

Chapter Five: The Parameters According to Which Vowel Sounds are Described

Interestingly, the English vocalic system is much richer than that of its consonantal one. None the less, the number of criteria by virtue of which vowels are described and classified is smaller. Phoneticians use three chief criteria to arrive at a comprehensive, all-inclusive account of English vowels. They are outlined thus,

The Position of the tongue;

The height of the tongue; and

The configuration of the lips. (Laver: 1994)

We will in what follows look at each one in turn trying to elucidate how it serves to differentiate vowels. Usage of only one criterion individually will fall short of enabling us to differentiate all the vowels of English and, indeed, of any other language no matter how small the number of vowels exploited therein.

5.1. The Position of the Tongue

It refers to which part of the tongue is raised highest in the mouth. A bit of background seems in place, namely what is it that we mean by the part of the tongue? The tongue has been conventionally divided into three main parts for purposes of vowel description, the front, the centre and the back.

5.1.1. Front vowels: If the frontal part of the tongue is the one raised highest during vowel production, then, that vowel is labelled front vowel. English uses quite a number of such vowels. They figure in boldface in the ensuing example words:

/ɪ/ as in: **E**nglish, **e**rase, **i**nkpot;

/i:/ as in: **bleak**, **seek**, **albeit**;

/e/ as in: **envy**, **bread**, **wedding**; and

/æ/ as in: **fraction**, **brackets**, **battery**.

5.1.2. Central vowels: they are vowels in the production of which the centre of the tongue is raised highest in the mouth. The vowels that fall neatly into this category are portrayed in the following example words:

/ɜ:/ as in: **bird**, **absurd**, **disturb**;

/ɑ:/ as in: **about**, **father**, **perhaps**; and

/ʌ/ as in: **uncle**, **above**, **upon**.

5.1.3. Back vowels: this is a set of vowels in the production of which the part of the tongue that is raised highest in the mouth is, as the name might have induced you to deduce by now, the back part. The back vowels the vocalic system of English deploys are outlined as follows:

/ʊ/ as in: **book**, **look**, **shook**;

/u:/ as in: **swimming-pool**, **aloof**, **full**;

/ɒ/ as in: **God**, **lock**, **shock**;

/ɔ:/ as in: **abort**, **lord**, **launch**; and

/ɑ:/ as in: **bark**, **shark**, **answer**.

The back vowels cluster has brought discussion on this first parameter to a close; in what follows, I will be looking at the second criterion, the height of the tongue.

5.2. Height of the Tongue

It refers, as mentioned earlier on, to the distance lying between the upper surface of the tongue and the roof of the mouth during vowel production. Taking this criterion into consideration, the English vowels would fall into the classes sketched out in what ensues.

5.2.1 Close vowels: it refers to a category of vowels in the production of which the distance separating the upper surface of the tongue and the ceiling of the mouth is relatively small. During the production of such a set of sounds the mouth is almost closed. The vowels that come under this umbrella term are the following:

/i:/ as in: wheeze, bees, cease;

/I/ as in: itch, switch, it; and

/u:/ as in: ooze, blouse, hoofs;

/O/ as in: push, ambush,

5.2.2. Mid vowels: designates a set of sounds in the production of which the tongue occupies the middle of the tongue. That is, the distance lying between the upper surface of the tongue and the roof of the mouth is virtually identical to that lying between the lower surface of the tongue and the floor of the mouth (the base of the mouth). English mid vowels are:

/ə/ as in: barber, away, perilous;

/e/ as in: wedded, embed, lead; and

/ɜː/ as in: word, alert, surf.

5.2.3. Half open: when the tongue is said to be half open it means that it is occupying a position between the centre of the mouth and the floor of the mouth. Precisely speaking, in the production of such a category of vowels the tongue is closer to the floor of the mouth than the centre. English uses the following half open vowels:

/ʌ/ as in: lull, puff, shall;

/æ/ as in: bat, parasite, pancake;

/ɒ/ as in: hypocrite, promise, flip-flop; and

/ɔː/ as in: courtyard, sister-in-law, shorts.

