

Revision of Phonetics

Consonants

Consonants are normally specified for three descriptive parameters: voicing state, place of articulation and manner of articulation.

Voicing state. While we may reasonably describe most consonants as either **voiced** (with vocal cord vibration) or **voiceless** (without vocal cord vibration), we may also indicate full or partial devoicing by placing the diacritic [̥] beneath the symbol for the appropriate voiced segment, as in [d̥], a devoiced alveolar stop. There are other states of the glottis besides voicing and voicelessness, but we will not pursue them here.

Place of articulation distinctions are as follows. (See the diagram of the organs of speech on p. 12.) Where the articulators are the lips, the sound in question is **bilabial**. Where the active articulator is the lower lip and the passive articulators are the upper teeth, the sound is **labiodental**. **Dental** sounds are articulated with the tip of the tongue and the upper teeth. **Alveolar** sounds are articulated with the tip/blade of the tongue and the alveolar ridge. **Post-alveolar** sounds are retracted somewhat from this position; an example is the post-alveolar approximant [ɹ] found in many accents of English. **Palato-alveolar** sounds are articulated with the blade of the tongue as the active articulator and the palato-alveolar region as the passive articulator. In **palatal** sounds, the active articulator is the front of the tongue and the passive articulator is the hard palate. The back of the tongue and the soft palate are, respectively, the active and passive articulators in **velar** sounds, whereas in **uvular** sounds, the articulators are the back of the tongue and the uvula. The walls of the pharynx are the articulators in **pharyngeal** sounds, and the vocal cords themselves are the articulators in **glottal** sounds.

Manner of articulation is specified according to degree of stricture (the degree to which the articulators impede the flow of air). The three principal degrees of stricture are as follows:

1. Complete closure, where the articulators seal off the flow of air completely; these sounds are called **stops**, or **plosives**.
2. Close approximation, where the articulators come very close to one another without actually sealing off the escape of air, such that turbulence, and thus audible friction, are produced; these sounds are called **fricatives**.
3. Open approximation, where the articulators are not sufficiently close to induce turbulence and audible friction; such sounds are called **approximants**. They are normally defined as being voiced.

We may use these parameters to distinguish speech sounds as follows:

Bilabial

[p] is a voiceless bilabial stop.

[b] is a voiced bilabial stop.

[ɸ] is a voiceless bilabial fricative: it can be heard in Japanese in, for instance, the word *Fuji* [ɸuʃi].

[β] is a voiced bilabial fricative: it occurs in Tamil, as in the word for 'twenty' [ɪrɔβaɔw].

[β̥] is a voiced bilabial approximant: it can be heard in Spanish in, for example, [ɐβ̥ ɛr] ('to have'). The symbol used here is the same as for the fricative, but with the subscript diacritic meaning 'frictionless' added. (In this respect we deviate from the International Phonetic Alphabet, in which this diacritic means 'less rounded'.)

Labiodental

[f] is a voiceless labiodental fricative.

[v] is its voiced counterpart.

[ʋ] is a voiced labiodental approximant; you can practise this by altering a [v] such that the lower lip does not actually come into contact with the teeth. It occurs in Tamil.

Dental

It is not easy to hear the difference between, on the one hand, the dental stops [t̪] and [d̪] and, on the other hand, the alveolar stops [t] and [d], but in many languages it is the dental rather than the alveolar stops which occur: in Tamil, Spanish and Polish, for instance.

[θ] is a voiceless dental fricative which occurs in English, as in *thing*.

[ð] is the voiced equivalent. It too occurs in English, although, in words like *that*, there is often little or no friction, in which case the diacritic meaning 'frictionless' may be placed beneath the symbol for the fricative, thus [ð̥]. This therefore denotes a voiced dental approximant, of the sort found in the Spanish word *hablado* [ɛbleð̥o].

Alveolar

In addition to the stops [t] and [d], there are the alveolar fricatives [s] and [z].

