

Historical Outlines of English Sounds and Inflections

By

SAMUEL MOORE

Late Professor of English at the University of Michigan

Revised by

ALBERT H. MARCKWARDT

Professor of English, University of Michigan

GEORGE WAHR PUBLISHING CO.

ANN ARBOR, MICHIGAN

1963

CHAPTER I

THE ELEMENTS OF PHONETICS

1. **Organs of Speech.** The primary condition for the production of speech-sounds is the passage of a stream of breath through the mouth passage or through the nasal passage or through both. This stream of breath is modified in various ways by movements of the organs of speech. The principal movable organs concerned in the production of English speech-sounds are the vocal lips or folds,¹ situated in the larynx; the soft palate or velum; the tongue; the lips; and the lower jaw. The velum (which terminates below in the uvula) forms the back part of the roof of the mouth, the hard palate forming the front part.

2. **Voiced and Voiceless Sounds.** With reference to the action of the vocal lips, sounds are either voiced or voiceless. In the production of a voiceless sound, the stream of air passes freely through the larynx; the vocal lips are separated, so that they offer no impediment to the stream of air and therefore do not vibrate. But in the production of a voiced sound, the vocal lips are drawn into contact or close together so that they are caused to vibrate by the stream of air which passes between them. This vibration can be felt by placing the first two fingers upon the larynx or "Adam's apple" while one is pronouncing a vowel sound, or such a consonant as **v**. All vowel sounds are ordinarily voiced, but some consonants are voiced and some are voiceless.² It is chiefly voice that distinguishes **g** (as in **get**) from **k** (as in **kept**), **d** from **t**, **b** from **p**, **v** from **f**, **z** (as in **zoo**) from **s** (as in **soon**), and the sound of **th** in **then** from the sound of **th** in **thin**.³

¹ The common term *vocal cords* is not employed here because it is misleading. The vibrating mechanism consists of two muscular and tendinous ledges projecting from the side walls of the larynx. Seen at rest they appear to be lip-like projections; when set in vibration by the pressure of the out-going breath stream they are characterized by a rolling or folding type of movement.

² Vowels and the consonants that are ordinarily voiced can also be whispered. In whispering the breath stream passes between the arytenoid cartilages rather than the vocal lips in a way that causes friction but not those regular vibrations that characterize voice. Speakers of English very commonly whisper the last of two voiced fricatives that terminate a word followed by a pause (e.g. in **leaves**). Voiceless consonants are probably not modified when we whisper, but are made with the glottis open as in ordinary speech.

³ By practice one may soon learn to distinguish voiced sounds from voiceless ones. A good exercise for practice is to pronounce alternately **s** and **z**, **f** and **v**, and the two

3. **Stops and Fricatives.** With reference to the manner of their articulation, consonants are distinguished as stopped consonants (or plosives) and fricatives (or spirants). In the production of stopped consonants, the breath stream is stopped at some point by the complete closing of the mouth passage. If (as is usually the case) it is the outgoing breath stream that is stopped, the density of the air behind the stoppage becomes greater than the density of the outer air, so that when the stop is opened an explosion occurs. In the production of fricatives, however, the breath stream is not completely stopped but is made to pass through an opening so narrow that the friction causes a buzzing or hissing noise. Stopped consonants are Modern English **g** (as in **go**), **k**, **d**, **t**, **b**, **p**; fricatives are **z**, **s**, **th** (as in **then**), **th** (as in **thin**), **v**, **f**. The **ch** in **chill** and the **g** in **gin** are combinations of a stop consonant with a fricative (approximately **t** with **sh** and **d** with **s** as in **measure**). In these combinations the closure for the stop and for the fricative is made at the same or nearly the same point, and when the stop is opened the explosion occurs through the narrow opening of the fricative; such combinations are called **affricates**.

4. The complete or partial closure required to produce stops and fricatives is usually made by means of the tongue of lips, and the quality of the various sounds is determined by the place where the closure is made. Modern English **g** (as in **go**) and **c** (as in **comb**) are produced by contact of the tongue against the soft palate; **y** (as in **yield**) is made with an incomplete closure between the tongue and the hard palate; **d** and **t** are made by contact of the tongue against the ridge above the upper front teeth (alveolar ridge) or against the teeth themselves; **z** and **s** are made with an incomplete closure at the same point; **b** and **p** are produced by a closure of the two lips; **v** and **f** are produced with an incomplete closure between the lower lip and the upper front teeth; **th** as in **then** and **th** as in **thin** are produced by causing air to pass between the tongue and the backs or edges of the upper front teeth.

According to the place of their formation, these consonants are there-

sounds of **th**, taking care to pronounce the consonant sound **alone** without the aid of a vowel. The sounds of **t** and **d**, **p** and **b**, etc., when pronounced without a vowel, will also be felt and heard to be very different in character. It will also be observed that voiced sounds, whether vowels or consonants, are capable of being uttered with variations of musical pitch without changing the shape of the mouth cavity, whereas voiceless sounds are not.

fore classified as velar consonants (**g** as in **go**, **c** as in **comb**); palatal consonants (**y**); alveolar consonants (**d**, **t**, **z**, **s**) interdental consonants (**th** in **then**, **th** in **thin**); labiodental consonants (**v**, **f**); labial consonants (**b**, **p**).

5. **Nasal and Oral Sounds.** All of the consonants mentioned in the preceding paragraph are oral consonants. Nasal consonants are **m**, **n**, **ng** (as in **thing**). In the articulation of the oral consonants, the velum is retracted until it makes contact with the back wall of the throat, which at the same time moves forward so as to close the passage from the throat to the nasal cavity, forcing the breath stream to issue through the mouth. In the articulation of nasal consonants, however, the velum is in the position it occupies in ordinary breathing, and the mouth passage is stopped by the lips or tongue, the closure being made for **m**, **n**, and **ng**, precisely as for **b**, **d**, and **g**, respectively, the breath stream issuing through the nose.

Vowels are normally oral sounds, but they become nasalized if the velum is not completely retracted and the passage to the nasal cavity is partly open. Consonants are also nasalized when they are pronounced with incomplete retraction of the velum. The nasalized vowels of Modern French are pronounced with no retraction of the velum and with the passage from the throat to the nasal cavity wide open.

6. **Vowels.** Vowel sounds are more open than fricatives. In the formation of a fricative, a stream of air is made to pass through an opening so narrow that the passage of the air causes friction and therefore noise. In the formation of a vowel, however, the mouth opening is so wide that the friction of the air against the sides of the opening causes very little noise or none at all.

7. **Open and Close Vowels.** But the vowels are not all equally open in their formation. If one pronounces in order the vowel sounds of the words **hat**, **hate**, **heat**, he will observe that in pronouncing each of these successive sounds the tongue is closer to the roof of the mouth. When we pronounce the series, the tongue starts from a position considerably below the roof of the mouth and ends in a position quite close to the roof of the mouth. This can be felt, and it can also be seen by pronouncing the sounds before a mirror. The same thing can be observed in regard to the vowels of the words **law**, **low**, **loot**. As we pronounce this series of vowels, we can feel the tongue going higher in the mouth, and we can see it indirectly by watching the upward movement of the lower jaw as we pronounce the three sounds before a mirror.

8. This difference in openness or height is the basis of one of the most important classifications of vowel sounds. We distinguish at least three degrees in the height of vowel sounds. If the tongue is quite close to the roof of the mouth, we call the vowel a **high** vowel. If the tongue occupies a low position in the mouth, we call the vowel a **low** vowel. If the tongue is in a position about midway between its extreme high position and its extreme low position, we call the vowel a **mid** vowel. So the vowels of **law** and **hat** are **low** vowels, the vowels of **low** and **hate** are **mid** vowels, and the vowels of **loot** and **heat** are **high** vowels.

9. **Back and Front Vowels.** When we pronounce in succession the two series of vowels heard in **law, low, loot,** and **hat, hate, heat,** we can perceive that the tongue lies differently as we utter the two series. When we pronounce the vowels of **law, low, loot,** the tongue is closest to the **back** part of the roof of the mouth. When we pronounce the vowels of **hat, hate, heat,** the tongue is closest to the **front** part of the roof of the mouth. This can be felt, and it can also be seen to a certain extent by looking into the mouth as we pronounce the two series of sounds before a mirror. We therefore call the vowels of **law, low, loot, back** vowels, and the vowels of **hat, hate, heat, front** vowels. This is the second basis of the classification of vowel sounds.

10. Combining the two classifications of vowel sounds, we say that the vowel of **hat** is a **low front** vowel, that the vowel of **hate** is a **mid front** vowel, that the vowel of **heat** is a **high front** vowel, that the vowel of **law** is a **low back** vowel, that the vowel of **low** is a **mid back** vowel, and that the vowel of **loot** is a **high back** vowel.⁴

11. **Round and Unround Vowels.** If one pronounces before a mirror the two series of vowel sounds heard in **hat, hate, heat,** and **law, low, loot,** he will see that the action of the lips in pronouncing the two series is not the same. In pronouncing the first series, the lips are either in the neutral position which they occupy when they are in a position of rest with the mouth slightly open, or else the lip opening is enlarged by a slight depression of the lower lip or by drawing apart the corners of the mouth. But in pronouncing the latter series the lip opening is modified by bringing together the corners of the mouth, with or without raising the lower

⁴ Some vowels, for example **a** in English **Cuba,** **e** in German **gabe,** **e** in French **je,** are neither front vowels nor back vowels. They occur chiefly in unstressed syllables and are generally termed **central** vowels.

lip. On the basis of this difference in the action of the lips we make the distinction between **round** and **unround** vowels, and call the vowel of **law** a **low back round** vowel, the vowel of **low** a **mid back round** vowel, and the vowel of **loot** a **high back round** vowel. The vowels of **hat, hate, heat,** on the other hand, are **unround** vowels.

