Chapter 4: The Vowels of English. An Articulatory Classification. Acoustic Correlates. The Description and Distribution of English Monophthongs and Diphthongs

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4.3. English Vowels. The description and distribution of English monophthongs and diphthongs

Having established the vowel chart as a basic system of reference we can now proceed to a brief description of the vowel phonemes of English and of their distribution in a manner similar to that used in the case of consonants.

A. The English simple (“pure”) vowels or monophthongs.

a. English front vowels. There are four front vowel phonemes in English: [iː], [i], [ɛ] and [æ]

1. [iː] is a close (high), long, tense, unrounded vowel. The duration of [iː] can be compared to that of the Romanian vowel in plural nouns like genii and the sound is roughly similar to the French vowel of the French word précise, though not so close. The vowel is distributed in all three basic positions: word-initial: east; word-medial: dean and word-final: sea. As already mentioned, it is longer if it occurs in syllable final position and shorter if it is followed by a voiced sound, the shortest variants being those followed by a voiceless obstruent. If followed by a nasal stop it is nasalized: e.g. bean, beam. It is spelt e: economy, remark, or ee: eel, see, feet, or ea each, seal, plea. Other possible spellings are ie: fiend, ei: seizing, i: machine, or, exceptionally: ey: key; ay: quay [kɪ:], eo: people, oe: Oedipus or eau: Beauchamp [biːˌʃʌmp]
2 [i]. This is a more retracted front vowel, and its degree of openness is close to that of the cardinal half-close position. [i] is a short, lax, unrounded vowel, its length varying, as in the case of the preceding vowel, according to the nature of the following consonant. The length decreases if the following sound is voiceless. It is distributed in all three basic positions: initial, medial and final: *ink, kill, aptly*. After the schwa, it is the commonest English vowel in unstressed positions. The vowel is spelt *i* (e.g. *ill, tick*) or *y*; *syntax, party*. Other spellings are possible as well, as in the exceptional examples *minute* [ˈmɪnɪt] (NB. The adjective having the same spelling is read [ˈmɪnjuːt], *private* [ˈprɑːvɪt], *women* [ˈwʊmɪn]. As it commonly represents a reduced unstressed vowel, other spellings are also possible – for instance *day* [deɪ] is reduced to [di] in the names of the days of the week: Friday [ˈfraɪdi].

3. [e] This is a short, lax, unrounded vowel whose degree of openness is intermediate between cardinal half-close and half-open. It is a common vowel in English, distributed in initial position: *end, or medial position: tell*. It never occurs in word-final position as it is normally reduced to [i] or [ə] if it is unstressed or diphthongizes to [ei] in loan words like *attaché, fiancé* or *café* if it is stressed. It can occur, nevertheless, in syllable-final position, under stress, as in *telegraph* [ˈtɛlɪgræf], *peril* [ˈpɜːril]. The vowel is spelt either *e* in words like *elf, fell*, or *ea* in *lead* (n. = plumb), *head* or *bread*. It can be exceptionally spelt a in *ate* (the past tense of *eat*), *many, any, Thames* or *Pall Mall*.

4. [æ] is the lowest front vowel of English. It is a short, lax, unrounded vowel, a little higher than the cardinal vowel [a]. It is a very common vowel in English and, contrary to the perception of many foreign learners of English, it is a short, not a long vowel. In fact, the basic difference between this vowel and the preceding one is the degree of openness, [æ] being lower. Romanian speakers of English find it particularly difficult to make the difference between the two vowels (which is a contrastive, phonemic one) simply because Romanian does not recognize this contrast between front low vowels as being a functional one. Constant training can, however, lead to a correct pronunciation of the English sound. The vowel is distributed in syllable-initial, medial and final position (e.g. *ant* [ænt], *cat* [kæt], *rapid* [ræpid]), but not in word-final position. It is usually spelt *a:* *act, fat, and only exceptionally* *ai: plait* [plæt], *plaid* [plæd].

b. English back vowels. There are five back vowel phonemes in standard English: [ɑː], [ɔː], [ʊ], [u:] and [uː].

