Chapter 1

Knowing a Language Versus Knowing What Language Is

In This Chapter

▶ Checking out what defines a language
▶ Approaching language from a scientific angle
▶ Having fun with the language game
▶ Changing who you are with language

You probably take your ability to use language for granted. Imagine what your life would be like if you could no longer use language: no more chit-chats over a cup of coffee, no more friendly greetings or sad goodbyes, no more arguments with your friends about which sports team is best. You couldn’t explain the symptoms of an illness to your doctor. You wouldn’t be able to warn someone across the street of a looming danger. No more e-mails or text messages. Not only is human language important to us as humans, it’s a uniquely human ability. It’s also part of our genetic endowment. For both of these reasons — human language is unique and humans seem to be pre-programmed for it — the study of language (linguistics) lies at the center of efforts to understand the nature of what it is to be human. For more than 2,000 years, linguists have been trying to understand how language works, and that’s what this book is about.

This chapter gives you a quick and dirty introduction to linguistics, introducing you to the defining traits of human language, showing you how linguists approach the study of language, and giving you a quick tour of the rules of the language game, the players, and what they need to know to play the game.
Uncovering the Traits of Language

Linguistics is the study of language; it’s not the study of languages. What’s the difference? Although linguists look at individual languages, when they do, they have the big picture in mind. Their goal is to understand the nature of human language. Individual languages are like different models of cars. For cars, each model varies according to engine size, wheelbase, transmission, and passenger capacity, but they all share a common set of traits. Same thing with languages — each language varies according to sound inventory, vocabulary, sentence patterns, and so on, but they all have a common set of traits. Most linguists agree that all human languages have the following six traits in common:

- Language is used to communicate.
- Language is composed of arbitrary signs.
- Language is hierarchically organized.
- Humans produce and perceive language using auditory, visual, and even tactile modalities.
- Language is unique to human beings.
- Humans are genetically endowed for language.

Individual linguists focus on specific language traits. A functionalist focuses on the communicative function of language. A formalist focuses on the organization of language. A speech scientist focuses on speech production and perception. A gestural analyst focuses on gesture production and visual perception. An audio-visual analyst focuses on the integration of speech with gesture and the integration of audition with vision. A biolinguist focuses on the biological foundations of language, while a psycholinguist focuses on the cognitive base of language.

Trait 1: Language is used to communicate

Language is used to communicate concepts and intentions. To do this, it uses a system of signs with assigned meanings that communicate messages from one person’s mind to another. For example, when you say to your friend the words, “I’m going to pour a cup of coffee,” your friend now knows that you’re going to walk across the room to the coffee pot, grab a mug, and pour that brown liquid into the mug.
A sign is a discrete unit of meaning. A convention is a set of agreed upon norms. A conventional sign is one that all members of a language community agree to use with a certain meaning. For example, the word cat is a sign that members of the English language community agree, by convention, to use for those fluffy pets that go meow. The more general study of signs is called semiotics, and it applies to any system where organisms use signs to learn about and navigate their environment — it includes linguistic communication, but it also extends to animal communication as well as to the communicative use of signals from body posture, facial expression, and tone of voice.

**Trait 2: Signs are arbitrary**

In language, the association of a conventional sign with meaning is arbitrary. For example, to describe the domesticated, carnivorous, canine mammal valued for its companionship and ability to guard, guide, haul, herd, hunt, search, track, or rescue, individual languages use different words: English has *dog*, French has *chien*, Icelandic *hundur*, Japanese *inu*, Mandarin *gōu*, and Swahili *mbwa*. There’s no intrinsic relation between these conventional signs and the concept of this carnivorous mammal — rather, the relation is arbitrary. Sometimes you'll hear linguists say “language has an arbitrary sound-meaning relation.” Concretely what this means is that there's no intrinsic relation between a particular set of sounds and a particular meaning. The sound-meaning relation differs from language to language: that’s a fancy way of saying that different languages have different words to express the same concept.