Round vowels differ considerably in the degree of their rounding. The vowel of **loot** is more rounded than the vowel of **low,** and the vowel of **low** is more rounded than the vowel of **law;** in fact some speakers of English pronounce the vowel of **law** with very little rounding or none at all.

12. All of the English front vowels are unround, but front round vowels occur in French and German. The vowels of French **une** and German **kühn** and **müssen** are high front round vowels. The vowels of French **peu** and German **schön** and **hölle** are mid front round vowels. The vowels of **une** and **kühn** may be roughly described as formed with the tongue position of the vowel of English **heat** and the lip rounding of the vowel of English **loot.** The vowel of **müssen** may be described as formed with the tongue position of the vowel of English **hit** and the lip rounding of the vowel of English **full.** The vowels of **peu** and **schön** may be described as formed with the tongue position of the vowel of English **hate** and the lip rounding of the vowel of English **note.** And the vowel of **hölle** may be described as formed with the tongue position of the vowel of English **bet** and the lip rounding of the vowel of English **law.**

13. **Tense and Lax Vowels.** If we pronounce the vowel of **loot** and then the vowel of **look,** the vowel of **beat** and then the vowel of **bit,** we can feel in pronouncing the first vowel of each pair a degree of tenseness in the tongue that we do not feel in pronouncing the second vowel of the pair. The first pair of vowels are both high back round vowels, the second pair are both high front unround vowels, yet the acoustic quality of the first member of each pair is distinctly different from that of the second member. This difference of acoustic quality is chiefly the result of the difference that we observe in the tenseness of the tongue. Therefore, the vowels of **loot** and **beat** are called **tense** vowels and the vowels of **look** and **bit** are called **lax** vowels. The distinction between tense and lax vowels is most clearly perceptible and most distinct in its acoustic effect in the high vowels, but we find the same difference, though in a less degree, in the mid and low vowels. The vowel of **bait** differs from the vowel of **bet** chiefly in being more tense, at least in American English.

The vowel of **earth** is tense, and the vowel of the second syllable of **Cuba**, though made with nearly the same tongue position, is lax. The vowel of **note** is tense, and sometimes that of **naught** as well. The vowel of the first syllable of **fairly** is tense in the speech of some persons and lax in the speech of others. The other vowels of English are all lax.

The distinction between tenseness and laxness in vowels is often accompanied by certain other differences in the mechanism of their formation. Generally a tense vowel is slightly higher in jaw position than the corresponding lax vowel. Some phoneticians, notably Jones and Kenyon, recognize this as the basic difference between such a pair of sounds as the stressed vowels of **seat** and **sit**, defining the former as a high front vowel, and the latter as a lower high-front vowel. Tense vowels are commonly longer in duration than lax vowels and are more likely to be slightly diphthongized.

We should understand, moreover, that this distinction between tense and lax vowels is highly relative. All the English vowels are lax as compared with the stressed vowels of French, which are all very tense. The German short vowels are lax, and the long vowels are tense, though less tense than those of French. And the English tense vowels are less tense than the German tense vowels.

14. Quantity of Vowels. The foregoing classification of vowel sounds has reference only to the **quality** of vowels. But vowels differ from each other not only in quality but also in **quantity** or length of duration. With regard to quantity, vowels are commonly distinguished as **long** and **short**. But the student must be on his guard against the phonetically incorrect use of the terms long and short that he will encounter in naive or unscientific treatments and discussions of speech sounds, even in some dictionaries. The vowel of **bite**, for example, is sometimes called "long i" and the vowel of **bit** "short i," but the first is really a diphthong and the second a simple vowel; the vowel of **mate** may be called "long a" and the vowel of **mat** "short a," but the two vowels differ in quality as well as quantity, for the first is a mid front unround vowel and the second is a low front unround vowel; the vowel of **loot** is called "long oo" and the vowel of **look** "short oo," but though they are both high back round vowels they are not a longer and shorter variety of the same vowel, for the first vowel is tense and the second is lax. Differences of mere quantity or duration in vowels of the same quality do occur, however, in Modern English. The vowel of **gnaw** is longer than the vowel of **gnawed** and the

vowel of **gnawed** is longer than the vowel of **naught**, though the quality of the vowel is the same in the three words. But this variation depends on the phonetic environment of the vowel; a vowel is longer when it is final than when it is followed by almost any single consonant, and longer when it is followed by a voiced consonant than when it is followed by a voiceless consonant. This adaptation of vowel quantity to the phonetic environment of the vowel is made automatically by speakers of English.

In the speech of some persons who do not pronounce **r** before consonants the words **heart** and **hot**, **hard** and **hod**, **part** and **pot**, etc., differ only in the fact that the vowel of the first word of each pair is of longer duration than the vowel of the second word of the pair. And in the speech of perhaps the majority of Americans the words **balm** and **bomb** differ only in the fact that the vowel of the first word is longer than the vowel of the second. With these exceptions, however, differences in vowel quantity are not in themselves significant for the expression of meaning in Modern English, but are either dependent on the phonetic environment of the vowel or are combined with differences in vowel quality.

15. Diphthongs. A diphthong consists of two vowel sounds pronounced in a single syllable. In Modern English we have diphthongs in the words **foil**, **foul**, and **file**.⁵ In these diphthongs the first element is more strongly stressed than the second; such diphthongs are called **falling** diphthongs. Diphthongs in which the second element is more strongly stressed than the first as in **fuel** are called **rising** diphthongs.

⁵ For the diphthongization of certain long vowels in Modern English see Section 17 below.

CHAPTER II

MODERN ENGLISH SOUNDS

16. Phonetic Alphabet. In order to discuss or refer to the sounds of human speech in a reasonably accurate fashion, it is necessary to employ an alphabet which has a consistent set of values for its characters or letters. Such consistency can be attained only if each letter indicates one and no more than one sound, and conversely, if every sound is indicated by one and only one symbol. A moment's reflection will be sufficient to convince anyone that the ordinary system of English spelling does not maintain such a one-to-one correspondence of sound and symbol. Consequently students of language have been forced to devise phonetic alphabets which do maintain this general principle. The one most frequently employed is the International Phonetic Alphabet, a form of which, particularly adapted to the English language, is presented here.

The first of the three columns below gives the IPA symbol for each of the distinctive sounds of English, the second contains a key word which indicates the value of the sound in question, and the third column shows how the key word would be transcribed in phonetic notation.

SYMBOL	KEY WORD	TRANSCRIPTION
ɑ	calm	kɑm ⁶
æ	hat	hæt ⁷
b	bat	bæt
d	doom	dʊm
e	hate	het ⁸
ɛ	met	met ⁹

⁶ The vowel written *o* in *fodder, hot, not, etc.*, is in most parts of the United States the same sound as that which is written with *a* in *father* or *calm* but shorter in duration. In eastern New England and Great Britain, however, the *o* in *fodder, hot, not, etc.*, is a vowel which may be represented in this notation by [ɒ]. (Here and elsewhere the brackets indicate that the spellings they enclose are phonetic spellings.)

⁷ A sound intermediate between [ɑ] and [æ], representing the vowel sound of French *la*, may be indicated by the symbol [a]. No satisfactory English keyword can be given for this sound because, though it occurs in a number of varieties of English, there is no word or group of words in which it occurs in *all* varieties of English. It is the vowel which some persons use as a compromise between [ɑ] and [æ] in words like *past, laugh, half, etc.*

⁸ See Section 17.

⁹ In those dialects where the vowel of *fairy* differs from that of *ferry*, the stressed vowel of the first word may often appropriately be represented by [æɪ]. No special

SYMBOL	KEY WORD	TRANSCRIPTION
f	fate	fet
g	gate	get
h	hate	het
i	feet	fit ¹⁰
ɪ	hit	hit
ɪ	pretty	prɪtɪ ¹¹
j	yield	jɪld
k	keep	kip
l	let	let
m	mate	met
n	need	nɪd
θ	sang	sæŋ
o	note	not ¹⁰
ɔ	law, fork	lɔ, fɔ:k
p	pet	pɛt
r	rat, merry	ræt, mɛrɪ
s	sit	sɪt
ʃ	shape	ʃep
ʒ	vision	vɪʒən
t	take	tek
θ	thin	θɪn
ð	then	ðɛn
u	boot	but ¹⁰
ʊ	full	fʊl
ʌ	hut	hʌt
ɜ	hurt, earth, bird, berth, word (General American pronunciation)	hɜ:t, ɜ:θ, bɜ:d, bɜ:θ, wɜ:d ¹²

symbol has been employed for this sound because the low front tense vowel which it would represent is replaced in some varieties of English by the mid front tense vowel [e] and at times even by the low front lax vowel [æ]. The vowel [æ:] seems to prevail more widely in *fairy* than in any other word. The symbol [æ:] is used here to represent any front tense vowel that is lower than [e]. For the use of the modifier [ɪ], see Section 18.

