

Introduction to

Phonetics and Phonology

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- The IPA

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GHOTI



ghoti = fish

gh

in enough

o

in women

ti

in nation



Definition

Phonetics, branch of linguistics concerned with the production, physical nature, and perception of speech sounds.

Phonetics is the field of language study concerned with the physical properties of sounds, and it has three subfields.

The main fields of study are experimental phonetics, articulatory phonetics, phonemics, acoustical phonetics, and auditory phonetics.

Articulatory phonetics explores how the human vocal apparatus produces sounds.


Acoustic phonetics studies the sound waves produced by the human vocal apparatus.

Auditory phonetics examines how speech sounds are perceived by the human ear.

Phonology, in contrast, is concerned **not** with the *physical properties of sounds*, but rather with **how they function** in a particular language.

The following example illustrates the difference between phonetics and phonology.

In the English language, when the sound /k/ (usually spelled c) occurs at the beginning of a word, as in the word *cut*, it is pronounced with *aspiration* (a puff of breath). However, when this sound occurs at the end of a word, as in *tuck*, there is no aspiration.



Phonetically, the aspirated /k/ and unaspirated /k/ are different sounds, but in English these different sounds never distinguish one word from another, and English speakers are usually unaware of the phonetic difference until it is pointed out to them.

Thus English makes no phonological distinction between the aspirated and unaspirated /k/.


The Hindi language, on the other hand, uses this sound difference to distinguish words such as *ka* (time), which has an unaspirated /k/, and *kha* (skin), in which /k^h/ represents the aspirated /k/.

Therefore, in Hindi the distinction between the aspirated and unaspirated /k/ is both phonetic and phonological.


Sounds of Language

Spoken human language is composed of sounds that **do not in themselves have meaning**, but that can be **combined with other sounds** to create entities that do have meaning.

Thus *p*, *e*, and *n* do not in themselves have any meaning, but the combination *pen* does have a meaning.




Language is characterized by complex syntax whereby elements, usually words, are combined into more complex constructions, called phrases, and these constructions in turn play a major role in the structures of sentences.



Because most languages are primarily spoken, an important part of the overall understanding of language involves the study of the sounds of language.

Most sounds in the world's languages—and all sounds in some languages, such as English—are produced by expelling air from the lungs and modifying the vocal tract between the larynx and the lips.

