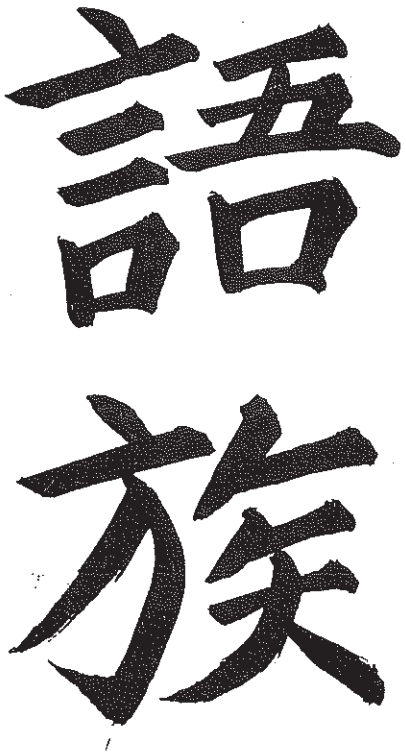
(1986/2017). In A. Bunger (Ed.)., *Special volume: Reissue of Innovations in Linguistic Education Volume 4. IULC Working Papers in Linguistics,* Vol. 17, No. 5.



LANGUAGE FAMILIES

by

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PREFACE

Language Families is an introduction to comparative linguistics for students at the secondary school and junior high-school levels as well as for adults who never encountered the subject in the course of their formal studies.

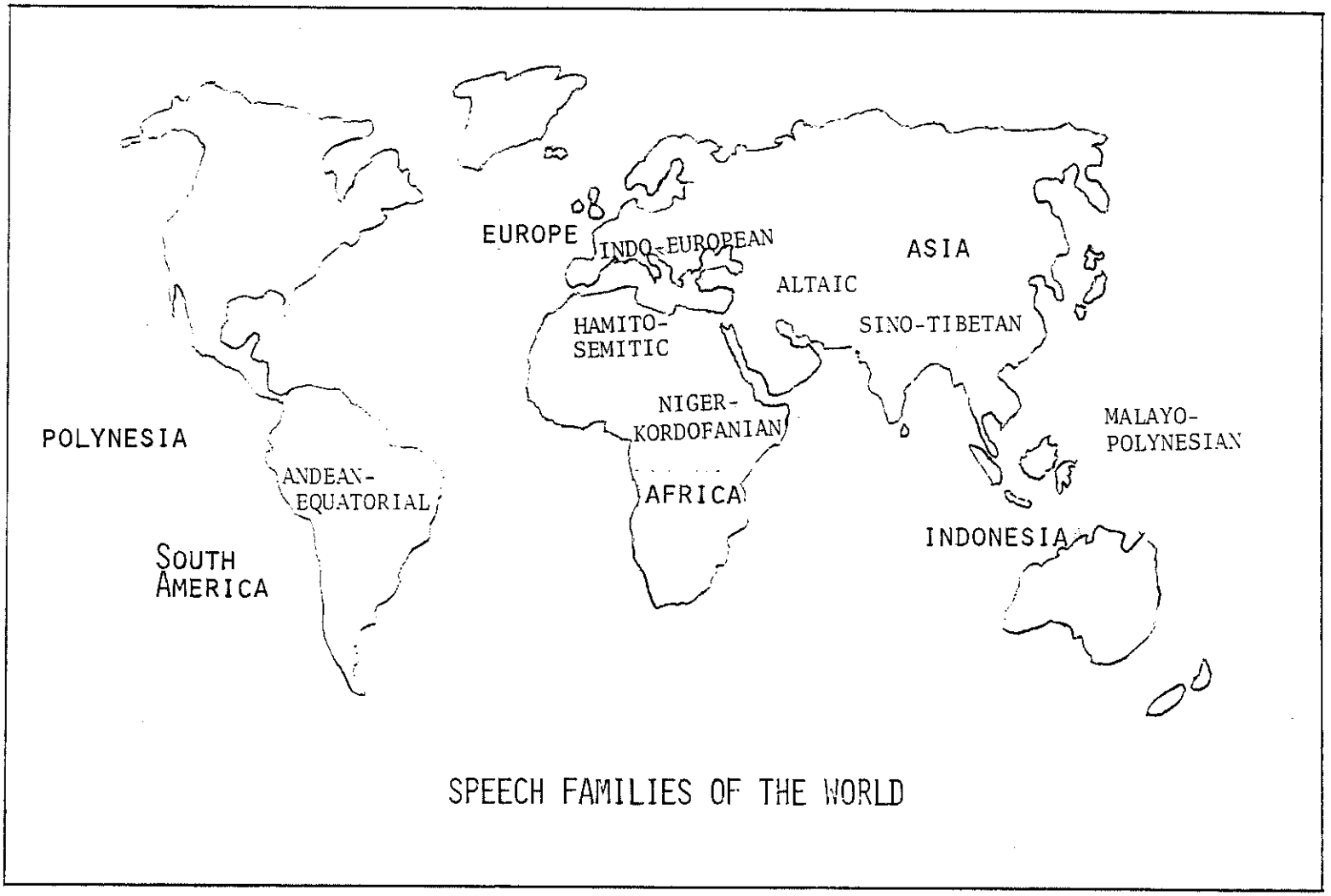
The book is innovative in that, while general works on language have been written for most pre-university educational levels, none has dealt primarily and specifically with the comparative study of languages.

The presumptive reason for this lacuna is that the comparison of languages and language groups in genetic terms is considered too difficult for any but advanced students to master and too technical for any but linguistic concentrators to show interest in. But this presumption is questionable for at least two reasons. First, most young people and laymen are familiar with genealogy, or the tracing of family relationships among individual kinsmen over the generations, many finding it fascinating to trace lineages and establish familial links that had not previously been suspected. And, second, a good number of such prospective readers have been exposed to biological taxonomy, in accordance with which one can group organisms by their degree of affinity, showing why it is, for example, that human beings are more closely related to horses than to birds and to birds than to fish.

In much the same way, anyone who reads this book with reasonable attention should be able to show why it is that English, for example, is more closely related to German than to French and to French than to Hungarian.

It is the author's hope that a receptive response to Language Families will pave the way for the introduction of other rather precise and rigorous aspects of linguistic science to non-university audiences. If this hope is realized, then the same readers who now understand such technical concepts as those expressed by the terms 'atom' and 'molecule', without having taken college physics, may be expected, after a clear and straightforward introduction to the subject, to grasp the structural concepts expressed by the terms 'phoneme' and 'morpheme' equally well.

In this publication, however, we will confine our attention to kindred languages, noting how an early 'mother' language like Latin can give rise to later 'sister' languages like Spanish, French, and Italian as well as how languages like English and German can come to have a 'cousinly' relation to Spanish and French.



SPEECH FAMILIES OF THE WORLD

CHAPTER ONE

INTRODUCTION

What is a language family? A language family is a group of languages that come from one language, called a mother language. Because they have the same mother, the members of a language family are called daughter languages. In this way, they are like a group of children in a family of people. (Since people can be either male of female, you may wonder why we never speak of 'father languages' or 'son languages'. The probable reason is that, in languages which have gender in their nouns, like French and German, the word for language is usually feminine rather than masculine.)

Romance and Germanic Languages

A language family that is familiar to most people in Europe and America is the Romance family, which got its name from the Roman Empire of ancient times. The mother language in the family is Latin. Latin was once spoken by most people in Rome and its empire. As a language of everyday life, Latin has disappeared. The daughter languages of Latin, however, are still very much alive. One of these daughter languages is French, the national language of France and the native language of most people in Quebec Province, Canada. Another daughter language in the Romance family is Spanish, the national language of Spain and of most of the Latin American countries from Mexico, just south of the United States, to Argentina, in the southernmost part of South America.

Another well-known language family is called Germanic. As you would expect, it includes German. German is spoken not only in East Germany and West Germany, but also in Austria and in much of Switzerland. To us, though, as to a majority of people these days, the most important of the Germanic languages seems to be English. English comes, of course, from England, the largest section of the island of Great Britain. But it is also the native language of most people living in the countries which were once colonized by Englishmen, such as Australia, New Zealand, Canada, and our own United States.

As a language family, Germanic differs from Romance in one very important way. Latin, the mother language of Romance, was written down by the Romans, so that a detailed record of Roman activities remained, centuries after the Roman Empire itself had disappeared. The mother language of the Germanic peoples, however, was not written down. The result is that we have to do a lot of guessing about what their way of life was like. To be sure, archeologists have filled in many gaps in our knowledge of the Germanic past by digging up tools and ornaments used by the ancient inhabitants of northern Europe. But we still don't know what

these people called themselves or their language. So linguists have invented the name Proto-Germanic (meaning 'earliest Germanic') to refer to the mother language of English and German.

Speech and Writing

At the beginning of this Introduction, we discussed the phrase 'language families' as though everyone knew what language is and all we had to do was define 'families'. In fact, however, there is some question about how much human communication can fairly be called language. The only kind of communication that all scholars accept as language is speech--that is, the kind of utterance that is produced by the human voice and received by the human ear. This vocal kind of language is found among all the world's peoples, from great industrialized nations through clusters of farm villages to small bands of roving hunters. Wherever people have normal hearing, they use spoken language.

In addition to speech, there are two kinds of human communication that resemble speech in the information they carry but differ from speech in the way they are received. Instead of being heard, they are seen. Of the two kinds of speech-like communication that can be seen, there is one that you are quite familiar with--namely, writing. If that were not so, you would not now be reading this page.

Sign-Language

The other kind of speech-like communication that can be seen is one that you probably know less about, although it is beginning to appear on television. It is sign-language for the deaf, often called manual sign-language because it requires the use of the hands to produce it as well as the use of the eyes to receive it.

There are still some scholars who regard writing as no more than a poor substitute for speech and sign-language as an even poorer substitute than writing. But there are some systems of writing, such as the Chinese, which represent ideas rather than the sounds of speech. And the more carefully sign-language is studied, the clearer it becomes that sign-language is a rich and subtle means of visual communication. The result is that a growing number of linguists now recognize that language can take three different and equally effective forms--a spoken form, a written form, and a manually signed form. It must be admitted, however, that speech is the most important of the three forms of language. This is because many people can't read and most people don't understand manual sign-language but nearly everyone can speak and understand the speech of his own household and his neighbors.

Linguistic Change

As the centuries pass, there is a strong tendency for language, in all three of its forms, not only to change but also to diversify. This means that, given enough time, a single language is likely to split apart and become two or more languages. We have already noted that Latin, which was the common speech of the Roman Empire two thousand years ago, has split to yield modern French and modern Spanish. Similarly, the alphabet, which had only one form in Lebanon about three thousand years ago, has diversified and produced various different forms of writing. Of these, the most familiar to us are the Latin alphabet, in which this book is printed, and the Greek alphabet, which contains the letters used by fraternities on college campuses. Finally, American Sign Language, which is used by most deaf people in the United States, is an offshoot of French Sign Language as that was used two hundred years ago. (This is an interesting illustration of the independence of sign language from speech. For, if sign language were merely a silent representation of speech, American Sign Language would have to be a variety of British English, as spoken American English is of spoken British English.)

Language Trees and Branches

The tendency of languages to share a common origin but then to separate and go in different directions has led linguists to picture language families as trees and the various languages in those families as branches on the tree. In the case of spoken language, the Romance family can accordingly be looked at as a tree whose trunk is Latin and two of whose branches are French and Spanish. Similarly, the Phoenician alphabet of ancient Lebanon can be viewed as the trunk of a tree, two of whose branches are the Greek and the Latin alphabets. And, in the same way, early French Sign Language can be regarded as the trunk of a tree whose branches are present-day French Sign Language and American Sign Language.

Work Roots and Stems

To picture language families as trees is, of course, to picture language itself as a growing plant (since trees are, after all, only the largest kind of plant). Most linguists extend this image to the smaller units that make up individual languages--namely, words. Because words are often long and can be divided into parts, names have to be given to these parts. And two of the most commonly used names for the parts that make up words are 'root' and 'stem'. As you might expect, the root of a word is its most fundamental part, the part from which the complete word grows. The stem of a word includes the root and adds something to it but stops short of completing the word. If we take the English word *chattering* as an example, we can divide it into a root *chatt-*, meaning 'talk', a

suffix *-er-*, meaning 'too much', and a second suffix *-ing* meaning 'activity'. Together, the root and the first suffix make up the stem of the word. When the second suffix is added to the stem, the word is complete, and nothing further can be expected to be added to it. (You could, if you wished, describe the last part of this word or another like it as its 'leaf' or even its 'flower'. But most linguists, who don't like to sound flowery, confine themselves to roots and stems.)

Word Families

Besides talking about language families, linguists often talk about word families too. Just as language families are languages that come from the same language, so word families are words that come from the same word--or at least from the same root or stem. The make-up of some word families is so obvious that linguists rarely bother to mention them. An obvious word family of this kind consists of the three English words *jumps*, *jumped*, and *jumping*, all of which come from the verb *jump*. (Most dictionaries do give all of these forms but list them as variants of one word rather than as separate words.)

Some word families, however, are not so obvious. The words in these families, like sisters who don't look or act alike, differ from each other in pronunciation or spelling. In some cases, the differences between the 'sister' words are slight enough so that some people using them recognize them as having a common origin. An example of such word sisterhood is provided by the three English forms *cold*, *cool*, and *chill*. Although most people who use these words know that all of them refer to a lack of heat, not all of them realize that the *-d* of *cold* was added to a root ending in *-l* or that the *ch-* in *chill* used to have the same initial *k*-sound that *cold* and *cool* still have. Another example of membership in a word family is provided by the two English nouns *guard* and *warden*. Most people know that both words refer to keepers of prisoners. But few realize that the two forms have a common Germanic origin and that the initial *g-* sound of *guard* is a result of two borrowings. First, the French borrowed the word from their Germanic neighbors in the Rhine river valley; and then the English borrowed it from the French.

In still other cases, the members of a word family look and sound so different that only people who have studied the history of language would recognize their kinship. In these cases, it would be better to call the related words 'cousins' than to call them 'sisters'. To illustrate word cousinhood effectively, we need to back-track for a moment and explain that the language families we discussed earlier are not necessarily the ultimate groupings of languages. Just as a small family of people can be part of a larger family of people, so can a

small family of languages be part of a larger family of languages. In the case of people, we may think of two sisters, both of whom are married and have children but who live near or with their own married father. In this case, there would be several families to consider--the two younger families as well as the larger family to which they both belong.

Indo-European Languages

As it happens, both the Romance family to which French and Spanish belong and the Germanic family to which German and English belong are in turn parts of a still larger and older family called Indo-European. The Indo-European family gets its name from the fact that the languages which belong to it have, for thousands of years, been spoken all the way from the eastern part of India to the western part of Europe. What this means is that many ancient Indo-European words have been inherited both by the Romance languages and by the Germanic languages. Unfortunately, however, for those who like understanding to come easily, there have been sweeping changes in pronunciation which effectively disguise the kinship of related words from the two smaller families. (These changes are described by a rule called 'Grimm's Law', which is explained in detail in Chapter Five.)

Examples of word families whose members are more cousin-like than sister-like occur within English itself. The reason for this is that, in addition to having inherited most of its basic vocabulary from its own Germanic family, English has also borrowed a great deal of supplementary vocabulary from the Romance family. A good example of a word family in this extended sense is provided by English number words. The simple ones, like *two* and *three*, come through Old English from Germanic. But the special ones, such as *deuce* and *trey* (meaning the 2 and 3 on dice), come through Old French from Latin, the mother language of Romance. What earlier would be obvious only to the trained eye or ear of a historical linguist is that *deuce* and *two* come from the same root, as do *trey* and *three*. What makes this surprising statement believable is Grimm's Law, which tells us that Germanic *t* corresponds to (and originally came from) *d*, while Germanic *th* corresponds to (and originally came from) *t*, in the other Indo-European languages.

For simplicity's sake, we have confined ourselves so far to word families containing only two or three members. As you might expect, though, there are word families in English that contain more members. This can happen either because they draw on more than two language families and so yield a variety of word 'cousins' or because they contain several word 'sisters' in each of the language families represented. An example of a word family that draws on five language families within the larger Indo-European family is one that is reconstructed as *weid-*,

a verbal root meaning 'see' or 'know'. (The basis for reconstructing unwritten forms will be presented in Chapter Four.) This form comes to us, through Germanic, as *wisdom*; through Romance, as *vision*; through Greek, as *idea*; through Celtic (which survives today in Welsh), as *Druid*, meaning 'tree-wizard'; and through Indic (the family of northern India), as *Vedanta*, which means 'the goal of knowledge'. An example of a word family that has many members from a single language family is the one that comes from the reconstructed Indo-European root *dheu-*, 'to give off vapor'. All the English derivatives of this form are Germanic. They begin with *dust* and include *dusk*, a time of partial darkness; *dull*, lacking in brightness; *dumb*, darkened in mind or speech; and *deaf*, having blocked ears. And an example of a word family that contains a number of related words from both sources is the one that comes from the Indo-European root *wed-*, 'water'. English derivatives of this form are, besides *water* itself, the adjective *wet* and the nouns *otter*, a water animal, and *winter*, the wet season, all by way of Germanic. But we also get, by way of Romance, the word *undulate*, 'to ripple or make waves'; by way of Greek, the word *hydrant*, a water outlet on a sidewalk; and by way of Slavic (the dominant language family of eastern Europe), *vodka*, a liquor distilled from potatoes.

Types of Linguistic Change

The reason why language families and word families exist is that languages change. They change in pronunciation (the way words sound), in grammar (the way words are put together), and in vocabulary (the way choices are made among words). An example of a change in English pronunciation is found in modern words like *bone* and *stone*, which now have the same vowel sound as the one heard in *go* or *toe*. In the Old English of King Alfred's time, these two nouns were written *ban* and *stan* but pronounced with the vowel of modern *pa* or *ma* (rather than that of *pan* or *man*).

An example of a change in English grammar is provided by the wording of The Lord's Prayer as it was in Old English about 1,000 years ago. (In what follows, modern spelling is used but the original order of words is preserved.) 'Father our, thou the art on heavens, hallowed be name thy'. If you don't know this prayer from the Bible, the old version of it that you just read probably makes almost no sense to you. Even if you do know it, you probably find the old wording strange and hard to understand.

An example of a huge shift in vocabulary comes from Medieval England, about 800 years ago. Over a century earlier, the Norman French had conquered the English and made French the language of the schools and courts in England. But native English of an almost entirely Germanic type continued to be spoken by farmers, craftsmen, and other simple folk.

After three centuries during which the rulers spoke French while their subjects spoke English, a compromise developed. French was given up as the language of law and government. Yet English took over a great deal of French vocabulary, consisting mostly of 'fancy' words. Of course, many of the words that seemed fancy to Englishmen in the Middle Ages seem rather ordinary to us today; and the same is true of the things that the words refer to. Before the Norman Conquest, the English had sat on stools and eaten from boards. (In fact, we still refer to tenants who regularly eat where they live as 'boarders'.) But afterward, an increasing number of Englishmen preferred to refer to their seats as chairs and to their eating-platforms as tables. Then as now, the French were regarded as masters of fine cooking and dining. To be sure, the animals that Englishmen kept continued to be called pigs, sheep, and oxen. But the meats of these animals, when served at meals, were now given French names and called pork, mutton, and beef. Because French, like English, has a tendency to shorten the words it inherits, words like 'chair' and 'beef' no longer sound foreign to us. Like immigrants from abroad, they have been naturalized.

The Beginnings of Language

The question of how language began is a difficult one to answer. The only historical fact we have to go on is that writing is about 5,000 years old. Scholars have found inscriptions in Egypt and Iraq that go back to that time, when cities were first being built. For any time earlier than that, we have to make guesses, although these can and should be 'educated' guesses. Since a lot of early writing represents spoken language and some of it refers to talking, we can safely assume that speech had existed for several thousand years before city life existed. Beyond that, however, there is great uncertainty. Some scholars think that manual sign language is older than speech, while others think that both forms of visual language--both signing and writing--are later derivatives of speech. All we can promise you is that, in Chapter Nine, we will explore this debate at some length.

Our Linguistic Future

If there is so much uncertainty about the past of language, what about its future? Is that equally uncertain? If anything, it is more so. All we can say for sure is that the trends of the last few centuries seem to be continuing. Until the end of the Middle Ages, about 500 years ago, all spoken languages appeared to be changing steadily and producing dialect offshoots that gradually turned into new languages. The only languages that resisted change were written languages like Latin. The reason why they did not change much is that the monks, priests, and scholars who used them kept going back to older writings to find models of the way in which they themselves should write.

Beginning about 1500 A.D., however, the first of the mass media was introduced into Europe. This mass medium was printing. And it affected everyone, because the new religious movement called Protestantism was based on the belief that the Bible and other religious writings should be read not just by clergymen but by every church member who was old enough to study. So thousands of Bibles and other books were printed and read by millions of people. The result was that national languages like French, German, and English began to replace scholarly languages like Latin. Standardization of these languages, moreover, led gradually to a decreasing use of those local dialects, like Scottish English or Burgundian French, that could have developed eventually into new languages.

In our own day, mass media have multiplied. Hundreds of millions of people now listen to radio or television. When they do, they tend--often without realizing it--to imitate the speech of announcers and other public figures who use the languages of the great national capitals. These listening habits tend further to suppress local dialects and prevent the development of new spoken languages. What is more, sound-recordings of great leaders of the past, like Winston Churchill or Charles DeGaulle, tend to slow down the rate of change even in the national languages. For people can now do what those of past centuries could not do: return to historical figures not only for models of good writing but also for models of elegant speaking.

Yet the loss of minor local dialects may not be enough to prevent language conflicts in our violent world. Within the past generation, speakers of Tamil (the language of southeastern India) rioted against the law that they should learn Hindi, the new national language of India; and, on Belgian university campuses, fist-fights broke out between those students who wanted to have their lectures in French (the language of southeastern Belgium as well as of France) and those who wanted them in Flemish (the language of northwestern Belgium, which is itself a form of Dutch).

Even the achievement of linguistic unity within nations, moreover, may not lead to linguistic harmony in the world as a whole. For each nation tends to prefer its own language to all other languages. And conflicts between nations are likely to be more dangerous and destructive than conflicts within nations. For this reason, many people argue that there should be a single international language which, though it would not be the first language of most nations, would be the second language of all nations. These people, however, do not yet agree among themselves as to whether the international language should be a natural language like English or an artificial language like Esperanto. Still, the subject is so important that we cannot wait for agreement to be reached before we think about it ourselves. In the last chapter of this book, we will be exploring the possibilities of an international language.

CHAPTER TWO

SEEING LANGUAGE AND HEARING LANGUAGE

For most of us, hearing language is a daily experience. We hear not only what people say to us but also what we say in return. Because most of our linguistic activity involves speaking and listening, two later chapters of this book will be devoted to those aspects of language that require mouths and ears. The rest of this chapter will concern visible language--language that requires eyes.

Of the two kinds of visible language, the kind you know better is writing. But you may not know that the alphabet in which this book is written is only one among several ways of writing. In saying this, we are not referring to the fact that Russian newspapers look funny to us because they contain strange letters, true as that is. For the Russians are merely using a slightly different alphabet. And all alphabets are ways of representing the sounds of spoken language in a visible way.

Pictograms and Ideograms

What we mean by other ways of writing is ways that do not represent speech at all. One of these is called pictography--drawing little pictures of things or of happenings. An example of such a pictogram is ✱ , the Sumerian sign for 'star', which was used in what is now Iraq about 5,000 years ago. (We still use this sign, called an asterisk, or 'little star'. But it is not a letter of our alphabet. Instead, it is a marker that calls special attention to a word or sentence.) An example of a pictogram that represents an action is

the Egyptian sign for 'eating', which was used about 4,000 years ago in the northern Nile valley. Signs of this kind have been described as 'frozen gestures', because they look like pantomime or charades.

Closely related to pictograms are ideograms. Rather than picturing objects or actions, ideograms represent ideas. An example is the Chinese character 好 , meaning 'good'. It probably began as a pictogram, since 女 by itself means 'woman' and 子 by itself means 'son'.

(The Chinese have traditionally believed that there is nothing a woman can have that is as good for her as a son.)

What pictograms and ideograms have in common is the fact that they do not represent the sounds of speech. Instead, they represent things seen or thought about. And they do it directly, without reference to the pronunciation of the words for them in any particular spoken language. You could say that they go straight from the eye to the brain without detouring through the mouth or the ear. Because pictograms and ideograms are so much alike, it is useful to have a single term that includes both of them. The term most often used by scholars is 'logograms', meaning 'word signs'. This term is satisfactory, as long as you understand that it refers to unspoken words rather than to spoken ones.

A good example of a logogram in our writing system is '$', the sign for 'dollar'. Two things make it different from the word dollar spelled out in letters. First, the sign '$' comes before the number it goes with: we write '$2' ('dollar two') but say 'two dollars'. And, second, we cannot put an ending, such as the *-s* plural, on the '$', although we must put it on the alphabetic word dollar if we want to refer to more than one dollar.

To illustrate the independence of logograms from speech, an even better example is the use, by people in various European countries, of the so-called 'Arabic' numerals. (Actually, the present-day Arabs now write these number-signs differently from the way Europeans do.) The numerals '1', '2', and '3' have exactly the same meaning in England as in France. But the English pronounce them 'one, two, three', while the French pronounce them 'un, deux, trois'.

This principle becomes more important in East Asia than in Europe, because in Europe most words are written alphabetically, whereas in East Asia most words are written logographically. In both China and Japan, for example, the word for man is normally written 人

However, in Mandarin--which is the official language of both mainland China and the island of Taiwan--it is pronounced *ren*, while in Japanese it is pronounced *hito*.

In any language, a word which is not written logographically must be written phonographically. Without these long words, what this means is that every word must be written either primarily for the eye or primarily for the ear. In these terms, as we saw just before, '2' is an 'eye-word' and 'two' is an 'ear-word'. That is, people of different nationalities can pronounce '2' in different ways, but 'two' has to be pronounced the same way by both English-speakers and foreigners if the foreigners are to be understood by the English-speakers.

Syllabic Writing

So far, we have written as if all phonographic writing, all writing that represents pronunciation, could only be alphabetic, consisting of signs for consonants or vowels. But phonographic writing can also be syllabic, consisting of signs for consonants with vowels attached. Putting the matter another way, we could say that syllabic writing represents whole syllables, while alphabetic writing represents parts of syllables.

Syllabic signs are even rarer than logograms in our writing system. But an example of syllabic writing is the sign '&' when it occurs as part of the compound sign '&c', pronounced *etcetera*, meaning 'and so forth'. ('&' is called the 'ampersand'. When it occurs by itself, it is pronounced 'and'.)

In Japan, however, syllabic signs, called *kana*, are used a lot--mainly to supplement logograms, which are used even more. In Japanese, a noun phrase like 'mountain stream' is pronounced *yamakawa* but may be written in either of two ways. The shorter way is to write it logographically as 山 川, where the first sign represents a mountain and the second a stream. The longer way is to write it syllabically, as やまかわ where the first sign is pronounced *ya*, the second *ma*, the third *ka*, and the fourth *wa*. The logographic version of *yamakawa* is more likely to appear in a book for grown-ups; the syllabic version is more likely to appear in a book for children who are learning to read.

The Evolution of Writing

Because these various writing systems have long names and complicated relationships to each other, it may be best to arrange them in a diagram, this way:

Writing Systems

general kinds	specific kinds
logographic	pictographic
	ideographic
phonographic	syllabic
	alphabetic

This diagram may be helpful not only as a way of classifying writing systems but also as a way of indicating their evolutionary sequence. For most scholars agree that pictograms are the oldest form of writing and ideograms the next oldest, syllabic signs being more recent and letters of the alphabet most recent. Furthermore, many of these scholars are convinced that each of the last three kinds of writing developed from the one just before it.

In the case of pictographic and ideographic writing, the development is easy to understand. We have already seen how the early Chinese derived a sign for 'good' from a small picture of a woman with a son. The development of alphabetic letters from syllabic signs, however, is a little more complicated. To understand it, you have to know that, in Semitic languages like Phoenician (the ancient language of Lebanon), vowel signs were not necessary in representing spoken words. The reason for this is that most Semitic words had vowels that could be predicted in terms of the grammatical function of each word in its sentence context. An analogy is provided by the English verb *sing*, whose vowel changes to *a* (giving *sang*) in the past tense, to *o* (giving *song*) in the noun form, and to *u* (giving *sung*) in the verbal adjective known as a past participle. While automatic vowel changes of this kind are exceptional in English, they were and are the rule in Semitic. The result was that early scribes, or professional writing specialists, could simply write the equivalent of *p* and have people understand that it stood for *pi*, *pe*, *pa*, *po*, or *pu*--whichever fitted the context best. In English, if we did not write vowels, the word *lngg* would have to be read as *language*, whereas the word *lngstc* would have to be read as *linguistic*, the shift from *a* to *i* being determined by the change of the noun into an adjective.

The people who first made a clear distinction between syllable signs and consonant signs were the ancient Greeks, about 800 B.C. They did this by introducing vowel signs. The reason why they needed vowel signs was that the vowels of Greek words were not nearly as predictable as they had been in Phoenician. Leaving out vowels would have left Greek writing full of ambiguities, just as it would in English today. If, for example, we had to write the four words *pit*, *pet*, *pat*, and *pot* as *pt*, we would not be able to guess what was given in a sentence like 'He gave her a p-t'. Later, as their own vowels became less predictable, the Phoenicians themselves, as well as the other peoples who borrowed their writing system, began to write vowel signs too. The result was a clear-cut distinction between alphabets, which usually use two or more signs for each syllable in a word, and syllabic systems, which usually use only one.

Rebus Writing

If you were reading carefully, you probably noticed that there was one step in the development of writing which was skipped over--namely, the step from logographic writing to phonographic writing. This was done

because, being a giant step, it requires more explanation than other steps. Soon after ideograms were developed from pictograms, scribes began to use logograms ambiguously to represent either the appearance of a thing spoken of or the sound of the word used to speak about it. Whether they thought this was funny or not, we don't know. But soon they were extending the use of logographic signs from the words which they first represented to other words which sounded the same. In other words, they were punning, or engaging in word play. The specific kind of word play that they used is the one called a rebus, which you may remember having done as a reading game. A simple example in English is to draw three little pictures, such as these:

The next step is to identify them in words, writing 'eye, sea, yew' (a yew being a small evergreen tree). The third step is to substitute, for these three words, three other words which sound the same, saying 'I see you'. This step solves the rebus puzzle but leaves an opening for still further optional steps, such as a second pun, this being on the letters ICU (which are used, without periods, as a shorter way of referring to International Christian University in Tokyo, Japan).

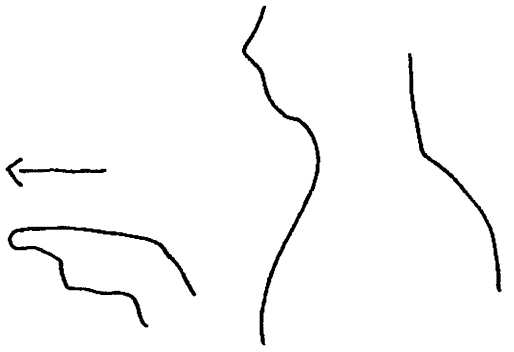
The more often ancient Middle Eastern scribes used such rebus writings, the more phonographic their systems became. After a while, signs which had once represented only visible objects came to represent only spoken syllables. At this point, the way was paved for the development of the kind of alphabetic writing that we are most familiar with. It is important to remember, however, that all writing systems contain a mixture of logographic and phonographic signs. In Chinese writings, most signs are logograms; in our writings, most signs are phonograms. But Chinese writing makes use of some phonograms, just as our writing makes use of some logograms.

