbs may be considered a circumfix. The stem of the verb “to speak” is *sprech-* and the past participle form of that verb is *gesprochen*. Leaving aside the change in vowel from the stem to the past participle, it can be said that the past participle is formed by adding *ge-* to the beginning of the stem and *-en* to the end of the stem simultaneously. We say that it is simultaneous because there is no word **gesproch* or **sprochen*; the stem only makes sense with the addition of both.

This is quite different from an instance such as *respectful*, since it is arguable that the *re-* was attached first given that there is a word *respect* but no word *spectful*.

Interweaving Morphemes

Interweaving morphemes are a feature of Semitic languages, such as Hebrew, Arabic, Tigre and Tigrinya, etc. In those languages, stems are typically made up of three consonants, so-called tri-consonantal stems, although stems may have more or fewer consonants in some cases. Different meanings of that stem are achieved by interweaving various vowel and consonant patterns between and among the consonants.

For example, in Ge’ez (an ancient language of Eritrea and Ethiopia, still used as a religious language by some groups of that area), we can see the interweaving pattern in the following words (based on Rubin 2017:862). I have left the root consonants bolded.

root *fk’r* “love”

ʔafkara	he loved
yafak’k’ər	he loves
ʔafk’ər	love!
fək’r	affection
mafak’ari	lover

Of course, there is nothing in principle to prevent multiple affixation processes on the same word, and there are many examples of words with both prefixes and suffixes, prefixes and infixes, interweaving morphemes and suffixes, etc., although there may be some cooccurrence restrictions in some languages. In the Ge’ez example, some of the material before and after the root consonants is prefixal and/or suffixal.

Determining Word Classes

Earlier in this chapter, we saw that free morphemes can be either grammatical or lexical, the chief difference being that grammatical morphemes provided the more abstract relational meanings while lexical morphemes provided more contentful, concrete meanings. Under this division, the word classes that make up the lexical side of things include nouns, verbs and adjectives. In this section, we will learn different ways that we can define nouns, verbs and adjectives along structural lines.

Nouns

Nearly every school child has learned that a noun is a person, place or thing. Such a definition is, however, semantic in so far as it attempts to get at the overarching meaning of what a noun is. While such a definition may work fairly well for many nouns, there are clearly others for which the definition is troublesome. For example, *a server*, *Chicago* or a *bus* is easily identifiable as a noun based on the semantic definition given, but a noun like *reinduction* may be less so.

In fact, word classes are not so easily defined by semantic characterizations of the type discussed above and a more meaningful way of understanding word classes may be an account of the grammatical patterns that they take part in. One thing that nouns do, for example, is allow modification with the definite article *the*. Thus, the *airplane*, the *jacket*, the *menu*, the *director*, the *neighborhood*, etc. Note that the definite article does not occur with words that are not possible in the noun word class: *the *around* (preposition), *the *occur* (verb), *the *and* (conjunction), etc. Of course, some words that were/are not originally nouns may come to be used as such. For example, *in* and *out* are both prepositions, but in the expression the *ins and outs*, they have come to be used as nouns.

A second grammatical feature that nouns may express is number, such as singular and plural. Thus, *hat-hats*, *finger-fingers*, *boss-bosses*, *playground-playgrounds*, etc., but not **until-untils* (preposition), **or-ors* (conjunction), etc. As discussed earlier, some nouns show plural number, but may do so in ways different from the regular *-s/-es*, for example, *ox-oxen*, *child-children*, *syllabus-syllabi*, etc. Some nouns even show plural with a $\emptyset$ -plural, like *one sheep-two sheep*.

The kinds of grammatical patterns work best for nouns that are common and countable. Proper nouns, since they tend to refer to an already specified and one-of-a-kind referent, can only take the definite article or show plural in special contexts. In this way, there is no reason to talk about “the” Dolly Parton or Dolly Partons, unless we might imagine a scenario in which there are multiple persons named Dolly Parton and I clarify by saying “The Dolly Parton from Cincinnati,” or perhaps a play in which there are several actors dressed up as Dolly Parton, and I give the stage directions, “Could all the Dolly Partons stand to the right side, please.”

Nouns such as *airplane*, *jacket*, *menu*, *director*, *menu*, *neighborhood* are all count nouns, meaning that we signal more of the same class of object by multiplying them: *one jacket*, *two jackets*, *three jackets*, etc. However, other nouns are not countable in this way. For example, nouns like *sugar*, *air*, *water*, *sadness*, etc., are not countable entities and would need to be quantified in some way, as in *a bottle of water*, *a tank of air*, *a pound of sugar* and *period of sadness*, etc. Often enough, in fact, the plural *-s* when added to non-count nouns creates a new noun. Thus, *waters* will refer to bottles or glasses of water and *airs* takes on a specialized meaning of snobbish as in *taking on airs*.

It is also very important to note that the structural patterns for nouns that we have been discussing is applicable to English and some other languages, but not all languages. For example, Swahili nouns do show number, but in a way different from English.

Swahili

Singular		Plural	
mvulana	“woman”	wavulana	“women”
mtoto	“child”	watoto	“children”
mti	“tree”	miti	“trees”
mguu	“foot”	miguu	“feet”
kiti	“chair”	viti	“chairs”
kitanda	“bed”	vitanda	“beds”

Thus, we can see that Swahili nouns have an affix for showing singular and plural and, furthermore, that the affix involved for showing number in Swahili is a prefix, not a suffix as in English.²

Thus, singular and plural are reasonable tests to identify nouns, but the patterning is different from English.

In some languages, however, nouns do not show number. In Japanese, for example, we can see that the nouns in the following expressions do not show number on the noun, although they show it with different quantifying expressions. (Note that the noun is underlined in each instance.)

Japanese

Singular	Plural
hitori no <u>otoko</u> “one man”	futari no <u>otoko</u> “two men”
hitotsu no <u>coppu</u> “one cup”	futatsu no <u>coppu</u> “two cups”
ippiki no <u>neko</u> “one cat”	nihiki no <u>neko</u> “two cats”

Verbs

In the case of verbs, many school children learn that a verb is “an action word.” Again, this characterization is an attempt at a semantic definition but it is hardly a satisfactory one. Consider the verbs in the following sentences:

Niall threw the javelin.

The summer solstice happens on June 21st.

Algebra is easy.

While “action” may capture well the meaning of *threw*, it does not describe *happens* or *is*. And, indeed, words other than nouns may express some type of action, such as the noun *abdication*. Therefore, in the case of verbs, they are probably defined better by considering how they behave grammatically in the language. One structural pattern for verbs is that they allow for the participial suffix *-ing*.³ Thus, *throw* → *throwing*, *happen* → *happening*, *be* → *being*, etc., but not *soda* → **sodaing* (noun), *from* → **froming* (preposition) or *the* → **theing* (definite article).

Another thing that verbs do in English is show a distinction between present and past tense. For example, if you put a word into the following matrices, and the verbs show different forms, one for present and one for past, then the word is a verb.

Every day I _____.

Yesterday I _____.

So:

Every day I throw a javelin.

Yesterday I threw a javelin

Every day I happen to arrive on time.

Yesterday I happened to arrive on time.

Every day I am at the coffee shop.

Yesterday I was at the coffee shop.

In each case, the forms of the verb signal present (*throw, happen, am*) or past tense (*threw, happened, was*). There are just a few verbs in English that do not show the distinction in obvious ways. They are *cut, put, cast, hurt, bet* and a few others. But in some sense we would recognize that they are signaling tense but with a non-overt marker for it.

Every day I bet on the horses.

Yesterday I bet on the horses.

Again, we have to recognize that these tests are for determining a verb in English. Obviously, the *-ing* suffix is particular to English, but even in the case of tense, it cannot be said that all languages have tense. It is not typical to speak of tense for Mandarin Chinese, for example.

tā	yòu	chī	le
she	again	eat	(particle)

“She is eating again.”

tā	zuótiān	yòu	chī	le
she	yesterday	again	eat	(particle)

“She ate again yesterday.”

As you can see, the verb “eat” *chī* is the same for expressing time now and before. The time meaning for past is derived from the adverb *zuótiān* “yesterday.”

Adjectives

In school, you may have learned the definition for adjectives that “they modify nouns.” This definition would be a functional definition, that is, saying what adjectives do. But, in fact, it is neither necessary nor sufficient. First, it is not necessary because, in fact, some adjectives do not modify nouns. Consider the following sentence:

The rich get richer.

Here the adjective *rich* does not modify any noun in the sentence, although such a use may invoke the notion of some very abstract noun like “people.”

Nor is the definition that adjectives modify nouns sufficient because other word classes may also modify nouns.

Modifier	Noun
coffee (noun)	cup
away (adverb)	game
in (preposition)	group

As with the other word classes discussed in this section, we will consider two structural patterns for adjectives. First, we can note that adjectives vary between attributive and predicative position, as in the following examples:

the tall student (attributive position)

The student is tall. (predicative position)

a famous painting (attributive position)

The painting became famous. (predicative position)

that gregarious patron (attributive position)

That patron seemed gregarious. (predicative position)

From the examples, you can probably glean that the attributive position of an adjective is that before the noun it modifies. The predicative position is that after a linking verb (*be*, *become*, *seem*, *appear*, etc.), that is, a verb that links the subject to some quality or character expressed by the adjective.

There are some adjectives that cannot occur in both positions, however. Thus, adjectives like *utter*, *polar* and *lone* cannot occur in a predicative position.

A polar bear

*The bear was polar.

Other adjectives do not commonly occur in an attributive position, such as *alone*, *asleep*, *glad*, etc., although usage on this point may vary by speaker or speech community.

*The winner was glad.

?A glad winner⁴

Adjectives also express comparative and superlative degrees. Comparative degree is that which compares two things: *this apple is redder than that apple*. Superlative degree compares more than two things: *this is the reddest apple I've ever seen*.

Positive	Comparative	Superlative
red	redder	reddest
tall	taller	tallest
small	smaller	smallest

The -er/-est inflectional suffixes are common with adjectives of one syllable such as *red*, *tall* and *small*, but adjectives with three or more syllables take the adverbs *more* and *most*, respectively.

<u>Positive</u>	<u>Comparative</u>	<u>Superlative</u>
tremendous	more tremendous	most tremendous
suspicious	more suspicious	most suspicious
radical	more radical	most radical

Adjectives of two syllables, however, cause some problems for English. Prescriptively and traditionally adjectives of two syllables ending in -y, -le, -er, -some are “supposed” to take the inflectional -er/-est:

<u>Positive</u>	<u>Comparative</u>	<u>Superlative</u>
sticky	stickier	stickiest
nimble	nimbler	nimblest
slender	slenderer	slenderest
awesome	awesomer	awesomest

These forms, other than *stickier*, tend to sound odd, especially to younger speakers of English.

Once again, we will have to submit to the fact that the following structural behavior of adjectives is valid for English, but might not work for other languages. Indeed, some languages do not seem to have a class of words that would correspond to adjectives in English at all. Thus, in Vanuatu, there is no adjective “good” but a verb “to be good”: *ga iwi* “He is good.” While *ga* is the pronoun “he,” *iwi* is a verb meaning “is good.” We know it is a verb in that language because the prefix *i-* is used for other verbs in agreement with a subject *ga*: *ga ipan* “he goes.”

Notes

- 1 In some descriptions prefixes will be said to attach to the “left” side of a stem, but that can be confusing since spatial orientation of language is metaphorical, and even in the written language, not all languages are written left to right and so in a language like Hebrew, the left side of the stem may be the end of the stem.
- 2 Note how some of the nouns in the Swahili data have the singular in *m-* and the plural in *wa-*, while others have singulars in *m-* and *ki-* with corresponding plurals in *mi-* and *vi-*. These sets *m- ~ wa-*, *m- ~ mi-* and *vi- ~ ti-* amount to different noun classes or genders in Swahili.
- 3 In fact *-ing* can do several things in English. Here the *-ing* is participial, which can, among other things, make the form of the verb used in BE + Participle, as in “The riders were throwing a ball on the bus.”
- 4 The question mark before the form indicates that the form is questionable, but some speakers of English might not object to the use of *glad* in attributive position.

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5 Syntax

The Hierarchy of Syntactic Structure

Syntax is the study of the ways that words string together to form the larger linguistic units of phrases and clauses. It is the study of syntax that reveals the layered or hierarchical nature of language best because it is possible to think of structures being “nested” in other structures. The structures that are relevant to the study of syntax are three: word, phrase and clause, which we will discuss below in turn.

Word

While we all have a good intuitive sense of what a word is as a “group of letters with space on either side,” the matter is more complicated when we begin to look at it from a linguistic perspective. For example, is the expression *at all* one word or two? Certainly, the writing system would make us treat it as two words, but is it really? Given that there are virtually no other words that can intervene between *at* and *all*, it makes more sense from a syntactic point of view to think of it as a single word. Also, however, we can note that *at all* makes up its own intonation group. By intonation group, we mean that a primary and secondary stress fall over the entire stretch of sounds with the first syllable of *at* taking a primary stress (indicated here with an acute accent mark) and *all* taking secondary stress (with a grave accent) as, *át àll*.

Another challenge to defining a word in English, and some other Germanic languages, is the fact that certain verbs, called phrasal verbs, are made up of a verb plus a particle, as in *give up*, *take out*, *put down*, etc. On an intuitive basis, speakers likely think of these as single verbs, and certainly the meaning of such phrasal verbs leads to such an analysis since the two parts of the phrasal verb is what gives it its meaning, a meaning often paraphrasable by a single verb: *give up* “surrender,” *take out* “remove,” *put down* “insult,” etc. However, these phrasal verbs do not behave as one word syntactically, as can be seen in the following instances:

They **gave** their house **up**.
Sarah **took** the garbage **out**.
The children **put** the new kid **down**.

In each of these instances, the particle element is placed at the end of the sentence with the direct object falling between it and the verb. In such cases, we might make reference to a discontinuous word as a special kind of word in English.

When we attempt to define word in languages other than English other problems may arise. For example, in some Native American languages many concepts that can be expressed with separate words may be “bundled” together into a single word. Take, for example, the following word from Yup’ik:

kaipiallrulliniuk

The word may be broken up into the following morphemes:

kaig—piar—llru—llini—u—k

The morphemes mean in order:

be hungry—really—past tense—apparently—indicative mood—they two

So that the entire word in English is the sentence:

The two of them were apparently really hungry.

So by what claim can we say the rather complex grouping of morphemes and their meanings is just one word in Yup'ik? There are different ways to approach the question and one is that native speakers of the language know intuitively that it is a word and pronounce it as a single unit without pauses. Presumably then a Yup'ik speaker would not pause after each of the morphemes in the way you might say (or write in internet language): This.is.my.book.

Cross-linguistically, the definition for word may be better established on phonological grounds rather than a strictly morphological or semantic basis. And a language might show a word to be a word based on prosodic features like intonation or stress. Recall that in the last chapter, we were able to identify the expression *black bird* as one or two words depending on stress. If the combination is really an adjective describing a bird that is black, we would have stronger stress on the word *bird*: *bláck bírd* and compare our discussion of *at all* earlier. But, if it is a compound then both *bird* would carry secondary stress: *bláck bírd*. We should not expect a single definition for word that would neatly apply across all languages.

Even given the kinds of difficulties touched upon here, our intuitive sense of a word as a group of letters with space on either side should work well enough for us to do syntax at an introductory level for the languages we will be talking about.

Clause and Phrase

Traditionally for English, a phrase is a group of words that belong together that do not contain a grammatical subject and finite verb, and a clause is a group of words that belong together that do contain a grammatical subject and a finite verb. This is a sufficient working definition, although we will need to make some revisions below in light of other languages and modern concepts of clause. Obviously, in order to understand this definition, it is necessary to give a definition of a grammatical subject and a finite verb. A grammatical subject in English is the noun or pronoun that governs the form of the verb. Consider the following sentences:

The car is moving slowly.

The cars are moving slowly.

In the two sentences, we see that the verbs *is* and *are* differ in form because the grammatical subject in each is different in number, singular in the first and plural in the second. In other words, it is the form of the singular or plural subject that is governing the choice between *is* or *are*. One problem for using this criterion for determining the grammatical subject in English is that the language has lost many of

the inflectional suffixes for expressing person. If we look at a verbal paradigm for a present tense verb in English, we find that in fact there is only the third-person singular inflection in the present forms.

	Singular	Plural
1	I sing	we sing
2	you sing	you sing
3	he she sings It	they sing

Inflections for person are even fewer in the past tense.

	Singular	Plural
1	I sang	we sang
2	you sang	you sang
3	he she sang It	they sang

For a language like Welsh, person affixes are more varied and expressed throughout the paradigms as in the present forms of the verb for “sing.” (Note that the pronoun is not included in the Welsh paradigm.)

	Singular	Plural
1	canaf	canwn
2	ceni	cenwch
3	cân	canant

While it may be true that English lacks person agreement across the system, the fact that the most frequent verb in English is BE and since BE shows more agreement than other verbs (*am, is, are, was, were*), expression of person is more frequent in English than one might expect.

The point has been made several times that the way of defining grammatical subject by appealing to subject verb agreement patterns is one that works for some languages, like English and Welsh, but certainly does not work for all languages. In Japanese, for instance, verbs do not vary in form according to person. The verb for BE in the present is *desu* regardless of whether the subject is first, second or third person or whether it is singular or plural. Instead, in Japanese, the grammatical subject is indicated by the suffix *-ga*.

Hiro-ga	Tokyo-ni	imasu.
Hiro-subj	Tokyo-in	exists
Hiro is in Tokyo.		

In other languages, a grammatical subject may be identified by position in the clause alone. In Mandarin Chinese, for example, the subject is identified by its position before the verb¹:

wǒ	mǎi	shū
I	buy	book
“I buy (the) book.”		

A finite verb, simply stated, is one that shows tense. Thus, the two verbs in the following sentences are distinguished as being in the present tense and the past tense, respectively.

Paolo drives his children to school each day.

Paolo drove his children to school yesterday.

English is a Germanic language and a defining feature of Germanic languages, at least historically, is that they only have two tenses, present and past. While modern scholars may admit of *will* + verb as a periphrastic future tense, others limit their definition of tense to morphological forms within the verb. Regardless of how one defines tense or how many tenses one allows for a description of English, it is clear enough that there are languages with more “exotic” sets of tenses. For example, in Cocama (a language spoken in Peru), there are two past tenses, one for things that happened in the past recently and another for things that happened long ago:

Ritama-ca tutsu-icuá
town-to go-recent past “I went to town recently.”

Ritama-ca tutsu-tsurí
town-to go-past a long time ago “I went to town a long time ago.”

To return to the point of finite verbs, we note again that they show tense and, at least for English, have a grammatical subject that shows agreement with the verb, although for English we understand that agreement often to be abstract.

Thus, in the English sentence below, the first underlined verb, *chugging*, is non-finite because it does not have a grammatical subject nor does it express tense.

Chugging the cold medicine quickly, the child grimaced.

There is no noun or pronoun before *chugging* that could be its subject and it does not express time on its own. We understand *chugging* to take place in the past because the finite verb in the second part of the sentence is past. But, if I were to make the second verb future, as in *Chugging the cold medicine quickly, the child will grimace*, we also place the activity of *chugging* outside of the past into a future time frame. On the other hand, the verb *grimaced* has a grammatical subject (although clearly we can’t establish that on agreement inflection) and it expresses past tense, shown on the verb with the past tense marker *-ed*.

We then understand, under our definition above, that *chugging the cold medicine* is a phrase and *the child grimaced* is a clause. But again we need to recognize these as traditional definitions and in modern linguistics, scholars talk about non-finite clauses, in which the definition of clause has to do with predication. Predication is defined as “something said about someone or something.” Under this definition *chugging the cold medicine quickly* is a clause since it says something about *the child*, but it would be a non-finite clause since it is not tensed.

Recursion

In generative approaches to the study of language, structure is accounted for by devising a set of input rules which, when applied in the correct order, render some output. These so-called phrase structure rules have the form XY consists of AZ . In this way, the underlined part of the sentence below, a noun phrase, contains a definite article, an adjective and a noun.

The tall runner overtook the competition in the last leg of the race.

Therefore, the rule for forming a noun phrase (NP) may be:

$NP \rightarrow \text{def. art.} + \text{adjective} + \text{noun (N)}$

One of the greatest “discoveries” of the generative approach described here is recursion, that is, the ability for a given structure like NP to be in both the input and the output. Take, for example, compound nouns like *weather balloon*. The rule for generating that structure might be:

$NP \rightarrow NP\ N$

In other words, the input rule for generating an NP can contain another NP that would then be within the rule for creating NPs in the first place. This property as defined in Generative Grammar is called recursion, and although the approach to linguistics that we are taking here is functional in which we have been more concerned with the description and explanation of what we see (the output if you will), the Generative model is helpful for our understanding of the way in which structure can be nested inside of other structures. Consider, for example, a sentence such as *Sarai knew that the children would be late*. In this sentence, we have a clause *Sarai knew* [something] and another clause inside of it, *that the children would be late*. In generative terms, we would expect an input rule something like:

$S \rightarrow NP\ VP\ S$

In other words, the input rule allows for a clause (S) inside of another clause (S).

It is an empirical question as to whether we can establish some languages as more recursive than others and although recursion is often touted as a universal property of human language, some have claimed that there are in fact languages that do not show recursion. We won't solve the controversy here, but again the notion of structures inside of structures is helpful for conceiving of the nested nature of doing syntactic work.

Form-Function in Syntax

A major drawback to many models of grammar and syntax is that they do not consider both form and function in equal measure. Grammar treatments written in traditional grammar, for example, often show a confusion between the terms/concepts “adverb” versus “adverbial.” And we will return to this point below. On the other hand, many modern approaches to syntax have been less than explicit on the difference between form and function, often trying to derive function from form or vice versa.

In the approach we take here, however, form and function are taken to be separate, but interconnected, phases of syntactic analysis. Looked at in this way, form and function may motivate one

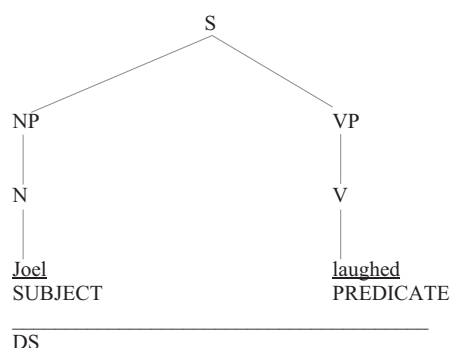
another in certain ways in certain languages, but we are also interested in the different kinds of forms that can express various kinds of functions across languages. Syntactic analysis along these lines reveals a lot of interesting phenomena for linguists to think about. It also reveals there to be very little, if anything, universal about syntax. This last point is more important than one might think because syntactic theory has been dominated for many years as the site where linguists have been looking for universals. After all, if we were to find universals, then we might have evidence that the structure of grammar is “pre”-set and endowed in full form at birth—a central tenet of generative syntax since the 1950s and 1960s, and a point addressed also in Chapter 12.

Again, however, the more languages we learn about and the more we consider those languages on their own terms (and not forced into a European-type grammar), the less certain universals seem. By looking at form and function as independent areas of analysis, a number of very interesting facts present themselves in terms of structure both within a single language and across languages. We will explore both aspects in this chapter.

Form-Function Trees

Diagrams in the form of trees hold a venerable position in the history of linguistics and occupy varying positions of theoretical import. In our approach, we will also use tree diagrams as a way of visually apprehending structure on the form and function levels. But, it is important to note that trees in this presentation of syntax are merely heuristic and as such they are limited in their usefulness. As the syntactic phenomena we are interested in becomes more complex, it should not mean that the trees themselves have to be elaborated and overwrought in order to capture, much less account for, those complexities. In other words, the trees we will be exploring here are useful for introducing syntax, and not much more.

In order to illustrate form-function trees, let’s begin with an exceedingly simple sentence: *Joel laughed*. The questions we would like to ask about this sentence are: what are the forms that are used in it? And, what function does each of those forms perform? Of course, we could just say “Joel is a noun and it is the subject while laughed is a verb and it is the predicate.” For such a simple sentence, the statement alone is enough to comprehend what is going on. But for longer and more complex sentences, form-function trees will be helpful for keeping track of the structure. But, let’s begin our learning of how to use form-function trees with our simple sentence.

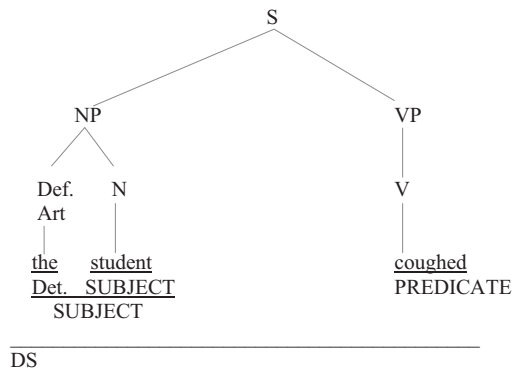


In the form-function tree, we begin at the top with S, which originally stood for Sentence, but it is more appropriate to think of it as a Clause; in this case the Clause is a Sentence. The clause then is made up of a N(oun) P(hrase) and a V(erb) P(hrase). The Noun Phrase is made up a single

N(oun) and the Verb Phrase of a single V(erb). Those parts of the tree make up its form. On the next line, we have the actual words that make up the sentence. Note that the order of words on this line matches the original sentence we set out to diagram in the first place. Below the line of words, we find a set of underlines and those are labeled with the functions of the words and groups of words (phrases and clauses) that make up the sentence.²

Thus, we have each word underlined, *Joel* and *laughed*, and the function of *Joel* is indicated as the subject and *laughed* as the predicate. Now note how the lines extending upward from the NP and VP join together in a terminal node, the S. We say that it is terminal because we have accounted for ALL of the lines projecting from it. We then create a mirror line within the function portion of the diagram that corresponds to every word included in that terminal node, in this case, the whole sentence, which in this case is a Declarative Sentence (DS).

If only all sentences were so simple. Let's consider what would happen if we added a definite article into the N(oun) P(hrase), henceforth just NP, in a sentence like *The student coughed*.



