Introduction

"History is universal and basic," a history professor said during a faculty meeting, "It's about every event that involves all people at all times and in all places." "Yes," observed his colleague from linguistics, "but how would you record and interpret that history without language?" Indeed, it is hard to imagine how there could even be history without language, without a means to pass a record of what has happened from one generation to the next through retold stories and sagas, even before written records. Much of the history (and prehistory) of the human species consists of the development and adaptation of various tools to meet a broad range of needs: think of the wheel, the domestication of animals, the steam engine, computers, and the internet. The development and refinement of these and all other tools could not have been accomplished without language.

The human capacity for self-awareness and abstract thought is facilitated by language, if not dependent upon it. The ability to transfer complex information, to discuss the meaning of events and possible outcomes of alternative actions, to share feelings and ideas – all these are impossible without language. The origins of language are shrouded in obscurity, but archaeological records suggest that communication with language emerged about 200,000 years ago. The ability of an individual to model the world for him/herself and to communicate using language was probably the single most advantageous evolutionary adaptation of the human species.

Defining language

As one can imagine, a precise definition of language is not easy to provide, because the language phenomenon is complex and has many facets. Slightly modifying a definition provided by Finegan and Besnier (1989), we might define language as a *finite system of elements and principles that make it possible for speakers to construct sentences to do particular communicative jobs*. The part of the system that allows speakers to produce and interpret grammatical sentences is called **grammatical competence**. It includes the knowledge of which speech sounds are part of a given language and how they may and may not be strung together. Grammatical competence also includes knowing the meanings signified by different sound sequences in a language and how to combine those units of meaning into words, phrases, and sentences. Grammatical competence is what allows a speaker of English to string together twenty-one sounds that sound something like "The dog chased the cat up the tree" and allows another speaker of English to understand what dogs, cats,

and trees are, what chasing is, and which way is up. Further, grammatical competence is what allows these speakers of English to share the understanding that it was the dog doing the chasing and that it was the cat that went up the tree. Of course this does not apply only to English. Grammatical competence contributes similarly to comprehension in all human languages.

But people use language to do far more than just communicate the literal meanings of grammatical sentences. The sentence "The dog chased the cat up the tree" might be used to accomplish a wide variety of jobs: to narrate part of a story, to complain to the dog's owner, to help the cat's owner find his pet. The second part of the definition, "to do particular communicative jobs," refers to **communicative competence**. The most frequent "job" that people do with language is communicate with other people.

Grammatical competence is almost useless for human interaction without communicative competence. In fact, a lot of the actual use of language is not in sentences at all, but in discourse units larger and smaller than sentences, some grammatical (in the technical sense used in formal linguistics), some not. To be effective, speakers have to combine grammatical competence with the knowledge of how to *use* grammatical sentences (and other pieces of linguistic structure) *appropriately* for the purpose and context at hand. The two taken together comprise *communicative competence*. Communicative competence – the knowledge included in grammatical competence plus the ability to use that knowledge to accomplish a wide range of communicative jobs – constitutes *language*.

Universal properties of language

Over thousands of years of evolution, the human species developed a vocal tract flexible enough to produce a wide range of distinguishable sounds and the ability to perceive differences among those sounds. But most important, the human species developed the ability to use these sounds in systems which could communicate meaning. No one knows just how this happened. Perhaps mental capacities that had evolved for a variety of other adaptive purposes (like fine motor hand–eye coordination) were "re-purposed" to support a complex symbolic and communicative system. Perhaps some mental capacities are exclusively dedicated to language and evolved more gradually along with the increasing complexity of human communication. Or perhaps once they reached a certain level of neurological and cognitive complexity, the synapses of the brain "reorganized" themselves, making the development of language possible.

Although languages differ in many ways, they are all made possible by the same genetic information, they are all processed by the brain in basically the same ways, and, not surprisingly, they all share certain fundamental "design features" and structural characteristics that enable them to work the way they do. For example, although different languages use different sets of sounds, their sounds are organized and combined according to just a few principles. If there were no shared, universal features of language, we would expect the sounds of languages and their combinations to vary randomly. Instead, the sounds of languages and their combinations are limited and systematic. Likewise, all languages follow similar constraints on how they can combine words into phrases and sentences.

