

7 Nasals and other consonants

So far we have studied two major groups of consonants – the plosives and fricatives – and also the affricates tʃ, dʒ; this gives a total of seventeen. There remain the **nasal** consonants – m, n, ŋ – and four others – l, r, w, j; these four are not easy to fit into groups. All of these seven consonants are continuants and usually have no friction noise, but in other ways they are very different from each other.

7.1 Nasals

The basic characteristic of a nasal consonant is that the air escapes through the nose. For this to happen, the soft palate must be lowered; in the case of all the other consonants and vowels of English, the soft palate is raised and air cannot pass through the nose. In nasal consonants, however, air does not pass through the mouth; it is prevented by a complete closure in the mouth at some point. If you produce a long sequence dndndndndn without moving your tongue from the position for alveolar closure, you will feel your soft palate moving up and down. The three types of closure are: bilabial (lips), alveolar (tongue blade against alveolar ridge) and velar (back of tongue against the palate). This set of places produces three nasal consonants – m, n, ŋ – which correspond to the three places of articulation for the pairs of plosives p b, t d, k g.

The consonants m, n are simple and straightforward with distributions quite similar to those of the plosives. There is in fact little to describe. However, ŋ is a different matter. It is a sound that gives considerable problems to foreign learners, and one that is so unusual in its phonological aspect that some people argue that it is not one of the phonemes of English at all. The place of articulation of ŋ is the same as that of k, g; it is a useful exercise to practise making a continuous ŋ sound. If you do this, it is very important not to produce a k or g at the end – pronounce the ŋ like m or n.

⌚ AU7 (CD 1), Exs 1 & 2

We will now look at some ways in which the distribution of ŋ is unusual.

- i) In initial position we find m, n occurring freely, but ŋ never occurs in this position. With the possible exception of ʒ, this makes ŋ the only English consonant that does not occur initially.
- ii) Medially, ŋ occurs quite frequently, but there is in the BBC accent a rather complex and quite interesting rule concerning the question of when ŋ may

be pronounced without a following plosive. When we find the letters ‘nk’ in the middle of a word in its orthographic form, a k will always be pronounced; however, some words with orthographic ‘ng’ in the middle will have a pronunciation containing ŋg and others will have ŋ without g. For example, in BBC pronunciation we find the following:

A	B
‘finger’ fɪŋgə	‘singer’ sɪŋə
‘anger’ æŋgə	‘hanger’ hæŋə

In the words of column A the ŋ is followed by g, while the words of column B have no g. What is the difference between A and B? The important difference is in the way the words are constructed – their **morphology**. The words of column B can be divided into two grammatical pieces: ‘sing’ + ‘-er’, ‘hang’ + ‘-er’. These pieces are called **morphemes**, and we say that column B words are morphologically different from column A words, since these *cannot* be divided into two morphemes. ‘Finger’ and ‘anger’ consist of just one morpheme each.

We can summarise the position so far by saying that (within a word containing the letters ‘ng’ in the spelling) ŋ occurs without a following g if it occurs at the end of a morpheme; if it occurs in the middle of a morpheme it has a following g.

Let us now look at the ends of words *ending* orthographically with ‘ng’. We find that these always end with ŋ; this ŋ is never followed by a g. Thus we find that the words ‘sing’ and ‘hang’ are pronounced as sɪŋ and hæŋ; to give a few more examples, ‘song’ is sɒŋ, ‘bang’ is bæŋ and ‘long’ is lɒŋ. We do not need a separate explanation for this: the rule given above, that no g is pronounced after ŋ at the end of a morpheme, works in these cases too, since the end of a word must also be the end of a morpheme. (If this point seems difficult, think of the comparable case of sentences and words: a sound or letter that comes at the end of a sentence must necessarily also come at the end of a word, so that the final k of the sentence ‘This is a book’ is also the final k of the word ‘book’.)