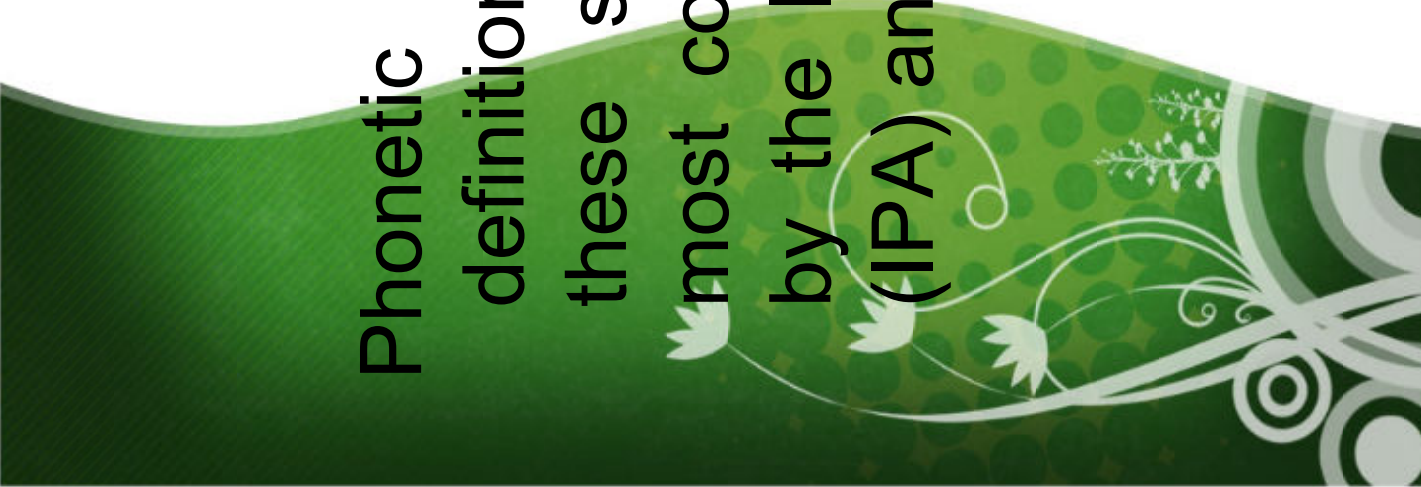


For instance, the sound p requires complete closure of the lips, so that air coming from the lungs builds up pressure in the mouth, giving rise to the characteristic popping sound when the lip closure is released.

Articulatory Phonetics

This describes speech sounds *genetically*— that is, with respect to the ways by which the vocal organs modify the air stream in the mouth, nose, and throat in order to produce a sound.

All the vocal activities involved in a sound need not be described, but only a selection of them, such as the *place and manner of articulation*.



Phonetic symbols and their articulatory definitions are abbreviated descriptions of these selected activities. The symbols most commonly used are those adopted by the International Phonetic Association (IPA) and are written in brackets.

The organs of articulation are either movable or stationary.

Movable organs such as lips, jaws, tongue, or vocal chords are called articulators. By means of them a speaker modifies the surge of air from the lungs.

Stationary parts include the teeth, the alveolar arch behind them, the hard palate, and the softer velum behind it.

Sounds made by touching two articulators—for example, the bilabial *p*, which requires both lips—or those made by an articulator and a stationary part of the vocal apparatus are **named from the organs that make the juncture**, which is called the *point of articulation* or *place of articulation*.

Reference to the tongue, when it is an articulator, is not expressed—for example, the *t* sound, which is produced by the alveolar arch touched by the tongue, is called *alveolar*.

The **manner of articulation** is determined by the way in which the speaker affects the air stream with the movable organs.

This action may consist of:

- stopping the air completely (plosive);
- leaving the nasal passage open during the stopping (nasal);
- making contact with the tongue but leaving space on either side of it (lateral);

- making merely a momentary light contact (flap);
- leaving just enough space to allow a continuing stream of air to produce friction as it passes through (fricative);
- or permitting the air stream to pass over the center of the tongue without oral friction (vocal).

This will be explained in ‘place and manner of articulation’ ...

The speaker produces vowels of different quality by varying the position of his or her tongue on its vertical axis (high, mid, low) and on its horizontal axis (front, central, back).

The quality of a vowel depends on whether the speaker keeps the lips rounded or unrounded, keeps the jaws close together or open, or holds the tip of the tongue flat or curled up (retroflex).

At the same time the speaker may move the tongue gradually upward and to the front, or upward and to the back, making diphthongal off-glides.

The IPA

Many nations of Asia and Africa gained independence in the second half of the 20th century.

The peoples of these nations, including many linguistic and ethnic minorities, had a strong sense of the value of their own traditions and languages.

They wished to perpetuate their language and literary traditions, which had been transmitted orally for hundreds of years, through writing.

In addition, governments felt the need to establish literacy and effective communication to facilitate economic development.

An intensive effort to develop new alphabets followed. Most of the new alphabets were based on a selection of Roman letters, heavily supplemented with other symbols to represent special sounds.

When linguists developed the alphabets, they typically drew additional characters from the International Phonetic Alphabet (IPA) or from some variation of it.

The IPA, developed in 1880, was originally intended to have a distinctive symbol for every sound made in human language.

Although such a goal was dropped as impractical, a shortened IPA continues to be widely used.

See more IPA in the IPA chart...

Further lesson:

- The IPA chart
- The sounds of the English language

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