Understanding and explaining the properties which are universal to all languages – as well as those which vary across languages – is the fundamental job of the linguist.

Modularity

Most linguists believe that language is a modular system. That is, people produce and interpret language using a set of component subsystems (or modules) in a coordinated way. Each module is responsible for a part of the total job; it takes the output of other modules as its input and distributes its own output to those other modules. Neurolinguistic studies show that different regions of the brain are associated with different aspects of language processing and, as the following chapters show, dividing language into modules facilitates linguistic analyses greatly.

Some modules have been central to linguistics for a long time. Phonetics is about production and interpretation of speech sounds. Phonology studies the organization of raw phonetics in language overall as well as in individual languages. Larger linguistic units are the domain of morphology, the study of structure within words – and of syntax, the study of the structure of sentences. Interacting with these modules is the **lexicon**, the repository of linguistic elements with their meanings and structural properties. In recent decades, philosophers have developed the formal study of semantics (the detailed analysis of literal meaning), and linguistics has incorporated and added semantics as another module of language. Still more recently, discourse – organization of language above and beyond the sentence – has been recognized by most linguists as another important subsystem of language.

Discreteness

Each module of language deals with the characterization, distribution, and coordination of some discrete linguistic unit (phonemes, morphemes, words, phrases, sentences, utterances). **Discreteness**, another property of languages, divides the continuous space of sound or meaning into discrete units. The range of sounds that human beings can make is continuous, like a slide whistle. For example, you can slide from a high "long *e*" sound (as in *feed*) all the way down to a low "short *a*" sound (as in *bat*) in one continuous glide. But all languages divide that continuous space of sound into discrete categories, just as most western music divides the continuous range of pitch into discrete steps in a scale. Sounds that are discrete in one language may not be discrete in another. In English, for example, we distinguish [a], "short *a*," from [ɛ], "short *e*," so that *pat* and *pet* are different words. The same is not true in German, so German speakers have trouble hearing any difference between *pet* and *pat*. At the same time, German has a vowel that is like the English "long *a*," but with rounded lips, spelled *ö* and called "*o*-umlaut." The distinction between the vowel that is like English "long *a*" and this rounded vowel is responsible for the meaning difference between *Sehne* ('tendon') and *Söhne* ('sons'). This distinction is as easy for German speakers as the *pet* and *pat* distinction is for English speakers, but it is hard for English speakers. Precisely *what* is discrete varies from one language to another, but all languages have the property of discreteness.

Discreteness also shows itself in other modules of language, such as meaning. The color spectrum is a clear example. Color variation is a continuum – red shades through red-orange to orange to yellow-orange to yellow and so on through the spectrum. But all languages divide the color spectrum into discrete categories, although languages differ in how they divide that continuum into words. In some languages there are only two basic color terms, roughly meaning 'light' and 'dark'; others add red, yellow, and green, whereas still others, including English, have developed words for many more colors. Likewise, although the claim that Eskimos have hundreds of terms for snow may be overstated, the languages of Native Americans living in the far north do distinguish more kinds of snow than do languages which have developed to meet the needs of peoples living in warmer climates. Similarly, American English has a range of words for different types of automotive vehicles (sedan, sports utility vehicle, minivan, convertible, wagon, sports car, for example) related to the importance of the automobile in that culture.

Language is composed of separate sounds, words, sentences, and other utterance units. Acoustically sounds and words blend into each other. (If you have tried to learn a second language as an adult, you know how hard it can be to separate words spoken at a normal conversational pace.) Remarkably, babies only a few weeks old are able to distinguish even closely related sounds in the language of their home from each other and to distinguish the sounds that belong to the language they are learning from the sounds in other languages at a very early age. Furthermore, children in the first year or two of life learn to pick out words from the stream of speech with no instruction. The fact that we hear speech as a sequence of individual sounds, words, and sentences is actually an incredible accomplishment (and all the more incredible for how instantaneously and unconsciously we do it).