¹⁰ See Section 17.

¹¹ This vowel occurs only in unstressed syllables. See note 36 below.

¹² The sound represented by *u, ea, i, e, and o* plus *r* in these words is a single sound which may be represented phonetically by the character *ɜ* alone, e.g. [hɜ:t], [ɜ:θ], etc. In that it constitutes the crest of the syllable it does not differ materially from the *ʌ* of [hʌt], [bʌd], etc.

SYMBOL	KEY WORD	TRANSCRIPTION
ɜ	hurt, earth, bird, etc. (Southern British and eastern New England pronunciation)	hɜt, ɜθ, bɜd, bɜθ, wɜd ¹³
ə	above	əbʌv ¹⁴
ɜ	further, perverse	fɜːðɜ, pɜːvɜːs ¹⁵
v	vat	væt
w	win	wɪn
z	zest	zɛst
Diphthongs:		
aɪ	find	faɪnd ¹⁶
aʊ	found	faʊnd ¹⁶
ɔɪ	boy	bɔɪ ¹⁶
ɪʊ	mute	mɪʊt ¹⁷
Consonant combinations:		
tʃ ¹⁸	choose	tʃuz
dʒ	jaw, cage	dʒɔ, kedʒ
hw	wheat	hwɪt ¹⁹

¹³ This sound differs from [ɜ] chiefly in that the tongue is flat in the mouth, not in a retroflex position (turned upward) when it is uttered. It closely resembles [ə] and is tense instead of lax (see Section 13 above). It occurs only in varieties of English in which *r* is not pronounced before consonants.

¹⁴ This vowel occurs only in unstressed syllables.

¹⁵ This vowel occurs only in unstressed syllables and in varieties of English in which *r* is pronounced before consonants. In the so-called *r*-less varieties of English, [ɜ] normally appears as [ə]: **better** [betə], **perverse** [pɜːvəs].

¹⁶ The symbols [aɪ], [ɔɪ], and [aʊ] are used for practical convenience to represent diphthongs which vary considerably in different varieties of English. In cultivated speech the first elements of [aɪ] and [aʊ] vary between [a] and [ɑ]. The second element of these diphthongs sometimes approaches [i] and [u] in quality.

¹⁷ In American English both [ju] and [ɪʊ] occur in such words. The combinations are composed of nearly the same elements but in the production of [ju] the second element is more strongly stressed than the first and in the production of [ɪʊ] the two elements have equal stress or the first is more strongly stressed than the second.

¹⁸ The transcription [tʃ] is only an approximation of the **ch** sound. Actually, a combination of [t] followed by [ʃ] as in *white shirt* is not identical with the initial sound of *choose*. In *white shirt* the [t] is alveolar, but the closure for [ʃ] is slightly farther back, in an alveolo-palatal position. In *choose* there is but a single point of contact, namely alveolo-palatal. Consequently, it would be logical to employ a unit or single character for the **ch** sound, but one that is satisfactory in every respect has not been devised. The same conclusions also apply to the [dʒ] sound and symbol.

¹⁹ This sound consists of [w] preceded by a voiceless fricative made while the tongue and lips are approaching the position for [w]. In southern British English *what, which, why, etc.*, are usually pronounced with [w] instead of [hw] and this pronunciation is very common also in American English.

For the representation of certain sounds that occurred in Old English and Middle English, but which do not occur in Modern English, the following additional characters are needed:

- y pronounced as **üh** in German **kühn**; **u** in French **une**
- y pronounced as **ü** in German **müssen**
- œ pronounced as **ö** in German **hören, wörter**; **eu** in French **peu, peur**
- ȝ pronounced as **g** in North German **sagen**²⁰
- x pronounced as **ch** in German **nicht, nacht**²¹

17. Diphthongization. In stressed syllables Modern English [e], [i], [o], and [u] tend to be diphthongs, not simple vowels. But the degree of diphthongization varies greatly according to circumstances. Diphthongization is most pronounced when the vowel is final and is followed by a pause. Such words as *hay, key, hoe, and coo* when they are followed by a pause could be written [hæe] or [heɪ], [kɪi] or [kiɪ], [hɔo] or [hou], and [kɔu] or [kuw]. The quality of the vowels composing these diphthongs varies more or less with different individuals and in different localities. There is a considerable amount of diphthongization when the vowel is final but is not followed by a pause or when the vowel is followed by a voiced consonant. In such words as *fade, feed, load, and food* the vowels may be transcribed either as diphthongs or as [e], [i], [o], and [u]. When these vowels are followed by voiceless consonants there is little or no diphthongization. The reason for this variation in amount of diphthongization according to the phonetic environment of the vowel is that the longer the vowel is the more it is diphthongized, and Modern English vowels are longest when they are final and followed by a pause and are shortest when they are followed by voiceless consonants. See section 18 below. When [e], [o], and [u] occur in unstressed syllables, as in *vacation, donation, and unstressed [hu]*, they are simple vowels.

18. Vowel Quantity. The vowels [e], [i], [o], [u], [ɜ], and [ɜ], when fully stressed, are always long or "half-long." The vowels [æ], [ɛ], [ɪ], [ɪ], [ʊ], [ʌ], and [ə] are nearly always short.²² The vowel [a] when fully

²⁰ See note 70 below.

²¹ Strictly speaking the symbol [x] represents only the voiceless velar fricative, that is the **ch** of German *nacht*. The **ch** in German *nicht* is a voiceless palatal fricative, for which some phonetic alphabets provide the symbol [ç]. Yet [k] and [g] undergo a similar differentiation on the basis of the kind of vowel which follows (see note 29) but are represented by only a single symbol each. Therefore in the interests of simplicity, the symbol [x] will be employed here for both velar and palatal fricatives.

²² The chief exceptions to this statement are that [ɪ] and [ʊ] are long before *r* (as in *hearing* and *poorer*) and that [æ] occurs as a long vowel in some varieties of English under the conditions stated in 120.3 below (see also note 9 above).

stressed is always long in some varieties of English, but in others it occurs both as a long and as a short vowel, as does [ɔ].

Long vowels may be marked by the modifier : placed after the vowel, and half-long vowels may be marked (if it seems desirable to indicate two degrees of length) by the modifier ː; for example, *fade* and *feed* may be transcribed [feɪd] and [fiːd] and *fate* and *feet* may be transcribed [feːt] and [fiːt]. But since (as was stated above in section 14) differences in vowel quantity in Modern English are nearly always either dependent on the phonetic environment of the vowel or are combined with differences in vowel quality, it is not necessary for most purposes to mark long vowels in the phonetic transcription of Modern English. In the subsequent chapters, all long vowels are marked as such in the transcription of Old and Middle English but not in the representation of Modern English.

19. Accentuation. In almost all Modern English words of two or more syllables, one syllable is pronounced with decidedly stronger stress than the others.²³ Stress is indicated when necessary by prefixing to the stressed syllable the symbol ˈ, as in [ˈhæpi]. In words of two or more syllables there is frequently a secondary stress on one of the syllables, as in [ˈɪndɪˌket], [ˈdeɪzɪɡˌnetəd], [ˌɪntəˈmɪdɪət]. And in a group of words constituting a short sentence or an element of a longer sentence we find a similar distribution of syllables uttered with varying degrees of stress. In the sentence "Did he find the book he was looking for?", for example, *find*, *book*, the first syllable of *looking*, and *for* are uttered with decidedly stronger stress than the other syllables.²⁴ And of the weakly stressed syllables, *did* has a slightly stronger stress than *he* which follows it. But if we utter the sentence in the way that is suggested by printing it "*Did* he find the book he was looking for?", we notice that *did* has become a strongly stressed word. And when we utter the sentence as is suggested by printing it "Did *he* find the book he was looking for?", we notice that the first *he* has become a strongly stressed word, though the second *he* is still unstressed. The preponderance of stress on one or more syllables of a single word is called **word-stress**, and the preponderance of stress on certain syllables of a syntactical group of words is called **sentence-stress**.

²³ "Level" stress occurs in such words as *undo* and in such an expression as *black bird* as compared with *blackbird*.

²⁴ The distribution of primary and secondary stresses among the four strongly stressed syllables of the sentence would depend on the particular situation in which the sentence was uttered, but *for* would always probably have secondary stress.