Unfortunately, rules often have exceptions. The main exception to the above morpheme-based rule concerns the comparative and superlative suffixes ‘-er’ and ‘-est’. According to the rule given above, the adjective ‘long’ will be pronounced lɒŋ, which is correct. It would also predict correctly that if we add another morpheme to ‘long’, such as the suffix ‘-ish’, the pronunciation of ŋ would again be without a following g. However, it would additionally predict that the comparative and superlative forms ‘longer’ and ‘longest’ would be pronounced with no g following the ŋ, while in fact the correct pronunciation of the words is:

‘longer’ lɒŋgə ‘longest’ lɒŋgəst

As a result of this, the rule must be modified: it must state that comparative and superlative forms of adjectives are to be treated as single-morpheme words for the purposes of

this rule. It is important to remember that English speakers in general (apart from those trained in phonetics) are quite ignorant of this rule, and yet if a foreigner uses the wrong pronunciation (i.e. pronounces η g where η should occur, or η where η g should be used), they notice that a mispronunciation has occurred.

- iii) A third way in which the distribution of η is unusual is the small number of vowels it is found to follow. It rarely occurs after a diphthong or long vowel, so only the short vowels ɪ , e , æ , ʌ , ɒ , ʊ , ə are regularly found preceding this consonant.

The velar nasal consonant η is, in summary, phonetically simple (it is no more difficult to produce than m or n) but phonologically complex (it is, as we have seen, not easy to describe the contexts in which it occurs).

7.2 The consonant l

Ⓞ AU7 (CD 1), Ex 3

The l phoneme (as in ‘long’ lɒŋ , ‘hill’ hɪl) is a **lateral approximant**. This is a consonant in which the passage of air through the mouth does not go in the usual way along the centre of the tongue; instead, there is complete closure between the centre of the tongue and the part of the roof of the mouth where contact is to be made (the alveolar ridge in the case of l). Because of this complete closure along the centre, the only way for the air to escape is along the sides of the tongue. The lateral approximant is therefore somewhat different from other approximants, in which there is usually much less contact between the articulators. If you make a long l sound you may be able to feel that the sides of your tongue are pulled in and down while the centre is raised, but it is not easy to become consciously aware of this; what is more revealing (if you can do it) is to produce a long sequence of alternations between d and l without any intervening vowel. If you produce $\text{dl}d\text{l}d\text{l}d\text{l}$ without moving the middle of the tongue, you will be able to feel the movement of the sides of the tongue that is necessary for the production of a lateral. It is also possible to see this movement in a mirror if you open your lips wide as you produce it. Finally, it is also helpful to see if you can feel the movement of air past the sides of the tongue; this is not really possible in a voiced sound (the obstruction caused by the vibrating vocal folds reduces the airflow), but if you try to make a very loud whispered l , you should be able to feel the air rushing along the sides of your tongue.

We find l initially, medially and finally, and its distribution is therefore not particularly limited. In BBC pronunciation, the consonant has one unusual characteristic: the realisation of l found before vowels sounds quite different from that found in other contexts. For example, the realisation of l in the word ‘lea’ li: is quite different from that in ‘eel’ i:l . The sound in ‘eel’ is what we call a “dark l ”; it has a quality rather similar to an $[\text{u}]$ vowel, with the back of the tongue raised. The phonetic symbol for this sound is ɫ . The sound in ‘lea’ is what is called a “clear l ”; it resembles an $[\text{i}]$ vowel, with the front of the tongue raised (we do not normally use a special phonetic symbol,

different from l, to indicate this sound). The “dark l” is also found when it precedes a consonant, as in ‘eels’ i:lz. We can therefore predict which realisation of l (clear or dark) will occur in a particular context: clear l will never occur before consonants or before a pause, but only before vowels; dark l never occurs before vowels. We can say, using terminology introduced in Chapter 5, that clear l and dark l are allophones of the phoneme l in complementary distribution. Most English speakers do not consciously know about the difference between clear and dark l, yet they are quick to detect the difference when they hear English speakers with different accents, or when they hear foreign learners who have not learned the correct pronunciation. You might be able to observe that most American and lowland Scottish speakers use a “dark l” in all positions, and don’t have a “clear l” in their pronunciation, while most Welsh and Irish speakers have “clear l” in all positions.

Another allophone of l is found when it follows p, k at the beginning of a stressed syllable. The l is then devoiced (i.e. produced without the voicing found in most realisations of this phoneme) and pronounced as a fricative. The situation is (as explained in Chapter 4) similar to the aspiration found when a vowel follows p, t, k in a stressed syllable: the first part of the vowel is devoiced.