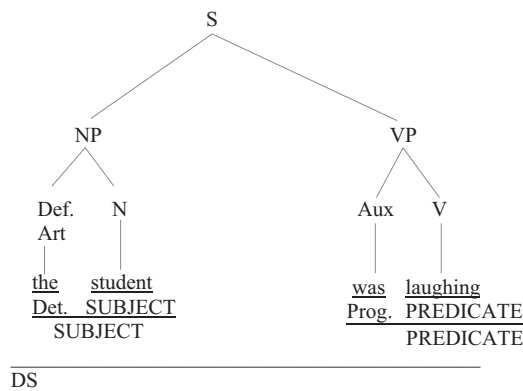
All we really see here is the addition of a branch on the NP node, which we labeled Def. Art. for “definite article” and included its function as “Determiner” (abbreviated Det). The N(oun) is still labeled as the subject, but now as we go upward in the tree, we find that the NP constitutes a terminal node and therefore in accordance with the explanation above, we will need an underline that extends across the words that make up that NP, *the student*. Every phrase will have a headword, which we can think of as being the most important word of the phrase in so far as it is the word class membership of the head word that will determine the syntactic exponents of the entire phrase. What this means then is that the headword and its phrase WILL HAVE THE SAME FUNCTION. Therefore, if the N is SUBJECT, the NP will also be labeled SUBJECT.

Presented below is a partial synopsis of the English verb in chart form. As you can see, many English verb forms include auxiliary verbs. There are two concepts that are useful to learn here: synthetic and periphrastic structure. Synthetic structure was actually introduced in the last chapter when we discussed morphological types. You may recall that synthetic languages were described as those in which sentences were made up of words that contained multiple morphemes with those morphemes expressing multiple concepts. In applying the term to the verb chart shown here, we define synthesis as a form in which the lexical and grammatical information is contained within a single word form. Periphrastic structure is that in which the lexical information is expressed in a multiple-word phrase. In other words, only the simple present and the simple past verb forms are synthetic; all other verb forms are periphrastic.

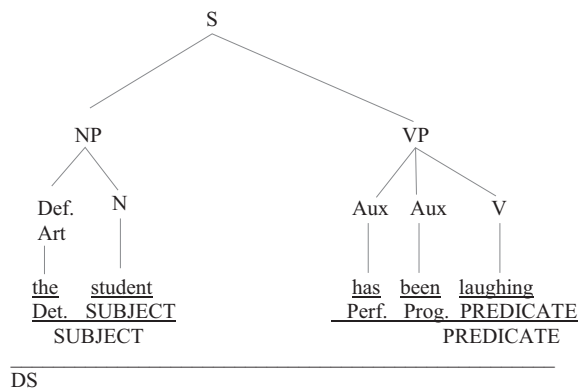
	<u>Simple</u>	<u>Progressive</u>	<u>Perfect</u>	<u>Perfect-Progressive</u>
Present	laugh(s)	am is laughing are	has laughed have	has been laughing have
Past	laughed	was laughing were	had laughed	had been laughing

Figure 5.1 English Verb Synopsis.

The chart is helpful as we begin to consider the expansion of the V(erb) P(hrase). Let’s consider a form-function tree for the sentence *The student was laughing*.



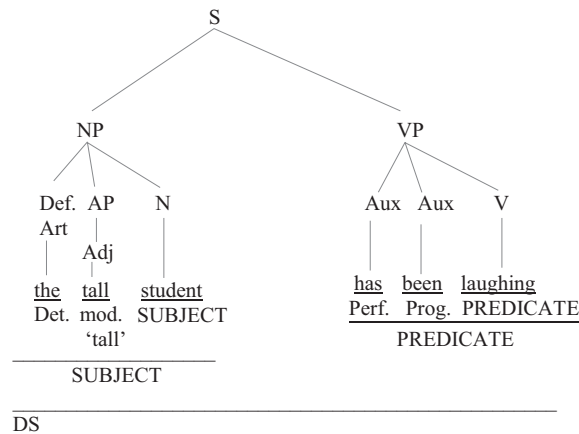
In this tree we see that the VP has been expanded such that it now includes an auxiliary verb along with the lexical verb. The form of the auxiliary is straightforwardly labeled as Aux and its function is Prog. (progressive), which follows from the fact that in the chart was/were + the *-ing* form of the verb is called the progressive.³ Just to be sure that the labeling of auxiliaries is clear, let’s consider another sentence, *The student has been laughing*.



Now the VP includes two auxiliaries and the lexical verb. Since verb forms of the type *has been* + *-ing* is designated as the perfect-progressive, we will label the first auxiliary as Perf. (perfect) and the second as Prog. (progressive).

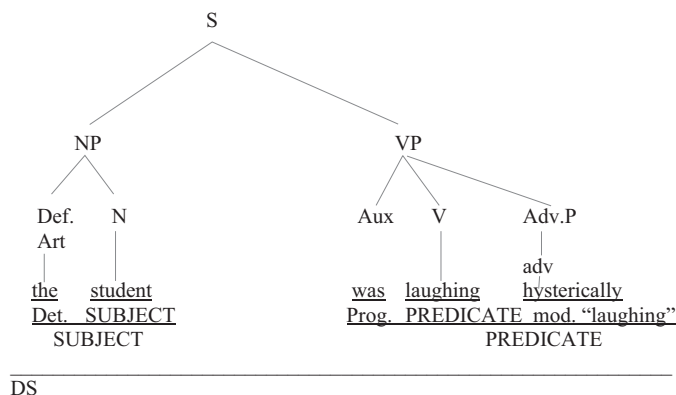
As you will recall from the last chapter, the word class referred to as “adjective” has, among other things, the function of modifying nouns. Therefore, if I were to add the word *tall* to the sentence, *The tall student was laughing*, it would necessitate a branch from the NP, which we label as A(djective) P(hrase), which in turn would have an Adj. (adjective) stemming from it. The function of the adjective would be “modifies ‘student.’”

The word class of adverb is a messy class. Traditionally, adverbs are said to have the following functions:

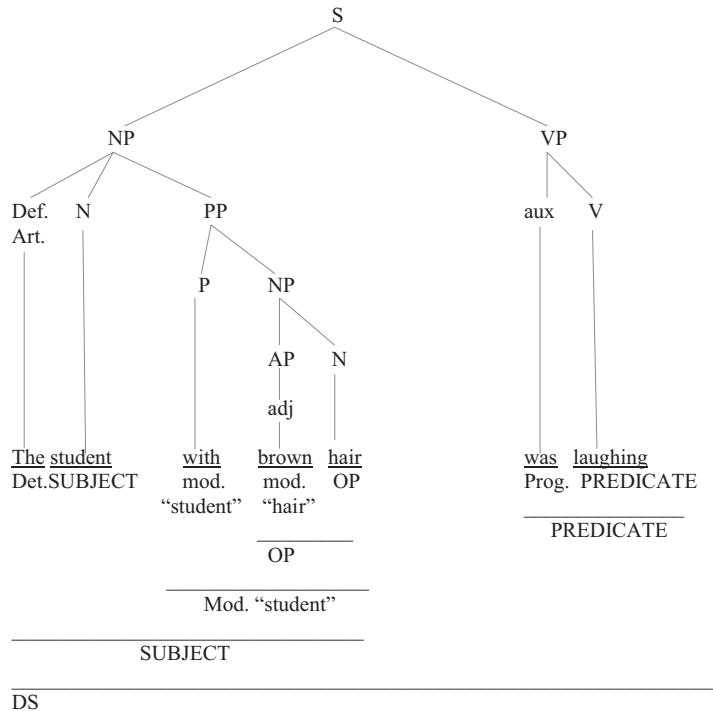


1. to modify verbs: The athlete ran **quickly**.
2. to modify adjectives: The mouse is **really** small.
3. to modify adverbs: The athlete ran **very** quickly.
4. to modify clauses: **Sadly** the school never received the funding.

In their function of modifying verbs, they can do so in terms of manner, place, time, frequency, etc., as in *The student was laughing hysterically*. Here *hysterically* tells us the manner in which the student was laughing. Therefore, we will extend the Adv(erb) P(hrase) from the VP with an adv. extending from that. We will label the function of *hysterically* as “modifying laughing.”

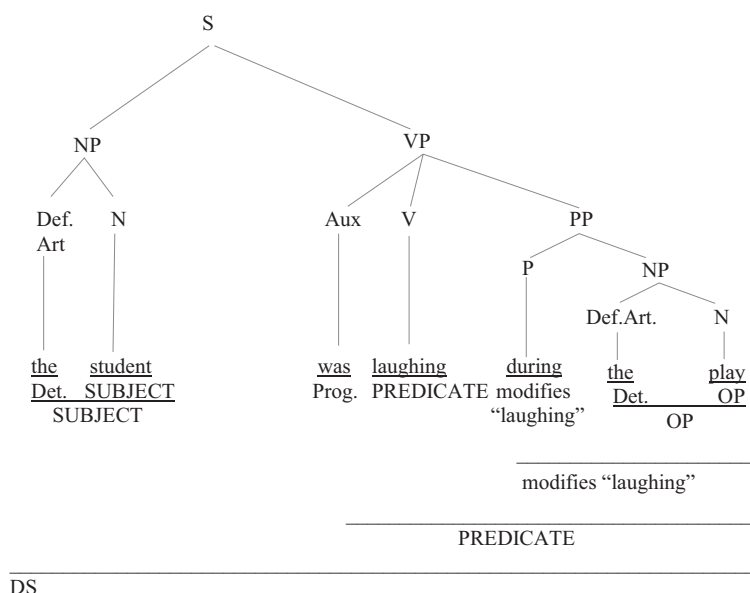


Now as we consider modification as function, we should note that it is not only adjectives and adverbs that can perform such modifications. Imagine, for instance, that there are three students, one short and one tall. My use of the adjective *tall* focuses your attention on that particular student. Now imagine that there are two students, one with brown hair and one with red hair. I can draw your attention to one of the students by saying “the student with brown hair.” “With brown hair” is a prepositional phrase in form, but in function it is like an adjective in so far as it modifies the student.

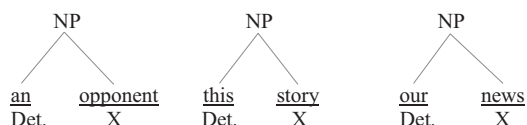


The new structure in this tree is the P(repositional) P(hrase) PP. The structure of a prepositional phrase is that it has two branches, one to accommodate the P(reposition) and the other for the NP, which will function as the Object of the Preposition, or OP as we will abbreviate it. We have already discussed the way that the PP in this sentence functions to modify student and that then will be the function of the PP and the headword, that is, the preposition. Note that PPs will always have a P and a layer of NP, at least as far as our introduction to syntax is concerned.

Continuing with our observation that different functions may be filled by different forms, you won't be surprised to find that PPs can serve other functions as well. Let's now consider the sentence *The student was coughing during the play*. The prepositional phrase here is *during the play* and we note that it tells us when the student coughed; in other words, it is like an adverb and in some sense it modifies the verb by telling us when the student coughed. Therefore, a tree for that sentence would look like the following.

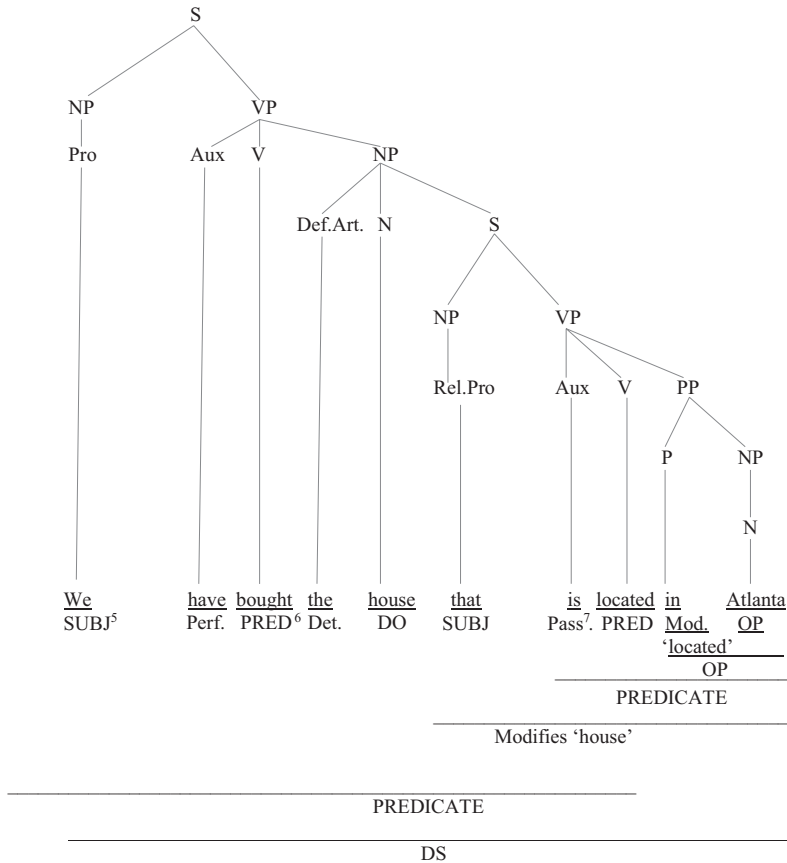


Before moving on to more complex structures, let's consider the NP in a bit more detail. Up to this point, we have used the definite article exclusively as the determiner in the NP. But there are other types of determiners, namely, the indefinite article (*a/an*), the demonstrative articles (*this/that/these/those*)⁴ and the possessive determiners (*my/your* [sg]/*his/her/its/our/your* [pl.]/*their*). Any one of these used in the NP would, like the definite article, have the function of determiner (det.). (Note that each of nouns in the following examples has been labeled with X because the NPs do not actually occur in sentences, and therefore we can't know what the function of those nouns might be.)



As our last foray into our study of syntactic structure using the form-function tree model, let's consider a further complexity and that is the fact that languages allow for clauses to occur inside of other clauses and this is why the notion of recursion discussed briefly at the beginning of the chapter is helpful in our conceptualization of the nested structure of language. The first type we will consider is the relative clause, which in more traditional grammatical terms corresponds, more or less, to what have been called adjective clauses. The term "adjective clause," in fact, goes further in describing what relative clauses do. Imagine, for example, that you were looking at three houses, one pink, located in Chicago, one white, located in Atlanta, and the third yellow, located in Louisville. Now imagine that I asked you to look at *the house*. You would be unclear as to which house to look at. However, if I used an adjective and told you to look at the *white house*, the adjective would have limited my reference to one of the three houses. Note that I could have done the same thing by using an entire clause, *the house **that is located in Atlanta***. The bolded part of the expression is a relative clause, which, like adjectives, may serve to limit my noun reference to a specific one.

Such a structure represents a more complex syntactic configuration than we have seen so far because the NP, the house, will have a clause (S) embedded within it. To illustrate that point, consider the form-function tree for the sentence *We have bought the house that is located Atlanta*.

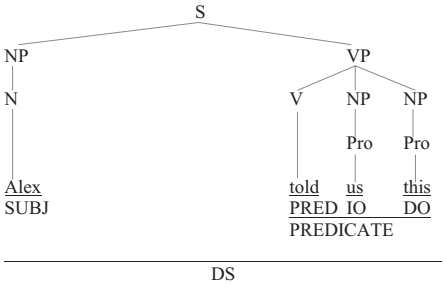


In the diagram, we see that the relative clause *that is located in Atlanta* is represented by S which extends from, or is embedded within, the NP, *the house*. The fact that it is a clause is obvious from the fact that the group of words with a subject in the form of the relative pronoun and a finite verb *is located*.

Another type of embedded clause involves content clauses, which include those types of clauses known as noun clauses in traditional grammar.⁵ Again, here, the traditional name of noun clause is more illustrative of what such clauses do as they fulfill the same function that a noun does as subject, direct object, etc. Consider the following two sentences:

Seung-Hwa traveled to Bangkok.
Alex told us this.

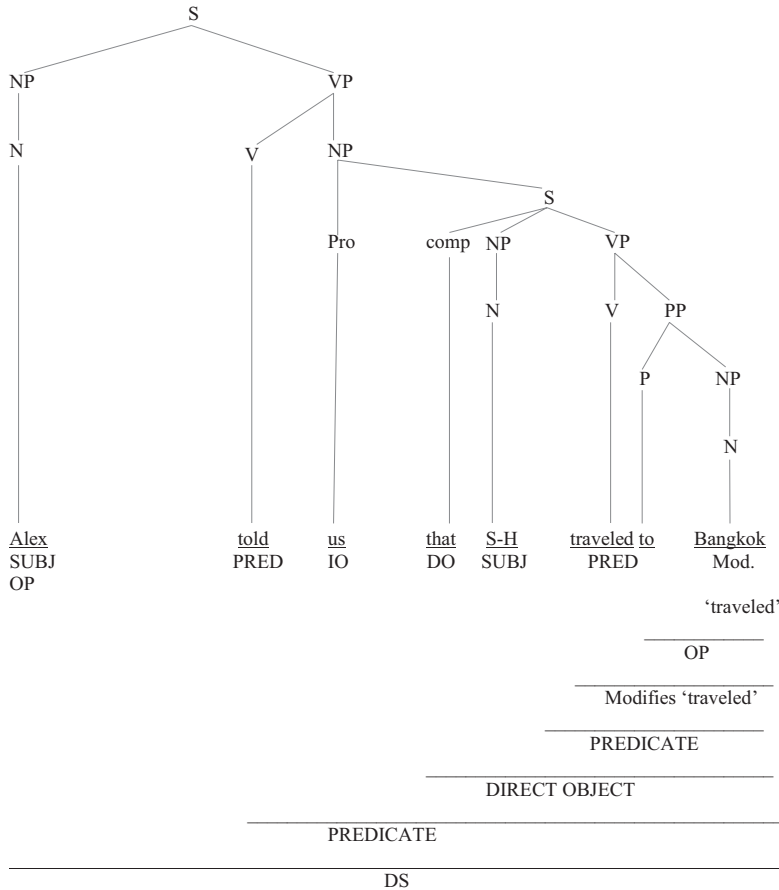
In the second sentence, the demonstrative *this* is the direct object of *told*, a form-function tree which would look like the following:



Now if we think about what *this* refers to, we understand that it refers to the entire proposition *Seung-Hwa traveled to Bangkok*. We can combine the two sentences as:

Alex told us **that Seung-Hwa traveled to Bangkok**.

What we have done in that combination is to have made the clause *Seung-Hwa traveled to Bangkok* into the direct object of the verb *told*, represented in a form-function diagram as:



Function Motivating Form: Valence

Even though we have been splitting our analysis between form and function, it should not be thought that the two do not interact. We can make the argument that in some cases function may in fact motivate form. To illustrate how this might work, let's think of language as a stage upon which you view participants, objects and actions. Consider the following sentence:

Verde saw Azul.

Invoking a stage metaphor, we can ask ourselves how many participants are involved, and, of course, the answer would be two, *Verde* and *Azul*. Thus, we would say that the clause has a valence of two. Now while we will concentrate on syntactic valence, that is, the number of participants overtly expressed in the clause, we can also talk about semantic valence, which may not always align with syntactic valence. Consider the sentence:

Japheth drinks.

From the clause we would note that syntactically there is only one participant; that is, Japeth. But semantically there are two because we understand that Japeth drinks something, likely alcohol in this case.

Returning to syntactic valence in the clause given above, *Verde* is the subject and *Azul* is the object. We can capture the syntactic valence in a predicate calculus of the type:

SEE (Verde,Azul)

What this calculus tells us is that for the verb SEE, there are two arguments. “Argument” is the linguistic word for “central participants on the stage.” They will normally be nouns or pronouns. More specifically then, the arguments given in this order indicate that *Verde* is the subject and *Azul* is the direct object, and thus SEE is a transitive verb, i.e. one that takes a direct object. But you should be able to understand that the predicate calculus isn’t interesting because it describes a single sentence in a single language, but that it can describe the nature of the verb SEE across different uses in English. Therefore, we would want to capture that predicate calculus in more abstract terms as:

See (a,b)

In this rendition of the predicate calculus, the arguments have been expressed in more abstract terms as variables, such that SEE(a,b) could be *Verde saw Azul*, *The farmer saw his wife*, *We saw the Eiffel Tower*, etc. In other words, what we are really interested in capturing with the predicate calculus is the syntactic valency of the verb SEE.

Of course, other verbs may have differing valency configurations:

Karen laughed. = SING(a) (intransitive verb with no direct object)

The teacher handed the student some chalk. = HAND(a,b,c) (ditransitive verb with both a direct object and an indirect object)

Etc.

Valency Adjusting Constructions

Now we are ready to employ the notion of valency to show the ways in which languages might increase or decrease valency, and the reasons speakers might do so. What we will also see is that some of the forms used to achieve valency adjustment may be motivated by that valency.

Valence Decreasing

*Passivization*⁶

One valence decreasing strategy is passivization, which you are already familiar with. You can see the way that passivization works as a valence decreasing device by considering these two examples:

Active

*Two ravenous tigers ate the
linguistics teacher.*

Passive

The linguistics teacher was eaten.

Once a sentence is made passive, however, it is not grammatically necessary to include the by-phrase, or in this case *by two ravenous tigers*, and that information may be left out of the syntax. In other words, what I have done is to go from active voice to a passive, here captured in predicate calculus:

Active	Passive
EAT(a.b)	EAT(a)

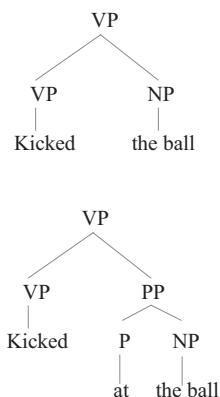
In this case, the relationship between the function of decreased valence and the syntactic form is obvious. We have one less obligatory Noun Phrase in the construction. We note, however, that even though the syntactic valence reduces the construction by one argument, the semantic valence really stays the same because even given the passive sentence, we know someone/something had to have eaten the linguistics teacher. But, a speaker may choose the passive construction because the subject of the active sentence is unknown, obvious or indiscreet.

Object Demotion and Antipassive

Object demotion and antipassives are similar to passives. However, whereas with the passive, we saw that the subject of the active sentence was suppressed (cf. *The tigers ate the man*. → *The man was eaten*), in object demotion or antipassive, the object is demoted. Consider here the following two sentences:

Josiah kicked the ball.
*Josiah kicked at the ball.*⁷

In the first sentence we have a good, transitive sentence with a subject who is willful and agentive in doing an overt action to an object that is changed (in position) after the effects of the verb. However, in the second sentence, the object is not as affected as it is in the first sentence; in fact, it is possible in the second sentence that Josiah did not even make contact with the object, *the ball*, and missed it entirely. While it is true that ball is still “on stage” its role is much diminished and we note that syntactically it is no longer the object of the verb, since it is now the object of the preposition *at*. In other words, the NP *the ball* has been moved away from the ball with the addition of a preposition. The extent of that separation would be aptly captured in a form-function tree because the NP would no longer occur next to the verb, but it is separated from it and embedded within a PP (omitting some detail):



The antipassive, while achieving the same effect as object demotion, is often considered a separate morphosyntactic structure that involves some marker on the verb. For example, in Yup'ik, a verb will show (along with some other changes) a different form depending on the inclusion of the object. The following sentence from Yup'ik shows a transitive verb with an object:

Yero-m	keme-q	nerre-llru-a
Yero-subject	meat-object	ate-past-third singular

“Yero ate the meat.”

In the sentence above, the -m on the name *Yero* shows that it is the subject of a transitive verb (i.e. one with an object). The marking -q on the noun *keme* (meat) shows it to be the object of the transitive verb. However, the sentence may be changed to:

Yero-q	keme-meng	nerre-llru-u-q
Yero-subject	meat-not object	ate-past-intransitive-third singular

“Yero ate (meat)”

We can note that the ending on the subject, *Yero*, has become -q, showing it to be the subject of an intransitive verb now. The -u- in the verb has the effect of detransitivizing the verb, and the noun *kemer* (meat), if included at all, now appears in the “instrumental” case, and not with the -q as it did in the previous sentence when it was the object of the verb. The meaning of the second sentence, the antipassive sentence, is difficult to translate into English. Perhaps we could paraphrase: “Yero ate, and that’s the point. Of secondary focus he ate meat.”

Valence Increasing

A frequent valence increasing strategy in the languages of the world is the so-called “causative.” Consider the following clause:

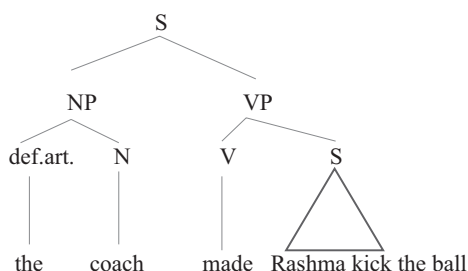
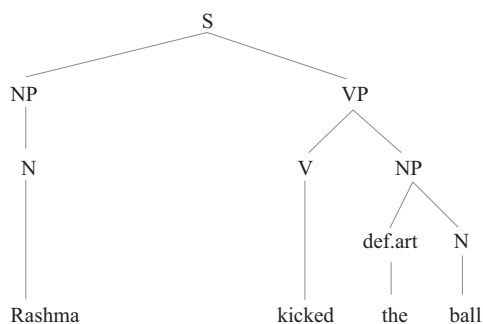
Rashma kicked the ball.

This sentence would have a predicate calculus of KICK (a,b). If we assign this predicate calculus the value P, we can embed it within another clause with the verb *make*, as in:

The coach made Rashma kick the ball.

As you can see, the embedding of *Rashma kicked the ball* after the [subject + MAKE] construction (which is called a causative construction) introduces another argument into the sentence, or in other words, it increases the valence of the sentence. The predicate calculus here would indicate that the clause *Rashma kicked the ball* is embedded in the causative construction. Specifically, that predicate calculus of the sentence with the causative construction would be: MAKE (a,P), where P stands for KICK (a,b).

