

6.1 COMPLEXITY OF LANGUAGE

In discussing languages, we generally refer to them with a generic name, such as English, or Sanskrit, or Old Chinese, or Proto-Semitic. These references may seem to imply that languages consist of a single unified grammar and vocabulary. But dialect studies have demonstrated that, though a language has common structural features and vocabulary, it also shows variations from one group of speakers to another. In any language there are subsets of dialects of various types: geographical, social, functional and occupational. All of these must be studied and described for each language to account for changes it has undergone.

Geographical differences in a language are determined by the extent of its use, by the cultural interrelationships of its speakers, by the duration of settlement of its speakers and so on. A language like Chinese that is spoken over a vast expanse has many dialects. Moreover, since the speakers forming social units in China had little contact with one another, the dialects differ considerably. The differences have been amplified because the dialects have been in use for several millennia. Even languages like British English and German, which became separated from other Germanic dialects less than two millennia ago, have many dialects. Maintenance of dialects, as well as loss of distinction among them, results from social, cultural and political conditions of the speakers.

Social differences are determined almost completely by cultural interrelationships. In general we may expect even in nonliterate groups at least three forms of speech: a cultivated, a common or standard, and a non-standard — in modern societies, an uneducated. The cultivated form of speech is used in literary, religious, prophetic or even political utterances and writings. Nonstandard forms may be found among antisocial groups, such as criminals, or a rebellious younger generation, or among rustics. The standard forms are taught in schools, used in general social intercourse, and in literate societies are considered to be "correct."

Functional differences also reflect cultural interrelationships. Although their variety differs from language to language, we may speak of at least

two styles, formal versus informal, though in many languages there are more. Until recently Japanese included, besides a formal and an informal, an epistolary style for use in formal letters; further, there was a style used to and by dignitaries. And as a unique phenomenon in languages, at least today, only the Japanese emperor may use *chin* "I." A reflection of the dignified style was applied with humorous effect in Gilbert and Sullivan's operetta, the *Mikado*; the word means "honorable gate" and was used to refer to the emperor in somewhat the same way as the *Sublime Porte* was used for the former Turkish government. The American media and government officials have a comparable way of reference, as by using *Washington* in reference to the government.

Such geographical, social and functional varieties of language are imposed on each other. It is well known that President Kennedy made his political statements with a New England accent, modified by eastern schooling. Among British statesmen, like Churchill, on the other hand, the social force was greatest, with little or no geographical overlay. There may be, then, geographical as well as formal and informal varieties of nonstandard, standard and cultivated speech. Somewhat different are occupational subsets. Specialists of various kinds: engineers, politicians, jockeys, linguists, have developed their own jargons, which consist largely of special vocabularies. These may be applied in any of the subsets sketched above.

These statements apply to language as a complex set of conventions used by a group of speakers. Subsets are also found within an idiolect, the language of a single speaker. Speakers may change their place of living, their social status, their relations to their associates, their occupations, and by these changes virtually be forced to introduce changes in their language. If we constructed a model for a language or a language family, we would have to include in it such multistratal units for each dialect, and by implication for each idiolect.

These subsets of a language provide the possibility of additions, changes, losses. For example, as technological features are introduced, modified or retired, language referring to them also changes; since automobile transportation has replaced horse-drawn vehicles, terms like "ivery stable" are rarely encountered. When the Greeks established themselves in the Hellenic peninsula, they transferred reference of the word for "beech" to oaks. As the Roman emperors came to insist increasingly on their dignity, they were referred to in the plural with the equivalent of "your majesties," for which the third person plural pronoun could be substituted. As a result, the equivalent of "they" was used in addressing them, leaving reflexes to this day in German, where the third person plural *Sie* "you" < "they" and third person plural verb forms are still used in formal address to individuals and groups. In this way variety in language provides built-in mechanisms for change. Some linguists ascribe change in language primarily to the interplay of dialects and languages.

Besides taking account of individual use as opposed to social use in

sketching the complexity of language, we must also note use by different generations of speakers. As children acquire their language, further possibilities are provided for the introduction of change. Some linguists assume that language acquisition is the basic cause of change in language.

Since change in language is the prime concern of historical linguistics, we must view the modifications of the various components of language in the dimension of time. We may arbitrarily select any two points of time for such study. Our results are more useful, however, if we compare the varying language of two or more periods that have been differentiated by considerable changes in structure (see chapter 10).

Such changes may be introduced in the interplay of geographical dialects. They may also be introduced from without, from other languages. Upon introduction, they may be adopted from speaker to speaker, along lines of communication. If so, we may find wedge-shaped lines of differences, so-called isoglosses, along basic routes of travel, such as the Rhine river. Changes may, on the other hand, be transmitted from center to center. Hans Kurath (1939) pointed out that all the chief colonial centers in America except Philadelphia lost preconsonantal *r*; apparently Philadelphia – the second largest city in the British Empire in the eighteenth century – alone withstood spread of this change from across the Atlantic. Any group of speakers with distinct patterns of usage, such as students, linguists or specialists in space research may introduce new forms and usages. If such groups are influential, these innovations may affect the language of others.

Among studies of social dialects on a language is Friedrich Kluge's investigation of the German student language, published in 1895. In this study he indicated especially the sources of various German words. One example is the word *flott* "excellent, beautiful," which students borrowed from nautical language, where it meant "afloat, swimming," and the like. Studies of the social dialects of other languages have disclosed similar innovations.

Other such studies have been concerned with the spread of changes. In an admirable study, nicely summarized in Bloomfield's *Language* (1933: 328–31), G. G. Kloeke illustrated successive changes of the words for "house" and "mouse" in Dutch. The words obviously are used in different social contexts. A change of the Germanic vowel [u:] to [y:] that originated in a prestige area was extended more widely for "house" than for "mouse," reflecting the greater use of the word for "house" in communication outside family groups. Investigations by William Labov have demonstrated how speakers in New York City may favor specific pronunciations in certain social situations (1972: 43–69). For example, speakers who do not normally use *r* in words like *third* are very careful to use it when they find themselves in an elevated social situation.

Accordingly, the recognition that language is composed of geographical,

social, functional and occupational dialects, and of dialects varying with the age of speakers, illuminates the ways in which languages have changed and changes have been extended.

6.2 DIALECT GEOGRAPHY

The growing convictions about the regularity of sound change after 1870 led to great interest in the study of different dialects, first of all geographical dialects. In spite of the clarifications produced by Grassmann and Verner for the first Germanic consonant shift, and by other linguists for such problems elsewhere, some elements in the standard languages still showed irregularities. It was then tentatively assumed that standard languages, such as literary English, contained irregularities because they were mixed. To find pure languages, one would have to collect the speech of the everyday people. Study of their speech to deepen the information about change in language was supported by interest aroused by the Romantic movement.

Following Jean Jacques Rousseau (1712–78), scholars and literary figures from the end of the eighteenth century came to concern themselves with folkways. Using more than the occasional phrases of "rustic dialect" found in the poetry of William Wordsworth (1770–1850), writers like Robert Burns (1759–96) and Johann Peter Hebel (1760–1826) preferred their native speech to the more general literary languages. In an attempt to show that dialects as well as literary languages had respectable pedigrees, some linguists devoted their attention to dialects. In 1821 Johannes A. Schmeller (1785–1852) published the first grammar of a dialect, Bavarian. Although other scholars followed Schmeller's example, dialect study before 1875 was more concerned with social and historical than with linguistic problems, as scholars attempted to relate contemporary dialects with ancient tribal groups. In nomenclature and popular conceptions, their work has had a lasting effect. Old English is still often referred to as Anglo-Saxon. With this label the suggestion is made that Angles carried to Britain the Anglian dialect, and Saxons the Saxon dialect, where they subsequently merged to form English. Similarly, in Germany the labels for dialects continue old tribal names that are still used as area names, such as Bavarian and Franconian. In subsequent dialect study, less colorful, and also less misleading, labels are used, such as Northern, Midland and Southern in the United States.

Under superficial examination the early dialect study seemed to support the neogrammarian hypothesis that "sound change takes place according to laws that admit no exception." In standard English, for example, initial *v* and *f* both represent OE *f*, apparently without pattern, as in *vai*, *vixen* versus *father*, *folk*. Yet in the Somerset dialect spoken by Sophie Western's father in Henry Fielding's novel *Tom Jones* (1749), every OE *f* is a *v*. Squire Western says *vather* and *volk* as well as *vai* and *vixen*. Although

Georg Wenker set out to collect similar material in German dialects, hoping to find similar consistencies there, his work led virtually to the converse of his original aim; it has contributed greatly to our understanding of complexity in language.

