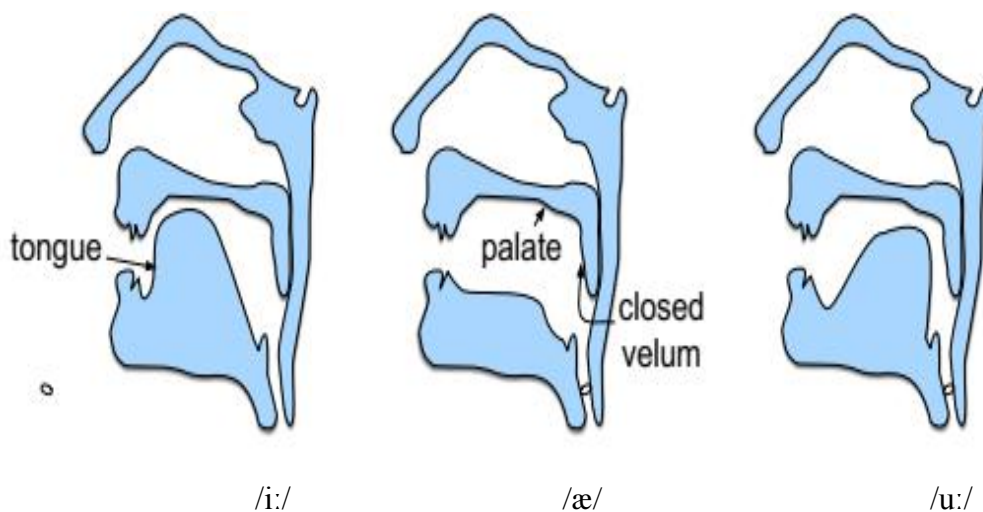


## Lecture Six

### The Characterization and Classification of Vowels

**Vowels**, like consonants, can be **characterized** by the **position of the articulators** as they are made. However, the characterization and classification of vowels is *challenging mainly in terms of defining the position of the tongue* as it moves without forming any significant obstruction in the oral cavity. As a result, vowels are produced without any specific point of blockage. **The fundamental relevant parameters** for vowels are what is called vowel **height**, which correlates roughly with the height of the highest part of the tongue, **vowel frontness or backness**, indicating whether this high point is toward the front or back of the oral tract and whether the **shape of the lips is rounded or not**.



**Figure 1.** shows the position of the tongue for different vowels.

## I. Monophthongs

Accordingly, the pure simple vowels or what is known as *Monophthongs* can be classified based, mainly, on these criteria:

**1. Tongue Position:** the classification, here, is based on the part of the tongue which is raised and the degree of raising.

**a. Height:** the vertical movement of the tongue depicts the height of the body of the tongue and refers to how high or low the tongue is positioned in the mouth.

> **High (or close) vowels** are articulated with the tongue located as *high* as possible in the oral cavity, thus narrowing the passage for the airflow: /ɪ/, /i:/, /ʊ/, /u:/;

> **Mid (or mid-open) vowels** are made with the tongue *lowered to the mid position* in the oral cavity: /æ/, /ɒ/, /ʌ/, /ɑ:/;

> **Low (or open) vowels** produced with the tongue positioned as *low* as possible in order to leave a lot of space for the airflow: /e/, /ɔ:/, /ɜ:/, /ə/.

