

**THE PHONETICS OF  
ENGLISH AND DUTCH,  
Fifth Revised Edition**

*Beverley Collins*  
*Inger M. Mees*

**BRILL**

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ENGLISH AND DUTCH

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# THE PHONETICS OF ENGLISH AND DUTCH

BY

BEVERLEY COLLINS & INGER M. MEES

FIFTH REVISED EDITION



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## PREFACE

*Phonetics of English and Dutch* is aimed at Dutch-speaking students, from both the Netherlands and Belgium, taking phonetics as part of courses in English at university and teacher-training institutes. In addition, it is hoped that the book will prove useful to English speakers who wish to gain an insight into the present-day pronunciation of Dutch.

The course provides a complete introduction to the phonetics of English and Dutch based on an essentially practical approach to the subject. No previous knowledge of phonetics is assumed of the reader, and all technical terms are explained in straightforward language as they are introduced. There is an emphasis throughout on the application of phonetics in second language acquisition; students are shown how a knowledge of phonetics can help them improve their own pronunciation and how this know-how can be passed on to pupils. Theoretical and practical aspects of the subject are clarified for the reader by means of numerous self-study exercises in articulation and transcription.

The book contains a detailed contrastive description of British English (Received Pronunciation) and of Dutch (in both the Netherlands and Belgian standard varieties). In addition to a full discussion of the individual vowels and consonants, there is an extensive treatment of features of connected speech, e.g. intonation, assimilation and elision, stress and articulatory setting. There are sections on sound/spelling relationships in English, and an analysis of the commonest pronunciation errors in the English of Dutch speakers, plus criteria for evaluating the pronunciation of advanced learners of English. A guide to the technique of phonemic transcription is also provided, with numerous transcription passages for which correction keys are available (see pp. 315-22).

One chapter is devoted to differences between English and American pronunciation and another provides a survey of a range of British regional accents. An illustrative audio recording is available for purchase, which contains self-study articulatory exercises, examples of vowels, consonants and intonation patterns, and a selection of accents spoken by native speakers of these varieties. Readers are recommended to obtain the workbook complementary to the present volume, *Working with the Phonetics of English and Dutch*.

*Phonetics of English and Dutch* is based on an earlier book, *Sounds of English and Dutch*, originally published in 1981, appearing in a second revised edition in 1984. The present volume has been rewritten throughout and much new information has been added whilst outdated material has been removed. One important new element is that full attention is now paid to Bel-



gian Dutch in its standard variety. In addition, the whole appearance of the book has been totally altered and improved, and the content rearranged in smaller, more manageable units. We believe it is now not only more attractive to the eye but also far easier for students to use.

#### ACKNOWLEDGEMENTS

In preparing this book, two people above all have given us help and assistance. Firstly, we wish to thank Colin Ewen (University of Leiden), who has given us constant support and advice not only on practical matters — such as how to produce convincing phonetic symbols with available computer software — but also, crucially, on countless theoretical phonetic and linguistic points. He read and commented on the entire text and also undertook the formidable task of constructing computerised versions of the vowel diagrams and intonation illustrations.

Secondly, we are grateful to Anne-Marie Vandenberg (University of Ghent), who provided us with the information on Belgian Dutch and the pronunciation problems of Dutch-speaking Belgian students of English. We also wish to thank her colleagues, Heidi Verplaetse and James O'Driscoll, who supplied us with further useful information in these areas.

We have received helpful criticism from numerous colleagues, friends, and students. In particular, we wish to thank Linda van Bergen, Denise Gustin, Martina Noteboom and Trudeke Wamelink-van Lint. We should also like to state here once again our gratitude to those who helped us with the earlier version of this book: Kersti Börjars, Luuk van Buuren, Marc Dupuis, Ad de Knecht, †Birthe Mees, Noel Osselton, †Judith Perryman, Mary Rietveld-Boxen, Kor van Werkum and Jack Windsor Lewis.

We need hardly say that none of the people mentioned above bear any responsibility for errors, omissions and shortcomings.

The first version of this book was dedicated to Fred Bachrach to mark his stepping down from his position as head of the English department of Leiden University. We are pleased to repeat the dedication for this volume and wish him many more years of happy retirement.

