

## 2.1 The vocal cords

The air released by the lungs comes up through the wind-pipe and arrives first at *the larynx*. The larynx contains two small bands of elastic tissue, which can be thought of as two flat strips of rubber, lying opposite each other across the air passage. These are the vocal cords.

The inner edges of the vocal cords can be moved towards each other so that they meet and completely cover the top of the wind-pipe, or they can be drawn apart so that there is a gap between them (known as *the glottis*) through which the air can pass freely: this is their usual position when we breathe quietly in and out.

When the vocal cords are brought together tightly no air can pass

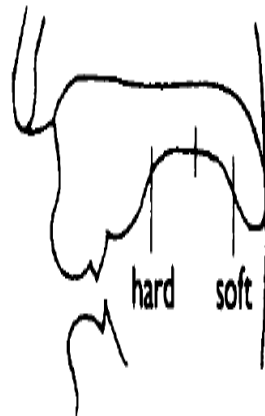
## The vocal cords

The sounds which are not voiced *voiceless* sounds – are made with the vocal cords drawn apart so that the air can pass out freely between them and there is no vibration. The difference between voiced and voiceless can be used to distinguish between what are otherwise similar sounds. Say a long /s/-sound again, and in the middle of it turn the voice on: this will give you a /z/-sound, buzzing rather than hissing. But not all the voiced sounds of English have similar voiceless sounds, for example the voiceless /m/-sound which you made just now does not occur in English, and even when there are pairs of similar sounds which are voiced and voiceless this may not be the only difference between them, as we shall see later.

Immediately above the larynx is a space behind the tongue and reaching up towards the nasal cavity: this space is called *the pharynx* /færɪŋks/.

## 2.2 The palate

The palate, as Figure 1 shows, forms the roof of the mouth and separates the mouth cavity from the nose (or nasal) cavity. Make the tip of your tongue touch as much of your own palate as you can: most of it is hard and fixed in position, but when your tongue-tip is as far back as it will go, away from your teeth, you will notice that the palate becomes soft. Figure 3 is a more detailed view of the palate.



*Fig. 3 The soft and hard parts of the palate*

You can easily see the soft part of the palate if you use a mirror: turn

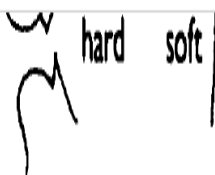


Fig. 3 *The soft and hard parts of the palate*

You can easily see the soft part of the palate if you use a mirror: turn your back to the light, open your mouth wide and say the vowel /a:/, and move the mirror so that the light shines into your mouth. You will be able to see the soft palate curving down towards the tongue and becoming narrower as it does so until it ends in a point called *the uvula* /ju:vjʊlə/. Behind the soft palate you will be able to see part of the back wall of the pharynx. The soft palate can move: it can be raised so that it makes a firm contact with the back wall of the pharynx (as in Figure 3), and this stops the breath from going up into the nasal cavity and forces

in Figure 5, the *alveolar ridge* /ælvɪəʊlə rɪdʒ/ and the *hard palate*. The alveolar ridge is that part of the gums immediately behind the upper front teeth, and the hard palate is the highest part of the palate, between the alveolar ridge and the beginning of the soft palate. You can touch the whole of the alveolar ridge and the hard palate with your tongue-tip. The alveolar ridge is especially important in English because many of the consonant sounds like /t d n l r s z ʒ tʃ dʒ/ are made with the tongue touching or close to the alveolar ridge.

Finally the palate curves downwards towards the teeth at each side.

### 2.3 The teeth

The lower front teeth are not important in speech except that if they are missing certain sounds, e.g. /s/ and /z/, will be difficult to make. But the two upper front teeth are used in English to some extent. Put the tip of your tongue very close to the edge of these teeth and blow: this will produce a sound like the English /θ/ in *thin*; if you turn on the voice during this /θ/-sound you will get a sound like the English /ð/ in *this*.

## The palate

For most of the sounds of all languages the soft palate is raised, so that the air is forced to go out through the mouth only.

Apart from this important raising and lowering of the soft palate, the whole of the palate, including the soft palate, is used by the tongue to interfere with the air stream. Say the vowel /a:/ again and watch the tongue in your mirror: it is flat in the mouth. Now add a /k/ after the /a:/ and you will see the back part of your tongue rise up and touch the soft palate so that the breath is completely stopped; then when you lower your tongue the breath rushes out again.



## The tongue

The back of the tongue too can be flat in the mouth, or it can be raised to touch the soft palate, or it can be raised to any position between these two extremes. Say /ɑ:k/ again, as you did earlier, and hold the /k/-sound with your mouth wide open. You will see in your mirror that the back of the tongue rises from a very flat position for *ɑ:* to a position actually touching the soft palate for the /k/. Figure 8 shows these two extreme positions. The back of the tongue is in various positions between these two extremes for the vowels /ɒ, ɔ:, ʊ, u:/ in *pot, fought, put, boot*; say them in that order and feel the back of the tongue rise gradually towards the soft palate: you will not be able to