Among the approximants and fricatives, there is a distinction between **central** and **lateral** sounds: in central sounds, the airflow escapes along a central groove in the active articulator, while in lateral sounds, there is closure at this central point, with the airflow escaping along the sides of the

active articulator. Thus, the voiced lateral alveolar approximant [l] has closure at the centre of the alveolar ridge and lateral escape of airflow, while in the voiced central approximant [ɹ], there is closure between the sides of the tongue and the gums, with central escape of airflow. This sound, found in many accents of English, is also somewhat retracted (just how much varies considerably among accents) and is therefore said to be post-alveolar.

The fricatives we identify here should be assumed to be central unless otherwise specified. Lateral fricatives do occur, though: the voiceless alveolar lateral fricative [ɬ] occurs in Welsh, and its voiced equivalent, [ɮ], in Zulu.

There are further manner of articulation distinctions which can often be identified among alveolar sounds. The alveolar **trill** involves a stricture of **intermittent closure**: with a constant muscular pressure on the tongue, intermittent closure is brought about by means of an interaction between the stop closure and the air pressure building up behind that closure. This is an instance of the Bernoulli Effect which underlies vocal cord vibration: as the closure is released, the air pressure drops and the muscular tension closes the articulators again, at which point the air pressure builds up and separates the articulators. In trills, this sequence occurs several times, rather rapidly.

In **taps**, the blade of the tongue closes only momentarily against the passive articulator: we may think of taps as stops of very short duration. The voiced alveolar tap is denoted by the symbol [ɾ], and its voiceless counterpart by the same symbol with the devoicing diacritic, thus [ɾ̥].

Around the alveolar ridge, we must distinguish **retroflex** sounds from **non-retroflex** sounds: in retroflex sounds, the underside of the blade of the tongue acts as the active articulator against the alveolar ridge. Thus, the voiceless and voiced retroflex stops, represented as [ɖ] and [ɗ], involve complete closure, while the fricatives [ʂ] and [ʐ] involve close approximation. The retroflex [ʂ] is found in Spanish. The retroflex tap [ɽ] is like an alveolar tap, but with the underside of the tongue blade forming a momentary stricture of complete closure with the alveolar ridge. The retroflex lateral approximant [ɭ] involves closure between the underside of the blade and the alveolar ridge, but open approximation between the sides of the tongue and the gums, allowing lateral escape of airflow. Many of these retroflex sounds can be found in the Dravidian and Indo-European languages of the Indian subcontinent; you will often hear them among people with an Indian or Bangladeshi background. The term 'retroflex' is usually listed alongside the other place of articulation terms, although it identifies place of articulation by means of the active rather than the passive articulator.

Palato-alveolar

This term is not terribly precise, covering as it does an area which is part of

the continuum from the alveolar ridge to the hard palate. The voiced and voiceless fricatives [ʃ] and [ʒ], which occur in English, as in the words *ship* and *vision*, are usually said to be palato-alveolar.

So too are the affricates [tʃ] and [dʒ] which occur in the English words *church* and *judge*. Affricates are characterised by a stricture of complete closure followed by a release phase in which there is close approximation between the articulators, and thus audible friction is produced. We may consider affricates as slowly released stops, where it is the absence of instantaneous release which results in a transitional phase of close approximation. Affricates can be produced at most places of articulation: [tʃ] and [dʒ], for instance, are alveolar affricates, with the superscript diacritic indicating that the two symbols should be taken to denote a unitary sound. Similarly, [k̟x] and [q̟x] are, respectively, voiceless velar and uvular affricates. Precisely what is meant by 'unitary sound' is a phonological matter which we will not pursue here. The closure phase and release phase in affricates need not be strictly homorganic (occurring at the same place of articulation); thus, in [p̟f], the closure phase is bilabial while the release phase is labiodental.

You may well encounter, in any further reading you may do, the symbols [tʃ̟] and [dʒ̟] for [tʃ] and [dʒ], as well as [ʃ̟] and [ʒ̟] for [ʃ] and [ʒ]. In this book, we will use [tʃ], [dʒ], [ʃ] and [ʒ] in almost all cases. But in the case of Polish, we will be a little inconsistent. The reason for this is as follows. In Polish, there is an important distinction, among fricatives and affricates, between alveolar, post-alveolar and what are called pre-palatal sounds. The post-alveolars are articulated with retraction of the tongue body while the pre-palatals are articulated fairly close to the palatal region, but further forward than strictly palatal sounds. That is, the continuum from the alveolar ridge to the hard palate is divided up into three, rather than two, places of articulation. We may distinguish, among the fricatives, between voiced and voiceless alveolar, post-alveolar and pre-palatal fricatives, and we will use the following symbols for these:

[s] and [z], as is standard, for the alveolars.