Manual Sign Language

We noted earlier that phonographic writing is closely linked to spoken language, whereas logographic writing is only loosely linked to speech. The other form of visual language, consisting of manual signs, is entirely independent of spoken words. Manual sign language also uses words, but they are hand words. Every manually signed word has three aspects--shape, place, and movement. A signer can use one hand or both hands and can hold any or all of his fingers in such a way as to make the hand look like a fist, a fan, or something else. He can hold his hands in front of his face or his chest or divided between them. Moreover, he can move them from one place to another and do it quickly, slowly, smoothly, or jerkily. In some ways, these three elements of shape, place, and movement are like the three letters (representing three speech sounds) in such common English one-syllable words as *kit*, *bad*, or *run*. For an

ordinary syllable in English consists of an introductory consonant, a single vowel, and a terminal consonant.

In American Sign Language (a name that is usually shortened to Ameslan), a simple example of these three elements is provided by the sign for 'you':



Here the right hand takes on a pointing shape, with the index finger extended forward. It is held in front of the signer's chest. And it moves from his chest toward the person with whom he is conversing.

Many people with good hearing, who think of themselves as unprejudiced, are nonetheless surprisingly ignorant about sign language for the deaf. And, just as many of us tend to dislike or dismiss what we don't understand, those people are likely to regard sign language as crude or stupid. In fact, however, deafness does not make a person unintelligent any more than lameness does.

One common misunderstanding of sign language is that it consists entirely of the kind of imitative pantomime that hearing people engage in when they play a game of charades. If this were true, of course, hearing people would be able to understand nearly everything that manual signers silently 'say'. But in fact the hearing, unless they have been taught manual signs, understand almost nothing that the deaf say with their hands. The only exceptions to this general statement are the lower numbers, *one* and *two*, which are represented by one finger and by two fingers held upright, and a few actions, such as driving a car, which is represented by holding and moving the hands as if on a steering wheel.

Another common misunderstanding of sign language is that all of it consists of finger spelling--that is, of using the hands to represent letters of the alphabet. The only situation in which manual signers ordinarily use finger spelling is one in which they have to use names, like Jane Smith or Brownsville, that are not in daily use in their community. Otherwise, finger spelling would take far too much time, just

as spelling out loud does among hearing people. Although this misunderstanding does not imply that the deaf are simple minded, it does imply that sign language is merely an awkward substitute for speaking or writing. In fact, however, sign language is quite independent of speech. And it overlaps with writing only to the extent that logograms of the pictographic kind sometimes reproduce hand movements. When this happens, it is writing that imitates signing, not signing that imitates writing.

Furthermore, sign language makes effective use of some devices that speech and writing cannot use. Both writing and speech, for example, have to communicate in a strict sequence: one letter must come after the other, and one word must come after the other. But in sign language the two hands can convey two separate messages at the same time and so indicate dramatically that two quite different activities are or were going on at the same time. In this respect, sign language is sometimes more artistic than either talking or writing. At its most beautiful, signing is dancing with the hands. Yet this kind of hand dancing does more than just entertain; it also gives the same kind of information contained in written words or spoken sentences.

'Talking' Apes

One of the most interesting developments in sign language communication in recent years involves apes. Nearly 70 years ago, psychologists began trying to teach human language to our nearest nonhuman relatives, the great apes. For a long time, they had almost no success. The reason for this failure, it now turns out, is that they were using the wrong kind of language. They tried to get orangutans and chimpanzees to speak. But these animals have no voluntary control over their vocal cords. Apes can use their voices only when they are emotionally excited by fear, anger, or some other strong feeling. And then all they do is scream or grunt.

Apes, however, have excellent control over their arms, hands, and fingers. Observing this, a pair of psychologists began, in Nevada in 1966, to teach Ameslan to a young female chimpanzee named Washoe. By the time she was three years old, Washoe could make statements and ask questions. Her manual sign vocabulary amounted to about 300 words. Soon other chimpanzees and even some gorillas were being taught Ameslan, and many of them did as well as Washoe. Overall, their linguistic performance was equal to that of very young deaf children.

Does this mean that language is not a uniquely human skill? Scholars disagree in their answers to the question. Some scholars are so certain of the uniquely human character of language that they will admit apes to 'the language club' only when and if an ape writes a book!

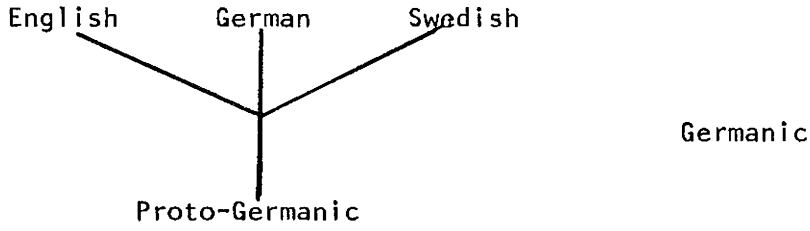
CHAPTER THREE

LANGUAGE TREES AND BRANCHES; WORD ROOTS AND STEMS

We mentioned in Chapter One the fondness linguists have for picturing languages as plants that grow and spread. Linguists like to write about language families as if these were trees with branches consisting of individual languages. They also like to divide words into parts and give these parts plant names, calling the most basic part of the word its root. When a root gets extended, linguists refer to the lengthened result as a stem.

Plant imagery of this kind has the advantage of making it clear that languages and language families, like plants and plant species, change with the passage of time. Change is equally evident, moreover, in speech, in writing, and in manual signing. Just as trees begin their existences as shoots without offshoots, so too language families begin as single languages. Linguists believe that 2,000 years ago--about the time when ancient Rome was changing from a republic to an imperial monarchy--there was only one Germanic language in northern Europe. This means that the ancestors of the people who now speak English, German, and Swedish could all understand each other's speech. They probably spoke different dialects, but these dialects are not likely to have differed from one another any more than British, Australian, and American English differ from one another today.

To illustrate the relationships among the Germanic languages of our time, we can draw a tree diagram, like this:



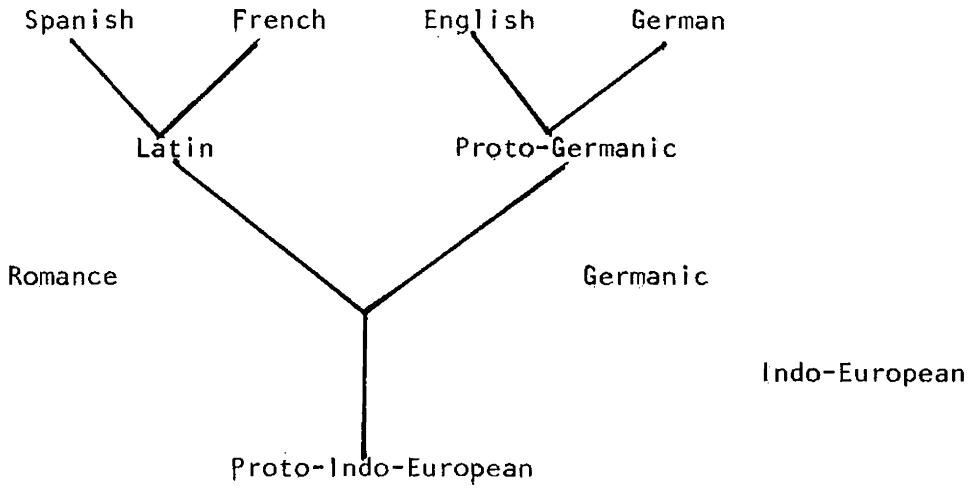
Because the trunk of this language tree is believed to have been a single language, we can refer to it, the way we did in Chapter One, as 'Proto-Germanic'. The name 'Germanic' can then be reserved for the tree as a whole.

As long as we are exploring the linguistic past, we can go beyond the time of ancient Rome to the time of ancient Sumeria, about 5,000 years ago, when the world's first cities were being built in what is now

Iraq. If we do this, we will reach a period when even the Germanic and Romance language families of our time were not yet distinct from each other. They were, at most, dialects of a single Indo-European language. This language is believed to have been spoken in eastern Europe and what is now the western part of the Soviet Union.

Families and Superfamilies

Because the Indo-European family is so much larger than the Germanic and Romance families which it contains, we will, from now on, refer to it as a superfamily. To illustrate the relationships among languages of the families in this superfamily, we now have to redraw our tree diagram, this way:



In this diagram, Romance and Germanic now appear as branches on the Indo-European trunk. Logically, then, in this larger view, English and German should be referred to as 'twigs' on the Germanic branch. But, like other scientists, linguists dislike pushing imagery of this kind to its logical extreme. Just as they avoid speaking of 'flowers' at the ends of word stems, so also they avoid speaking of 'twigs' in growing out from language branches. Instead, they content themselves with speaking of larger and smaller branches; and we shall do the same.

Word Roots

In Chapter One, we defined a root as the core of a word, the fundamental part to which other less crucial elements are added to make the word complete. The fact that the original meaning of the word *core* was

'heart' suggests another kind of word imagery to help us picture the relationship between parts of words. Instead of picturing a word as a plant, we can picture it as a body. The body can function without surface organs like hair but not without internal organs like the heart.

In English, many words, especially those that have just one syllable, consist of a root only, with nothing added to it. Examples of such root words are *book* and *read*. Other English words, called compounds, consist of two roots put together. Occasionally, the two compounded roots are identical, as in the word *so-so*, meaning 'neither very good nor very bad'. More often, though, the two roots are different, as in the case of the compound word *blackboard*.

Roots and Affixes

All the italicized words in the preceding paragraph are simple, in the sense that they consist of one or more roots without any other word elements. But most English words are complex, in the sense that they contain some element or elements other than roots. These elements are called affixes. The main difference between roots and affixes is that, as we have just seen, roots can sometimes stand alone and function as words. Affixes, however, can never stand alone. They must always be attached to roots or stems. In this way, they are like leaves on a plant.

There are three different kinds of affixes: first, prefixes; second, infixes; and third, suffixes. Prefixes come before roots. Infixes are found inside roots. And suffixes are added at the ends of roots.

The best known of all English prefixes is probably the negative prefix *un-*, meaning 'not', as in *unknown*, which is the opposite of *known*. Infixes are not common in English. But they do occur in the so-called 'strong verbs', like *sit*. To change the present tense form *sit* into the past tense form *sat*, you have insert the vowel *a* into it. (Before you insert the *a*, of course, you have to remove the *i*. For this reason, the *a* is called a replacive affix). The commonest of the three kinds of affix in English are suffixes. One of the best known of all these suffixes is the suffix *-ly*, which changes adjectives into adverbs, as in *quickly*, meaning 'in a quick manner'.

Affixes usually occur one at a time, as in the paragraph above. But they can also occur in pairs, as in the English word *un-re-stored*, which means 'not put back into its original condition'. Pairs of prefixes like this, however, are not as common as pairs of suffixes, as in the word *girl-ish-ness*, which means 'the quality of being like a girl'. Infixes in English, on the other hand, never come in such pairs.

Because English favors suffixes over prefixes and infixes, English words often have sequences of more than two suffixes. One linguist, looking for a word with the largest number of suffixes that English will allow, came up with *beautificationalistically*, meaning 'in the manner of someone trying to make things lovelier'! The root of this long-tailed monster of a word is *beau*. In French, from which it was borrowed, it means 'attractive looking' in a general sense. But in English it has come to have the more specialized meaning of 'handsome man' or 'boy friend'. What suffixes can you find in the word *beautificationalistically?* To help you answer this question, here are two hints. First, the development of the meaning of this word will be clearer if you start with the complex stem *beauty* rather than with the simple root *beau*. And second, although some linguists chop their words up into smaller pieces than others do, all linguists agree that there are at least eight suffixes in *beautificationalistically*.

In talking and thinking about languages and their parts, such as words, it does not greatly matter whether we use plant imagery or body imagery. In one case, we'll speak of roots and branches; in the other case, of hearts and limbs. In either case, however, we'll be recognizing that language is a living thing which grows and changes as time passes. Most linguists, in fact, would probably go further and say that language is a lively thing, full of puzzles and surprises which are endlessly fascinating to people who study them. Needless to say, those linguists--including the one who wrote this book--hope that you will come to feel the same way about the liveliness and the fascination of language.

CHAPTER FOUR

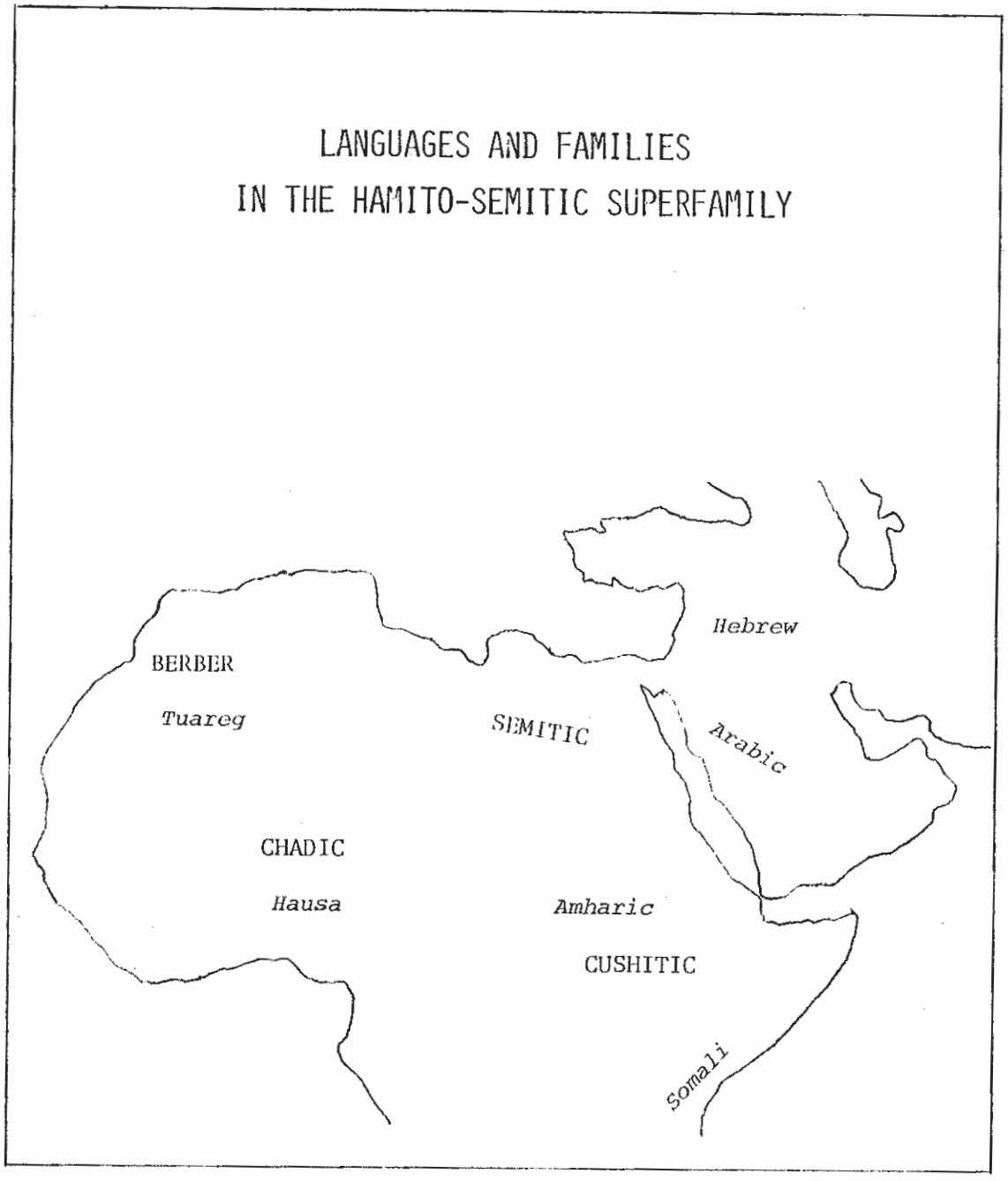
SOME WELL KNOWN SPEECH FAMILIES

We've seen that, of the three forms which language takes, spoken language is the only universal one--the only one found among all peoples from simple hunters and food-gatherers to dwellers in large cities. We've also talked about some speech families, such as the Germanic family, to which English belongs, and the Romance family, to which French belongs. And we've observed that families themselves often cluster together to form superfamilies, as Germanic and Romance do to make up the Indo-European superfamily.

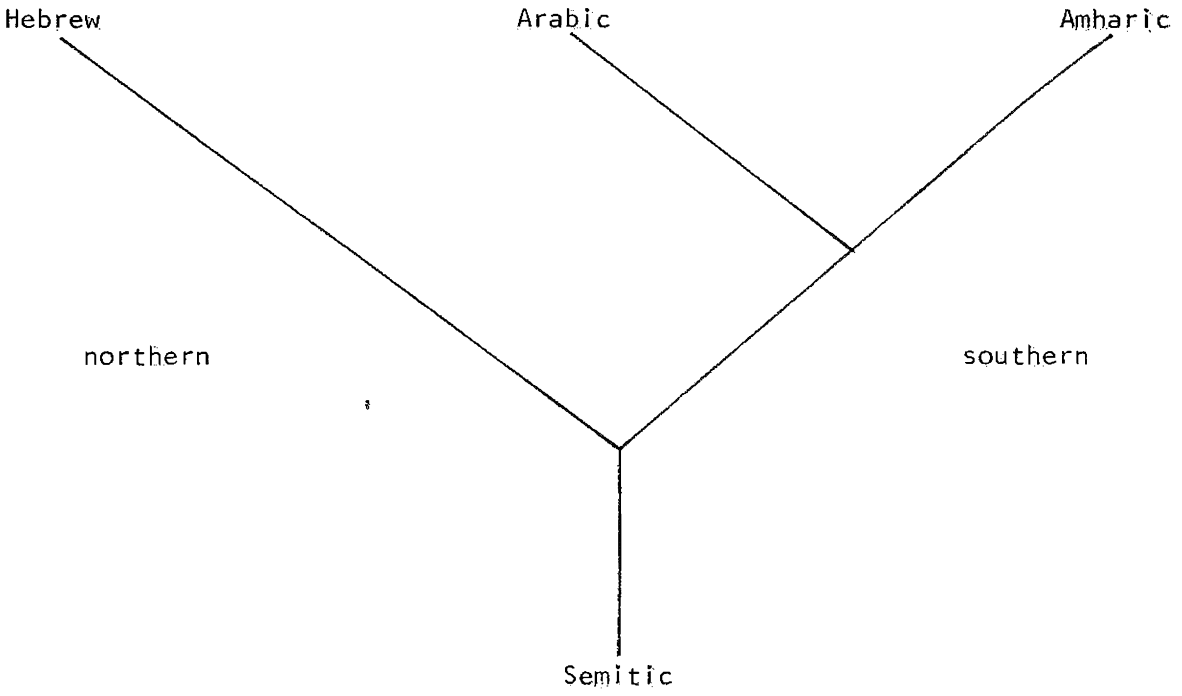
Because the Indo-European superfamily is so big and so important to us, we are going to devote all of Chapter Five to it. In this chapter, we will discuss seven other superfamilies: two from Africa, two from Asia, one from Oceania, one from North America, and one from South America.

Hamito-Semitic

The superfamily of North Africa and southwestern Asia is called Hamito-Semitic. It gets its name from the fact that its speakers used to be thought to be descendants of Noah's sons Ham and Shem, mentioned in the Bible. From a historical point of view, it can be regarded as the world's most important superfamily, because it was put into written form before any other superfamily was. Hamito-Semitic contains four smaller families--Berber, spoken mostly in the western Sahara Desert; Chadic, spoken mostly around Lake Chad; Cushitic, spoken in 'the horn' of East Africa; and Semitic, spoken along the North African coast and in southwestern Asia. The most important Berber language is probably Tuareg, spoken by 'the veiled men of the desert' in the oases of Niger. The only important Chadic language is Hausa, spoken mainly in northern Nigeria, which has become the leading trade language of West Africa. The most important Cushitic language is Somali, the official language of Somalia. In the Semitic family, there are three national languages: Amharic, the official language of Ethiopa; Hebrew, the official language of Israel; and Arabic, the official language of most countries between Senegal and Iran. The countries that use Arabic as the language of daily life are: Mauritania, Morocco, Algeria, Tunisia, Libya, Egypt, Sudan, Saudi Arabia, North Yemen, South Yemen, Oman, the Persian Gulf Emirates, Jordan, Lebanon, Syria, and Iraq. (In addition, all the Islamic countries from Turkey to Indonesia use Arabic as their language of prayer.)


LANGUAGES AND FAMILIES
IN THE HAMITO-SEMITIC SUPERFAMILY
Hebrew
BERBER
Tuareg
SEMITIC
Arabic
CHADIC
Hausa
Amharic
CUSHITIC
Somali

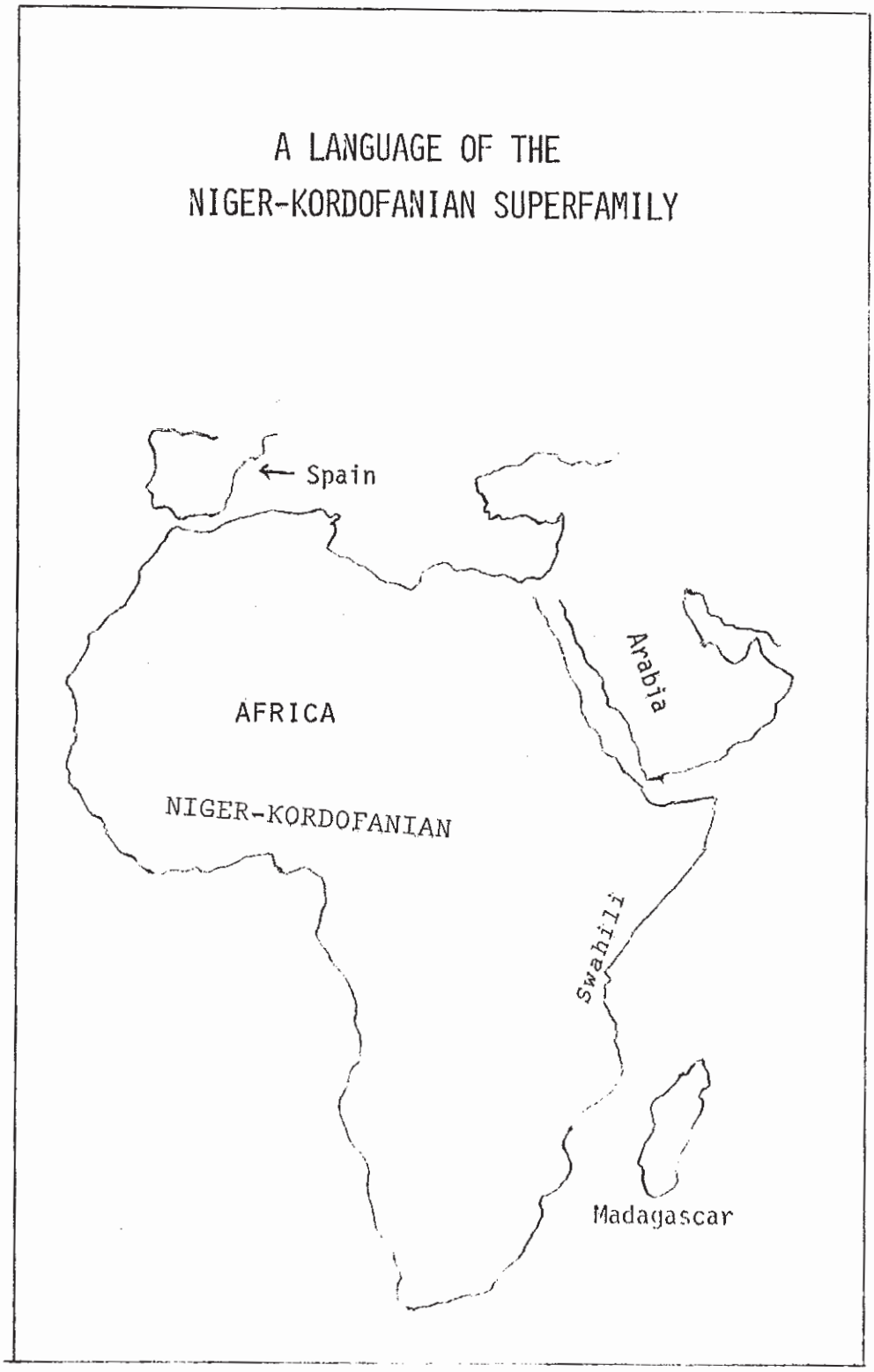
The Semitic family tree looks like this:



The reason why the Arabic branch is shorter than the Hebrew branch is that Arabic and Amharic were joined for a while as a single South Semitic branch before they too split apart.

Niger-Kordofanian

The superfamily of most of Africa south of the Sahara Desert is called Niger-Kordofanian. It gets its name from the Niger river of West Africa and from Kordofan, a province of Sudan in northeast Africa. Nearly all of its speakers are black-skinned, like American Negroes. The Niger-Kordofanian superfamily contains four smaller families--Atlantic, Gur, Kwa, and Bantu. The most important Atlantic language is Fulani, spoken by wandering cattle-herders all the way from Senegal to Cameroon along the West African coast. The most important Gur language is Mossi, the chief language of Upper Volta. The most important Kwa language is Yoruba, which is spoken primarily in West Africa. (It is also spoken, surprisingly enough, in small black communities in Cuba and Brazil. The reason for this is that many Yoruba-speakers were transported to both North and South America as slaves by the Portuguese and the Spanish.) And the most important Bantu language is Swahili, which is now the official language of three East African countries: Kenya, Uganda, and Tanzania.


A LANGUAGE OF THE
NIGER-KORDOFANIAN SUPERFAMILY
Spain
Arabia
AFRICA
NIGER-KORDOFANIAN
Swahili
Madagascar

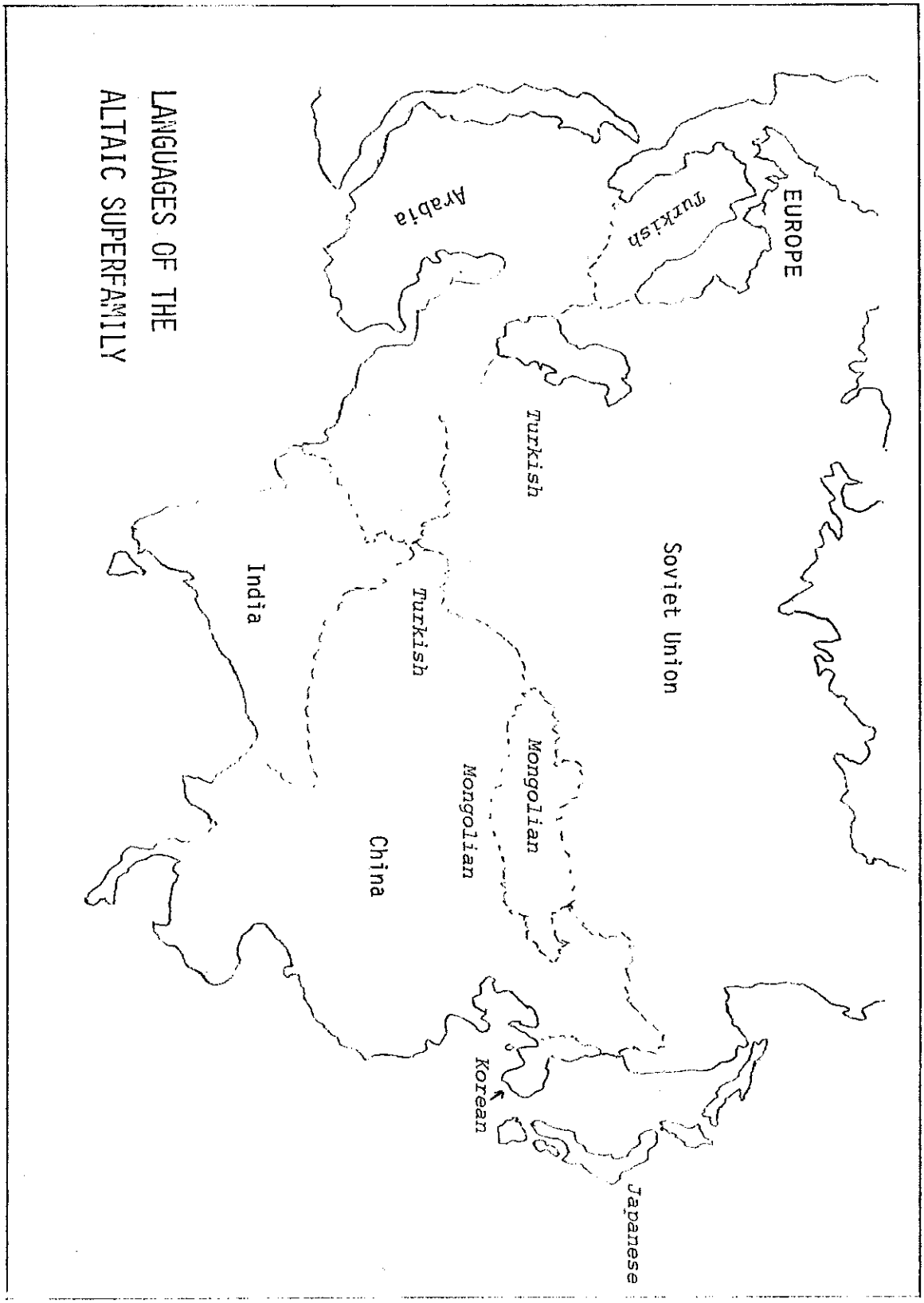
Altaic

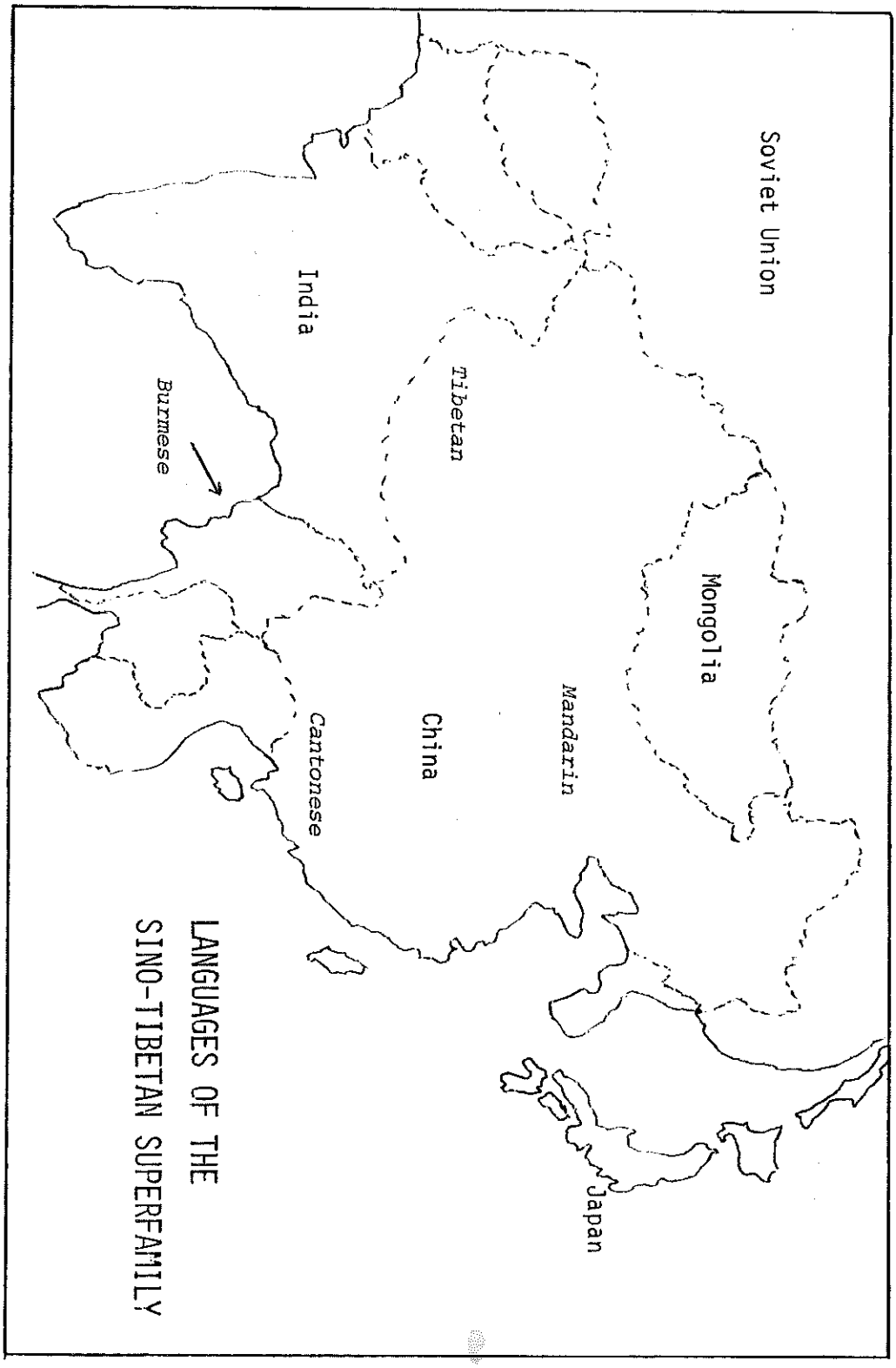
The most wide-spread superfamily in Asia is Altaic. The Altaic superfamily gets its name from the Altai mountains of Central Asia. Most of its speakers are yellow-skinned, like the Chinese. The Altaic superfamily contains five smaller families: Turkish, Mongolian, Tungus, Korean, and Japanese. Ottoman Turkish is the national language of Turkey (where, however, most people have the dark white skin color of the Greeks, Arabs, and Iranians). Khalkha Mongolian is the official language of the Mongolian People's Republic. The most important Tungus language is Manchu, which is no longer widely spoken but which used to be the chief language of Manchuria. Korean is the national language of both North Korea and South Korea. And Japanese is the national language of Japan.