7.3 The consonant r

🔊 AU7 (CD 1), Ex 4

This consonant is important in that considerable differences in its articulation and its distribution are found in different accents of English. As far as the articulation of the sound is concerned, there is really only one pronunciation that can be recommended to the foreign learner, and that is what is called a post-alveolar approximant. An **approximant**, as a type of consonant, is rather difficult to describe; informally, we can say that it is an articulation in which the articulators approach each other but do not get sufficiently close to each other to produce a “complete” consonant such as a plosive, nasal or fricative. The difficulty with this explanation is that articulators are always in *some* positional relationship with each other, and any vowel articulation could also be classed as an approximant – but the term “approximant” is usually used only for consonants.

The important thing about the articulation of r is that the tip of the tongue approaches the alveolar area in approximately the way it would for a t or d, but never actually makes contact with any part of the roof of the mouth. You should be able to make a long r sound and feel that no part of the tongue is in contact with the roof of the mouth at any time. This is, of course, very different from the “r-sounds” of many other languages where some kind of tongue–palate contact is made. The tongue is in fact usually slightly curled backwards with the tip raised; consonants with this tongue shape are usually called **retroflex**. If you pronounce an alternating sequence of d and r (drdrdrdrdr) while looking in a mirror you should be able to see more of the underside of the tongue in the r than in the d, where the tongue tip is not raised and the tongue is not curled back. The “curling-back” process usually carries the tip of the tongue to a position slightly further back in

the mouth than that for alveolar consonants such as t, d, which is why this approximant is called “post-alveolar”. A rather different r sound is found at the beginning of a syllable if it is preceded by p, t, k; it is then voiceless and fricative. This pronunciation is found in words such as ‘press’, ‘tress’, ‘cress’.

One final characteristic of the articulation of r is that it is usual for the lips to be slightly rounded; learners should do this but should be careful not to exaggerate it. If the lip-rounding is too strong the consonant will sound too much like w, which is the sound that most English children produce until they have learned to pronounce r in the adult way.

The distributional peculiarity of r in the BBC accent is very easy to state: this phoneme only occurs before vowels. No one has any difficulty in remembering this rule, but foreign learners (most of whom, quite reasonably, expect that if there is a letter ‘r’ in the spelling then r should be pronounced) find it difficult to apply the rule to their own pronunciation. There is no problem with words like the following:

i) ‘red’ red ‘arrive’ əraɪv ‘hearing’ hɪərɪŋ

In these words r is followed by a vowel. But in the following words there is no r in the pronunciation:

ii) ‘car’ kɑː ‘ever’ evə ‘here’ hɪə
iii) ‘hard’ hɑːd ‘verse’ vɜːs ‘cares’ keəz

Many accents of English do pronounce r in words like those of (ii) and (iii) (e.g. most American, Scots and West of England accents). Those accents which have r in final position (before a pause) and before a consonant are called **rhotic** accents, while accents in which r only occurs before vowels (such as BBC) are called **non-rhotic**.

7.4 The consonants j and w

🔊 AU7 (CD 1), Ex 5

These are the consonants found at the beginning of words such as ‘yet’ and ‘wet’. They are known as approximants (introduced in Section 7.3 above). The most important thing to remember about these phonemes is that they are phonetically like vowels but phonologically like consonants (in earlier works on phonology they were known as “semivowels”). From the phonetic point of view the articulation of j is practically the same as that of a front close vowel such as [i], but is very short. In the same way w is closely similar to [u]. If you make the initial sound of ‘yet’ or ‘wet’ very long, you will be able to hear this. But despite this vowel-like character, we use them like consonants. For example, they only occur before vowel phonemes; this is a typically consonantal distribution. We can show that a word beginning with w or j is treated as beginning with a consonant in the following way: the indefinite article is ‘a’ before a consonant (as in ‘a cat’, ‘a dog’), and ‘an’ before a vowel (as in ‘an apple’, ‘an orange’). If a word beginning with w or j is preceded by the indefinite article, it is the ‘a’ form that is found (as in ‘a way’, ‘a year’). Another example is that of the definite article. Here the rule is that ‘the’ is pronounced as ðə before

consonants (as in ‘the dog’ ðə dɒg, ‘the cat’ ðə kæt) and as ði before vowels (as in ‘the apple’ ði æpl, ‘the orange’ ði ɒrɪndʒ). This evidence illustrates why it is said that j, w are phonologically consonants. However, it is important to remember that to pronounce them as fricatives (as many foreign learners do), or as affricates, is a mispronunciation. Only in special contexts do we hear friction noise in j or w; this is when they are preceded by p, t, k at the beginning of a syllable, as in these words:

‘pure’ pjuə	(no English words begin with pw)
‘tune’ tju:n	‘twin’ twɪn
‘queue’ kju:	‘quit’ kwɪt

When p, t, k come at the beginning of a syllable and are followed by a vowel, they are aspirated, as was explained in Chapter 4. This means that the beginning of a vowel is voiceless in this context. However, when p, t, k are followed not by a vowel but by one of l, r, j, w, these voiced continuant consonants undergo a similar process, as has been mentioned earlier in this chapter: they lose their voicing and become fricative. So words like ‘play’ pleɪ, ‘tray’ treɪ, ‘quick’ kwɪk, ‘cue’ kju: contain devoiced and fricative l, r, w, j whereas ‘lay’, ‘ray’, ‘wick’, ‘you’ contain voiced l, r, w, j. Consequently, if for example ‘tray’ were to be pronounced without devoicing of the r (i.e. with fully voiced r) English speakers would be likely to hear the word ‘dray’.

This completes our examination of the consonant phonemes of English. It is useful to place them on a consonant chart, and this is done in Table I. On this chart, the different places of articulation are arranged from left to right and the manners of articulation are arranged from top to bottom. When there is a pair of phonemes with the same place and manner of articulation but differing in whether they are fortis or lenis (voiceless or voiced), the symbol for the fortis consonant is placed to the left of the symbol for the lenis consonant.

Notes on problems and further reading

The notes for this chapter are devoted to giving further detail on a particularly difficult theoretical problem. The argument that ŋ is an allophone of n, not a phoneme in its own right, is so widely accepted by contemporary phonological theorists that few seem to feel it worthwhile to explain it fully. Since the velar nasal is introduced in this chapter, I have chosen to attempt this here. However, it is a rather complex theoretical matter, and you may prefer to leave consideration of it until after the discussion of problems of phonemic analysis in Chapter 13.

There are brief discussions of the phonemic status of ŋ in Chomsky and Halle (1968: 85) and Ladefoged (2006); for a fuller treatment, see Wells (1982: 60–4) and Giegerich (1992: 297–301). Everyone agrees that English has at least two contrasting nasal phonemes, m and n. However, there is disagreement about whether there is a third nasal phoneme ŋ. In favour of accepting ŋ as a phoneme is the fact that traditional phoneme theory more or less demands its acceptance despite the usual preference for making phoneme inventories as small as possible. Consider **minimal pairs** (pairs of words in which a difference in

Table 1 Chart of English consonant phonemes

		PLACE OF ARTICULATION									
		Bilabial	Labiodental	Dental	Alveolar	Post-alveolar	Palatal	Velar	Glottal		
Plosive		p b			t d			k g			
Fricative			f v	θ ð	s z	ʃ ʒ			h		
Affricate						tʃ dʒ					
Nasal					n			ŋ			
Lateral approximant					l						
Approximant		w				r		j			

MANNER OF ARTICULATION

meaning depends on the difference of just one phoneme) like these: 'sin' sɪn – 'sing' sɪŋ; 'sinner' sɪnə – 'singer' sɪŋə.

There are three main arguments against accepting ŋ as a phoneme:

- i) In some English accents it can easily be shown that ŋ is an allophone of n, which suggests that something similar might be true of BBC pronunciation too.
- ii) If ŋ is a phoneme, its distribution is very different from that of m and n, being restricted to syllable-final position (phonologically), and to morpheme-final position (morphologically) unless it is followed by k or g.
- iii) English speakers with no phonetic training are said to feel that ŋ is not a 'single sound' like m, n. Sapir (1925) said that "no native speaker of English could be made to feel in his bones" that ŋ formed part of a series with m, n. This is, of course, very hard to establish, although that does not mean that Sapir was wrong.