1. [ɑː] in RP does not coincide with cardinal vowel 5 [a] It is a more
advanced, low, long, tense, unrounded vowel. It is distributed in all three basic positions: are, cart, far. It is normally spelt by the letter a followed by a silent r in syllable or word-final position: jar, carpet. It is often followed by a silent l in words like palm, calm, balm. Sometimes f or ff can follow: after, staff; or ss: pass, class, or s or n followed by another consonant: past, demand; or th in word-final position: path, bath or, exceptionally, other letters: aunt [ɑːnt], Berkeley [bærɪklı], hearth [hɛθ], father [fɑːðə], sergeant [səˈɡɛnt], memoir [mɪˈmɔːr], barrage [bærəʒ].

2. [ə] is a genuine back vowel in RP. It is short, lax, open and slightly rounded. It is only distributed in initial and medial position: on, pot, and never in final position. In some accents of English the vowel is pronounced pretty close to the cardinal vowel 5 [ə]. In some varieties of American English it is still open and a little bit fronted, coming very close to [ɑː:] so that it is often difficult to distinguish pot from part, for instance. The vowel is usually spelt o. Other spellings are possible; ou, a and au in rare cases like cough, want, or laurel.

3. [ɔː] is closer and longer than [ə]. It is a long, tense vowel, more rounded than [ə], the degree of aperture being between open and half-open. The vowel is distributed in all three basic positions: awful, caught, flaw. It is usually spelt either aw or au: awl, drawn, thaw, august, taught. The sequence or is also read [ɔː] if it occurs in final position or is followed by either a consonant or a silent e: for, sore, port. The sound is exceptionally spelt oo in floor, door, oa in board, broad, coarse and hoard, ough in (n)ought, sought, wrought, and a in water or wrath and ou in course, source.

4. [ʊ] is a short, lax, rounded vowel which is considerably closer than [ɔː] its degree of aperture being a little bit higher than the cardinal half-close. The vowel never occurs in initial position and only exceptionally in final position, in the weak, unstressed form of the preposition to, the verb do or the pronoun who. We can then say that its distribution is restricted to medial position. The usual spelling for [ʊ] is the letter u in words like push, cushion, pull, put. The letter o can also represent the sound after w: wolf, Worcester. In quite a few words double oo is the spelling for the sound, followed by k: look, book; by t: foot, soot, by d: wood, stood; by the lateral l: wool, or a nasal: room, broom, groom; ou appears as the spelling of the sound in verbal forms like would, could, should.

5. [uː] is the highest back vowel of English. It is a long, tense, rounded vowel. It occurs in all three basic positions, though pretty infrequently in initial position: oom, oomph, ooze, ugh, uhlan; rude, baboon, crew; chew,
Romanian speakers of English should remember that the vowel is closer and tenser than the preceding sound for which it must not be mistaken. The sound is usually spelt u or oo: rule, root, taboo. O can be the spelling of [uː] in final position in the stressed forms of to, who, etc, and in the noun ado. In words like route, through, routine, soup, douche, the sound is spelt ou. In shoe, canoe, manoeuvre it is rendered by oe. The sound is often preceded by the palatal [j] which is optionally inserted in words like suit [sʌ:t/sjuː:t] or fruit [fruːt/frjuːt], and obligatorily in beauty and its derivatives, in feud, music, mutiny, deluge, etc.

We can easily notice that all English front vowels are unrounded, while the back ones, with the exception of [aː] which is not, strictly speaking, a back vowel, since its pronunciation in standard English is a little more advanced than that of cardinal vowel 5 [a] – display different degrees of roundness. This means that only the primary cardinal vowel chart is relevant for English, as there are no front rounded vowels or back unrounded vowels in this language (at least in RP).

c. English central vowels. There are three central vowel phonemes in English: [ʌ], [ə] and [ɜː].