5.2.4. Open vowels: it refers to a category of vowels in the production of which the tongue is very distant from the roof of the mouth. It is, in fact, in close proximity with the floor of the mouth. The English sound inventory uses only one such sound. It figures boldfaced in the following example words:

/ɑː/ as in: laughable, lard, ajar.

The last category coming under this heading has been addressed, the notion which brings the discussion of this heading to a close. The following rubric will concern itself with how the third and last classificatory framework is utilised.

5.3. The Shape (Configuration) of the Lips

It designates the positions the upper and lower lip jointly assume during sound production. It might strike some readers as a bit weird why lip configuration has not been deployed in consonant description. The reason lying underneath this is that the number of parameters used in consonant description suffices to draw unmistakable distinctions between the consonants in use; however, some phoneticians do use lip configuration to impart a more fine-grained description to consonants. After all, this manual has as its

targeted readership Algerian sophomores who are for the second time being introduced into matters of this unprecedented level of abstractness and overwhelming subtlety. Hence, inclusion of more descriptive accounts would well and truly defeat the purpose. The targeted learners are, likewise, not majors of phonetics as such. This implies that the curricular time-portion allotted to them is too diminutive to accommodate multifaceted accounts of this type.

We turn our attention now to the crux of this heading. Taking this criterion into account, we would find three main types of vowels, each set incorporating more than one single vowel. This does not entail, however, that members of each set are identical; they are set apart by means of one or two of the above-mentioned factors, viz, the position of the tongue and/or the height of the tongue.

5.3.1. Spread-lips: a vowel in whose production the lips take this position is called a spread-lipped vowel. Lips are said to be spread when the corners thereof are pushed out away from another and the lips proper assume a flat-like posture. This is the position that lips typically take when we smile.

5.3.2. Round lips: a vowel in the production of which the upper and lower lips take a round position is called a lip-rounded vowel. The lips are said to have a rounded posture when their corners are brought towards one another and the lips proper are pushed forward and upward.

5.3.3. Neutral lips: vowels in the production of which the upper and lower lip take a neutral shape are labelled neutral-lipped vowels. The lips are said to be in this position simply when they are neither conspicuously spread nor conspicuously round. (O'Connor: 1980)

Prior to closing the discussion about this third criterion, it is prudent to draw your attention to a very important fact pertaining to how it is deployed by some phoneticians. Though we have portrayed above that vowels fall into three clear-cut classes depending on the shape the lips take during their production, a number of phoneticians, presumably for ease of description, surmise that two categories would suffice, namely, they suggest that the vowels which are made with lips noticeably rounded be called **rounded vowels** whilst those which are made with the lips noticeably unrounded be called **unrounded vowels**. (Gimson: 1970) Following this line of reasoning, in the table below you will notice that vowels are either rounded or unrounded.

5.4. Vowel Duration

In addition to the three classificatory parameters portrayed above, another vitally important parameter, or should it be more conveniently called a quasi-parameter, is **vowel duration**. Before we embark any further on this point, a word of caution seems in place. While the first three parameters are all articulatory, they pertain to how vowels are articulated, they pertain to what speakers do, this last one is auditory, it pertains to what people at the other end of the communication spectrum do, how the listeners perceive the vowels that get into their ears. Taking this parameter into consideration, accordingly, vowels are compartmentalised into two basic categories: **long** and **short** vowels.