20. Gradation. "Perhaps the most characteristic feature of English phonology is the extreme sensitiveness of its sounds to variations in the degree of stress, giving rise to the varied phenomena of gradation."²⁵ Gradation is illustrated by the changes in vowel quality when derivative suffixes are added as follows:

aristocrat	æˈrɪstəˌkræt	aristocracy	ˌæːrɪsˈtɒkrəsi
illustrate	ˈɪləˌstret	illustrative	ɪˈlɑstrəˌtɪv
superior	səˈpɪrjə	superiority	səˌpɪrɪˈɔrəti

In these examples it will be noticed that when the syllables containing [æ], [ɪ], [ʌ], [ɛ], and [ɔ] are pronounced without stress the quality of the vowel changes to [ə] or [ɪ]. But gradation also occurs in correlation with differences in sentence-stress. If we listen closely to the sentence "Did *he* find the book he was looking for?" as uttered colloquially, we notice that the first *he* is the "strong" form [hi] which is used when the word is emphatic and therefore stressed, and that the second *he* is the "weak" form which is used when the word is unstressed; this weak form is [hɪ] at the beginning of a sentence or after a pause, but usually [ɪ] in other situations. In the sentence "Did *he* find the book *I* was looking for?" the word *I* has the strong form [aɪ], but when the word is unstressed it has the weak form [əɪ], which in very rapid colloquial speech is reduced to [ə]. Many examples of weak forms of pronouns, auxiliary verbs, prepositions, conjunctions, etc., may be found in the phonetic transcription given in section 22.²⁶

21. Syllabic Consonants. The sounds [n] and [l] frequently form a syllable even when not accompanied by a vowel, for example in *written* [rɪtɪn], *saddle* [sædl]. These syllabic consonants may be represented by the symbols [n] and [l]. It is unnecessary in the examples just given to mark the consonants as syllabic because in such words as these they can scarcely be pronounced at all without being syllabic. The special designation for syllabic consonants is used only where there is a possibility of the sound being either syllabic or nonsyllabic, as in *gluttony* [ɡlʌtɪnɪ] and *apple* [æpl].²⁷

²⁵ Sweet, *The Sounds of English*, p. 65.

²⁶ For a detailed treatment of gradation see J. S. Kenyon's *American Pronunciation*, 6th edition, pp. 90-110; also Webster's *New International Dictionary*, Guide to Pronunciation, pp. xxxvii-xxxix.

²⁷ Syllabic [m] may also occur in *prism* [prɪzɪm], or in combinations such as *stop 'em* [stɒpm], *keep 'em* [kipm].

22. Modern English in Phonetic Notation. The pronunciation represented in the paragraphs printed below is the natural pronunciation of the transcriber (who is a native of southeastern Pennsylvania) when speaking at a rate about midway between slow, formal speech and rapid, conversational speech. In the transcriber's dialect the vowel [ə] is extremely frequent and occurs in many situations where speakers from some other localities would use [ɪ], for example in [klæsəz] and [kaltəvetəd], line 1. In the transcriber's dialect also the vowel [æ:] occurs in certain words which have [æ] or [ɑ] in some other varieties of English, for example [kəntræ:st], line 43. In the conventional spelling the first paragraph of the text transcribed below is as follows:

In every cultivated language there are two great classes of words which, taken together, comprise the whole vocabulary. First, there are those words with which we become acquainted in ordinary conversation,—which we learn, that is to say, from the members of our own family and from our familiar associates, and which we should know and use even if we could not read or write. They concern the common things of life and are the stock in trade of all who speak the language. Such words may be called "popular," since they belong to the people at large and are not the exclusive possession of a limited class.

IN EVRİ KALTƏVETƏD læŋgwidʒ ðer ə tu gret klæsəz əv wɜdz hwitʃ
tekn təgeðə, kəmpraɪz ðə hol vəkæbjələri. fɜst, ðeə ə ðoz wɜdz
wɪð wɪʃ wɪ bɪkɑm əkwentəd ɪn ɔð-dənəri kənvəseʃn—hwitʃ wɪ lɜn,
ðæt ɪz tə sei, frəm ðə membəz əv əə ɔn fæmlɪ ən frəm ər fəmiljə
5 əsoʃjəts, ənd wɪʃ wɪ ʃəd nɔ ən juz ivən ɪf wɪ kʊd nət rid ə raɪt. ðe
kənsɜn ðə kəmən θɪŋz əv laɪf, ənd ə ðə stək ɪn tred əv ɔl hʊ spɪk
ðə læŋgwidʒ. sɑtʃ wɜdz me bɪ kɔld²⁸ "pəpjələ" sɪns ðe bæljə tə ðə
pipl ət læə-dʒ ənd ə nət ði ɪkskluzɪv pəzeʃn əv ə lɪmɪtəd klæs.

ɔn ði lɔðə hæɪnd, əə læŋgwidʒ ɪnkludz ə mʌltɪtʊd əv wɜdz wɪʃ
10 ə kəmpærətɪvli seldəm juzd ɪn ɔð-dənəri kənvəseʃn. ðeə mɪnɪʒ ə
nɔn tu evrɪ edʒəkətəd pɜsn, bət ðə ɪz lɪtl əkeʒn tu ɪmplɔɪ ðəm ət hom
ɔə ɪn ðə məəkət-ples. ər fɜst əkwentəns wɪð ðəm kɑmz nət frəm
əə mʌðəz lɪps ɔə frəm ðə tɔk əv ər skulmets, bət frəm bʊks ðət wɪ

²⁸ In the phrase "called popular," line 7, the closure for [d] is made and is then held while the lips make the closure for [p]; there is only one explosion, that of the [p]. In the phrase "called learned" the [d] of *called* can only be exploded if one speaks very slowly; in more rapid speech we are likely to omit the stop altogether. If this is done the [l] of *called* may be prolonged, and this prolongation may be indicated if desired by transcribing it [l:].

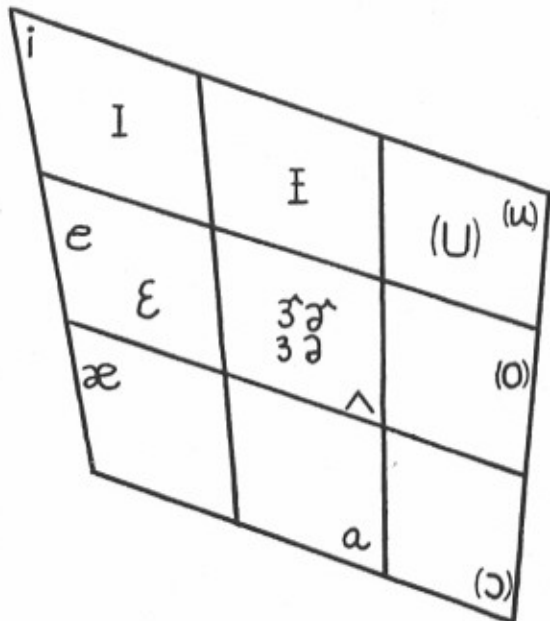
rid, lɛktʃəz ðət wɪ hɪə, ɔə ðə mɔə fɔəml kənvəseʃn əv haɪlɪ edʒəkətəd
15 spɪkəz, hʊ ə dɪskɑsɪŋ sɑm pətɪkjələ tɑpɪk ɪn ə stɑɪl əpprɔprɪətli
eləvetəd əbʌv ði əbɪʃʊəl levl əv evrɪde laɪf. sɑtʃ wɜdz ə kɔld²⁸
"lɜnəd," ən ðə dɪstɪŋkʃn bɪtwɪn ðəm ən "pəpjələ" wɜdz ɪz əv gret
ɪmpɔəns tu ə raɪt ʌndəstændɪŋ əv ɪŋgwɪstɪk pɜses.

ðə dɪfəns bɪtwɪn pəpjələ ən lɜnəd wɜdz me bɪ ɪzəlt sɪn ɪn ə fju
20 əgzæmplz. wɪ me dɪskraɪb ə gɜl əz "laɪvli" ɔə əz "vɪveʃəs." ɪn ðə
fɜst kes, wɪ ə juzɪŋ ə netɪv ɪŋglɪʃ fɔəmeʃn frəm ðə fəmiljə nɑn
"laɪf." ɪn ðə lætə, wɪ ə juzɪŋ ə lætn dərɪvətɪv hwitʃ hæz pɪsəɪsli ðə
sem mɪnɪŋ. jət ði ætməsɪf əv ðə tu wɜdz ɪz kwɔɪt dɪfənt. nɔ wʌn
evə gət ði ædʒɪktɪv "laɪvli" aʊt əv ə bʊk. ɪt əz ə pæst əv evrɪbʌdɪz
25 vəkæbjələri. wɪ kænət rɪmembə ə tɑɪm wen wɪ dɪd nət nɔ ɪt, ən wɪ
fɪl ʃʊə ðət wɪ lɜnd ɪt lɔŋ bɪfɔə wɪ wə ebl tə rid. ɔn ði lɔðə hæɪnd, wɪ
mʌst əv pæst sevɪrəl jɪəz əv əə laɪvz bɪfɔə lɜnɪŋ ðə wɜd "vɪveʃəs."
wɪ me ivən rɪmembə ðə fɜst tɑɪm wɪ sɔ ɪt ɪn prɪnt ə hɜd ɪt frəm sɑm
grɔnəp frɛnd hʊ wəz tɔkɪŋ əvə əə ʃɑɪldɪʃ hedz. bɔθ "laɪvli" ən
30 "vɪveʃəs" ə gud ɪŋglɪʃ wɜdz, bət "laɪvli" ɪz "pəpjələ" ən "vɪveʃəs"
ɪz "lɜnəd."