Here again we can see form and function acting in tandem in so far as causatives add people and actions to the stage and that is captured by elaboration within the syntax as illustrated in the following trees (some detail omitted).



Notes

- 1 It is not entirely clear that grammatical concepts like subject should be applied universally to all languages. Despite linguistics being the study of all languages, many of the concepts that we use to describe languages derive from an earlier knowledge of the structure of European languages. When studying the linguistic structure of any language, it is important to meet that language on its own terms as much as possible. Many scholars working with Mandarin think of nouns before the verb as “topic.”
- 2 To my knowledge it is Paul Hopper who first devised the form-function tree in his book “A Short Course in Grammar,” published in 1999 by Norton. The trees appear here in modified form from those in Professor Hopper’s book.
- 3 This labeling may give the false impression that progressive aspect is located exclusively in the auxiliary verb. But, in fact, aspectual meaning is derived from the entire verb construction.
- 4 *This* and *that* are singular: *this hat/that hat*. *These* and *those* are plural: *these times/those times*. Also, *this* and *these* are proximal indicating proximity to the speaker and *that* and *those* are distal indicating distance from the speaker.
- 5 The group of clauses referred to as noun clauses in traditional grammar are differentiated into different types in modern grammatical theory. The differences need not concern us much here.
- 6 It is important to note that in the view espoused here, it is not the case that the passive sentence (or any compared structure) transforms from one to the other in the mind of the speaker as they produce sentences. The comparison and metaphor of transformation is merely convenient for conceptualizing the structural and semantic relationship between the sentences.
- 7 While the example here certainly helps to understand an antipassive, it is less clear the degree to which we should include the English construction as a true antipassive because of the limited set of verbs to which such a “transformation” may be applied.

Recommended

- Givón, Talmy. 1984. *Syntax: Volume I*. Amsterdam: John Benjamins.
- Givón, Talmy. 2001. *Syntax: Volume II*. Amsterdam: John Benjamins.
- Payne, Thomas E. 1997. *Describing Morphosyntax: A Guide for Field Linguists*. Cambridge: Cambridge University Press.
- Smith, K. Aaron. 2022. *A New Form-Function Grammar of English*. Peterborough, Ontario, CA: Broadview.

6 Semantics

Introduction

As we move into a new area of study/analysis, it is a good time to review and contextualize what we have studied so far. In the area of language analysis, we have studied:

Phonetics	The study of human speech sounds
Phonology	The study of the patterns of sounds in language
Morphology	The study of words and word formation
Syntax	The study of the order of words in phrases and clauses

We now turn our attention to semantics which we define as “the study of referential meaning.” It is very important to include the description “referential” because, as you will learn a little later in this chapter and the next, there is another area of meaning study called “pragmatics,” which approaches the study of meaning in a different way. (And we will return to that distinction in more detail when we turn to pragmatics.)

Referential Meaning

By referential meaning, we mean that a given symbol (in linguistics “symbol” is understood to be a language form, that is, a morpheme, a phrase or a clause) refers to something, and importantly that the reference or referential relationship is out there in the world. I realize that this may seem obvious, but again when we turn our attention to pragmatics, it will make more sense, since the difference between semantic meaning and pragmatic meaning is that semantic meaning is referential, while pragmatic meaning is more situational, negotiated, etc.

There are some correlates of the fact that semantic meaning is referential that might help you to appreciate its nature. One is that semantic meaning is conventionalized—meaning that a given definition is understood by all speakers of a given language. So, for instance, given the word *bird*, there is very general consensus on the definition of that word as a “winged, feathered animal.”¹

A second feature of referential meaning, or semantic meaning, is that it is relatively stable. The word “bird” has been an expression referring to a winged, feathered animal for a very long time in English. “Bird” with the definition I have given has existed in English since the Old English period; the Oxford English Dictionary dates its occurrence to 800 CE, that is, as appearing in the very earliest documents of our language. This is not to say, of course, that meaning cannot change over time; it certainly can and does. We will talk more about semantic change later in this chapter.

What Is the Structure of Semantic Meaning?

The answer to the question “what is the structure of semantic meaning?” is equivalent to a theory of semantics, of which there have been (and are) many. A good starting point for this vein of discussion is to consider the following illustration²:

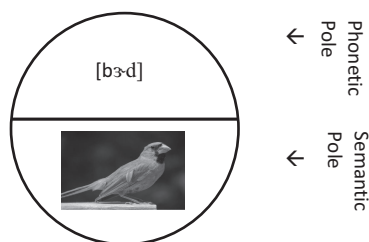


Figure 6.1 Semantic and Phonetic Poles.

This graphic allows us to think about a symbol in terms of the phonetic material that makes up the symbol and the concept it refers to. Now, the fact is we understand much more about the phonetic pole because it is physiological and fairly directly observable; I can see where your tongue, lips, teeth, vocal folds, etc., are when you say a word. However, meaning is not observable in that way; it takes place in the mind, which in and of itself is a very abstract entity.³

The study of semantic theory is, then, an attempt to describe the structure of the semantic pole. Obviously, we cannot review each and every semantic theory that has been proposed. Instead, we will look at a few and remark on why or how one might be better than another.

Semantic Feature Theory

In some approaches to semantic meaning, linguists within certain theoretical frameworks proposed that meaning is made up of smaller meaning units, called semantic primes. This approach is in line with linguistic analysis on other levels of language structure, like phonetics, in which sounds were proposed to be made up of smaller features or gestures, e.g. what part of the tongue was used, whether the sound was voiced, etc. Thus, meaning too was proposed to be derived from a cluster of smaller primes. Linguistic work along these lines then assign a + or – to a prime, indicating that the prime is present or absent in a given linguistic expression.

An example of how primes might be used to arrive at a semantic definition is:

Man	Woman	Boy	Girl
[+male]	[–male]	[+male]	[–male]
[+adult]	[+adult]	[–adult]	[–male]

One would not want to criticize such theories in any sort of overly reductive way; the fact is that these theories can be complex and developed by very smart people. Still, the example does reveal certain shortcomings of the approach. First, there is no objective way to establish primes. And in this example, the choice of primes is not independent of the cultural embedding of the very theory itself within a male-dominated patriarchy. In other words, the establishment of primes, in this case, is not empirically derived. Contrast this notion of a prime or feature to those that we might use in phonetic description. We call a [t] “alveolar” because the tip of the tongue comes into contact with the alveolar ridge; that is an observable fact. Maleness is not an observable fact. Correlatively,

then, it is not coincidental that positive values are given to those primes that capture culturally privileged positions: male and adult. Even if we were to substitute the primes [male] and [adult] for [female] and [child], we may have subverted hegemonistic cultural practice, but have done nothing to place the theory onto more scientific footing.

Second, psycholinguistic evidence suggesting that humans understand language in terms of absolute presence or absolute absence of some meaning, as suggested by + and –, is lacking. Nor is it at all clear that we understand the reference of a word or expression by virtue of its not being a different word or expression; we don't define "woman" as being "not a man," although we are aware, of course, that the words *man* and *woman* are, at least in some sense and to some degree, antonyms. Thus, the binary assignment of primes is problematic as well, and given the example here, the problematic nature of such assignment for a theory of semantics is obvious given identities of intersexuality, transgender, etc.⁴

Prototype Theory

Another theory of the structure of semantics is prototype theory. In this theory, meaning is represented as a set of relationships among members of a given category. Prototype theory suggests that speakers will access a central example (called a prototype) of a given concept and that the attributes of that prototype will define the word. To continue with the word *bird*, it is defined by a prototype. In my case, a prototypical bird is a robin, although others may have different prototypes. However, all speakers of English likely have in mind a small, feathered, winged animal with the ability to fly, whether that be a parakeet, robin, swallow, finch, etc.

Prototype theory differs from the semantic features approach discussed earlier in that it is more grounded in categorization of concepts rather than the necessary presence or absence of a given feature. Part of our understanding of *bird* is the ability to assign types to the set of creatures we might or might not consider instances of *bird*. So beginning with my closest association of *bird* with a robin, I will accept a swallow, redbird, blue jay or crow as legitimate members of "bird" easily and without hesitation. Next, confronted with examples like parrot, toucan or peacock, I might eventually accept them as members of the category *bird*, but not so unhesitatingly as I did with the more central members. Finally, given examples like penguin, emu or flamingo, I might be in a genuine state of confusion as to whether they instantiate "bird" or not.⁵

There are several attractive aspects of prototype theory as a semantic theory. First, it is based on observable behaviors of speakers (empiricism). Psycholinguistic testing shows that reaction time among experiment participants is fastest in identifying a robin as a bird (by pressing a button) and slowest when identifying an ostrich as a bird. Second, meaning in prototype theory is not rigid or container-like, but flexible, dynamic, gradable (meaning not based on necessary and sufficient conditions but as having more or less of some meaning components). Thus, the theory itself predicts variability among speakers and that variability entails change. In other words, it jibes better with what we know to be the nature of meaning. In the next section, we will turn to semantic change in order to observe the dynamic, changeable nature of meaning in language.

Semantic Change

Although the point was made earlier that semantic meaning is relatively stable, that point was made in contrast to the other type of meaning we will study in the next chapter, pragmatics. The point is not made to suggest that semantic meaning does not change, because it does and does so frequently and rapidly. In this part of the chapter, we will talk about four types of language change: narrowing, broadening, pejoration and amelioration.

Semantic Narrowing

Meanings sometimes contract over time such that they come to include fewer members in a given conceptual set. A good example of semantic narrowing is the word *hound*. *Hound* in English used to be a more general term meaning “dog,” but over the history of English its meaning has contracted so that now it is only in reference to a specific kind of dog. To this point you should learn another concept in linguistics known as hyponymy. Hyponymy refers to the fact that meanings within a given domain are hierarchical in the sense that certain meanings are more specific instances of broader meanings. For example, a dog is a kind of animal, and a Pekinese is a kind of dog. The following figure represents the hyponymic structure of meanings in a part of the animal domain:

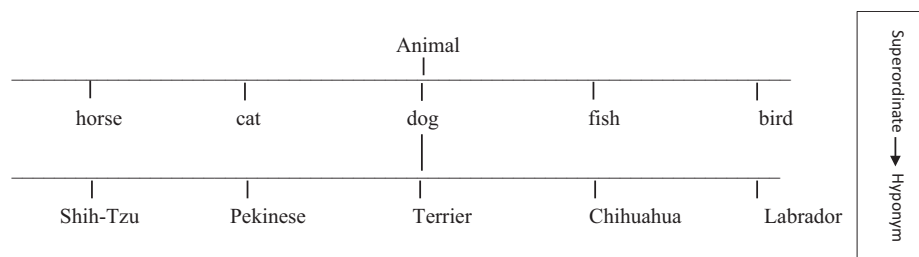


Figure 6.2 Hyponymic Structure.

As indicated in the figure, the broader terms are superordinate and the more specific meanings are hyponyms (or hyponymic instances) of a superordinate term. Thus, *dog* is a hyponym of the superordinate term *animal*, and *terrier* is a hyponym of the superordinate term *dog*, etc. In this way, we can think of meanings as being broader or narrower and that narrower meanings are included in the broader ones. Thus, while a terrier is a dog, a dog is not a terrier.⁶

In terms of the word *hound*, we can say that as its meaning contracted or narrowed, it moved it from a superordinate to a hyponymic status. Another example of narrowing is the word *doctor*, which used to refer broadly to a person holding an advanced degree in any number of fields, medicine being only one of them. Now, at least in the general public, *doctor* is used to refer to a medical doctor, although in a university setting it is still used as a term of address for professors with that educational rank, e.g. Dr. Smith.⁷

Semantic Broadening

Semantic broadening is a more frequently attested kind of semantic change and it involves, as the name implies, that a given expression takes on more meanings. For example, the word *bird* that we have talked about in several areas of this chapter is used in some varieties of British English to refer to a woman:

“All these fantastic **birds**, long hair, made up, false eyelashes and things, crowding round this group of scabby, spotty teenagers,” marveled Anderson.

(Weigel 2017)⁸

At this point, it is important to understand the difference between homonymy and polysemy. Homonymy is a situation in which two (or more) words have the same form, but crucially that identity is likely accidental. For example, the word *bat*, [bæt], refers to a nocturnal winged mammal or a long stick-like object used in playing baseball (or cricket). However, the fact that the two meanings

share a single form is accidental. The animal meaning is likely a borrowing from Scandinavian in which the [t] was originally a [k]. The sports implement may be a borrowing from Old French with the same meaning as it has in English.

Homonyms may be identified by more specific types. One type includes homophones, which refers to the situation in which the words SOUND the same, but are spelled differently, as with *to*, *too* and *two*. The other type includes homographs, which are SPELLED the same, but sound different, as in *wind~wind*, *lead~lead*, etc.

Polysemy, on the other hand, is the case when words have multiple but historically related meanings. The example of the meaning of *bird* extended to refer to females is one such example. The two uses of *bird* are related, not accidental. Another example is the word *leg*, which can be used to refer to the human body part, the supporting part of a table, and even to the assumed success of a plan or idea, as in “This plan has legs!” It is clear that each of these senses is related because they all share parts of the original meaning of human legs either as support structures or as locomotive structures. However, two senses of a word may diverge so drastically that they may have been polysemes historically, but are better treated as homonyms in current times, e.g. the noun *sink* and the verb *to sink*.

Two of the processes which can give rise to polysemy are metaphor and metonymy. Metaphor is the process of transferring an expression onto a new domain in which certain characteristics of the original sense are retained. In the example of *leg*, the transfer was the meaning of support, which in reference to humans is the lower part of the body but to the structural means for support for a table. For the extension of *legs* to plans or ideas, this is part of a larger metaphor in which plans or ideas are viewed as having movement. Compare other expressions along these lines such as “the idea took off running,” “the plan is moving along smoothly,” “the plan fell flat,” etc. Thus, by transferring the body part to plans or ideas, we express, metaphorically, the means by which such plans or ideas may move.

Metonymy is when a meaning is extended because of some physical relationship between objects. One example is the word *paper*, which refers to the material on which writing or printing takes place and from there comes to mean an assessment in a class, as in “Hendrik wrote a paper in his biology class,” presumably because the report is written on paper (although “paper” here could be metaphorical in that it refers to a computer document). A specific type of metonymy is known as synecdoche, in which the transfer is from part of an object to the whole object. For example, if you pull up in your “sweet ride,” I might respond with “cool wheels,” *wheels* then referring to the entire object not just the wheels. (Note that “ride” is also a kind of metonymy, although not specifically synecdoche.). Another example of synecdochical metonymy is the expression “She is the brains of the operation,” since the brains are believed to be where smarts come from.

Metonymical and metaphorical uses of language can occur on the fly as well. For example, an energetic person in the office might be known as “the tornado.” Or, a person in a restaurant who ordered a tossed salad might become identified as a tossed salad to servers in the restaurant, “Can you take this water to the tossed salad at table 5?” It may be, however, that some figures are more given to metaphor or metonymy. I think I would wonder whether the speaker was using metaphor or metonymy if I were asked to “take a glass of water to the pork chop at table 5.”

Amelioration and Pejoration

In the instances of semantic change that we have considered so far, we can note that they intersect with cultural expectations in ways that allow us to categorize them in evaluative terms of neutral change, ameliorative change or pejorative change. (*Ameliorative* means “better”/*pejorative* means

“worse.”) The change by which *hound* comes to take on hyponymic status to the new word *dog* is arguably neutral, but other changes not so much. Consider, for instance, the terms *bitch* and *stud*. *Bitch* originally meant canine female and *stud* has come to mean the male partner in breeding especially with dogs and horses. Both have been metaphorically applied to humans, female and male, respectively. But, of course, not so equally. The word *bitch* presumably transfers unfavorable characteristics of dogs, such as yipping and the very status of being a dog in the first place (in a human-centered world), while *stud* transfers sexual prowess and probably reproductive desirability. It is not even controversial that to call a human male a *stud* is to compliment him but to call a female a *bitch* is to insult her. This pattern in the direction of amelioration or pejoration is not accidental by any means.

It is frequent that meaning extension for terms involving women are pejorative in nature. The use of *bird* may be another example since the transferred characteristics likely involve frailty, flightiness, etc. Even though used as a term of endearment in some cases, the scheme in which the change takes place is embedded with a system of cultural values that sees a woman in weaker and less rational positions. It is not then surprising that the term may be offensive to women but not much to men. Now while it is possible to describe certain extended terms as problematic from the outset, like *bitch* and *bird*, it is not so easy to explain for other terms that might not develop out of any particularly negative scheme, like *honey* or *sweetie*. In fact, those terms can be endearing, but for certain women in certain situations the terms are insulting or pejorative. For instance, a stranger referring to a woman as “honey” may be taken as an offense because it may be perceived as a controlling gesture or even intimate intrusion. But again, this is a very good example of the way that semantics is culturally embedded. It may well have been the man’s intention to be kind, but taken up by a member of the culture who knows that she will not earn the same amount of money for the same job as a man and that her body is not safe in many spaces from “intimate intrusion,” the verbal gesture carries a different meaning.

Another example of the way that cultural valuation might affect semantics involves terms used to refer to underrepresented peoples. For example, the term *colored* in reference to African Americans specifically used to be a more neutral term and one that didn’t carry pejorative meaning. However, when the word is seen enough times over bathrooms or drinking fountains indicating “Coloreds only,” the word will take on negative meaning because of the racist intentions it means to carry out. People will sometimes attempt to account for the inappropriateness of such words by “blaming” the word itself. In the case of “colored” it is not the term that is problematic and we note that today we still use the word to refer to underrepresented peoples as in “women of color.” The fact is that the word became pejorative because the same pernicious ideas and racist ideologies concerning the referents of the word persist.

It is important to understand semantics in its culturally embedded position because we hear a lot of rhetorics of “getting over it” or “I’m not racist so the racist things I say cannot be racist.” Much like the stranger uttering “honey” to a woman, what you say and what is heard might not be the same; however, we are responsible for both sides of the communicative exchanges we engage in.

Notes

- 1 This is, of course, based on the word’s denotative meaning. Words may also have connotative meaning, which might be described as “associative” meanings. Obviously, connotative meaning may be shared widely within a given culture, but will also vary by individual experience. For me, for instance, the word/concept “bird” has pleasant connotative associations: light-hearted, free, cheerful, etc. However, for a character from a Hitchcock movie, the connotative associations with “bird” may be quite different.
- 2 [bɜːd] is the generally accepted phonetic spelling of “bird.” In our study of phonetics, you didn’t learn the symbol [ɜː], but it is the medial sound of words like *bird*, *word*, *heard*, etc.

- 3 Note that “mind” is not the same thing as “brain” even though we associate the former with the latter; we cannot see or access the mind directly. We will discuss the brain and language in Chapter 11.
- 4 We should be very clear that the point here is NOT a defense of a cultural viewpoint, although the facts do jibe well with my own values of recognizing non-binary gender, age, race, etc. The fact is that binary assignment of gender, etc., may not be problematic within your own value system, but given the realities of sexual identity, culturally, biologically and discursively, such assignment cannot work as a scientific, semantic theory that comprehends the structure of the referential meaning of linguistic material.
- 5 In fact, it is probably only because we have been taught explicitly in school that an emu is a bird that would allow us to accept it as an instance of *bird*. You might imagine a Midwesterner familiar with only robins, blue jays, blackbirds, redbirds, etc., with no schooling on the taxonomy of birds encountering an emu for the first time. It might well not occur to that person that emu is a bird at all.
- 6 Note that other kinds of meaning relationships, such as synonyms or antonyms, do not have hierarchically related meanings. Therefore, you can say “big is large” and “large is big” or “up is not down” and “down is not up.”
- 7 You may be interested to know that I use the title Dr. in various domains of life, but not when traveling on airplanes. You can imagine the disaster of a flight attendant rushing up to me and saying, “Please doctor we need your help. A man in first class has lost consciousness.” And my replying, “Unless it’s a problem with his verbs, I’m not going to be much help!”
- 8 The use of bird in this sense is sometimes taken as an offense, cf. the American English term *chick*.

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7 Pragmatics

Introduction

In the last chapter, the concept of pragmatics, or pragmatic meaning, was introduced. We defined pragmatic meaning as situational or negotiated meaning. Pragmatics has to do with language-in-use. In this chapter, we will continue our investigation into pragmatics.

Inference and Implicature

Arguably, one of the most important reasons that interpretation is so central to meaning making in language is inference and implicature. It would seem that hearers/readers are always working to find out the meaning behind what they hear (or read). On the other side of the coin, it would also seem that speakers/writers are always saying or writing more than what appears on the semantic level (“dropping implicatures” if you will). Our ability to infer what people really mean can then give meaning to exchanges that on the surface of things would seem bizarre. Consider the following exchange:

A: I had a candy bar on the table.
B: Tom was in here earlier.

Taken literally, this exchange is bizarre. But we have no problem understanding what is going on because we are able to follow that A is implying that someone took their candy bar and that B picks up on that implication and thereby infers A’s intended meaning. A, in response, makes a new implicature, suggesting that Tom may be the culprit. The example provided here is not unusual, and you might be surprised how many of your exchanges with others rely on this exchange between implicature-inference.

As long as the exchange of implicature and inference is in sync with both interlocutors’ expectations, communication will be successful, but at other times the two viewpoints might be out of sync. Now consider the following exchange between a couple sharing finances:

A: I really could use a new computer.
B: And my car needs four new tires.
A: Oh fine! Maybe I should just write with a hammer and chisel on stone so your precious car can have tires!

What has happened here is that A is making a proposal for spending part of the household budget on a new computer and B has also proposed spending funds for tires for their car. A has inferred that B’s statement was meant to suggest that their spending proposal was the more important or more immediate need. But it is entirely possible that B is simply stating a fact and expects that

both purchases can happen. B might mean to inform A of other expenses in the context of shared finances. In this instance, we speak of an uninvited inference; that is, A misunderstood B's intent. Popularly we might think of such failures as misunderstandings.

While such misunderstandings can happen between or among any group of people, intercultural communication offers particular challenges since the "rules" of interpretation vary quite a bit across cultures (and languages). For example, Japanese culture holds high regard for indirectness (as compared to American culture). So direct questioning and direct answering is not as common in Japanese as it is in American English. Consider the following exchange. It is important to know that A is a native speaker of Japanese and B a native speaker of American English.

(Upon getting in B's car)

B: Oh can you smell my new air freshener?

A: Probably.

B: That's not a possible answer to my question.

A: Well it's not very strong.

B: Then the answer is "yes."

A: Probably.

In this exchange, A's responses may seem vague or evading, but given that he is a speaker of Japanese, in some instances indirect answers seem appropriate.

Presupposition and Background Knowledge

Another aspect of study within pragmatics has to do with presupposition. For example, if I say "Oh I heard your brother is in town," there is a presupposition that you have a brother. Presuppositions are observed to adhere to the "constancy under negation" principle, which means that whether I say the affirmative statement "your brother is in town" or the negative "your brother is not in town," the underlying presupposition is the same: you have a brother.

Obviously, this kind of shared knowledge is important because it helps in "making sense" out of language. A related concept is background knowledge which, like presupposition, helps in interpreting language and also shows the listener/reader to be actively engaged in the creation of meaning. So, if you hear:

George was on his way to the restaurant.

He was worried about trying out the new recipe.

You assume at this point that George is likely a chef at a restaurant, but that is not actually stated; you infer it based on your cultural knowledge about who "tries out" a new recipe. To that point also, you have also likely inferred that he is driving in a car, riding a bus, on the subway, etc.—the traditional ways of going to a restaurant. You did not infer that he was flying in a plane or riding on a boat. Now consider the next line which cancels out many of your inferred notions:

Last week, the chef had suggested the dish to him, even though George usually ordered the same thing every time he visited the restaurant.

Now you infer a whole different set of assumptions, most likely that George is a frequent customer at the restaurant. Again, that's not stated in the sentence, but based on your background knowledge, you know that customers order food at a restaurant. But again, it is an inference and inferences can be canceled with more information:

Some days George wondered why he ever became a food critic in the first place.

Finally, it is revealed that he is a food critic, but that information is not inferred: it is established on semantic grounds.

Scripts and Schemas

Related to background knowledge are the concepts of scripts and schemas. A schema is a conventional memory of some event structure. If I talk about “a restaurant,” you fill in a lot of detail without my even mentioning anything. You might start envisioning tables, wait staff moving around, a host standing at the front, etc. The script provides a setting.

A script is in some sense a dynamic schema; it puts the script into motion so to speak. So if I tell you:

“Felix and I ate at the new restaurant on Airport Rd. The food was ok but the drinks were pricey.”

There are a lot of activities and even language that you assume to have happened based on your application of the restaurant script and schema. And I can refer to those activities in language assuming that you will understand or fill in parts I don’t mention. For example, if I were to say:

“Our server was my former student.”

First, note the assumed shared background knowledge; I have assumed you know that I am a teacher—otherwise the identification of the server as “my student” wouldn’t make sense. If I had said that the student was a “client” of Felix’s, there would be a rather serious leap in the conversation that might take it into another direction “Oh? What does Felix do for a living?” Second, I didn’t have to point out to you that in a restaurant, they hire people to take orders from patrons, give the order to the cooks, bring the food to the table, etc. And again, you will also assume some specific language that I can refer to. Your understanding of that language would be accompanied by our shared knowledge of what goes on in a restaurant.

Politeness

Within the topic of pragmatics, scholars have developed a theory known as politeness theory which considers our public “face.” The idea of “face” as a reputation has been around for a long time, as exemplified by the expression “to save face.” That use of *face* is recorded by the Oxford English Dictionary (OED) as first occurring in 1834. Within politeness theory it is regular to talk about a person’s positive face and negative face. Positive face is a person’s desire to be included in a group, while negative face is a person’s assumed right not to be intruded upon or burdened by another. Applying these concepts then we can explain some language that might look curious on the surface of things, but makes sense in light of face theory. Several examples come from restaurant server speech, as, for example, when a server says, “If you need anything, my name is Bryce.”