[ʃ̟] and [ʒ̟] for the post-alveolars.

[s̟] and [z̟] for the pre-palatals.

For the affricates, we will use:

[tʃ̟] and [dʒ̟], as above, for the alveolars.

[tʃ] and [dʒ] for the post-alveolars.

[tʃ̟] and [dʒ̟] for the pre-palatals.

While this choice of symbols is unproblematical for the alveolars and pre-palatals, it does mean that we will be using, in the case of Polish, the

symbols [tʃ̟] and [dʒ̟], [ʃ̟] and [ʒ̟], to denote sounds which are not palato-alveolar. This should not cause problems.

Palatal

The voiceless palatal stop [c] occurs in some of the exercises in this book; it is articulated high up in the oral cavity, with the front of the tongue against the hard palate. The stop in the English word *keep* is fairly close to [c], but [c] is articulated even further forward than that. Its voiced equivalent is [j], which also occurs in the exercises in this book. The fronted stop which occurs in *keep* is usually transcribed using the 'fronted' (or 'advanced') diacritic, thus [k̟].

[ç] is a voiceless palatal fricative which occurs in German, as in the word *Milch*, and in Scots, as in *driech*. Many English speakers produce something close to this in their pronunciation of *huge* in casual speech.

[j] is its voiced equivalent.

[j̟] is a voiced palatal approximant which occurs in the English word *year*.

[ʎ] is a voiced palatal lateral; it occurs in many accents of Spanish, as in *calle* ('street').

Velar

[k] is a voiceless velar stop which occurs in many languages; including English.

[g] is its voiced equivalent.

[x] is a voiceless velar fricative. It occurs in Scots in, for instance, *loch*, and in German, as in *Buch*. If you compare this with the palatal fricative [ç], you will notice that the palatal sound has a noticeably higher pitch.

[ɣ] is its voiced equivalent; you will encounter it in the Eskimo data in Chapter 1.

[ʁ] is a voiced velar approximant; it occurs in Spanish, as in *bodega*.

Uvular

[q] is a voiceless uvular stop; you can practise it by making a [k] and retracting it, so that it is articulated against the uvula. It occurs in the Eskimo data in this book. If you compare it with [k] and [c], you will hear the pitch increase as you progress from [q] to [k] to [c].

[G] is its voiced equivalent.

[χ] is a voiceless uvular fricative. It occurs in Arabic, and in French where the voiced uvular fricative [ʁ] is devoiced.

[ʁ̥] is a voiced uvular approximant which occurs in French. As with [ø̥] and [ɣ̥], the symbol for the fricative is used, with the 'frictionless' diacritic added.

Pharyngeal

In pharyngeal sounds, it is the walls of the pharynx which act as the articulators. Since these cannot readily form a stricture of complete closure, it is normal to identify only two pharyngeal sounds: [ħ], the voiceless pharyngeal fricative which occurs in Arabic, and [ʕ], the voiced pharyngeal fricative, which also occurs in Arabic.

Glottal

The glottal stop [ʔ] involves closure, followed by release, of the vocal cords.

The glottal fricative [h] involves close approximation between the vocal cords.

Consonants involving more than one articulation

The approximant [w], which occurs in English, has a stricture of open approximation between the lips, and also between the back of the tongue and the velum. It is therefore usually referred to as a labial-velar approximant. The question arises whether one of these articulations should be considered primary with respect to the other. We will take the view that the two are of equal articulatory status in English.

The lateral approximant [l] involves, as we have seen, an alveolar articulation, but this is often accompanied, in accents of English, by a **secondary articulation** of either **palatalisation** or **velarisation**.