Wenker's dialect work has the further importance that with the project of his counterpart in France, Jules Gillieron (1854-1926), it furnished the patterns for later dialect investigations and interpretation of the results. Subsequent studies and conclusions have been largely based on the activities of these two men.

After preliminary investigation in the Rhineland, Wenker began to collect material from every section of Germany. His procedure was to prepare forty sentences and send them out to schoolteachers in 40,736 localities, later expanded to 49,363. The sentences, which dealt with everyday matters, were chosen carefully to give data on dialect differences. Sentence 1 reads: *Im Winter fliegen die trocknen Blätter durch die Luft herum.* "In winter the dry leaves fly around through the air." (See Mitzka 1952: 13-14, for the entire set.) Teachers were asked to transcribe the sentences in accordance with the characteristic speech in their districts. Sets were then returned to Marburg for analysis. Each of the sources for material was eventually to be put on a map, and the characteristic features of dialects were to be plotted by the location of their occurrences. Publication of the maps did not get under way until 1927 and is not yet complete. The plotting of dialect distribution on maps, however, led to the terminology used in detailed study of the language data.

The study of the varying forms of speech in one language is known as *dialect geography*, or *dialectology*. In plotting their findings on maps, dialect geographers compile *dialect atlases* containing maps of the features investigated. Terminology for dialect spread was fashioned after that used in map-making. On the pattern of isobar and isotherm, *isogloss* is a term used for a line drawn from location to location along the outer limits of characteristic features. The interpretation and linguistic significance of varying patterns of isoglosses was developed as the German and French dialect materials were analysed and described. Moreover, procedures of collecting dialect materials were improved as subsequent dialect geographers profited by the experience of their predecessors.

The advantage of the German collection is its broad coverage. For a relatively small area like that of Germany, close to 50,000 recordings provide great breadth of information. Yet Wenker's dialect project also had shortcomings: for one thing, it has not been completely published. To this day scholars who wish to use the German materials must go to the archives in Marburg. More serious shortcomings lie in the transcriptions, which were made by untrained observers. Everyone has idiosyncrasies in recording; with untrained workers there can be no attempt to correct these, or even to determine them. These shortcomings are especially serious in phonological study, for which the German project was best

suited. The forty sentences provide little material on morphological variation, less on lexical differences. When these shortcomings became apparent, efforts were made to repair them.

To provide material collected by trained observers, young scholars undertook the collection and description of speech in various localities. Numerous monographs were published, supplementing the inadequate materials of the atlas. Bach (1950: 214-26) gives a densely printed selection of them. To provide the deficient lexical material, Walter Mitzka in 1938 sent out a second set of materials, questions designed to secure names of everyday items, such as plants and animals. His results are being published in a German word-atlas, and in monographs dealing with individual items. To provide contemporary records of pronunciation, Eberhard Zwirner undertook in the 1950s to collect tape recordings of German dialects from more than 1,200 localities. His recordings, though brief, preserve speech for subsequent interpretation. Tape recordings have the further advantage that copies may readily be provided to other investigators. With these supplements, ample materials are available for German dialect study, and provision has been made to remedy the deficiencies of Wenker's initial undertaking.

Gillieron, editor of the French atlas, planned from the start to avoid the pitfalls encountered by his German predecessor. He selected and trained one worker, Edmond Edmont, to collect all material for the French atlas. Edmont, who had an excellent ear, provided accurate, reliable and consistent records. Cycling from point to point, where he established himself in congenial surroundings, he collected material by direct questions rather than through a highly restricted set of sentences. In the years of collecting, 1896-1900, Edmont gathered material from 639 locations, providing less coverage than had the German project. Under its superb organization, however, the French atlas was completely published by 1910. Gillieron must therefore be credited with providing the pattern according to which the materials of many subsequent projects were published.

6.3 MODELS AND TECHNIQUES FOR COMPREHENDING LINGUISTIC COMMUNITIES

In addition to examining language as a structure, historical linguists proposed models for comprehending the languages maintained by linguistic communities in relation to one another. The first model widely used for depicting linguistic relationships was the family. After Sir William Jones called attention to the connections between Sanskrit, Greek, Latin and Germanic, linguists set out to determine and represent the relationships between these languages. They did so by likening related languages to members of a family, and in this way created terminology that we may deplore in its literal sense but that we in great part maintain.

We speak of the Indo-European group and other such groups.

language family. Greek and Latin, and other Indo-European languages, may be called *sister languages*. And we may speak of the *parent language*, Proto-Indo-European; formerly the term primitive Indo-European was used, but the connotations of the adjective led to its disuse. We also say that Greek is *descended* from Proto-Indo-European. The languages in a family we call *related*; words or other linguistic entities that we can trace to a common source we call *cognates*. The type of classification is known as *genealogical*, or often *genetic*, in spite of the biological connotation of genetic.

The family model was useful in working out the interrelationships of languages. The Germanic languages had obviously undergone changes different from those of Greek or Latin; we indicate the subsequent independence by labeling them *sister languages*. After some thought, however, shortcomings of the family model are obvious, for modern Germanic languages like English and German are related to Modern Greek not as sisters, but rather as distant cousins. When viewed over a great expanse of time, a language family behaves differently from a natural family, for its members may grow old without dying, and may develop new interrelationships that are hard to label with relationship terms which are not cumbersome. Shortly after the middle of the nineteenth century, a new model was proposed that solved some of these problems, continued others, and raised still others – the *family tree*.

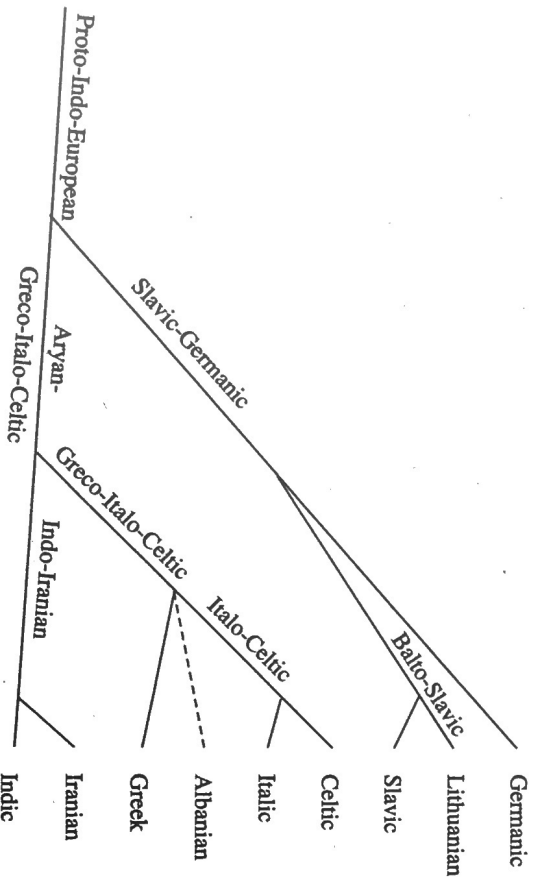


Figure 6.1 Schleicher's Indo-European family tree.

The suggestion that the relationship between subgroups of a language is similar to that between branches of a tree was propounded by August Schleicher, who was strongly influenced by views on evolution. His model is more sophisticated than that of the family, permitting a clear view of languages and also their various further developments – from original branches through smaller and smaller sub-branches, which show relationships in both time and space.

As with the family model, we use terminology today that is based on the view of a language group as a tree. We say that **English branched off** from Germanic, which in turn is a branch of Indo-European and so on. But, very early, dangers in this model became apparent.

One shortcoming the family-tree model shares with the family model is its depiction of a language as a biological organism. Languages, unlike animals or trees, do not have an independent existence. They are sets of conventions, like conventions of fashion, games and other human behavior. Changes are introduced in them by their speakers, not spontaneously by the language itself.

The shortcoming that caused replacement of the family-tree model, however, is the view of language change it requires. If English is really a distinct branch of the Indo-European tree, it should permit no modification by another branch or sub-branch that separated from the stem earlier, such as Latin or Sanskrit. Yet we know that many Latin words, and also Sanskrit words, have been borrowed into English. Even more troublesome, we find common changes taking place in neighboring languages that long before had separately branched off from the parent language.