Sino-Tibetan

The Asian superfamily with the largest number of speakers is Sino-Tibetan. It gets its name from the fact that it includes Chinese and Tibetan, Chinese having over a billion speakers and Tibetan being spoken on a plateau so high and so wide that it is often called 'the roof of the world'. Nearly all of the speakers of Sino-Tibetan are yellow-skinned. The chief families within the Sino-Tibetan superfamily are Chinese, Burman, and Tibetic. The only official language in the Burman family is Burmese, the national language of Burma. The only important language in the Tibetic family is Tibetan, the chief language of Tibet.

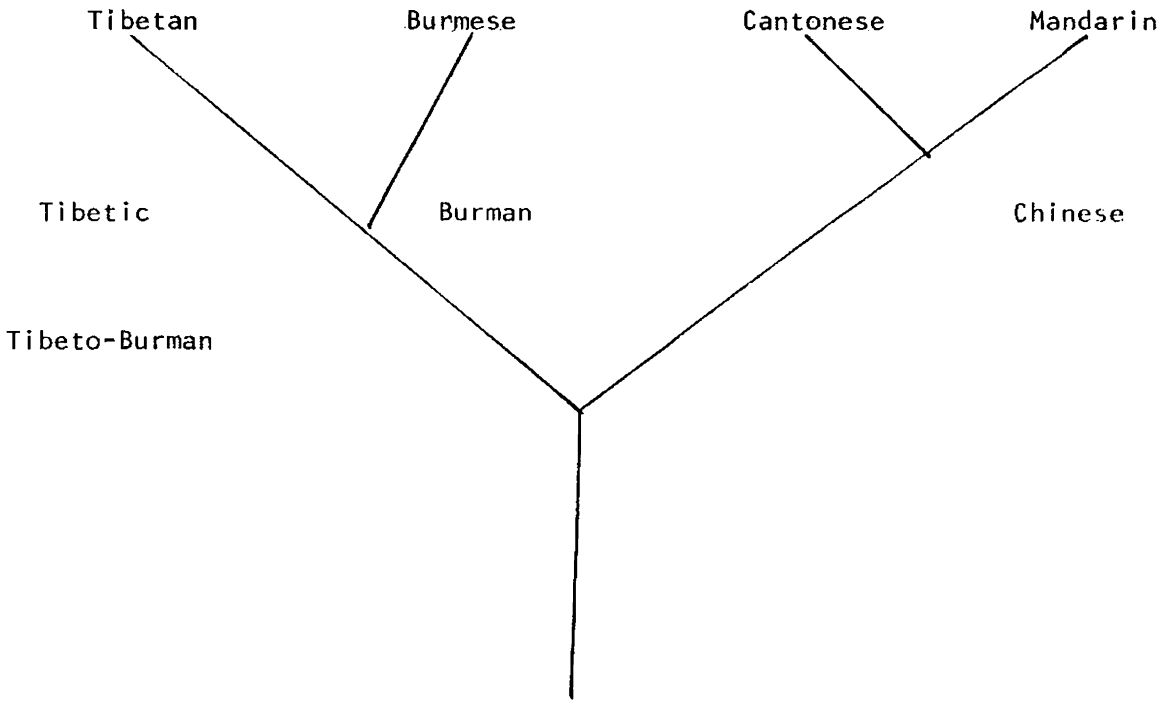
The language situation in China is so important that it deserves a paragraph to itself. Both we and the Chinese themselves use the term 'Chinese' as though it referred to a single spoken language, like English or French. Actually, however, Chinese is a speech family containing half a dozen languages, each of which is spoken by at least 30 million people. Of these six, the two best known are probably Mandarin, the official spoken language of both China and Taiwan, and Cantonese, the ancestral language of most Chinese-Americans. The reason why the Chinese themselves refer to these languages as 'dialects' and to the family they comprise as one language is that all Chinese and Taiwanese use the same writing system--the ideographic system mentioned earlier. This fact alone should make it clear that writing is largely independent of speech and that, to some peoples, writing seems more important than speaking. By the Chinese, at any rate, spoken languages are seen as dividing their country, but written language is seen as uniting it.


LANGUAGES OF THE
ALTAIC SUPERFAMILY
EUROPE
Turkish
Arabia
Turkish
Soviet Union
India
Turkish
Mongolian
Mongolian
China
Korean
Japanese



LANGUAGES OF THE
SINO-TIBETAN SUPERFAMILY

The Sino-Tibetan family tree looks like this:



The reason why the Cantonese branch looks shorter than the Burmese branch is that Cantonese belongs in the same Chinese family as Mandarin but Tibetic and Burman are separate families.

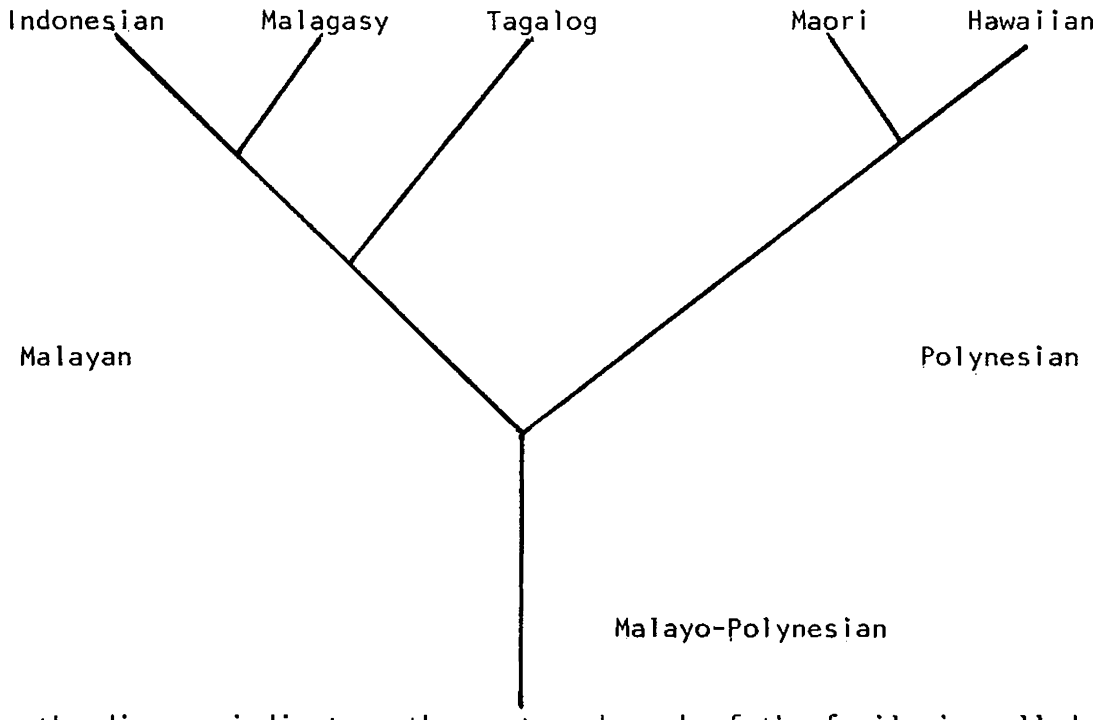
Austro-Tai

The Austro-Tai superfamily is the only oceanic superfamily. That is, Austro-Tai languages are the only ones that are spoken predominantly on islands rather than on continents. The Austro-Tai superfamily links Africa with America by way of Southeast Asia. It does this because its languages are spoken on islands in both the Indian Ocean and the Pacific Ocean. Austro-Tai gets its name from Latin *auster*, 'the south wind' (because it originated in the south of Asia), and Tai, the name of a group of Southeast Asian peoples (of whom the Thai are only one). Most speakers of Austro-Tai languages are brown-skinned--neither as dark as the African blacks nor as light as the European and American whites. Until the Europeans colonized America about 500 years ago, there was no language group that covered so wide an expanse of the world's surface as Austro-Tai. From Madagascar, the westernmost island of Austro-Tai speech, to Easter Island, the easternmost, the distance is about 13,000 miles--over half the circumference of the earth!

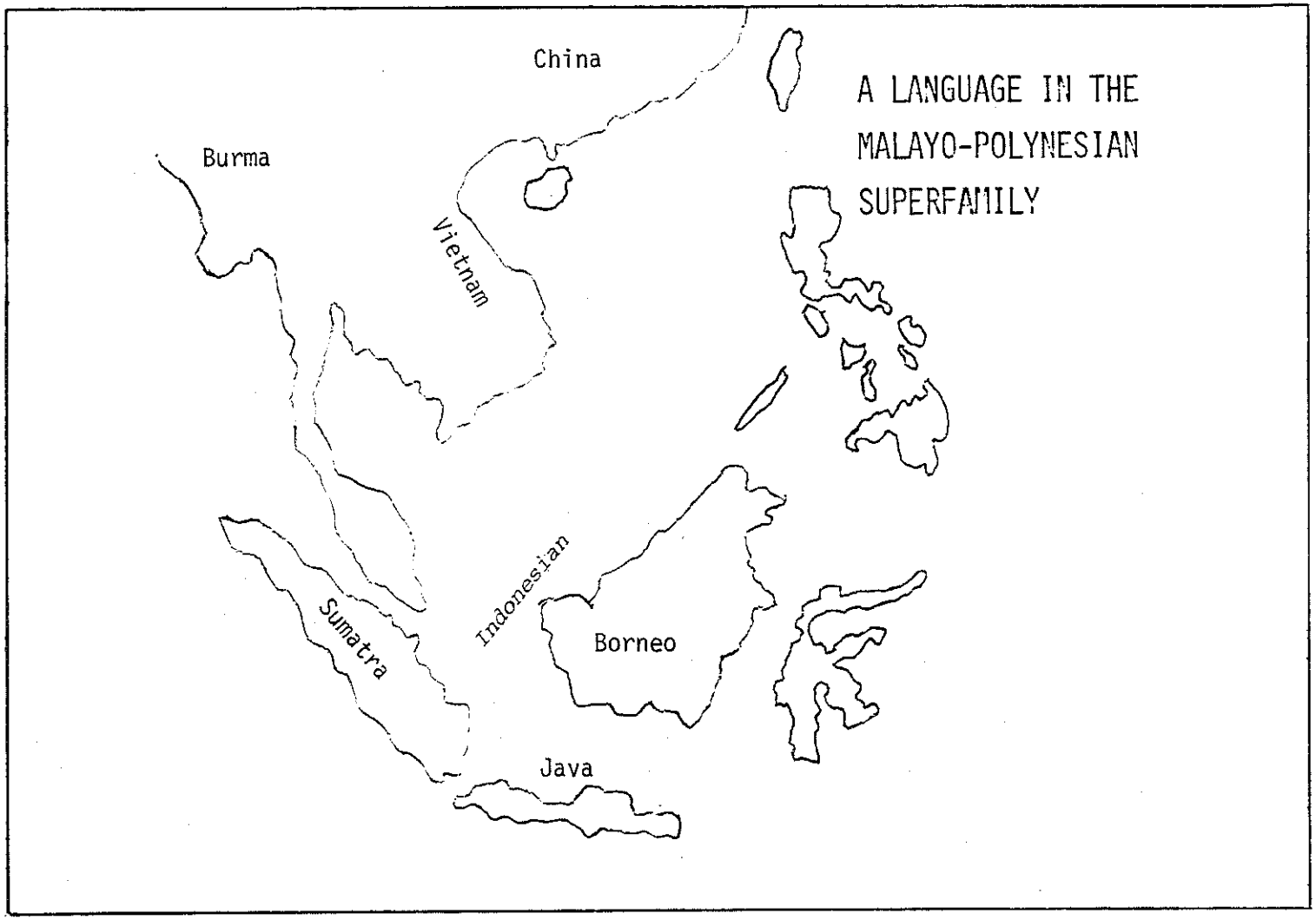
The two main families within the Austro-Tai superfamily are Kam-Tai and Malayo-Polynesian. All the Kam-Tai languages are spoken on the mainland of Southeast Asia. The two official languages in this family are Thai, the national language of Thailand (which used to be called Siam), and Lao, the national language of Laos.

Among the most important languages in the Malayo-Polynesian family are Malagasy, the national language of the Malagasy Republic in Madagascar; Indonesian, the national language of Indonesia; Tagalog, the national language of the Philippine Islands; Maori, the native language of the Polynesians of New Zealand; and Hawaiian, the native language of the state of Hawaii.

A tree diagram of the Malayo-Polynesian family looks like this:



As the diagram indicates, the western branch of the family is called Malayan, and the eastern branch is called Polynesian. The only 'twig' on the Malayan branch which is not found where you might expect it is Malagasy. In spite of the fact that it is now the westernmost of all the Malayo-Polynesian languages, comparisons with other Malayan languages show that Malagasy originally came from Borneo, an Indonesian island located to the east of the Malayan heartland.


China
Burma
Vietnam
A LANGUAGE IN THE
MALAYO-POLYNESIAN
SUPERFAMILY
Indonesian
Sumatra
Borneo
Java

American Indian Languages

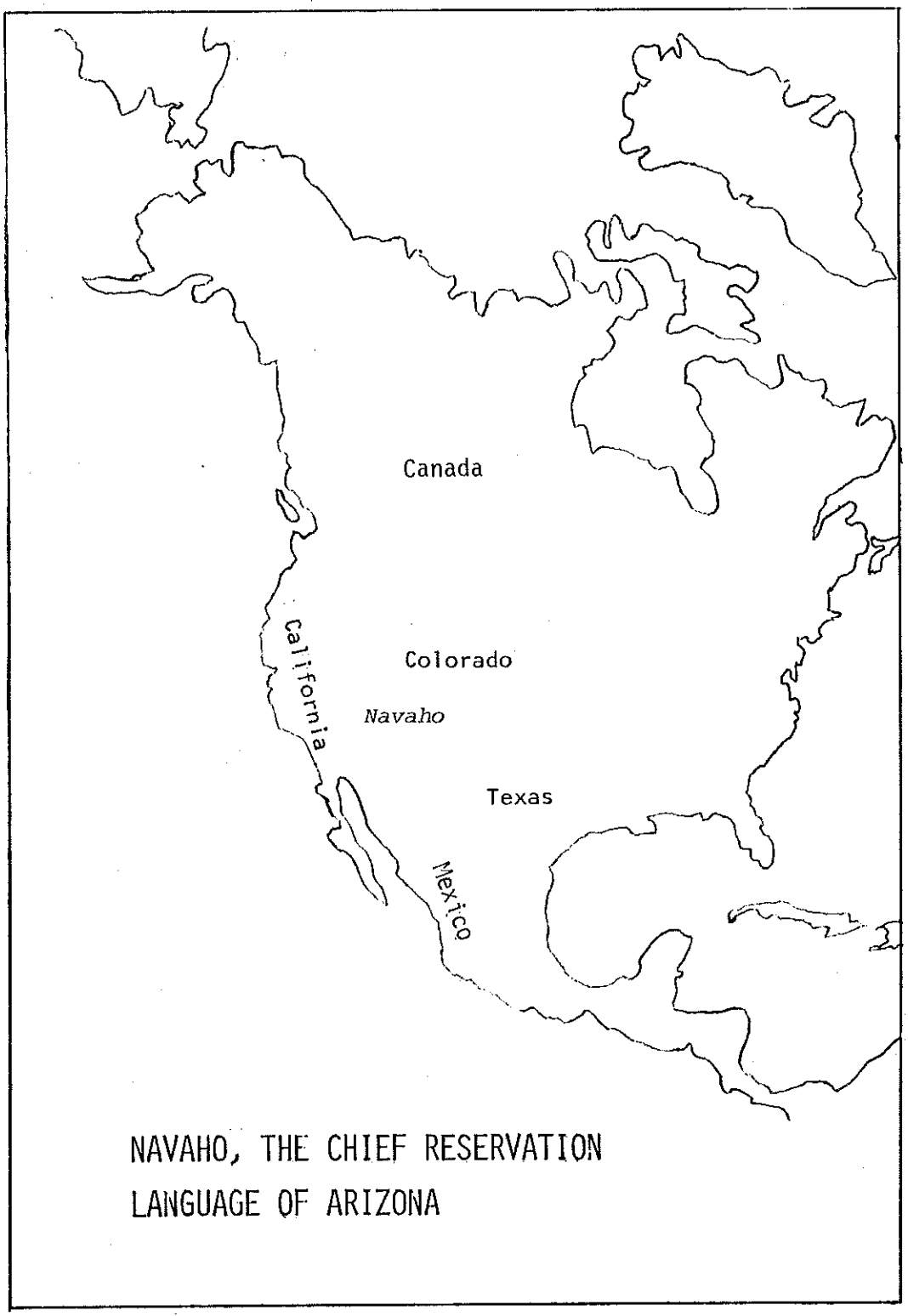
We now leave the speech families of the Eastern Hemisphere, consisting of Eurasia and Africa, and move to the speech families of the Western Hemisphere, consisting of North and South America. Before the Vikings arrived in Greenland and Newfoundland about 1,000 years ago, no European languages were spoken in either of the Americas. After the arrival of the Portuguese, Spanish, French, and English, however, the languages of the American Indians began to disappear. Sometimes this disappearance was due to the disappearance of the red-skinned Indians themselves; at other times it was due to the Indians' having adopted European ways, including European languages.

In the United States today, the only American Indian language that is spoken by as many as 100,000 people is Navaho, the chief reservation language of northeastern Arizona. In North America as a whole, the only such language having as many as a million speakers is Nahuatl, the language of the former Aztec Empire, spoken in central Mexico.

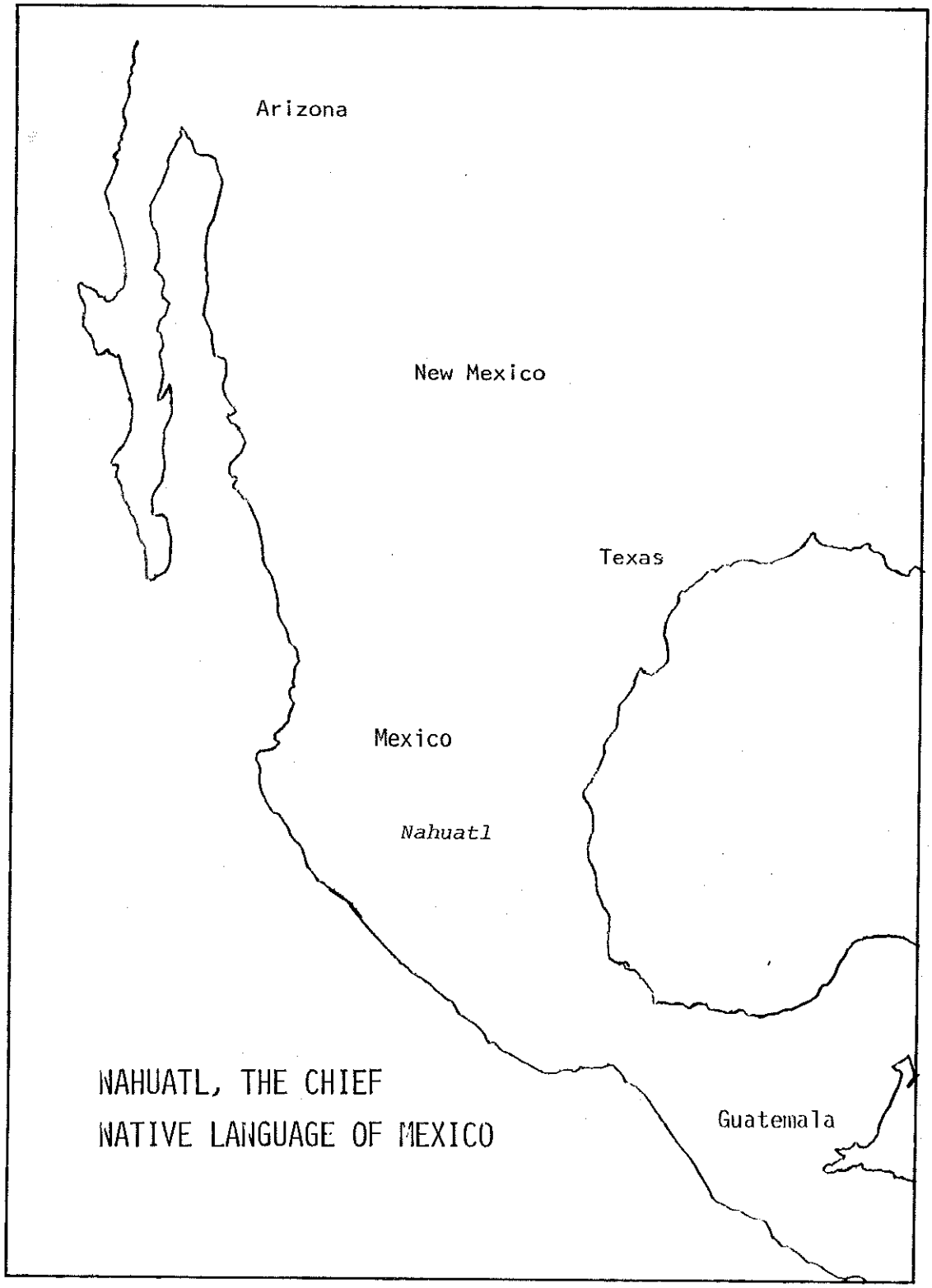
In South America, there are several languages having between one and ten million speakers each. Nonetheless, in some parts of the continent, most notably the great Amazon River basin, American Indian languages are literally disappearing at the rate of about one every week. The chief reason for these disappearances seems to be the destruction of the Amazon basin rain forest, where the Indians live by small-scale hunting and vegetable gardening. Their hunting preserves and vegetable gardens are being rapidly replaced by cattle ranches and logging industries of Brazilian or European ownership. It is likely that, by the end of this century, only a handful of native languages will remain on the South American continent.

Iroquois-Sioux

In North America, the superfamily whose languages are best known, at least by name, to the people of the United States is probably Iroquois-Sioux. As its name suggests, Iroquois-Sioux contains two families--Iroquois and Sioux. In the Iroquois family, the most important language is undoubtedly Cherokee, which used to be spoken throughout North and South Carolina but which is now spoken chiefly on the Cherokee Reservation in Oklahoma. What makes Cherokee most interesting to linguists is the fact that it is the only Indian language north of Mexico for which a writing system was invented by a native speaker of the language. The writing system, a syllabic one, was created in 1821 by Chief Sequoyah, after whom the giant redwood trees of the Pacific coast are named. Today, over a century later, Sequoyah's syllabic writing is still used for the printing of Cherokee books and newspapers.



NAVAHO, THE CHIEF RESERVATION
LANGUAGE OF ARIZONA

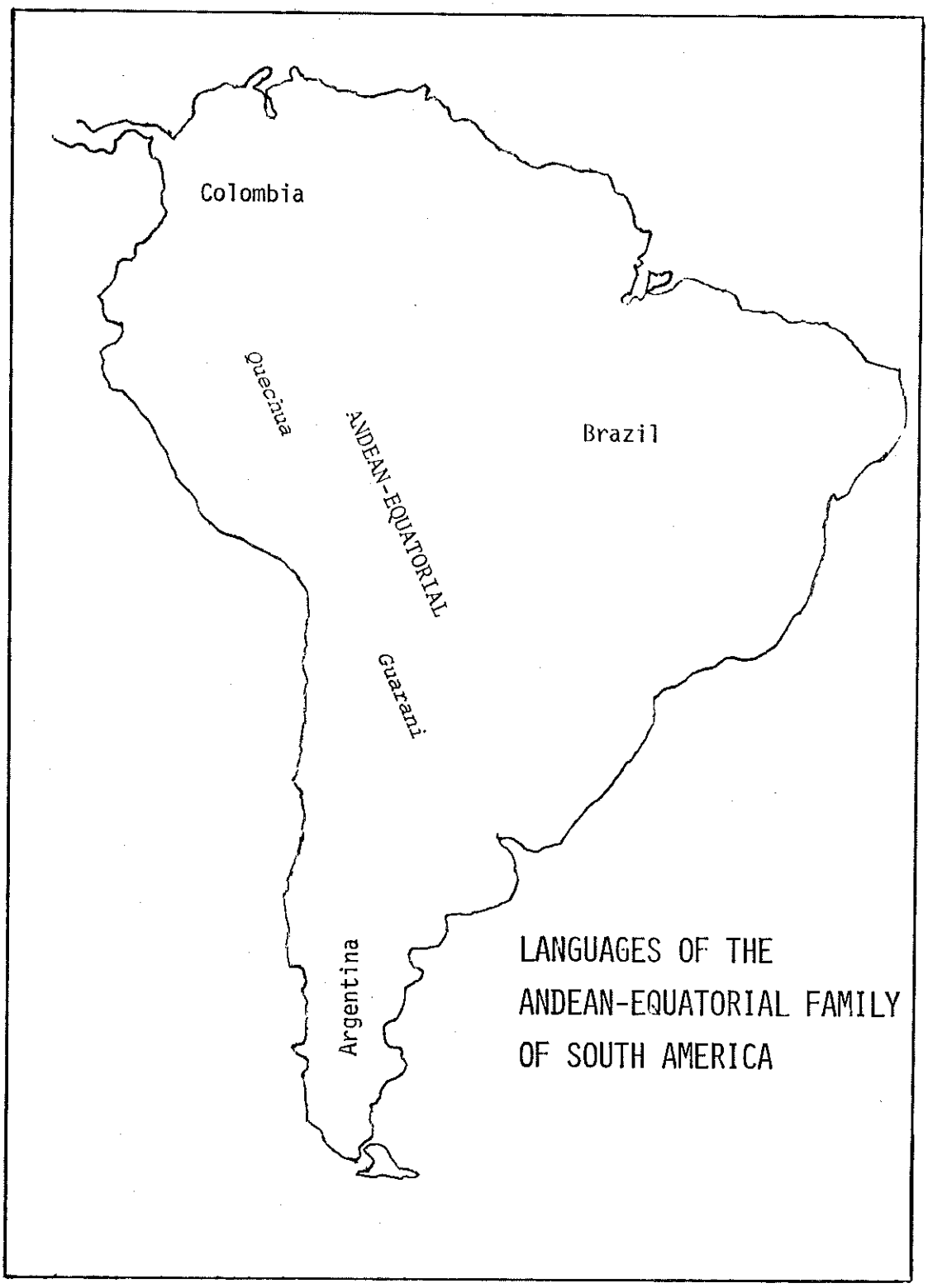

Arizona
New Mexico
Texas
Mexico
Nahuatl
Guatemala
NAHUATL, THE CHIEF
NATIVE LANGUAGE OF MEXICO

Another Iroquois language is Mohawk. The Mohawk tribe used to live in upstate New York, but most of them now live in Ontario, Canada. Both Lake Mohawk in New Jersey and the Mohawk River in New York are named after them. The preferred occupation of Mohawk men today is high-rise construction work in big cities from New York to Toronto.

The Sioux Indians used to be buffalo hunters on the Great Plains of the central United States. Of the Sioux tribes that remain, the best known are probably the Dakota, who live on reservations in both North and South Dakota.

Andean-Equatorial

In South America, the most important superfamily is called Andean-Equatorial. Its importance comes from the fact that it contains at least two languages spoken by millions of American Indians. It is called Andean-Equatorial because some of the speakers of its languages live in the Andes mountains while others live in the tropical lowlands on the equator. The Andean-Equatorial superfamily contains two major families--Andean and Tupian. The most important Andean language is Quechua, which used to be the official language of the Inca Empire. It is still spoken by over six million farmers in Colombia, Ecuador, Peru, Bolivia, Chile, and Argentina. The most important Tupian language is Guarani, which, along with Spanish, is the official language of Paraguay.


Colombia
Quechua
ANDEAN-EQUATORIAL
Brazil
Guarani
Argentina
LANGUAGES OF THE
ANDEAN-EQUATORIAL FAMILY
OF SOUTH AMERICA

CHAPTER FIVE

THE INDO-EUROPEAN SPEECH FAMILY

In Chapter Five, we discussed seven families of languages so large that they have to be called superfamilies. Each of these superfamilies contains two or more smaller families.

The only superfamily which we did not discuss was the largest of them all--the Indo-European family. It is largest in three senses. First, over two billion people, more than half of all the people on earth, speak Indo-European languages. Second, a larger area of the earth's surface is occupied by speakers of Indo-European languages than by speakers of any of the other superfamilies. Europe, Australia, and the whole of the Western Hemisphere are now mostly Indo-European in speech. And third, international affairs are dominated by Indo-European speakers. The United States, the Soviet Union, England, France, and West Germany are among the richest and most powerful nations on earth. And they are all Indo-European in speech.

Besides these three reasons, there is a fourth reason why we need an entire chapter on the Indo-European superfamily. Our own language, English, is Indo-European. Most people want to know more about themselves and their relatives. In the same way, they can be expected to show a special interest in their own language and the languages most closely related to it.

The Indo-European superfamily contains eight major families. The rough geographic positions of these eight families are represented in the oblong box below:

Celtic	Germanic	Baltic	Slavic
Romance	Hellenic	Iranian	Indic

Celtic

The Celtic family contains four languages, three of which are spoken in the British Isles. The one not spoken there is Breton. Breton is spoken in Brittany, a province in northwestern France.