Where an alveolar lateral is palatalised, the front of the tongue forms a secondary stricture of open approximation with the hard palate, thus producing a more high-pitched sound. There is often some palatalisation of laterals for speakers of English where the lateral occurs before a high front vowel. In some accents of English (Tyneside, and Highland Scots accents, for instance), most occurrences of laterals are palatalised. The palatalised lateral is often referred to as 'clear l'. The 'palatalised' diacritic is added to the lateral symbol to indicate palatalisation, thus [lʲ].

In velarised laterals, the back of the tongue forms a secondary articulation of open approximation with the velum. For many speakers of English, laterals are velarised when they occur syllable-finally. There are accents, such as Lowland Scots, where laterals are almost always velarised. To transcribe velarisation, a diacritic is added which runs through the centre of the appropriate symbol, thus [ɫ]. The velarised lateral is often referred to as 'dark l'.

Palatalised and velarised laterals do not function to distinguish one meaning from another in English, but palatalisation does have this function in many Slavic languages, as you will see in the exercises on Polish. In that language, it occurs, not with lateral approximants, but with bilabial stops, labiodental fricatives and the dental nasal stop.

Pharyngealisation, in which the root of the tongue is retracted towards the pharynx wall, is a common secondary articulation in Arabic, and distinguishes, for instance, pharyngealised alveolar stops from their non-pharyngealised counterparts. To represent this, the same diacritic as for velarisation is overwritten on the appropriate symbol, thus [d̤].

Aspiration

In most accents of English, when voiceless stops are followed by voiced segments such as vowels or approximants, there is often a delay between the release phase of the stop and the onset of voicing for the following segment. When this happens, there is an audible release of air from the stop closure which is referred to as **aspiration**. Aspiration is therefore definable as voice onset delay; it is transcribed with a superscript diacritic following the symbol for the voiceless stop, thus [p^h]. It does not always occur with voiceless stops in English, and we will see that its occurrence is, in many cases, predictable. While the distinction between voiceless aspirated and voiceless unaspirated stops does not serve to distinguish one meaning from another in English, it does have this function in some languages, including Tai, as you will see in Chapter 1.

Nasal Stops and Nasalisation

Nasal stops involve lowering of the velum, accompanied by complete closure within the oral cavity, allowing continual escape of airflow through the nasal cavity; where the sound is voiced, this results in the characteristic resonance which the nasal cavity induces. Nasal stops occur at most places of articulation, as follows:

[m] is a voiced bilabial nasal stop, as in English *map*.

[ɱ] is labiodental, as in English *amphetamines* and *inform*.

[ɲ] is dental, as in English *untheatrical*.

[n] is alveolar, as in English *nun*.

[ɳ] is retroflex, as in Tamil [pu:ɳdɔ] ('garlic').

[ɲ] is palatal, as in Tamil [ɲɲɪ] ('ginger').

[ŋ] is velar, as in English *sing*.

[ɴ] is uvular.

Where these occur devoiced, the devoicing diacritic is added, thus [ɲ̥].

Where velic opening is not accompanied by a stricture of complete closure in the oral cavity, the resulting sound is said to be **nasalised**. Thus, the fricative [v], if nasalised, would be [ṽ], with the diacritic for nasalisation

added. Nasalisation in vowels is much more common than in affricates, fricatives and approximants; examples are [ɔ̃] and [ɑ̃], in French.

Vowels

All vowels are articulated with a stricture of open approximation. While voiceless vowels do occur, and are transcribed using the 'devoiced' diacritic, vowels are normally voiced. We may distinguish vowels in terms of:

1. The height of the tongue body in the oral cavity.
2. The position of the body of the tongue along the front/back dimension of the oral cavity.
3. The presence or absence of lip rounding.

Two extreme vowel heights may be distinguished: **close**, where the tongue body is as near the hard or soft palate as it can be without causing audible friction, and **open**, where the jaw is lowered and the tongue body is as far as possible from the roof of the mouth. Between these extremes, we may pick out two intermediate heights: **half-close** and **half-open**, where the four heights are equidistant: the tongue moves the same distance at each stage of the transition from [i] through [e], then [ɛ], to [a] (see diagram on p. 11). This division allows us an arbitrary but useful division of the **vowel space** (the available space within the oral cavity for the production of vowels).