Linguists call the lack of a connection between the form of a conventional sign and its meaning the principle of arbitrariness. See Chapter 2 for a discussion of arbitrariness. This is sometimes called Saussurean arbitrariness, after the Swiss linguist Ferdinand de Saussure, who drew attention to this aspect of human language.

**Trait 3: Language is hierarchically organized**

Language is composed of units that are assembled according to the rules of grammar. All languages systematically combine units to form larger units, arrange units in a particular order, and substitute units for each other.
Combining units to form larger units

Linguistic analysis identifies and assembles units of language and arranges them from smaller to larger:

- **Sounds**: These are the individual consonants and vowels of a language. For example, /p/, /t/, and /æ/ (this is the vowel of *hat*) are sounds of English.

- **Syllables**: Sounds combine to form syllables. For example, in English, /p/, /t/, and /æ/ can combine to form the syllables /pæt/, /tæp/, and /æpt/.

- **Words**: Syllables combine to form words. While some words are a single syllable (*pat*, *tap*, *apt*), many words contain two or more syllables (*mother*, *baby*, *promotion*, *revolution*). (Here, the period (.) marks the syllable break.)

- **Phrases**: Words combine to form phrases. The word *the* combines with the word *dog* to form the phrase *the dog*.

- **Sentences**: Phrases combine to form sentences. The phrase *the dog* combines with the phrase *ran away* to form the sentence *The dog ran away*.

em>Groups of sentences</em>: The sentence *The dog chased the squirrel* can combine with the sentence *He didn’t catch it*. You can do this in several ways, including simply stringing one sentence after the next or joining sentences with conjunctions like *but* or *and*:

- *The dog chased the squirrel*. *He didn’t catch it.*
- *The dog chased the squirrel*, *but he didn’t catch it.*
- *The dog chased the squirrel*, *and he didn’t catch it.*

Ordering units relative to each other

The relative ordering of sounds, words, and phrases can give different meanings.

- **Ordering sounds relative to each other**: The sounds /i/ and /t/ can combine with each other in one of two ways — /it/ ‘eat’ or /ti/ ‘tea’ — and each combination means something different.

- **Ordering syllables relative to each other**: The syllables /wi/ and /pi/ can combine in two ways — /wi.pi/ ‘weepy’ and /pi.wi/ ‘peewee’ — and each combination means something different.

- **Ordering words relative to each other**: The words *sea* and *blue* can combine in two ways, and each combination means something different. Compare the sentence *Sea-blue is my favorite color* to *The blue sea was visible from the road*. *Sea-blue* is a kind of blue, while *blue sea* is a kind of sea.
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✓ Ordering phrases relative to each other: When forming a sentence, phrases such as the dog and the squirrel can be introduced either as the subject or the object. The sentence The dog chased the squirrel describes a situation that you’re probably familiar with. But if you change the order of the two noun phrases, the meaning changes: The squirrel chased the dog.

✓ Ordering sentences relative to each other: They bought a car and then they had an accident means something quite different from They had an accident and then they bought a car. In the first situation, the car is damaged; in the second situation the car is new.

Substituting units for each other
Substituting one sound in place of another — or one word, phrase, or sentence in place of another — can also give different meanings.

✓ Substituting sounds: I don’t mind if you /bu/ ‘boo’ me, just don’t /su/ ‘sue’ me.

✓ Substituting syllables: Manufactured goods go in completely opposite directions depending on whether they are im.port.ed or ex.port.ed.

✓ Substituting words: Sometimes it doesn’t make much difference if you ask for something or request it. But you’ll get a whole different reaction if you demand it!

✓ Substituting phrases: Meeting a friend on the beach is very different from meeting at the courthouse.

✓ Substituting sentences: Pass the salt, Could I please have the salt, and Do you think you might find a moment in your busy eating schedule to let someone else have some salt all make the same request, but they range from informal to polite to sarcastic.

Syntagmatic relations refer to the relative order of elements in language; paradigmatic relations refer to the possibility of substituting one element for another.