evrɪ edʒəkətəd pɜsn hæz ət lɪst tu wez əv spɪkɪŋ ɪz mʌðə tɑŋ.
ðə fɜst ɪz ðæt hwitʃ ɪ ɪmplɔɪz ɪn ɪz fæmlɪ, əmɑŋ ɪz fəmiljə frɛndz,
ənd ɔn ɔð-dənəri əkeʒnz. ðə sekənd ɪz ðæt hwitʃ ɪ juzəz ɪn dɪskɔsɪŋ
35 ɔn mɔə kəmplɪkətəd sɑbdʒɪkts, ənd ɪn ədresɪŋ pɜsnz wɪð hʌm ɪ
ɪz les ɪntəmətli əkwentəd. ɪt ɪz, ɪn ʃɔət, ðə læŋgwidʒ wɪʃ ɪ ɪmplɔɪz
wən ɪ ɪz "ɔn ɪz dɪgnɪtɪ," æz ɪ pʊts ɔn ɪvɪnɪŋ dres wən ɪ ɪz goɪŋ aʊt tə
daɪn. ðə dɪfəns bɪtwɪn ðɪz tu fɔəmz əv læŋgwidʒ kənsɪsts, ɪn gret
mɛʒə, ɪn ə dɪfəns əv vəkæbjələri. ðə besəs əv fəmiljə wɜdz mʌst bɪ
40 ðə sem ɪn bɔθ, bət ðə vəkæbjələri əpprɔprɪət tu ðə mɔə fɔəml əkeʒn
wɪl ɪnklud mɛnɪ tɜmz hwitʃ wəd bɪ stɪltəd ə əfektəd ɪn ɔð-dənəri tɔk.
ðə ɪz əlsɔ kənsɪdrəbl dɪfəns bɪtwɪn fəmiljə ən dɪgnɪfɪd læŋgwidʒ ɪn
ðə mænə əv ʌtərens. kəntræ:st ðə ræpɪd ʌtərens əv əə evrɪde daɪə-
lɛkt, fʊl əv kəntrækʃnz ən klɪpt fɔəmz, wɪð ðə mɔə dɪstɪŋkt mʌnsɪeʃn
45 əv ðə pʊlpət ə ðə plætfɔəm. ðəs, ɪn kənvəseʃn, wɪ əbɪʃʊəli ɪmplɔɪ
sɑtʃ kəntrækʃnz əz "aɪl," "dɔnt," "wɔnt," "ɪts," "wɪd," "hɪd," ən
ðə laɪk, hwitʃ wɪ ʃəd nevr juz ɪn pʌblɪk spɪkɪŋ, ʌnles əv set pɜpəs,
tə grɪv ə məəkədlɪ kələkwɪəl tɪndʒ tə wət wɪ hæv tə sei.

(Transcribed from Greenough and Kittredge's *Words and their Ways in English Speech*, pp. 19, 20, 27, 28.)

23. **Phonetic Classification of Modern English Sounds.** The following diagram shows the vowels of Modern English, classified, as in Sections 7-13, according to the positions assumed by the jaw, tongue, and lips in pronouncing them.



A quadrilateral rather than a rectangle has been employed to illustrate the various vowel positions because experimental evidence has demonstrated the relativity of the several terms of classification: *high* in respect to the front vowels is higher than with the back vowels; *back* is more retarded for the low vowels than for the high, etc. The rounded vowels are shown enclosed in parentheses. The vowels [i], [e], [u], [ɔ], [ɜ̄], [ɝ] are always tense; the others are generally lax, although there are tense varieties of [ɔ] and [æ]. The sounds [ɜ̄] and [ɝ] are made with the tongue turned upward (retroflex). The sound [ɪ] is variable in position, ranging from a vowel close to [i] to one that may resemble [ɪ] or even [ɛ], but it is usually produced with the tongue decidedly more centralized than any of these.

The classification of the consonant sounds, according to the principles explained above in 1-5, is as follows:

		Labial	Labio-dental	Inter-dental	Alveolar	Alveolo-Palatal	Velar
Stops	{ Voiceless	p			t		k ²⁹
	{ Voiced	b			d		g
Fricatives	{ Voiceless		f	θ	s	ʃ	
	{ Voiced		v	ð	z	ʒ	
Affricates	{ Voiceless					tʃ	
	{ Voiced					dʒ	
Nasals		m			n		ŋ

[h] is a voiceless sound made with the tongue and lips in the position, or approaching the position, which they will occupy in producing the vowel that follows. It is classified sometimes as a voiceless glottal fricative.

[j] is usually a voiced frictionless "glide" sound produced with the tongue moving from the [i] position to the position which it is to occupy in the formation of the vowel that follows it. It is a fricative only when it is produced with the tongue so close to the hard palate that the passage of air through the narrow opening causes audible friction; this is the case when [j] is followed by a high front vowel, as in *yield*.

[l] is a "divided" or "lateral" consonant; it is formed by placing the point of the tongue against the alveolar ridge and allowing the air from the lungs to escape at the sides. A "unilateral" [l] is produced when the tongue is so placed that the air can escape at one side only. When the point of the tongue is in the position that is essential for the production of the [l] sound, the back of the tongue may be in various positions which modify more or less the quality of the sound. [l] is usually voiced but may be partly or wholly voiceless after voiceless stops, as in *play*.

[r] is produced in a variety of ways in English. In northern British

²⁹ Although [k] and [g] are classified here as velar stops, they are actually palatal or velar according to the nature of the vowel that precedes or follows. (The term *palatal* implies contact with the hard palate, *velar* with the soft palate.) The closure is made farther forward when a front vowel follows, as in *key* and *gate*, than when a back vowel follows, as in *cow* and *go*.

English it is trilled with the tip of the tongue when a vowel follows. In southern British English, the [r] consists of a single flap of the tongue when it occurs between vowels, as in *very*, but this is very exceptional in American English. In both British and American English there is some tendency to trill the [r] after [θ], as in *three*.

All types of untrilled [r] are produced by turning the tip of the tongue up towards the ridge behind the upper front teeth or towards the hard palate and then gliding or moving the tongue to the position for the following sound. If the tip of the tongue is very close to the roof of the mouth, a certain amount of friction accompanies the production of the sound, but most types of [r] are vowel-like sounds produced with little or no friction. Initial [r] and intervocalic [r] are often made with some rounding of the lips. [r] is usually voiced but may be partly or wholly voiceless after voiceless stops, as in *pray*.

[w] is usually a voiced frictionless glide produced with the lips rounded and with the tongue moving from the [u] position to the position which it is to occupy during the production of the vowel that follows it. But when [w] is followed by a high back vowel, as in *woo*, the tongue is so close to the roof of the mouth that the passage of air through the narrow opening causes audible friction; in this situation [w] may be described as a voiced velar spirant made with decided rounding of the lips.

For a description of [hw] see note 19.

OLD ENGLISH SOUNDS, INFLECTIONS, AND DIALECTS

24. **Pronunciation of Old English.** For purposes of convenience, three periods in the development of the English language are usually recognized. The first, Old English, extends from the beginnings of recorded English to 1050. Middle English covers the period from 1050 to 1450. The language after 1450 is considered Modern English, although at times the period from 1450 to 1700 is called Early Modern English.

The pronunciation of the Old English vowels and diphthongs is shown in the following table:

OE Spelling	Pronunciation	Examples	Transcription
ā	[ɑ:]	stān, <i>stone</i>	[sta:n]
a	[ɑ]	man, <i>man</i>	[man]
æ	[æ:]	hæþ, <i>heath</i>	[hæ:θ]
æ	[æ]	þæt, <i>that</i>	[θæt]
ē	[e:]	swēte, <i>sweet</i>	[swe:te]
e	[ɛ]	helpan, <i>help</i>	[hɛlpən]
ī	[i:]	rīdan, <i>ride</i>	[ri:dan]
i	[ɪ]	drīncan, <i>drink</i>	[drɪŋkən]
ō	[o:]	dōn, <i>do</i>	[do:n]
o	[ɔ]	croþ, <i>crop</i>	[krɔp]
ū	[u:]	hūs, <i>house</i>	[hu:s]
u	[ʊ]	sunu, <i>son</i>	[sʊnʊ]
ȳ	[y:]	fȳr, <i>fire</i>	[fy:r]
y	[ɪ]	þynne, <i>thin</i>	[θɪn:ɛ]
ēa	[æ:ə]	strēam, <i>stream</i>	[stræ:əm]
ea ³⁰	[æə]	hearpe, <i>harp</i>	[hæərpɛ]
ēo	[e:ɔ]	bēon, <i>be</i>	[be:ɔn]
eo ³⁰	[ɛɔ]	weorc, <i>work</i>	[wɛɔrk]
īe	[i:ɔ]	hīeran, <i>hear</i>	[hi:ɔrən]
ie ³⁰	[ɪə]	ieldra, <i>elder</i>	[ɪəldrə]

³⁰ Some recent authorities have questioned the diphthongal value of the *ea*, *eo*, and *ie* spellings, maintaining that they were devised by Anglo-Saxon scribes to indicate the velar nature of following *l*, *r*, and *h*, and the palatal character of preceding *ē* and *ġ* sounds. This applies to the short diphthongs only. In this connection, see M. Daunt, "Old English Sound-Changes Reconsidered in Relation to Scribal Tradition and Practice," *Transactions of the Philological Society*, 1939, pp. 108-137. However, because the traditional view of their diphthongal value was implicit in Professor Moore's subsequent treatment, I have hesitated to modify his opinions to this extent. The suggestion is one which deserves further consideration. A.H.M.