If this were not interpreted on the pragmatic level, it might lead me to ask, “And what is your name if I don’t need anything?” Obviously, the person is not uttering a true conditional sentence along the lines of “If you push this button, the world will destruct.” Instead, we have to interpret this as a face-saving act. The server is honoring the patron’s negative face not to be intruded upon, stating indirectly something like “I won’t bother you unless you want me to and so to signal to me that I should intrude I’m giving you my name.”

Another curious example is found in shops and involves the use of “at all” when offering a service or item that the worker suspects might seem like an imposition. From my own experience I have noted its use in a coffee shop that I frequently go to. The coffee shop also sells whole bean coffee that I buy about once a week. Of course, to use whole bean coffee to make coffee, it has to be ground. Now any serious coffee drinker owns their own grinder and this particular coffee drinker also has a high-end espresso machine at home; I scoff audibly whenever I hear of pre-ground store coffee brands and the suggestion that I would EVER drink drip coffee is insulting to a degree such that I could only hold the person making such a suggestion in the highest contempt. I am not alone in my snobbery; I belong to a group of coffee snobs. Now the very fact that I buy local, in-house roasted beans for a much higher price than I could buy coffee in a supermarket already signals to the coffee shop employees (who are also coffee snobs) that we are part of the same group. However, because of their job, they have to offer to grind the beans for patrons buying them. But it is clear that there is some uneasiness in doing so, and it might be argued that they perceive it as a potential face-threatening act, which acts in consideration of both my positive face and my negative face. In light of this potential face-threatening act, the coffee shop employees have developed the linguistic strategy of including the degree adverbial “at all” to their offer to grind the beans: “And, did you need these ground at all?” *At all* is normally used in negative (non-assertive) contexts to indicate an absolute zero degree: *She didn’t speak at all*. My analysis of the coffee shop workers’ use of *at all* in offering to grind the beans is that they wish to deter my assumption that they might think I’m not a member of the coffee snob group by suggesting to me, even to the slightest degree, a contemptible practice, which they know that I know (as members of the same group) is an unforgivable imposition.¹

Yet another example comes from teacher-speak. (Or any authority-speak really—it’s just easily found especially among teachers of small children.) If a teacher observes a student, say, running with scissors, that teacher might say, “No, no, no Graziela, we don’t run with scissors.” This use of *we* is a classic example of positive face-saving. The teacher suggests that they are part of the same group and is merely stating what members of their shared group don’t do. Of course, the other approach could have been to issue a command to the student. “Don’t run with scissors.” But to do so would be a face-threatening act, which might seem too harsh or non-motivational on the part of the teacher. The trouble with using *we* as a face-saving strategy in teacher-speak is that the “we” of such statements might be reinterpreted by students as they get older. Young children who have yet to form much of their own identity probably understand the *we* to be inclusive, that is, including the teacher and student in the same group. However, as children grow older and develop more individuality, a teacher’s “we” may come to be interpreted exclusively, that is, as a group that includes the teacher but not the student. So an eighth-grader who is told “We come prepared with our homework” might be hearing the teacher say “We, that is myself and the good students of the class included in my group, but not you...” Thus, such *we* language can become part of a general disenfranchising discourse that can be detrimental to students particularly those from at-risk drop-out populations.

Speech Acts

Speech acts (also known as illocutionary acts) refer to the performance of any number of actions through speech (or writing) in a discourse environment. Illocutions include commanding, requesting, stating, etc. Locutions refer to the language structure used to achieve an illocutionary act. So, all other things being equal, we recognize the following relationships between locution and illocutionary acts which would define direct speech acts:

Locution	Illocutionary act	Example
Declarative	Statement	Rome is in Italy.

Interrogative	Question	Did you eat my chocolate?
Imperative	Command/request	Hand me the scissors!

Thus if I use an imperative to make a command, that would be a direct speech act. However, sometimes the use of a given locution can be too direct (and face-threatening), and, therefore, one might perform an indirect speech act by using an interrogative in order to make a request, “Would you hand me the scissors?” It appears to be a question, but, of course, saying “no” to such a request wouldn’t be possible under normal discursive circumstances. As we have seen earlier in this lecture, sometimes even a declarative can be a request: “The phone is ringing.” Given the correctly presumed social relationship among discourse participants, a statement can carry the illocutionary act of command even. For example, if we were in a classroom, I might look intently at a student and say, “It’s cold in here.” If the window were open, that student might correctly infer my statement to be a command for them to close the window. Also consider how interrogatives may in fact be statements (you probably know these as “rhetorical questions”). If I walk outside into a snowstorm and say, “Is it snowing?” I’m not really asking, but stating a fact that is obvious to my interlocutor.

How the Heck Do We Even Know How to Speak a Language?

At this point you may ask the question posed in the title to this section: how do we know how to speak a language given all this unspoken information that we have to know? Obviously, speaking a language involves much more than a simple command of the phonology, morphology, syntax and semantics (lexicon) of that language, but involves the use of that language within a cultural context. If you have ever been in a foreign country and found the activity of shopping for something or going to a restaurant stressful, it may not have been because of the vocabulary or grammar, but because you were unfamiliar with the culture and didn’t know the “customs” of performing those activities. What was lacking was pragmatic knowledge or the language in use.

However, despite the fact that there is so much going on at the pragmatic level of language and that it is so important to the successful use of a language, pragmatics is often not addressed in language teaching, but it should be. For example, if you were teaching a lesson on how to form questions, certainly the syntax would be important, but also important would be to teach the different illocutionary acts that we perform with questions, like making a request or even a statement. A good way to do this is to find examples in videos and have the class perform discourse analysis on what is actually being communicated in movies, YouTube clips, popular shows, etc. This can even be done with small children, provided of course the content is age-appropriate.

Note

- 1 Also, the use of the past tense in offers such as “Did you need these ground at all?” is also frequent in restaurant server-speak: “Did you want anything else?” “Did you need another menu?” Here the use of the past tense is also a face-saving device in light of a person’s negative face. That is to say, that if the need already existed, the server is not presenting the need or want but merely attending to one that already existed.

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8 Writing

The Primacy of Spoken Language for Linguistics

In just about every sense you can imagine, writing is secondary to speaking in the study of linguistics. The primacy of speaking for the scientific study of language is based on several considerations concerning the relationship between speaking and writing:

1. While the website Ethnologue.com lists 7,117 languages, it only identifies 3,909 of them as being written down. And even of the 3,309 languages that are written down, many are rarely written and/or have no speakers of the language who can read it.
2. While spoken language is thought to be around 100,000 years old, the oldest case of a language being written down is 5,000 years old.
3. Written language is planned (thought-out carefully, revised, cleaned-up, etc.), and spoken language is natural and spontaneous (and messy, as it was characterized in the last chapter). One way of thinking about it is that observation of written language is like meeting a family in church. Spoken language is like peeping through their windows at home.
4. No single human being learns to read and write their native language before learning to speak it; it is always the other way around.
5. The written language is developed on the spoken language. Attempts to arrive at a written language that then subsequently is spoken have been unsuccessful in comparison to natural languages. For example, in 1887 the Polish philologist Ludwik Lejzer Zamenhof invented a language called “Esperanto.” (It is only one example of an invented language of its sort.) Esperanto, meaning “hope,” was optimistically presented as being easy to learn and politically neutral. While it is true that the grammar was simplified, that is only because it wasn’t a naturally spoken language. If Esperanto had actually become a spoken language among a large enough group of people, it would have complexified in ways that we have observed each and every human language to do so. A prime comparison can be made with pidgin languages (which we will discuss in Chapter 10). A pidgin is a simplified language, used by speakers who do not share a language but need one for (most often) commercial/economic interaction. However, some pidgins become indigenized, that is, the native language of a subsequent generation. When that has happened the simplicity of the pidgin is quickly lost and it develops complex grammatical and lexical structures, dialects and other kinds of social variation. Also, it simply isn’t true that Esperanto, or indeed any language, natural or artificial, can ever be politically neutral. The vocabulary of Esperanto, for example, is based on a few European languages (or language families), thus revealing a Western bias. Other artificial languages are literary in nature. Tolkien invented many aspects of languages in his imaginary worlds—although none was fully developed. And the creators of the Star Trek movies (and fans!) have provided a lot of

description for the Klingon language. While a small, but dedicated, group “play” with Klingon, we can hardly say that it is a vibrant and culturally exchanged language in the way that, say, Korean is.

Types of Writing Systems

In the rest of this chapter, we will review the major types of writing systems for the languages of the world.

Ideographic Writing

Ideographic writing cannot really be said to represent a language in a direct way. Instead, the symbols in ideographic writing represent the idea or notion of something. A good example of ideographic writing involves signs along the interstate that indicate where gas, food or lodging is available:



Figure 8.1 Ideographic Symbols.

Again, none of these symbols means the words *gas*, *food* or *lodging*; the driver or passengers of a car can “read” the symbol in various ways: “Oh look! There’s a restaurant at the next exit.” Or, “We can get gas here.” etc. Consider how different that is from reading the word <g-i-r-a-f-f-e>; it can only be giraffe [dʒuæf].

Ideographic writing is important in the development of writing systems, a point I will return to when we talk about the history of the alphabetic system we use in English a little later in this chapter.

Logographic Writing

Logographic writing is a system in which a symbol represents a word. But, in fact, there is no system that is purely logographic in this sense and symbols in such systems can also represent

syllables and even individual sounds. Thus, it is probably more accurate to say that a logographic system is one in which symbols may represent entire words. One such system is Chinese. For example, the symbol

狗

represents the word [khou] (with rising-falling tone) in Mandarin which means “dog.” Again, it is important to remember that as a logogram, it is the symbol in its entirety that represents the word, and it is not segmentable. We can make a couple of interesting observations about the logographic system of Chinese.

Many readers of this book already know that there is no one “Chinese” language. What we refer to as “Chinese” is actually a group of related but different languages in the Sino-Tibetan language family. In fact, two of the most widely spoken varieties of Chinese, Mandarin and Cantonese, are arguably more different than are Spanish and Italian.¹ However, Mandarin and Cantonese share a writing system, which as we have seen is logographic in nature meaning that many of the symbols stand for a whole word. Thus, the symbol above represents [khou] in Mandarin, but [gau] Cantonese with a different tone configuration from that in Mandarin. They sound like completely different words and it is a fact that Mandarin and Cantonese are not mutually intelligible. However, since both use the same logogram for “dog” and thousands of other words, both grammatical and lexical, a speaker of Mandarin can read fairly well a text in Cantonese and vice versa. (One big difference in the two is that Cantonese prefers the use of traditional shapes for characters and Mandarin uses the revised characters.) Thus, the shared writing system among different languages in China provides for a linguistic unity that is otherwise lacking.

Since logograms represent the word as a whole, you can imagine the difficulty of trying to use such a system for a language like English in which words change grammatical shape through the addition of inflections: *dog-dogs*. How would a logographic system capture the plural marker on the word itself. But it turns out that the question is moot for all varieties of Chinese because they are “analytic” languages, meaning that the words in those languages are invariable in form; there is no different form for one dog versus two dogs. Thus, a logographic system doesn’t pose a problem in light of the morphological structure of the language.

There are tens of thousands of characters of which an educated person will know about 8,000. It takes a lot of time to learn that many characters and so a large part of a Chinese person’s education will involve, more or less, rote memorization of the writing system. We will return to the question of writing systems and education a bit later in this chapter.

Syllabary Writing

In our discussion of logographic writing, I mentioned that even in that type of system, some symbols might represent syllables (and even sounds). But there are systems that are designed exclusively around the syllable. Such writing systems are called syllabaries, which we can define as a writing system in which a symbol represents a syllable. A good example of a language that uses syllabary writing is Japanese; it, in fact, it uses two syllabary writing systems, both derived from Chinese characters. The two syllabaries are known as Hiragana and Katakana:

If you look at the chart on the next page, you can see that it is organized in columns by the initial letter of the syllable for that column. And so, when a Japanese child learns to “say the ABCs,” they learn *ma, mi, mu, me, mo; ha, hi, fu, he, ho; na, ni, nu, ne, no; etc.*

In fact, however, Japanese uses four writing systems: the two syllabaries shown above, a logographic system borrowed from Chinese, called Kanji, and the Roman alphabet, called Romaji. And

inu	dog
saato	sugar
neko	cat
hako	box
komaraseru	perplex
shisetsu	service/institution
kibishiku	strict

As you can see from these examples, Japanese words follow a strict phonological pattern in which the only possible syllables are made up of a consonant + vowel (although the vowel can be long) or a vowel alone.² For this reason it is very easy to segment words in Japanese into syllables:

in-u
saa-to
ne-ko
ha-ko
ko-ma-ra-se-ru
shi-se-tsu
ki-bi-shi-ku

Obviously, then, the application of syllabic writing to Japanese works pretty well. However, syllabic simplicity is not necessary for the development of a syllabic writing system. Cherokee, which can hardly be considered to have a simple syllable system, is also written in a syllabary developed by Sequoyah in the early 19th century.

Abjad Writing

An abjad is a writing system in which there are symbols for consonants, but the vowels are left out and supplied by the reader. Abjad writing was developed and used in Semitic languages. You may remember from our study of morphology, Semitic languages form words from usually triconsonantal (three consonant) stems. Here is an example of Arabic interweaving morphology:

ktb	“write”
ktib	writes
katab	wrote
kaatib	writing
ktuub	written
kitaab	book
kutub	books

In Arabic, the three-consonant stem *ktb* means something having to do with writing and the exact meaning will depend on the interweaving of vowels around those three consonants. (But remember from Chapter 4, stems may also have prefixes and suffixes.) In Arabic *ktb* would be written (right to left):

ك ت ب
b t k

But you can see how difficult it would be to maintain a pure abjad system, and all modern Semitic languages have developed a way to identify vowels as well, mostly as diacritic marks on consonants. Thus, the modern Arabic way to write *kitaab* “book” is:

کتاب

Thus, you can see some modifications to the letters indicating the i.aa sounds by extending lines on the top of some of the consonant symbols.

Abugidic Writing

Abugidic writing is a system in which a symbol represents a consonant and a default vowel (in this way it is similar to syllabic writing). Thus, for example, the Sanskrit letter म् is [ma]. In Abugidic writing, the default vowel may be changed by adding another symbol to the basic consonant. So [mi] would be written मि with a line before the consonant sound and a superscript ligature connecting the vowel and consonant. Abugidic writing systems are very much in use today among languages in India and Southeast Asia.

Alphabetic Writing

As writers of English, you are well acquainted with an alphabetic writing system since English is written using the Roman alphabet. However, it is more accurate to say that you are familiar with the idea of an alphabet—as it will become clear in a moment. An alphabetic writing system is one in which a symbol represents a sound. A reasonable alphabetic representation can be exemplified by the word p-i-t, where each of the three letter represents a sound: /p/-/ɪ/-/t/. (Note that I have written the sounds in their phonemic, not their phonetic representation, e.g. [p], etc., because as you learned in Chapter 2, alphabets are based on the phonological level of sounds. A true phonetic alphabet has too many unnecessary and redundant details to be useful for most reading tasks.

Of course, the Roman alphabet is only one alphabet. Two other widely used alphabets are the Greek and Cyrillic alphabets, all of which are historically related. The following illustration shows the three alphabets in Venn diagram form with the upper left circle containing the Greek alphabet, the upper right, Roman, and the lower circle, Cyrillic. The letters in the overlapping circles are those shared among the various alphabets.

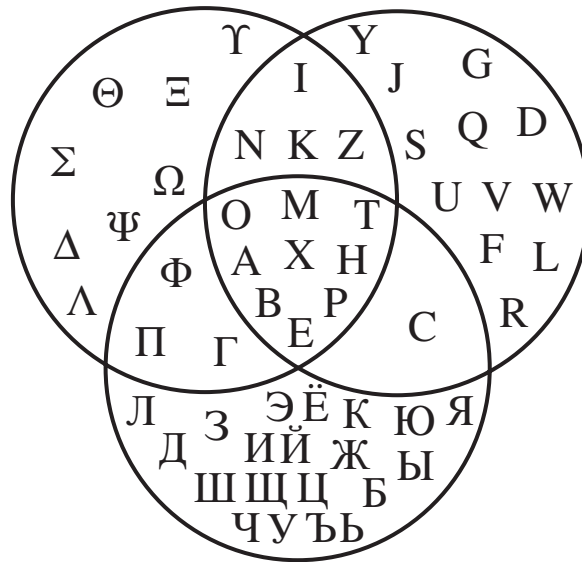


Figure 8.4 The Roman, Greek and Cyrillic Alphabets.

These alphabetic writing systems all begin with the Greek system, which has its origins in the Semitic writing systems, mostly Phoenician, but also Hebrew and Aramaic. The symbols in those writing systems developed from Egyptian writing. Thus, the Egyptian hieroglyph  (originally a logogram) was adapted to the Phoenician,  which was pronounced “‘aleph,” meaning ox, and the hieroglyph  became Phoenician , pronounced beth. (It is from the combination of the names for these two symbols that we get the word *alphabet*.) The symbols in Phoenician were used to represent the consonant sounds /ʔ/ (glottal stop) and /b/, respectively. As these symbols were borrowed by speakers of languages in and around Greece and Italy, they came to take the shapes we are familiar with from the Greek and later Roman and Cyrillic alphabets. (Since those languages did not have /ʔ/, ‘aleph came to represent the vowel sound /a/.)

The English Alphabet

Earlier in the chapter, I suggested that you were likely more familiar with the *notion* of an alphabetic writing system. If, however, you know Spanish, German, Dutch, Italian, Portuguese or any one of many European languages, you are familiar with a more straightforward alphabet. By “straightforward” I mean an alphabet that more regularly represents the sounds of a language. The English alphabet is not a very good example of a “straightforward” alphabet because it doesn’t work very well on the level of sounds; it has letters for which there is no corresponding sound, as in *knight*, *comb*, *honor*, etc., and it has many symbols that represent multiple sounds. Thus <ch> can be [tʃ] as in *church*, or it can be [ʃ] as in *Chicago* or it can be [k] as in *chemistry*. The vowel symbol <i> can be [ɪ] as in *fish*, or [aɪ] as in *bite* or [i]. And the list of irregularities in terms of representing sounds goes on and on.³

So you may ask why it is that Spanish and other languages are less chaotic in spelling than is English. And the answer has to do with the fact that English, unlike the languages mentioned earlier, has never had a full-scale spelling reform (although there have been unsuccessful attempts) and the spelling that we have now is largely the same as that from Middle English (ca. 1350!). Meanwhile the sounds of English have changed drastically since that time, but again there has never been an accepted updating of the spelling to align with those sound changes. It’s difficult to explain the reluctance to reform spelling in English, but some opponents fear losing the ability for Modern English speakers to read authors like Chaucer or Shakespeare. Suffice it to say that if there were a major reform bringing English spelling more in line with modern-day phonology, the language of Chaucer or Shakespeare would appear much more foreign. And so, maintaining the spelling of such a long time ago supports those who take pride in giving English a long single history (which is just an illusion anyway).

Another consideration of the difficulty of English spelling is that we reap few of the benefits of an alphabet, one being that it is relatively easy to learn an alphabet and once learned it can be extended to new words that a person learns as they progress through school. But, instead, English is more like Chinese in the sense that we have to spend a lot of school time learning to spell words, sometimes one by one. In the not-so-distant past, students spent one hour each day from first to eighth grade in spelling class, devoted to spelling and vocabulary. Such a spelling class would be unnecessary in a Spanish- or German- speaking context, as would spelling bees.

Notes

- 1 The reason for this is that the way we view a language is not a purely linguistic matter; it is also political. Since Italy and Spain clearly represent two different political entities, we have no question as to their status as languages. However, for much of history Mandarin and Cantonese have been languages spoken within the large and shifting political entity known as China. Since they belong to the same political

sphere, people have looked at them as “dialects” of a single language—something that does not stand up to linguistic observation. As Uriel Weinreich put it: a language is a dialect with an army and a navy.

- 2 Japanese also allows for a word final syllabic [n], similar to the final syllable in *Clinton* or *button*.
- 3 The English alphabet makes more sense when one knows the history of words and the relationship of their morphemes to other words. The point here is that it does not make so much sense on the level of representing sounds. Some have jokingly suggested that an alternate spelling of *fish* could be *ghoti*—that is <gh> as in *enough*, <o> as in *women* and <ti> as in *motion*.

9 Language History

In the last chapter, I mentioned briefly that it is not always easy to determine whether two linguistic systems constitute two dialects of a single language or two separate languages. I also hinted at the fact that the issue is not strictly linguistic and may have to do with political or social considerations. For example, we are quite safe in saying that Arabic and German are different languages, but what about Serbian and Croatian? During the Cold War when Serbia and Croatia were part of the same country, Yugoslavia, it was common to speak of them as the same language. However, since the break-up of Yugoslavia at the end of the 20th century, they have more often been treated as separate languages, each holding official status in Serbia and Croatia. Regardless of one's political view, it is clear that Serbian and Croatian are related, whether that relationship is on the level of dialect or language.

It is most likely that if you were asked why Spanish, Portuguese and Italian are so similar, you would somehow know that it is because they are related and descended from Latin. However, people did not always have the idea of relatedness and descent as we now do. In 1786, a British judge and philologist, Sir William Jones, in his address to the Asiatic Society, made the claim that Greek and Latin were related to Sanskrit (an ancient language in India), and that they all may be related to Gothic and Persian. Very significantly, however, he said that the source of these related languages may “no longer exist.” His remarks are usually credited as the beginning of the study of language relatedness and comparative linguistics.

After Sir William Jones' “discovery,” many scholars of language worked to reconstruct the source language that Jones alluded to by employing the comparative method. By comparing forms in the attested languages of the putative family, one can make hypotheses about the original language. In this way, a “parent” language for many of the languages spoken in Europe and parts of Asia has been reconstructed, known as Proto-Indo-European. The model of relatedness employs a genetic metaphor, which is why I put parent in quote marks. But the metaphor is strong and people still today commonly talk about “parent,” “daughter” and “sister” languages.

The relationship among related languages within this model is often graphically expressed in “tree” form. The Indo-European language family is very large and so here I can only offer a small snippet of what such a tree looks like (Figure 9.1):

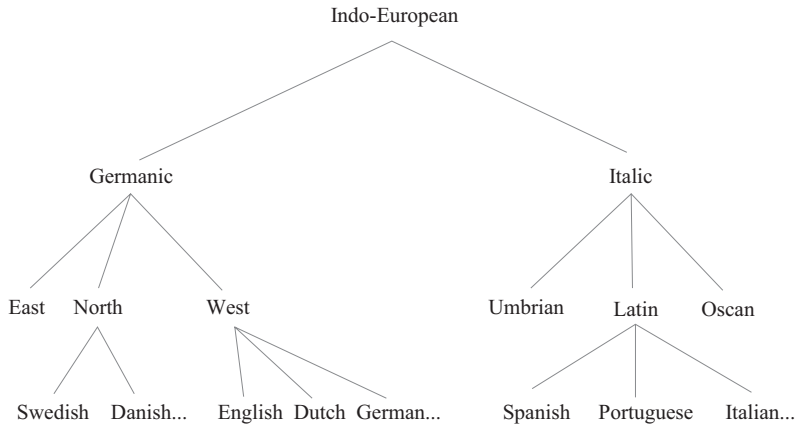


Figure 9.1 Partial Indo-European Language Tree.

As I stated, this is but a small part of the Indo-European family. There are many more branches and more languages in the various parts of the family shown here. A more elaborate view is offered below, but even within that elaborate view there are more distinctions that could be made.

Branches of Indo-European

Celtic: Irish Gaelic, Scottish Gaelic, Manx, Cornish, Breton, Welsh
 Germanic

East Germanic: Gothic

North Germanic: Swedish, Danish, Norwegian, Icelandic, Faroese

West Germanic:

High: German, Yiddish

Low: English, Frisian, Dutch

Italic:

Oscan

Umbrian

Latin: Spanish, Italian, Portuguese, French, Catalan, Romanian

Hellenic: Greek

Baltic: Lithuanian, Latvian

Slavic: Russian, Polish, Czech, Serbian, Croatian, Bulgarian, Ukrainian

Armenian: Armenian

Albanian: Albanian

Indo-Iranian:

Indic:

Sanskrit: Hindi, Bengali, Singhalese, Urdu

Iranian: Pashto, Farsi, Balochi

Anatolian: Hittite

Tocharian: Tocharian A, Tocharian B

There are many other language families in the world, and here I give only a few with some of the languages spoken in that family:

- Finno-Ugric: Finnish, Estonian, Hungarian
- Sino-Tibetan: Mandarin, Cantonese, Burmese, Tibetan
- Afro-Asiatic: Berber, Arabic, Hebrew, Hausa
- Niger-Congo: Yoruba, Swahili, Ewe, Igbo
- Eskimo-Aleut: Yupik, Inuit
- Na-Dene: Navajo, Apache, Tlingit

A Note on Language Relatedness and English

Earlier in this chapter, I presented the question of why Spanish and Italian are so similar, and in my experience, people quickly point out their common origin from Latin as explanation. But, have you ever asked yourself whether there is a language related in that close way to English? If you look again at the partial Indo-European tree given above, you will see that Dutch and Frisian are also listed as Low West Germanic languages. Their position on the tree so close to English indicates that they are closely related and therefore we should expect to find close similarities in some part of the languages. Much of that similarity can be seen in our everyday vocabulary:

English	Frisian	Dutch
hair	hier	haar
top	top	top
over	oer	over
run	rinne	rennen

But even entire sentences can be very similar:

English	Dutch
the door is open	de doer is open
my father’s name is Peter	mijn vaders naam is Pieter

English is a big language in the sense that a lot of people speak it, and most English speakers have little to no sense of what Dutch or Frisian are like. But it’s important to see English situated within a larger ecology of languages and to remember that, at least linguistically speaking, it is just another language on the planet. We will return to some of the statistics concerning the global use of Modern English in Chapter 13.