Trait 4: Language is produced and perceived

Human languages are expressed using the human body. When you speak, you use your lungs, voice box, mouth, tongue, jaw, and even your nose. Of course, it doesn’t stop there — you also move your head, do funny things with your eyebrows, wave your hands, and change your body posture. While these actions may accompany spoken language, in sign languages, the way you use your hands, face, and torso is the language.
In perceiving language you use your hearing and vision, and even touch, to take in the linguistic information coming your way. It helps that you are both a producer and a perceiver of language because you are constantly producing signals that have never been made before — you are not a robot and simply cannot do the same thing twice, but you have a good idea of what you need to do in order to be understood. And the shoe is on the other foot when you are the perceiver because you have to make sense of signals you’ve never encountered before, but your knowledge of what you would do guides your perception of novel language events.

**Trait 5: Language is quintessentially human**

What makes humans unique on the planet is their extraordinary ability to hang on in the face of ever-changing conditions. Language plays a key role in humanity’s success and mirrors the malleable persistence of its users.

Language adapts to the needs of the language community. Those needs can be defined by physical geographic features (for example, a lot of names for fish, if you live on an island) and by evolving social structures (for example, stratified language styles for complex social hierarchies).

Language is interactive. What you say and how you say it is learned by experience and is guided by the need to communicate with others. When different languages come into contact with one another, they can get into a tug of war for dominance or they can compromise as happened with Anglo-Saxon and Norman French in 1066 after the Norman conquest of England.

Languages change constantly, but their overall evolution is slow and ponderous. Languages separated by vast geographic and temporal differences still reflect their common ancestry. The English of Shakespeare spoken in 1600 is very different in its pronunciation from modern English, but you can still read the language he wrote 400 years ago.

**Trait 6: Language is genetic**

All humans are born with a roughly equal capacity to acquire language. Evidence for this genetic, inborn, feature of language includes these facts:

- Language doesn’t depend on intelligence: Someone with a severe cognitive impairment can still use language.
The acquisition of language and speech is fast and easy for humans: Young children learn their mother tongue rapidly, from babbling at 6 months to speaking sentences by the age of three. Not even the most sophisticated computers today can learn to use language at anything like the level of a small child.

In learning language, children everywhere follow the same sequence of steps, no matter which language they’re learning or which cultural group or social class they belong to. And children acquire language much, much better than adults do.

The innateness hypothesis claims that humans are born with a genetically determined capacity for language. Many linguists, psychologists, and neuroscientists believe that children are genetically endowed with the capacity to acquire language — a learning ability that (like many genetically endowed behaviors) is largely lost after puberty. For details, see Chapter 13 on language learning.

**Studying Language Scientifically**

Over the last 25 centuries, linguists have developed an elaborate set of methods for studying language systematically and scientifically. These methods include tools for recording language and turning observations into appropriate data for studying the pattern and structure of specific languages. Comparison of different languages has shown how they interact, how they change through time, and how all languages, whatever their similarities and differences, have certain basic features in common.

In the modern era of linguistics, sophisticated technical and conceptual tools have become available for recording observations and testing hypotheses. Linguistics has adopted empirical techniques for analyzing large data sets, or corpora, and uses computational techniques to identify patterns in sound, the distribution and frequency of words, and the structure of phrases and sentences. Linguists have combined methods taken from mathematical logic, information theory, and cognitive psychology and applied them to the study of sound patterns (phonology), word formation (morphology), phrase structure (syntax) and systems of meaning (semantics).

The observations — called the data set — that linguists work with are generally drawn from one of three sources: a corpus, elicitation, or experimentation. A corpus is a recording of spontaneously produced language. An elicitation is a guided interview that elicits speaker judgments about well-formed and ill-formed expressions. Experimentation is conducted in a controlled laboratory setting and measures aspects of language perception and production as well as brain function related to language.
Part I: Looking at Language through the Lens of Linguistics

**Playing the Language Game**

As a language speaker, you’re probably thinking that the things that linguists care most about — how to define language, how to uncover its traits, and how to study it scientifically — don’t relate to your daily experience of language. But in order to be a successful speaker, you actually need to be a pretty good linguist, too. The difference between you and a linguist is that you play the language game on the fly, while a linguist sits down and tries to figure out all the invisible elements that make up the language game. In this book, we show you the language game rulebook, the players, the cognitive aspect of the game, and how writing language lets you play the language game over a longer stretch of time.