We can combine this division with the back/front dimension of the vowel space to identify certain peripheral points around the extreme edge of the vowel space. Those points are referred to as the **primary cardinal vowels**. We may depict them in an idealised representation of the vowel space, as in the diagram on p.11.

Cardinal vowel no. 1 is [i]; it is produced with the lips spread and the tongue as far forward and as high as it can go without creating friction. It is therefore close, front and unrounded.

Cardinal vowel no. 5 is [ɑ]; it is produced without any lip rounding and with the tongue as far back and as low as it can go without producing friction. It is open, back and unrounded.

These two cardinal vowels are the principal points around which our vowel space diagram is organised.

Cardinal vowel no. 2 is [e]; it is articulated with spread lips, with the tongue at the half-close height and as far forward as it can go. It is half-close, front and unrounded.

Cardinal vowel no. 3 is [ɛ]; it is articulated as for [e], but with a half-open tongue height. It is therefore front, half-open and unrounded.

Cardinal vowel no. 4 is [a]; it is unrounded and as open and front as is possible.

Cardinal vowel no. 6 is [ɔ]; it is rounded, half-open and as far back as is possible.

Cardinal vowel no. 7 is [o]; it is half-open, fully back and rounded.

Cardinal vowel no. 8 is [u]; it is fully back, close and rounded.

In addition to these, a series of **secondary cardinal vowels** can be identified. The first eight of these (nos 9–16) are identical to the primary cardinal vowels except that they have the opposite values on the rounded/unrounded parameter. They are also represented in the vowel chart on p. 11. Of these symbols, you will often encounter [y], [ø], [œ] and [ɯ] (nos 9, 10, 11 and 16) in this book. While the vowels which occur in human languages are not often as peripheral in the vowel space as the cardinal vowels, these cardinal vowels act as points of reference, in terms of which other vowel qualities can be identified. Thus, in French, there are three front, rounded vowels which are similar to, but not quite as peripheral as, [y], [ø] and [œ].

We may use a set of diacritics in conjunction with the symbols for the cardinal vowels to pinpoint fairly precisely where a given vowel is articulated. Thus, the diacritic ˥ is used to indicate a position raised with respect to a cardinal position, and ˩ to indicate relative lowering. The representation [ɛ̥] therefore denotes a front, unrounded vowel which is somewhat more close than [ɛ], and [ɛ̩] represents a front, unrounded vowel somewhat lower than [ɛ]. Similarly, the superscript diacritic [˙] indicates a vowel articulation somewhat more centralised than is denoted by the cardinal vowel symbol: [ë̙] denotes a centralised, half-close, front unrounded vowel, for instance.

We will adopt the practice of not using these diacritics unless the precise details of the vowel in question are of relevance to the problem under discussion. This means, for instance, that we will use [y], [ø] and [œ] for the front, rounded vowels of French, even though the actual values are not quite those of cardinal vowels 9, 10 and 11. Similarly, we will often use [ɯ] to represent a vowel which is fairly close, fairly back and unrounded, but not quite cardinal vowel 16. This commits us to a certain degree of phonetic inaccuracy, but one has to assess the degree of phonetic accuracy needed for a given purpose, and for the purposes of an introductory book of this nature, the absence of phonetic detail is, arguably, justified.

Other vowel symbols we will use are:

[ʊ] which is central, close and rounded; something fairly close to this occurs in Lowland Scots, as in *book*.

[ɨ] which is central, close and unrounded, and often 'counts' as a back vowel in phonological systems.

[ə] referred to as 'schwa', which is central on both the vertical and horizontal axes, and is unrounded. Both the term and the symbol are used rather loosely at times by phonologists to cover vowels in a fairly large area in the centre of the vowel space.

[e] which is open, central and unrounded.

In Received Pronunciation (RP), there is a systematic distinction between the long, back, open, unrounded vowel [ɑ:] (see below on length) and the short, front, open, unrounded vowel usually represented as [æ]. This symbol indicates a vowel quality somewhat higher than [a] (cardinal vowel no. 4). The distinction between a front and a back low vowel is absent in many languages and accents; for example, the words *ant* and *aunt*, which are distinct for an RP speaker, are homophones in Lowland Scots. Many writers use the symbol [a] where the frontness/backness of a low vowel is either not known or irrelevant to the task in hand; we will often use [e] where a low vowel is known to be central, and [a] vs [ɑ] for front and back low vowels.