Yet because of its simplicity and partial appositeness, the family-tree model still influences views and provides terminology. Virtually all genealogical relationships have been based on it. But a troublesome misconception results from names of successive stages of a language, like Old English, Middle English, New English. These terms suggest that we view New English as a direct descendant of Old English. We know, however, that modern standard English developed from the London dialect, a midland form of speech, while our chief Old English materials have come down to us in a West Saxon form. To try to trace modern standard English directly to the language of *Beowulf* or of Alfred's works causes difficulties. Similarly, New High German is not a direct descendant of the Middle High German found in important medieval literature. New High German is essentially a central German dialect, while Middle High German is a southern German dialect. In using the family-tree model, these important facts of linguistic history are concealed. Equally troublesome, archaeologists and other nonlinguists seem to assume that linguists account for languages through a succession of sound laws rather than as conventions maintained by linguistic communities that have undergone various influences. The variety of influences became clear as dialect studies were increasingly pursued.

Primarily because of the inadequacy of the family-tree theory in accounting for linguistic changes, the *wave theory* was proposed as dialect studies disclosed how changes were spread in language. In accordance with the theory, changes may be introduced at some point in space of a language or languages spoken over a given area. These then may spread like waves on a pond that are caused by an object hitting the surface of the water. With this theory, proposed in 1872 by Johannes Schmidt, the Indo-European languages may be depicted as follows.

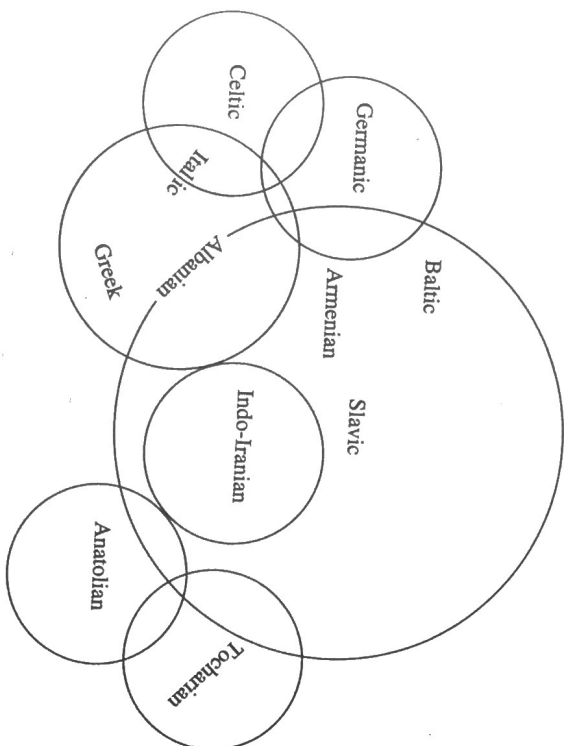


Figure 6.2 A revised form of Schmidt's representation of the distribution of the Indo-European languages.

In permitting us to show flexibly interrelationships between languages, and changes affecting them, the wave theory is preferable to the family-tree theory. Both, however, view language far too simply.

If languages were relatively homogeneous, either theory would be acceptable. For "sound change could take place according to laws that admit no exception" either along the branches of a tree or over an expanse in which languages or dialects exist side by side. When, however, studies carried out by dialect geographers showed that a language is subdivided by area into dialects – and by different social and occupational groupings – any bidimensional model, even when supplemented by the third dimension of time, was seen to be inadequate. We now view language as a set of social conventions so complex that a simple biological or geometrical

model is totally inadequate. Yet the problems encountered in the use of such models, as well as in the early dialect projects, have provided guidelines for later dialect investigations. We may illustrate the resultant methods by noting the planning for the American project.

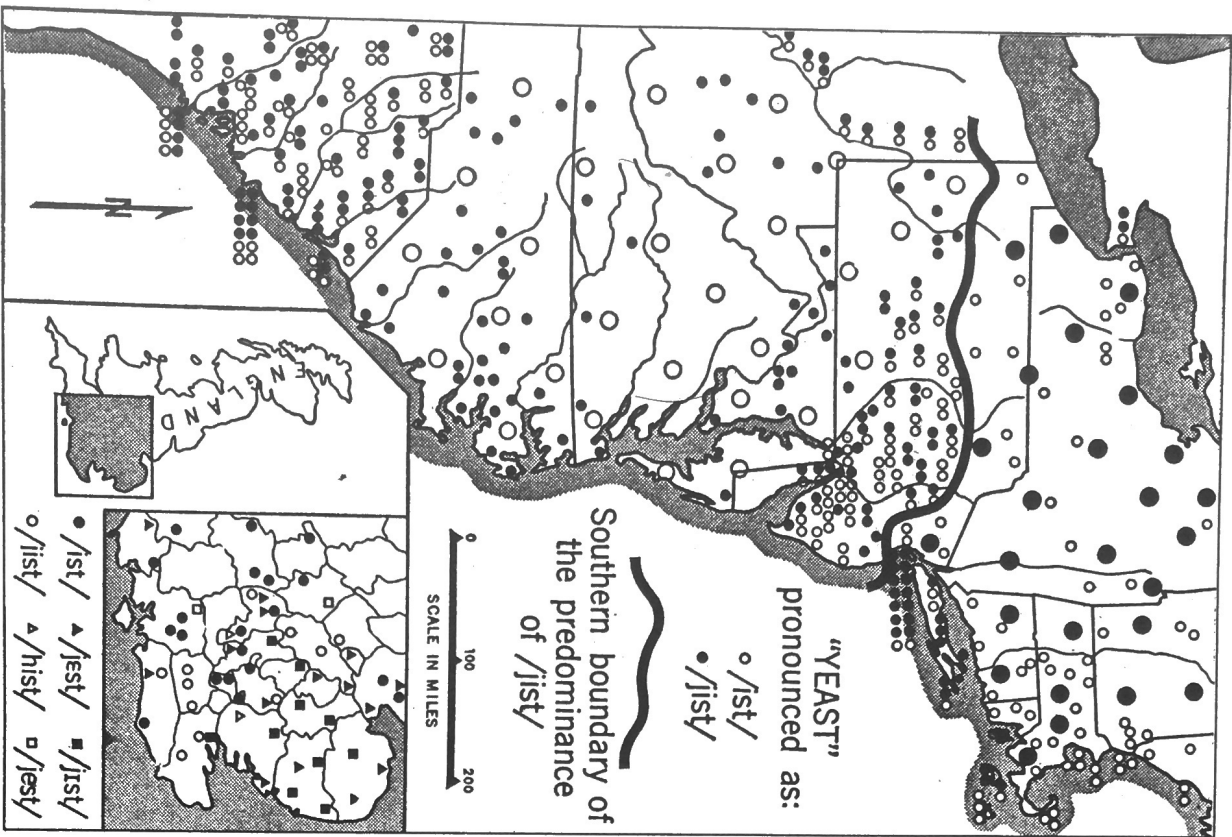
After consultation with linguists who had directed earlier dialect studies, the project was designed to avoid shortcomings that had been disclosed by these. (See the report of Hans Kurath in Kurath *et al.* 1939.) Under the direction of its carefully chosen editor, Kurath, great attention was given to:

- 1 Selection and training of field workers.
- 2 Selection of informants and locations to investigate.
- 3 Preparation of a questionnaire.

The fieldworkers, already highly trained linguists, were given further training in the summer of 1931 under two eminent dialect geographers, Jud and Schenkermeier. To cover an area as large as New England, having a number of fieldworkers is essential in spite of the resultant diversity of recordings. Yet the anticipated diversity among the fieldworkers was not unduly great. Moreover, the training by Jud and Schenkermeier provided a check on possible idiosyncrasies of individual workers that was missing in Edmont's excellent work.

Just as the selection and training of fieldworkers illustrates the increase in precision of dialect geography since 1876, the care in selection of informants indicates the increasing awareness of the complexity of language. Speakers were chosen from each age group. Since this was the first large-scale dialect study in the United States, special care was taken to include speakers more than seventy years old. Moreover, speakers from three selected social groups were included: those with little formal education and restricted social contacts; those with some formal education; and those with advanced education. All information about speakers and other pertinent data about speech communities was carefully noted, and is available to analysts.

For the preparation of worksheets comprising the questionnaire, samplings were made to determine points of variation among speakers, which in turn suggested items to investigate. Worksheets were thereupon designed to elicit specific forms but also to allow flexibility. Moreover, fieldworkers were to note if a speaker indicated that a form was rarely used, old-fashioned, amusing, or whether it elicited other attitudes or responses. Adequate information was collected and made available so that linguistic facts could be understood not only by linguists but also by historians, geographers, sociologists and others interested in the social and cultural history of New England (Kurath *et al.* 1939: ix). Simultaneous tape-recordings are now possible, with which other linguists may check transcriptions. In this way dialect geographers collect material of any breadth and precision that scholarly resources, finances and time permit.