Sound Change

As I already mentioned, change is happening all around us all the time. When you notice that a person from another geographic area or even from your own area pronounces some words differently from you, you are very likely observing language change. Some of that change takes place on the level of sound. For the first example, we will look at a change that happened to vowels in the English language around 1500 CE,¹ an event called “The Great Vowel Shift” (GVS). (This event also explains some of the apparent chaos of English spelling especially with regard to vowels.)

In English prior to the GVS, English showed the following vowel pronunciations in the following words (be sure to be clear on the phonetic pronunciation of the symbols used here—you may need to review that information from Chapter 2):

[i]	ride	[u]	loud
[e]	sweet	[o]	moon
[ɛ]	sea	[ɔ]	bone
[a]	name		

However, around 1500 the vowel pronunciation in these words (and others like them) shifted one space up in the vowel space, and the high front and high back vowels changed into diphthongs. The shift might have begun with the high vowels becoming diphthongs and then the subsequent shifting of the other vowels. The GVS is schematized in stages below; note the arrows indicate the shift—and note that some sounds move more than one space, eventually; Figure 9.2):

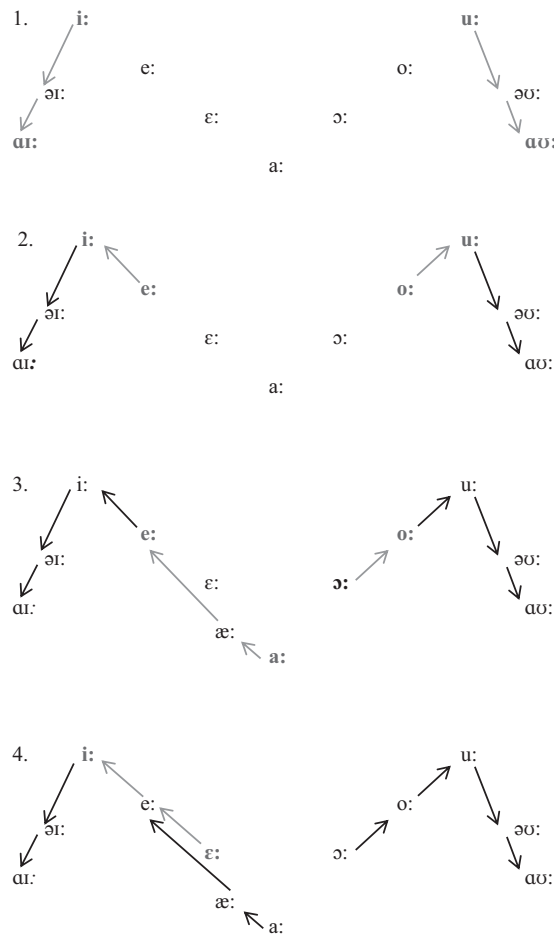


Figure 9.2 GVS in English.

So at the end of the GVS, the pronunciation of the words that were given above had changed in the following way:

Before		After	
[i]	>	[aɪ]	ride
[e]	>	[i]	sweet
[ɛ]	>	[i]	sea
[a]	>	[e]	name
[u]	>	[aʊ]	loud
[o]	>	[u]	moon
[ɔ]	>	[o]	bone

As I said earlier, this historical event in English helps to explain some of the apparent irregularities in the quality of vowel symbols in English. First, the spelling of these words DID NOT change along with the sound change, and, second, the change only affected long vowels. So you may have learned in school that the <i> in a word like *ride* was a so-called “long i,” but that the <i> in *rid* was a so-called “short i.” Historically, that was true, and the GVS only shifted the “long i.” But the fact is the vowel in *ride* and *rid* is only “the same vowel” in writing. In pronunciation, they are two completely different vowel sounds, [aɪ] and [ɪ], respectively. Thus, the GVS explains, among other things, why vowel symbols have two (or even more) different pronunciations. It also explains why a word like *deaf* is sometimes heard as [dif] or [def] by speakers of different dialects; [i] represents the word post-GVS and [ɛ] before it.

The GVS is not the only vowel shift to have occurred or to be occurring in English. In fact, there is another vowel shift currently taking place in American English called the Northern Cities Vowel Shift. It is found among speakers in cities like Detroit, Cleveland, Chicago, among others. That vowel shift shows the following changes taking place (remember this is a vowel shift so it affects vowels in a chain):

Tensing of [æ] In this change, the pronunciation of a word like *cat* changes the vowel from a simple [æ] to one that is tense and, for some speakers, it even sounds more like [jæ], so [kjæt].

Fronting of [ɑ] In this part of the vowel shift, the pronunciation of a word like *block* [blak] moves forward, so that speakers affected by the Northern Cities Vowel Shift pronounce it more like *black* [blæk].

Lowering of [ɔ] Here the [ɔ] sound of a word like *taught* becomes [ɑ], so [tɔt] > [tat].

Backing and lowering of [ɛ] In this part of shift, the [ɛ] in a word like *dress* changes into a vowel more like [ʌ].

Backing of [ʌ] In this part of the shift, the vowel [ʌ] in a word like *cut*, shifts to the back of the vowel space, sounding more like [ɔ].

Lowering of [ɪ] Here the [ɪ] in a name like *Chris* sounds more like [ɛ].

Morphological Change

Language change also occurs in the morphology of languages. One significant change in the history of English involves the loss of case in the noun system. Case refers to a system in which noun phrases have different forms depending on whether that noun phrase is functioning as a subject, direct object, indirect object, etc. And so in Old English, the noun phrase for *the dog* was *se hund*, but that form is merely the one that would occur if the noun phrase was the subject of a sentence (the so-called “nominative case”). If the noun phrase was the direct object the form was *ðone hund* (the so-called “accusative case”) and when it was the indirect object it was *ðæm hunde* (the

so-called “dative case”), etc. Thus, the noun phrase would appear in those forms in the following sentences (which are Modern English with only the noun phrase “the dog” actually translated into Old English) in which it is a subject, direct object and indirect object, respectively:

Se hund jumped around the yard.
 We saw **ðone hund** next to the tree.
 Octavia gave **ðæm hunde** a bone.

But as you know from the Modern English version of these sentences, all three would appear with the same form, *the dog*, once morphological case forms were lost (around 1200 CE).

The dog jumped around the yard.
 We saw **the dog** next to the tree.
 Octavia gave **the dog** a bone.

Again, morphological change, like all change, is happening all the time. In Modern English, we might give as an example the change from the older past tense form of *slay* as *slew* to, what most speakers—especially younger ones—would give as *slayed*:

The hero slew/slayed the dragon.

Syntactic Change

An example of a syntactic change is the development of auxiliary *do* in questions and negative sentences. Consider, for example, the following sentences:

We feed the birds every other day.
 What **do** you feed the birds every other day?
 We **do** not feed the birds every other day.

In the simple present and the simple past, the auxiliary verb *do* must be used when the verb in the sentence is negative or when asking certain kinds of questions, but that was not always so in English.² Consider the following sentences from Shakespeare:

Nym [to Page]. And this is true; I like not the humor of lying. (Merry Wives of Windsor, Act II, Scene I, line 132–133)

Ar. What says the golden chest? (The Merchant of Venice, Act 2, Scene 9, line 4)

However, in other instances, Shakespeare uses auxiliary *do* much in accordance with the Modern English rule. Thus, we know that a change was happening during Shakespeare’s time that inserted auxiliary *do* in questions and negatives, and from English texts in the Early Modern Period, the change was complete by about 1700, although the older pattern lingers on for archaizing effect and in fact can even be heard in the archaic language of law today:

What say you to these charges?

You may recall from the verb chart in Chapter 5 that the majority of verb forms in English are periphrastic, that is, they involve auxiliary verbs and that only the simple present and simple past were synthetic,

i.e. did not involve an auxiliary. It is interesting then that in the negative and in questions, the simple present and the simple past are periphrastic in keeping with the majority of verb forms in English.

Grammaticalization

In Chapter 4, we made the distinction between lexical word classes, like noun, verb, adjective and grammatical word classes, such as determiners, auxiliary verbs, pronouns, etc. One observation was that lexical word classes were said to be open in that they could admit new members easily, and we studied several ways that languages get new lexical material through borrowing, clipping, blending, etc. Those processes of getting new lexical material can be considered together as lexicalization, which essentially means getting a new word.

On the other hand, we said of grammatical word classes that they were closed, meaning that they did not admit new members so easily. However, of course, we do get new grammatical material in languages and most often this happens through a process called grammaticalization. In fact, the change occurring with *tryna*, discussed earlier, is an example. From that example you can see that grammaticalization is defined as the process by which lexical material takes on grammatical uses. So with *tryna*, *try* as a lexical verb means “attempt,” but it now shows evidence of changing into an auxiliary verb expression expressing future intent or desire.

Let’s consider another example. You know that the verb *go* can be a lexical verb with the meaning of to move forward in space as in:

He is going to London next week.

In this case the use is lexical because the meaning is literal, i.e. move forward in space. However, consider the use of *go* in the following sentence:

I can tell by the look on his face that he is going to sneeze.

Here the meaning is not literal; it is not likely that he will move forward in space in order to sneeze and there is not generally a sneezing room in every building that people go to when they do sneeze. Instead, the meaning is to predict a future event. Thus, *go*, or more precisely *going to*, is a future auxiliary. Auxiliary *going to*, like *tryna* and many other expressions, shows one of the hallmark effects of grammaticalization. As material becomes grammatical it also becomes more frequent. As such, it is more likely to undergo phonological reduction; that is, become shorter and fuse with other linguistic material. Thus, the grammatical use of *going to* as a future marker has a reduced form *gonna*, but that cannot be used in the case that the meaning of *go* is lexical:

He’s gonna sneeze.

but not

**He’s gonna London.*

Grammaticalization also covers the further development of lexical material into bound morphology. A good example involves the future in Spanish. The present tense of a verb like *amar* “to love” in Spanish is:

amo “I love”

amamos “we love”

amas “you love”	amaís “you (pl.) love”
ama “he/she loves”	aman “they love”

To express the future in Spanish, a morpheme is added to the infinitive form of the verb (note that the ending is **bolded**):

amaré “I will love”	amare mos “we will love”
amará s “you will love”	amara ís “you (pl.) will love”
amará “he/she will love”	amará n “they will love”

Morphological material like this, however, does not just fall out of the sky, but it develops gradually out of lexical material. In the case of the inflectional future suffix that we have just observed from Spanish, those endings have their source in the lexical verb in Latin *habēre* meaning “to have/hold.” What happened is that the lexical verb *habēre*, even in Late Latin, began to occur as an auxiliary verb with an infinitive to express a meaning like obligation. As the verb continued in use in Old Spanish, it, much like *gonna*, *tryna*, etc., underwent phonological reduction, appearing as:

he hamos
has haís
ha han
(although with variation in the spelling of the initial h)

But in Old Spanish, the form was still a free grammatical morpheme and you can find examples of it separated from the infinitive by a pronoun:

Amar lo he “I will love him.”

Through further reduction and fusion with the infinitive, the earlier Latin *habēre* became an inflectional marker in Spanish (and other Romance languages, which suggests that the process was well under way before the split-up of Latin into the Romance languages).

One of the very interesting things about grammaticalization and something that has taught us a lot about the nature of language is the fact that the kinds of patterns in grammaticalization can be found to repeat themselves in many different and unrelated languages. For example, the development of *go* into a future marker, in addition to having occurred in English, Spanish and French, has also taken place in:

Margi (Africa)
Cocama (South America)
Maung (Hebrides Islands—near Australia)
Atchin (Vanuatu)
Abipon (South America)
Krongo (Africa)
Mano (Africa)
Buli (Papua New Guinea)
Zuni (Mexico/Central America)
Nung (Central Asia)

Why Does Change Happen

An answer to the question of why language changes has been put by linguist Joan Bybee as: "... words and constructions of our language change as they cycle through our minds and bodies and are passed through usage from one speaker to another" (Bybee 2010: 9). What Professor Bybee means when she says that language cycles through our minds and bodies is that certain changes can be shown to result from certain mental or physical processes during the actual use of language. For example, why do you think that the verb *slay* has been changing from *slew* to *slayed* in the past? Obviously, the description here involves the fact that the verb is changing from an irregular verb to a regular one. But that's not an explanation of the change. However, if we consider that about 90% of verbs used in American English are regular verbs, then we can reason that the shift is probably very much like the mental process of memory, a point alluded to in Chapter 1. *Slay* is not a very frequent verb, so that if we have to use it in the past, we are not likely to access the irregular past, and instead the verb is more likely to behave like the other 90% of verbs and thus regularize. (This process by which a form changes to become more like other forms has been called analogy in the study of language change, but the term analogy can be misleading as to the actual underlying mental processes of a change.) Support for this explanation is found in the fact that irregular verbs that show no tendency toward regularization are generally of high frequency in the language: *drink, eat, go*, etc.³

There are of course also physical aspects of language use that can result in language change. That can be seen in the fact that frequently spoken expressions will have more of a tendency to undergo phonological reduction. The example of *gonna* is a good example; as it became a future auxiliary it became more frequent in that use and reduced in form. (Consider again that the less common occurrence of *going + to* in the lexical sense does not reduce in that way.) Another example can be seen in the expression *good-bye* which comes from *God be with you*. After such frequent use, that expression also underwent phonological reduction (and even morphological reduction as we might just say *bye*). Phonological reduction of this kind is a physical response and happens outside of language use. For example, in certain parts of the US, it is common to wave, even at complete strangers, several times a day. It is not uncommon in such "waving" cultures for the gesture to become quite reduced, sometime to as little as a pointed finger from just above the waist.

Frequency also has a mental effect on the meaning of words and expressions in that they can "bleach out" or lose their specificity. An example is the future modal verb *will*, which is older than *gonna*, and thus has been used longer in the language. The effect is that *will* is a more general future, as can be seen in the following sentences:

I will call you later.

I'm gonna call you later.

The sentence with *gonna* sounds more definite and planned because *will* has generalized more because of longer use. In fact, this kind of change is a good motivation for language change because as a given form loses its meaning and reduces phonologically, etc., speakers will strive to be maximally informative and thus perhaps start using novel forms, which is new language.

Notes

- 1 Of course, dating a given change is only a historiographical convenience. Language change takes place over hundreds and even thousands of years. And the rate of a given change may be quite different from case to case.

- 2 The actual rule here is that auxiliary *do* is used when the *wh*-word is not itself the subject of the sentence, cf. *What gives you the right...?*
- 3 You can think of a non-linguistic example along these same lines. Let's say I work in a building in which 90% of the employees are sales agents and the other 10% have a smattering of different jobs, secretary, underwriter, case manager, etc. On a daily basis I see at least 200 people. Now let's say that I see Agnes, an underwriter, every day several times. I will remember that she is an underwriter. But maybe I only see Curt, a case manager, once every six months. I probably won't remember his job, unless there were some other association connected with that information.

Recommended

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- Smith, K. Aaron and Susan M. Kim. 2018. *This Language, A River: A History of English*. Peterborough, ON: Broadview Press.
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10 Variation

Introduction

A point that was made in the last chapter and one that bears repeating is that there is no language on Earth that all speakers speak (or write) in the same way. It is interesting given this easily observable fact that so many people hold the belief that it is the goal of language education to eradicate variation. This goal of “leveling” out the language ties into a larger ideology and that is “the standard language ideology,” in which people believe that there is one good and correct form of the language. This ideology, at least in its present-day form, is arguably tied to the rise of the nation-state in European history. Before the modern period (before about 1500), speakers of languages did not have the same expectation of language unity—even Shakespeare (around 1600) spelled his own name in various ways. Variation was expected and languages (or dialects) might be associated with a certain geographical area, but there weren’t countries in the sense that we have today. More often there were kingdoms or principalities and people knew that certain languages were spoken in them. But the boundaries shifted with warfare and marriages, etc.

However, as we move through the medieval period and toward the modern period, the idea of a nation-state grew and thus people began to think of countries as united political and territorial entities, like France, England, Spain, etc.¹ In fact, two countries that we think of as nations today only became so rather recently; Italy became a nation-state only in 1861 with the political unification of former autonomous territories including city-states. And Germany became a nation only in 1871. The reason that nationalization of this sort is relevant to our discussion of variation is that there was a concomitant effect on thinking about language which we might sum up as “one nation, one language.” Obviously, in such thinking people in the political territory known as France should speak French, those in England, English, etc. The effect has been the steady loss of languages that don’t have a nation attached to them, like the Celtic languages of Great Britain, or languages like Provençal, spoken in Southern French, and many others as we will see in Chapter 13.

But the notion of “one language” has also had an effect on dialects of languages as well. As single languages came to be desirous within single nations, those languages needed to be codified, but how do you determine which variety of the language should be the standard. A frequently employed way to determine the standard was to base it on the variety of a single, important city of the nation, like Paris or Madrid. Other standards were arrived in a more pluricentric ways, like English. Thus, Standard English, while largely based on the speech of London, has some forms from northern varieties of the language as well. For example, you may be aware that in older English, verbs in the third person present could end with *-th*, as in *he goeth*. The *-s* inflection that is

used in modern English is a northern English feature, which probably made its way into the speech of London after the Black Plague and the subsequent movement of people into the metropolis. On the American English scene, Noah Webster worked to define and recommend an American English that he saw as necessary for uniting the newly formed republic. His recommendations were largely orthographic, which is why we write *honor*, *criticize*, *tire* in America and the British *honour*, *criticise* and *tyre*.

Again, however, despite notions of political and linguistic unity, variation has never been eradicated in any language and frankly never will. One of the central reasons for the persistence of variation is that it is tied to identity and even though people may associate themselves generally with their nation, there are many other aspects of identity that people will hold as definitional of who they are. Those identities may include geographical or social affiliations.²

Thus, in linguistics, we approach the study of variation along two axes, which we can think of as horizontal and vertical. A horizontal view of variation is geographical and the vertical view is social variation.

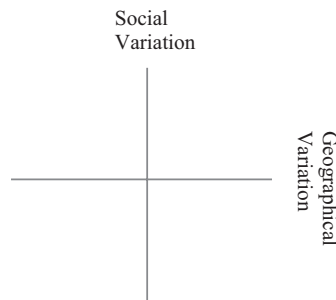


Figure 10.1 Axes of Social and Geographic Variation.

Geographical Variation

Of course, it is not news to you that languages vary by geography; you likely think of this type of variation when you hear the word “dialect.” But “dialect” should not be confused with “accent.” An accent is a relative term that people generally use when they want to identify that someone “talks” differently from themselves—mostly they mean pronunciation. But, of course, that person is the one who has an accent to the person they are identifying with an accent in the first place. Popularly we talk about a Boston accent or a New Orleans accent, etc.

But the term *accent* is not so helpful in linguistics, because it is limited to talking about pronunciation and if someone has a definable phonology that differs from other speakers of the same language, it will be not only the phonology of that speaker that differs but also the morphology, syntax, lexicon and pragmatic structure as well. So, to define/describe a dialect we need to look at structure on all levels of description. We will return to this point in a moment, but first let’s consider how linguists do the work of dialect study.

Dialect Map

We can begin to appreciate the work of linguists working in the area of dialect study by looking at a dialect map of the US.

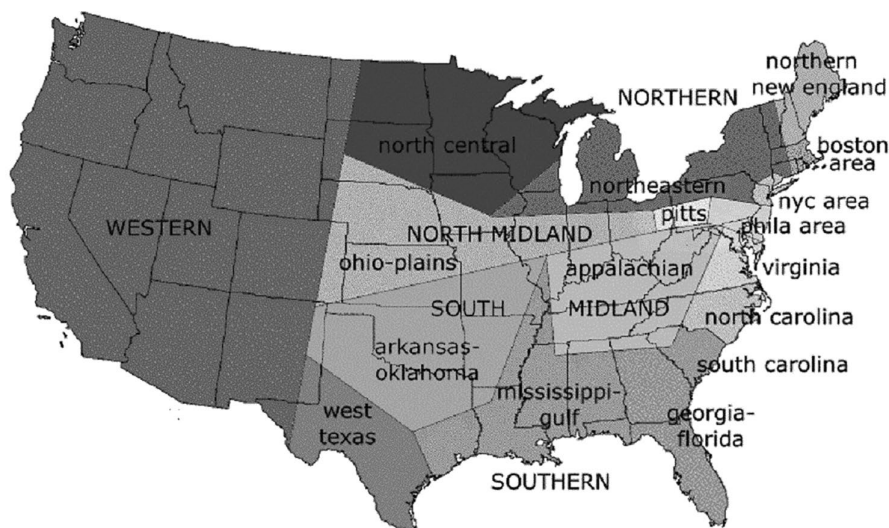


Figure 10.2 Dialect Map of American English.

This is but one such map (different research teams might come up with slightly different maps), but this map shows what are pretty widely agreed upon dialect areas. There are few general remarks that we can make about the map.

On most dialect maps, the western part of the US consistently shows less dialect variation, although more detailed studies do pick up dialect variation—not to mention variation among Spanish speakers of the Southwest. The Spanish of New Mexico is different from that found in East LA. So it isn't as if there is nothing going on in terms of variation in the West; the method that produced this map simply didn't pick up that variation (and see below). Still the West arguably shows less variation, particularly among Caucasian, non-Hispanic populations, and this can be explained by time-depth, population size and dialect mixing. First, English speakers have been living in the West for a shorter period of time and even today a lot of people living there are recent immigrants from eastern locales. Second, much of the West is very thinly populated. In those areas in which the populations are large, like California, there is more dialect variation because there are just more people. Third, when the West was populated by English-speakers the usual process was for as many as 2,000 people to meet up at a location like Independence Missouri and travel westward by covered wagon. Those 2,000 or so people might have come from various dialect areas, but under the conditions of needing to become neighbors quickly, speakers likely accommodated one another's differences, dropping stigmatizing forms that might have made a given speaker seem too "other." This phenomenon is known as convergence, that is, when varieties of a language become more alike.

Considering the dialects in Illinois, which according to this map has more dialects than any other state; you might notice that the two boundaries that mark out the northern and southern limits of the Midland dialect correspond to Interstate-80 in the north and Interstate-70 in the south. This is not an accidental fact. Some dialect boundaries do run along interstates because the modern interstate system was inscribed upon older migration routes, along which people carried their eastern dialects westward. Another interesting interstate~dialect issue (again in Illinois) that does not show up on the map is the phenomenon of the I-55 (or St. Louis) corridor that runs south-westward from

Chicago to St. Louis. Towns all along I-55 show dialect features that are familiar in the Northern dialect area, especially from the Chicago area. Therefore, the Northern Cities Vowel Shift that we studied in the last chapter is quite apparent in many towns along that corridor.

How Do Dialectologists Make Such Maps?

Dialectologists make dialect maps by gathering information from speakers of different areas. In that kind of information-gathering method, the participants used to be called “informants” and there was the belief that the best informants, i.e. the ones that would give the best results for the dialect features of a given area, were NORMS, an acronym for **n**on-educated, **o**lder, **r**ural, **m**ales. By today’s standards we would identify such a method to be problematic in any number of ways, the most serious being that focusing on NORMS as participants (the preferred term today), the information gathered would not give a very complete picture of the complexities of a given dialect, since language will also vary in terms of gender and age, etc. I will return to the variation of language by gender later, but you might know for now that in terms of the Northern Cities Vowel Shift, it was (and likely still is) women who appear to have led the change more than males (particularly middle-class suburban women). If dialect study had continued to focus on males, that very interesting change in English would possibly not have been detected or certainly not with such robust representation.

It won’t surprise you to know that the exact method of collection has changed over the years. Very early on dialectologists would travel and stop every so often to collect data. Modern methods of collecting data for sociolinguistics have involved telephone surveys, computer surveys and volunteer researchers in the field conducting interviews on the street. Depending on what researchers want to find out, they may have a list of words that they ask participants to read and then phonetically transcribe the speech (to find out about phonetics/phonology), or they might show a picture of an object and ask the participant to identify what it is (to find out about lexical variation). For example, what do you call this:



Figure 10.3 A “Whirligig.”

Answers will vary among “helicopters,” “whirligig,” “whirlybirds,” “maple keys” and others.

At any rate, by plotting features on a map, researchers can draw lines to separate one form from another. A line that separates a single variation in form, like, for instance, the difference between the

geographical spaces where speakers use *pop* or *soda*. That line separating such a single variation is called an isogloss, but isoglosses tend to occur in bundles, and a bundle of isoglosses running along the same general geographic area is the definition of a dialect boundary. The following image shows the result of a survey looking at the distribution of generic names for carbonated beverages.

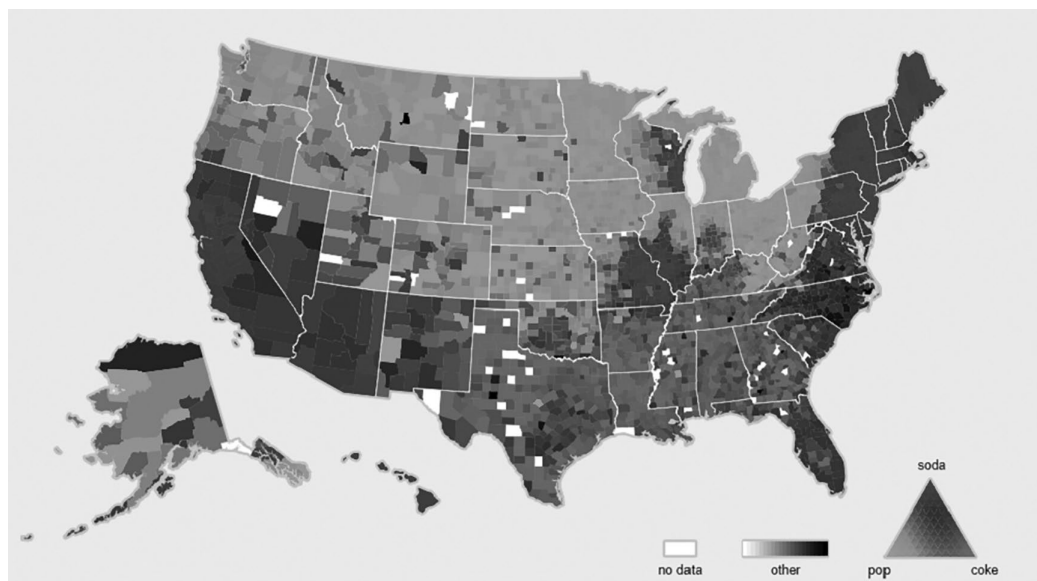


Figure 10.4 Distribution of Words for Carbonated Soft Drinks in American English.