1. [ʌ] (N.B. For technical reasons, I have followed Daniel Jones and the majority of phonetic transcriptions in use in choosing this symbol to represent the vowel of the English word cut; however, strictly speaking, this symbol is used in the IPA alphabet to represent secondary cardinal vowel 14, the unrounded counterpart of primary cardinal vowel 6 [ɔ] – see above) is a central half-open, short, lax, unrounded vowel. It is the lowest standard English vowel and is distributed in word-initial and medial position: utter, subtle. It never occurs in word or syllable-final position. It is usually spelt either u: under, but, or o: come, front, honey; in a number of words it is spelt ou: courage, southern, rough, tough, and exceptionally oo in blood and flood and oe in does. Many Romanian speakers of English find it difficult to acquire the correct pronunciation of [ʌ] mistaking it for some variant of a or o.

2. [ə] is the commonest English vowel. It is a central, mid, lax, unrounded vowel – the schwa mentioned before – for the pronunciation of which the tongue adopts the neutral position in relation to which all the other articulatory positions can be described. The vowel freely occurs in all basic positions, but only in unstressed syllables: aside, collide, rather. Its pronunciation doesn’t normally raise any problem for a Romanian speaker of English. It should be noted, however, that one of the most difficult to acquire of the phonological features of English is the change of the vowel quality with the stress shift (in a way comparable to Russian). Thus, most
English vowels, if unstressed, will be reduced to schwa only to resume their basic value if the stress shifts back on them: cf. Satan [sætən], Satanic [sætənɪk], Satanism [sætənɪzm] or fatal [fætəl], [fətəlɪtɪ], fatalism [fætəlɪzm]. It would be superfluous to list all the possible spellings of [sə], since the vowel can be, as I have said, the reduced form of any simple vowel or even diphthong (see fatality, above) in English and can consequently be rendered in writing by any vowel letter with the exception of y which only represents the semivowel j or the vowel i.

3. [əː] is a central, mid, long, tense central vowel. It is the tense counterpart of the schwa and since it only occurs in stressed syllables, in complementary distribution with the preceding vowel, some phoneticians, including Daniel Jones, argue that the two sounds are positional variants of the same mid central vowel phoneme. It is distributed in all three basic positions, very often in monosyllabic words: err, first, curtain, fur, refer. It is commonly spelt ir, ur, er, or yr in final position or followed by a consonant or ear when followed by a consonant: bird, burn, fern, myrtle, learn. Other spellings include our in words like courtesy, journal, journey, scourge, and, exceptionally, o in colonel.

Here are the English simple vowels or monophthongs distributed contrastively in the same context:

a. the front vowels: eat [biːt], bit [bɪt], bet [bɛt], bat [bæt]
b. the central vowels: Burt [bɜːt], but [bʌt] – the weak, unstressed form, butt [bʌt]
c. the back vowels: boot [buːt], butch [bʌtʃ], bought [bɔːt], bot [bɒt], Bart [baːt].

We can now summarize the information we have on the English simple vowels (monophthongs) and include it in the following table:

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
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<tbody>
<tr>
<td></td>
<td>Tense</td>
<td>Lax</td>
<td>Tense</td>
</tr>
<tr>
<td>High/close</td>
<td>iː</td>
<td>ɪ</td>
<td>uː</td>
</tr>
<tr>
<td>Mid</td>
<td>æ</td>
<td>əː</td>
<td>ø</td>
</tr>
<tr>
<td>Low/open</td>
<td>æː</td>
<td>əː</td>
<td>øː</td>
</tr>
</tbody>
</table>

B. The English diphthongs.

Diphthongs have already been described as sequences of two vowels pronounced together, the two vocalic elements being members of the same syllable. We have shown that it is often difficult to distinguish a genuine diphthong from a sequence of a vowel...
and a semivowel, that we can often pronounce diphthongs and even long vowels as such sequences and it is often the shorter duration of the less prominent vowel in the diphthong that transforms it into a semivocalic element. There is, for instance, a difference, both in quantity and quality between the second vocalic element in the English diphthong [aɪ] – that occurs, say, in the word buy, and the semivowel [j] in the Spanish interjection ay! [aɪj].