Map 6.1 The pronunciation of *yeast* in the Atlantic States. Note the precision used in providing the information, and the insert map giving the distribution of pronunciation in southern England, by which the sources of American dialect forms can be explored. Taken from Kurath and McDavid (1961). Included with the permission of Hans Kurath.

The American project covered New England, with subsequent publication of an atlas (1939-43). Further collecting in America has been carried out, also by regions (see map 6.1). The efforts involved in covering a territory the size of the United States are so huge that such smaller projects are called for. In other countries as well, the arranging of dialect collections, rather than preparation of national atlases, now forms the general pattern. For unless a language area is small and homogeneous, the results of dialect collection are so extensive that they are not readily accessible. In France, for example, numerous studies covering only a section of the country have been undertaken in attempts to provide fuller and more up-to-date information than that in Gilliéron's atlas.

One massive project that has been inaugurated aims to provide a dialect atlas of Europe, including the European part of the former Soviet Union. Information on the questionnaire has been made available; one can only hope that the project will be pursued until its aims are met. Unfortunately it has now been stopped. Some of these may be achieved through technological advances. Instead of maps prepared by workers, they are to be produced by computer. When the procedures have been achieved, detailed data on language will be much more readily accessible.

Computerized procedures have also been applied in the production of the *Dictionary of American Regional English*, prepared at the University of Wisconsin under the direction of Frederic Cassidy. Two volumes, covering words from A-C and D-H, have been published. The well-planned project will no doubt continue publication as rapidly as such a complex undertaking permits. The vast amounts of data must now be interpreted for their contributions to our understanding of linguistic development.

6.4 FINDINGS ON THE EFFECTS OF LANGUAGE CHANGE AND THE SPREAD OF INNOVATIONS

The availability of data from the German and French dialect projects resulted in various contributions to our understanding of language and change in language, as we indicate in this and later sections.

It soon was apparent that the boundaries between languages and those between dialects could not be precisely defined. Isoglosses differ from item to item. Since the division between High German and Low German was among the most highly investigated among language interrelationships, many of the procedures of dialect geography were worked out in solving problems concerning it.

The chief items differentiating High German from Low German are the flexes of Proto-Germanic *p k*. These remained in Low German, as in English, but have become fricatives and affricates in High German. The changes in initial, medial, and in final positions may be summarized follows:

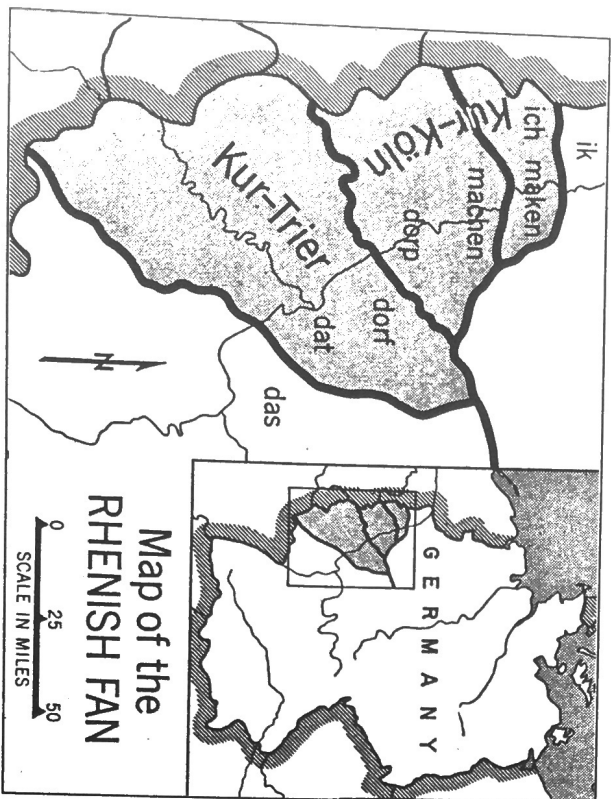
1 Late PGmc *p-t-k* -*pp-tt-kk* > OHG *pf ts k(x)* (we may use the unchanged English items to indicate the original, Proto-Germanic sounds).

Eng. <i>pool</i> : Germ. <i>Pfuhl</i>	Eng. <i>shape</i> : Germ. <i>schöpfen</i>
Eng. <i>tongue</i> : Germ. <i>Zunge</i>	Eng. <i>sit</i> : Germ. <i>sitzen</i>
Eng. <i>cow</i> : Germ. <i>Kuh</i> , but	Eng. <i>wake</i> : Germ. <i>wecken</i> , but
Swiss <i>kxi</i>	Swiss <i>wexen</i>

2 Late PGmc *-p-t-k* -*-p-t-k* > OHG *-f(s)* -*x(x)*

Eng. <i>hope</i> : Germ. <i>hoffen</i>	Eng. <i>up</i> : Germ. <i>auf</i>
Eng. <i>water</i> : Germ. <i>Wasser</i>	Eng. <i>it</i> : Germ. <i>es</i>
Eng. <i>cake</i> : Germ. <i>Kuchen</i>	Eng. <i>book</i> : Germ. <i>Buch</i>

According to the principles of sound change formulated by the neogrammarians, we should expect to find that all late PGmc *-k-* became *x (ch)* over the entire High German territory. Sounds in the same environment were assumed to change consistently, without exception, throughout a dialect area. When, however, the data assembled by Wenker's questionnaire were examined, different isoglosses were found for words similar in structure, such as German *machen* "make," *ich* "I" (see map 6.2).



Map 6.2 One of the classical areas of investigation in dialect study shows the extent of spread of the change *k > x* in Germany, and the enclave in which PGmc *t* is unshifted in *dat*, *wat*, *it*, *aller*. Shadings indicate the Rhenish Fan and the enclave.

Although the isoglosses for these two words are virtually identical from the eastern extent of German speech to the neighborhood of the Rhine, at that point they separate. The isogloss for *machen* crosses the Rhine near Bernath, somewhat south of Ürdingen, the point at which that for *ich* crosses the river. The two isoglosses are labeled after the villages, the Bernath line and the Ürdingen line. Their divergence near the Rhine plus that of other isoglosses, which fan out at this point, led to the label the Rhenish fan and require an explanation.

The explanation can be furnished from cultural history. The Bernath line corresponds to the extent of Cologne's influence from the thirteenth century; the Ürdingen line, to its influence from the fourteenth to the sixteenth centuries (see Bach 1950: 133-4). The forms for "make" were fixed at the early time; those for "I" later. One can account for the different isoglosses by assuming that a sound change *k > x*, had taken place in southern German-speaking territory and that its effects were gradually extended northward. The extent of spread of innovation in any word is determined by the cultural prestige of speakers who use it. Findings like those for Germ. *machen* and *ich*, repeated many times over in various dialect studies, as of Chinese as well, led to a more accurate understanding of language change and its spread. They also led to greater concern with social and cultural patterns of communities in which a given language is spoken.

As indicated above, the three voiceless stops *p t k* of Upper German were shifted. The results of the change were extended northward and adopted in varying degrees in accordance with the extent of prestige of the southern German dialects; the absolute limits of adoption may be indicated by a line extending across German-speaking territory from approximately Cologne eastward, just south of Berlin. Subsequently, German dialects have been differentiated largely by the extent to which they employed this rule for each of the three stops in the stated environments. In Low Franconian and Low German the rule was not introduced at all, leading to a differentiation of the continental West Germanic area into two major subgroups, as chart 6.1 indicates.

The importance of identifying cultural areas for their impact on language may be illustrated by the developments in Berlin. When the Bernath line approaches the city, it makes a bend upward and then falls back to the line that would be relatively straight across the German-speaking area. The bend reflects the late choice of Berlin as capital. Earlier, the dominant political forces had been in the south. The political shift brought use of High German into the city. The isoglosses reflect the social as well as the linguistic situation.