Beverley Collins and Inger M. Mees

Leiden and Copenhagen, 29 February, 1996

## WORKBOOK AND AUDIO RECORDING

Recorded material is available to accompany exercises and examples in *Phonetics of English and Dutch*. The recording also contains samples of the ten regional accents of English described in Chapter 27; dictation exercises; and a selection of the sounds of the International Phonetic Alphabet (including the Cardinal Vowels). The audio recording is available from the authors via the English Department, Rijksuniversiteit Leiden, Postbus 9515, 2300 RA Leiden.

A workbook, *Working with the Phonetics of English and Dutch*, is on sale to accompany the present volume. It provides the keys to transcriptions and allophonic description exercises. In addition, it supplies the keys to dictation exercises, transcripts of the regional accents and further passages for phonemic transcription. The book also includes a set of over 300 questions, designed to act as a revision guide to the material, which can be used by students preparing for written and oral examinations in phonetics.

## PREFACE TO THE FOURTH EDITION

Numerous corrections have been made throughout the text of this new edition of *Phonetics of English and Dutch*, together with a number of minor changes of detail. We should like to take the chance to thank students, colleagues and friends, in both the Netherlands and Belgium, who have helped us by pointing out various misprints, errors and suggesting improvements; in particular, we have valued our contacts with the University of Ghent (James O'Driscoll, Anne-Marie Vandenberg and Heidi Verplaetse). A special debt of gratitude is due to Martina Noteboom (University of Leiden), who provided an exhaustive list of comments which proved invaluable in the process of revision. We need hardly add that the responsibility for any deficiencies rests with us.

Beverley Collins and Inger M. Mees

Leiden and Copenhagen, 27 June 1999.

## PREFACE TO THE FIFTH EDITION

The essential content of this fifth revised edition remains the same notwithstanding the fact that numerous corrections and emendations have been made throughout the text.

Beverley Collins and Inger M. Mees

Leiden and Copenhagen, 27 March 2003

# 1

## A WORKING BASIS

### 1.1 HOW SHOULD WE START?

Phonetics, the study of speech sound, can be investigated in many different ways. And today there is a vast amount of complex instrumentation available to help us gain more accurate information about the nature of speech. However, we can still get a very long way into some aspects of the subject just by using three very useful bits of apparatus which we all normally possess, namely, our mouths, our ears and our eyes. The emphasis in this book is going to be on speaking, listening and — quite often — looking. This is because we believe that this forms the most useful introduction to phonetics for those who are learning the subject as a component of a foreign-language course, and who are going to be using their knowledge in part to improve their pronunciation performance.

To help us in our aims, two other pieces of equipment are also quite invaluable and will be called into service again and again. The first is a cassette or minidisc recorder. This need not be tremendously elaborate or expensive. In fact, for our purposes, an ordinary ‘Walkman’ will be quite adequate — providing it comes with a reasonable set of headphones. If you can get hold of one which can record your voice, then so much the better.

One other very simple but very useful object to have at your disposal is a mirror. You will be using this to look at your lips and the inside of your mouth. The most convenient sort is a little make-up mirror which will slip into your pocket, or your bag, and which you can easily obtain for a small sum. But any mirror will do, providing there is good source of illumination.

You need nothing else. Now we can get down to business.

### 1.2 PHONETICS AND PHONOLOGY

Phonetics, as we want to present it, is essentially a matter of practice as well as theory. In other words, we want you to produce sounds as well as read about them. So let us start as we mean to go on. Say the Dutch word *mam*. We are going to examine the sound at the beginning and end of the word: [m]. Note that we place the symbol between square brackets [ ] to indicate that we are concerned with the sound [m], and not the letter <m>. **Orthographic** symbols (i.e. the letters of ordinary spelling) can be placed between angled brackets < >, as in the example above. Alternatively, as is normally the case in this book, they can be shown in bold face: **m**.

**EXERCISE 1**

Say the word *mam* a number of times. Use a small mirror to look at your mouth while you say the word. Now say a long [m]. Keep it going for five seconds or so.

There is a great deal we can say about the sound [m]. Firstly, it can be short, or we can make it go on for quite a long period of time. Secondly, you can see and feel that the lips are closed.

**EXERCISE 2**

Say a long [m]. This time pinch your nostrils tightly, blocking the escape of air. What happens?

(With [m], the air escapes from the nose.)