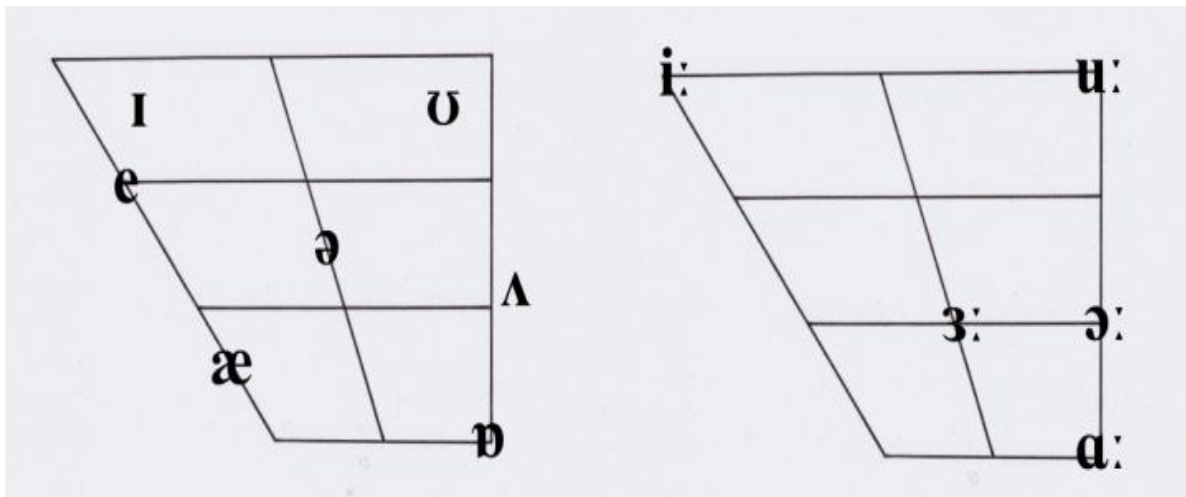
**b. Backness:** the horizontal movement of the tongue to the front position or back position is essential in forming these groups of vowels.

> **Front vowels** are articulated with the *tongue far forward* in the oral cavity toward the hard palate: /i:/, /ɪ/, /e/, /æ/;

> **Central vowels** are produced with the tongue *retracted to the middle position* in the oral cavity: /ʌ/, /ɜ:/, /ə/;

> **Back vowels** are made with the *tongue retracted as far as possible to shape the space in the front part of the oral cavity*: /ɒ/, /ɔ:/, /ʊ/, /u:/, /ɑ:/.

This means that the position of the tongue is a useful reference point for describing the differences between vowel sounds as it is summarized in the following diagram.



**Figure 2.** displays English short and long vowels in the cardinal vowel diagram

**2. The Shape of the Lips:** the second important articulatory dimension for vowels is the shape of the lips which is necessary to *enlarge* or *diminish* the space within the mouth. Thus, vowels are also different from each other with respect to *the lip rounding*. The following sets of vowels are identified:

**a. Rounded vowels:** the lips are pushed into the shape of a circle or a tube: /ʊ/, /u:/, /ɒ/, /ɔ:/;

**b. Unrounded vowels:** with this shape there are two types.

> **Spread vowels:** the corners of the lips are moved away from each other: /ɜ:/, /e/, /i:/, /ɪ/, /æ/;

> **Neutral vowels:** the position of the lips is not noticeably rounded or spread: /ʌ/, /ɑ:/, /ə/.

### 3. Tenseness and Length

According to **the tenseness of the organs of speech**, vowels are classified into one of two groups: **tense** and **lax**. *Tense vowels* are relatively **higher** and **more marginal**, while *lax* are **shorter, lower, and slightly more centralized**. Of 12 English pure vowels, five are termed as **long in duration**: /ɑ:/, /ɔ:/, /i:/, /u:/, /ɜ:/, and the remaining seven are termed as **short in duration**: /ʌ/, /ɒ/, /ɪ/, /ʊ/, /e/, /æ/, /ə/. The symbols for long vowels are followed by a **length mark** of two vertical dots. In addition, length seems to relate to several pairs of vowels: /ɑ:/ - /ʌ/ /ɔ:/ - /ɒ/ /i:/ - /ɪ/ /u:/ - /ʊ/ /ɜ:/ - /ə/.

The **difference in length** is, normally, accompanied by a difference in the **sound quality**. Thus, the elements within a pair in length (**e.g. /ɔ:/ and /ɒ/**) have slightly different positions concerning the height and advancement of the tongue.