Somewhat comparably, initial *p t k* (and intervocalic *pp tt kk*, which apparently were similarly articulated) became the affricates *pf ts kx*. This shift was not extended as far to the north as was that of medial and final stops, leading to subdivisions of the High German territory (see chart 6.1). The dialects in which this rule was adopted are known as Upper German, in contrast with the Middle German dialects in which the change of medial

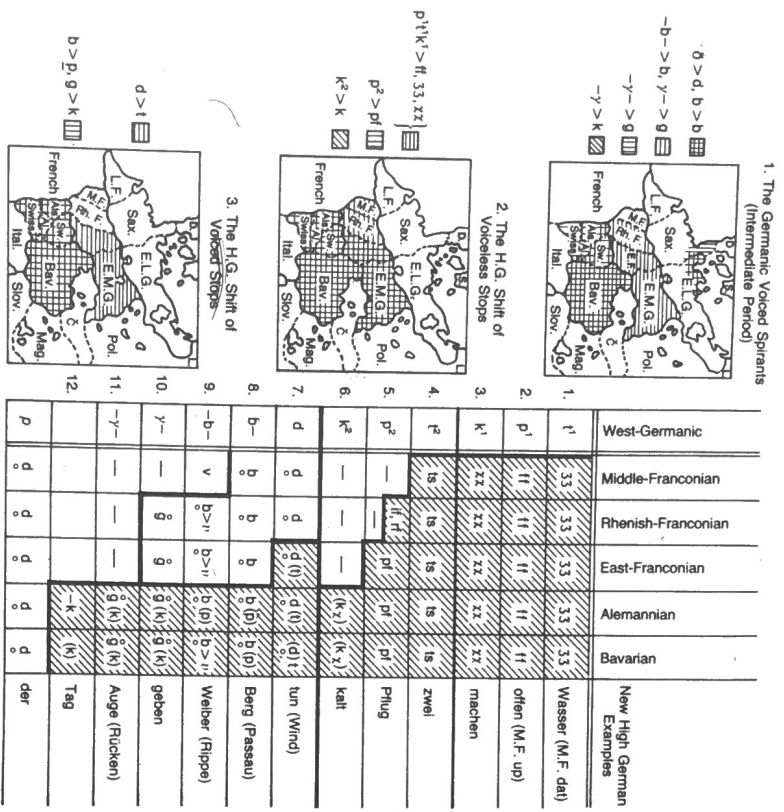


Chart 6.1 The High German Consonant Shift. Chart 6.1 is taken from Eduard Prokosch, *The Sounds and History of the German Language* (New York: Holt, 1916, p. 130).

and final stops was adopted, and Low German, in which neither change was adopted.

The distinction between Upper German and Middle German was reinforced by the devoicing of *b d g* in Upper German. The effect of these changes in the continental Germanic languages may illustrate the bases for the differentiation of dialects. A comprehensive series of changes, adopted in part by contiguous areas, leads to subdivisions of a given linguistic area in accordance with the extent of the social groupings.

Even in such large-scale shifts, the changes may not be carried out in all words, as we may illustrate by the unshifted *t* in *dat, it, wat*, the German forms for *that, it, what* in the Mosel Franconian area. Here *-t* shows up as *-et* in words like *great, Germ. gross*, but not in the words cited or the *-et* ending of the adjective, for example, *aller* rather than standard German *alles*, (nom. sg. nt.) "all." Although various explanations have been given

for these unshifted forms, they may be ascribed to difference in syntactic environment. We may assume that the unshifted *dat, it, wat, aller* were adopted from weakly stressed sentence positions, in which the change of *t > s* was not carried through. We may conclude that syntactic as well as morphological environments may affect the extent of a sound shift.

6.5 CLASSIFICATION OF DIALECTS

Such problems encountered in dialect geography studies led to a questioning of former views concerning (1) the regularity of sound change and (2) the usefulness of setting up dialects. Extreme rebellion against the tidy view of language ascribed to the neogrammarians may be illustrated by Gillieron's slogan, "Every word has its own history," and by Gaston Paris's statement on the virtually imperceptible gradations from dialect to dialect in French, even into Italian.

No one can deny that every word, like every social convention or every artifact, has its own history. But the statement is as misleading as is the slogan: "Sound change takes place according to laws that admit no exceptions." A word is a composite of morphemes and phonemes. Since the allophones of the phonemes vary with their environment, every word will have undergone changes different from all other words. To conclude that one should describe every word separately indicates a poor understanding of the social functioning of language. Even worse are the linguistic studies that deal with the history of individual sounds from proto-languages to the present. Studies based on such methods resemble lists rather than descriptions. Neither phonemes nor morphemes are independent entities in language; rather, they pattern with other sets and subsets of phonemes and morphemes. Fortunately, dialect geographers, like historical linguists who learned much from the neogrammarians, have come to understand the disadvantage of basing methodology on slogans.

The usefulness of positing dialects was graphically questioned by Gaston Paris in his story of the travelers who proceed slowly from Paris to Italy. Traveling a few miles at a stretch, and adapting their speech constantly to each local dialect, they would scarcely notice differences in speech in the French area; they might not even notice when they crossed the supposedly greater boundary from France to Italy. For even here they would not find an abrupt speech cleavage such as they would encounter if they crossed into Germanic territory.

In spite of the absence of sharp dialect, or language, boundaries, dialect geographers have not abandoned subclassification of languages. When classifying dialects, they have progressed from a reliance on isoglosses for important linguistic features, such as the *machen* isogloss, through bundles of isoglosses to correlation methods. Contemporary investigators seek to learn whether a list of features is present at given points. They then correlate their results and connect points having similar correlation coefficients with lines known as *isopleths* or *isogradients*. These may represent

not only various isoglosses but also folk customs, such as tales, superstitions and agricultural practices. Such compound isoglosses may reflect earlier political boundaries, which in turn were probably determined to some extent by geographical features. Isopleths, accordingly, indicate areas of culture that may have exerted an effect on language. In this way the study of dialects has come to be closely associated with the study of other social phenomena, and has been extended to the branch of language investigation that is known as sociolinguistics.

6.6 CHARACTERISTICS OF DIALECT AREAS

Although given a common label, speech within a language or dialect is not uniform. Languages as well as dialects generally have a center that is touched by relatively few isoglosses. Such centers, which speakers regard as areas of prestige, are known as focal areas. Innovations transmitted from them are accepted by surrounding areas as far as the prestige of the focal area extends. As an example we may cite the distribution of *tonic* (a soft drink) in New England. Its general use around Boston indicates the extent of influence exerted by the speakers in the Boston area. Outside the area, *tonic* has not succeeded in replacing older forms.

At the limits of well-defined speech areas, we find transition areas. These may show characteristics of two neighboring focal areas, as do western New Hampshire, central Massachusetts and Rhode Island in their terms for the drink referred to around Boston as a tonic.

Further characteristic types of area, known as relic areas, lie beyond the extent of expanding isoglosses. Relic areas are generally found in locations that are difficult of access for cultural, political or geographic reasons. They may be discontinuous, as are the relic areas on Map 6.3, in which final *r*'s are preserved.

The status of preconsonantal and final *r* in New England, as in *hard, far*, may illustrate the various types of area. Around Boston there is little evidence for this *r*; isoglosses would be remote from the city. We conclude as from the word *tonic* that Boston is a focal area. In western Massachusetts and elsewhere along the Connecticut River, usage is divided, with some speakers pronouncing, others dropping, *r*. This is a transition area between the *r*-speech of the Hudson Valley and the *r*-less speech of Boston. In addition, we find the *r* of this environment maintained on Martha's Vineyard, Marblehead and Cape Ann, which are relic areas.

Since the time of the German and French dialect projects, which established much of the methodology of dialect geography, many studies have been made of speech communities and their subdivisions. We have noted above Kloeke's investigation of the Dutch words for "house" and "mouse." The investigation disclosed that successive innovations for both words spread from the cities of Antwerp and, later, Amsterdam, which were focal areas, leaving relic areas on the periphery of the country. Moreover, on the borders between Low German and Dutch speech, the

spread of the innovations was checked in a transition area. The proposal of these three types of areas has accordingly been supported by further dialect study.

6.7 FINDINGS THAT CLARIFY DISTRIBUTION OF LINGUISTIC FEATURES

The studies of dialect distribution within languages have led to better understanding of speech communities and of the distribution of linguistic features. From the findings of dialect geography in contemporary speech communities, attempts have been made to explain the linguistic situation of past periods, as in the Proto-Indo-European community.

Among the Indo-European languages, verb endings with a characteristic *r* to mark the middle voice are limited to Celtic, Italic, Hittite and Tocharian. Celtic and Italic were at the western periphery of the European area; the two other subgroups were probably located elsewhere on its periphery. We may therefore account for the *r*-middles as relic forms that survived in the peripheral areas of the Indo-European community. Germanic, Greek, Baltic, Slavic, Albanian, Armenian and Indo-Iranian make up the central dialects. Innovations in the middle voice, patterned on endings for the active voice, were spread through this central area but did not eliminate the *r*-endings on the periphery.