We need to look at point (i) in more detail and go on to see how this leads to the argument against having ŋ as a phoneme. Please note that I am not trying to argue that this proposal must be correct; my aim is just to explain the argument. The whole question may seem of little or no practical consequence, but we ought to be interested in any phonological problem if it appears that conventional phoneme theory is not able to deal satisfactorily with it.

In some English accents, particularly those of the Midlands, ŋ is only found with k or g following. For example:

'sink' sɪŋk 'singer' sɪŋgə
'sing' sɪŋg 'singing' sɪŋgɪŋg

This was my own pronunciation as a boy, living in the West Midlands, but I now usually have the BBC pronunciation sɪŋk, sɪŋ, sɪŋə, sɪŋɪŋ. In the case of an accent like this, it can be shown that within the morpheme the only nasal that occurs before k, g is ŋ. Neither m nor n can occur in this environment. Thus within the morpheme ŋ is in complementary distribution with m, n. Since m, n are already established as distinct English phonemes in other contexts (mæp, næp, etc.), it is clear that for such non-BBC accents ŋ must be an allophone of one of the other nasal consonant phonemes. We choose n because when a morpheme-final n is followed by a morpheme-initial k, g it is usual for that n to change to ŋ; however, a morpheme-final m followed by a morpheme-initial k, g usually doesn't change to ŋ. Thus:

'raincoat' reɪŋkəʊt *but* 'tramcar' træmkɑː

So in an analysis which contains no ŋ phoneme, we would transcribe 'raincoat' phonemically as reɪnkəʊt and 'sing', 'singer', 'singing' as sɪŋg, sɪŋgə, sɪŋgɪŋg. The phonetic realisation of the n phoneme as a velar nasal will be accounted for by a general rule that we will call Rule 1:

Rule 1: n is realised as ŋ when it occurs in an environment in which it precedes either k or g.

Let us now look at BBC pronunciation. As explained in Section 7.1 above, the crucial difference between ‘singer’ sɪŋə and ‘finger’ fɪŋɡə is that ‘finger’ is a single, indivisible morpheme whereas ‘singer’ is composed of two morphemes ‘sing’ and ‘-er’. When ŋ occurs without a following k or g it is always immediately before a morpheme boundary. Consequently, the sound ŋ and the sequence ŋɡ are in complementary distribution. But within the morpheme there is no contrast between the sequence ŋɡ and the sequence ŋ, which makes it possible to say that ŋ is also in complementary distribution with the sequence ŋɡ.

After establishing these “background facts”, we can go on to state the argument as follows:

- i) English has only m, n as nasal phonemes.
- ii) The sound ŋ is an allophone of the phoneme n.
- iii) The words ‘finger’, ‘sing’, ‘singer’, ‘singing’ should be represented phonemically as fɪŋɡə, sɪŋ, sɪŋɡə, sɪŋŋɪŋɡ.
- iv) Rule 1 (above) applies to all these phonemic representations to give these phonetic forms: fɪŋɡə, sɪŋɡ, sɪŋɡə, sɪŋɡɪŋɡ
- v) A further rule (Rule 2) must now be introduced:

Rule 2: g is deleted when it occurs after ŋ and before a morpheme boundary.

It should be clear that Rule 2 will not apply to ‘finger’ because the ŋ is not immediately followed by a morpheme boundary. However, the rule does apply to all the others, hence the final phonetic forms: fɪŋɡə, sɪŋ, sɪŋə, sɪŋɪŋ.

- vi) Finally, it is necessary to remember the exception we have seen in the case of comparatives and superlatives.

The argument against treating ŋ as a phoneme may not appeal to you very much. The important point, however, is that if one is prepared to use the kind of complexity and abstractness illustrated above, one can produce quite far-reaching changes in the phonemic analysis of a language.

The other consonants – l, r, w, j – do not, I think, need further explanation, except to mention that the question of whether j, w are consonants or vowels is examined on distributional grounds in O’Connor and Trim (1953).

Written exercises

- 1 List all the consonant phonemes of the BBC accent, grouped according to manner of articulation.
- 2 Transcribe the following words phonemically:

a) sofa	c) steering
b) verse	d) breadcrumb

e) square

g) bought

f) anger

h) nineteen

- 3 When the vocal tract is in its resting position for normal breathing, the soft palate is usually lowered. Describe what movements are carried out by the soft palate in the pronunciation of the following words:

a) banner

b) mid

c) angle