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**Speech Chain**

When most people consider speech, they think only in terms of moving lips and tongue. A few others, who have found out about sound waves, perhaps in the course of building or using stereo systems, will also associate certain kinds of sound waves with speech. In reality, speech is a far more complex process, involving many more levels of human activity, than such a simple approach would suggest

A convenient way of examining what happens during speech is to take a simple situation of two people talking to each other. For example, when a speaker wants to transmit information to another person (listener), the first thing he has to do is arranging his thoughts, decides what he wants to say and then puts what he wants to say into **linguistic form**. The message is put into linguistic form by selecting the right words and phrases to express its meaning, and by placing these words in the order required by the grammatical rules of the language. This process is associated with activity in the speaker’s brain, and it is from the brain that appropriate instructions, in the form of impulses along the motor nerves, are sent to the muscles that activate the vocal organs- the lungs, the vocal cords, the tongue, and the lips. The nerve impulses set the vocal muscles into movement which, in turn, produce minute pressure changes in the surrounding air. We call these pressure changes a **sound wave**. Sound waves are often called acoustic waves, because acoustics is the branch of physics concerned with sound .The movements of the vocal organs generate a speech sound wave that travels through the air between speaker and listener. Pressure changes at the ear activate the listener’s hearing mechanism and produce nerve impulses that travel along the acoustic nerve to the listener’s brain. In the listener’s brain, a considerable amount of nerve activity is already taking place, and this activity is modified by the nerve impulses arriving from the ear. This modification of brain activity, in ways that are not yet fully understood, brings about recognition of the speaker’s message. We see, therefore, that speech communication consists of a chain of events linking the speaker’s brain with the listener’s brain. We shall call this chain of events **the speech chain**

Let us go back now to the main speech chain, the links that connect speaker with listener. We have seen that the transmission of a message begins with the selection and ordering of suitable words and sentences. This can be called the **linguistic level** of the speech chain.

The speech event continues on the **physiological level**, with neural and muscular activity, and ends, on the speaker’s side, with the generation and transmission of a sound wave, the physical **(acoustic)** level of the speech chain.

At the listener’s end of the chain, the process is reversed. Events start on the physical level, when the incoming sound wave activates the hearing mechanism. They continue on the physiological level with neural activity in the hearing and perceptual mechanisms. The speech chain is completed on the linguistic level when the listener recognizes the words and sentences transmitted by the speaker. The speech chain, therefore, involves activity on at least three levels linguistic, physiological and physical -first on the speaker’s side and then at the listener’s end.