Constituency

All languages organize these basic discrete units into constituents, groups of linguistic units which allow more complex units to enter structures where simpler ones are also possible. So we can say in English, "*She* sat down," "*The smart woman* sat down," "*The tall, dark-haired, smart woman with the bright red sweater and pearl necklace* sat down." Each italicized phrase constitutes a noun phrase (which is the subject of the sentence in these examples); a noun phrase can be as simple as a pronoun as in the first sentence, or it can be made more complex by modifying the noun with adjectives and prepositional phrases. Being composed of constituents gives language a balance of structure and flexibility. Constituents can be replaced by other constituents, but you can't replace a constituent with a series of words that is not a constituent. So you can't replace *she* with *smart with the bright red sweater* ("*Smart with the bright red sweater* sat down" doesn't work). Constituents can be moved, but you can only move a complete constituent. *She is very smart* is possible and so is *Very smart, she is*, but not *Smart, she is very*.

Recursion and productivity

Being composed of constituents allows languages to be recursive. **Recursion** is a property of systems which allows a process to be applied repeatedly. In language we can combine

constituents to produce an infinite variety of sentences of indefinite length. For example, coordination in English allows us to combine two or more constituents of the same type together. We can expand a short sentence like *He was tall* into longer sentences like *He was tall and strong and handsome and thoughtful and a good listener and* . . . or infinitely embed clauses to modify noun phrases, as in *This is the mouse that nibbled the cheese that lay in the house that Jack built*.

The recursiveness of language has profound implications. It means that no one can learn a language by memorizing all the sentences of that language; instead, they must learn the system for creating and combining constituents in that language. The human brain is finite, but the recursive property of language means that by learning a language we are capable of producing and understanding an infinite number of sentences. This nonfinite quality of language is due to its **productivity**. Even if one were to attempt to memorize all the sentences ever uttered, one could always add another modifier – (*A great big huge beautifully designed, skillfully constructed, well-located new building* . . .) or embed one sentence within another, over and over again (*He said that she said that I said that they believe that you told us that* . . .) through the recursive rules of the language. Since languages place no limits on the use of these recursive processes, all languages are potentially *infinitely* productive.

Productivity in language is also demonstrated by neologisms, newly coined words, which occur all throughout history and society. When people hear a word for the first time, they often ask, "Is that a word?" If they ask a linguist, the answer is likely to be, "It is now." If the novel word is formed according to the morphological and phonological rules of its language and it is understandable in context, it is a bona fide word, even if it's not found in a dictionary. Consider the word *bling*, recently coined to mean 'flashy jewelry.' It is phonologically well-formed (in English *bl* is allowed at the beginning of syllables, and the *ng* [ŋ] sound is allowed at the end). The word has caught on in the mainstream public and is now a bona fide word. Most of these spontaneous coinings – inspired by a particular context, and often labeled as **slang** – are not used frequently enough to ever make it into a dictionary, but some coinings *do* become part of the lexicon (and are included in some updated dictionaries) because they meet a new need. Coining new words is one productive process by which languages change to meet the changing communicative needs of their speakers.

The productivity of languages derives, in large part, from the fact that they are organized around a finite set of principles which systematically constrain the ways in which sounds, morphemes, words, phrases, and sentences may be combined. A native speaker of a language unconsciously "knows" these principles and can use them to produce and interpret an infinite variety of utterances. Defining and making these principles explicit is one of the goals of linguists studying grammatical competence.

Arbitrariness

While productivity in language derives from a finite set of principles which systematically constrain the ways in which sounds, morphemes, words, phrases, and sentences may be

combined, language is arbitrary in its sound–meaning correspondence. With few exceptions, words have no principled or systematic connection with what they mean. In English, the first three numbers are *one, two, three* – but in Chinese they are *yi, er, san*. Neither language has the "right" word for the numerals or for anything else, because there is no such thing (Bolton, 1982: 5). Even onomatopoetic words that are supposed to sound like the noise they name – for example, words for sounds, like *ding-dong* and *click* and the sounds various animals make – are arbitrary and vary from language to language. In English, for example, a dog says *bow wow* or perhaps *woof woof*, but in Hindi it says *bho: bho:*. Greek dogs say *gav* and Korean dogs say *mung mung*. People perceive these sounds through the arbitrary "sound filters" of their respective languages, so even something as seemingly objective as a dog's bark is in fact represented arbitrarily in language.