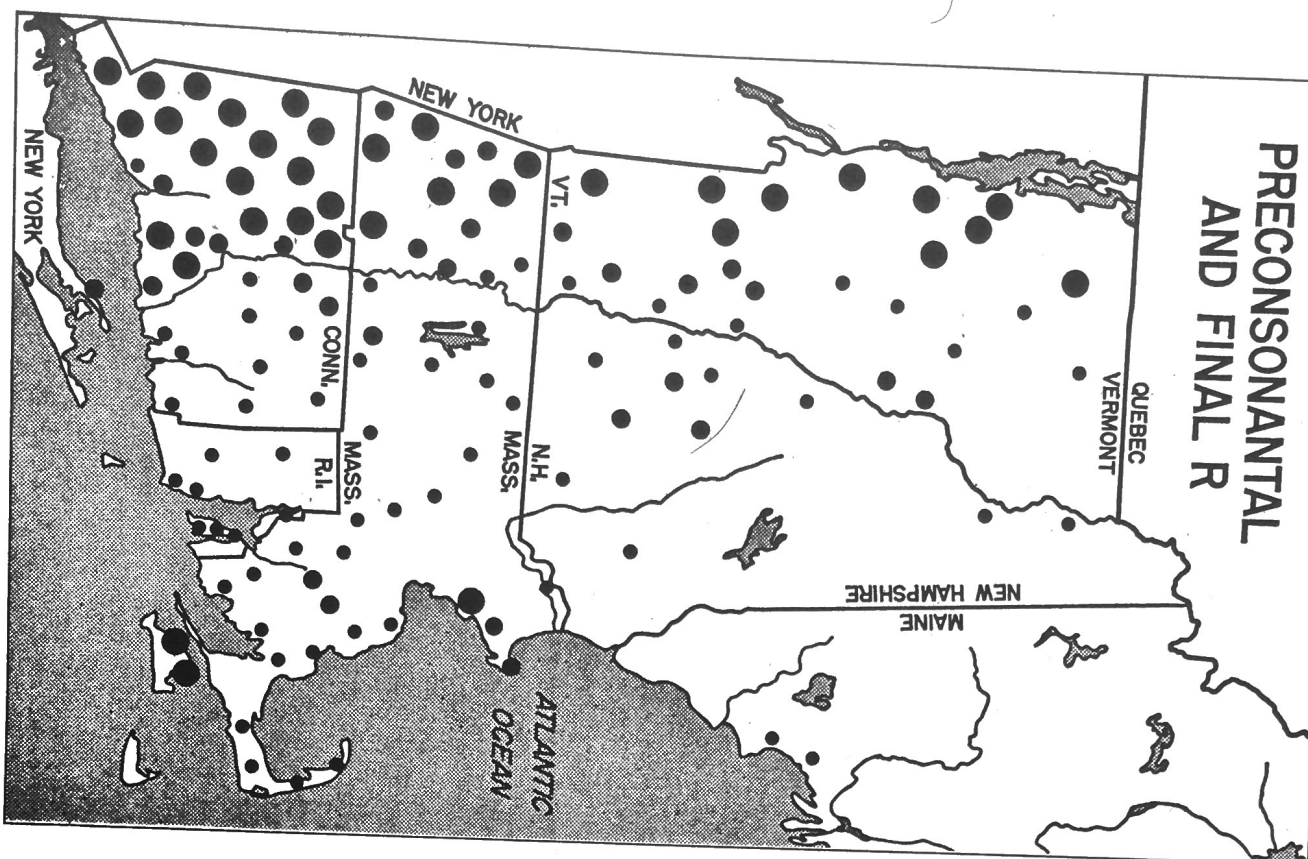
Another innovation that spread through a part of the central area is the change of some *k*'s to sibilants, as in the word for "hundred." The languages with the innovation are Indo-Iranian, Armenian, Albanian and, imperfectly, Slavic and Baltic. Applying the findings of contemporary dialect geography in this way to ancient speech areas has given us a much more flexible, and realistic, view of their interrelationships.

Linguistic study may also lead to an understanding of earlier cultural relationships. For example, if we had only linguistic information about prior settlement patterns in Louisiana and Texas, we could still determine from the distribution of words for "small boats" the predominant influence of French and of Spanish settlers.

After millennia have elapsed, such distribution may become clouded, and its interpretation may require intricate analysis. Nevertheless, interpretations of this sort have been attempted for areas of the Romance languages, with the aim of determining prior language communities. But, since no data survive from these, the conclusions must be viewed with reserve.

The history of individual words has also been clarified by dialect geographers, especially by Gilliéron. He was greatly interested in the relationships of homophones to each other, assuming that in the course of time one of them would be eliminated. This process is referred to as *loss by collision*. In the French collections he found good material in support of his thesis. The word *vivande* "food," from Lat. *vivenda*, the neuter plural of the quasigerundative

PRECONSONANTAL AND FINAL R



Map 6.3 Distribution of preconsonantal and final *r*.

of *vîvere* "live," replaced *char* < *carne* "food, meat" in the focal area of Paris, where *char* came to be homophonous with the Old French form of *chère* "dear" < Lat. *cara*. In this way he provided one explanation for some losses in language, although his successors suggest that he exaggerated the extent of loss by collision. Yet the examples they provide are from different subsystems of the language, such as the noun *bear* and the verb *bear*, or *two*, *too* and *to*. When sound changes lead to homonymy for items used in similar environments such as *gat*, for "cat" and "rooster" in southwestern France, the likelihood of substitutes for one of the homonyms is great. In one of his classical studies, Gillieron demonstrated how the words for "pheasant" and "vicar" were substituted for the old word for "rooster" in precisely the area where it coincided with the word for "cat."

Another phenomenon accounted for by dialect geography studies is the occurrence of blends. These are likely in compounds. In western Germany two words for "potato," *Erdapfel* and *Grundbirne*, gave rise to *Erdbirne*. In the western Taunus area two words for "brake," the native *Hemme* and *Meckenick*, from Fr. *mécanique*, have given rise to *Hemmenick* (see Bach 1950: 158ff. for these and others). Such blends are found especially in transition areas. By noting such effects of dialects in their interrelationships we can account for developments in language, as illustrated here, to extend our understanding of individual words as well as grammatical features in the history of languages.

6.8 MIXED LANGUAGES, PIDDGINS, CREOLES

Historical linguists have long held that languages as well as dialects may influence one another, leading to linguistic changes. The kinds of influence and of changes reflect the social situation in which the interaction takes place.

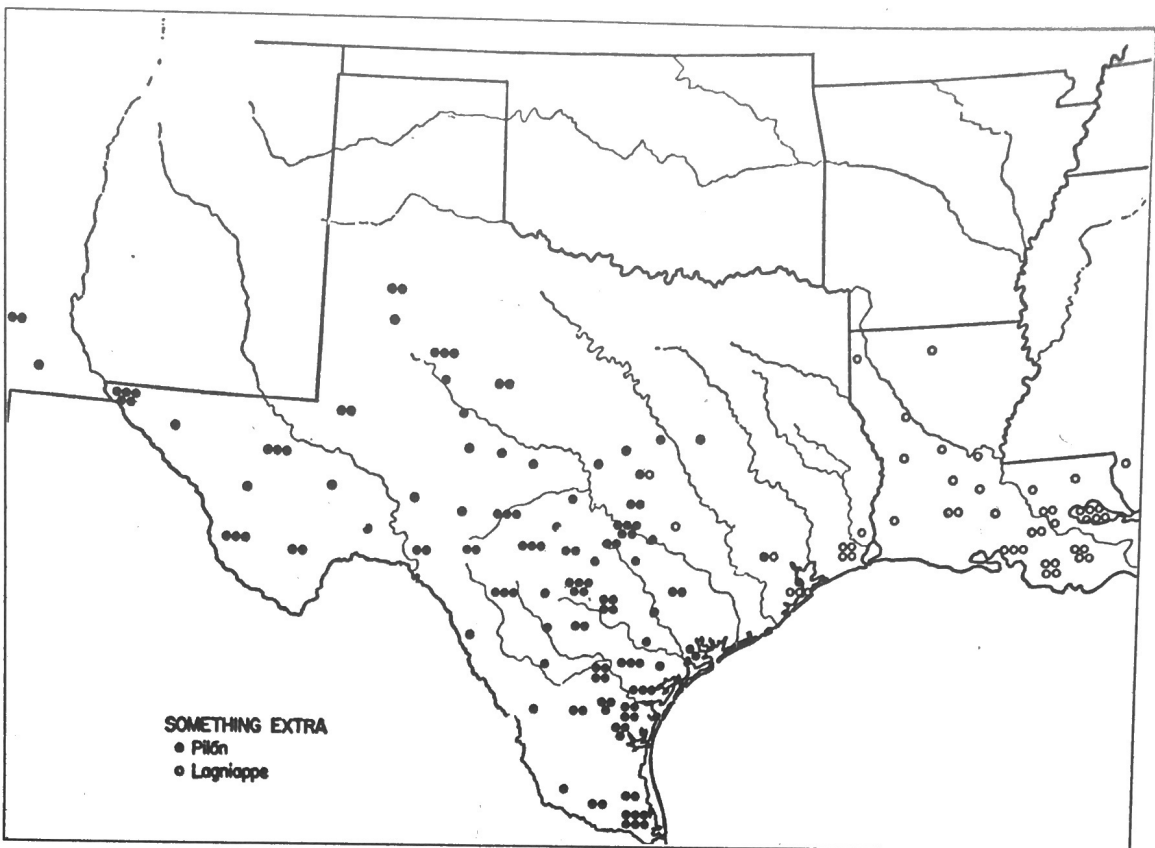
If linguistic communities that speak different languages interact on an everyday basis, as in multilingual communities like those of India, many elements from one language may be incorporated in the other, and a mixed

Opposite: The map shows the distribution of preconsonantal and final *r*, illustrating the influence of the focal area Boston, transitions to other dialect areas, and relic areas.