According to the position of the more prominent element in the diphthong we have already divided diphthongs into falling diphthongs – if the prominent element comes first – and rising diphthongs – if the less prominent element comes first. All English diphthongs belong to the first category, as it has already been pointed out. Diphthongs can then be opening diphthongs if the degree of aperture increases with the glide or closing diphthongs if the less prominent vowel is closer than the first. We can also differentiate between wide diphthongs – those in which the glide implies a more radical movement of the speech organs (e.g. [aʊ]) and narrow diphthongs – if the two vocalic elements occupy neighbouring positions (e.g. [eɪ]) on the vowel chart. There are also centring diphthongs – if the glide is from a marginal vowel in the vowel chart – either back or front - to a central vowel. (See the three English diphthongs gliding towards schwa; [iə] in dear, [eə] in chair and [uə] in moor – to which we should add [oə], no longer met in present-day standard English).

A. The centring diphthongs: [iə], [eə], [uə], [oə]

a. [iə] is a centring, falling, narrow, opening diphthong that starts at about the position of the short, lax [i] and glides towards schwa. The diphthong is distributed in all three basic positions: ear, dear, tier. If the first element of the diphthong does not have the normal prominence and length, it can be reduced to a glide and the diphthong is changed into [jə]. There are several possible spellings for the diphthong: eer as in deer, peer or career; ea(r) as in ear, weary, idea, tear (n. “lacrimă”), beard, eir as in weird, ier as in fierce or pierce, ere as in here or mere. Exceptionally we can have ia as in media(l), labia(l), genial, eu as in museum, iu as in delirium; eo as in theory and theology; e as in hero or in the diphthongized version of [iː]: serious, serial.

b. [eə] is a centring, falling, narrow, in most cases opening diphthong. The degree of openness of the first element varies, in some dialects of English the sound being quite close to [æ]. In the more conservative pronunciations, closer to RP, the articulation of the diphthong starts somewhere in the vicinity of cardinal vowel 2 [ɛ]. Then follows a glide towards a variant of the schwa. There are dialects where the glide to [e] is very short and sometimes the diphthong is changed into a monophthong, a long, tense vowel [ɛ:]. The diphthong is distributed in all three basic positions: air, scarce, fare. It can be spelt air: air, fair, chair, dairy, fairy;
are: fare, mare, care, cure; ear: bear, wear, tear (v.); aer: aerial, aeroplane; ere: there; eir: their, heir. In words like prayer, layer, mayor, the spelling is ay followed by either or er. The vowel of Mary and derived words such as Maryland or Maryport is normally diphthongized to [æə].

c. [ʊə] is a centring, falling, narrow, opening diphthong. If in the case of the two diphthongs analyzed before the glide was from a front vowel towards the centre of the imaginary vowel chart, in the case of [ʊə] the articulation starts with a fairly back, close vowel [ʊ]. [ʊə] is distributed only in word-medial: jewel or word-final position: sure. The most common spellings of the diphthong are: ure and oor – endure, mature, cure, pure (words where the semivowel [j] is inserted before the diphthong), sure, poor, moor, or ur followed by other vowels than e: curious, duration. In a number of cases we can have the spelling ou: our, gourd, bourse. The diphthong can also occur in words where the suffix er is attached to a base ending in [(j)ʊ] fewer, newer, chewer, doer, pursuer.

d. [ɛə] is a diphthong that has not survived in present-day RP. It used to render the vowel of words like floor, door, pore, score, shore, coarse, hoarse, oar, course now pronounced [ə:]. It still does that in various dialects of English, though the general tendency seems to be to monophthongize such diphthongs. This has been the fate of [ʊə] as well, which in many variants of English is pronounced [ə:] in words like poor, sure etc.