What you can see is that there are very general lines, like, for instance, between Northern and Central Illinois, that separate areas where people say *pop* and *soda*. Or, consider the line running along Northern Texas, Northern Arkansas and up through the northwestern border of Kentucky that separates *soda* from *coke*.

While the map here considers only one feature, the name for carbonated beverages, one could add in other features to determine more dialect differences, some of which may coincide well with the *pop*-*soda*-*coke* isoglosses shown here. For example, the *pop*~*soda* line between Northern and Central Illinois coincides with a syntactic difference as well. In those areas where people say “soda” in Illinois, they also generate sentences like *The lawn needs mowed*, instead of *The lawn needs to be mowed*, preferred by speakers in the *pop* area. Again, if we find isoglosses bundling together in this way, we can establish a dialect boundary.

Defining a Dialect

Defining a dialect is a bit trickier than it might at first appear. First of all, and to return to a point I made earlier, defining a dialect goes beyond “accent” or phonetics/phonology and must include morphological, syntactic, lexical and even pragmatic features. The following is a list of features that occur in the dialect I grew up in:

Phonological: Long tense vowels tend to become short and lax before a syllable final [l]. So, “deal” doesn’t sound like [di:l] but [dɪl], such that it is homophonous with “dill.” Similarly, *sale* and *sell* are homophones; they both sound like *sell*.

Morphological: The paradigm for the verb *do* in the negative does not vary so that the forms are:

I don't	we don't
you don't	you don't
he/she/it don't	they don't

Syntactic: The past participle form of the verb can be used after “need” to express something that needs to be done. For example, “The car needs washed.” “The grass needs mowed.” “My hair needs cut.” etc.

Lexical: Carbonated beverages are “soda” or “sody.” And “tennis shoe” is used for any sort of athletic footwear.

The dialect features just described are working-class, Peoria (part of the Midlands dialect area) and you may notice that even though you come from a different geographic area that some of these features are present in your dialect too. That is because it is quite rare to find features that are unique to one and only one dialect, which presents a particular problem for defining a dialect. Thus, dialects are for the most part defined as a cluster of features and often those features differ from adjacent speech-areas, but may show up in discontinuous geographical areas.

Dialect and Identity

In the paragraphs above, I shared forms of the dialect that I grew up with. But, I do not myself use all of those dialect forms. Language forms and identity go hand in hand, and speakers are able to choose, sometimes consciously, sometimes subconsciously, different language forms to align with their own sense of identity. For example, as I grew up, I began to associate myself more and more with educated/intellectual groups and did not say “he don’t.” That decision was subconscious. But other decisions have been conscious. For example, I grew up saying “soda,” but then I went to college at a large Illinois state university in which more than 50% of the student population was from the Chicago-land area. Those students said “pop,” and I began to feel like a “country-bumpkin” saying “soda.” Now my own evolving sense of self in college was that I would be off for great things and big-city lights after graduation and I wanted to fit in with big-city talk, so I started saying “pop,” and still do. The fact that I still do suggests that, at least to some degree, I want members of my own dialect group to know that my identity (based on my experiences) is different from theirs.

Curiously, the word “pop” had a different effect with relation to my identity later in life when I lived in New York City where I lived for five years from the ages of 26–31 and most of my friends, and the crowd I hung out with, were similar to me in age and also emigrant status in New York. Those friends came from Philadelphia, Minnesota, Louisiana, Ohio, etc. We all wore our origins as a unique characteristic of our identities, particularly in such a mixed group. I was the Midwesterner and I underscored that identity with a strong marker of Midwest speech, “pop.”

Examples of identity negotiation through dialect use are not hard to find. Many are familiar with the American exchange student who studies for a semester or two in Great Britain and returns with an English accent. Or the New Yorker who moves to Oregon and adopts an “over-the-top” New York pronunciation. While identity expression, through dialect or other outward means of communication, is a person’s prerogative, it is interesting to note how others around that person may show annoyance because the person is acting “outside” some expected identity behavior. Such reactions are of course not limited to language, but also identity expressions of gender, age (someone who dresses “too young”) and even sports affiliation. Woe betide the Denver Broncos’ fan living in Pittsburgh.

Social Variation

At the beginning of this chapter, I pointed out that language could vary horizontally (geographically) or vertically (socially), and it is to this latter domain of variation that we now turn. Social dialects, or sociolects, may be identified according to any number of social affiliations: age, gender, ethnicity, economic status, etc. However, it is very important to acknowledge that the relationship between a speaker's identity and any social group is affiliative and not essential. Thus, if we are able to find linguistic features that seem to be more prevalent or even mark male identity, speakers will only use such features in so far as the identity with male social identity. In other words, there is nothing about sex (or race or socioeconomic class) that makes a person talk one way or another.

Variation by Age

Language variation by age is an easily observable phenomenon and many readers have good memories of the peculiar kinds of expressions that they and their group of friends used during middle and high school. The reasons that most of us have such good memories of this kind of variation is (1) the change in expressions is very rapid—a recent graduate from high school can be completely “out of the linguistic loop” just one year after graduating; (2) so much of our identity forming is involved in the use of such expressions because we are asserting our independence from the generation of our parents/teachers (and even older siblings) in doing so.

This kind of variation tends to be lexical in nature and the kinds of expressions associated with a given group at a given time changes rapidly. In my youth, for example, teens often used the term “roached” to refer to someone or something that was worn out, as in “My shoes are roached,” or “I was roached at the end of the day.” It was also used to talk about a person's hair that had been dried out from over-perming or bleaching, “Man, her hair was roached.” People of all age groups can easily come up with examples from their own high school years. Such expressions usually do not permanently change the language and young people will abandon most such expressions as they grow up and speak more like the general population around them. Occasionally these youthful expressions will “stick” in the language for a longer period of time, like the word “cool” or “sick,” as in “Dude, that party was sick!”

Overt and Covert Prestige

At this point it will be useful to learn two concepts in sociolinguistics, overt and covert prestige. Overt prestige is the kind of respect that we attempt to get by behaving within prescribed societal norms. While the term can be applied to any number of behaviors, within the topic of language, overt prestige is that which a person gains by using Standard English. However, sometimes we are not concerned with prescribed societal norms and we want to gain respect within a sub-part of the larger society, who may identify themselves in opposition to the mainstream—like teenagers, as discussed earlier. But, other non-mainstream identities might include working-class men in a factory, friends working out at a gym together, band members of an alternative rock group, etc. Within such groups using Standard English forms would likely be seen as inappropriate in fact, and speakers in such groups use non-Standard English forms to signal group participation and thus gain covert prestige. In other words, non-Standard English is the rhetorically more appropriate choice in those groups/contexts.

A good example can be seen in an English form like *son-of-a-bitch*. If you were asked to qualify this expression, you would likely say it's a pretty impolite thing to call a person because you might imagine its use in a situation like being cut off in traffic and calling the driver of that car a “son-of-a-bitch.” Indeed, that would be rude and confrontational. But, imagine the scenario in

which two old “buddies” are meeting up for a beer and they haven’t seen each other in a while. One may well greet the other, saying, “Bill, you old son-of-a-bitch, how ya been?” As you can see, in that case the term would actually be one of endearment!

Another good example of the strategic use of non-Standard English to garner covert prestige can be found in politics. Very often, a politician, like a member of congress or a senator, might really “pour on” the accent of their constituents in public address so that they sound more “down home” and “with the people.” In consideration of such variability, it is obviously not possible to evaluate language forms simply as good, bad, right or wrong, but it is necessary to consider the audience and setting. Successful communication is not merely knowing Standard English, but possessing a range of linguistic forms and the knowledge of when to deploy them.

Variation by Gender

Language variation by gender has been studied for a long time and was originally concerned with trying to discover differences between male and female speech. In many such studies, females were found to use more hedges, like “you know/in my opinion/for me,” etc., tag questions, like *She works at Macy’s, doesn’t she?*, and rising intonation on statements (uptalk). In fact, it is a problem of research design that what was most often being looked for was the way the women’s speech diverged from male speech, as if the latter was the norm.

It probably won’t surprise you to know that the interpretation of such results was linked to the subordinate status of women and the language was said to mark women’s tentative, weaker and insecure social identities.³ Such studies have been criticized for several reasons but an important criticism is the fact that those early studies simply counted linguistic features without consideration of the discursive context. In fact, studies carried out in different settings have shown men to use more tag questions, and you won’t be surprised to know that the interpretation of such studies was not that men are weaker.

Even if women could be shown to use more tag questions, hedges and uptalk, the explanation need not derive from societal stereotypes. Consider another study from around 1980 (reported on in Fasold 1990:110–111). Pairs of conversation partners, some mixed gender and some same gender, were asked to discuss a topic. In some of the trials, one member of the pair was given “expert knowledge” in the form of background reading and information on the topic. Consistently, men when given the expert knowledge dominated the conversation, using their knowledge as power. However, the women who had the expert knowledge tended to use more collaborative and supportive conversational strategies.

Based on this sort of study, the use of hedges, tag questions and uptalk (which sounds more like a question intonation) are ways of making sure that discourse participants are “included” and that the information of the discourse is shared by the group. Furthermore, if we think about the kinds of activities and games children are encouraged to play, it is obvious that girls are taught to be group-conscious from a very early age while boys are taught to be more maverick. You can also think about the kinds of toys kids are traditionally given: boys play with weapons and equipment; girls play with dolls—i.e. they are expected to be person-centered caretakers.

Variation by Socioeconomic Class

Most students of linguistics are familiar with a famous study carried out by William Labov in New York City in the 1960s in which he found variation in the use of prestige forms, in that case the pronunciation of /ɹ/ at the ends of words and before consonants in words like *car*, *teacher*, *fourth*, etc. In New York City, some speakers do not pronounce the “r” in such words so that they sound

more like *cah*, *teachah* and *foth*. In his study, Labov visited three retail stores, Saks 5th Avenue (representing affluent classes), Macy's (representing middle classes) and S. Klein's (representing working classes). What he found was that the "r" was more likely to be pronounced the higher up the economic scale a speaker was.

You can find this type of variation fairly easily. For example, many of the geographic dialect features I gave above of my own dialect are socioeconomically stratified because they tend to occur mostly with the working class.

Ethnic Affiliation

One of the most important ways that English can be said to vary in the present-day US is ethnic affiliation. This fact is not so surprising given our country's history and present-day race consciousness. One ethnically affiliated variety of American English that has been studied extensively is African American English (AAE).⁴ Here especially we need to remember that the point is about affiliation, not essentialism. NOT every African American uses AAE forms in their speech, and NOT only African Americans use AAE forms. Within the culture of hip-hop/rap music, AAE is widely used in lyrics and other interactions among people affiliated with that culture. Some participants are Caucasian, Asian, Latinx, etc. Also, there are many African Americans who do not use AAE forms.

AAE is not a single linguistic sociolect and instead there are varieties within that larger variety, all of which have their origin in the English spoken by enslaved Africans in the American south in the 18th and 19th centuries. We can identify those origins in part because of the ex-slave recordings in which we can hear recordings (and read transcripts) from former enslaved Africans and observe many of the forms that are identified as markers of AAE. That variety of English may well have remained a quaint dialect of the south, except that in the early decades of the 1900s many African Americans left the south (to escape oppressive social discrimination and oppression) and moved to northern urban areas, New York City, Chicago, LA, Detroit, etc. The effect is that nowadays we might not so much associate AAE with southern rural identity, but more with an urban one.

Given the much wider distribution of AAE described above, one may ask, why we continue to call it African American. It is important to honor the history of the variety and to recognize the identity of the speakers among whom the variety grew up. To call AAE by any term that does not recognize its ethnic roots runs the danger of "white-" washing that history.

It is also important to note that AAE is stigmatized and social reactions to it (and its speakers) are largely (and unfairly) negative. For instance, in a few cases school districts have attempted to recognize AAE in the teaching of language arts in terms of using it in order to teach other varieties of English like Standard English. But the backlash has been strong and immediate. Some feel it wrongly legitimizes AAE and encourages a "less-than" curriculum in schools that are often already financially undersupported. Despite such concerns, there are resources available for the teaching of AAE-speaking children which recognize the structure of AAE and use that as a basis for teaching literacy in Standard English.

Further to the topic of teaching, it should be kept in mind that the point of teaching language arts is not to rid students of their cultural dialects and sociolects, but to increase their repertoire and knowledge of what language forms are communicatively most successful in which contexts. Speakers of varieties of English so stigmatized as is AAE have too often been taught to be ashamed of their speech/language in the wider national context. Much of this shaming has come from school, but negative comments about AAE are ubiquitous in American culture. However, if we are ever to achieve a society in which we truly respect cultural diversity, we must remember that language/dialect is an integral part of culture and identity and stop seeing AAE as a problem.

Teachers would do well to learn about students' languages and dialects and use them as resources in the classroom. A language arts classroom should be a place in which linguistic variety is expected and welcome, and not something to shame students about. Furthermore, good intentions are not enough. In order to truly appreciate any language or dialect, we should be able to describe some of its features. In the next section, we turn to a short linguistic description of AAE.

A Linguistic Sketch of Selected African American Features

Phonology

In this section on phonology, we will discuss two features of AAE. First, consider the final sounds in the following words:

tusk
best
friend
accept

In a very careful pronunciation of these words, they all end with two consonant sounds, [sk], [st], [nd], [pt], respectively. However, in more casual and rapid speech, the final consonant may not appear, particularly if the following word begins with a consonant sound. If you say, "That's his best friend from school," it is likely that you did not pronounce the <t> in *best* or the <d> in *friend*. This phonological process of deletion is possible in the speech of most English speakers.

In AAE, there is evidence to suggest that the single-consonant form has become the normal or dominant representation of the word in many such cases. As you might remember from earlier chapters, in a usage-based model of language, linguistic forms in the mind are shaped by language use and if a speaker of a variety of English encounters more instances of the single-consonant variants, then the dominant representation of the word in that speaker's mind will emerge as that form. Evidence that just such a thing has occurred for some speakers of AAE is the fact that the plural of words like *desk*, occurs as *desses*, as if the plural was being attached to a stem ending in a /s/ rather than a /k/.

Another phonological feature of AAE is the phonological status of /f/, /v/, /ð/, /θ/. In AAE, there is evidence for some degree of phonemic merger between /θ/ and /f/, on the one hand, and /v/ and /ð/, on the other. Note that only [θ] can only occur at the beginning of a word; it does not occur word finally or word medially, and instead [f] appears in those positions:

thin	[θɪn]
thigh	[θaɪ]
with	[wɪf]
both	[boʊf]
birthday	[bɜːfdeɪ]
without	[wɪfoʊt]

Similarly, [ð] occurs word initially, and [v] word finally or word medially.

there	[ðeɪ]
they	[ðeɪ]
smooth	[smuv]
bother	[bavə]

In other words, the distribution of /ð/ and /θ/ has become more restricted and part of its former distributional range has merged with the distribution of /f/ and /v/. This phonological pattern is not unique to AAE and something very similar can be found by some speakers of London youth speech, a variety commonly known as Estuary English.

Morphology

In this section, we will discuss two patterns of AAE Morphology. The first feature has been called by many names, consuetudinal BE, invariable BE, uninflected BE, and others. The feature has to do with the form of the verb BE, which does not show changes in form in the present tense. Thus, a paradigm for the verb BE in the present with different subjects is:

I be	we be
you be	you all be
she, it he be	they be

Again, this feature is not limited to AAE and similar forms are found in other varieties of English, such as Canadian Maritime English and Irish English. Most studies have shown too that forms like *He be drinkin' coffee* varies with a Ø-copula construction, *He drinkin' coffee*. The two constructions contrast in that the first one indicates a habitual or repeated activity and the second refers to something happening at the moment of speech.

Another much discussed feature of AAE is the form of the third singular verb in the present tense, which does not carry inflectional marking. Thus, a paradigm for a verb in the present tense is:

I eat	we eat
you eat	you all eat
she, he, it eat	they eat

Syntax

In the area of syntax, we will discuss two features. The first involves negation. Simply stated, a clause in AAE may be multiply negated, as in the following example taken from the Corpus of Regional African American Language:

You not gonna see no dude out here with no afro, no butterfly collar, no bellbottoms. You really ain't gonna see no dude in no fly away break jacket.

Multiple negation is found in many varieties of English in which it is commonly mistermmed as double negation, and, of course, many are familiar with the elementary school teacher's admonition that two negatives make a positive. But, in fact, colloquial varieties of English do not limit themselves to two negatives and certainly not with affirmative meaning. When a speaker of a variety of English uses multiple negation, even if with two negatives, the speaker is not indicating the affirmative; *you ain't gonna get no help* does not mean *you will get help*.

Another interesting feature of AAE syntax is the auxiliary verb system. In AAE, *been* and *done* have developed into aspectual markers to indicate remoteness and result. For example, the sentence *she been tell him...* indicates that the activity occurred in the further past than would a sentence like *she told him*. A sentence like *we done see that show* means "we have already seen that

show”; in other words, it describes the resultant state. The two can even be expressed together to express remoteness and resultant state, as in *we been done went there*, meaning “we had already gone there some time ago.”

AAE is also interesting in the different kinds of auxiliary verbs that it uses to express future time. *Will* and *be going to* are both available in AAE for expression of future, as is another future auxiliary *finna*. *Be going to* and *finna* differ slightly in meaning.

Ima be late. (a frequent form of I’m gonna is Ima in AAE)
I’m finna be late.

Ima be late is a firmer prediction, whereas *finna* is slightly more tentative. In very recent years, yet another auxiliary has begun to emerge and which we discussed earlier, *tryna*. In many uses, *tryna* still means “try,” that is, attempt but, in very recent times, *tryna* can act more like a future.

Origins of AAE

There has been some debate in academic circles concerning the origins of AAE. Some have sought to find elements of African languages in AAE. Others have sought to explain AAE forms by looking at other varieties of English, both historical and contemporary. Another view on the history of AAE considers it within the context of Caribbean creoles. Before, however, we are able to appreciate the details of the different positions, it is first necessary to talk about creole, and related pidgin languages.

Pidgins and Creoles

You are likely familiar with the terms “pidgin” and “creole,” but you may not be aware of the technical use of those terms in linguistics.

A pidgin refers to a simplified language that arises for the purposes of communication among speakers of different languages. The input languages in such situations are rarely in equilibrium and a very important ingredient in the development of many pidgins is economic. That is to say that a language with greater economic weight will often serve as the basis for the pidgin. That language is commonly referred to as the lexifier language because it provides the vocabulary basis for the emerging pidgin. What is important to note for now is that the pidgin is no one’s native or first language.

While there have been many pidgins in the history of the world with lexifiers such as Chinese, Delaware and Chinook, many pidgins around the world grew out of European colonization and expansion, creating many pidgins based on French, Dutch, Portuguese, Spanish and English. Many of these European-lexified pidgins played an important linguistic role among victims of the slave trade, mostly among enslaved Africans from West and Central Africa who were brought to the Caribbean.

It is likely that some pidgins had emerged in Africa and were in use among those working in and victimized by slave trading. We can note the persistence of several English-lexified pidgins still in use in Africa today. These pidgins might well have been learned by some of the enslaved Africans before being brought to the Americas. Whatever the status of those pidgins or the continuity between pidgins used in Africa and the Caribbean, those pidgins were passed down to a new generation, who learned the pidgin as their first language. When a pidgin becomes the first language of a population of speakers, it is a creole. In this way, several creoles developed in the Caribbean and in other places too; in modern times most creoles (and pidgins) have developed in

maritime locales. Thus, we speak of Jamaican Creole, Hawaiian Creole (both with English as the lexifier language) and Haitian Creole (with French as a lexifier language), etc. Caribbean creoles are sometimes referred to as instances of abrupt creolization, because the creole arose after just one or two generations. In other places, creolization has been more gradual since native languages persist alongside the pidgin for a longer period of time, as in Papua New Guinea. The pidgin in Papua New Guinea is known as Tok Pisin (which is used in television programming, newspapers and street signs, etc.) and it continues with mixed status. For some, Tok Pisin is a first language and thus technically a creole, but for others an indigenous language remains a first language and Tok Pisin is learned as a second language used for wider communication. Tok Pisin holds official status in Papua New Guinea.

A point that was made in the last chapter was the fact that languages develop and change in similar ways. Given that the study of creole languages is often diachronic in the first place, we shouldn't be so terribly surprised to find strong commonalities in the emergence of creoles. All human languages are complex in their own way and when a pidgin develops into a creole it undergoes complexification particularly in the grammaticalization of verb tense/aspect, prepositions, determiners, etc., but often in ways that are independent of the lexifier language. Therefore, creoles are not thought of as dialects of their lexifier languages, but are considered languages in their own right.⁵ Thus, although the words in a creole may look familiar to speakers of the lexifier language, the grammatical system of such languages may be quite different.

Consider the following sentence from Belize Creole English:

i gat mora wan ting we a de tink baut

If you try to read this sentence out loud, you, as an English speaker, probably recognize some familiar words. For example, *gat* = *got*, *mora* = *more*, *wan* = *one*, *ting* = *thing*, *tink* = *think* and *baut* = *about*. But putting it together grammatically is a different matter. *i gat* is an existential construction meaning something like "there is." *Wan* is the numeral one, and it also serves as an indefinite article, "a/an." *We* is a relativizer and it functions to introduce a clause that will describe a noun; in this case it modifies *ting*. *a* is the first singular pronoun and *de* is an aspectual marker, describing something as on-going, like the English progressive. So when translated, the sentence means: "There is one more thing that I am thinking about".

Creoles on a Global Scale

Creoles, despite linguists' recognition of them as full-fledged languages, are often discriminated against in a global context—even by users of the creoles themselves. For instance, Bislama, a creole spoken in Vanuatu, was declared a national language, but until rather recently it was forbidden in the schools. Thus, there is some attraction for creole speakers to slough off unique forms of the creole and make it more like the lexifier language. In many creole-speaking societies then there is a range of lects from the most creole-like (basilect) to middle ones (mesolect) to ones more like the lexifier language (acrolect). This arrangement of lects is known as the post-creole continuum and it can be very fine-grained.

The following list represents the sentence *I gave him* in Guyanese Creole from the most basilectal to the most acrolectal forms. Different speakers of creole have various levels of control over the selection of the forms. Some speakers may only be able to speak in the basilect, while others may have a linguistic repertoire that runs the gamut of forms from the basilect to the acrolect. The choice of level will have to do with the context in which one is speaking (from Romaine 2000:192).

Basilect	mi gii am
	mi bin gii am
	mi bin gii ii
	mi di gii ii
	mi di gi hii
Mesolect	a di gii ii
	a di gi ii
	a did gi ii
	a did giv ii
	a giv ii
	a giv im
	a giv him
	a geev ii
	a gee im
	a geev him
Acrolect	I gave him

In some cases, a creole-speaking population has sustained contact with the lexifier language and may, as a result of raised economic opportunity, education and exposure, lose the basilectal forms and become more like the lexifier language—in which case we talk about decreolization. Some have suggested that AAE is a result of such a decreolization process. But as we discussed above, the question is not settled. While it seems safe to say that some features of AAE are based in a Caribbean-like creole (and remember many enslaved Africans from the south were brought not directly from Africa but from the Caribbean), other forms were probably part of the English spoken by the Caucasian slave traders and plantation owners.

The enslavement and trade of Africans resulted in an incredibly complex set of language processes, including the mixing of several African languages, (often imperfect) learning of other languages such as English, pidginization, creolization and (likely) decreolization. We should expect that questions of origin for a variety of English forged in such a complex linguistic crucible to be equally complex. Still, the questions are important, particularly for a population against whom language is still used as justification for discrimination and socially unjust treatment. Everyone deserves a history.

Notes

- 1 The Euro-centricity here is important because it is that sense of nation-state that was imported to many locations around the world as a result of colonization and its lasting effects. One effect is the establishment of nations without linguistic or ethnic unity. So, for instance, in a nation like Ghana, in Africa, there are over 80 languages spoken, but English maintains its status as an official language, given the impracticality of granting each of the more than 80 languages equal status and representation in government, education, etc.
- 2 Future language teachers might note this fact and remember that if you ask students to negotiate their language, you are necessarily asking them to negotiate their identities—and that’s a tricky business, one that must be approached sensitively and intelligently, based on good method and pedagogical approach. That is, pedagogy based in linguistics and not popular ideologies of language unity.
- 3 Don’t let my use of “social identity” go by without recognizing its importance. A woman may be quite secure and in solid possession of the things she knows, but in social interaction she is very often expected to sublimate that self-assuredness and portray herself in a more tentative way.
- 4 AAE is and has been known by many other terms: African American Vernacular English, Black English Vernacular, Black English, African American Language and many others.

- 5 Curiously, creoles, although descended from languages like English, French, Dutch, etc., are not generally considered as part of the European language family. For instance, if you look at a genetic map of Indo-European languages, you will see a representation of Spanish as being descended from Latin. And even though Jamaican Creole descends from English, we see no representation of it on genetic maps of this type, underscoring the often-used description of creoles as “bastardized” languages, i.e. without legitimate parentage. Some scholars have challenged this treatment of creoles as “exceptional” languages, claiming that the unique and separate treatment of them is based more on racism and Eurocentric sentiment.

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11 Language and the Mind

Psycholinguistics and Neurolinguistics

Introduction

The branch of linguistics known as psycholinguistics comprises several different avenues of inquiry all of which seek to understand the psychological (mental) underpinnings of linguistic behavior. Traditionally, psycholinguistics has involved the study of how children acquire language (developmental psycholinguistics) and the design of experiments aimed to discover how language is stored and processed in the mind. Increasingly, with modern technology in brain imaging and other kinds of evidence concerning the structure of the brain, another field of linguistics, neurolinguistics has become associated with psycholinguistics. This chapter will deal with the latter two areas while language acquisition occupies the major concerns addressed in Chapter 12.