CHAPTER VIII

THE DEVELOPMENT OF MODERN ENGLISH SOUNDS

113. Relation of Middle English to Modern English. The term Middle English is a convenient way of speaking of a number of local dialects of English which were used during a period lasting roughly from about 1050 or 1100 to about 1450 or 1500. These local dialects, as may be seen from a study of Chapter VII of this book, differed greatly from each other both in sounds and grammatical forms.

The local dialects of Middle English were not merely spoken varieties of English, but each local dialect had its corresponding written form which was intended to represent the spoken forms of that dialect and which did represent the spoken forms of the dialect as accurately as the varying skill of the writers and the inadequacy of their alphabet permitted. And the written forms of these various local dialects were used not only for records and memoranda of merely local, temporary, or utilitarian value, but were also the media in which the literary works of the Middle English period were written until about 1450. Until after this date no one written form of English was used over the whole or even over the greater part of England, just as no one spoken form of English was used outside of its own particular region.

We find, however, that the written form of the literary works and documents composed in the Southern, Kentish, West Midland, and Northern regions after about 1450 (or even a little earlier) becomes increasingly less representative of the spoken forms of the regions in which these writings originated and approximates more and more closely to a common standard. By about 1500 this written form of English, which we may now call Standard Written English, had come into such general use that even informal writings such as private letters and family papers seldom contain linguistic evidence of their local origin. The written form of English which thus displaced the written forms of the other dialects was that which was used by those whose spoken language was the dialect of London.

The dialect of London appears to have been originally of a type which might be called Southeastern,¹²⁷ but between about 1250 and 1350

¹²⁷ See Section 105 above.

most of the more specifically Southeastern and Southern characteristics of the London dialect were displaced by the forms of the Southeast Midland dialect. Between about 1350 and 1500 the London dialect underwent further modification and approximated more closely at the end of the Middle English period to the Northeast Midland dialect type. And even after 1500 at least one change took place in the spoken English of London which assimilated it still more closely to the Northeast Midland dialect type, namely the substitution of *-(e)s* for *-eth* as the ending of the present indicative third person singular of verbs.¹²⁸

Standard Written English did not retain throughout the sixteenth and seventeenth centuries the form which it had between 1450 and 1500 when the written form of the London dialect first became the standard written form of English, but underwent a development that reflected changes that were taking place during the sixteenth and early seventeenth centuries in the spoken English of London.

114. Standard Written English and Standard Spoken English. The establishment of a standard written form of English must be distinguished from the establishment of a standard form of spoken English. After the written form of the London dialect had been accepted as Standard Written English, the other local dialects still continued to be spoken and their derivatives are still spoken by certain classes in England, Scotland, and Ireland today. The London type of spoken English must, however, have become very much more widely diffused among certain classes during the sixteenth and seventeenth centuries than it was at an earlier period, for all the types of spoken English now used throughout the English-speaking world except the local dialects of England, Scotland, and Ireland are derivable from sixteenth century or seventeenth century London English. At least none of these varieties of spoken English exhibits either in its sounds or its inflections characteristics that indicate derivation from any other local dialect than the dialect of London. But there is no one variety of spoken English that is common even to the educated classes throughout the English-speaking world. In England itself there are important differences between the speech of southern and northern Englishmen of the same degree of social acceptability and cultivation. And when we consider all the varieties of English spoken by those who are

¹²⁸ This change began in the latter part of the fifteenth century but was not completed until after 1500.

admitted to speak "good English" in the different British colonies and in different parts of the United States, we must recognise that there is still no Standard Spoken English in any strict sense of the term. In every part of the English-speaking world some type of spoken English, that which is used by those who carry on the affairs of the community, is considered "good English," as contrasted with the non-standard English and local dialects spoken by other classes of the community. If we use the term Standard Spoken English at all we must recognize that it is merely a convenient way of speaking of the various kinds of "good English" that are current in various parts of the English-speaking world.

115. The Great Vowel Shift. In Section 52, which dealt with the normal development of Old English sounds into Middle English, it was pointed out that fewer than half of the Old English vowel sounds and diphthong combinations underwent any change at all. Moreover, the changes which did occur were limited for the most part to the unrounding of rounded vowels and the simplification of diphthongs.

The development of Middle English sounds into Modern English is a quite different story. During the period between 1400 and 1600, all but two of the twenty significantly distinctive vowel sounds and diphthongal combinations of Chaucer's time underwent some sort of alteration, often involving shifts in jaw height and tongue position. In fact, so radical was the change in the whole phonetic structure of English during this period that it is often spoken of as the Great Vowel Shift. The results of it are reflected even in the names we give to the vowel characters in the English alphabet. Only in English is the first letter of the alphabet called [e]; in virtually every other Western European language it is [a]. English is the only language in which the fifth letter (e) is [i] instead of [e] and in which the ninth letter (i) is called [aɪ]. The extent of the changes in the Middle English vowels and diphthongs will be observed in the following table, which indicates their Modern English equivalents.

MIDDLE ENGLISH			MODERN ENGLISH		
[ɑ:]	name	[nɑ:mə]	[e] ¹²⁹	name	[nem]
[ɑ]	crabbe	[kræbʰə]	[æ]	crab	[kræb]
[æ:]	cleene	[klæ:nə]	[i] ¹³⁰	clean	[klin]
[e:]	sweete	[swe:tə]	[i]	sweet	[swit]
[ɛ]	helpe(n)	[hɛlpə(n)]	[ɛ]	help	[hɛlp]
[i:]	ride(n)	[ri:də(n)]	[aɪ]	ride	[raɪd]
[ɪ]	drinke(n)	[driŋkə(n)]	[ɪ]	drink	[driŋk]
[o:]	fode	[fɔ:də]	[u]	food	[fud]
[ɔ:]	stoon	[stɔ:n]	[o]	stone	[stɒn]
[ɔ]	oxe	[ɔks]	[ɑ] ¹³¹	ox	[aks]
[u:]	hous	[hu:s]	[ɑʊ]	house	[haʊs]
[ʊ]	sone	[sʊnə]	[ʌ]	son	[sʌn]
[ɑʊ]	faught	[fɑʊxt]	[ɔ]	fought	[fɔt]
[æɪ]	seil	[sæɪl]	[e]	sail	[sel]
[ɪu]	fewe, rude	[fɪuə, rɪudə]	[ɪu], [u] ¹³²	few, rude	[fɪu, rud]
[ɔɪ]	boy	[bɔɪ]	[ɔɪ]	boy	[bɔɪ]
[ɔ:ʊ]	soule	[sɔ:ʊlə]	[o]	soul	[sol]
[ɔʊ]	thought	[θɔʊxt]	[ɔ]	thought	[θɔt]

A glance at certain of the developments in the above table will illustrate the appropriateness of the term "vowel shift." Observe, for example, that the Middle English low back vowel [ɔ:] developed into mid back [o] in Modern English. But Middle English [o:] in turn developed into the Modern English high back rounded vowel [u]. In both of these instances the jaw position for the sound was elevated one notch or degree—the low vowel became mid; the mid was raised to a high. When we next turn our attention to the ME high back vowel [u:], we see that it has become the

¹²⁹ It should be recalled that the MnE vowels [e], [i], [o], and [u] usually tend to be diphthongs in actual pronunciation (see Section 17), whereas the vowels of the Old and Middle English periods are considered to have been "pure," i.e. undiphthongized, in character. Note also that with the MnE vowels the use of [i] to indicate length is not employed. This arises from the circumstance that in MnE there are no pairs of sounds alike in quality in which length or duration is phonemic, i.e., makes the difference between one word and another, as in ME *cote* [kɔt] 'cot' and *cote* [kɔ:t], 'coat.'

¹³⁰ ME [æ:] first became [e] in Early Modern English and later (between the sixteenth and the eighteenth centuries) developed into MnE [i].

¹³¹ ME [ɔ], or a vowel much like it, has been preserved in the speech of England and along the Atlantic seaboard in this country, particularly in New England, but it has become [ɑ] in most parts of the United States. See Section 158 below.

¹³² See Section 119 below.

diphthong [au], with its first element now a low back vowel. The circle is completed by ME [au], which has become Modern English [ɔ]. This series of changes may be diagrammatically illustrated as follows:

[hu:s] > [havs]

[fo:d] > [fud]

[stɔ:n] > [ston]

[fɔt] ← [fauxt]



116. Shortening of Middle English Vowels. In the following instances certain of the sounds of Middle English did not develop according to the matter indicated in the table (Section 115) because of considerations affecting their length.

1. Shortening of Middle English [æi].

Middle English [æi] became early Modern English [e:] and developed later into [i:], but before it became [i:] it was often shortened when it was followed by **d**, **t**, or **θ**. ME **deed** [dæ:d], MnE [dɛd]; ME **swete(n)** [swæ:tən], MnE [swɛt]; ME **deeth** [dæ:θ], MnE [dɛθ].

