CHAPTER 2

The Speech Mechanism

2.1 A Speech Event

A speech event involves a series of operations. A concept is first formulated in the speaker's brain and its linguistic codification transmitted by the nerves to the speech organs, which are set in motion. The movements of these organs set up disturbances in the air, and these sound waves are received by the listener's ear. His nervous system carries the message to the brain, where it is interpreted in linguistic terms. The speaker and the listener must share the same linguistic code in order to communicate effectively.

2.2 The Production of Speech

The energy for the production of speech is generally provided by the air-stream coming out of the lungs.

At the top of the wind-pipe or the *trachea,* is the *larynx* containing the *vocal cords.* These can be brought together or kept apart, the opening between them being called the *glottis.*

When we cough, the glottis is tightly closed and the air from the lungs is held up beneath it and then suddenly released. When we breathe out, the glottis is held open. If the vocal cords are held sufficiently close together, they vibrate when the air from the lungs passes between them. This vibration produces *voice.* Speech sounds can be *voiced* or *voiceless.*

The air-stream is also modified by the resonating cavities above the larynx– the pharynx, the mouth and the nasal cavity.

The shape of the mouth cavity depends on the positions of the *tongue* and the *lips.* The roof of the mouth is divided into three parts: the *alveolar ridge* or *teeth ridge* just behind the upper teeth: the *hard palate;* and the *soft palate* or *velum,* the end of which is called the *uvula.*

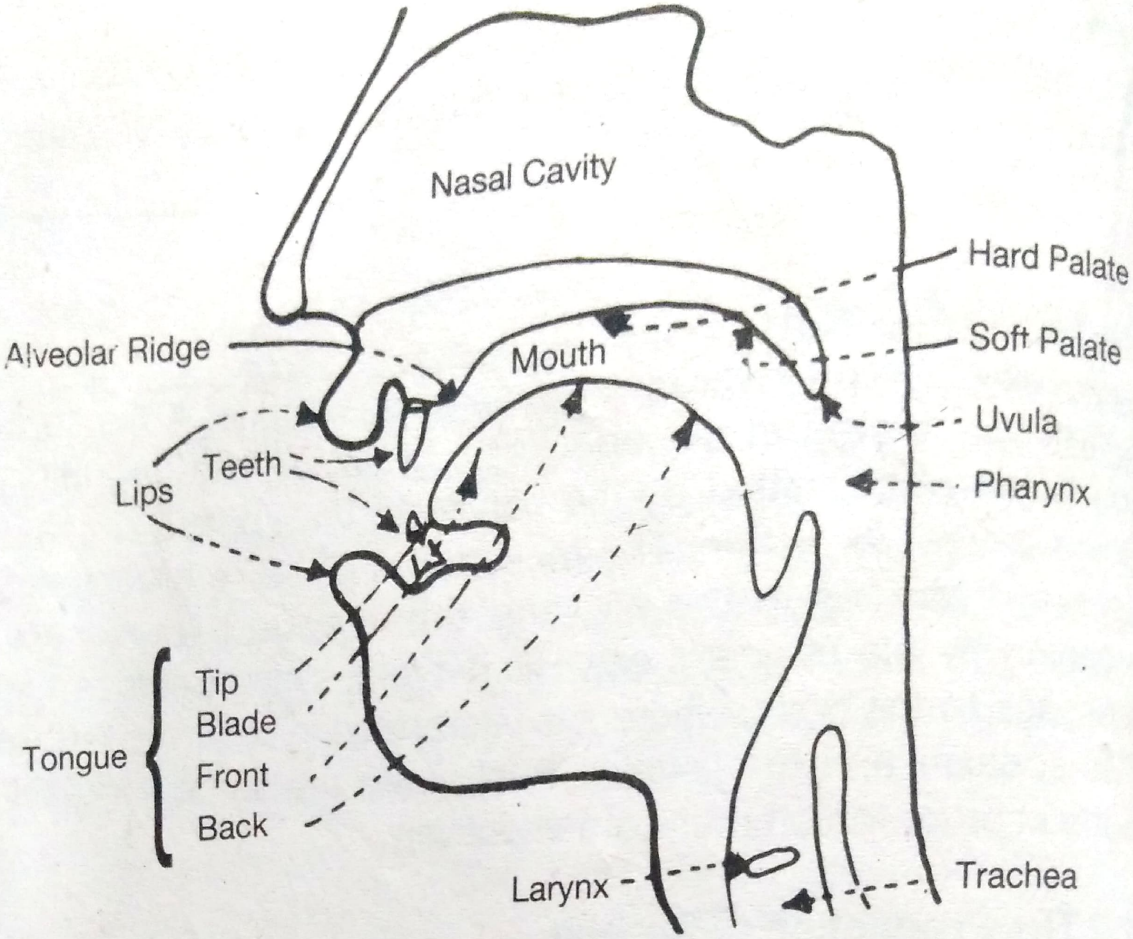

Fig. 1 Organs of Speech

The soft palate can be lowered to let the air escape through the nose. This is the normal position in breathing. If the mouth passage is also open, a *nasalized vowel,* as in Hindi / hæ̃ / 'are' is produced. If no air escapes through the mouth, a *nasal consonant* is produced, e.g., English / m / and / n / in *man* / mæn /, and / ŋ / in *sing* / sɪŋ /.

The lips can be held close together or far apart. They can be *spread, neutral, open* or *rounded.*

The tongue can be considered as having three sections. The part opposite the teeth ridge is called the *blade,* its end being called the *tip*. The part opposite the hard palate is called the *front* and that opposite the soft palate is called the *back*.

In the production of vowel sounds, the tip of the tongue is generally kept low, and some other part of the tongue — the front, the centre or the back — is raised towards the roof of the mouth.

The various parts of the tongue can make a contact with, or be brought very near the roof of the mouth to produce different consonant sounds.

2.3 Description of Sounds

In order to describe the production of a speech sound we have to indicate the nature of the air stream, the state of the vocal cords, and the positions of the soft palate, the tongue and the lips.