Language Storage and Processing: Formal Approaches

A major concern of theoretical linguistics is to discover the way the mind stores, processes and thus produces and comprehends language. Many dominant models of language in the mind have not been solidly based on language output, relying instead on speaker intuitions, gleaned from grammaticality judgments as to whether an utterance is grammatical or ungrammatical, a point we addressed in Chapter 1. Many such theories have assumed a modular representation of language in the mind, such that there are different components for the processing of the lexicon, on the one hand, and the grammar, on the other (often too with subcomponents of the grammar into phonology, morphology and syntax). The idea in such theories is that as a linguistic message is generated, it passes through the various components assuring that form and meaning are coupled into a comprehensible unit of language. Such approaches generally proceed with a model of LEXICAL INPUT → GRAMMATICAL RULE → OUTPUT (and see Chapter 5 again).

Traditionally, in this type of theorizing, there has been a distinction kept between language competence and language performance.¹ Language competence is thought to be the storage of grammar in the mind, that is, the set of rules that assure legitimate linguistic form. Performance is the actual speech (or writing) that emerges in the world of linguistic exchange (conversation, lecture, etc.). In this view, language competence has been the focus of linguistic theory, while performance has been considered “noise,” which more often distorts actual language with “messy” interfering, non-linguistic factors, such as memory lapse, false starts and restarts, incomplete structuring, nervousness and even perhaps drugs and alcohol.

The distinction opens up a methodological problem: how can we access competence and “work around” performance. The commonly accepted answer has been to rely on native-speaker intuition, accessed through grammaticality judgments in which native speakers determine whether a given linguistic form is acceptable in that language or not.² However, intuition is a notoriously vexed method for identifying motivations for human behavior. Furthermore, in many such approaches the

very same linguist who is developing the theory uses their own intuitions about the forms under consideration and so judgments may certainly be clouded by intimacy of the knowledge of the desired data and eventual acceptance or rejection of a hypothesis.

Language Storage and Processing: A Functionalist Approach

However, a quite different approach is found in functionalist and usage-based approaches to language, in which the competence versus performance distinction is viewed as a false, or at least not very useful, dichotomy. In such approaches, then, language output is the focus of language modeling, and not the establishment of a set of rules in the mind that generate that output. Understandably, native-speaker intuitions weigh far less as data than does actual linguistic behavior. As you have seen in several parts of this book, often data for functionalist theory comes from corpora of various sizes and types, but another source for gathering such data is afforded by psycholinguistic experimentation. In the next sections, we will review two different psycholinguistic experiments in the areas of phonology and morphology so that you can get a sense of what such experimentation is like.

Phonology

In a series of experiments by Losiewicz (1992), the duration of the past tense marker *-ed* was recorded in the speech of volunteer subjects. In one experiment, subjects were asked to read sentences in which there appeared rhyming (and sometimes homophonous) regular past tense verb pairs. The pairs were constructed so that some were one-syllable (with the suffix *-ed*): *seamed~seemed*, *called~mauled*. Others were two-syllable. In one set, the *-ed* suffix did not make up its own syllable: *covered~hovered*, *followed~wallowed*. But, in another set of two-syllable rhyming pairs, the *-ed* constituted its own syllable: *needed~kneaded*, *started~darted*. The final set included verbs of three syllables: *suggested~detested*, *expected~inspected*. You might notice that there is a difference between the members in each pair of verbs; one is more likely to occur in natural speech than the other. In other words, one is more frequent.

What Losiewicz found was that the pronunciation of the past tense morpheme was consistently and significantly longer for the less frequent member of each of the rhyming sets, on average by about 7 ms. In addition to this experiment carried out by Losiewicz, there have been many other studies that test the duration of sounds that make up morphemes, considering factors other than frequency that might influence variation, as, for example, whether a final /s/, that is, say, a plural morpheme (boats), might differ in length to a word final /s/ that signals a cliticized form of *is* (let's), or an /s/ that is not morphemic at all, as in the word *Scots*. The results of such studies can be quite surprising and complex (e.g. Tomaschek et al. 2021), but one common finding is that the length of sounds is sensitive to factors that are not predictable through an account of phonology alone.

Thus, studies such as those discussed in this section point to a different kind of model of storage in the mind than those that have been proposed since the turn of the 20th century. Keeping those traditional concepts and terms, the data from Losiewicz suggests a model of storage and processing in which the different components of linguistic structure, namely, phonology, morphology and lexicon, share information in intimate ways. For example, the past tense morpheme, whether it is realized as /t/, /d/ or /əd/, must “know” the frequency of the stem it attaches to.

Breaking away from concepts such as “components” of linguistic structure, we may instead conceive of a vaster and more integrated site of language storage, a kind of network. In that network, certain associations are more frequently made which facilitates the connection, as, for example, the combination of the verb *need* with the past tense morpheme *-ed*, which occurs more frequently than it does with *knead*. Again, frequency is but one mechanism that might affect activation potential in the network. Other factors might include functional weight. For example, the /s/ that makes up

the plural morpheme does more work than an /s/ that just happens to be at the end of a word, a fact which may be invoked to explain why plural /s/, in many cases, is longer than non-morphemic /s/.

Whatever model we might build to account for the kinds of data described here, it is clear that it would have to be dynamic enough to account for variability factors and to take into account not only what we do when we produce speech but also what we know listeners to “need” in order to make efficient sense of the speech we are producing.

Morphology

A well-known pressure on language forms is regularization, by which it is meant that all other things being equal, language forms tend toward regularity. Regularity, however, is not merely a “state” of language, but also involves important organizational and processural factors. For example, regular forms tend to be most frequent in the language and show relatively transparent meaning and form. It is common in grammatical treatments of English to divide verbs into those that are regular and those that are irregular. In such a scheme, regular verbs build the past tense by the addition of the suffix *-ed* (*walk~walked*, *reach~reached*, etc.) and irregular verbs build the past tense in a number of ways (*drink~drank*, *see~saw*, etc.), and see Chapter 1 again. For present-day English, the Oxford English Dictionary lists 32,783 verbs (which include obsolete ones), of which only about 250 or so are irregular. Thus, regular verbs are far more frequent in English. Also, past tense is a semantically well-defined category, referring mostly to past events that are completed at the time of speaking or writing, but there are some other uses as well. Furthermore, while the *-ed* suffix is most regular in writing, it in fact has the three pronunciations of [t], [d] and [schwa d], but the variations are very regular and predictable (see Chapter 3 again).

In the history of English, there are many instances in which former irregular verbs have become regular verbs. For example, the past tense of *burn* used to be something like *barn*, but since Middle English has appeared as the regular *burned*. Even in Modern English, some irregular verbs are tending toward regularization, as, for example, *slay* with the past tense *slayed*, used by younger speakers, as compared with the older *slew* form, discussed in Chapter 1. Further evidence of the productivity of the regular verb patterning is that new verbs in the language take the regular past ending, to *tweet* → *tweeted*.

Bybee and Moder (1983 [2007]), however, motivated by the fact that despite the overwhelming tendency for irregular verbs to become regular verbs, noticed there are some verbs that have been drawn into irregular patterns, either having switched from a regular to an irregular pattern or having been borrowed from other languages and then patterned as an irregular verb. For example, the earliest past forms of the verb *drag* tended toward *dragged*, but in Modern English *drug* is common.

The irregular pattern in question has two variations; one involves a set of verbs that have a past tense form with the vowel [æ] and a past participle with [ʌ], as in:

swim	swam	swum
come	came	come
begin	began	begun
ring	rang	rung
sing	sang	sung
spring	sprang	sprung
drink	drank	drunk
shrink	shrank	shrunk
sink	sank	sunk
stink	stank	stunk

The other variation involves verbs that have a past tense and a past participle with the vowel [ʌ], as in:

spin	spun	spun
win	won	won
cling	clung	clung
fling	flung	flung
sling	slung	slung
sting	stung	stung
string	strung	strung
swing	swung	swung
wring	wrung	wrung
hang	hung	hung
bring	brung	brung
slink	slunk	slunk
stick	stuck	stuck
strike	struck	struck
sneak	snuck	snuck
shake	shuck	shuck
dig	dug	dug
drag	drug	drug

The authors hypothesized that when given a set of nonsense verbs that fit the general phonological shape of the set of verbs presented, study participants (subjects) would be more likely to provide irregular past tense and past participle forms than they would with verbs with little to no phonological resemblance to the above set. We note, for instance, that all of the verbs end with a nasal consonant (m, n, ŋ), a velar consonant (k, g) or a nasal and a velar (ŋk, ŋg), and that they more commonly begin with consonant clusters (dr, sw, str, sn, etc.). Thus, it seemed more likely that a participant in the study would produce an irregular past tense/past participle with [ʌ] for a nonsense verb like *strink*, which begins with a consonant cluster and has a final nasal + velar consonant, than for a verb like *kib*, which shows little resemblance to the set of irregular verbs under consideration.

The method for collecting data involved presenting a group of 34 participants (all undergraduate students at a university) with a list of 93 verbs, most of which were made up, with only 16 being actual verbs in English. The participants were asked to give the past tense of each. The hypothesis was borne out and participants were more likely to give a past tense like *strunk* for *strink* but not for *kib*, for which they were more likely to give a regular form like *kibbed*. Of course, once a hypothesis is supported or disconfirmed, that is only a further step in the scientific process because now it is necessary to explain the results in some theoretical context.

In the case of the above experiment it, would seem that a reasonable explanation is to think of linguistic information in the mind as being organized around prototypes, or good examples. (Recall our discussion of prototype from Chapter 6.) Thus, the prototype for this set of verbs is the sound /s/ followed by one or two consonants, and ending with a nasal + a velar, perhaps even a specific verb, like *strung*. Thus, similar to the way that a person will accept fully (and quickly) an object with a flat surface and four legs on the ground as a table, while being unsure about a flat surface suspended from the ceiling, a speaker of English accepts *strink* as a member of the category of verbs in the irregular class discussed here and therefore is likely to offer a past tense form as *strunk*.

Neurolinguistics

The field of neurolinguistics, which alternatively may be thought of as a field within psycholinguistics or as an independent field, is concerned with the neurological aspects of language production and comprehension. Understandably, then, the brain is the center of focus for such study. At this point, perhaps, it is a good idea to recall that for much of the information provided in this book, we have been talking about the mind, which is not coterminous with the brain.

In the view espoused here, the brain is a physical organ of the body, albeit a very complex and still little understood one. The mind, on the other hand, is not a physical organ as such, but instead an abstracted consciousness (although not always explicit consciousness) that mediates the body's interaction with itself and, importantly, the outside world. Cognition, including language and the storage and processing of abstract language categories such as noun, clause, phoneme and meaning, is in the domain of the mind, while physical and directly observable entities such as neurons, axons, electric impulses, arteries, nerves, etc., are in the domain of the brain.

It is certain, however, that there is a close connection between the activities within some areas of the brain and the reflexes of the mind. For example, we know that the cerebrum, the front part of the brain, is involved in reasoning, judgment, problem solving and language. Our evidence that a given area of the brain is involved in some cognitive behavior has been afforded historically by different ways of observing the brain and putative links to certain behaviors. Obviously, since our science of neurology has improved so too have the methods of direct study of the brain improved.

In terms of language, the earliest observations of the brain involved post-mortem examinations of people with specific kinds of aphasia. Aphasia refers to some loss of language capabilities due to damage to the brain, sometimes through physical trauma, like a bash on the head, or more often, stroke, i.e. a burst blood vessel in the brain. In 1861, a physician named Paul Broca was able to conclude that language production was diminished in patients with damage to a particular area of the brain located in the left frontal lobe. Many of these patients had otherwise normal anatomical structures for speaking and they had good comprehension for language, but could not produce language, particularly in terms of grammatical forms, and thus sometimes aphasia of this kind is referred to as agrammatic aphasia. For example, a person with so-called Broca's aphasia might produce a sentence like *garage burn*, to mean that the garage burned down. In other words, it appears that the patient can access lexical items, but cannot fit them into the grammatical patterns of the language.

A little later, Karl Wernicke discovered, again through post-mortem examination, that damage to a part of the brain adjacent to Broca's area, now known as Wernicke's area, did not hamper speech production, *per se*, but resulted in a confusion of the lexical material of language. In other words, patients with damage to the Wernicke's area did not use nouns and verbs with the correct meaning. The effect is that such patients sound fluent in their language but with unclear meaning. For example, a person with Wernicke's aphasia may say something like *I'm not booking but they do the things that they have been swimming*. The speech sounds fluent and contains grammatical consistency, but the meaning of what the speaker intends is not comprehensible.

Some degree of confirmation of the research and conclusions of Broca and Wernicke were provided in the 1930s by a neurosurgeon named Wilder Penfield. Penfield experimented on patients undergoing elective surgery to control epilepsy, in which he was able to stimulate different parts of the brain and since the patients were conscious during the procedure, he could also elicit responses of the various sensations and behaviors they experienced during experimentation. Penfield "mapped" the brain in this way by attaching numbered slips of paper to the various areas of the brain that he simulated with descriptions of what happened. Due to more recent technologies of brain imaging (e.g. magnetic resonance imaging [MRI], positron emission tomography [PET] and

others), we can now use non-invasive techniques for observing brain functioning during language production and comprehension.

For most humans, many aspects of language appear to be stored and processed in the left hemisphere of the brain. An experiment that lends support to this idea is the dichotic listening test. In very general terms, stimuli to the body are processed by the brain contralaterally, meaning that stimuli to the right side are processed by the left hemisphere and vice versa. What this means is that stimuli to the right ear will pass directly to the left hemisphere, but stimuli to the left ear will go to the right hemisphere. In dichotic listening tests, subjects who receive linguistic stimuli to both ears at the same time, say, the words *shirt* in the left ear and *skirt* in the right ear, consistently recall the word spoken into the right ear faster and more accurately. The explanation for this result is that the stimuli to the right ear go directly to the left hemisphere, where much language processing takes place. Stimuli to the left ear go to the right hemisphere and are then transported to the left, necessitating more time and perhaps also undergoing attenuation. It is not to be thought, however, that the right hemisphere does not respond to certain auditory stimuli; it does. But those stimuli are often non-linguistic in the form of music, sounds from nature, etc.

A theme that has been common throughout this book, since it assumes a more functionalist orientation, is a refutation of language modularity in the mind. However, our discussion of the brain so far would appear to support modularity, and indeed many have sought to take a localization view of the brain and to use that to support modularity in lexicon and grammar.³ However, drawing fast conclusions on any of the data available so far would seem precipitous.

First, even though study of the activity of the brain sounds like a pretty direct science, much of the correlation to be found between brain activity and specific behavior is interpretive at this stage. Simply observing heightened activity while performing some experimentally designed task does not confirm cause and effect. Second, it is difficult to be sure that the experimental task given during experimentation isolates the area of language one wants to study. How can we know that semantic retrieval tasks aren't also causing processing of phonology?

A different interpretation of what we know so far is that studies attempting to localize aspects of language in the brain present difficulties because language is highly interactive, not only within the traditionally identified parts of language, but also with other cognitive activities and neuronal networks. For example, experiments on attention have shown activity in certain parts of the right hemisphere and those same areas are activated during phonological and semantic experiments. This fact may seem trivial since almost any participation in an experiment will require attention, it does highlight the difficulty of isolating language alone, and it is hardly trivial to bear in mind that the same neuroactivity is at play when, say, categorizing colors as when using speech. As another example, we can note that certain experiments on syntactic processing show activity in parts of the brain that are also active during memory tasks. This latter effect jibes well with the effects of frequency on language processing (and change) of the type we have been discussing throughout this book.

Given the strong evidence of left brain dominance for language, studies on prosody should be able to show that tone, pitch, intonation, etc., that have the job of indicating linguistic meaning should be processed in the left hemisphere and those indicating affective states in the right hemisphere, but the data is not conclusive. And certainly the right hemisphere is involved in many aspects of pragmatic processing since that has to do with figuring out the states of others' minds as they use language.

There is much we do not know, but most linguists, since they are scientists, believe that the answers will emerge with more data, updated experiment designs and even perhaps accidental breakthroughs. My own view is that it is unlikely that the "syntax part" of the brain will ever be localized as an autonomous and discreet region. Instead, as we learn more about neural activity

during language production and reception, the data will likely confirm non-modularity (at least not in the way it is understood in much linguistic theory now) and reveal language to emerge epiphenomenally from other aspects of cognition and their associated neuronal activities.

Notes

- 1 For our purposes here, I am presenting the dichotomy as competence and performance, but the general idea is very old in linguistics and has gone by different names. Currently many linguists talk about I-language and E-language, which share characteristics with the same dichotomy.
- 2 A problem already latent in the identification of “native speaker” is what exactly makes a person a native speaker of a language. Given that the majority of humans on the planet are multilingual with differing competencies in the various languages they know—many of which may have been learned in tandem within a single household—how do we determine whether a person is a native speaker of a language. The problem has always been significant, but in the modern age of global English, in which many, many speakers of English have acquired a variety of English from childhood outside of the “inner circle” of world Englishes (i.e. US, Canada, Great Britain, Australia, etc.), such as Ghanaian English, Indian English, Singapore English, etc., we are increasingly aware that the dichotomy of native and non-native speaker is hardly fast and is more of a global, political ideology rather than a linguistic fact.
- 3 Localization refers to the hypothesis that specific parts of the brain are dedicated to specific functions.

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12 First Language Acquisition

A Language Instinct?

It has often been remarked that the acquisition of language by infants and toddlers is phenomenal in many ways. Language acquisition has been studied by many psychologists and linguists and has informed many theories about language generally. Every single human, excepting some instances of fairly severe cognitive deficiency, acquires a language provided exposure to a language. Some linguists have focused on the fact that the exposure itself is quite messy and unstructured, at least in terms of what an infant experiences and the language that it acquires. This has been called the poverty of stimulus argument and it has been used to suggest that humans are already born with the structure for language in their mind/brain and that acquisition is simply a matter of “turning on” certain structures and not others depending on the ambient language spoken around them. Some linguists have gone so far as to suggest that there is a language faculty, analogous to a language organ.

This position has been used to support the theory of a Universal Grammar, which has been discussed at various times in this book; it is the idea that every human is born with the same grammar. Support for this position has also been found in the fact that when children make mistakes in acquiring their first language they do not make mistakes of structures even if they do not hear them spoken around them. For example, it has been argued that children acquire a rule for making yes/no questions and that rule would have a structure something like: NP[subject] Auxiliary → Auxiliary NP[subject]. Such a rule would yield *Harry is writing a book* → *Is Harry writing a book?*

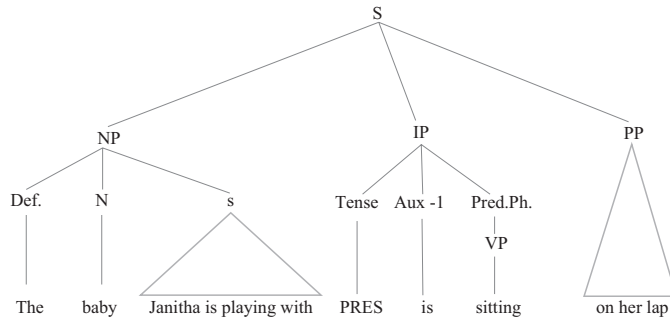
However, as the argument goes, the rule cannot be based on strict linear ordering. Consider the following sentence:

The baby Janitha is playing with is sitting on her lap.

In this sentence you will notice that the first auxiliary that you come to is the word *is* which goes with the main verb *playing*. But children do not produce incorrect questions, such as:

*Is the baby Janitha playing with is sitting on her lap?

Of course, the problem is that the question is about the baby sitting on Janitha’s lap, but the auxiliary verb for *sitting* occurs later than the auxiliary verb for *playing*. We might represent this structure as¹:



What you may observe from the tree is that the verb *is* that acts as the auxiliary for playing is inside of a clause that is embedded within a Noun Phrase. The poverty of stimulus argument has been invoked to suggest that since children do not select the embedded *is* in forming questions they must have some a priori knowledge of the hierarchical structure of language and then know to “skip over” certain material and select the second *is* for inversion with its subject *the baby*. Note crucially that the argument rests on the assumption that children do not have enough input from the speech around them to learn to skip over the embedded *is*.

However, others have pointed out the ubiquity of sentences like these (Tomasello 2003:288):

Can those who are leaving early sit by the door?

Is the boy who was crying still here?

Could those who are coming raise their hands?

Thus, it would be unlikely that children would not have ample exposure to this question-making strategy to be able to infer which auxiliary goes with which Noun Phrase.

It would be foolish, of course, not to believe that all humans are born with the same cognitive capacities for interacting with the world in very general ways, including the recognition of entities in terms of quantities, shapes, colors, textures, positions and many other physical properties and to differentiate movement (and types of movement) from stasis. Humans, from very early on, can also differentiate fine nuances in occurrences, such as when things happen over and over, when they happen once, when they are happening as they are witnessed, when they happened in the past, when they are likely to occur in the future, etc. As humans develop cognitively, more and more abstract concepts emerge and the language to express those concepts.

All humans, too, are anatomically structured (vocal tract, brain) to talk (or sign) about that cognition in the form of structured symbols (words, parts of words, order of words). In other words, as cognition develops, language develops as part of and in tandem with it. This explains why all humans develop language in the same general way and why certain things about languages are similar, like words denoting entities (nouns) and verbs denoting actions (verbs), etc. But beyond the very general similarities noted here, humans develop language among speakers (or signers, but see below) of a more or less established system. That system imposes itself on the child and even feeds back to cognition, telling the developing mind in some cases to pay attention to certain things and not so much to others.

Thus, for example, a child acquiring English will learn a word for *finger* versus a word for *toe*, while a child acquiring Spanish will learn one word for both, *dedo*. But note that this does not mean that a Spanish-learning child, or adult speaker of Spanish, cannot cognitively grasp a difference between the two body parts and may, on occasion, express a difference as *dedos de manos* and *dedos de pie*. Grammatically, too, a child acquiring English will learn to focus on and differentiate actions in the past as on-going, *The cat was eating his food*, versus an action that was completed in the past, *The cat ate his food*. A child acquiring German, however, will not be encouraged by the language itself to notice that difference and may use the same verb for either situation, *Die Katze*

hat das Essen gegessen. Again, all humans can recognize the difference between something that was happening versus something that happened to completion and so even a German-acquiring child, or a German adult, can express that difference in some ways. It may just be that the language itself never develops systematic expression for it.

Thus, languages may be similar or may be different, not necessarily because of an in-born language system, but because of the universals of cognition, ability for language and the ambient language system available to the language learner.

Phases of Language Acquisition

A large part of the appeal of claiming universality in language stems from the fact that children the world over (including sign languages) demonstrate very similar steps in that acquisition at roughly similar ages.

Children within the first six months of life begin to show sensitivity to the language around them. For example, in experiments, babies as young as one month appear to respond when presented with phonemic contrasts. Increasingly, they become tuned into contrasts that are meaningful in the language around them, so-called phonemic contrasts (see Chapter 3 again). However, sound production during this period is constrained by the anatomy of the baby whose vocal tract has not yet developed. The larynx remains high (and so there is not an adult-like pharyngeal space), and the velum is not able to close off the nasal and oral tracts. The type of sounds made by infants during this period is typically called cooing, a kind of pre-linguistic attempt at articulation.

From around six months to a year (although there is much individual variation), babies begin to babble either by repeating the same syllable over and over or by putting together different syllables. Certain consonants and vowels are common among all children of all languages at this stage, e.g. stop and nasal consonants and low vowels. It is important to note that babies at this stage do not merely babble to a silent, gazing adult. Caretakers will commonly show exaggerated attention to the babbling sounds and even babble back, perhaps even trying to lend semantic import to the babbled expressions. At least in many English-speaking acquisition scenarios, *baba* becomes “bottle,” *mama* becomes “mother,” *dada* becomes “father,” etc.

During the babbling stage too, it has been shown that babies become even more tuned in to the kinds of phonetic distinctions that are important for the language they are acquiring and less sensitive to those that are not. For instance, English-acquiring babies tune into /t/ versus /d/ and notice less the difference between [t] and [tʰ]. That is, they become more sensitive to phonemic contrasts and less so to allophonic contrast. It will be remembered from Chapter 3 that phonemic contrast may make the difference between two words, *tame~dame*, while allophonic differences are predictable from the place that they occur in words. This fact, of course, has serious consequences for second language acquisition, which we will discuss in Chapter 13.

At the age of one year, the child will begin to attach meaning to syllables they utter and use them in communicatively more systematic ways, referring to objects, *ma* “mother,” *kæ* “cat,” (nouns), actions *go* (verbs), but also interestingly more socially embedded conventions, such as using *no* to indicate a range of social interactions such as expressing dislike, prohibiting others from doing such and such, refusal, etc. And, of course, again at least in an English-acquisition scenario, the apparently very important ability to say *bye-bye* when departing or seeing someone depart. The cultural embeddedness of some of these early linguistic signs should not be glossed over because they underscore the connection between culture, society and language, and point to the futility of accounts of the nature of human language—that is, the purview of linguistics—without some expectation of that important link.

Around 18–24 months of age children enter into the two-word stage of language acquisition; however, the language produced during this stage is not very much like adult speech in that it lacks consistent grammatical marking. Also, during this stage, the child will have acquired much more vocabulary, but will still show limitations in the use of words. What we can say about a child at

this stage of acquisition is that they begin to show a simple kind of syntax, but the details are left to inference. Thus, a child may say *daddy car* to mean any number of things, such as identifying *daddy* as the owner of the *car*, stating that *daddy* is in the *car*, observing that *daddy* is working on the *car*, etc.

Semantically, at this stage children may demonstrate overgeneralization in which a word is extended to other similar items. For example, *a doggie* may be used to refer to a group of cattle that the child sees from the car. In other words, the child has taken the word for a familiar animal, like a family pet, and extended it to other four-legged animals. Conversely, a child may undergeneralize or underextend a word, such as identifying the household dog as *doggie*, but not identifying the dog of a neighbor as such.