**Abiding by the rulebook**

If language is a game, then there have to be rules! Language rulebooks are all laid out in the same way. They include rules about the sound patterns of the language: This is the focus of *phonetics* (which looks at the basics of the production of speech sounds) and *phonology* (which looks at how speech sounds combine). They also include rules about how words are built (morphology), how sentences are structured (syntax), how meaning is composed (semantics), and how conversations are conducted (pragmatics).

But before you can read the language rulebook, you need to know the secret alphabet that linguists developed to help them study all the different sounds that languages make. Figure 1-1 lists all the symbols devised by the International Phonetic Association (IPA) to represent the 600 consonant sounds and the 200 vowel sounds that human languages make. Throughout this book, we refer to specific kinds of sounds: You can use this chart as a reference to see where these sounds fit into the larger set of human language sounds.

Don’t worry if you don’t have a clue what all those weird symbols in Figure 1-1 mean. Think of this chart as a chemistry table with all the elements listed, except that you’re looking at sound elements rather than chemical elements. Chapter 3 introduces you to the principles of the IPA classification — after you read that chapter, this table will make more sense to you.
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### The International Phonetic Alphabet (revised to 2005)

#### Consonants (Pulmonic)

<table>
<thead>
<tr>
<th>Plosive</th>
<th>Bilabial</th>
<th>Labiodental</th>
<th>Dental</th>
<th>Alveolar</th>
<th>Postalveolar</th>
<th>Retroflex</th>
<th>Palatal</th>
<th>Velar</th>
<th>Uvular</th>
<th>Pharyngeal</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nasal</td>
<td>p</td>
<td>b</td>
<td>d</td>
<td>t</td>
<td>d</td>
<td>c</td>
<td>k</td>
<td>q</td>
<td>g</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Trill</td>
<td>m</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
</tr>
<tr>
<td>Tap or Flap</td>
<td>v</td>
<td>r</td>
<td>t</td>
<td>t</td>
<td>t</td>
<td>t</td>
<td>t</td>
<td>t</td>
<td>t</td>
<td>t</td>
<td>t</td>
</tr>
<tr>
<td>Fricative</td>
<td>f, v</td>
<td>θ, δ</td>
<td>s, z</td>
<td>s, z</td>
<td>c, j</td>
<td>x, y, χ, κ</td>
<td>h, f, h</td>
<td>h, h</td>
<td>h, h</td>
<td>h, h</td>
<td>h, h</td>
</tr>
</tbody>
</table>

Where symbols appear in pairs, the one to the right represents a voiced consonant. Shaded areas denote articulations judged impossible.

#### Consonants (Non-Pulmonic)

<table>
<thead>
<tr>
<th>Clicks</th>
<th>Voiced implosives</th>
<th>Ejectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>Bilabial</td>
<td>p</td>
</tr>
<tr>
<td></td>
<td>Dental</td>
<td>d</td>
</tr>
<tr>
<td></td>
<td>Palatal</td>
<td>f, g</td>
</tr>
<tr>
<td>Alveolar lateral</td>
<td>g</td>
<td>k, k'</td>
</tr>
</tbody>
</table>

#### Other Symbols

- Voiceless labial-velar fricative
- C Z: Alveo-palatal fricatives
- Voiceless labial-velar approximant
- Voiceless labial-palatal approximant
- Voiceless epiglottal fricative
- Voiced epiglottal fricative
- Epiglottal plosive

#### Diacritics

- Voiced
- Breatly voiced
- Nasalized
- More rounded
- Less rounded
- Advanced
- Retracted
- Centralized
- Mid-centralized
- Sylablic
- Non-sylablic
- Rhemotic...