The symbol [ɪ] is used, in transcriptions of words in English and other languages, to denote an unrounded vowel which is less front and less close than [i], as in the word *bit*.

The vowel [ʊ] is back and rounded, but less back than [u], and less high.

The diacritic [:] denotes length, in both consonants and vowels. It is important to bear in mind that length is a *relative* property: [ɑ:] in RP is long with respect to other RP vowels such as [æ]. The same is true of the many long and short consonants you will encounter in this book.

This covers most of the phonetic symbols and terms you will encounter in this book (we will define one or two more, where appropriate), but it by no means provides an exhaustive account of all possible human speech sounds. For a description of those, and for greater detail on the sounds described here, you should consult a reliable phonetics textbook, such as Ladefoged (1982). For a complete list of the symbols which comprise the International Phonetic Alphabet, see the diagram on p. 11.

The International Phonetic Alphabet

CONSONANTS

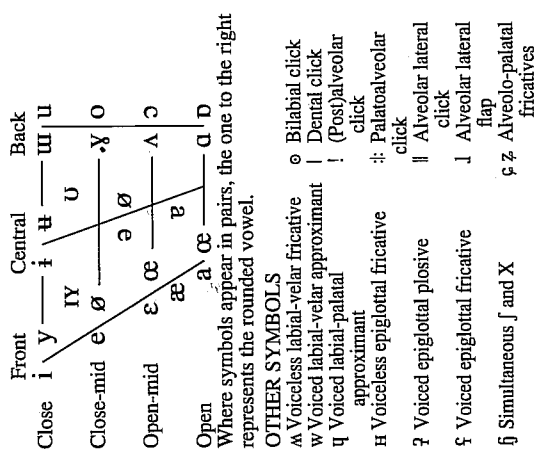
	Bilabial	Labio-dental	Dental	Alveolar	Post-alveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b			t d		ʈ ɖ	c ɟ	k g	q ɢ		ʔ
Nasal	m	ɱ		n		ɳ	ɲ	ŋ	ɴ		
Trill	ʙ			ɾ					ʀ		
Tap or Flap				ɾ		ɽ					
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ç ʝ	x ɣ	χ ʁ	ħ ʕ	h ɦ
Lateral fricative				ɬ ɮ							
Approximant				ɹ							
Lateral approximant				l		ɭ	j	ɰ			
Ejective stop	pʼ			tʼ		tʰ	cʼ	kʼ	qʼ		
Impulsive	ɸ β			f dʼ			c ɟ	k ɡ	q ɢ		

Where symbols appear in pairs, the one to the right represents a voiced consonant. Shaded areas denote articulations judged impossible.