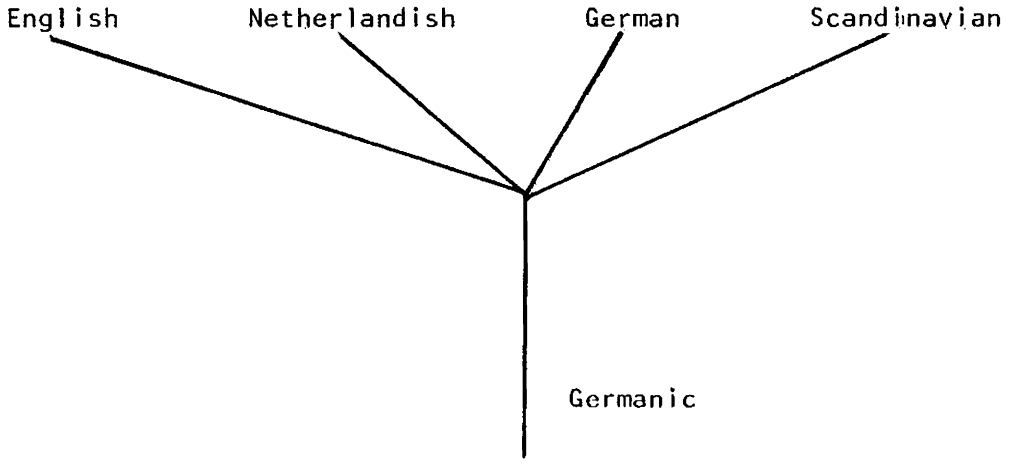
A second Celtic language is Welsh. Welsh is spoken in Wales, just west of England. A third is Scots Gaelic, spoken in the far north of Scotland, just north of England. And a fourth is Irish Gaelic. Irish Gaelic is an official language in the Irish Free State, even though it is spoken only in the far west of Ireland.

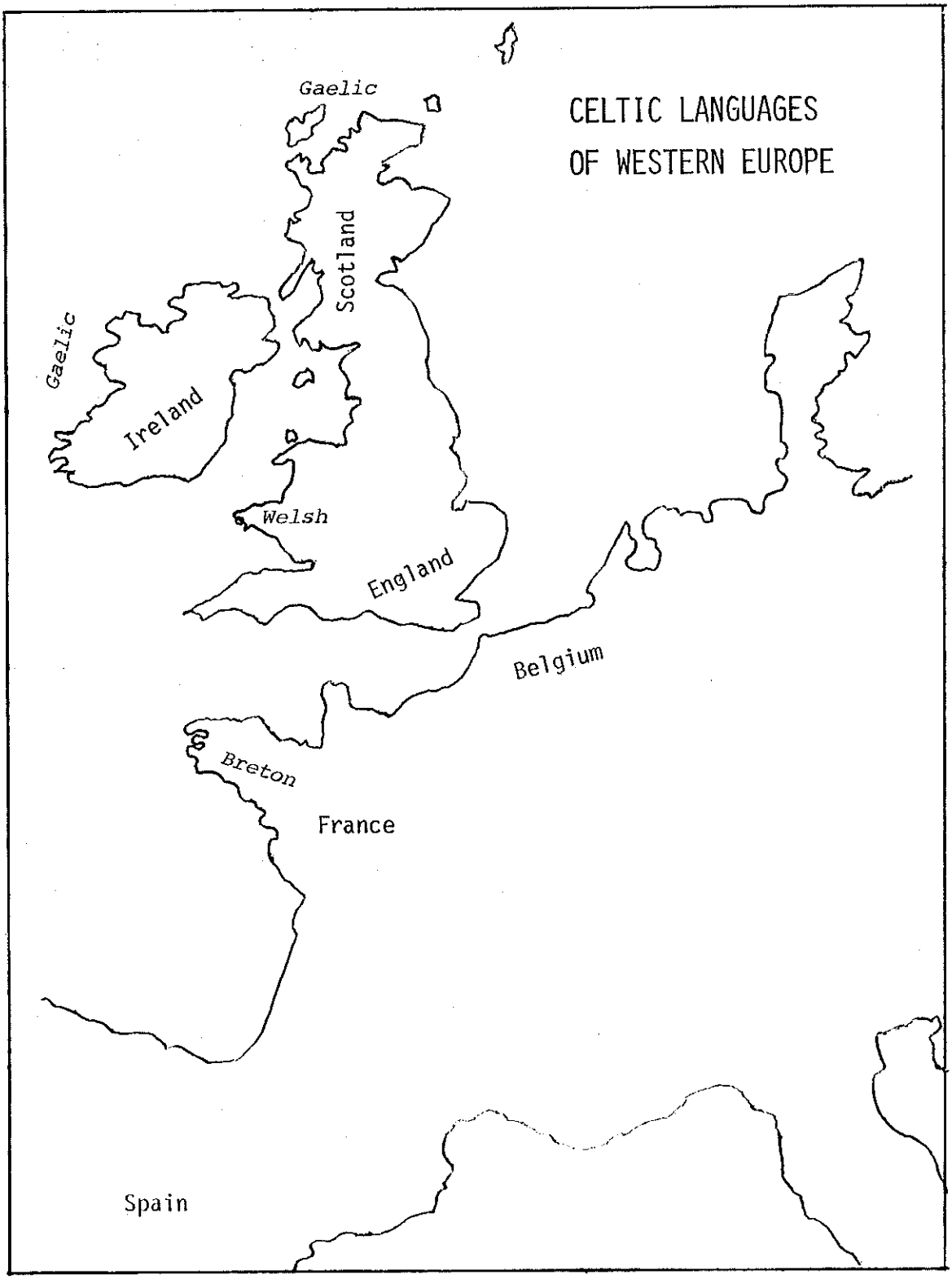
Fewer than three million people still speak Celtic languages. In France, Breton is being replaced by French. In the British Isles, Welsh and both forms of Gaelic are being replaced by English. In the United States, Celtic speech has left its clearest traces in family names. The name Morgan, for instance, is Welsh; the name Murphy is Irish; and the name McDonald is Scotch.

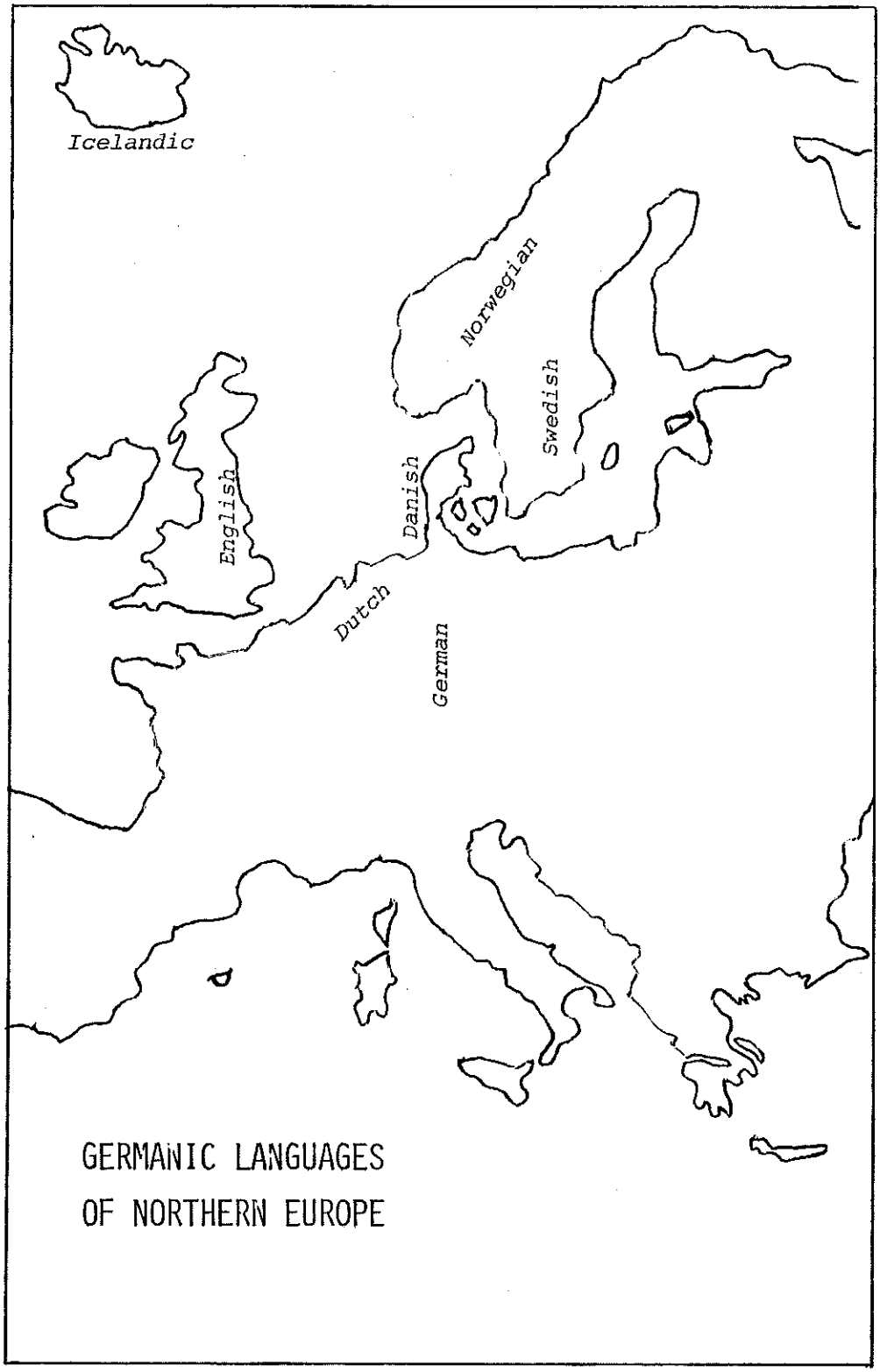
Germanic

Like the Celtic languages, the Germanic languages are spoken in northwestern Europe. But, unlike the Celtic languages, the Germanic languages are spoken by 500 million people.

The Germanic family tree has four branches on it, as this stick picture shows:




CELTIC LANGUAGES
OF WESTERN EUROPE
Gaelic
Scotland
Gaelic
Ireland
Welsh
England
Belgium
Breton
France
Spain

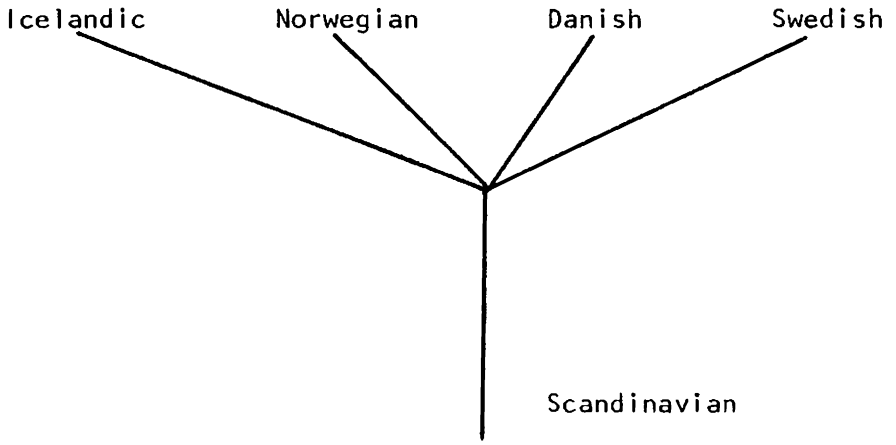

Icelandic
Norwegian
Swedish
Danish
English
Dutch
German
GERMANIC LANGUAGES
OF NORTHERN EUROPE

Two of the branches--English and German--have only one language on each of them. English is spoken by about 400 million people in the British Isles, the United States, Canada, Australia, and New Zealand. German is spoken by about 100 million people in East Germany, West Ger- Germany, Austria, and Switzerland.

Each of the other two branches of Germanic, however, has more than one language. The Netherlandish branch has two languages on it. One of these is Dutch, the national language of the Netherlands, or Holland. The other one is Afrikaans, which is, along with English, the official language of the Union of South Africa. (Afrikaans was brought to southern Africa over 300 years ago by settlers from the Netherlands. It is called Afrikaans because it is the African form of Netherlandish.)

The Scandinavian branch of the Germanic family has four languages on it. One of these is Icelandic, the national language of Iceland in the North Atlantic Ocean. Another is Norwegian, the national language of Norway, on the western side of the Scandinavian peninsula. A third is Danish, the national language of Denmark, itself a peninsula just north of Germany. And the fourth is Swedish, the national language of Sweden, on the eastern side of the Scandinavian peninsula.

A stick picture of the Scandinavian languages looks like this:



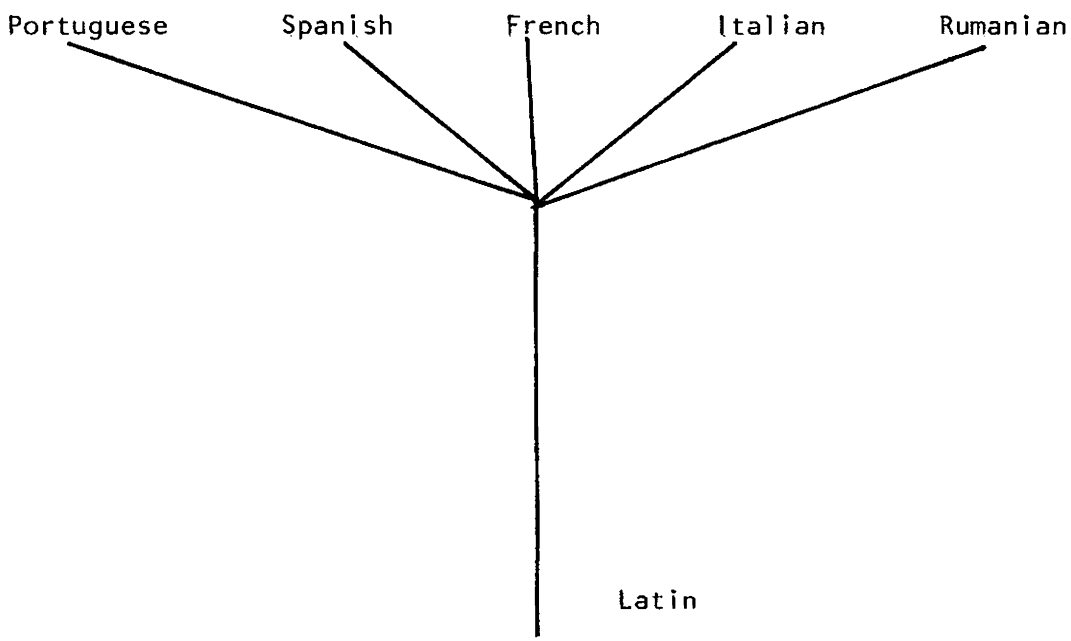
Here, the upright line at the bottom is a branch, and the four Scandinavian languages that grew from it are the 'twigs' on the branch.

Romance

Languages of the Romance family are spoken by almost 400 million people. Most of them live in those parts of southern Europe which were once part of the ancient Roman Empire. The mother language of the Romance family was Latin, the official language of the Roman Empire.

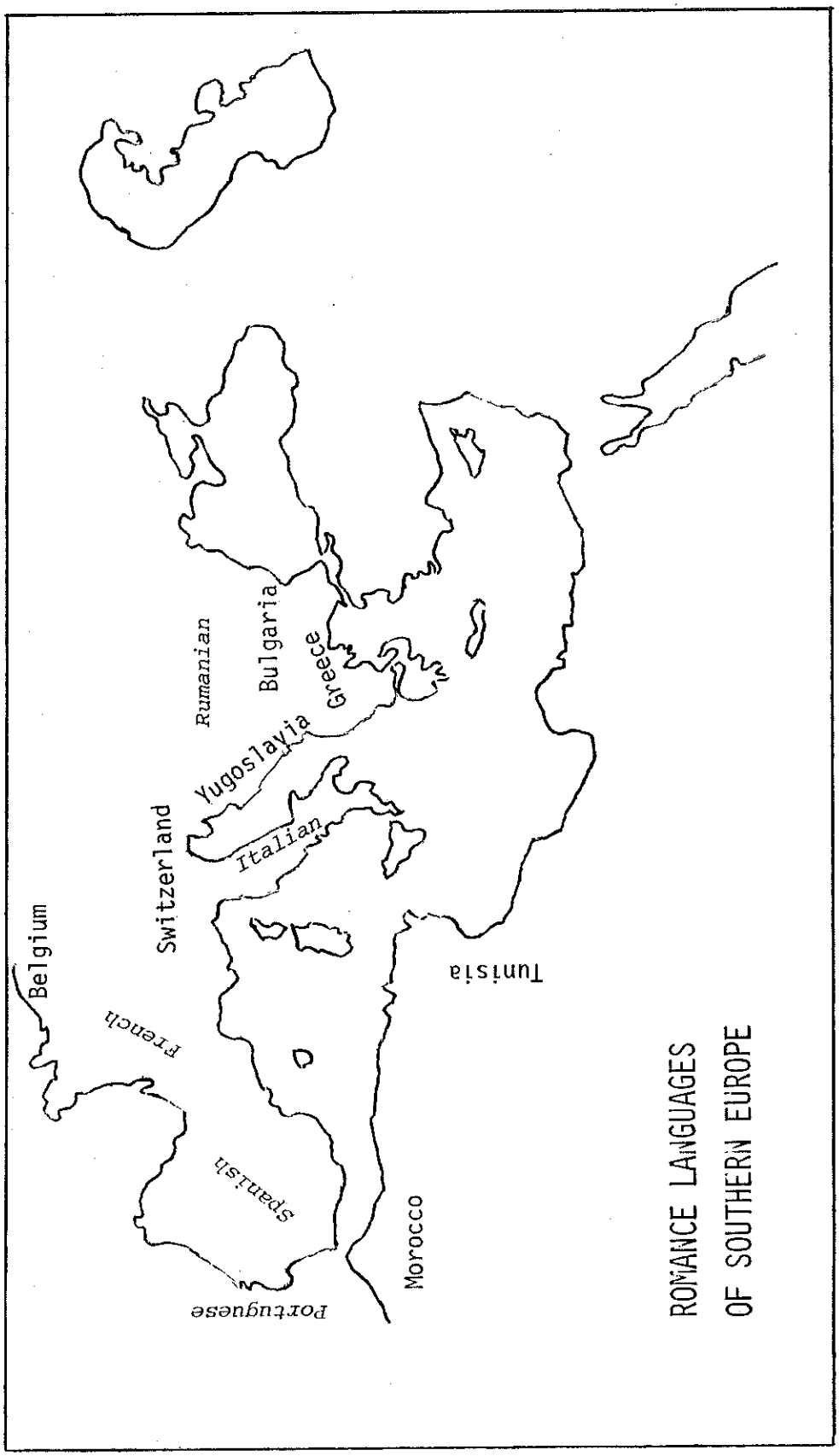
The five daughter languages of mother Latin which have become official languages today are: Portuguese, Spanish, French, Italian, and Rumanian. Portuguese is the language of Portugal in Europe and of Brazil in South America. Spanish is the language of Spain and of all the Latin American countries except Brazil. French is the language of France and of Quebec Province in Canada. Italian is the language of Italy. And Rumanian is the language of Rumania, in the Balkan peninsula. (The name of the Rumanian language, like the name of the Romance family, means 'Roman'.)

A stick picture of the Romance languages looks like this:



Hellenic

The Hellenic family is like a household with only one person in it. The only language in the Hellenic family is Greek. But we cannot ignore the Hellenic family because its early form, ancient Greek, has influenced


Belgium
Switzerland
Yugoslavia
Bulgaria
Greece
Tunisia
Morocco
French
Spanish
Portuguese
Italian
Rumanian
ROMANCE LANGUAGES
OF SOUTHERN EUROPE

dozens of other languages. It has done this chiefly by providing technical vocabulary for them. (Examples of English words borrowed from Greek are given in Chapter Seven.)

Greek is today the national language of Greece, at the southern tip of the Balkan peninsula. In ancient times, Greek was the official lanlanguage of the Great Macedonian Empire, which stretched eastward to India in Asia and southward to Egypt in Africa.

Baltic

Languages of the Baltic family are spoken by fewer than 5 million people on the southern shore of the Baltic Sea. The better known language in the family is Lithuanian. Lithuanian is spoken in Lithuania, just north of Poland in northeastern Europe. The other language in the family is Latvian. Latvian is spoken in Latvia, just north of Lithuania. Latvia and Lithuania used to be independent countries. But they are now parts of the Soviet Union. Latvian and Lithuanian grade school classes are taught in Latvian and Lithuanian. In college, however, students must learn Russian to study science or prepare for careers in the professions.

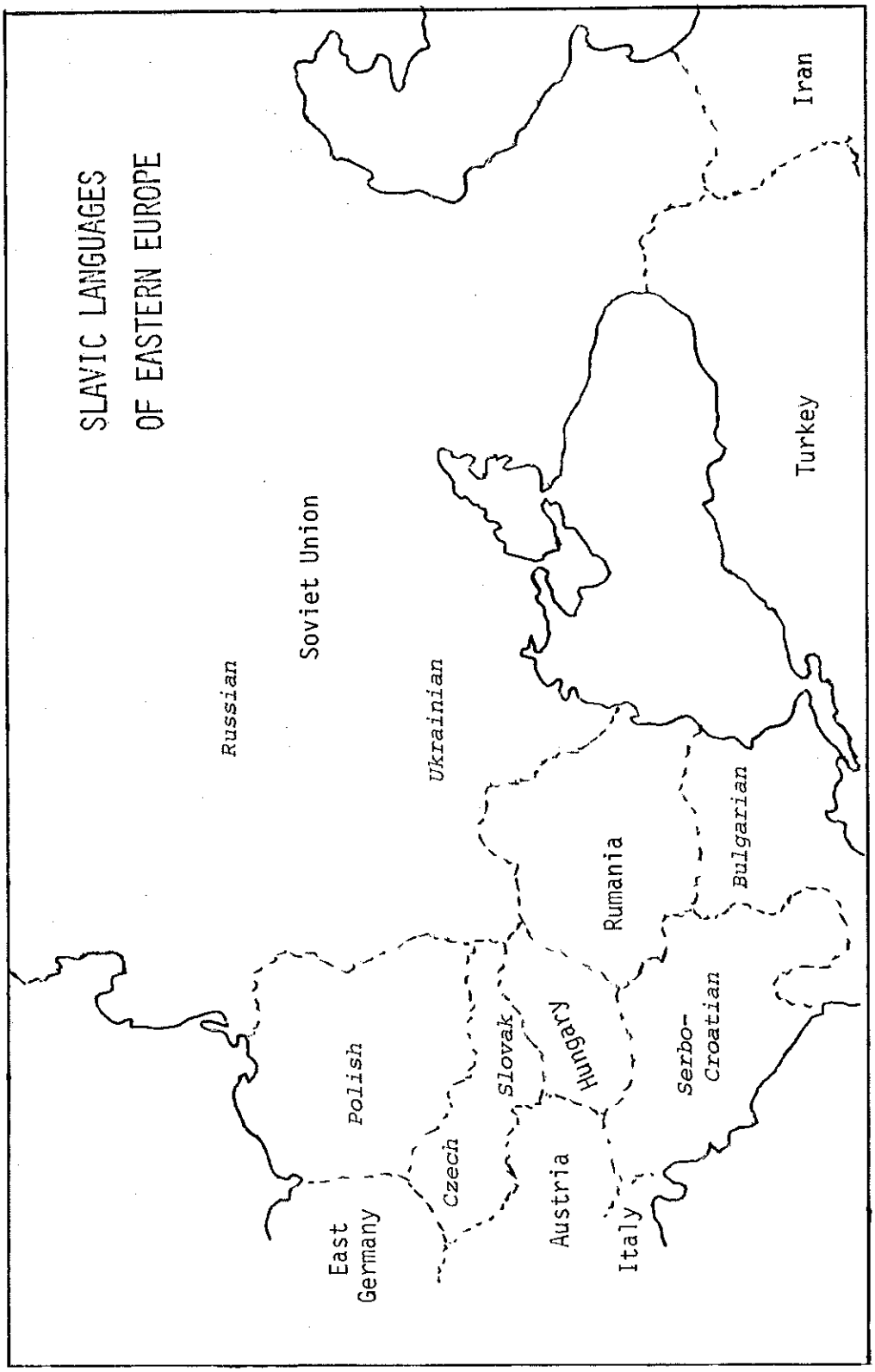
Slavic

Languages of the Slavic family are spoken by about 300 million people in eastern Europe. The Slavic family tree has three branches: an eastern branch, including Russian; a western branch, including Polish; and a southern branch, including Bulgarian.

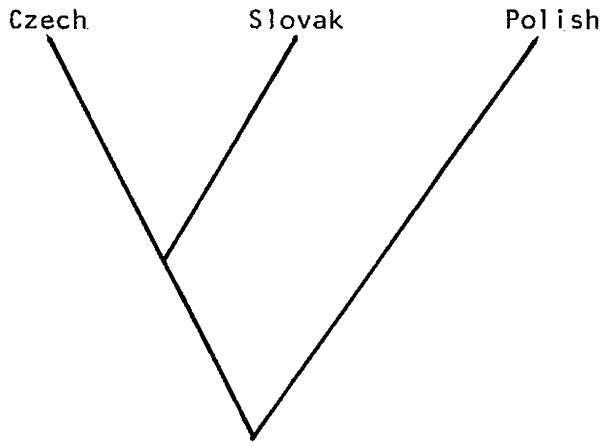
The two chief languages of the east Slavic branch are Russian and Ukrainian. Russian is spoken by about 150 million people around Leningrad and Moscow. It is the official language of the Russian Republic in the Soviet Union. Ukrainian is spoken by about 50 million people just north of the Black Sea. It is the official language of the Ukrainian Republic in the Soviet Union.

The three chief languages of the west Slavic branch are Polish, Czech, and Slovak. Polish is spoken by about 45 million people. It is the official language of Poland. Czech is spoken by about 10 million people. It is the official language of western Czechoslovakia. Slovak is spoken by about 5 million people. It is the official language of eastern Czechoslovakia.

Czech and Slovak are very similar to each other. For this reason, some scholars prefer to class them as two varieties of the same language rather than as two separate languages.


SLAVIC LANGUAGES
OF EASTERN EUROPE
Soviet Union
Russian
Ukrainian
Iran
Turkey
Rumania
Bulgarian
Serbo-
Croatian
Hungary
Slovak
Austria
Czech
Polish
East
Germany
Italy

A stick picture of the west Slavic branch looks like this:



The two chief languages of the south Slavic branch are Bulgarian and Serbo-Croatian. Bulgarian is spoken by about 10 million people. It is the official language of Bulgaria, located between Greece and Rumania on the Black Sea. Serbo-Croatian is spoken by about 20 million people. It is the language of most of the people of Yugoslavia, on the east coast of the Adriatic Sea.

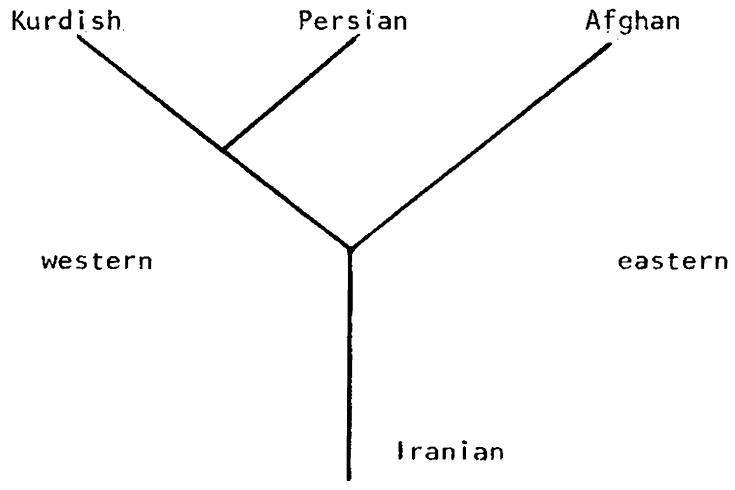
Serbo-Croatian, as its name suggests, has two varieties: Serbian and Croatian. Serbian is spoken south of the national capital, Belgrade. Croatian is spoken around the provincial capital, Zagreb. One of the reasons why Serbians and Croatians emphasize their language difference is that they write differently. Serbians use the Cyrillic alphabet, as the Bulgarians and Russians do. But Croatians use the Latin alphabet, as the Czechs and Poles do. In terms of speech alone, Serbo-Croatian might simply be called Yugoslavian.

Iranian

Languages of the Iranian family are spoken by about 60 million people in southwestern Asia. The two chief Iranian languages are Persian, the official language of Iran, and Afghan, the official language of Afghanistan. Despite the official standing of Afghan, more Afghans speak Persian than speak Afghan.

In addition to these two national languages, there is a third Iranian language without any official standing. It is Kurdish, the language of the Kurds. The Kurds are a wandering people, who drive their herds from pasture to pasture. They are found in open country in Turkey, Syria, Iraq, Iran, and the Soviet Union.

A stick picture of the Iranian languages looks like this:

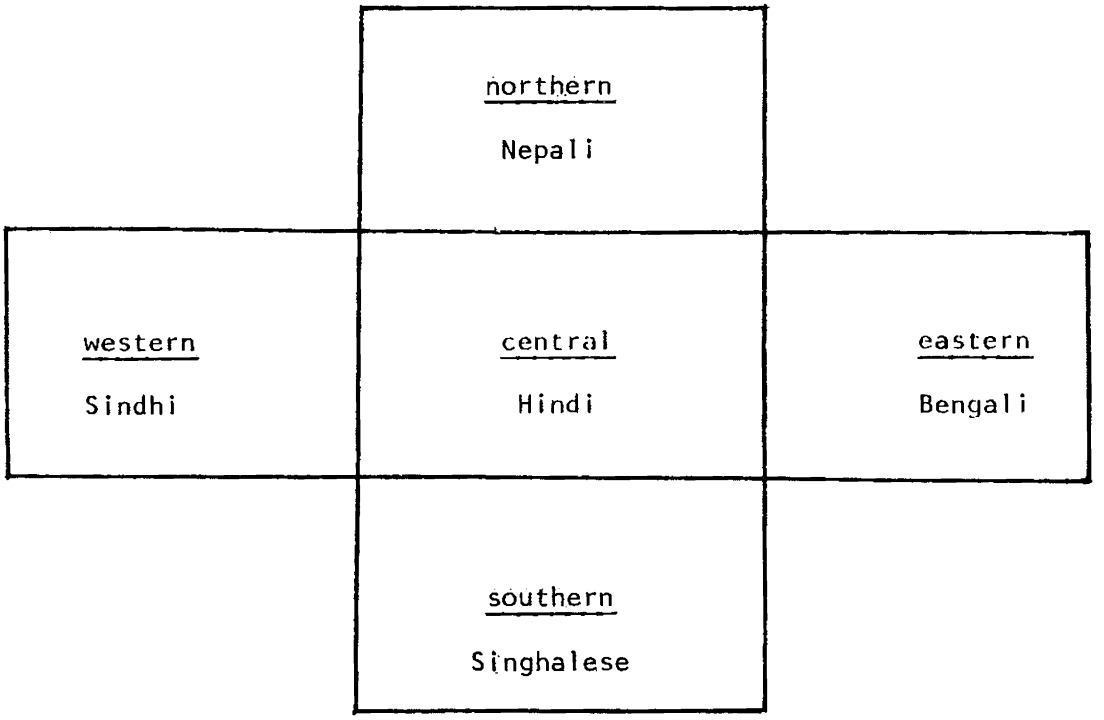


You will notice that the Persian 'twig' does not grow straight up from the Iranian trunk. This is because Persian and Kurdish belong on the same western branch of the Iranian family tree. They are more closely related to each other than either is to Afghan.

Indic

Languages of the Indic family are spoken by over 500 million people in India, Pakistan, Nepal, Sri Lanka, and Bangladesh. There are more different languages in the Indic family than in any other language family in the Indo-European superfamily. And nine of them are spoken by well over 20 million people apiece.