#### Figure 1-1: The International Phonetic Alphabet.

#### Vowels

<table>
<thead>
<tr>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>u</td>
<td>o</td>
</tr>
<tr>
<td>e</td>
<td>ə</td>
<td>ə</td>
</tr>
<tr>
<td>æ</td>
<td>ø</td>
<td>ø</td>
</tr>
<tr>
<td>ay</td>
<td>ɔ</td>
<td>ɔ</td>
</tr>
<tr>
<td>oʊ</td>
<td>aʊ</td>
<td>aʊ</td>
</tr>
</tbody>
</table>

Where symbols appear in pairs, the one to the right represents a rounded vowel.

#### Suprasegmentals

- Primary stress
- Secondary stress
- Long
- Half-long
- Extra-short
- Minor (intonation) group
- Major (intonation) group
- Syllable break
- Linking (absence of a break)

#### Tones and Word Accents

<table>
<thead>
<tr>
<th>Level</th>
<th>Tone</th>
<th>Contour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extra high</td>
<td>-</td>
<td>Rising</td>
</tr>
<tr>
<td>High</td>
<td>-</td>
<td>Falling</td>
</tr>
<tr>
<td>Mid</td>
<td>-</td>
<td>Rising</td>
</tr>
<tr>
<td>Low</td>
<td>-</td>
<td>Falling</td>
</tr>
<tr>
<td>Extra low</td>
<td>-</td>
<td>Rising-falling</td>
</tr>
<tr>
<td>Downstep</td>
<td></td>
<td>Global rise</td>
</tr>
<tr>
<td>Upstep</td>
<td></td>
<td>Global fall</td>
</tr>
</tbody>
</table>

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Getting along with other players

The language game has a lot of players, and wherever there are players, there’s a pecking order. Although you may not be aware of it, as a player of the language game, you’re always positioning yourself relative to other players. Maybe you’re on an equal footing — for example, when you’re talking to friends, you likely speak pretty informally. But if the other person has official status — like a colleague or a boss — you’ll probably use more formal language. Or people from different places — say Australia versus Canada — might speak English differently. Such social differences lead to language variation. In addition, languages change over time, eventually leading to the development of new languages. And in comparing the languages of the world to each other, linguists find that, just as there are different personality types, there are different language types. The social force of language is also seen in the story of how human language first emerges, as well as in the regular ebbs and flows that account for the birth and death of individual languages.

Using your brain

Playing the language game not only involves knowing the rulebook and cooperating with other players but it also requires sophisticated cognitive skills. In learning language — whether as a child or later in life — you acquire knowledge of the rule systems that make your grammar work. And your day-in, day-out perception of language is based on your ability to integrate pattern detection, linguistic knowledge, and information screening. Likewise, your day-in, day-out production of language is based on your ability to transform your thoughts into words (for spoken language) or gestures (for signed language). And language literally lights up your brain! Linguists can now more accurately track the neural activity associated with language perception and production, and they’re making mind-blowing discoveries.

Taking shortcuts with writing

Playing the language game can be exhausting — it’s an activity that requires your full and immediate attention and participation. Long ago, humans invented a work-around to this problem: They started to use graphic symbols to represent the sounds of language. This technological breakthrough happened pretty recently, about 10,000 years ago. But even nowadays, most human languages — there are about 6,000 of them — don’t have a written form.
Written language is a form of technology, and as with any other piece of technology, it allows humans to control and adapt to their environment. This is even truer today as people rely more and more on computer and Internet resources to communicate and obtain information.

**Tuning In to Language: A Life-Changing Experience**

Language defines who you are: It tells people where you come from, where you live now, how old you are, the kind of education you have, some pretty private things about your family history, your sexual persuasion, and who knows what else. What’s more, your language broadcasts this information without any special help from you. Now, whether they notice or not, most folks get some information of this sort when they listen to others — yes, it’s a form of stereotyping, but that doesn’t mean it’s wrong. Although it takes a lot of training and a good ear, experts can not only pull this kind of detailed information out of people’s speech but also put it into people’s speech and turn them into different people. This is exactly what voice coaches do for actors to give them new nationalities and new personalities. For example, Hugh Jackman is an Australian with the accent to match. Yet, with coaching he was able to deliver a believable performance playing the Canadian mutant orphan, Wolverine, in the *X-Men* movies.