2. Shortening of [u:] from Middle English [o:].

After Middle English [o:] had become [u:], the [u:] was in a great many words shortened when it was followed by **d**, **t**, or **k**. In some words the result of this shortening is [ʊ], but in others the [ʊ] has undergone the further change of [ʊ] to [ʌ]. ME **good** [go:d], MnE [gʊd]; ME **blood** [blo:d], MnE [blʌd]; ME **foot** [fo:t], MnE [fʊt]; ME **book** [bo:k], MnE [bʊk].

3. Another group of words which had early Modern English [u:], usually from Middle English [o:], shows a tendency to the shortening of [u:] to [ʊ] before **f**, **k**, **t**, **p**, **m**, and **n**, which was apparently of later date than the shortening mentioned in the preceding paragraph. This tendency has not been completely carried out, for the present pronunciation of these words both in England and in the United States varies between [u:] and [ʊ]. The most important words belonging to this group are: **roof**, **hoof**; **spook**; **hoop**, **cooper**; **root**, **soot**; **broom**, **room**; **soon**, **spoon**. Of these words **cooper** and **room** had early Modern English [u:] preserved before labial consonants according to 122 below.

117. Lengthening of Middle English Vowels.

1. Lengthening of [ɪ] before [x].

When [x] in the combination [xt] was lost, a preceding [ɪ] was lengthened to [i:] and was afterwards changed to [ai]. ME **right** [rixt], MnE [raɪt].

2. Middle English [a] became [æ] in early Modern English. In Northern British English and the speech of the greater part of the United States this sound has remained unchanged except for those situations dealt with in Sections 121-22. In southern British English and in the speech of southern New England and eastern Virginia the [æ] was lengthened to [æ:] and then retracted to [ɑ:] when followed by the voiceless fricatives [f, θ, s] and the nasal combinations [mp, nt, nd, sn, ntʃ]. General American [kæf, tʃæf, æftə, pæθ, glæs, klæsp, pæst, æsk, ɛgzæmpl, tʃænt, kəmænd, dæns, bræntʃ]; Southern British and eastern seaboard American English [kaɪf, tʃaɪf, aɪftə, pa:θ, gla:s, kla:sp, pa:st, a:sk, ɛgzɑ:mpl, tʃaɪnt, kəma:nd, da:ns, braɪntʃ].

118. The Development of Middle English [ɔ]. It was pointed out in note 130 above that whereas ME [ɔ] has for the most part remained unchanged in British English, it has generally unrounded to [ɑ] in the United States. This observation, however, does not apply in every instance. Before the voiceless fricatives [f, θ, s] rounding has generally persisted in American English as well: ME **of** [ɔf], MnE [ɔf]; ME **motthe** [mɔθ:ə], MnE [mɔθ]; ME **los** [lɔs], MnE [lɔs].

Before **r** the rounded vowel has been regularly retained in monosyllables, although there is in the United States some variation in plurisyllables: ME **hors** [hɔrs], MnE [hɔəs], ME **north** [nɔθ], MnE [nɔθ], ME **forke** [fɔrk], MnE [fɔək]. Observe however American English **foreign** [fɔrən, fərən], **sorrow** [sɔrə, sərə].

In American English also similar variations in rounding occur before the stops [d, g, k]: ME **God** [gɔd], American English [gɔd, gad]; ME **frogge** [frɔg:ə], American English [frɔg, frag]; ME **mokke(n)** [mɔk:(n)], American English [mɔk, mək].

119. The Development of Middle English [ɪu]. ME [ɪu] remained a diphthong when it was preceded by a labial or labiodental consonant. ME **beauty** [biutu], MnE [biuti]; ME **puwe**, **pewe** [piuə], MnE [piu]; ME **fewe** [fiuə], MnE [fiu]; ME **vewe** [viuə], MnE [viu].

In initial position and after [h] and [k] the sound has developed into

Modern English [ju]: ME *use* [rus], MnE [jus]; ME *humour* [rumu:r], MnE [hjumə]; ME *cure* [kuruə], MnE [kjue].

After *r*, Middle English [ru] has regularly become [u]: ME *rude* [rudə], MnE [rud]; ME *rule* [ru:lə], MnE [rul].

After the alveolar consonants *n*, *l*, *d*, *t*, and *s*, present-day pronunciation varies between [ru] and [u], the latter being relatively more prevalent in American than in British English. ME *newe* [nuə], MnE [nu, nu]; ME *blew* [blu], MnE [blu, blu]; ME *due* [duə], MnE [du, du]; ME *Tuesday* [tuəsdeɪ], MnE [tuzdeɪ, tuzdeɪ]; ME *Susanne* [su:zənə], MnE [suzən, suzən]. The pronunciation [ju] may also occur as a variant in any of these words. See also Section 124.3 c.

120. Special Developments Before *r*.

1. Middle English [ɛ] followed by *r* often changed to [æ] in very early Modern English and later developed into [ɑ]: ME *sterve(n)* [stærvə(n)], early MnE [stærv], MnE [stɑv]. Middle English [ɑ] followed by *r* remained [ɑ] in Modern English: ME *hard* [hɑrd], MnE [hɑd].

2. Middle English [ɪr] and [ʊr] have regularly, and Middle English [ɛr] has frequently, become [ɜ] in Modern English: ME *first* [fɪrst], MnE [fɜst]; ME *curse(n)* [kursə(n)], MnE [kɜs]; ME *learned* [lɛrnəd], MnE [lɜnəd].

3. Middle English [æi] has sometimes become [æ:] in Modern English and sometimes [ɛ]. Often the same word will vary considerably in pronunciation, particularly in the United States. ME *bere(n)* [bæ:riə(n)], MnE [bæ:ə, bæə]. Middle English [ɑ:] and [æi] have also become Modern English [æ:] or [ɛ]: ME *spare(n)* [spæ:riə(n)], MnE [spæ:ə, spɛə]; ME *fair* [fæ:ɪr], MnE [fæ:ə, fɛə]. See note 9 above.

4. The Modern English development of Middle English [ɔ:] and [o:] followed by *r* is a vowel which varies between [ɔ:] and [o:]: ME *more* [mɔ:riə], MnE [mɔə, moə]; ME *swor* [swɔ:r], MnE [swɔə, swoə].

5. Early Modern English [i:], [u:], and [ru] followed by *r* were usually replaced by [ɪ], [ʊ], and [ɪʊ]. MnE [hɪə], [pʊə], [pɪʊə].

6. Middle English [ɑ], [ɛ], [ɪ], and [ʊ] often developed normally (i.e. followed the regular patterns of development as shown in the chart in Section 115) in words in which the *r* is still followed by another vowel in Modern English: ME *caric(n)* [kɑ:riə(n)], MnE [kæri]; ME *very* [vɛri], MnE [vɛri]; ME *sirɔp* [sɪrɔp], MnE [sɪrɔp]; MnE *corage* [kuruədʒə], MnE [kɑridʒ] in some dialects. But in some varieties of English the special development of ME [ɛ], [ɪ], and [ʊ] has occurred even in these words, re-

sulting in [vɜri], [sɜrɔp], and the usual American form [kɜridʒ]. In this connection see also the treatment of [ɔ] before *r* in Section 118.

These special developments of vowels before *r* have been stated in terms of their results in the speech of those who pronounce a retroflex *r* before consonants as well as before vowels (see notes 12 and 15 above). In the speech of those who do not pronounce *r* when it is followed by a consonant, the same vowels have developed except that [ɜ] is replaced in some varieties of English by [ɜ], and that there is a tendency to the development of a glide [ɔ] sound after the vowel, or to compensatory lengthening, resulting in [ɑ], [ɑ:], [ɛə], etc. The words used above to illustrate the development of vowels before *r* would therefore be transcribed as follows by those who pronounce *r* only before vowels: [stɑ:v] or [stɑv], [hɑ:d] or [hɑd], [fɜst], [kɜs], [lɜnəd], [spæə] or [spɛə], [fæə] or [fɛə], [bæ:i] or [bɛə], [hɪ:i] or [hɪə], [pʊ:i] or [pʊə], [pɪu:i] or [pɪuə], [pɔ:t] or [pɔt], [mɔ:i] or [mɔə], [swɔ:i] or [swɔə].

121. Special Developments before *l*.

1. Middle English [ɑ] followed by *l* plus another consonant or final *l* did not become [æ] but was diphthongised to [au] in early Modern English. This diphthong then developed, like Middle English [au], into [ɔ:]; ME *smal* [smal], early MnE [smaul], MnE [smɔl]; ME *talke(n)* [talkə(n)], early MnE [taulk], MnE [tɔk].¹³³

2. Middle English [ɔ] followed by *l* was diphthongized to [ɔ:u] in early Modern English; this diphthong then developed, like Middle English [ɔ:u], into Modern English [o]: ME *folk* [fɔlk], early MnE [fɔ:ul], MnE [fok].