DIACRITICS

◌̥	◌̦	◌̧	◌̨	◌̩	◌̪	◌̫	◌̬	◌̭	◌̮	◌̯	◌̰	◌̱	◌̲	◌̳	◌̴	◌̵	◌̶	◌̷	◌̸	◌̹	◌̺	◌̻	◌̼	◌̽	◌̾	◌̿	◌̽̄	◌̽̆	◌̽̈	◌̽̊	◌̽̋	◌̽̌	◌̽̍	◌̽̎	◌̽̏	◌̽̐	◌̽̑	◌̽̒	◌̽̓	◌̽̔	◌̽̕	◌̖̽	◌̗̽	◌̘̽	◌̙̽	◌̽̚	◌̛̽	◌̜̽	◌̝̽	◌̞̽	◌̟̽	◌̠̽	◌̡̽	◌̢̽	◌̣̽	◌̤̽	◌̥̽	◌̦̽	◌̧̽	◌̨̽	◌̩̽	◌̪̽	◌̫̽	◌̬̽	◌̭̽	◌̮̽	◌̯̽	◌̰̽	◌̱̽	◌̲̽	◌̳̽	◌̴̽	◌̵̽	◌̶̽	◌̷̽	◌̸̽	◌̹̽	◌̺̽	◌̻̽	◌̼̽	◌̽̽	◌̽̾	◌̽̿	◌̽̿̄	◌̽̿̆	◌̽̿̈	◌̽̿̊	◌̽̿̋	◌̽̿̌	◌̽̿̍	◌̽̿̎	◌̽̿̏	◌̽̿̐	◌̽̿̑	◌̽̿̒	◌̽̿̓	◌̽̿̔	◌̽̿̕	◌̖̽̿	◌̗̽̿	◌̘̽̿	◌̙̽̿	◌̽̿̚	◌̛̽̿	◌̜̽̿	◌̝̽̿	◌̞̽̿	◌̟̽̿	◌̠̽̿	◌̡̽̿	◌̢̽̿	◌̣̽̿	◌̤̽̿	◌̥̽̿	◌̦̽̿	◌̧̽̿	◌̨̽̿	◌̩̽̿	◌̪̽̿	◌̫̽̿	◌̬̽̿	◌̭̽̿	◌̮̽̿	◌̯̽̿	◌̰̽̿	◌̱̽̿	◌̲̽̿	◌̳̽̿	◌̴̽̿	◌̵̽̿	◌̶̽̿	◌̷̽̿	◌̸̽̿	◌̹̽̿	◌̺̽̿	◌̻̽̿	◌̼̽̿	◌̽̿̽	◌̽̿̾	◌̽̿̿
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VOWELS



Where symbols appear in pairs, the one to the right represents the rounded vowel.

OTHER SYMBOLS

- ◌̥ Voiceless labial-velar fricative
- ◌̦ Voiceless labial-velar fricative
- ◌̧ Voiced labial-velar approximant
- ◌̨ Voiced labial-velar approximant
- ◌̩ Voiced labial-velar approximant
- ◌̪ Voiceless epiglottal fricative
- ◌̫ Voiced epiglottal plosive
- ◌̬ Voiced epiglottal fricative
- ◌̭ Simultaneous j and X
- ◌̮ Additional mid central vowel
- ◌̯ Affricates and double articulations can be represented by two symbols joined by a tie bar if necessary.
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- ◌̲
- ◌̳
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CONTOUR TONES