The inventory of speech sounds used by a particular language is also arbitrary. English is spoken using only 36 different sounds (a few more or less, depending on how the English sound system is analyzed). But, as you will learn in detail in Chapter 1, the sounds used in English are not all the same as the sounds needed to speak other languages, nor are they put together in the same way. The 36 sounds of English are in turn arbitrarily represented by 26 letters, some of which stand for two or more sounds (like *g* in *gin* and in *gimp*) while other sounds are spelled in two or more different ways (consider *c* in *center* and *s* in *sender* or *c* in *cup*, *k* in *kelp*, and *qu* in *quiche*). The patterns into which words and sounds are arranged are also arbitrary. We know perfectly well what *tax* means but any English speaker knows without a doubt that there is no such word as *xat*. Adjectives go before nouns in English – so it's *fat man*; in French nouns go before adjectives, making it *homme gros*. **Arbitrariness** is a property of sign languages as well as spoken languages. Some manual signs in sign languages are iconic – they look like what they mean – but most signs give not the slightest clue to their meaning.

It's important to remember that arbitrariness doesn't mean randomness. It means that, for example, the sounds that one language uses and the principles by which they are combined are inherently no better or worse than those of any another language. Likewise, it means that the principles of one language variety (or dialect) for arranging words are inherently no better or worse than those of another. For example, many nonlinguists who speak the standard variety of English believe that it is "incorrect" to use two words that express negation (referred to as *negative concord*), as in *I didn't see nobody*. However, **negative concord** is used in the standard variety in other languages such as Italian:

Giulia non ha visto nessuno.
Giulia not has seen no one
'Giulia didn't see anyone.'

And some nonstandard varieties of Italian use the singular negative just like standard English. This property of abritrariness in language is, perhaps, one of the most needed linguistics lessons for the general public. It means that no one language – and no one language variety in a particular society – is the "correct" way of speaking, and no group speaks ungrammatically.

Reliance on context

A corollary of arbitrariness – of association between sound sequences and meanings or in the order of words in phrases – is **duality**. Because there is nothing about the pronunciation of the word *one* (transcribed phonetically – as it sounds – it would be [wʌn]) that necessarily associates it with the numeral 1, that same sequence of sounds (but spelled *won*) can also be used to mean something entirely different – the past tense of the verb *to win* (Bolton, 1982: 5). But if the same sequence of sounds can represent different concepts in the same language, how are you able to figure out which meaning I intend when I say [wʌn]? The answer – which is as complex as it is obvious – is that you rely on its context. If I say [wʌn] *before* a noun, as in "[wʌn] dog," your knowledge of English grammar will lead you to guess that I mean *one*. On the other hand, if I say [wʌn] *after* a noun (or pronoun), as in "Mary [wʌn]," that same knowledge will lead you to guess that I mean the past tense of *win*.

Reliance on context is a crucial property of languages, not just in figuring out the meaning of words like *one* and *won*, but in interpreting the meaning of entire utterances. The meaning of a sentence depends crucially on the context in which it is uttered. That context could be the sentence or sentences that immediately precede it, or it could be the broader physical or social circumstances in which the sentence it uttered. If someone says "One," the meaning of that utterance is only clear in the context of a preceding utterance – for example, "Do you want one lump of sugar or two?" Similarly, "It's cold in here" could be a complaint, a request to close a window, or even a compliment (about a freezer, perhaps). Who or what a given pronoun (like *she*, *it*, *us*, or *them*) refers to may rely on prior sentences or the immediate physical environment. Languages rely on the connection between form (what is said) and context (when, where, by whom, and to whom it is said) to communicate much more than is contained in a sequence of words.