122. The Influences of Labial Sounds.

1. Special developments after [w].

When preceded by *w* Middle English [ɑ] did not become [æ] but developed in the seventeenth century into [ɔ]. In British English [ɔ] has either remained or has become a slightly higher and more rounded vowel (see note 6). In American English [ɔ] has remained in some localities and in others has developed into [ɑ]: ME *water* [watɔr], MnE [wɔtə], [watə]; ME *washe(n)* [wɔʃə(n)], MnE [wɔʃ], [wɔʃ]; ME *warm* [wɔrm], MnE [wɔərm].

2. Preservation of Middle English [u:] and [ʊ].

¹³³ But before *lm*, *lf*, and *lv* Middle English [ɑ] has developed into [ɑ] or [æ:]

Middle English [u:] has been preserved in Modern English before lip consonants (b, p, m, f, v); ME *stoupe(n)* [stu:p(ə)n], MnE [stup]; ME *toumbe* [tu:mbə], MnE [tum]. In some words this [u:] before lip consonants was shortened to [ʊ] and afterwards changed to [ʌ]; ME *shouue(n)* [ʃu:və(n)], MnE [ʃʌv]; ME *double* [du:bəl], MnE [dʌbl].

Middle English [ʊ] has been preserved in Modern English under the following circumstances: regularly between lip consonants and l; ME *bole* [bulə], MnE [bul]; ME *ful* [ful], MnE [ful]; ME *wolf* [wulf], MnE [wulf]; and frequently between lip consonants and consonants other than l: ME *wode* [wudə], MnE [wud]; ME *putte(n)* [put:ə(n)], MnE [put].

123. Vowels in Unaccented Syllables.

1. Final e, i.e. [ə], was universally lost at the end of the Middle English period. But final [ɪ] remained and the final [e] or [e:] which occurred in numerous French loan-words became [ɪ] in Modern English. ME *holy* [hɔ:li], MnE *holy* [holɪ]; ME *pitee* [pɪte] or [pɪte:], MnE *pity* [pɪtɪ].

2. Syncopation of the [ə] in the ending -es has occurred universally except after [s], [z], [ʃ], [tʃ], and [dʒ]; ME *thinges* [θɪŋgəs], *bokes* [bɔ:kəs], *fishes* [fɪʃəs]; MnE [θɪŋz], [bʊks], [fɪʃz].

Syncopation of the [ə] in the verbal ending -ed has occurred universally except after [d] and [t]; e.g., ME *loved*, *loked*, *wedded*; MnE [lʌvd], [lʊkt], [wɛdəd].

Middle English [ɔr] has become [ə], Middle English [ɔl] has usually become [l], and Middle English [ɔn] has to a large extent become [n]; ME *better*, *gospel*, *ride(n)*; MnE [betə], [gɒspl], [rɪdn]. In the speech of those who pronounce [r] only before vowels, [ɔ] is replaced by [ə], MnE [betə].

3. Extensive qualitative changes took place in the vowels of syllables which were either unstressed in Middle English or which, through loss of the primary or secondary stress which they had in Middle English, became unstressed syllables in Modern English. The final result of these changes has been (to speak in the most general terms) that nearly all vowel sounds in syllables which have neither primary nor secondary stress have been reduced in colloquial Modern English to [ə] or [ɪ]. The distribution of unstressed [ə] and [ɪ] is very far from uniform. The following examples are intended merely to illustrate the nature of these qualitative changes but not to be representative in the sense of exemplifying all the changes that occurred:

Middle English	Modern English
<i>acordant</i> [akɔrdant]	[əkɔədənt]
<i>confessioun</i> [kɔnfes:iu:n]	[kɔnfɛʃən]
<i>corage</i> [kɔrɑ:dʒə]	[kɜrɪdʒ]
<i>curteisie</i> [kɜrtæizi:ə]	[kɜtəsi]
<i>felawshiþe</i> [fɛlɔʃiþə]	[fɛləʃɪp]
<i>honour</i> [ɔnu:r]	[ənə]
<i>welcome</i> [wɛlkumə]	[wɛlkəm]
<i>wisdom</i> [wɪzdo:m]	[wɪzdəm]

For a fuller treatment of the Modern English changes that took place in the vowels of unstressed syllables see Jespersen's *Modern English Grammar*, Part I, Chapter IX.

124. The Development of Consonants in Modern English.

1. Voicing of fricatives.

a. Initial [θ] changed to [ð] in a number of pronouns and particles which were commonly pronounced without stress: **the, they, them, thou, thee, thy, that, those, this, these, then, than, there.**

b. Final [f], [s] and [θ] became [v], [z], and [ð] if they were preceded by a vowel that was without stress or if they occurred in words that were commonly pronounced without stress in the sentence; ME *actif*, MnE [æktiv]; ME *of* [ɔf], MnE [ɔv];¹²⁴ ME *faces* [fa:səs], MnE [fe:səz]; ME *his* [hɪs], MnE [hɪz]; ME *with* [wɪθ], MnE [wɪð].

2. Loss of consonants.

a. [x] has been lost in Modern English: ME *saugh* [sɔux], MnE [sɔ]; ME *night* [nɪxt], MnE [naɪt].¹²⁵

b. l has been lost before k and the lip consonants m and f when the vowel that preceded it was Middle English [a] or [ɔ]; ME *talke(n)* [talk(ə)n], MnE [tɔk]; ME *folk* [fɔlk], MnE [fɔk]; ME *palm* [palm], MnE [pɒm]; ME *half* [hɔlf], MnE [hæf] or [hɒf].

c. r in Modern English has lost its trilled quality and has become a

¹²⁴ Modern English *off* [ɔ:f] is historically the stressed form of *of*; in of the [f] changed to [v] because of lack of stress, but in *off* the [f] remained unchanged.

¹²⁵ In some words Middle English [x] has become [f] in Modern English; e.g., ME *laughe(n)* [lɔuxən], MnE [heɪ] or [laf]; ME *tough* [tu:x], MnE [tɒf]; in these words the vowel has also been modified in a special way; in the examples just given ME [au] has become [æ] or [ɒ] instead of [ɔ], and ME [u:] has been shortened to [ʌ].

vowel-like sound which in some varieties of English is pronounced only before vowels.

3. Simplification.

a. Middle English double consonants became single in Modern English: ME *sonne* [sun:ə], MnE [sʌn]; ME *sitte(n)* [sit:ə(n)], MnE [sit].

b. Initial *gn* and *kn* have become *n* and initial *wr* has become *r*; ME *gnawe(n)* [ɣnauən], MnE [nə]; ME *knight* [kniht], MnE [naɪt]; ME *write(n)* [writə(n)], MnE [raɪt].

c. Final *mb* has been reduced to *m*; ME *domb* [dumb], MnE [dʌm].

d. Final [ɣɣ] has been reduced to [ɣ]; ME *thing* [θɪɣɣ], MnE [θɪɣ].

e. [sj] and [zj] have become [ʃ] and [ʒ]; early MnE *special* [spɛsʃjəl], MnE [spɛʃl]; early MnE *mission* [mɪsjʊn], MnE [mɪʃən]; early MnE *portion* [pɔrsjʊn], MnE [pɔɜʃən];¹³⁶ early MnE *vision* [vɪzjʊn], MnE [vɪʒən].

[tj] and [dj] have become [tʃ] and [dʒ]; early MnE *fortune* [fɔrtjʊn], MnE [fɔɜtʃən]; early MnE *cordial* [kɔrdjəl], MnE [kɔɜdʒl].

¹³⁶ The suffix *-tion* is merely a Latinized spelling of the suffix which was spelled *-cioun* or *-cion* in Middle English.

CHAPTER IX

THE DEVELOPMENT OF MODERN ENGLISH INFLECTIONS

125. **Middle English and Modern English Inflections.** The Modern English development of the Middle English inflectional forms was very different both in its results and in its causes from the Middle English development of the inflectional forms of Old English. When we compare the inflectional forms of Modern English with those of late Middle English (e.g. the dialect of Chaucer), we find no such radical differences as we find when we compare the inflectional forms of late Middle English with those of Old English. The Middle English development of the Old English inflectional forms resulted in a complete transformation of the inflectional pattern of nouns, adjectives, and pronouns and changed it from a rather highly inflected language to one having relatively few and simple inflections (see 68 above). The Modern English development of the Middle English inflectional forms resulted in a complete loss of inflection in the adjective and in some simplification of the inflectional forms of verbs, but in very little simplification of the inflectional forms of nouns and pronouns. Speaking very generally, we may say that the Modern English development resulted in numerous *changes* of inflectional forms but not in any great *reduction* of inflectional forms or in any great modification of the *system* or pattern of inflectional forms.

The Middle English development of the Old English inflectional forms was chiefly the result of two causes, **sound-change** and **analogy** (see 69, 70 above). The Modern English development was chiefly the result of sound-change; some analogical changes took place, but the analogical changes were very much less numerous and less important than those that took place in the earlier period.

The language of Chaucer is the form of Middle English that has been most thoroughly investigated and is most generally known; Chaucer's language, moreover, was the dialect of London, which was the source of both the written and the spoken form of Modern English. For these two reasons it is appropriate to take Chaucer's language as the norm of Middle English in a comparison of the inflectional forms of Middle English with those of Modern English. But the source of