The easiest way to show the relations among the Indic languages is to draw a cross-shaped picture, like this:



The advantage of this picture is that it does two things at once. First, it gives you a fairly accurate idea of the geographic relations of five major Indic languages. And second, it names languages which are spoken chiefly in five different countries in South Asia.

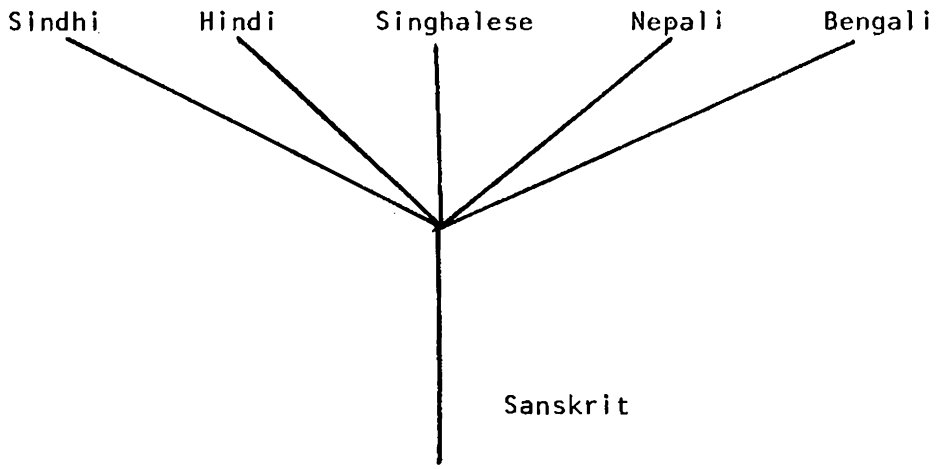
Nepali is the national language of Nepal, in the Himalayan mountains between India and China. Bengali is the national language of Bangladesh, between India and Burma. Singhalese is the national language of Sri Lanka, an island just south of India. And Hindi is the national language of India.

The most distinctive language of Pakistan is Sindhi, which is spoken around Karachi, the national capital. But the national language is called Urdu. Actually, Urdu is a variety of Hindi, the chief language of India. The main difference between Hindi and Urdu is that Hindi is written in Nagari, an Indian alphabet, while Urdu is written in the Arabic alphabet.

The reason for the difference in writing systems between Hindi and Urdu is religious. India is a mainly Hindu country, while Pakistan is a mainly Moslem one. The Nagari alphabet used for Hindi was first used for Sanskrit. Sanskrit is the sacred language of Hinduism, as Latin is of Catholic Christianity.

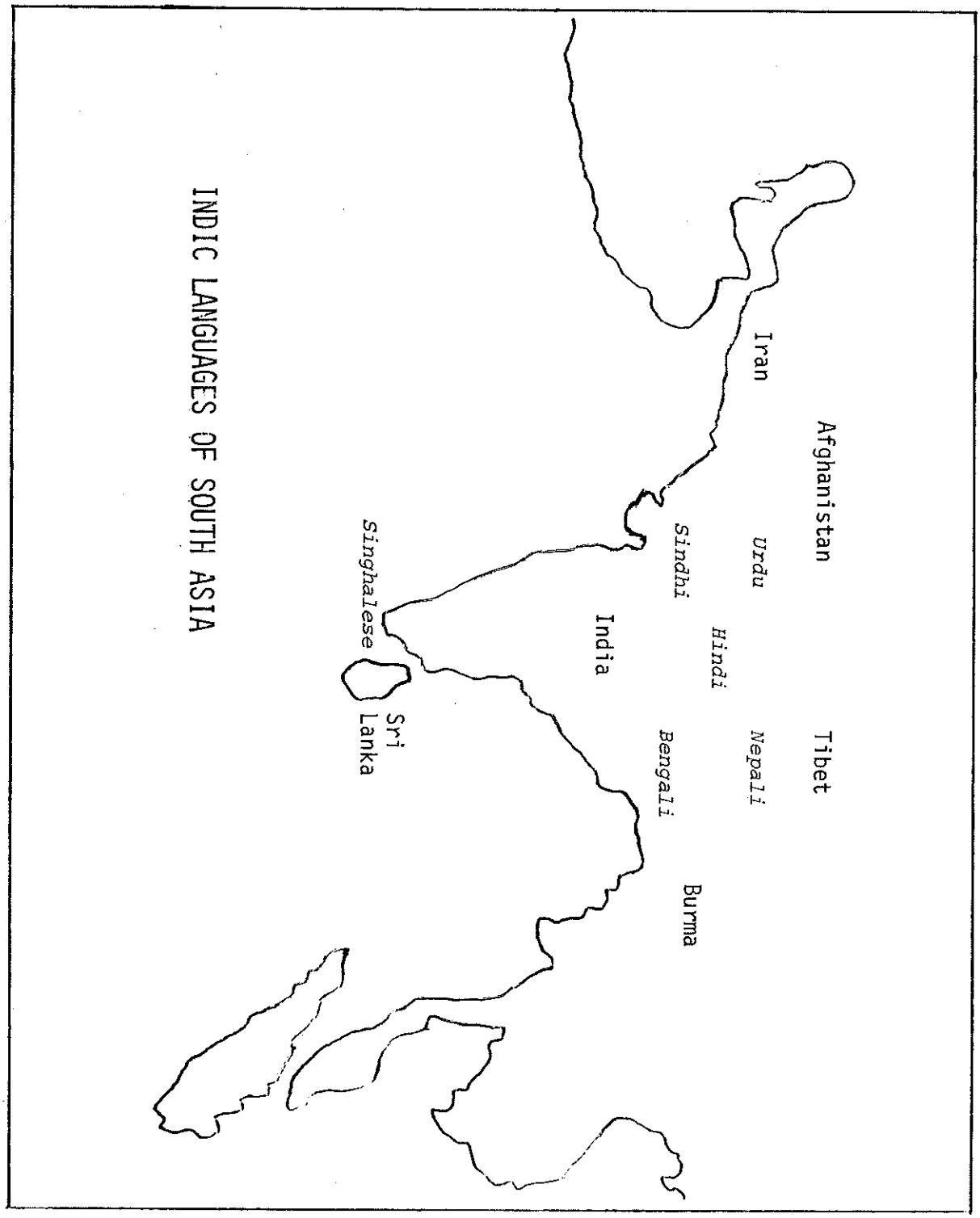
Sanskrit resembles Latin not only in its religious function but also in its age. Like Latin, it is over two thousand years old. And, again like Latin, Sanskrit is the mother language of most of the languages now spoken where it used to be the language of daily life.

A stick picture of the Indic family tree looks like this:

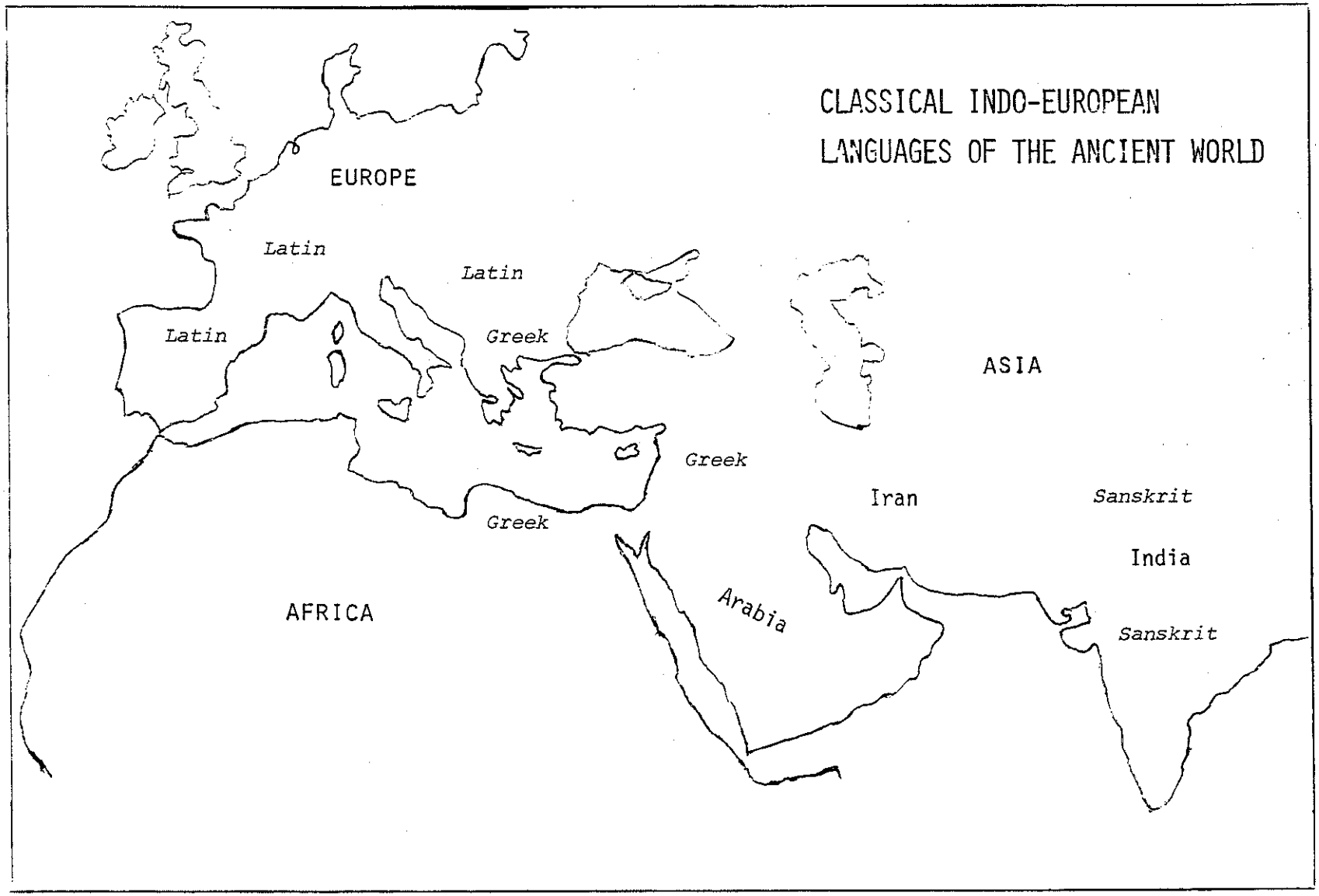


Before we leave the Indic family, we should say something about one of the strangest daughter languages descended from Sanskrit. This strange daughter language is Romany, the language of the Gypsies. About a thousand years ago, the Gypsies left their home in what is now Pakistan and began to travel westward. They traveled through southwest Asia into Europe. During the past hundred years, some even came to America. But, wherever they went, the Gypsies remained wanderers. They rarely stayed long in any one place.

In each country the Gypsies passed through, they picked up new words. Yet their basic vocabulary remains Indic. If you want to place Romany on the cross-picture or the stick-picture of the Indic family of languages, you should, in each case, put it on the left, with Sindhi.



INDIC LANGUAGES OF SOUTH ASIA


CLASSICAL INDO-EUROPEAN
LANGUAGES OF THE ANCIENT WORLD
EUROPE
Latin
Latin
Latin
Greek
ASIA
Greek
Greek
Iran
Sanskrit
India
AFRICA
Arabia
Sanskrit

CHAPTER SIX

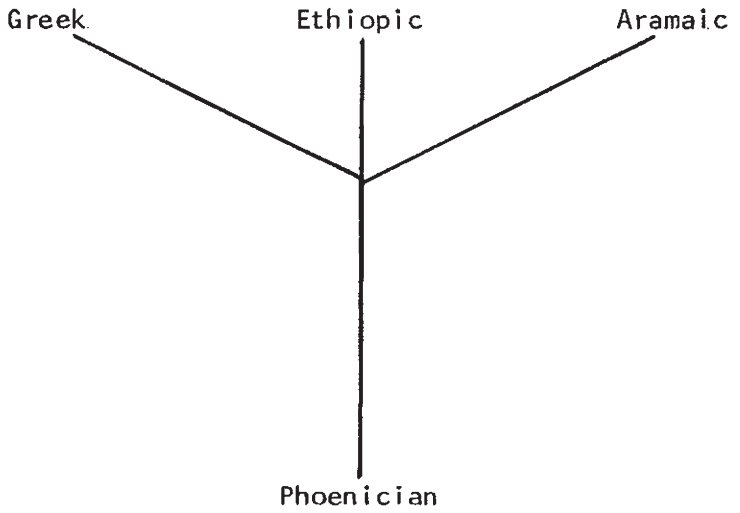
FAMILIES OF WRITING AND OF SIGN LANGUAGE

We noted earlier that all the Indo-European languages came from a single source about 5,000 years ago. In the same way, all the alphabets known came from a single source about 3,000 years ago.

The Phoenician Alphabet and Its Offshoots

The source of all known alphabets was the Phoenician alphabet, first used in port cities on the coast of Lebanon. Within a few hundred years, the Phoenician alphabet had branched out to produce three daughter alphabets. One of these daughters was the Greek alphabet, used in Greece. Another was the Ethiopic alphabet used in Ethiopia. And a third was the Aramaic alphabet, used throughout southwestern Asia in ancient times.

The relation between the Phoenician alphabet and its three daughter alphabets is illustrated in this stick picture:



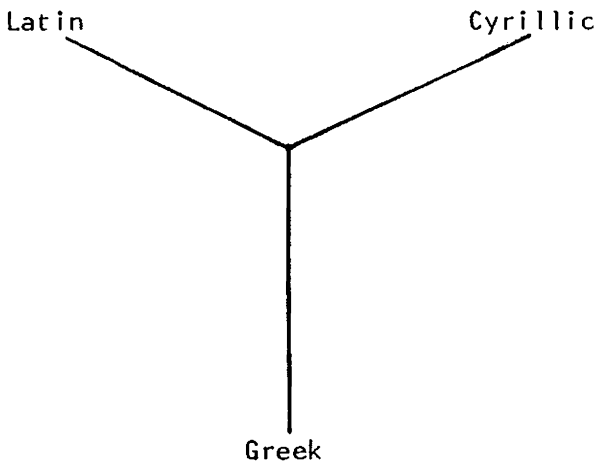
The Greek Alphabet and Its Offshoots

After a while, two of these daughter alphabets produced still more alphabets. The Greek alphabet produced the Latin alphabet and the Cyrillic alphabet.

The Latin alphabet is the one that we use. The first people to use it were the ancient Romans, who spoke Latin. Today, the Latin alphabet is the most widely used writing system in the world. It is used by most of the people of every continent on earth except Asia.

The Cyrillic alphabet was named after St. Cyril, a missionary priest, who lived in the Balkan peninsula about 1,100 years ago. Today it is used to write Russian, Ukrainian, Bulgarian, and the Serbian variety of Serbo-Croatian.

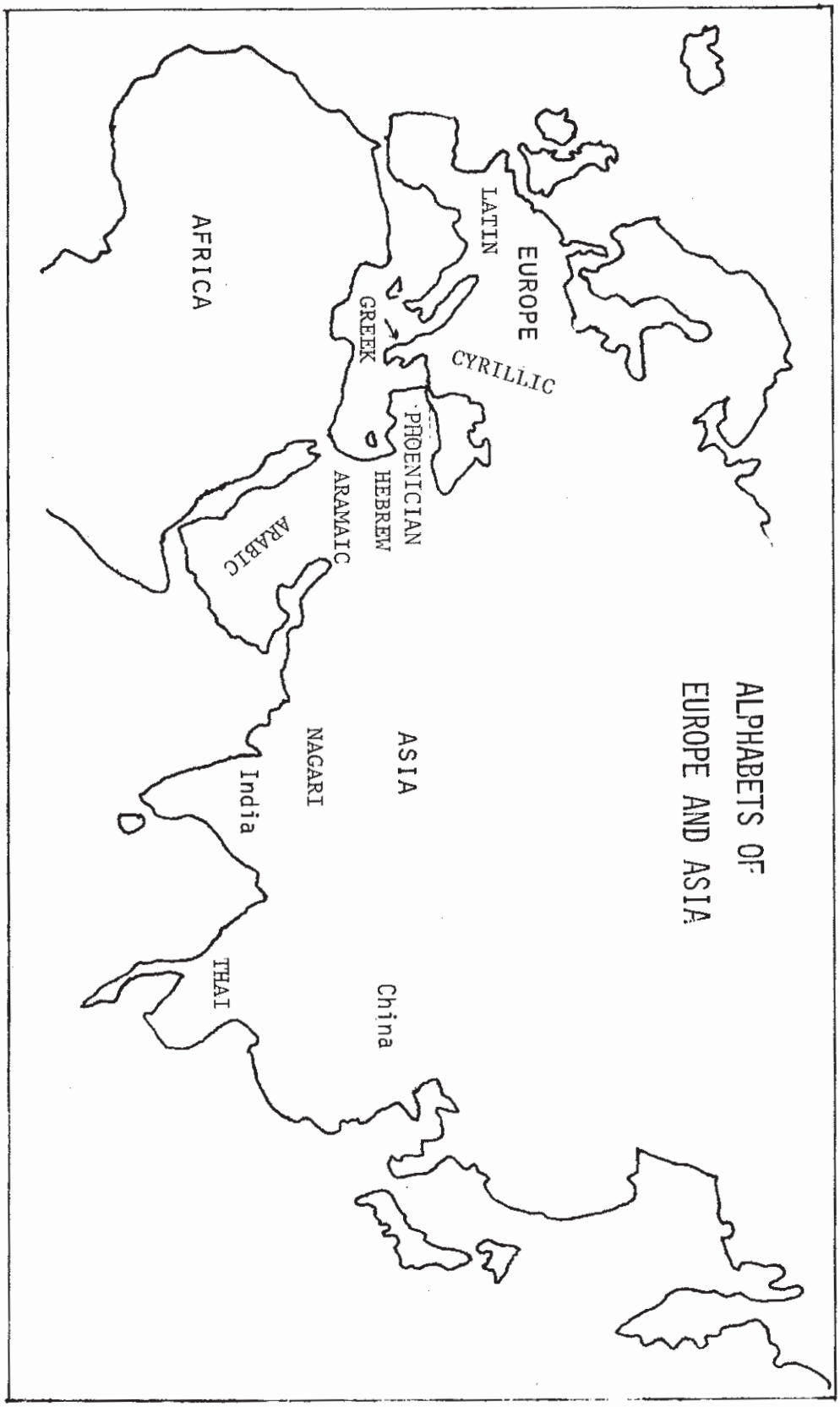
The relation between the Greek, Latin, and Cyrillic alphabets is illustrated in this stick picture.

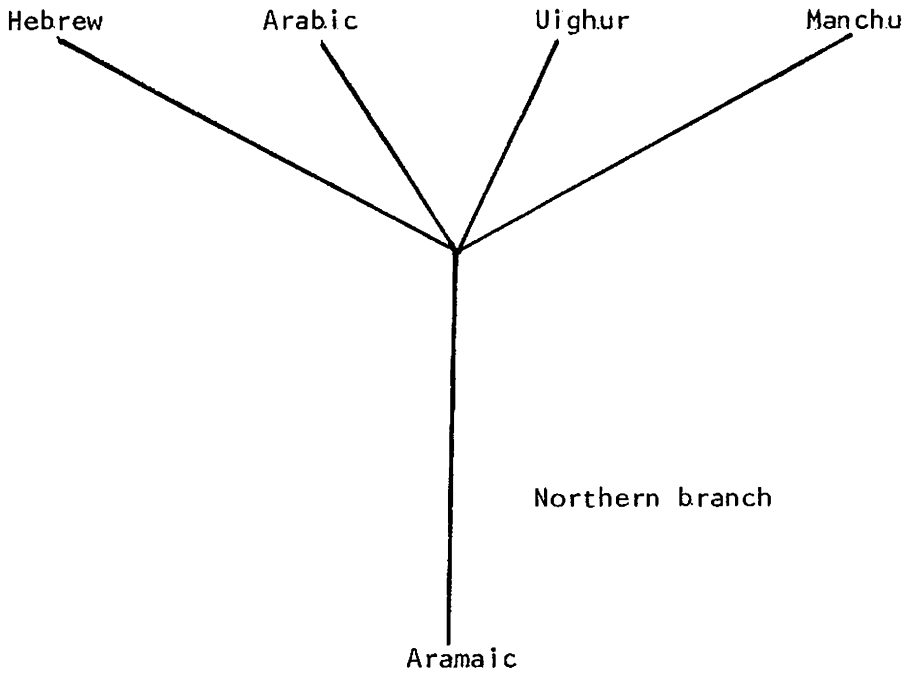


The Aramaic Alphabet and Its Offshoots

The Aramaic alphabet developed two branches, northern and southern. The northern offshoots of the Aramaic alphabet are found in a broken belt that stretches from the Mediterranean Sea to the Sea of Japan. The southern offshoots of the Aramaic alphabet are found in a continuous belt from India to Thailand.

Here is a stick picture of four northern alphabets that come from the Aramaic alphabet:

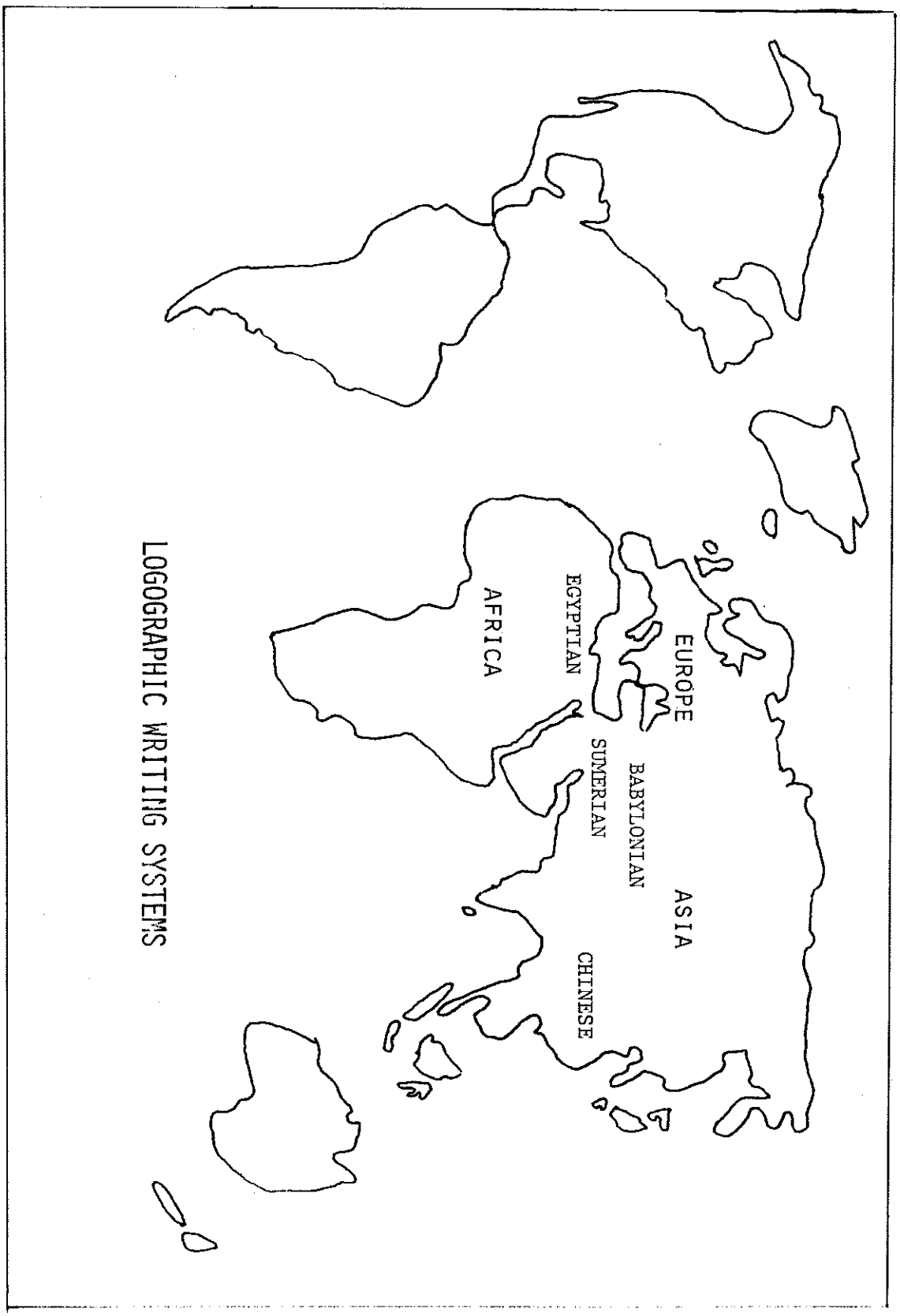

ALPHABETS OF
EUROPE AND ASIA
EUROPE
LATIN
GREEK
CYRILLIC
AFRICA
PHOENICIAN
HEBREW
ARAMAIC
ARABIC
ASIA
NAGARI
India
China
THAI



The Hebrew alphabet, unlike ours, is read from right to left. It is the official alphabet of Israel and the sacred alphabet of Orthodox Jews throughout the world.

The Arabic alphabet is likewise read from right to left. Next to the Latin alphabet, it is the most widely used alphabet on earth. It is used in all the countries, from Mauritania in northwest Africa to Iraq in southwest Asia, which have Arabic as their national language. It is also used to write Persian, Afghan, and Urdu, the national languages of Iran, Afghanistan, and Pakistan, respectively. In addition, it is the writing most commonly used in the Koran, the sacred book of Islam. Highly educated Moslems all over the world try to read the Koran in its Arabic form. When they succeed, they feel that they have come closer to the original inspiration which makes the book sacred to them.

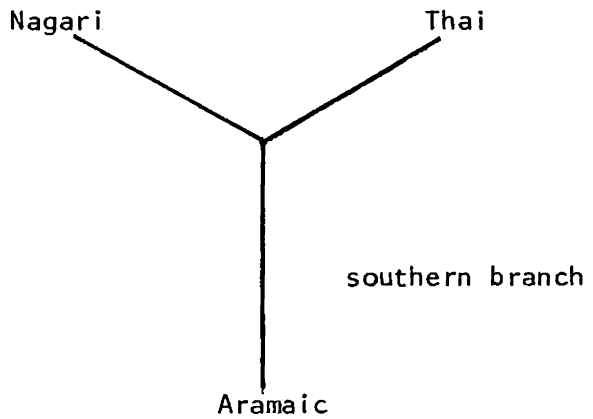
The Uighur are a Turkish-speaking people who live in Sinkiang, the northwestern province of China. Their alphabet became the official writing system of the Mongolian Empire about 750 years ago. The Mongolian Empire, which stretched from Poland to Korea, was at that time the largest empire the world had ever seen. So the Uighur alphabet was, for a brief time, one of the world's most important writing systems. Today, however, the Uighur have given up their own alphabet and write their Turkish language in either the Latin alphabet, the Cyrillic alphabet, or the Arabic alphabet.


LOGOGRAPHIC WRITING SYSTEMS
EGYPTIAN
SUMERIAN
CHINESE
AFRICA
EUROPE
BABYLONIAN
ASIA

The Manchu alphabet is the writing system of the Manchus, who once ruled Manchuria, just north of Korea. About 300 years ago, they conquered China. At that time, their alphabet became almost as important as the Uighur alphabet had been just after the Mongolian conquest. But today, the Manchu alphabet is being rapidly replaced by Chinese ideograms, just as spoken Manchu is being replaced by Mandarin Chinese speech.

The southern offshoots of the Aramaic alphabet are used in India and in southeast Asia. The chief Indian offshoot is Nagari, the alphabet used to write Hindi. As Hindi is India's official language, Nagari is its official alphabet.

An important southeast Asian offshoot of Aramaic writing is the Thai alphabet, used to write the national language of Thailand. The relation between the Nagari and Thai alphabets is illustrated in this stick picture:



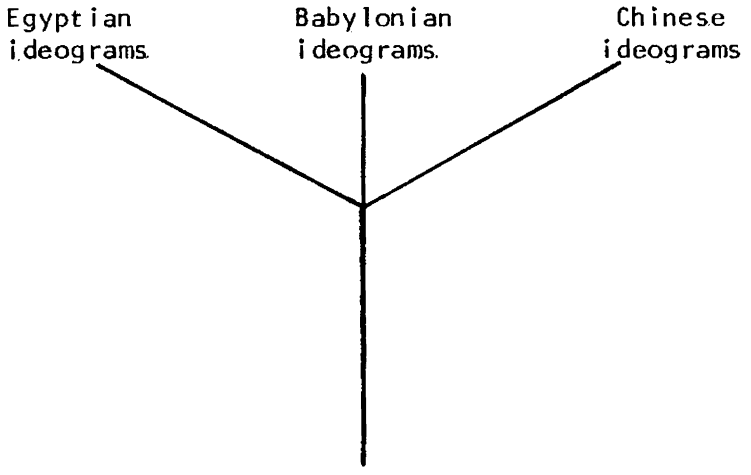
A Family Tree of Logographic Writing Systems

We saw in Chapter Two that there are two basically different types of writing systems. The more recent of the two is phonographic writing, which represents the sounds of speech. All the alphabets whose family trees we have just been looking at are examples of phonographic writing.

The older type of writing system is logographic writing. As you may remember, logographic writing does not represent spoken words but things that can be seen or pictured in the mind. When logographic signs represent things seen, they are called pictograms. When they represent ideas, they are called ideograms.

Because logographic writing systems are ancient, and few are still in use, relations between them are harder to trace than between alphabets. For this reason, most experts on the history of writing hesitate to draw up family trees of logographic systems.

There is, however, one historian of writing who does not hesitate to do this. He is Ignace Gelb, a scholar at the Unversity of Chicago. Dr. Gelb believes that the major ideographic writing systems of ancient Asia and Africa all come from the pictographic writing system of the earliest Sumerians in what is now called Iraq. If he is right, then there is also a family tree of logographic writing systems. That family tree can be illustrated by this stick picture:



We discussed Chinese ideograms in Chapter Two. But we have not discussed Egyptian or Babylonian ideographic writing. Both these two systems are over 4,000 years old. And both were used to write languages of the Hamito-Semitic superfamily described in Chapter Four. Egyptian was spoken in the Nile Valley of northeastern Africa, while Babylonian was spoken in the Tigris-Euphrates Valley of southwestern Asia. Babylonian was a Semitic language, related to Arabic. Egyptian, on the other hand, was intermediate between the Semitic languages of Asia and the Berber languages of the Sahara Desert, such as Tuareg. Neither Babylonian nor Egyptian is spoken today: Arabic has replaced both of them. But Egyptian and Babylonian ideograms tell fascinating stories of great kingdoms which were the most powerful nations of their day.

Comparing Sign Languages

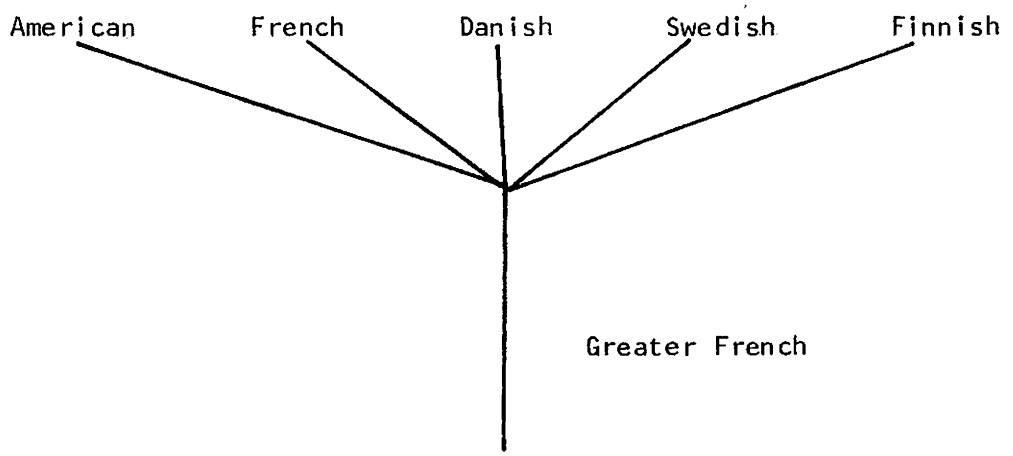
Until the 1960s, there were no detailed studies of manual sign languages. For that reason, scholars could not say till very recently what sign languages, if any, came from what other sign languages. But now at least 20 sign languages have been studied and compared. The

comparisons make it clear that family trees can be drawn up for sign languages as well as for spoken languages and for writing systems.