B. The diphthongs to [ı]: [aɪ], [ɔɪ], [ɛɪ]

a. [aɪ] is a falling, wide, closing diphthong. It is the diphthong that actually implies the amplest articulatory movement of the speech organs that shift from the position of an open vowel which is fairly central (the position varies between cardinal vowels 5 and 4) to a front, close, lax vowel (not far from the position of cardinal vowel 1. Historically, the vowel originates in [i:], that subsequently lowered to [ei], than centred and lowered again to finally become [aɪ]. The diphthong is distributed in all three basic positions: isle [aɪl]; bite [bæt], cry [kraɪ]. It can be spelt i as in ice, dime, loci, or y a in dyke, fly, or ie as in die, lie, pie, or in inflected forms: spies, spied; ye as in dye, fye; ei as in height, either, neither; and, exceptionally uy in buy, guy. Note also the pronunciation of ay(e) [aɪ], eye [aɪ] and aisle [aɪl].

b. [ɔɪ] is a falling, wide, closing diphthong. It starts from a back, mid vowel, situated between cardinal vowels 6 an 7 and ends in a front, close, lax vowel, somewhere in the vicinity of cardinal vowel 1. Like the preceding
diphthong, it also involves an ample articulatory movement from a back vowel to the front part of the imaginary vowel chart. It is distributed in all three basic positions: ointment, boil, toy. It can be spelt either oi: oil, toil or oy: oyster, Boyle, coy.

c. [ei] is a falling, narrow, closing diphthong. It starts with a front, mid vowel – between cardinal vowels 2 [e] and 3 [e] – and glides to a higher vowel value, closing. Often the second element is very short, sometimes even dropped, the diphthong being reduced to a long vowel monophthong [ɛ:]. In Cockney the diphthong starts with a lower and central vowel, being pronounced [ʌ]: late [ʌt], say [sʌ], day [dʌ]. The diphthong is distributed in all three basic positions: eight; plate, play. It can be spelt a: ace, lace; ai: aid, maid; ay: aye, clay; ei: eight, reign, ey: they, grey, ea: break, streak. Exceptionally, there are spellings like gaol [ɡɔl], gauge [ɡeɪ], halfpenny [heɪp]. The diphthong also occurs in a small number of French loan words ending in et or é: ballet, bouquet, chalet, café, fiancé, attaché, resumé.

C. The diphthongs to [u]. There are two diphthongs in RP ending in a glide to [u]: [əʊ] and [au].

a. [əʊ] is the counterpart of [ei] in the back area of the vowel chart. The diphthong starts with a central mid vowel and glides to a back close one. It is a falling, narrow, closing diphthong. It is distributed in all three basic positions: old, gold, flow. It has various spellings: o: old, sold, no; oo: oak, roast, oe: toe, ow: own, known, row; ou: poultry, dough; eau: beau, bureau, and, exceptionally, au: gauche; oo: brooch; ew: sew; oh: oh.

b. [au] is a falling, wide, closing diphthong. It starts as an open, fairly front vowel (in the vicinity of cardinal vowel 4) and glides towards [u] It is distributed in all three basic positions: ouch, loud, bough. It can be spelt by ou: oust, doubt, plough, or ow: owl, howl, how and, exceptionally eo in MacLeod.

Here are the English complex vowels (diphthongs) distributed contrastively in the same context:

a) centring diphthongs: beer [bɪə], bear [bɛə], boor [bʊə], boar [bɔə]
b) diphthongs to [i]: buy [bai], boy [bɔi], bay [bɛi]
c) diphthongs to [u]: bow, beau [bəʊ], bow, bough [bɔʊ]

English triphthongs. The very existence of triphthongs in present-day English is a controversial problem. There is hardly any phonetic evidence for the survival of the
respective structures at least in RP. The controversial sequences occur before the rhotic \( r \) when the non-centrig diphthongs are followed by schwa. Thus \([\text{ai}], [\text{ei}], [\text{ou}], [\text{au}]\) become \([\text{ai}ε], [\text{ei}ε], [\text{ou}ε], [\text{au}ε]\) in fire, employer, layer, mower, power. As Roca and Johnson point out (1999: 200-201), the actual pronunciation of these vocalic sequences tends either to break them into the diphthong and the following simple vowel (schwa) - e.g buyer \([\text{b}ε\text{-}\text{a}]\), or to reduce the diphthong to a simple vowel followed by schwa – e.g. buyer \([\text{b}ε\text{a}]\). Triphthongal sequences are quite common in Romanian as proved by examples like leoa̱că, aripioară, beai, vreau, i-ai, miau, luai, luau, miei, leoaică. (Vasiliu, 1965: 134)