Variability

Although all languages share some universal characteristics, languages also differ in many ways. The language that people use varies depending on who's speaking and the situation in which they're speaking. In fact, variability is one of the most important – and admirable – properties of language. Variation (also known as difference and diversity) is the essence of information. Without variation in light frequencies, there would be no sight; without variation in sound frequencies, there would be no speech and no music. (And as we are beginning to realize, without a certain minimum level of genetic diversity, our ecosystem is threatened.) Variability in language allows people to communicate far more than the semantic content of the words and sentences they utter. The variability of language is indexical. Speakers vary the language they use to signal their social identities (geographical, social status, ethnicity, and even gender), and also to define the immediate speech situation.

People let the world know who they are by the variety of their language that they use. They reveal their geographical and social status origins after saying just a few words. People

also use their variety of language to signal membership in a range of overlapping social groups – as male or female, as a teenager or an adult, as a member of a particular ethnic group. They keep their speech, often despite the best efforts of teachers to change it, because at an unconscious level, maintaining their ties to their origin is more important than any reason to change.

People also use language variation to communicate the situation and purpose in which they are talking, as well as the roles they are playing in those situations. A priest uses different forms of language during a sermon than during the social hour after a church service, playing different roles (and projecting different roles on the churchgoers he addresses). At work, people speak differently to subordinates than to superiors, and differently during coffee breaks than in meetings. Parents speak differently to their children than to other adults (or even to other people's children). The language used in writing typically differs from the language used in speaking, reflecting and communicating the different conditions under which language is produced and its various purposes.

A large part of a speech community's culture is transacted through the medium of language variation. Norms of appropriate language use help speakers to construct and negotiate their relations to each other. The unwritten and unconsciously applied rules for the various forms and uses of language can vary from one cultural milieu to another, within and between societies, and even between genders. This raises the risk of misunderstanding when speakers unknowingly are behaving according to different cultural norms, but enriches our ways of seeing the world when those differences are understood.

Language variation is also the mechanism by which languages change. The lexicon of a language changes just a bit every time a new word is coined. Its inventory of sounds, and their relations to each other, changes over time, sometimes due to migration or contact with another language, sometimes due to innovations from within its speech community (see Chapter 9). The order of words allowed in sentences can change as well (see Chapter 8). Even the prescriptive rules can change with developments in fashion or policy (see Chapter 11).

One of the consequences of language variation is that no variety or dialect of a language can be better than any other; each is simply a snapshot in the process of language change. Linguists find it analytically useful sometimes to look at language synchronically (as a fixed system), but it is a system always developing into a new system. John McWhorter (1998), arguing against the myth of a "pure" standard English, wrote:

> Any language is always and forever on its way to changing into a new one, with many of the sounds, word meanings, and sentence patterns we process as "sloppy" and incorrect being the very things that will constitute the "proper" language of the future . . . What we perceive as "departures from the norm" are nothing more or less than what language change looks like from the point of view of a single lifetime.

Consider that French, Italian, and Spanish each developed from Latin and were once considered "corrupt" versions of Latin. The variety of English we now call standard is the result of a sociopolitical accident, developing from the dialect of the center of British power in the 1300s. We might be able to eliminate a lot of discrimination against speakers of

"nonstandard" varieties if more people understood that each language and dialect of a language is a coherent, and equally valid, system.

The descriptive approach

The fact that language is a universal characteristic of human beings means that all languages (and language varieties) are equal. That is, they all come from the same genetic blueprint, and they all are equally "human." Language varieties differ because over time they have adapted to the differing needs of their speech communities. Each language does things differently: some languages explicitly distinguish between several verb tenses (English marks only two); some languages organize nouns into many "gender" categories (English does not). Each language is equally "functional" at meeting the communicative needs of its own speech community. But sometimes when two or more speech communities come into contact, one group will have more power, status, or economic resources than the others. Not surprisingly, the language variety of that dominant group is often perceived as having higher status as well, especially if speaking it affords increased access to power or wealth. By comparison, the language varieties spoken by the less powerful groups often are stigmatized as "incorrect" or "bad" language.