BBC Accent's Pure Vowels

Vowel	Description	Example Words
ɪ	close, front, unrounded	lip, lit
e	half-open, front, unrounded	let, wet
æ	open, front, unrounded	pat, syllable
ʌ	half-open, central, unrounded	but, enough
ɒ	half-open, back, rounded	pot, consonant
ʊ	close, back, rounded	put, book
i:	close, front, unrounded	peel, seed
ɑ:	open, back, unrounded	ask, car
ɔ:	half-open, back, rounded	sought, cordial
u:	close, back, unrounded	coo, food
ɜ:	mid, central, unrounded	bird, cur
ə	mid, central, unrounded	about, upper

5.5. Voiced Sounds and the Clipped Vowels

Before we close up this discussion, it behoves me to append another bit of insight that is really worth knowing if foreign learners are aiming in their linguistic-oriented endeavours to arrive at a less-accented pronunciation. Although we have argued that there are solely two main classes of vowels duration-wise, there is one factor that would have to be pinpointed. The English voiced consonants and their voiceless counterparts tend to have a glaringly noticeable influence on the perceived duration of long vowels. First off, recall that though we have been looking at each sound in isolation, whether it be a vowel or a consonant, this does not entail that this is the manner after which they behave in people's day-to-day usage of language. We cannot, only exceptionally, utter meaningful linguistic things without gluing sounds together. More often than not, whenever we speak we tend to have units of speech made up of an alternation, though not strictly regular, between vowels and consonants. The combinations, or phonological environments, where sounds occur might alter the properties they have in isolation.

When long vowels are followed (either word-internally or across word boundaries) by a voiceless consonant, their usual length gets remarkably clipped, they become duration-wise much akin to their short counterparts. This means that the duration is not a static thing, it changes in accordance with the phonological context of the vowel. By way of example, the vowel /I:/ though it is said to be long, it is of varying length in the following environments:

In **bee, see, sea, key, she**, it keeps its inherent length unaltered because it comes at the end of the word;

In **beat, weak, sleep, weep, niece**, its length is significantly altered for the above-stated reasons; it is followed by a voiceless consonant. Refer back to the chapter on English consonants if you have not yet got the hang of what a voiceless consonant is.

In **weave, bean, beam, please, cheese**, its duration is unaltered, it is similar to the /I:/ in the first set for the reasons mentioned above, when voiced consonants follow long vowels they do not interfere with their duration, it remains intact, as it were. (Kelly: 2000)

To round off, if a long vowel appears in an environment where its length is clipped, and a short vowel appears in a phonological environment that does not interfere with its length, the two vowels would end up having virtually equal length. For instance, phoneticians argue that the long vowel in **beat** and the short one in **bid** are of pretty much identical length due the divergent environments wherein they occur.

5.6. Laxness and Tenseness

While a number of phoneticians concur that the usage of the above-outlined parameters would suffice for a thorough description of vowels, others contend that deploying another criterion cannot be other than vital. This criterion pertains to the articulatory force accompanying the production of vowels. While some vowels do not take a great amount of breath effort and muscular energy, others do. This criterion came to be labelled '**laxness or tenseness of articulation**'. By virtue of this criterion, vowels are split into two major categories: **lax vowels** and **tense vowels**.

5.6.1. Lax vowels: in the production of lax vowels, articulators are not, so to speak, exhausted. The vowels coming under this category are produced with minimal amount of muscular energy and breath effort. All English short vowels fall neatly under this category.

5.6.2. Tense vowels, on the other hand, as their very name might imply, are produced with greater breath effort and muscular energy than their lax counterparts. All English long vowels come under this category.

This last heading marks our discussion as to a type of vowels called **pure vowels** or **monophthongs**. They bear this name because in their production there is no perceptibly noticeable

change in vowel quality from beginning to end. By way of example, the vowel /e/ which is close, central and neutral retains these articulatory traits during all the production phase. It does not, for instance, become close, front, rounded or close, back, spread at the end of the articulation process: it is a constant vowel. The English vowel inventory, none the less, does not possess only this type of vowels. The following chapter will unveil what other types of vocalic phonemes English uses and how they differ from this first broad category. Notice that the other two types of vowels do not radically differ from pure vowels. They differ in some particulars that will be highlighted in the ensuing chapter.

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