The Greater French Sign Language Family

American Sign Language--known as Ameslan, for short--was described in Chapter Two. It took shape more than 150 years ago in Connecticut. Just as we know that our American English speech was brought here by English settlers, so we also know that Ameslan was brought here by French teachers of the deaf. Our spoken English, however, remains a variety of British English: American English and British English are still one language. But Ameslan has become a separate sign language. Rather as spoken English and spoken German are sister languages, so too Ameslan and French Sign Language are sister languages.

The mother language of Ameslan and French Sign Language is Early French Sign Language, which is no longer used. Early French Sign Language is also the mother language of Danish Sign Language, Swedish Sign Language, and Finnish Sign Language. These five sign languages form a language family, which is illustrated in the stick picture below:



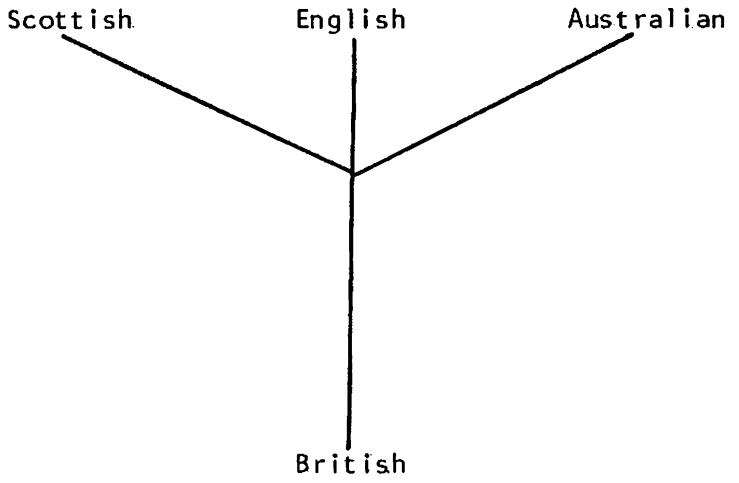
Early French Sign Language

We may call this sign language family the Greater French family.

The British Sign Language Family

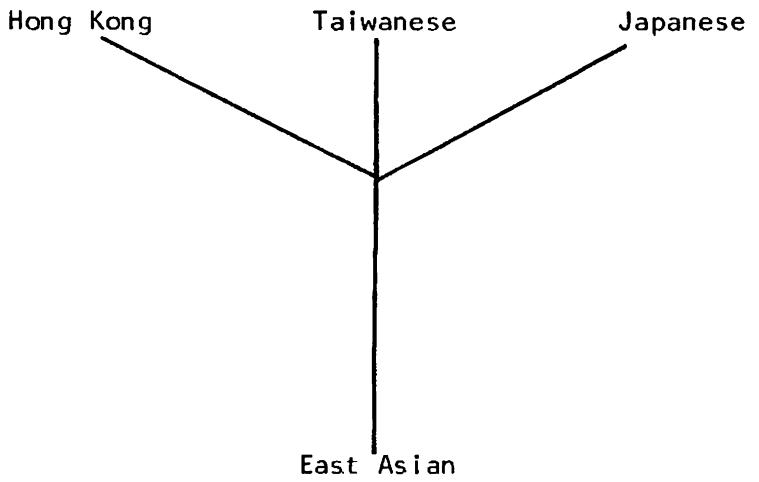
Besides the Greater French family, there are at least two other sign language families. One of these is the British family, which contains three distinct sign languages: Scottish, English, and Australian.

The family tree of the British sign languages is illustrated in this stick picture.



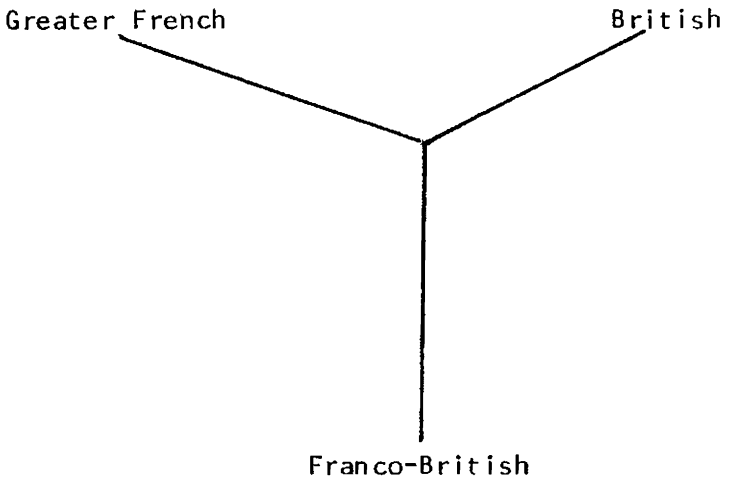
The East Asian Sign Language Family

A third sign language family is the East Asian, which also contains three sign languages: Hong Kong, Taiwanese, and Japanese. The family tree of the East Asian sign languages is illustrated in this stick picture:



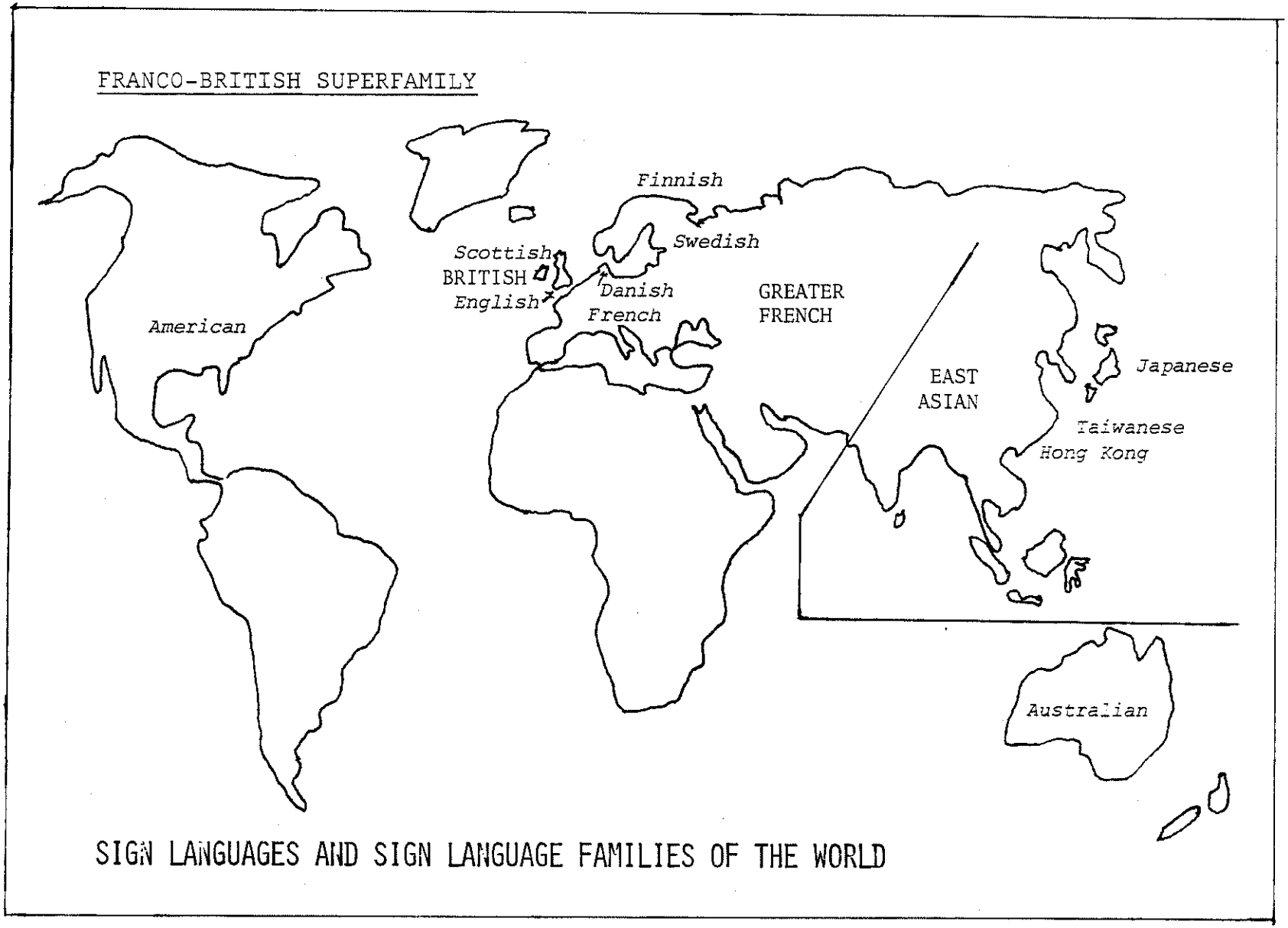
The Franco-British Sign Language Superfamily

Of these three sign language families, two are related to each other. Just as the Germanic and Romance speech families go together to form a speech superfamily called Indo-European, so do the British and Greater French sign language families go together. The sign language superfamily which they make up is the Franco-British superfamily. That Franco-British superfamily tree is illustrated by this stick picture:



You probably noticed that many of the names for sign languages in the Franco-British superfamily are the same as the names of spoken languages in the Indo-European superfamily. English and French, for example, occur in both superfamilies. But it is important to remember that there is no special resemblance between spoken English and manually signed English. Furthermore, one of the sign languages that belong in the Franco-British superfamily has the name of a spoken language which does not belong in the Indo-European superfamily. That sign language is Finnish, which, as a spoken language, does not belong in any of the speech families discussed in Chapters Four and Five. (Instead, it belongs in a small Eurasian speech family called Uralic, to which Hungarian also belongs.)

The same warning must be given about Japanese Sign Language. Although it belongs with the sign languages of coastal China, spoken Japanese does not belong with the spoken languages of China. Instead, spoken Japanese belongs with the spoken languages of Turkey, Mongolia, Manchuria, and Korea.


FRANCO-BRITISH SUPERFAMILY
Finnish
Swedish
Scottish
BRITISH
English
Danish
French
GREATER
FRENCH
American
EAST
ASIAN
Japanese
Taiwanese
Hong Kong
Australian
SIGN LANGUAGES AND SIGN LANGUAGE FAMILIES OF THE WORLD

CHAPTER SEVEN

WORD FAMILIES IN ENGLISH

We have seen that most languages--whether spoken, written, or signed--belong in families. The same thing is true of words. Most of them too belong in families.

The easiest kind of word family to illustrate is the kind that is drawn from a language family. For example, we have learned that German and English are sister languages in the Germanic language family. So we may reasonably expect that the simpler words in German and English are sister words. And we are right: hundreds of German words have sister words in English. This means that each sister word in German is like its English sister word in both form and meaning.

The same principle holds, of course, for other language families. A great many French words have sister words in Spanish, because French and Spanish are sister languages in the Romance family.

Unfortunately, however, not many American children know enough German, French, or Spanish to recognize words in those languages and relate them readily to their sister words in other languages.

Varieties of English

So, for practical purposes, it is better to draw word families from only one language--English itself. How can we do this? By taking advantage of the fact that English, like many other languages, has varieties which are, in some ways, like different languages. Some of these varieties are connected with the many different places where English is spoken. Other varieties are connected with the different social groups that speak English.

Borrowed Words

Still other varieties of English are due to the large number of words and expressions that early Englishmen borrowed from other languages of Europe--chiefly Danish, French, Latin, and Greek. Most of the Danish and French vocabulary in English is due to early Danish and French invasions of England, Most of the Latin and Greek vocabulary, on the other hand, is due to the fact that Latin and Greek were, until recently, regarded as the languages of education. So educated English speakers used as many Latin and Greek words as they could, even when speaking English.

There are varieties of words, finally, that get their variety solely from the variety of roots, stems, and affixes that English has. You know that you can make different toys by putting together pieces of a construction set in different ways. In much the same way, English can make new words by putting together pieces of words in various ways.

Recombined Words

A good example of word families produced by recombining word parts comes from English number words. You can make the number *one* negative by putting the prefix *n-* in front of it to get *none*, meaning 'not one'. Or you can make it into an adjective or adverb by adding the suffix *-ly* to get *only*, meaning 'one-like'.

The same kind of thing can be done with other number words. You can change the number *two* into an adverb by adding the suffix *-ce* to get the adverb *twice*, meaning 'two times'. Or you can make it into a larger number by adding the suffix *-lve* to get *twelve*, meaning 'two left (after ten)'.

The number *three* can be changed into a word indicating position in a series. To change it this way, you add the suffix *-d* to get *third*, meaning 'between second and fourth'.

The number *ten* can be changed into a suffix to help make words for higher numbers. To get such larger numbers, you put one of its two suffix forms onto the end of a number between two and ten. If the number you want to end up with is between twelve and twenty, you use the adding form *-teen*. An example is *fourteen*, meaning 'four and ten'. But, if the number you want to end up with is between nineteen and a hundred, you use the multiplying form *-ty*. An example is *fifty*, meaning 'five times ten'.

Some word families are large, containing many sister words. Among number words, for instance, the word *two* has, as sisters, not only *twice* and *twelve*, but also *twenty*, *twain*, *twin* and others.

Word Doublets and Word Triplets

Most word families, however, are smaller. Many contain only two. When they occur in a single language, two sister words are called doublets by language experts. In fact, any two such words can be called doublets, even when they both belong to a larger family of sister words.

Reviewing the number words we have been discussing, we can draw up a series of doublets, like this:

1. one, n-one
2. two, twi-ce
3. three, thir-d
4. four, for-ty
5. five, fif-teen

You may notice that, in each of these pairs of doublets, the second has a hyphen. Ordinarily, no hyphens are written in these words. But here the hyphens serve as reminders that these words are complex, combining a number root with an affix that modifies its meaning.

When you watch Wild West movies on television, you may notice that cowboys often describe stubborn horses as 'orn'ry critters'. But you probably don't realize that this expression is a different form of the standard phrase 'ordinary creatures' (where the word *ordinary* is taken in a bad sense, to mean 'common' or 'mean').

On the other hand, when you hear someone talk casually about 'fellas' or 'gals', you probably do realize that these words are different forms of the more formal words *fellows* and *girls*.

In either case, what we have is a group of doublets that can be listed in this way:

orn'ry, ordinary
critter, creature
fella, fellow
gal, girl

Some of the doublets in English are hundreds of years old. As early as the time of the Danish and Norman invasions of Great Britain, the variety of English spoken in Scotland and Yorkshire was quite different in pronunciation from the variety spoken further south.

This difference was noticeable both in vowels and in consonants. The sound of Old English broad *a*, as in *ban*, 'bone', came in the north to sound like the *ay* in Modern English *bay*. In the south, however, it came to sound like the *oa* of Modern English *boat*.

In a few cases, both vowel sounds were adopted by Modern English. The result was the formation of word doublets. Examples are *hale*, meaning 'healthy', and *whole*, meaning 'complete'. In Old English, this word was written *hal* and pronounced with the vowel of *ma*. It meant 'in good condition'.

The Old English *k*-sound, which was written *c* (though always pronounced as the *c* in *cut*), remained in northern English but became a

'hushing' consonant in later southern English. When it occurred alone, it had the *ch*-sound in *chip*. When it occurred after *s*, it combined with the *s* and developed the *sh*-sound in *ship*.

So the Old English verb *wacan*, 'to be alert', produced the northern form *wake* and the southern form *watch*. And the Old English noun *scyrte*, 'short clothing', produced the northern form *skirt* and the southern form *shirt*.

In all of these cases, both the northern and the southern forms remained in Modern English, producing these doublets:

hale, whole
wake, watch
skirt, shirt

Old Danish Words in English

Doublets like *wake* and *watch* are now surprisingly different in both sound and meaning, even though they are unquestionably Germanic. Some language historians think that geographic differences between the north and the south of England are not enough to explain such splits in vocabulary. Instead, they explain words like *hale*, *wake*, and *shirt* as being of Danish origin, or at least due to Danish influence. This is quite possible, since the Danes ruled northeastern England 1100 years ago. And Danish at that time was still very similar to English, so that Englishmen found it easy to adopt Danish words and expressions.

As it happens, the largest number of doublets of the northern/southern (or Danish/British) type in English involve alternation of an *sk* = *sc* beginning of words with an *sh* beginning. Here are some examples:

from southern English	from northern English or Danish
shin	skin
shale (layered rock)	scale (flake or shell)
shatter	scatter
shuffle	scuffle
shuttle	scuttle
shoot	scoot
shrimp	scrimp
shrub	scrub (small trees)

In each of these word pairs, one word sister has developed a meaning that differs somewhat from the meaning of the other. Can you guess

what connects the meanings of each pair? Here's a hint; *shoot/scoot* and *shuttle/scuttle* are related not only to each other but also to the words *shove* and *scuff*.

Old French Words in English

About 900 years ago, England was conquered by the Norman French. To the English, of course, French seemed much more foreign than Danish had seemed. But, because French was spoken longer in England than Danish had been, English eventually adopted a large amount of French vocabulary.

The French spoken in England, however, was of two quite different kinds. One was Norman French, which is the kind you would expect to have been spoken by invaders from Normandy. The other was Parisian French, which was beginning to be used because it was already more fashionable than the French spoken in the coastal provinces.

Since the Norman and Parisian varieties of French were pronounced quite differently, doublets soon began to appear in the vocabularies of French-speakers in England in the Middle Ages. And, before long, those Englishmen who learned French picked up these doublets. Then, after French ceased to be the official language in England, some of the French doublets remained in the English vocabulary.

One of the differences between Norman and Parisian French was that, to words beginning with *s* followed by another consonant, the Parisians added an initial *e*. Where the Normans said *state*, *squire*, and *special*, the early Parisians added a syllable and said *estate*, *esquire*, and *especial*.

The Parisians also changed the Latin *k*-sound (likewise written as a *c* but pronounced as in *cat*) into a *ch*-sound, as in English *chat*. But the Normans kept the *k*-sound. The result was a series of doublets, such as these:

camp, champion
cattle, chattel
car, chariot
catch, chase
canal, channel

Because these words have drawn apart in meaning as well as in pronunciation, some explanations may be needed for them. A *camp* was originally a field, where tents might be put up; and a *champion* was a warrior who fought successfully for his country on the field of battle. *Cattle* were at first valuable goods of any kind, not just cows; *chattels* continue to mean property, but they include slaves. In the Middle Ages, a *car* was

any kind of wagon; a *chariot* was a small wagon, especially one with only two wheels. To *chase* originally meant to catch; but later it came to mean merely to TRY to catch. A *channel* was at first only a pathway for water, as a *canal* now is; but it has come to be a pathway for anything that moves continuously, including the electricity that feeds radios and television sets.

If you looked carefully at the last two sets of doublets that involve consonants, you may have noticed an interesting coincidence. In both sets, there is an alternation between a *k*-sound (as in *kin*) and a *ch*-sound (as in *chin*). And in both sets, the words that begin with the *k*-sound have a possible Scandinavian connection. In the case of pairs like *wake/watch*, the possible Scandinavian connection is with early Denmark. In the case of pairs like *cattle/chattel*, the connection is with Norway. For the Normans, whose name means 'Northmen', came to France from Norway (which is short for 'Northway'). Before they mingled with the French and English, the early Danes and Norwegians spoke a single Scandinavian language, called Old Norse. As you may have guessed by now, the name Norse is likewise short for 'Northish'.

Latin and Greek Words in English

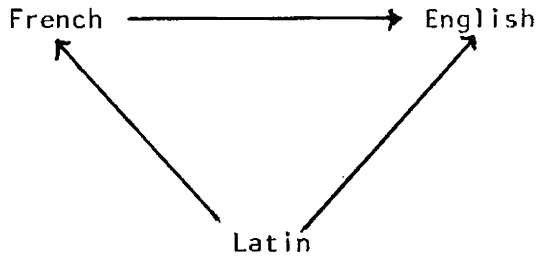
About 100 years after English was restored as the official language of England, replacing French, a new historical development affected our language. That development was the Renaissance, a revival of interest in ancient Greek and Roman culture. (It was called the Renaissance, which is French for 'rebirth', because during this time the civilization of the early Greeks and Romans was intellectually reborn.) The Renaissance swept over most Western European countries, leading to an upsurge of artistic activity in the fields of painting, sculpture, and architecture. It also stimulated literature and education, leading to the adoption, by the leading national languages like French and English, of many Classical Greek and Latin words and phrases.

An easy way to recognize the Classical words that entered English at this time is by the affixes that are attached to them. Prefixes like Greek *poly-*, 'many', or Latin *re-*, 'again', are typically Classical. So are suffixes like Greek *-ism*, 'belief', or Latin *-ation*, 'activity'. So, if you hear a word like *polytheism*, 'belief in many gods', you can be pretty sure it comes from Greek. Or, if you read a word like *reformation*, 'act or process of changing back', you can be equally sure it's from Latin.

An interesting thing about the Latin loan words of the Renaissance period is that many of them already had sister words in English. These sister words had come in by way of French. In most cases, the words of French origin are a syllable shorter than the words of Latin origin. A

typical example is the verb *compute*, which came to us directly from Latin. Its sister word, *count*, came to us indirectly by way of French.

The pathways by which we got these two verbs from the Romance family can be illustrated by this arrow picture:



In the case of the pair *count/compute*, the longer verb reached English by traveling straight up the right-hand arrow. But the shorter verb reached English by making a detour through French.

Two other such pairs are *pity/piety* or *sir/senior*. In these cases, the changes of meaning may need some explanation. The Classical Latin form of piety meant doing what was right--especially being ready to fight the enemies of Rome. But, after Rome turned Christian, it came to mean showing mercy toward enemies and helping people who were helpless. So piety turned to pity. In Latin, as in English, 'senior' meant older. At first, the respectful form 'sir' was used only by younger people when they spoke to older men. Later, it came to be used in any situation in which a man is politely addressed.

In the cases of *count* and *pity*, the words that detoured through French are only one syllable shorter than their sister words that came straight from Latin. In other cases, words have lost two or more syllables in the course of their voyage from Latin through French to English. An example is the adjective *strange*, whose direct loan form is *extraneous*. This adjective means 'coming from outside'. The connection between the two forms is provided by the fact that we tend to look at anything that comes from outside of our everyday experience as being strange.

Some word families in English have more than two members because they combine two varieties of French with Latin as sources. An example is provided by the three word sisters *hotel*, *hostel*, and *hospital*. (A hostel is a place where hikers can sleep.) *Hotel* comes from Modern French, *hostel* from Old French, and *hospital* from Latin. Originally, all three words meant 'place of hospitality'. In the first two cases,

the hospitality offered was for people who were tired of traveling; in the last case, it was for people who were sick.

The doublets that involve French and Latin can be arranged in a series this way, with the words of French descent coming first:

count, compute
sir, senior
pity, piety

strange, extraneous

hotel, hostel; hospital

Since the last group involves three sister words, we should probably call them triplets rather than doublets.

Word Sisters and Word Cousins

The word families that we have discussed so far have involved sister words of two kinds. The first kind came from two varieties of English, such as country English and city English. The second kind came from two different sources outside English, such as Norman French and Parisian French or French and Latin.

Now, however, we are going to talk about word families in which the sister words come from different language families, such as Germanic and Romance or Germanic and Hellenic. These word sisters will often look and sound so different that you may have trouble recognizing them as sisters. So probably we should call them word 'cousins' instead.

Sound Shifts

What makes word cousins harder to recognize than word sisters is that most word cousins have experienced 'sound shifts'. Sound shifts are rather drastic changes in the sounds of words.

The sounds that undergo the most drastic changes are consonants called obstruents. Obstruents are consonants like *p*, *j*, or *s*, as in English *pet*, *jet*, or *set*. They are given this name because they obstruct, or block, the flow of breath in speech. They do this either by stopping it completely, as *p* does when it closes the speaker's lips, or by producing friction, as *s* does when it makes a hissing sound.

Grimm's Law

There is a rule that relates the obstruents found in most of the Indo-European families, such as Romance and Hellenic, to those found in Germanic. It is called 'Grimm's Law'. It got its name from Jacob Grimm, who was not only a famous language scholar but also the collector of Grimm's Fairy Tales. Grimm's Law allows you to tell, by looking at words from Germanic and from other families, which ones are cousins and which aren't.

Grimm's Law says that, if a word from Romance or Hellenic begins with one kind of obstruent, its cousin from Germanic will always begin with another kind of obstruent. If, for example, a word from Romance or Hellenic begins with *p*, *t*, or *k* (written *c*), its cousin word from Germanic must begin with *f*, *th*, or *h*, respectively. Examples of this part of Grimm's Law are given below:

	Hellenic	Romance	Germanic
p ⟶ f	patriarch	patron	father
t ⟶ th	triad	trio	three
k ⟶ h	cardiac	core	heart

English words that come from families other than Germanic are usually more complicated than Germanic words. So we should explain the Hellenic and Romance words given just above. A patriarch is a father who heads a large household or a priest who heads a group of priests. A patron is someone who acts fatherly toward other people, by supporting them or buying things from them. A triad is a group of three things. A trio is a group of three musicians or three musical pieces. A cardiac problem is a medical problem with the heart. And a core is the center or heart of something, such as an apple.

Grimm's Law also says that, if a word from Hellenic or Romance begins with *b*, *d*, or *g*, its cousin word from Germanic must begin with *p*, *t*, or *k*. Examples of this part of Grimm's Law are given below:

	Hellenic	Romance	Germanic
b ⟶ p	bacterium	bacillus	peg
d ⟶ t	dyad	duet	two
g ⟶ k	gene	genus	kin

Here, as above, we must explain the words that come from outside of Germanic. A bacterium is a peg-shaped germ. So is a bacillus. A dyad is a group of two things. A duet is a group of two musicians or two

musical pieces. A gene is a unit of biological kinship. And a genus is a group of plant or animal species that are close kin to one another.

Obstruents and Sonorants

Not all consonants, of course, are obstruents. Some are sonorants. Sonorants are sounds that do not obstruct the breath yet are not vowels. They are 'harder' than vowels but 'softer' than obstruents. The nasal consonants *m* and *n* and the liquid consonants *l* and *r* belong in the sonorant group of sounds.

Here are examples of English word cousins of Hellenic, Romance, and Germanic origin that can be related without use of Grimm's Law:

Hellenic	Romance	Germanic
matriarch	matron	mother
neophyte	novel	new
leucocyte	luster	light
erythrocyte	rouge	red

Once again we will explain the words borrowed from Hellenic and Romance languages. A matriarch is a mother who controls her family or household. A matron is a motherly woman. A neophyte is a new member of a religious organization. A novel is a new story long enough to be made into a book. A leucocyte is a blood cell that is white or light in color. Luster is lightness or brightness. An erythrocyte is a red blood cell. And rouge is a red coloring that can be added to women's lips or cheeks.

Consonant Clusters

What's been said so far may give you the idea that Hellenic and Romance words have cousins in Germanic that can be easily recognized only if they start with sonorants. This isn't so. Proto-Indo-European obstruents remain unchanged in Germanic if they occur in some kinds of clusters. One such cluster is *st* at the beginning of a word.

As an example, let's take the Proto-Indo-European root **sta-*, meaning 'stand'. Many words with this root in them are found in English. As usual, most of them came to English through Germanic, but a few came through Romance or Hellenic. A number of these words are listed below:

	from the root *sta-	from a similar, and probably related, root
Germanic	stand	stalk
	steady	stilt
	stalwart	still
	stool	stall (horse shed)
	stay (mast rope)	stallion (male horse)
	stable (horse barn)	stag (male deer)
	steed (noble horse)	staff (rod)
	steel	stem
	standard	stump
		stick
		stack
		stake
		steeple
		stone
		star
Romance	stance (upright posture)	stellar (starlike)
	stature (height)	stolid (unexcitable)
	statue	
	stable (unlikely to fall)	
	staunch (reliable)	
	stay (remain)	
	station	
Hellenic	static (unchanging)	

Every one of the words in the family above has something to do with the idea of standing. Can you find the connection with standing in each of them?

In the word families that follow, two words of Germanic origin provide double illustrations of Grimm's Law; two provide single illustrations; and two provide no illustrations. Can you separate the three pairs and tell which is which?

Germanic	Romance	Hellenic
foot	pedal	podiatrist
tooth	dentist	odontologist
ten	dime	decade
acre	agriculture	agronomy
same	simple	homogenized
sun	solar	helium

You've probably noticed by now that, when Germanic, Romance, and Hellenic words occur together in English, the Hellenic (or Greek) words are usually the longest and hardest. You may wish to look these words up in your dictionary to make sure that, complicated as they look, they have meanings closely related to those of the Germanic words.

You should also note that, in one pair of words, it is the Hellenic, not the Germanic, word cousins that have changed their sound. Proto-Indo-European *s* remains in both Germanic and Romance but changes to *h* in Hellenic. The examples of this change are the words *homogenized* and *helium*.

Reconstructed Words

We've referred to both Proto-Germanic and Proto-Indo-European in earlier chapters. But we've never given any examples of them. The main reason for this is that proto-languages were never written. Scholars have had to reconstruct them. Nevertheless, you may be curious to see what these reconstructed languages looked like (or, more accurately, what they would have looked like if their speakers had written them!) Here are the simpler words for numbers as we believe they sounded when pronounced by our forefathers thousands of years ago in ancient Europe. They are lined up with Latin number words, representing the Romance family:

	Proto-Indo-European	Latin	Proto-Germanic
1	*oinos	unus	*ainas
2	*dwou	duo	*two (sic)
3	*treyes	tres	*thriyes
4	*qetwores	quatuor	*fethwores
5	*penqe	quinque	*fimfe
10	*dekm	decem	*tehun

The asterisks above mark words that were originally spoken but not written.

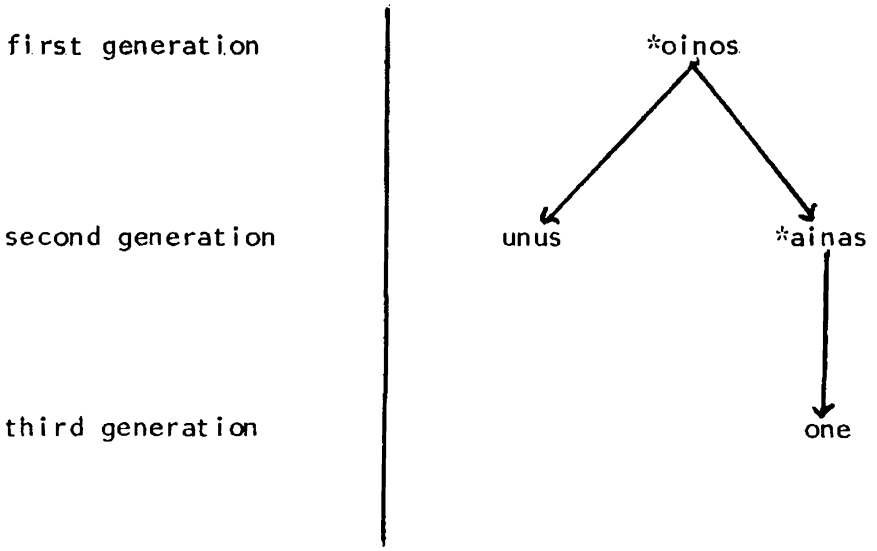
You may never have seen Latin before. But you should be able to recognize some of these Latin number words, because words much like them have been taken into English, with meanings related to counting. (As a hint, try thinking of the unity of the United States or the decimals in an arithmetic problem.)