An *r* preceding a vowel, as in *road*, *borrow*, *far out*, is pronounced in all parts of New England. But before consonants and finally, as in *hard*, *how far*?, usage is regional: in western New England and in New Brunswick the *r* is dropped, while the Connecticut Valley is mixed and unstable in practice.

Martha's Vineyard, Marblehead, and Cape Ann, all secluded communities, appear as "r islands" in eastern New England, where this *r* is still losing ground. On the other hand, the *r* is gaining ground in the Connecticut Valley. The largest circles indicate regular use of this *r*; the smallest ones, sporadic use; and the remainder, rather evenly divided usage.

Taken from Kurath *et al.*, 1939. Copyright, 1939, by The American Council of Learned Societies. Included with the permission of Hans Kurath.



Map 6.4 Indicates the distribution of words for 'a small bonus', *lagniappe* and *pilón*, in the Texas area. The extent of French influence is clearly demarcated from that of Spanish. Taken by permission from Atwood (1962).

language may result. The designation is a relative term and has been long disputed. Some linguists of the 19th century were severely critical of the concept; others define it by their own criteria. The designation, then, may be used in a weak and in a strong sense.

If groups of speakers with different native languages interact only for certain purposes, as for business carried out between sailors and indigenous peoples, a composite language known as a *pidgin* may result. A *pidgin* may develop where a number of different indigenous languages are spoken, as in New Guinea. The term is generally used by linguists when referring to a second language that is used in limited interactions. Jespersen and Hall characterize *pidgins* as minimal languages. In the course of time, members of communities with only a *pidgin* in common may intermarry. If enough such marriages take place, the *pidgin* may in time become the basic language of a given community. When it is the native language of such communities, it is known among linguists as a *creole*. An example is Haitian Creole. In Papua, on the other hand, the former trade language has been recognized as an official language, and is referred to as New Guinea Pidgin. Fuller details on *pidgins* and *creoles* are given in section 13.7. Here we are concerned with the types of communities in which mixed languages as well as *pidgins* and *creoles* develop, and with attempts to account in this way for phenomena of languages of the past.

When we examine English, we find that the vocabulary consists of two segments: native words and borrowed words. The native words generally belong to the everyday language; the borrowed words belong to the language used for learned purposes, for church, government, military, science. Further examination indicates the source of the borrowings, and also the time of their adoption. The English-speaking community was Christianized by Latin-speaking missionaries from the late seventh century. Rome remained the dominant influence in ecclesiastical matters until the time of Henry VIII. During this period the ecclesiastical vocabulary of English was established on the basis of Latin. In referring to matters concerning the church and theology a language that consisted of everyday words making up the grammatical structure was mixed with Latin and Greek ecclesiastical terms. In this register of English, a mixed language developed.

In much the same way, after the French-speaking Normans conquered the Saxons in 1066, the political and military terms were based on French. And when science became prominent in the 17th and later centuries, technical terms were based on Latin and Greek components. In this way the vocabulary of English is that of a mixed language.

But in these interchanges the systems of sounds and forms were largely unaffected. The phoneme /ʒ/ was introduced in part through French words like *beige* and *rouge*, but also through combinations of [ʒy] in such words as *vision*. Moreover, we have noted above how its development brought parallelism in the system of fricatives. The phoneme /ʒ/ is therefore in

also a result of systematic forces. In the system of forms, the third plural pronoun was taken over through a different set of contacts from the Scandinavian settlers in English in *they*, *their*, *them*; these replaced native forms like [am], which, however, is still used in unaccented positions. Moreover, the progressive forms of the verb, *is walking* beside *walks* etc., are attributed to influence from Celtic; they are found in no other Germanic language, and a comparable verb form exists in Celtic. Because English has been modified in phonology and morphology as well as in its lexicon, English may be regarded as a mixed language, though some linguists object to such a classification.

The Indo-Aryan languages are far more modified by influences from the indigenous languages of India, chiefly Dravidian. An entire set of consonants, retroflex *t th d dh n s*, was introduced. Moreover, many elements of morphology and syntax were incorporated, as well as lexical items. Where an Indo-Aryan and a Dravidian language are spoken in the same community, the same syntax is used for both. Comparable situations existed elsewhere, as in Africa. Arabic has been a language of prestige in much of the continent for more than a millennium. It has brought about modifications in the indigenous languages, and also in many languages of Asia, much as Latin and French did in English. The extent of any such influences may be determined from descriptions of individual languages.

Linguists have attempted to account for linguistic characteristics of earlier languages through mixture in this way. As we will see in greater detail below, it has been assumed that languages like French owe something of their difference from Spanish, Italian and other Romance languages to the influence of Celtic speakers on the Latin spoken in Gaul. The two languages existed side by side for at least five centuries. Among other items attributed to the influence of Celtic is the fronting of *u* and *o* in such words as *lune* < Lat. *luna* "moon" and *sœur* < Lat. *soror* "sister." Similarly, the High German consonant shift, illustrated in section 6.4, has been attributed by some linguists to the influence of earlier indigenous peoples. Unfortunately, we have no way of testing the validity of such claims. As we will see later, such proposed explanations for the changes have aroused considerable controversy.

Attempts have also been made to account for some early languages as pidgins. When tribal groups came into contact with one another, as in general hunts, speakers of different languages must have had some means to intercommunicate. Such attempts are attested in recent periods, as among the Indian tribes in Oregon. A large number of languages had evolved in the separate valleys. When groups from different tribes met, they made use of a pidgin that has been well documented.

The most widely discussed suggestion of a pidgin-like origin for a proto-language is that of Trubetzkoy (1939). Observing that Proto-Indo-European included characteristics that were found in neighboring languages, he suggested that instead of ascribing these to one language in the course

of its development, they indicated a pidgin origin for Proto-Indo-European. In view of Trubetzkoy's prestige, the suggestion continues to be cited, even though there is even less evidence for it than for the suggestions of Celtic influence on French and English.

Among the Afro-Asiatic languages Akkadian has clearly been strongly influenced by Sumerian, but scarcely to the extent of pidginization. Strong modifications in Egyptian of the fourth millennium have also been ascribed to mixture with earlier languages. The extent of influence may in time be determined by careful examination of native structures and external modifications, as has been done for English.

6.9 AREAL LINGUISTICS

A specific kind of social contact among speakers of different languages has been studied in areal linguistics. The pace-setting work is that of Sandfield (1930). He examined shared characteristics among the languages of the Balkans. These consist not only of Indo-European languages of various subgroups, for example Slavic, Italic, Greek, Albanian, but also of the non-Indo-European language, Turkish. In spite of the considerable differences between these languages, Sandfield assembled a set of characteristics found to some extent in each of them. The principal shared features are a postposed article, a comparable periphrastic future tense and replacement of the infinitive with an element comparable to a verbal noun. Sandfield ascribed the common features to widespread bilingualism. As we have noted above, multilingual speakers tend to use the same syntax in each of their languages. A long period of bilingualism would then lead to adoption of selected features in an area with multiple interlingual contacts.

Another such area that has been identified is western Europe. Benjamin Lee Whorf (1956) ascribed a set of common features such as articles and periphrastic verb forms, to bilingual speakers; in this instance the bilinguals had Latin as one of their languages. Whorf found the common set of features so characteristic that he proposed the term SAE (Standard Average European) for what he considered one language in contrast with vastly different languages such as the Amerindian, with which he was chiefly concerned.