Importantly, too, since the language that the child is producing is clearly on its way to being language as we know it, conversational exchange between the caretakers and infants is accompanied by a lot of gesturing (pointing, picking up objects) and eye gaze tracking, thus ensuring that the infant and caretaker are sharing a “joint attentional frame.”

Many researchers on child language acquisition recognize a stage of language development called the telegraphic stage that emerges around three years of age.² Utterances during this stage will contain more than two words, even several more. But the utterances will tend to lack grammatical words and inflectional morphology, if the latter is relevant to the language being acquired, as it is in English. Of course, observation of child language acquisition has to be concerned with the adult language around the child, so the acquisition of “grammar” will differ whether a child is acquiring Mandarin, in which grammar is expressed chiefly through syntax, or another language in which morphology does more or most of the grammatical work. While there has been much work done on the acquisition of language by children of different languages, still much of that work has been carried out on Western languages and mostly English. As child language research extends to other languages, we will continue to understand more about the acquisition of different grammatical types.

Beyond the telegraphic stage, children increasingly acquire language that sounds like the adult speech around them, in terms of lexicon, grammar and phonology. One pattern that has been observed as children begin acquiring grammatical markers is a tendency toward overgeneralization. One often reported case is that of English-speaking children extending regular past tense marking with *-ed* to irregular verbs, such as *drinked* for *drank*. In some cases that child may have been using the correct irregular past form first and then overextend the regular ending, even for very frequent verbs like *go*, e.g. *goed* for *went*.

Grammatical overgeneralization is interesting because it is pretty direct evidence that the child has begun to recognize and take control over patterns of grammar in the language, and so represents a kind of watershed moment in acquisition—advance in the acquisition of words and subtleties of semantic meaning also lend to this impression. But, also, we come back to the theoretical questions of language that have been presented many times in this book. Those working within a formalist framework will likely take a Universal Grammar approach and see the emergence of grammar as evidence of maturation of an already present language faculty (or organ) in the mind. In such approaches, adult language input is often backgrounded.

However, some other scholars like Brian McWhinney, Elizabeth Bates and Michael Tomasello (and his many colleagues) have refuted the Universal Grammar approach and considered more closely the social conditions under which children acquire language. Tomasello points out specifically the importance of joint attentional frames and the understanding of communicative intentions as crucial in the child’s ability to start using linguistic symbols (words and grammar). In this vein of thinking, we note that language is not used in a mere ambient way around a child. Instead, adult speakers and children share their attention to the environment and attend to the communicative desires of one another. As an example, imagine sitting in an airplane ready for take-off and you hear two people next to you speaking in a language you don’t know. You would have no place to

“dig in” and make sense out of what they are communicating to one another. However, if the flight attendant stands in front of the passengers and goes through the safety information before take-off speaking that same foreign language, you would have several opportunities to make sense of the linguistic symbol they are using to give you information, i.e. you might catch the word for “oxygen mask” or “exit.”

What this means for language acquisition then is that there is still a lot of learning going on and the child is doing a lot of imitating of the adult speech in terms of vocabulary and grammar. Again, no one exactly believes that the child’s mind is some sort of “blank slate” onto which language is written. The question is generally whether the child is born with very specific grammatical structures that constrain what they will acquire, or whether the interaction of more domain general cognitive processes, language use and social interaction with all its communicative aims is what allows that child to gradually build up a representation of symbols that becomes language as we know it.

A functionalist view of language acquisition does not view acquisition in teleological terms. Those working in the framework of a Universal Grammar will usually indicate that language acquisition is completed at around the age of five or so. However, in a functionalist view, acquisition is never really complete since representations of language are dynamic and the result of on-going experience with language. Each of us can easily point to a new word that we have learned recently, whether that word be arcane or new slang. But we also “learn” new grammar. For example, the only possessive + adjective combination in my language involved the expression *for my/his/their own good*. But in my 20s, I began using *my bad* as a way of accepting the responsibility for some unwanted or unhelpful action. My acquisition of *my bad* extended a limited grammatical possibility, a possessive and an adjective.

One defending the idea of the acquisition of a finite grammar in childhood might argue that all that has happened is that the adjective *bad* converted to noun status, and therefore it came to be used in my already acquired rule of determiner + Noun, but it isn’t that simple because *bad* has not converted to a noun in my English. Note I cannot say *the bad committed by you*, or, *Those bads were the worst*, etc. *Bad* is still an adjective, and in this case I can use it with the possessive determiner. We note too that this new grammatical construction has not extended to other adjectives; I don’t bump my head on the top of the doorway and say *my tall*. And even the use of a possessive with *good* is still highly constrained to *for [possessive] own good*.

What has really happened is that a new construction has entered into my language. At present, that construction is still quite fixed. Given the focus taken in this book on constructions as the site of storage and processing, it is expected that grammatical change will pop up with specific lexical material, like *bad*, in this example. The point here is that language acquisition at whatever age is not about rule acquisition but about the constructionalization of language material along a continuum from very specific to very abstract.

Notes

- 1 Note that the tree representation here is of the type you learned in Chapter 5. However, the function lines have been omitted, since they are not necessary for the point being made here, and the verb in the IP appears in its finite form.
- 2 It is called “telegraphic” because it is thought to resemble the language used in telegrams for which people used to pay by the word, and thus omitted many functional words which could easily be inferred. So, “I will be arriving at the airport on Saturday at 10 pm” would become “arriving airport Saturday 10 pm.”

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13 Second Language Acquisition/Learning

Most Humans on the Planet Speak Multiple Languages

In our discussion of second language acquisition/learning in a book that will likely be read by many native English speakers, we first need to acknowledge that the topic of learning/knowning a second language in an English-speaking context is quite different from that of other language contexts. English is the most widely spoken language on Earth, and, frankly stated, those who speak English as a native language simply do not always feel the same need to learn other languages. Everyone is familiar with the fact that monolingual speakers of English are able to travel to most destinations around the world and that the English language will be available to them for interacting with the people around them. Menus are available in English, descriptions of displays in museums have English alongside the indigenous language of the area and locals often delight in using their English, no matter how limited it may be. In some places, it is even joked that English speakers cannot use indigenous languages because locals will “insist” on using English.¹ Of course, the locals are trying to be nice and accommodate the English speaker, but it certainly doesn’t put much pressure on the English speaker to learn other languages.

This places English speakers in a strange position, linguistically, relative to speakers of other languages around the world. An estimated 60% of the Earth’s inhabitants speak more than one language, and a very large proportion of the remaining 40% are likely monolingual English speakers. Multilingualism has long been a necessity in places like India or Africa where speakers of different languages are in constant contact, often in trading or other types of interdependent relationships. In other cases, colonial expansion and the continued effects of that expansion have allowed some languages (mostly European) to encroach into those domains in which indigenous languages have historically been used by local populations, cf. the decimation and loss of indigenous languages in North and South America, Australia, Russia, etc.

But, again, English speakers have largely been exempt from pressures to learn other languages, either by foisting their English on others or by the kinds of linguistic accommodations discussed earlier. Consequently, inhabitants of those nations in which the majority of speakers are native English speakers have tended toward monolingualism.² It is nothing short of shocking that English-speaking universities, such as the very recent case with the University of West Virginia, has done away with foreign language departments and many universities and departments within universities seek ways to reduce foreign language requirements and eliminate foreign language majors. All in all, the trend even today is the demotion of foreign language studies across higher education in the US. Such attitudes concerning foreign language study are simply not found in higher education in countries where English is not the first language of the majority of citizens.

It is disappointing that English speakers and English-speaking institutions do not take more seriously the study of foreign languages. At a time when education in the humanities approaches

questions of identity “critically” and asks of those who inhabit privileged statuses of race, economics, gender, etc., to become aware of those privileges, the conversation rarely turns to language. Of course, identity is informed by the language(s) one speaks, and speaking English is a position of linguistic privilege. The kinds of attitudes toward foreign language that I have been outlining here along with institutional decisions concerning their study do little to encourage healthy reflection of linguistic privilege. The Modern Language Association has been tracking dwindling foreign language enrollments since the 1960s and 1970s. Sadly, this trend will likely continue.

The Critical Period and Second Language Learning

As discussed in the last chapter, some scholars draw a difference, sometimes implicitly, between acquiring a language and learning a language. However, the distinction is more explicit in the context of a second language. Normally, a person is thought to acquire a different language in contexts that are naturalistic and ambient where the goal is not focused on “knowing” the second language so much as being able to use it for specific purposes, like shopping, working and other domains of interaction with community. In those situations, there is little or no explicit presentation of the foreign language as one would expect to receive in a classroom situation. Second language learning, however, refers to such explicit language presentation, as, for example, in a classroom. Of course, the result is that a second (or third or fourth) language that is acquired is “known” in ways similar to the ways one “knows” a native language. The knowledge is implicit and not easily reflected upon—the goal has been communicative competence.

However, if a second (or third or fourth) language is learned, then the learner is more aware of certain aspects of the language; for instance, the learner may be able to explain specific ways in which the grammar of the language “works.” Of course, one can come to “know” a second language through a combination of both acquisition and learning, as defined above, as, for example, when a person studies German in an American university for several years and then lives in a German-speaking country for an extended period and finds that they no longer need to refer to the rules of the language to speak it.

Another important distinction that is often made in second language learning is that between “foreign language” and “second language” status, as, for instance, between English as a foreign language (EFL) and English as a second language (ESL). Very generally, a target language is “foreign” when it is being taught in a context in which that language is not being used, such as learning English in high school in Japan. A language is a “second language” in the case that it is being taught in a context in which that same language is being used outside of the classroom.

The distinction is not always so clear-cut, however, because some learners may be so-called “heritage language learners” who have learned a given language at home and in their ethnic community, but the language is not used beyond those very local domains. For example, a child living in Cicero, IL, may acquire Spanish at home and in the community (even developing stronger competency in Spanish than in English), but then increasingly be expected to use English in school and later in college and at work. Many schools and universities have begun offering heritage language classes in which there are large numbers of such potential heritage learners. Such learners will often be said to have acquired the foreign language and then learned it formally in school.

However, to return to the US school context for learning languages, it has historically been the case that many students have not had the opportunity to learn a foreign language until high school at around the age of 14. This approach has been defeatist at best because young people at the age of 14 have already reached the so-called critical period of language learning. The critical period has been identified as the upper limit of time in a person’s life-span when a language may be learned completely and is thought to coincide generally with the onset of puberty. The idea here is often

expressed as a person who doesn't acquire a foreign language before the critical period will never be able to learn that language to the extent that a native speaker will.

While it is certainly true that a person can acquire a foreign language better at younger ages, the concept of a critical period for foreign language learning is problematic in some ways. First, there is much variation in any one person's ability to learn a foreign language at all, and some people, for whatever reason, acquire a second language after the onset of puberty quite well, even to native speaker-like competency. Second, learners may show greater propensity in some areas of acquisition of a second language than in others. As for myself, I have always been able to acquire phonological patterning of other languages very well, some might even say too well, because very quickly after studying a foreign language, I can "sound" very fluent, even native. But within a few sentences, shortcomings in my morphology and syntax, and, alas, vocabulary become apparent. And, finally, it has been shown that many adult learners of foreign languages continue to acquire pieces of the foreign language, really throughout life (and we even talked about speakers acquiring new constructions in their first language throughout life in the last chapter). Given the conclusions offered in light of language acquisition in the last chapter and life-long acquisition potential of a first language, it is no surprise that one might be able to continue growing in a second, third or fourth language.

These facts about a critical period, however, may lead you to inquire what might happen if a person never learned any language at all. Luckily, that doesn't happen very often but there are famed stories of just such children. The Greek historian Herodotos, for example, reported on an experiment by the Egyptian pharaoh Psammaticus who had two children raised by a deaf shepherd so that he could find out what language they would speak spontaneously. King James the IV of Scotland was reported to have had two children locked away with no exposure to language in order to find out what the original language was.

However, these historical stories are probably more interesting for their cultural import than any real linguistic findings. For example, Herodotos was a Greek telling a story about Egyptians and might have wanted to poke fun at their "unscientific" world more than report on the linguistic experiment per se. Herodotos took special care to mention that the reported first words of the children *bekos*, which means "bread" in Phrygian, was suspiciously like the sound sheep would make. Recall the children were raised by a shepherd. And the children locked away by James IV were reported to have spontaneously spoken Hebrew—a pretty convenient outcome for someone trying to prove the biblical account of the world!

The real stories are much sadder. One instance of a child raised with very limited exposure to language is the case of Genie. Genie was rescued from an abusive home at the age of 13. She had been abused and kept in isolation with very little interaction of any kind with other humans and therefore had not acquired language in her childhood. Linguists and psychologists studied Genie's behavior, linguistic and otherwise, extensively. At age 18, she fell under the custody of her mother, herself a victim of her father's bizarre and abusive world, and in the late 1970s, her mother denied further access to Genie for the purposes of observation, testing or analysis. While Genie showed some advances in language acquisition after rescue, even remarkable by some accounts given her early childhood, she did not acquire language to a normal degree by any measure.

Was it merely the fact that Genie had not been exposed to language during the so-called "critical period." Almost certainly not. She was also malnourished, which may have caused damage to her cognition more generally and the lack of early social interaction would not have been conducive to her ability to learn/acquire the socially grounded aspects of language later, and so it's far from clear what the case of Genie can tell us about second language learning. What is certain, however, is that the success of acquisition/learning of a second language hinges on many factors, and not all of them cognitive.

Factors Affecting L2 Learning

In this section we will consider three broad factors in second language learning: motivation, personality, socio-cultural conditions. In the next section, we will consider the methods or approaches to teaching a second language.

Obviously, the more motivated a person is the better they are able to learn anything, and this is certainly true for second language learning. But, of course, the question is where to get the motivation for learning, and perhaps just as importantly how to maintain motivation. Many people are interested in and would like to know a foreign language. They may even begin a self-learning program, often through a web-based app, only to find their motivation wanes when the material to be learned becomes “too hard” and or “frustrating.” At the beginning it is rather easy to learn a bundle of vocabulary words and some simple sentences involving a handful of verbs; learners enjoy the success that they can achieve with such simple forms of the language. However, to continue acquiring a language, a person has to learn a lot more words (native speakers generally know about 10,000 words in their language) and, of course, the structure of the language becomes more intricate as one advances. There is simply no way around the fact that learning another language is hard and demands dedication.

Still some learners maintain their motivation for whatever reasons. For example, in the last section we talked about heritage learners of a language and such learners may have great motivation for learning so that they can participate more fully in their family and community. Others may have a strong affinity to the culture of a group of speakers and may keep their motivation high because they want to participate in that culture and interact with that culture in its own language. And then some others might just really love languages and attempt to learn as many of them as they can.

It is a special challenge of the foreign language teacher to build and keep motivation among learners. Obviously, the challenge may be greater in foreign language over second language environments since in the latter the learners are highly motivated and their access to jobs, school, etc., may well depend on learning the language.

It has been suggested that those with more gregarious and extroverted personalities learn a language better than those who are shy and introverted. But success in second language learning depends a lot on how you measure that success, an important part of which has to do with the purpose one is learning the language. Certainly, if one’s goal is to speak and use the language in social settings of varied types, an outgoing personality may well be an asset, but others may be learning the language to develop fluent reading and writing skills. An introverted person with high motivation may master the written language quite well. Obviously, then, if a person whose strengths lie in the written language is assessed orally, they may not do so well, but would it be fair to say that the person is less successful at learning the language?

Finally, we may look at the socio-cultural setting in which one learns a second language, some of which has already been discussed. For example, a person who is learning the language in a second language environment, as presented above, would have many more opportunities to use the language because of the need to use the language in many more domains. The foreign language context, again as defined above, provides much more limited exposure.

In modern times, broadening communication contexts afforded by media and especially the internet have provided much more exposure and more availabilities to participate in foreign languages. Mostly, of course, these opportunities are in the direction of English and tend to be used more by a younger demographic. And since much of that internet action is taken up by self-directed interest, such as gaming, motivation is high.

One perennial question in the area of second language learning is whether there are some people who are just “better” at learning a second language than others. Very often the question has tried to focus on factors like intelligence or specific cognitive predilections. As already hinted at above,

the answer will depend a lot on how success in language learning is assessed and the goals of the institution in which that assessment is grounded. All humans can learn a foreign language, excepting those with a very serious cognitive handicap.³ The variables in successful second language learning/acquisition, both those internal and external to the learner, are simply too dynamic to predict what factors will influence every acquisition/learning scenario. Given such a dynamic set of variables, how then should we approach the teaching of a second language?

Methods of Teaching a Language

The history of foreign language teaching is old. Romans learned Greek as a scholarly and literary language, Latin was taught throughout the Medieval period, as the language of religion, science and literature, and until not so long ago, instruction all across Europe was in Latin, and so learning Latin was a necessary endeavor for one to even be schooled. Throughout all of that history, the tension has concerned the goal of second language learning: successful use versus explicit knowledge. That debate is still relevant today.

In this section, we will take a look at a few of the methods for teaching foreign languages that have been used most widely in recent years. We will begin with the grammar-translation method.

The grammar-translation method dates back to at least the 19th century and it is characterized by the explicit presentation of vocabulary lists and then separate presentation of grammar rules. Traditionally, focus has been on the written language and on grammatical accuracy in an academic setting. Needless to say, such an approach does not encourage the development of spoken fluency. Some have especially criticized the method because it encourages learners to be hyper-aware of the grammar. Thus, when attempting to speak after having been taught in such an approach, a learner may be more inhibited to use the language and take a long time to generate language because they are preoccupied with trying to determine the correct form, resulting in a kind of halting conversational exchange. A conversation halted frequently by pauses of this sort will more often result in conversational breakdown.

However, for other learners, knowledge of the correct form can give them confidence to use the language, and so it would seem to that some learners of a foreign language respond quite well to grammar translation and even prefer it to other approaches. It is an obvious point that learners differ in their learning preferences, and we will return to that point at the end of this section.

In the middle of the 20th century, there was a popular method of foreign language teaching called the Audiolingual Method. It was particularly popular in the military for teaching the enlisted soldiers foreign languages. At the heart of the method was the belief that language was essentially a set of habits and so learners would sit in a language lab repeating incrementally more difficult drills hour after hour, day after day, week after week. No wonder that with so much exposure to the target language the method was successful. Even in modern times, most foreign language teaching involves some degree of drilling and independent work in a language lab. Today, however, such labs and drilling are largely computer-based and offer a wider array of activities to the learner.

One thing to note about the two methods discussed so far is that they are removed from the social and communicative side of language. In response to that absence, there arose a number of related approaches with the common goal of being communicative in nature mostly in the 1990s. Practitioners of these methods downplayed the role of rote learning and grammar and focused instead on trying to create more real-life situations in the classroom and actively playing out of those situations. The approach is still widely used today in ESL and foreign language departments in the US and abroad.

Of course, a good teacher of any subject will have at their disposal multiple methods and approaches to use in a classroom, which is a good thing because a foreign or second language classroom will be filled with many different kinds of learners with their own preferred learning style.

Pedagogues who insist on one and only one method will not be able to reach all of the students in a class. Sometimes the insistence on method can amount to cultural insensitivity. Preferred learning style is sometimes tied to one's culture and the kind of school system one is used to and comfortable in.

ELF and World Englishes

The most widely taught foreign/second language is English. The popularity and widespread bilingualism of English speakers around the globe has resulted in a reevaluation of some of the traditional notions of English in its role as a foreign/second language, such as the role that native speakers of English play in defining English. Recently there has been some attention given to the role of English as Lingua Franca. The term *lingua franca* has been in use for a long time, originally used to refer to the mostly Romance language pidgin that was used between Europe and the East during the Medieval period. That language was also called "Sabir," from the Portuguese word *saber* "to know."

As a pidgin, the question of native speakers was moot for Sabir, as it is for pidgins spoken today. But of course, English does have native speakers, a lot of them. However, English as a lingua franca is a variety of English defined by its use in an international context with many users not being native speakers. As a result, the forms used in English as a Lingua Franca are not solely determined by their use in native Englishes, be they American, British, Australian, etc. English as Lingua Franca has become the worldwide language used in politics, entertainment, business, etc.

Some features of English as a Lingua Franca include the extended use of the preposition *about*, as in "Our view about that is..." Or, the use of a stop, dental or alveolar in place of interdental, e.g. *de ting* for *the thing*. Obviously native speakers of English, that is, native in the traditional sense, will find such forms somehow "foreign," but it should be remembered that English as a Lingua Franca is what a Swede uses to speak to a Japanese business executive about shipping freight, or what a Russian diplomat writes in a memo to a Brazilian dignitary, etc. In those cases, the judgments of a native speaker are not the point—successful communication is. This fact then makes us ask new questions: who owns English?

One answer to the question is no one. Another answer is anyone who uses it. While so-called native speakers of English will likely continue to exert "ownership," and indeed even market that ownership abroad, through offering courses in "American" or "British" English, the concept of ownership of a language is an odd notion from the beginning. If we accept the concept at all, then we would have to say the Swede, the Japanese executive, the Russian diplomat and the Brazilian dignitary all "own" English, just as much as Sam Smith from Omaha, Nebraska.

Another way of viewing the situation is to recognize there is no one English in the world. Of course, people have long spoken of American English, British English, New Zealand English, etc., but we now talk of World Englishes, of which American, British, etc., are just some varieties. In addition, we now talk of Liberian English, Singaporean English, etc. In linguistics, there is not only recognition of such multiple varieties but also good descriptions of them. For example, Singaporean English shows reduced use of verbal markers, suffixes or auxiliary verbs, to signal tense. A common strategy instead is to use the base form or general form of the verb and adverbs to indicate time:

"He go yesterday" for "He went."

"They eat at our restaurant tomorrow" for "they will eat."

Singaporean English also tends to use the tag question "isn't it" for all sentences:

"He come from China, isn't it?"

How many world Englishes are there? The question is as difficult as asking how many languages there are. As discussed in Chapter 9, it is difficult to say where a dialect stops and another language begins. When do the linguistic practices of using English in Ghana stop and those in Nigeria begin. The issue comes down to nationalities and identities. That being the case, the upper boundary is nearly limitless.

The Encroachment of English onto Other Languages

The world is getting smaller, linguistically speaking. According to Ethnologue, there are 7,168 living languages today, out of which 3,045 are endangered. The number of endangered languages is sure to rise; it is not unlikely that 70% of the world's languages will become extinct by 2100. A language is considered dead when there are no speakers acquiring it any longer as a first language.⁴ The loss of language comes at the encroachment of the "big" languages, i.e. those with more than 50 million speakers, and of those, the ones with political force are the ones spreading the most: English, Spanish, Portuguese, Mandarin, Russian and a few others.

English has already taken over thousands of indigenous American and Australian languages and the trend will continue apace. Reduced diversity in any ecological system is bad, and it is true of language ecology as well. We stand to lose a lot of important information with the loss of languages. For example, there are linguistic structures in endangered languages that we might be forever ignorant of if we didn't track their existence before language death. For example, noun incorporation is not present in any of the members of the 50-million-or-more speaker club referred to in the previous paragraph. Noun incorporation involves the placement of a noun within the verbal nexus of a sentence. In fact, it is why it is said that some indigenous languages of North America can express an entire English sentence in one word, as in this example from the language Tuscaraora (North Carolina) in which the noun for "day" has been incorporated into the verb (based on Mithun 1999:44).

wé:ʔnakwahst
w—it
é:ʔn—day
akwahst—be good
"It is a good day."

Noun incorporation shows us a possible structure in a human language, and if human language helps us to understand the breadth in human cognition, then we will have lost access to that information, possibly forever.

In some other cases, indigenous languages whose speakers are very much tied to the local geography, flora and fauna tend to have elaborate lexical domains that reflect the physical environment of the places they are spoken. For example, Harrison 2008 tells of the Tofa people in Siberia who have worked with reindeer since time immemorial. The Tofa language has developed a rich vocabulary for describing reindeer in all kinds of stages of reproduction and at all different kinds of ages. For example, the word *chary* in Tofa means "a five-year old male castrated rideable reindeer." While the concept can be expressed in English it doesn't exist in a linguistic system that includes many other single words for different stages in reindeer life. In other words, just learning Tofa gives you insight to the science of reindeer husbandry. How much science is lost with each dying language?

The picture is about as gloomy as it gets, but there is some light. There are a number of language revitalization or documentation programs around the world, in the form of grammars, dictionaries

and story collection of indigenous endangered languages. For example, the Jicarilla Apache Preservation Project at the University of New Mexico has worked for several decades describing the language and culture, writing a dictionary of the language and translating several texts. In this way, knowledge of the language (and culture) will survive even if the number of speakers continues to dwindle.

Notes

- 1 As a frequent visitor to the Netherlands and a learner of Dutch, I can attest to the difficulty of being able to speak Dutch while there, because very fluent English is spoken by many, even most of the younger generations. Even though my Dutch is not native-like, it's not bad. But as soon as someone picks up an error in pronunciation or grammar, boom, the exchange switches to English.
- 2 A nation may be said to be English-speaking either *de jure* or *de facto*. *De jure* linguistic status refers to situations in which a language is declared "official" by law. *De facto* refers to situations where a language is used by practice. Here we will recognize that there are many countries in which English is *de jure* official, but the speakers still use many other languages, e.g. Ghana. And in the US, there is actually no official language on the national level, and we would say that English is "official" *de facto*.
- 3 And note here that I have said "very serious." Once while eating at a restaurant in the Hague, Netherlands, I noticed that the establishment made a point of hiring mentally handicapped individuals, many with Down's syndrome, as the wait staff. Obviously, the individuals were able to carry out the cognition necessary to perform the tasks at hand, but, in addition, all of the handicapped wait staff that I observed spoke fluent English with those patrons who did not speak Dutch.
- 4 A challenge to the concept of a "dead" language is the fact that it may well still be learned and used even after there are no native speakers; Latin is a good example.

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