Mother Words

Even though all the number words above are from languages other than English and so must look unfamiliar, they do have one important advantage. They show that word families can contain more than sister or cousin words only. Word families can also contain mother words. In fact, if they are looked at over long periods of time, they must contain mother words.

For example, the Proto-Indo-European number word **oinos*, 'one', is the mother word of the two sister words that follow it--Latin *unus* and Proto-Germanic **ainas*. If you want, you can extend this family imagery and say that English *one* is the granddaughter of **oinos* and the niece of *unus*. Saying this also means saying that Proto-Indo-European **oinos* is the grandmother, and the Latin *unus* is the aunt, of our number word *one*.

Putting these relationships into arrow form gives us a picture like this:



CHAPTER EIGHT

HOW LANGUAGES CHANGE

The more scientists study the universe, the more change they discover. The stars used to be thought of as unchangeable. But now they are described as forming, swelling, and shrinking. Species, which are different kinds of plants and animals, used to be thought of as permanent. But now they are believed to evolve--that is, to change after long periods of time.

Language is changeable too. After a thousand or more years, every language known changes so much as to be barely recognizable. In the case of a language that branches out to form new languages, the change in appearance usually leads to a change of name. In 500 A.D., for instance, the language of the city of Rome was called Latin; in 1500 A.D., it was called Italian.

Even in the case of a language that does not branch out, some scholars prefer to give different names to its earlier and later stages. Our own language, English, was spoken in Great Britain for 500 years before the Norman Invasion. But it was so different from modern English that many books call it Anglo-Saxon to emphasize its distinctiveness. In the same way, some books refer to modern Greek as Romaic to emphasize the great difference between it and the classical Greek of pre-Christian times.

Languages change in various ways and on several levels. The two chief levels at which language change occurs are the level of the word and the level of the sentence. The two main ways in which words change are in expression and in meaning. And the two main ways in which sentences change are in grammar and in vocabulary.

How Words Change

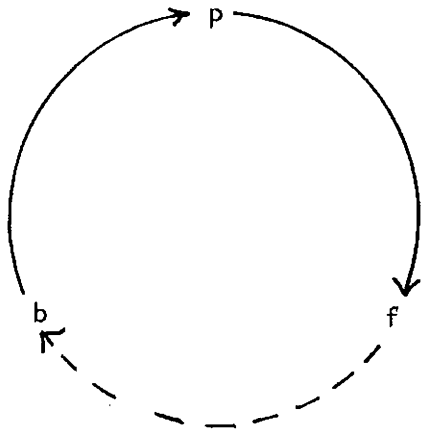
Since our last chapter was about word families, it should be easier for us to start with words and the way they change. The term expression, as we are using it here, means the manner in which we present our words to other people. The three manners of presentation that we have considered in this book are: speaking, writing, and manual signing.

A Circle of Consonant Change

When spoken words change their manner of expression, they change in pronunciation. The most striking changes in pronunciation that we considered in Chapter Seven were the changes covered by the rule called

Grimm's Law. The first of these changes was the shift of the Indo-European consonants *p*, *t*, and *k* (=*c*) to *f*, *th*, and *h* in Germanic. This shift is called fricativizing, because *f*, *th*, and *h* are fricative consonants--that is, sounds which produce friction. The second of these changes was the shift of the Indo-European consonants *b*, *d*, and *g* to *p*, *t*, and *k* (=*c*) in Germanic. This shift is called unvoicing because *p*, *t*, and *k*--unlike *b*, *d*, and *g*--are voiceless. That is, when *p*, *t*, and *k* are pronounced, there is no vibration in the vocal cords, or voice box, of the person pronouncing them.

One way to illustrate the working of Grimm's Law is with a circle picture, using curved arrows this way:



This circle illustrates only the labial obstruents--that is, those which are made with the lips rather than with the teeth or the tongue. The broken line going from *f* to *b* indicates that there was, in Proto-Indo-European, a third obstruent that appeared as *f* in some language families but as *b* in others. Most scholars write it as *bh*, but its exact pronunciation is uncertain.

Another way to illustrate Grimm's Law is to give examples of English words from Germanic and from Romance that contain these lip consonants. Here we can use straight arrows to replace the curved arrows used above:

	from Germanic	from Romance
p ⟶ f	few	paucity
b ⟶ p	pout	boudoir
f ⟶ b	break	fragment

Paucity means 'scarcity' or 'fewness'. A *boudoir* used to be a place for pouting but is now a dressing room. And a *fragment* is a piece broken off something.

Changes in Spelling

When written words change their manner of expression, they change their spelling. If the spelling system is phonographic, as all alphabets are, this means changing the way sounds are represented. It does not mean changing the sounds themselves.

An example of a phonographic spelling change in English is the loss of the old English thorn letter, written 'þ' and its replacement by *th*. Words like *this* or *thin* used to be written *þis* and *þin*. The advantage of the thorn letter was that it was a single sign, indicating that *þis* or *þin* began with single consonants, as *sis* and *fin* do.

The disadvantage of the thorn letter, apparently, was that most people outside England were puzzled by it. They didn't have the consonant sound--technically known as an interdental fricative--represented by the thorn. So they didn't use it at all.

During the early Renaissance period, about 500 years ago, the English still felt culturally backward. They wanted to be like more fashionable peoples, such as the French and the Italians. The French did use the letters *t* and *h* together, mostly to spell loan words from Greek that began with *th*, such as *theme*. So the English began to use *th* to replace their old thorn letter.

This spelling change did succeed in making English look more like French, but it has disadvantages, too. One of them is that *t* and *h* together sometimes represent one sound, as in *both*, and sometimes two sounds, as in *boathouse*. In this way, the *th* spelling is less clear than the thorn letter, which never represented more than one sound. Another disadvantage of the spelling change is that, when sign-painters deliberately used old-fashioned lettering on a shop to make it look homey, people misunderstood. Seeing the word *þe*, they read it as *ye*. Some shop-keepers mistakenly wrote *ye*, as in 'Ye Olde Gifte Shoppe'. This made people think that early Englishmen had once used *ye*, with the consonant of *yet*, for *the*, which wasn't true. Such confusion about spelling led easily to confusion about vocabulary.

An example of a logographic spelling change in English isn't easy to find, since most English words are alphabetically written. But many people, when writing English by hand, substitute a single sign for the three-letter word *and*. The sign which used to be substituted was '&', the ampersand. Now that the ampersand is getting to be old-fashioned, the logographic sign substituted is, more and more often, a cursive plus-sign, written '  '.

More striking examples of logographic spelling change come from languages like written Chinese, in which most signs are logograms rather

than phonograms. During the pictographic stage of the development of Chinese writing, the sign for mountain was  In later times, this letter picture was turned into a group of straight lines. The sign is now  , which no longer looks, as it once did, like three mountain peaks.

Changes in Sign Language

When manually signed words change their manner of expression, they change in visual appearance. Since people who are not deaf rarely understand sign language, it is probably best not to give specific illustrations of changes in signed words. Instead, we can make some general statements about changes in the style of American Sign Language (Ameslan) over the past 150 years, when it has been separating itself from French Sign Language. First, although all signing involves the face, hands, and body, Ameslan has been concentrating more and more word information in the hands alone. Second, words in which the two hands operate separately have gotten fewer. Increasingly, one hand mirrors the other. And third, the words which are made up of several parts have become more unified, so that the parts are less noticeable by themselves.

Changes in Meaning

We have said enough about the expression of words--that is, about their pronunciation, spelling, or hand-shape. Let us now say something about their meaning. For, in terms of communication, expression is merely a way of accomplishing a purpose. The purpose itself is to let people know your meaning.

There are four main ways in which meaning can change. The first of these is favor. Over time, a word can develop a meaning that is either more favorable or less favorable in terms of the feeling it suggests. The two English words *knight* and *knave*, for example, seem to have had the same meaning in early Germanic. Both words meant 'boy' or 'young man'. The feeling they suggested was neutral--neither positive nor negative. Eventually, however, the word *knight* came to have the more favorable meaning of 'brave mounted rider' or 'nobleman'. The word *knave*, on the other hand, came to have the unfavorable meaning of 'bad boy' or 'rascal'.

A second way in which meaning can change is in generality. It can become more general, in which case it gets broader in its reference. An example is the English word *place*, borrowed (by way of French and

Latin) from Greek. At first it had the narrow meaning of 'courtyard' or 'village square'. As time passed, however, its meaning became less and less specific. Today a *place* is a location of any kind, anywhere in the universe.

On the other hand, meaning can become less general. An example is the English word *deer*. As late as the time of the playwright William Shakespeare, a *deer* meant an animal of any kind. Now, however, it has the more specific meaning of a furry animal with hooves on its feet and antlers, or branching horns, on its head.

A third way in which meaning can change is in concreteness. Something is concrete when you can see, hear, or touch it. In this sense, books, chairs, and people are concrete. What isn't concrete is abstract. Abstract things can be thought about but not touched or looked at. So ideals like democracy and qualities like goodness are abstract.

An example of an English word that has become more concrete is *youth*. At first, it was a wholly abstract term meaning 'the quality of being young'. But now it also has the concrete meaning of 'a young person', usually 'a young man'. If you hear a sentence that begins with the words 'Youth is....', you can be sure that the word youth is being used abstractly. If, on the other hand, you hear a sentence that begins with the words 'A youth....', you can be sure that it's being used concretely.

An example of an English word that has become less concrete is the verb *ponder*, borrowed from Latin. At first it meant 'to weigh' something concrete, like meat in a butcher shop. This sense of the root of the verb still occurs in the noun *pound*, meaning 12 or 16 ounces, and in the adjective *ponderous*, meaning 'heavy'. But now the only meaning of the word *ponder* is 'to consider' or 'to think carefully about' something--that is, to weigh it abstractly in your mind.

Common Nouns and Proper Names

A fourth way in which meaning can change is in its ability to be used as a proper name. A proper name, usually written with a capital letter at the beginning, refers specifically to a person, such as Queen Elizabeth, or to a place, such as her country, England. The English word *baker*, until about 600 years ago, could be used only as a common noun, to refer to anyone who baked. In the late Middle Ages, however, it came to be a last name. At first, it was used only for people whose job was baking at a bakery. One man in a village, for example, would be called John the Baker, to distinguish him by last name from another man with the same first name, such as John the Miller. Later, John the Baker's name would be shortened to John Baker. Still later, his children

and grandchildren might keep that last name, even though they themselves no longer baked for a living. Today, the word *Baker*, with a capital *B*, can be used only as the last name of a family or an individual.

Sometimes, however, a proper name becomes a common noun. An example of a personal name that has become a common noun is the word *czar*, which we borrowed (by way of Russian) from the Latin name Caesar. Caesar was the name of the last Roman dictator and of his nephew, the first Roman emperor. Today we use it either specifically, to refer to a ruler of pre-Communist Russia, or generally, to refer to any offical with broad powers, such as a baseball commissioner.

An example of a place name that has become a common noun is the word *copper*, referring to the red metal from which bronze is made by adding tin to it. English *copper* comes, by way of Latin, from Greek. In Greek, this word--spelled *kupros*--was first used only as the name of the Mediterranean island of Cyprus, just south of modern Turkey. But later it was also used for the red metal that was so intensively mined there.

So far, we have discussed meaning changes in four different areas; favor, generality, concreteness, and what we might call 'nameliness'. In all four of these areas, meaning can move in either a positive or a negative direction. It can become more favorable or less favorable, more general or less general, and so on. There is apparently no consistent direction in which meaning changes in these cases.

From Touch and Taste to Sound and Sight

There is, however, one area of meaning in which change seems to proceed quite consistently in only one direction. This is the area of figurative use of words for sense impressions. (Words are used figuratively when they are not given their simplest and most concrete meaning. For instance, when a man is called 'the head of his company', no one means literally that he has no arms, legs, or body. The word *head* is being used figuratively to mean 'boss'.) Sense impressions are impressions that come to us through our sense organs, such as our eyes, ears, noses, tongues, or finger-tips. The senses that these organs give us are called the senses of sight, hearing, smell, taste, and touch.

The sense of touch is the sense which requires us to be closest to whatever is sensed, and the sense of sight is the sense that allows us to be farthest away. To touch something, we must have it within reach. But we can see things, like the moon, that are thousands of miles away. So the senses can be arranged in a series, from the closest to the most distant, this way:

touch, taste, smell, hearing, sight

English words that describe these senses can be arranged the same way. We say, for instance, that something feels rough, tastes sweet, smells putrid, sounds noisy, or looks bright. So the series of impressions, starting with what has to be close and ending with what can can be far away, is this:

rough, sweet, putrid, noisy, bright

Sometimes descriptive words of this kind extend their meanings. They start off referring to only one sense but later develop references to another sense. An example is the adjective *clear*, which began as a description of sound (related to the noun *clamor*) but now refers primarily to the way something looks.

Interestingly, when the meanings of adjectives for sense impressions change, they shift in only one direction--from close to far. Examples of this directional rule are given in the columns below:

touch	taste	smell	sound	sight
sharp	(sharp)			
pungent		(pungent)		
soft			(soft)	
harsh				(harsh)
	sweet	(sweet)	(sweet)	(sweet)
			loud	(loud)

In each row, the descriptive word that comes first has the older meaning. The one that come afterward, enclosed in parentheses, has the later meaning. The word *sharp* (related to *shears*) first referred to something that feels like broken glass but later referred also to something that tastes like vinegar. The word *pungent* (related to *puncture*) first referred to something that pricks like a needle but later to something that smells like ginger. The word *soft* first referred to something that feels like goose-down but later to something that sounds like background music. And the word *harsh* (related to *hard*) first referred to something that scrapes the skin but later to something that has a bright but unpleasant color.

The word *sweet* refers primarily to something that tastes like sugar. However, it can also have meanings that involve smell, sound, and sight. 'Sweet' can describe the odor of a flower, the sound of singing, or someone's smile.

Words describing odors are peculiar in two ways. Although they can be derived from words describing sensations of touch or taste, they cannot themselves be sources of words describing sights and sounds. Furthermore, they are never one-syllable words like *dark* or *sour*. Instead, they are always 'fancy' words with foreign suffixes, like *acrid*, which, in Latin, meant 'sharp'. (An acrid odor is one that smells like burning tar.) The reason for this may be our negative attitude toward odors. When we hear that something smells, we rarely ask whether it smells good or bad. We assume that smells are bad unless we are told otherwise.

Shifts of reference from sound to sight are as common as shifts from touch to any of the more distant senses. An example of such a shift is use of the adjective *loud*, describing a noise, for something seen, such as a colorful shirt. Anyone who calls a shirt 'loud' probably thinks its colors are too bright. A slangier way to say this is to call the shirt 'screamy'.

How Sentences Change

Now that we've seen how words change, let's talk about how sentences change. One way in which sentences can change is in grammar. An aspect of grammar is the order in which words occur in sentences. Until recently, it used to be common in English to put verbs before subjects in statements of iffy conditions. For instance, people might say, 'Were I king, I'd change the law'. Today, however, they'd be more likely to use ordinary word order and say, 'If I were king, I'd change the law'.

Actually, of course, even this way of speaking probably seems a bit high-falutin' to you. If you said this kind of thing at all, you'd probably say, 'If I was king, I'd change the law'. In this case, what you'd be doing is changing the verb in the if-clause from what grammar books call the subjunctive mood to what they call the indicative mood. In effect, you'd be dropping the subjunctive mood altogether. This is not surprising, since the subjunctive mood is rare. And rare ways of saying things, being hard to learn, are easy to forget.

Instead of involving word order, the above kind of grammatical change involves word form. Some grammatical changes involve both. An example is a question often asked on the telephone. The old-fashioned form of that question is, 'To whom am I speaking?'. The newer form is, 'Who am I speaking to?'. In the newer form, the objective ending *-m* is dropped, and the preposition *to* is shifted to the end of the sentence.

How Vocabularies Change

Another way in which sentences can change is in vocabulary. When vocabulary changes, it's not just the form of a word or group of words that changes. Instead, new words or groups of words are used.

In Chapter Seven, we talked about words that were borrowed by English from Danish, French, Latin, and Greek and how they produced doublets in English. All borrowed words change the vocabulary of the borrowing language, either by replacing the native words completely or by giving speakers a choice between native and borrowed words.

The areas of meaning that invite borrowing are not a matter of chance. Some kinds of words are, in any language, likely to be borrowed. Others are not. The kinds of words NOT likely to be borrowed are:

1. personal pronouns, like *you* and *I*
2. kin terms, like *mother* or *son*
3. words for body parts, like *hand* or *eye*
4. number words, like *two* or *ten*
5. words for colors, like *white* or *red*
6. words for large objects in the sky, like *sun* or *moon*

Every one of the sample words given above came to us from Germanic by way of Old English. None is borrowed.

Specialized Vocabularies

The kinds of words that are borrowed are highly specialized. The first wave of specialized vocabulary that came into English, about 1300 years ago, consisted of religious terms. Words like *church* and *priest* came to us, by way of Latin, from Greek. The people who brought them were Christian missionaries from the European mainland. The reason why they look like native English words is that we have had them so long. Before the Norman Conquest, the word *church* was pronounced with three syllables; during the Middle Ages, it was pronounced with two; now it has only one.

The next wave of specialized vocabulary that entered English came from French and resulted from the Norman Conquest. As early as the Middle Ages, the French were famous for their elegant cooking. We have already seen, in Chapter Seven, how English borrowed words like *beef* and *pork* from French while keeping its own words *cow* and *pig*. When they were still alive, these animals were called by their Old English names. But, after they were cooked and served, they got French names.

Here too, the shortness of these loan words is clear evidence that they have been in English for hundreds of years and so have come to look more and more like native words.

The third wave of specialized vocabulary to enter English came when the Middle Ages ended, about 500 years ago. This period, called the Renaissance, involved a great revival of ancient Greek and Latin learning. Typical of the borrowed vocabulary of this time were words borrowed directly from Latin, like *literature* and *education*. These words have not been in English long enough to have gotten shortened.

The fourth and last wave of specialized vocabulary that came into English resulted from the Industrial Revolution of the last 200 years. This revolution was due mainly to the development of modern science and its effects in the area of mechanical invention. Words typical of this most recent period of borrowing are such terms as *automobile* and *television*. Both of these words have Greek 'heads' (*auto-* and *tele-*) combined with Latin 'tails' (*mobile* and *vision*). The literal meaning of *automobile* is 'self-mover'; the literal meaning of *television* is 'distant seeing'.

Where Our Names Come From

There was only one kind of special vocabulary that kept filtering into English throughout the entire period of 1500 years during which English has been spoken in Great Britain. This special vocabulary consisted of proper names, most of which were the personal names of people. If we look at the 100 most common first names of English-speaking people around the world, we find that barely a quarter of them are native. That is, fewer than 25 of them are names of Germanic origin that were used by the earliest Englishmen.

The largest group of these first names is of Semitic origin and comes from Hebrew. The second largest group is of Romance origin and comes from Latin or French. The third largest is Germanic in origin and comes from Old English. The fourth largest is of Hellenic origin and comes from Greek. The smallest group of first names used by English-speakers is of Celtic origin and comes from Gaelic or Welsh. Well-known men's and women's names from all these groups are given below, along with the meanings that these names originally had:

	man's name	woman's name
1. Semitic	John 'God's mercy'	Elizabeth 'devoted to God'
2. Romance	Charles 'darling'	Amy 'loved'
3. Germanic	Edward 'guardian of wealth'	Mildred 'gentle advisor'
4. Hellenic	George 'farmer'	Margaret 'pearl'
5. Celtic	Donald 'world ruler'	Jennifer 'white spirit'

Why do so few of the first names of today's English-speakers come from Old English names like *Wulfstan* (wolf stone) or *Aethelred* (noble counselor)? Probably because, when the English became Christian, about 1300 years ago, they felt that their children should not have heathen names. Instead, they wanted their children to have Bible names. Nearly all the names in the early part of the Bible are Hebrew. This explains the popularity of names like *Abraham* and *Sarah* in our history. But, since many of the earliest Christians mentioned in the Gospels were Greeks or Romans, names like *Helen* and *Paul* also became popular.

Just as common nouns have doublets (of the kind discussed in Chapter Seven), so do proper names. Some of these doublets are produced by the choice we have of either keeping or dropping Greek and Latin word endings. The names *Dorothy* and *Mark*, for example, were written *Dorothea* in Greek and *Marcus* in Latin. Today we can call a girl either *Dorothea* or *Dorothy* and a boy either *Marcus* or *Mark*.

Other name doublets are produced by detours in the borrowing process. The name *Ann*, for instance, comes from Hebrew *Hannah*, meaning 'mercy'. The form *Hannah* was borrowed directly from Hebrew, while the form *Ann* was borrowed from the French after they had borrowed it from Hebrew. And the name *Roy* comes from Latin *Rex*, meaning 'king'. *Rex* (related to *regal*) came directly from Latin, but *Roy* (related to *royal*) detoured through French.

Sometimes variants of names come in groups of three rather than only two. One example of name triplets is *Julia=Julie=Jill*. In this case, *Julia* is the Latin form, *Julie* the French form, and *Jill* the English form. Another example is *John=Ian=Shawn*. Here *John* is the English form, *Ian* the Scottish form, and *Shawn* the Irish form of an originally Hebrew name.

Why do Languages Change?

The title of this chapter required us to consider how languages change. And we have done this. But anyone who learns HOW languages change can't help wondering WHY languages change.

In the past, language scholars had various ideas about this question. Some said that languages change because they spread to people of a different race whose lips and noses are shaped differently. Others said that languages change because their speakers move into different regions with different climates. Neither of these explanations is accepted today. But no better explanation has been given, either. After some thought, you may be able to offer an explanation of language change that is accepted by most language scholars. If so, you will have made a great contribution to language study!

CHAPTER NINE

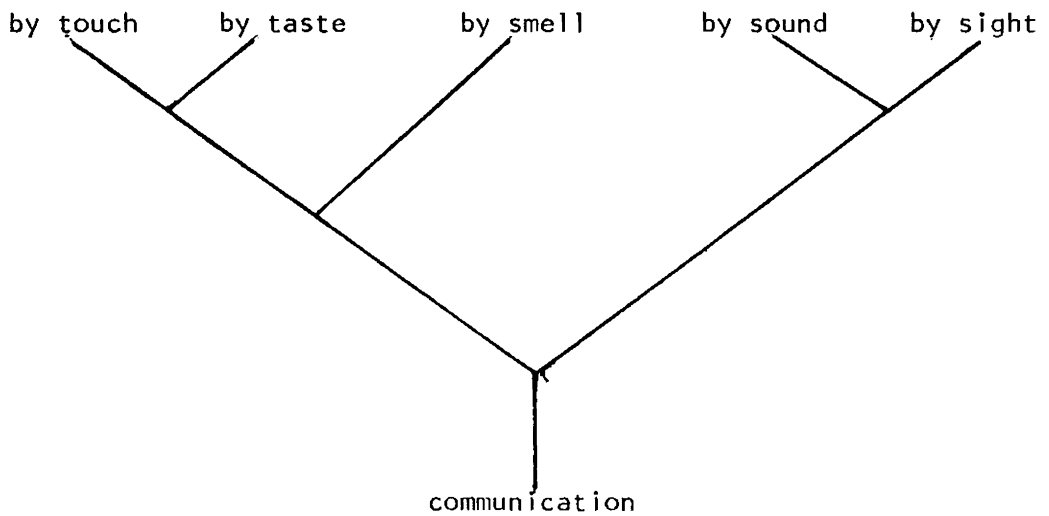
HOW LANGUAGE BEGAN

No one knows exactly how, when, or where language began. But we do know that language is only one of several forms of communication. And we also know that all living things communicate with others of their kind. If this were not so, there would be no flocks of birds, schools of fish, or herds of animals of any kind. Worse yet, animals would not mate and have offspring. People would have no families. Eventually, the earth would be deserted.

Language as One Form of Communication

We know, then, that communication is important. And we know that language, as one kind of communication, is important too. Our approach to language from the beginning of this book has been in terms of family relationships. We have grouped the words of our own language into families. And we have grouped the languages of the world into families. So it seems only right that we should look for family relationships between language itself and other kinds of communication.

Such family relationships are not hard to find. The easiest way to find them is to think in terms of the senses that we discussed in Chapter 8. These senses range, as we saw, from close contact kinds, like touch and taste, to more remote kinds, like hearing and seeing. We can make up a family tree of the kinds of communication, using another stick picture, this way:



When we do this, it becomes clear that language belongs only on the right hand branch of the Y-shaped tree above. Another way to say this is to call language an audio-visual system. Language is designed to be received by our eyes and ears rather than by our tongues and noses.

Human Communication without Language

This does not mean, of course, that all our communication by sound and sight is language. When we smile at a toddler or wave to a friend, we are not speaking or writing. For that matter, we are not even using sign language. For manual signs can be divided into word-like parts, but smiles can't be divided that way.

Likewise, when we groan, laugh, or scream, we are not talking. Even though these three sounds involve use of the voice, no one of them is made up of roots or affixes. Even the voice sounds sometimes represented in writing as *uh-huh* and *yech!* are not spoken words. The best way to make sure of this is to note that both of them contain sounds which are not among the normal vowels and consonants of English. The *u* of *uh-huh* is nasalized, as though it were French. And the *ch* of *yech* has a fricative sound like that of German. Neither *uh-huh* nor *yech* rhymes with any real English word.

What Makes Language Special

How, then, does language differ from other forms of audio-visual communication? Three of the marks of language that are most often mentioned by language scholars are these:

1. ordering
2. layering
3. creativity

Ordering is putting things in a certain order, one after the other. To illustrate its unimportance outside of language, we may take the example of laughter. Laughter can consist of both giggles and guffaws. But it makes no difference whether the giggles come before or after the guffaws. Either way, laughter communicates the idea that something is funny.

In speech or writing, however, ordering is very important. A change of order often makes for a change of meaning. If, for example, you take the letter *a* from the middle of the word *cat* and put it at the beginning of the word, you get *act*--a completely different word. Or, if you reverse the order of the two words in the sentence 'She did', you turn it into 'Did she?'. Here you have changed a statement of fact into a question.

The layering of language is a little like the layering of the earth's crust. In the top layer, you may find tiny grains of sand or soil. Under that, there may be a layer of small stones and pebbles. Beneath both, you find huge rocks and boulders.

Similarly, language has a layer of small units, such as letters; a layer of middle-size units, such as words; and a layer of large units, such as sentences. But the difference between the layers of language is not merely a difference between the sizes of their units. It is also a difference in meaning. The letter *e*, for example, has no meaning by itself. It isn't until it's put into a word, such as *she*, that it takes part in meaning. In this respect, letters and the sounds that they represent are like building-blocks. Although no one can live in a building-block, people can live in a house that's built out of blocks.

The word *she*, as we said, does have meaning. It means a female, such as a woman. But by itself it does not tell us which female is being talked about or what is being said about her. To get this kind of information, we have to go from the word level to the sentence level--the level of statement or declaration. An example would be, 'I like Sue because she's so friendly'.

The creativity of language is its ability to create new messages from old units. Sometimes this means creating new words, as the British writer Lewis Carroll did when he blended the two familiar verbs *chuckle* and *snort* to make the new verb *chortle*. What is new about the word *chortle* isn't the letters or sounds in it but its lively meaning.

More often, the creativity of language comes out not in making new words but in using old words to create new sentences or combinations of sentences. Any long conversation, for example, or any book is likely to be new in the sense that the exact sequence of words and sentences in it has never been heard or seen before. And, with luck, this new sequence may give us some new ideas or feelings--ideas or feelings that we've never had before.

This ability of language to create newness seems to be special. Groans and laughter don't have it. Even if we groan or laugh in a slightly different way from time to time, our groans and laughter still carry the same message of annoyance or pleasure as before.

Nearly all language scholars agree that language is a very special kind of communication. They also agree that language carries more information on a greater number of subjects than any other communication system known.

Ideas about the Beginnings of Language

What language scholars can't agree on is how language grew out of simpler ways of communicating. During the lifetime of Jacob Grimm, about 150 years ago, various different ideas about how language began first appeared. To each scholar who suggested an idea, other scholars' ideas seemed silly. Scholars soon started giving nicknames to each other's ideas. The nicknames were intended to make the ideas involved sound funny. Here are some of the many nicknames used at that time:

1. The Bow-Wow Theory
2. The Click-Clack Theory
3. The Yo-He-Ho Theory
4. The Sing-Song Theory

The Bow-Wow Theory was the idea that language began as an effort to communicate about things and happenings by imitating them. The word *bow-wow*, of course, is supposed to mimic the bark of a dog. Even today, small children who are still learning to speak English often call dogs 'bow-wows'.

The Click-Clack Theory was the idea that language began with imitative gestures made by the hands but soon shifted from the hands to the mouth. 'Click-Clack' scholars believed that the tongue came to move in imitation of a finger. Their theory was one of imitation twice over. What they seemed to be saying was that, after gesture imitated the outside world, speech imitated gesture.

The Yo-He-Ho Theory was the idea that language grew out of the use of the voice to go along with hard work. The 'Yo-He-Ho' scholars saw talking as an outgrowth of grunting. But they seem to have believed that it had the effect of getting people to work together and to work harder.

The Sing-Song Theory was the idea that singing came before talking. Although this idea seems strange at first, it gets some support from the history of writing. You may remember from reading Chapter Six that pictures are older than letters. This fact suggests that artistic expression may have appeared before the hands or the voice were used to pass along practical information.

For a while after these four theories got their nicknames, most scholars gave up trying to discover how language began. They said there just wasn't enough evidence either to prove or disprove any of the theories.

New Evidence

During the past 35 years, however, some of the missing evidence has started to turn up. For instance, we now know far more than we used to about how prehistoric human beings looked and acted. We know much more about the way animals communicate. We have more examples of prehistoric art. And we have many studies of the way babies in all parts of the world learn the languages of their parents.[1]

The result of these new kinds of information is that scholars no longer refuse to think about how language began. But they still disagree about the answer to the question.

Manualists versus Oralists

The two most important ways of thinking about the earliest kind of language are called *manualism* and *oralism*. The manualists believe that language started with hand gestures which could be seen but not heard. The oralists believe that language started with voice signals which could be heard but not seen.

What are the arguments for these two positions? Manualism is supported mainly by the fact that our closest relatives, the great apes, can learn manual sign language but not speech. Oralism, on the other hand, is strongly supported by the fact that speech is the dominant form of language among all peoples today.

At present, neither one of these two views has a clear advantage over the other. And even if the oralists and the manualists could agree about whether the earliest language was seen or heard, they would still have other questions to answer.

When Language Began

The most difficult of these other questions has to do with the age of language. How old is it? All we know for sure is that it is at least 5,000 years old, since we have writings that go back that far. Nearly all language scholars agree that unwritten language must be a lot older than written language. But how much older?

There are no scholars who now think that language is less than about forty thousand years old or more than about three million years old. The range, however, between an age of thousands of years **and** an age of millions is huge!

Where Language Began

Answers to the question of where language began are not much more precise than answers to the question of how old language is. Most scholars believe that language began somewhere in the warmer parts of the Eastern Hemisphere. This means somewhere in Africa or in the southern part of Europe or Asia. But our uncertainty about place is almost as great as our uncertainty about time. That uncertainty must be measured in thousands of miles.

Language and the Study of Early Man

At this point, language scholars turn for help to prehistorians, who study the period before historical records were kept. They also talk with anthropologists, archeologists, and paleontologists--scholars who study different varieties of human beings, buried tools, and vanished animals. Unfortunately, none of these other scholars can give them easy answers to language questions.