◌̂ or ◌̃ Extra-high

◌̄ High

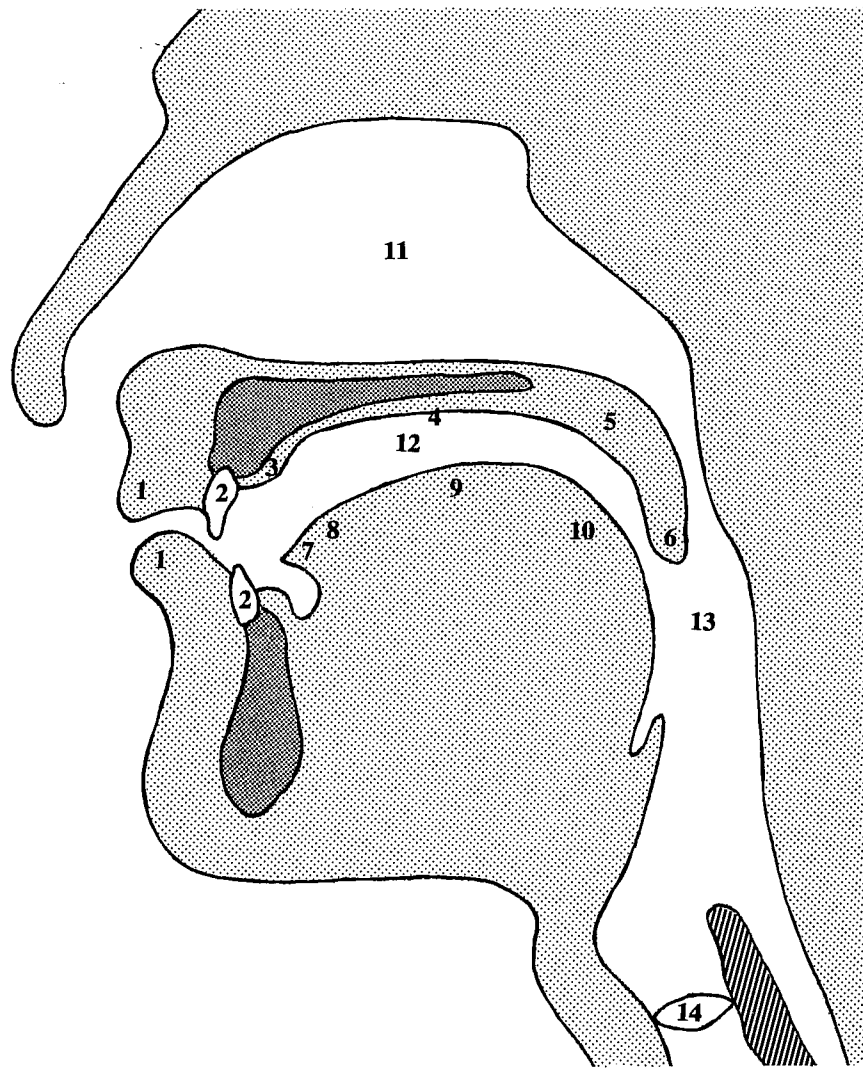
◌̅ Mid

◌̆ Low

◌̇ Extra-low

◌̈ Downstep

◌̉ Upstep



The Organs of Speech

- | | |
|------------------------|------------------------|
| 1. Lips | 7. Tip of the tongue |
| 2. Teeth | 8. Blade of the tongue |
| 3. Alveolar ridge | 9. Front of the tongue |
| 4. Hard palate | 10. Back of the tongue |
| 5. Soft palate (velum) | 11. Nasal cavity |
| 6. Uvula | 12. Oral cavity |
| | 13. Pharynx |
| | 14. Larynx |

1 The Phonemic Principle

Imagine how a speaker of RP might try to convey the ways in which his speech, that of a Frenchman and that of a Spaniard sound different. We have all heard French and Spanish being spoken, and we have some kind of impression in our minds of what they sound like; we can often tell which is being spoken, even if we do not understand a word of what is being said. With our ordinary, everyday language, we can convey general impressions, in a vague sort of way; we may say that French is 'more nasal', 'more musical', 'softer' or 'more forceful' than RP, but these are not at all precise or informative expressions, and because of this, it is difficult to say whether they might be true or false. With the language of phonetics, however, we can say with considerable precision and certainty that French has, among other things, the front rounded vowels [y], [ø] and [œ], the nasalised vowels [ɛ̃], [œ̃], [ɔ̃] and [ɑ̃], and the voiced uvular fricative [ʁ], whereas RP does not. The importance of this is that, through knowing phonetics, we gain a kind of knowledge about human language, or at least a foothold on such knowledge, which we would otherwise lack.

Consider how we might put this phonetic knowledge of French and RP to use: we could investigate the acquisition of a French accent by an RP speaker, by examining the ways in which each of these French sounds is pronounced, thus pinpointing the extent to which the learner has mastered them. We would then be able to say with some precision how good someone's French accent was. But what exactly does it mean to say that someone has acquired a good French accent? One answer to this question goes like this: it means learning to pronounce those speech sounds that are present in the foreign language but absent in one's native accent, like the front rounded vowels, the uvular fricative and the nasalised vowels of French.

If this is all there is to it, then the language of phonetics will suffice in stating what it is that we have acquired in acquiring a convincing French accent. It is certainly true that, unless we learn how to pronounce these sounds, we do not stand a chance of sounding like a native when speaking French, but there's more to the acquisition of a foreign accent than just that. The purpose of this chapter is to convince you that this is so, and to introduce you to some of the terms in the language of **phonology**. We will require this to express what there is to be learned, in foreign language acquisition, over and above the pronunciation of foreign speech sounds. The importance of this extends beyond consideration of foreign language learning; if we can say what it is that constitutes having a French, a Spanish or an RP accent, we will have characterised what it is that a Frenchman, a Spaniard or an RP speaker acquires in acquiring his native accent. That is, we will have characterised a part of what it is to know those languages.