Linguists approach language in the same way that astronomers approach the study of the universe or that anthropologists approach the study of human cultural systems. It would be ridiculous for astronomers to speak about planets orbiting stars "incorrectly" and inappropriate for anthropologists to declare a culture "degenerate" simply because it differs from their own. Similarly, linguists take language as they find it, rather than attempting to regulate it in the direction of preconceived criteria. Linguists are equally curious about all the forms of language that they encounter, no matter what the education or social standing of their speakers might be.

The fact that, in most societies, some varieties of language are perceived as "correct" while others are considered "incorrect" is, for linguists, a social phenomenon – an aspect of language use to be explored scientifically. Since "correct" language is *inherently* no better or worse than the varieties that are considered "incorrect," linguists eagerly seek to discover the reasons for the conviction that some part of language variability is superior to the rest, and to examine the consequences of those beliefs.

One consequence of these kinds of language attitudes – in which one language variety is considered better than others – is the corollary belief that speakers of "incorrect" varieties are somehow inferior, because they will not or cannot speak "correctly." Their "incorrect" language is then used to justify further discrimination – in education and in employment, for example. Discrimination on the basis of language use is based on two false propositions: that one variety of language is inherently better than others, and that people can be taught to speak the "correct" variety. However, so powerful are the natural forces that guide how a person learns and uses spoken language that explicit teaching on how to speak is virtually irrelevant. If a person is not very good at mathematics, we are probably justified in assuming that he or she did not learn mathematics in school. The same may well be true of reading and writing; if someone cannot read or write, it is likely that something went

wrong with that person's schooling. But the same is not true with spoken language. A person who uses negative concord, as in *She can't find nothing*, or says *knowed* for *knew* may have received the best instruction in the rules of traditional grammar from the most skilled teachers available. However, just knowing what the rules are, or even practicing them for a few minutes a day in school, will be as effective in influencing how someone speaks as a meter-high pine tree would be in stopping an avalanche. The most powerful feature influencing spoken language is its ability to mark a person's identity as a member of the group closest to him/her in everyday life. This power trumps grammar instruction in classrooms every time.

Even the best-educated speakers of American English will not say "For what did you do that?" (which is formally correct); they'll say "What did you do that for?" Nor will they say "Whom did you see today?"; instead it will be "Who did you see today?" For exactly the same reason, a speaker of nonstandard English will say "I ain't got none," knowing that "I don't have any" is considered correct – in either case, to use "correct grammar" would make the speaker sound posh or snobbish and cost him/her the approval of his/her peers. There is an enormous disincentive to use language in a way that makes it seem that you are separating yourself from the people who are most important to you.

In fact, people who speak in close to the approved way probably did not learn to do so in school. They are just fortunate to come from the segment of society that sets the standards for correct speech. This segment of society also controls its schools – and the language variety used and taught in its schools. Ironically, when children learn to use the socially approved variety of spoken language in school, it is not from what their teachers explicitly teach in class, but rather from adjusting their speech to match the speech of the other children in the halls, on the playground, and outside of school, and thus gain their approval.

The diversity of linguistics

Unlike other linguistics textbooks, each chapter in this book has been written by a linguist who teaches and does research in that area. The field of linguistics, like the phenomenon of language which it studies, is broad and diverse, and although linguists share some beliefs – in a descriptive approach, and in the functional equality of all language varieties, for example – they differ in some of the assumptions they bring to their analyses. Some linguists – particularly those in the areas of phonetics and phonology, morphology, syntax, semantics/pragmatics, and historical linguistics – assume, to varying degrees, that the forms of language can be understood separately from their use. The chapters on these topics are primarily about language form and constitute what was considered the essential core of linguistics in the mid twentieth century. Since then, the field has expanded considerably, and this book is designed to represent that broader scope.

Today the field of linguistics studies not just the nuts-and-bolts of forms and their meanings, but also how language is learned (both as a first and second language), how it plays a central role in reflecting and creating the interactive and cultural settings of talk,