By putting their heads together, the best that all these different kinds of scholars can come up with is an idea of the additional evidence we need. If we are to discover how and when language began, we need to look further for bones and teeth of the earliest human beings. We need to find out whether there are monkeys, such as the baboon, or apes, such as the orang-utan, who can learn as much sign language as chimpanzees and gorillas already have learned. We need to decipher some early writing systems, such as the Indus Valley script of ancient Pakistan, which have so far resisted scholars' attempts to understand them.

To discover the beginnings of language, we need all these kinds of information and more besides. We also need creative imagination and lasting curiosity of mind. If you yourself get interested in finding out how language began, one day you may be able to answer some of the questions that this chapter has done little more than ask.

CHAPTER TEN

THE FUTURE OF LANGUAGE

The central theme of this book has been the theme of language families. Throughout most of history, mother languages have given rise to daughter languages. These daughter languages have then been sister languages to each other.

Each group of sister languages is a language family, whether or not their mother language continues in use. French and Spanish, as we have seen, are part of a Romance language family. This family is strong and important, even though its mother language, Latin, is not often spoken or written any more.

Until the time of the Renaissance in Europe, about 500 years ago, language families all over the world were growing. New daughter languages were appearing. Often these daughter languages became mother languages and had still more daughter languages of their own. In this way, language families came to be linked together in superfamilies.

The Effects of Printing

During and after the Renaissance, however, language was powerfully affected by a new development. That development was the invention of machines which could copy and spread what was written or spoken.

The first of these machines was the printing press. It was able to produce thousands of copies of popular books like the Bible.

Before printing was invented, each book existed in one copy only. Copies, if they were made at all, had to be made one at a time. And the copier was a single person, such as a monk in a monastery, who copied the book by hand. This kind of copying was hard and slow. Few copies were produced, and those few often contained accidental errors.

But, once printing became widespread, books of all kinds got correctly copied. So did periodicals. Periodicals are printed materials, usually shorter than books, which are put out at the end of a period, such as a day or a month. The best known periodicals are newspapers and magazines.

Telegraphing and Recording

About 140 years ago, the telegraph was invented. The telegraph, whose name literally meant 'far-writer', made it possible to send

messages miles away almost instantly. It did this by sending coded letters of the alphabet over electrified wires.

About 100 years ago, sound recording was invented. It permitted people to listen to speeches and songs by the most highly admired speakers and singers of their day, even after the deaths of the people recorded.

Radio and Television

About 80 years ago, radio was invented. It communicated speech rather than writing. And it could broadcast in all directions rather than only along wires strung on poles.

Finally, about 50 years ago, television was invented. It could communicate either speech or writing--or both at once.

Standardizing Language

All these mechanical inventions, taken together, had the effect of standardizing the languages of the people who used them. Languages were standardized in space, because people from all parts of a country could listen to the same broadcasts. And languages were standardized in time, because people could now have correct copies of the writings and spoken words of famous writers and speakers of the past.

These two kinds of standardization have prevented the appearance of new languages during the past few hundred years. A new language can appear only when the varieties of one language become so different that they turn into two or more languages. Standardization slows down or prevents the development of major language varieties.

One apparent exception to this rule should probably be mentioned. American Sign Language (or Ameslan), as we saw in Chapter Six, developed from French Sign Language during the past 140 years. But the reason why this change of language occurred is that French Sign Language, unlike spoken or written French, was not standardized. Recently, however, sign languages have been recorded in three ways. One is by a notation system like that for written music. Another is by still photography. And the third, which is the most effective, is by silent movies. What these recordings will almost certainly do is slow down the rate of change in sign languages.

Standardization can not only prevent the development of new languages. It can also speed up the disappearance of old languages. The disappearing languages, of course, are rarely national languages. They

are usually the languages of minority groups who don't print or broadcast much. In Great Britain, for example, Welsh is being replaced by English; and, in France, Breton is being replaced by French.

But standardization is not always a smooth process. Although Hindi is the official language of India, the Tamil of the southern tip of India don't want to learn Hindi. In fact, they have rioted violently in the streets to protest against having to learn a language so different from their own. Since many Tamil-speakers died in these riots, it seems clear that, to them, language is literally a life-and-death matter!

In other countries, the direction of standardization is not clear. In Belgium, for example, there are two official languages. One is French, spoken both in southeastern Belgium and in neighboring France. The other is Flemish, the local name of the variety of Dutch spoken in northwestern Belgium. Dutch is also spoken, of course, in the Netherlands, just north of Belgium. At the Belgian university of Louvain, students had fist-fights in a dispute over the language of the classrooms. Some wanted it to be French; others wanted it to be Flemish. In the end, the university was divided in half. In one half, lectures are now given only in French; in the other half, they are given only in Flemish.

In Canada, both English and French are official languages. But Quebec is the only province in which French is more widely spoken than English. There, however, French was recently made the official language of government, education, and business for the province. Since, in the larger businesses of Quebec, most people speak only English, many businesses are now moving to other provinces or to the United States.

In the United States, of course, English is the only official language. But 30 million Americans, mostly in the southwestern states, speak Spanish at home. Because Spanish-speaking Americans usually have more children than English-speaking Americans do, Spanish may one day come to be the first language of most Americans. If that happens, the United States may decide to have two official languages--English and Spanish.

International Languages

Language conflicts within nations are serious and can even, as in India, cause the loss of some lives. But riots are not nearly as dangerous as wars. Since wars are usually fought only by the governments of rival nations, it has been argued that we should try hard to avoid language difficulties between nations.

One of the most obvious difficulties at international meetings is deciding what language or languages to use. Each national representative usually prefers to use his own language. When many nations are represented, however, this solution of the language problem won't work. Too much time is taken up by translating each language into all the others.

Aritificial Languages

The easiest way to avoid translations is to use only one language at each meeting of nations. But which language? Before we try to answer that question, perhaps we should ask another: what kind of language? For at least 100 years, it's been recognized that an international language could be of either of two kinds--natural or artificial. A natural language is one that is spoken at home in a country or a part of a country. Today the natural language most often spoken at international meetings is English.

An artificial language is one that's invented. The best known and most widely used artificial language is Esperanto, whose name means 'the hopeful one'. It was created by Ludwik Zamenhof nearly 100 years ago in Poland. Its vocabulary is drawn entirely from European languages. And its grammar is completely regular: it contains no irregular word groups like the English verb *be/am/was*.

The advantage of a natural language is that many people already speak it as their first language and many others have already learned it in school. The disadvantage of a natural language is that it inevitably favors one country or group of countries over others. English, for example, would favor Great Britain, Canada, Australia, New Zealand, and the United States. Russian, on the other hand, would favor the Soviet Union. And Spanish would favor Spain and most of the Latin American countries.

The advantage of an artificial language is that it is not directly associated with any one country or group of countries. Furthermore, its regularity makes it somewhat easier to learn than any natural languages, all of which have irregularities.

Every artificial language, however, gets its structure and its vocabulary from some natural language or group of natural languages. Since most inventors of artificial languages have been Europeans, most of the structure and vocabulary of these languages have turned out to be European. More precisely, most artificial languages have been based on Indo-European languages of the Germanic family or the Romance family.

This fact has made it easy for speakers of languages like German or Italian to learn languages like Esperanto. For speakers of languages like Polish, Esperanto is a little harder. For speakers of languages like Persian or Bengali, it is still harder. But, since all these languages are Indo-European, all of them have a head start in learning Esperanto or any other language with a European base. For speakers of any of the East Asian languages, however, European language structures and vocabulary are strange and difficult to learn, whether they are natural or artificial.

Auxiliary Languages

Most of those who say that we should have an international language are thinking of an auxiliary language. An auxiliary language is a helping language. That is, it is a language which is used in addition to people's first languages or national languages. It is not intended to replace other languages. It is meant only to be used as a neutral language when people speaking different languages meet.

A few people who favor an international language, however, would like to see it replace all other languages. They argue that a language is not just a way of talking or writing but also a way of thinking. They believe that people with different home languages will always think differently, whatever language they use at conferences. And they are afraid that differences in thinking will lead first to differences of opinion and then to conflict, including war.

An international language of the auxiliary kind would have little effect on national languages and no effect on language families. But an international language that replaced all other languages would put an end both to national languages and to language families.

Furthermore, there is no assurance that a single language would prevent wars. Both our Revolutionary War and our Civil War were fought by English-speakers against English-speakers. Many of those who are against a replacement language also claim that it would make the world less interesting if we all spoke and wrote the same language. They enjoy variety and think that a world with only one language would be dull.

So the arguments for and against an international language continue. Meanwhile, however, more and more people are learning English as a second language, because so much of the world's business and science is carried on in English. These people think that artificial languages like Esperanto will never catch on and that natural languages other than English have been left behind.

Many people call the triumph of English, as least as an auxiliary language, unavoidable. They believe that some day everyone who wants to be part of the modern world will have to learn English.

Spelling Reform

But some of them think that learning English is now harder than it needs to be. What makes English so hard to learn, they say, is that its spelling does not match its pronunciation. Many words that look as if they rhyme--such as *tough*, *though*, or *through*--don't rhyme. At the same time, many words that look as if they don't rhyme--such as *be*, *see*, or *tea*--do rhyme.

To make English spelling fit English pronunciation, these people say, we should have spelling reform. It would be helpful both to children who speak English but haven't yet learned to spell and to foreigners who don't know English but want to learn it. Some very well known people, such as President Theodore Roosevelt and the British writer George Bernard Shaw, have argued strongly for spelling reform.

Why do we have silent letters, like the *k*, *g*, and *h* in *knight*? We have them because, until about 500 years ago, we pronounced them. But why did people keep writing them even after they stopped saying them? Probably because early printers needed a standardized spelling and didn't want to change it.

And why, finally, won't people today agree to make our spelling system easier, as so many distinguished leaders and scholars have urged them to? The reason seems to be that, even though they admit that English spelling is hard, most people have now learned it. And, after having spent years learning it, they don't want to have to spend more years 'unlearning' it. They also admit that someone should teach a simpler spelling system and everyone should then learn it. But they want this 'relearning' to happen far in the future, after they are gone.

Language Trends

Since the exploration of outer space that began in the 1960s, the future has been on most people's minds. A result of this has been the appearance of a new group of experts called *futurists*. Futurists are people who try to predict the future in a scientific way. For them, the scientific way of predicting is looking at the trends of the recent past and extending those trends into the future.

The Growth of Literacy

In the area of language, the most obvious trend all over the world in the past generation has been the growth of literacy. Literacy is the ability to read and write. Until recently, most of the people in the world were not literate. They couldn't read newspapers or write letters. But now most people can read and write. And soon nearly everyone will be able to do these things.

Optimists, who expect things to improve, see world literacy as a very hopeful sign. They believe that people who can read and write will think for themselves. And they feel sure that people who think for themselves won't let their leaders drag them into wars or other destructive activities.

But pessimists, who expect things to get worse, are doubtful about the good effects of literacy. They remind us that Germany was the most literate country in the world in the 1930s, when Adolf Hitler's Nazi Party was voted into power and began preparing to conquer Europe and to destroy Europe's Jews and Gypsies.

Disappearing Languages

Another major language trend has been the disappearance of languages spoken by only a few hundred or a few thousand people. Most of these disappearing languages are unwritten. And most of the people who speak them feed themselves by hunting, gathering wild plants, or keeping small vegetable gardens. All but a handful of the American Indians, from Canada to Argentina, speak languages that will soon disappear if they have not already disappeared.

The disappearance of a language, of course, does not usually mean the disappearance of the people who speak it. In most cases, these people learn the official language of the country in which they are living. In North America, most of the Indians learn English; in South America, most of them learn Spanish.

Language and Population

This shift from local languages to national languages is part of a third major trend: the huge increase in the number of people who speak the world's major languages. These include not only European languages like Spanish and English but also Asian languages like Hindi and Mandarin Chinese. In all these cases, the chief reason for the increase in the number of major-language speakers is simply the rapid growth of the population in places like East Asia and Latin America.

Conclusion

More languages will undoubtedly disappear. But many will last. And most languages will continue to belong to language families.

For 200 years, scholars have been fascinated by language families. They have kept discovering more families and finding ways to fit those families into superfamilies.

As long as human beings remain human, they will be interested in trying to understand themselves and their own creations. Since language may be the most important of all our creations, we have good reason to keep trying to understand it better.

APPENDIX A

EXTINCT LANGUAGES

Extinct Language Families

Although dead languages are fairly common, dead families are less common. But they are known.

The most important of the extinct language families in the Indo-European superfamily was Anatolian. Anatolia is the old name for the southwest Asian peninsula now called Turkey.

Within the Anatolian family, the most important language was Hittite. Hittite was the chief language of a great empire which competed successfully, for over a thousand years, with the empires of Egypt and Babylonia. And, of all the Indo-European languages, Hittite was the first to be written. Some of its court records date back to about 1850 B.C.

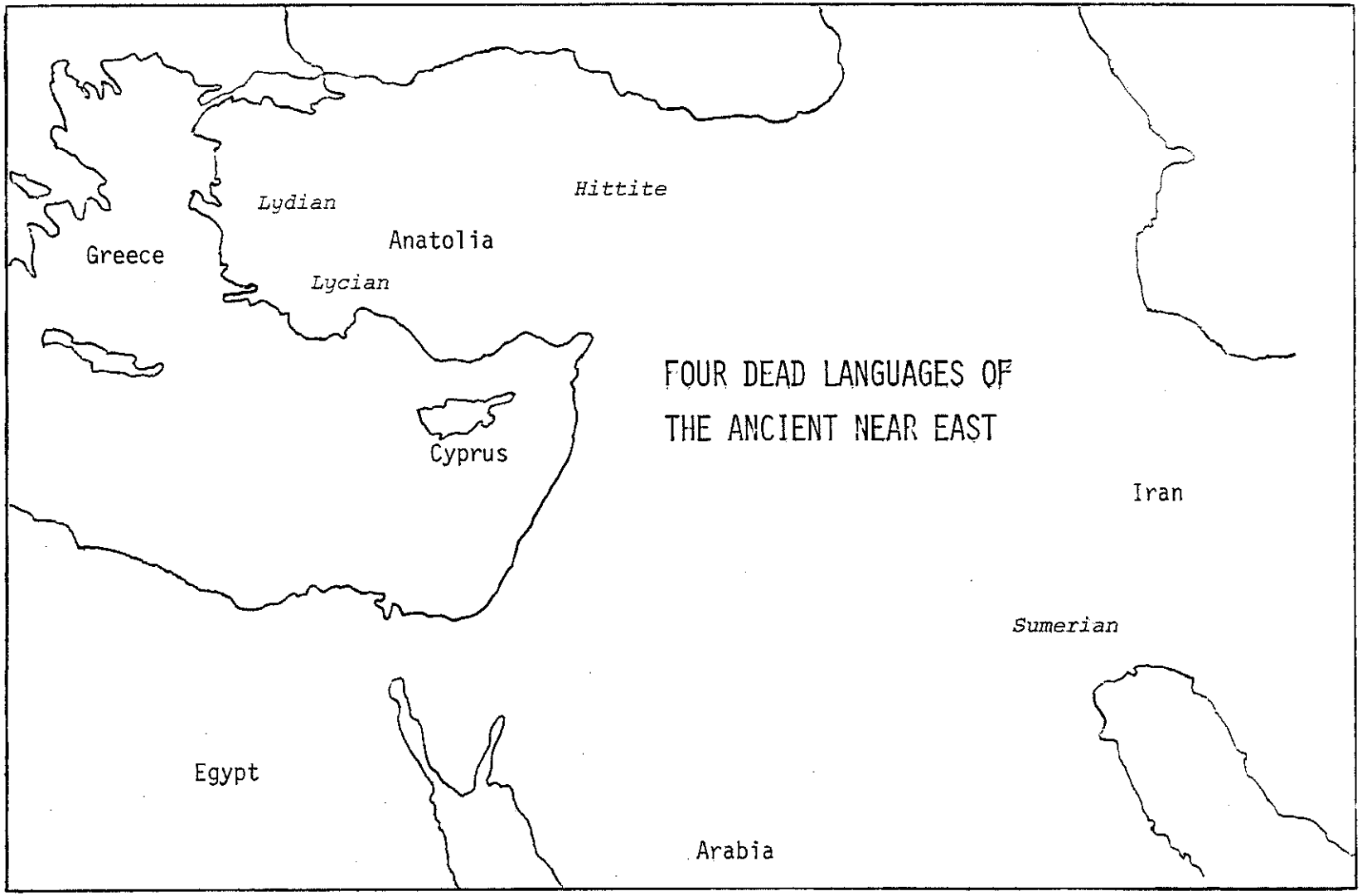
Two of the sister languages of Hittite were Lydian and Lycian. While Hittite was spoken in eastern Anatolia, Lydian was spoken in western Anatolia and Lycian in south-western Anatolia. The Lydians were the inventors of coins. The Lycians were active sailors and traders. When the Macedonians conquered Anatolia about 300 B.C., all the Anatolian languages were replaced by Greek.

Dead Languages

Some spoken languages don't belong in speech families. And some languages that were once spoken are no longer spoken.

A good example of a language that is both isolated and dead is Sumerian, the language of the southern part of what is now Iraq. Sumerian had no sister languages that we know of. Although it began to be written about 3500 B.C., it was no longer spoken after about 2500 B.C.

But, because it was the first of all languages to be written, it continued to be regarded as the language of the gods. For two thousand years after its spoken form died, the Semitic-speaking peoples of the ancient Near East continued to write Sumerian. (You can read about Sumerian writing in Chapter 6.)


FOUR DEAD LANGUAGES OF
THE ANCIENT NEAR EAST
Lydian
Hittite
Anatolia
Greece
Lycian
Cyprus
Iran
Sumerian
Egypt
Arabia

APPENDIX B

PIDGIN AND CREOLE LANGUAGES

Pidgin Languages

The literal meaning of the word *pidgin* is 'business'. Pidgins are languages used for trade by two peoples who don't understand each other's home languages. No one grows up speaking a pidgin.

A pidgin usually combines the vocabulary of a European language with the structure of a native African, Asian, or American language. The best known pidgin today is Neo-Melanesian, which is spoken as a second language by nearly everyone in New Guinea and the islands just east of it in the South Pacific Ocean. Neo-Melanesian vocabulary is mostly English. But its pronunciation and grammar are mostly Malayo-Polynesian.

Creole Languages

Sometimes a pidgin language gets used so widely that children learn it at home. If they learn it before they learn any other language, it becomes their native language. When this happens, the language is no longer a pidgin. Instead it is a *creole*.

The average vocabulary of a pidgin is only about 1,000 words. But the average vocabulary of a creole is at least 10,000 words.

One of the best known creoles spoken today is Haitian. Haitian is used in the western part of the island of Hispaniola, just east of Cuba in the Caribbean Sea.

The vocabulary of Haitian is almost entirely French. But the structure of Haitian is largely derived from that of the Niger-Kordofanian languages of the west coast of Africa. Although standard French is the official language of the Republic of Haiti, most Haitians speak only Haitian creole.

Former Creoles?

We know that pidgins can turn into creoles. In fact, now that Neo-Melanesian pidgin has been made the official language of eastern New Guinea, it is becoming a creole.

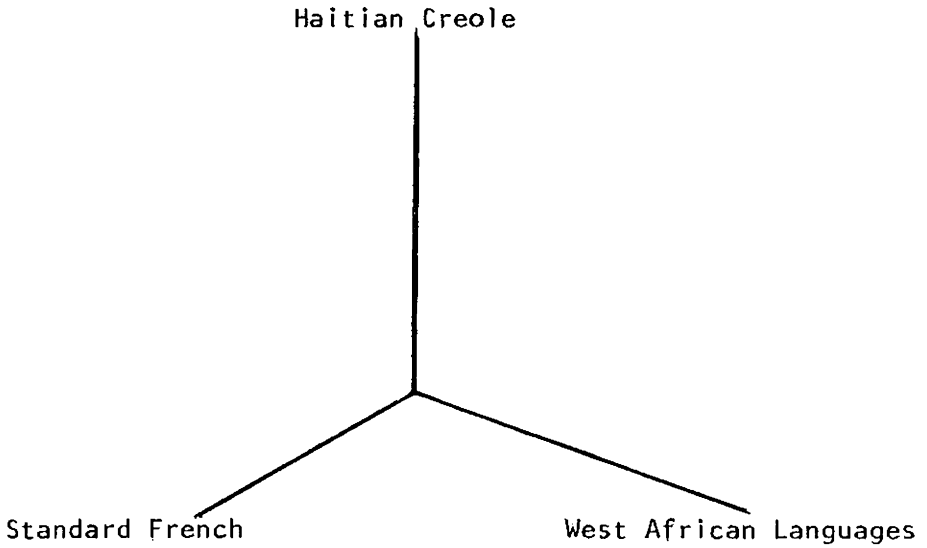
It is also possible that many of the better known languages spoken today were once creoles. A conspicuous example of this possibility is

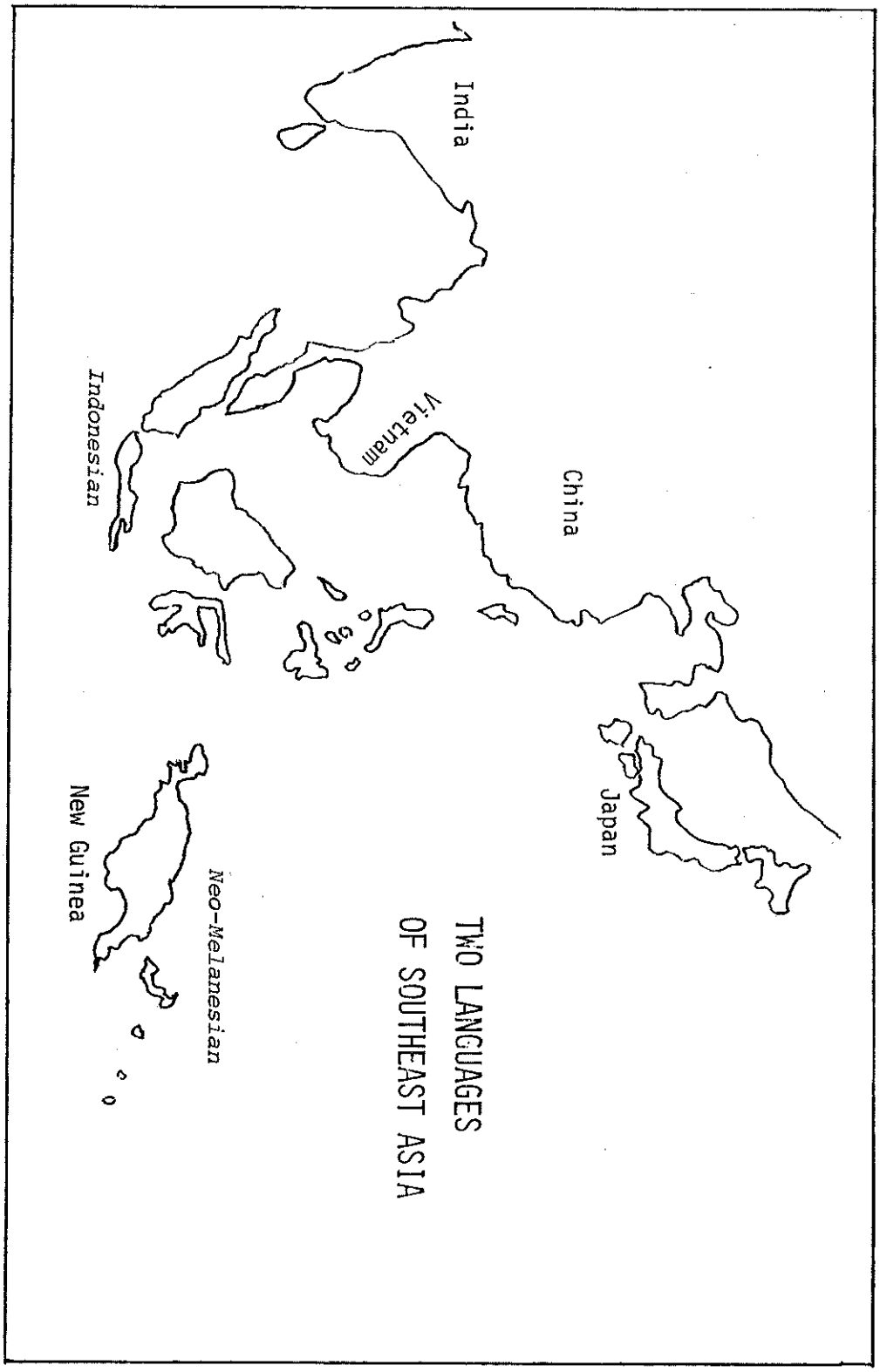
English itself. Some historians of language believe that the English spoken in the Middle Ages, about 600 years ago, was really a creole. Because it was so much simpler than Old English had been, they think that it must have been the English spoken by French rulers and landowners in Great Britain. In any case, it is true that modern English combines a vocabulary which is mainly native with a structure that is largely French.

Inverted Language Trees

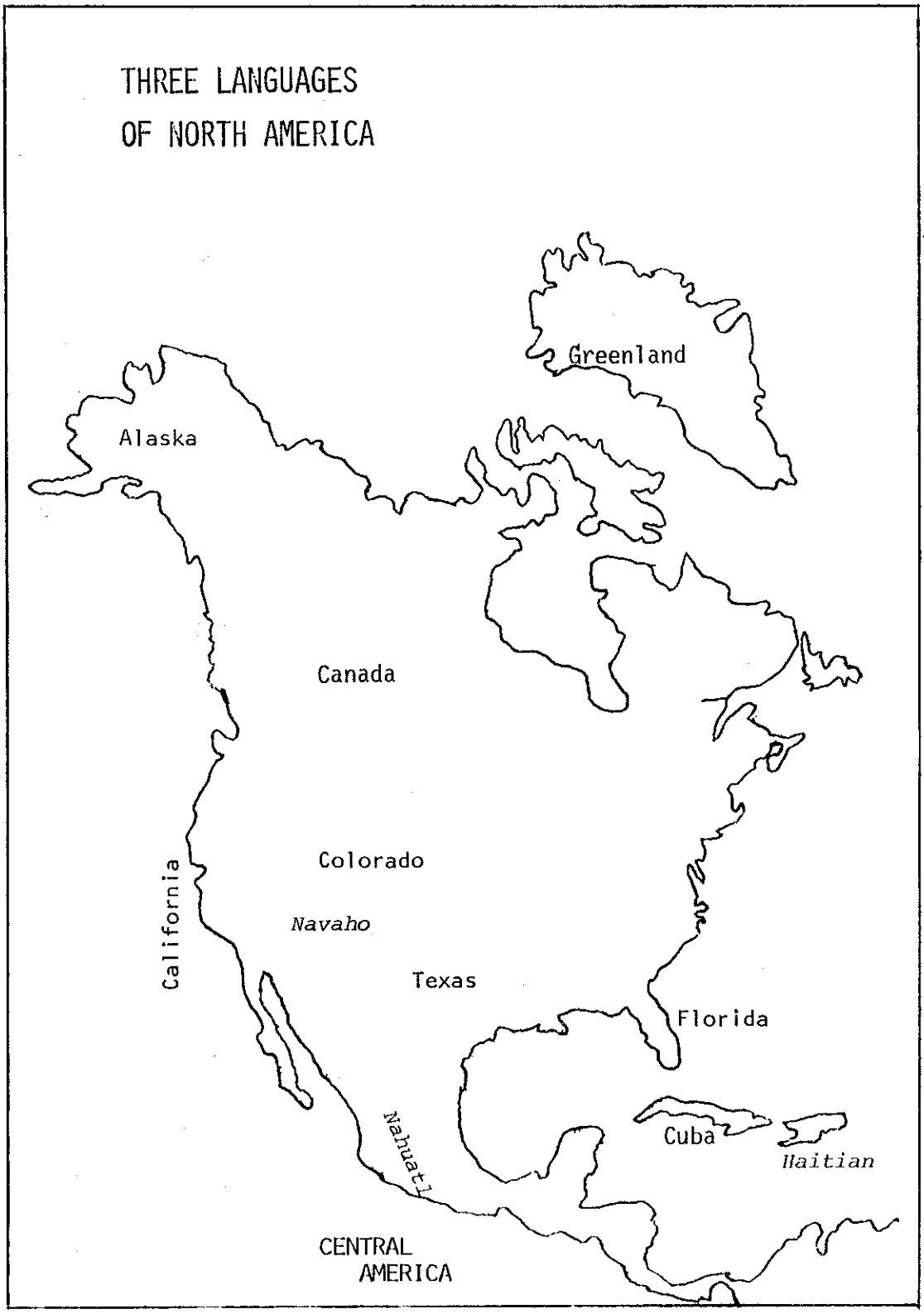
Pidgins and creoles are formed by combining older languages rather than by splitting them apart. So, when we draw stick pictures of their development, we have to make the language trees stand on their heads.

Here is an example of such a language tree, drawn upside-down:





TWO LANGUAGES
OF SOUTHEAST ASIA


THREE LANGUAGES
OF NORTH AMERICA
Greenland
Alaska
Canada
Colorado
California
Navaho
Texas
Florida
Cuba
Haitian
Nahuatl
CENTRAL
AMERICA

APPENDIX C

COMPUTER LANGUAGES

Computer 'Languages'

There is a special kind of artificial language that is getting more and more attention these days. It is computer 'language'. Experts can't agree about whether computer languages are real languages. But they do agree that computer languages are efficient ways of telling calculating machines how to give us lots of information very quickly.

Early Computers

The grandfather of the computer was the abacus, a device made of beads strung on rods. The abacus was first used about 5,000 years ago in the area now called Iraq. It made counting easy, even when big numbers were involved.

The father of the computer was the adding machine. It was invented by the French mathematician Blaise Pascal in the 1640s--about the time when speakers of English were beginning to settle North America. It could also subtract, multiply, and divide.

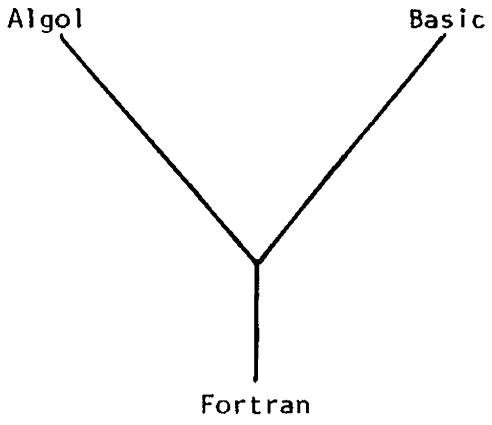
The first computer was built in the United States in the 1940s. It was an electrically operated machine which could not only calculate but make decisions. It selected information that was useful, ignoring information that was useless.

A Computer Language Family

In the 1950s, the people who programmed computers developed a language called *Formula Translation*, or *Fortran* for short. Fortran was a set of directions, telling computers how to select information.

By the 1960s, Fortran had given rise to two other computer languages. One of these was *Algebraically Oriented Language*, or *Algol* for short. The other was *Beginner's All-Purpose Symbolic Instruction Code*, or *Basic* for short. Where Fortran, the mother language, was scientific in its emphasis, Algol was mathematical in emphasis, and Basic was educational in emphasis.

A stick-picture of these three computer languages looks like this:



In one important respect, computer languages are more like pidgins and creoles than they are like English or French. For they can not only split apart, as in the picture above, but also combine. So sometimes you get two computer languages coming from one; but at other times you get one coming from two.

Algol itself has become a mother language. In the 1970s, it produced two daughter languages, called *Pascal* (after the French scholar) and *Jovial.* And now, in the 1980s, it has a 'granddaughter' language called *Ada*.

The Future of Computer Languages

As computer language families grow, they will be linked together in superfamilies. And as computers become smaller, faster, and more versatile, they will be able to give us increasing amounts of information for both work and play.

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