A third area so identified is the Asian subcontinent, with its many Indo-Aryan and Dravidian languages, as well as Munda and languages of other families. We have already noted the introduction of retroflex consonants into the Indo-Aryan languages. Murray Emeneau (1956) ascribed the use of different stems in singular and plural of nouns, and numeral classifiers to areal influence.

Many further examples of linguistic areas could be cited. The use of numeral classifiers, and also tones, in many east Asian languages is considered an areal characteristic. Common features are also found in languages of Central America, of Australia, and sections of Africa. Wherever

lingualism is frequent, characteristics may be adopted among languages.

It is difficult to suggest just what features will be taken over. Some of them seem to be features that are useful to indicate precision in simple communication, such as numeral classifiers. Others seem preferred for their clarity of representation, such as periphrastic constructions as opposed to those with morphological markers on words. Yet there are so many variables to take into consideration that it is difficult to generalize concerning features that will be adopted.

Features would scarcely be adopted if a language already had means to express them. For example, we would not expect the spread of articles to languages with numeral classifiers; articles are used to express definiteness, a function that is also indicated by numeral classifiers. On the other hand, languages have patterns that are incomplete; we have noted the lack of parallelism in the voicing of fricatives in Old English. Borrowings from French may have contributed to achievement of parallelism. Besides the structure of a language, the kind of contact is also significant. As Meillet indicated at some length (1925 (1967): 77-89, 133-8), "the variety of situations with reference to speakers is infinite" (*ibid.*: 133). It is clear that the kind of language community and of the cultural conditions in that community affect the course of development and change of a language. On the basis of studies that have been carried out we can cite some observations and propose some generalizations, like those given above. It is also obvious that any linguist dealing with a dialect, language or language family must be informed of the community maintaining it, as well as of its background and its typological characteristics.

SELECTED FURTHER READINGS

A large number of studies have been carried out in dialect geography, as well as considerable publication. For access to them one may consult Pop (1950), and after 1950 the bibliographies in linguistics. In addition, handbooks for the various areas are available. Kurath *et al.* (1939) discuss general principles as well as providing information on the work carried out in New England. For England one may consult Harold Orton and Eugen Dieth (1962-8); for Germany, consult Bach (1950); for French, Dauzat (1922).

Individual studies that illustrate the application of the principles of dialect geography to restricted fields are Atwood (1953) and Kurath and McDavid (1961). For a study of social dialects in their interrelationships with one another see Labov (1966). A theoretical statement relating the findings of dialect geography with change is Weinreich, Labov and Herzog (1968: 95-195).

For application of the family-tree and wave models to the Indo-European languages, see Pedersen (1931): 311-18.

Thomason and Kaufmann (1988) give a recent survey on the forces

involved in language contact, and the effects, with copious examples and large bibliography.

PROBLEMS

- 1 (a) In volume I of Orton and Dieth (1962-8), covering the northern counties of England, numerous words are given in answer to the question "What do you call the place where you keep pigs? *creeve*, *creevy*, *mucklagh*, *pig-cote/crowl/hoel/house/hull*, (*pig*) *creelsty*, *piggery*." Yet in answer to the question: "What do you call the man who looks after those animals that give us wool?" only three words were elicited: (*shep*-) *herd*, *shep*. Account for the difference in the number of items for the two concepts.
 - (b) The initial question to elicit terms for "pigsty" was replaced by the following: "What do you call the place where you keep the animals that go (i. grunting)?" Why was the change made?
 - (c) Similarly, the initial question: "What do you call the place where you keep hens?" was replaced by "What do you call the place where you keep the birds that lay eggs for you?" Answers to this question were: *chickenhen coop*, *hen-co(e)l/creel/crowl/hoel/house/hull/hull[fit]pen/placerroost*, *poultry house*, *shade*. How many of these terms do you know? When one consults the *Dictionary of American Regional English* for words that have been listed (A-C), terms like *creeve* and (*hen*) *cree* are not included. Why might they not be in use in this country?
- 2 Besides the shift of *p t k* in Old High German, *b* and *g* shifted to *p* and *k*, as in OHG *kepan*, NHG *geben* "give." Few words that underwent the shift have been maintained in Modern German; one is *Pracht* "splendor," cf. English *bright*.
 - (a) Suggest why the shift of *p t k* was maintained, but not that of *b g*. (In framing your answer you may recall that the center of political power shifted to Middle-German speaking areas in the Middle Ages.)
 - (b) Compare the results of the two shifts: *p t k* to *pf/f*, *ts/s*; *b g* to *p k* with the results of the Proto-Germanic consonant shift.

By the glottalic theory the Proto-Germanic shift was from glottalic stops to voiceless stops. Does the Old High German shift provide support for the assumption of glottalics in Pre-Germanic?
 - (c) PGmc *b* shifted to *d* throughout Low and High German, cf. Germ. *Dank*, Eng. *thank*; Germ. *Erde*, Eng. *earth*. How does this shift relate to that of the other Old High German obstruents? To that in Proto-Germanic?

Noting that German did not have a parallel voiced dental fricative, such as *ð* vs. *þ* in English, discuss the motivation for the shift to *d*.
- 3 (a) It is often stated that speakers in neighboring areas seek to use similar forms and pronunciation for ready understanding. But Alf

Sommerfelt cites a Norwegian dialect in which the speakers introduced a change of *ei* to *ai* to provide a greater contrast with a neighboring dialect (1962: 222). What might be the motivation for such a development?

- (b) Biologists have been studying animal communication. In observing two dialects of sparrows in Argentina that are associated with the territory in which the birds nest, Nottebohm concluded that the dialects play a part in the mating systems of the two groups of sparrows (1970: 950-6). He makes the further inference that the dialects in this way "encourage the emergence of locally adaptive traits." Discuss such possible forces in the development of different human languages, as of the many that developed in the Americas.

- 4 In chapter 3 of his monograph of 1808 Friedrich Schlegel considered the relationships between Sanskrit and other Indo-European dialects, asking first whether Sanskrit was the oldest of the related languages and possibly their source. Then he adds: "Can't it just as well have arisen through mixture of the others, or by these means have preserved the similarity?"

We have noted that Trubetzkoy proposed a similar origin for Proto-Indo-European by merger of neighboring languages.

In an article, "Random cases with directed effects, the Indo-European language spread and the stochastic loss of lineages" (1991: 287-91), Robb proposes "as a theoretical hypothesis [that] the pattern of Indo-European can simply arise from a kind of social Brownian motion, in which a large pattern invents itself out of countless little perturbations between adjacent language communities."

Discuss the persistent attempts to account for Proto-Indo-European in this way. Could a similar explanation be provided for other proto-languages?

By contrast, American Indian specialists, including Greenberg, go to great pains to propose one or more ancestral languages. Why the different approach?

Recalling Latin and its numerous daughter languages, discuss the attractiveness of the suggestions by Schlegel, Trubetzkoy and Robb as opposed to the view of an ancestral language comparable to a spoken language today that subdivided into a number of daughter languages.

7 The comparative method

7.1 THE COMPARATIVE METHOD: A TRIANGULATION PROCEDURE FOR RECONSTRUCTING EARLIER FORMS

The three preceding chapters have presented spheres in which linguists deal with language. In genealogical classification the dimension delimiting the sphere is time; languages are examined for relationships with their earlier stages, and these in turn for their sub-branches. In this way, English is examined for its similarities and differences with regard to Middle English, Old English and Proto-Germanic, from which other sub-branches, such as the Scandinavian languages developed. Proto-Germanic in turn is examined for similarities and differences with regard to Proto-Italic, Proto-Indo-Iranian, etc. and also with Proto-Indo-European. The procedure is comparison for the purpose of determining earlier stages of a language and other languages to which it is related.

In typological classification, the dimension of time is disregarded. Turkish today may be compared with Sumerian of 3000 BC, Berber today with Old Irish. All available languages are compared for characteristics that are widespread, in the search for those that are universal. As Meillet pointed out, these "two types of comparison, equally legitimate, differ absolutely. . . . The agreements which are established result from the general unity of the human mind, and the differences from the variety of types and degrees of civilization" (1925 [1967]: 13). While comparing languages to determine "universal laws," in Meillet's expression, "typological study is also concerned to learn "about the general characteristics of humanity" (*ibid.*). That aim may be the principal goal of typological study, but the results also serve as guidelines for reconstruction carried out by use of the comparative method. For example, on the basis of our knowledge from typological investigations, we would not reconstruct a language consisting solely of vowels, nor one consisting of lists of nouns rather than sentences. As we have illustrated above, we seek much more specific universals, also the interrelationships among them. The two types of classification in this way supplement each other.

In the third type of comparison, the sphere may be limited in various