**EXERCISE 3**

Say a long [m]. Put your fingers in your ears. You should be able to hear a buzz inside your head, which is called **voice**. Try alternating [m] with silence [m...m...m...m...]. You should be able to hear the voice being switched on and off.

So we have seen that [m] is:

1. A sound that can be prolonged.
2. A sound made with the lips (**bilabial**).
3. A sound said through the nose (**nasal**).
4. A sound said with voice (**voiced**).

Now try the same tests for another sound — the sound [t] as in Dutch *auto*.

**EXERCISE 4**

Say [t] in the word *auto*, looking in a mirror. What happens if you try to prolong the sound? If you put your fingers in your ears, can you hear any buzz this time? If you pinch your nostrils, does this have any effect on the sound?

We can say for [t] that it is:

1. A sound that cannot be prolonged.
2. A sound that is made with the tongue-tip against the teeth-ridge (**alveolar**).
3. A sound where the air escapes from the mouth (**oral**).
4. A sound said without voice (**voiceless**).

Later, we shall look at many more sounds in Dutch, English and other languages and elaborate on this description. An important part of phonetics is describing what speech sounds are like and, in particular, how they are made.

Human beings are able to make a vast variety of sounds with their vocal apparatus. A surprisingly large number of these are actually found in human speech. Sounds like clicks or lip trills — which may seem bizarre to Europeans — are part of everyday speech in languages spoken elsewhere in the world. No language uses more than a small number of the possible sounds available. To illustrate this, let us compare Dutch, English and a few other European languages.

English has no regular sound equivalent to the Dutch sound spelt **g** or **ch** as

in *gracht*.<sup>1</sup> A similar sound occurs in Spanish, German and Welsh, but not in French. Dutch has no sound such as that represented by **th** in English *think*. German and French also lack this sound but it does exist in Spanish and Welsh. Standard English has no equivalent to the Dutch vowel in the pronoun *U*. Similar sounds to this can be heard in French, German and Danish, though not in Spanish or Welsh. We could continue at length, but these examples are enough to illustrate that each language selects a limited number of sounds from the total possible range.

Another point to consider is how the available sounds form **patterns** in the language. For instance, neither English nor French has words beginning with [kn], like Dutch *knie* or German *Knabe*. On the other hand, English has words ending in [d], contrasting with others ending in [t], e.g. *bed* and *bet*. Though Dutch has spelling differences of this sort, there is no contrast in the pronunciation of, for instance, *nood* and *noot*. French is like English in this respect; German is similar to Dutch. French and Spanish have initial [fw], as in *foire* and *fuenta*; this does not occur in English, Dutch or German.

The study of the selection and patterns of sounds in a single language we term **phonology**. The study of sounds in language in general is **phonetics**. To get a full idea of the way the sounds of a language work, we need to study both the phonetics and the phonological system of the language concerned. Both phonetics and phonology are important components of **linguistics**, which is the science that is concerned with the general study of language. A specialist in linguistics is termed a **linguist**.<sup>2</sup> **Phonetician** and **phonologist** are the terms used for those who study phonetics and phonology respectively.

Speech sounds can be described in various ways, corresponding to the different stages of what is often called the **speech chain**.<sup>3</sup> Look at Fig. 1.1, which shows in simplified form the linked processes involved.

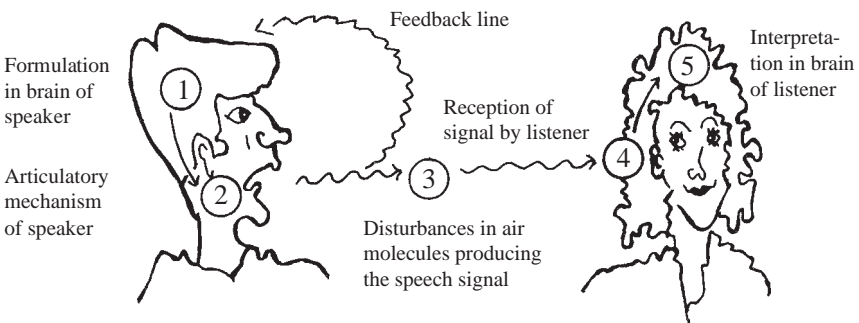


Figure 1.1 The speech chain: (1) Psycholinguistics (2) Articulatory phonetics (3) Acoustic phonetics (4) Auditory phonetics (5) Psycholinguistics.

<sup>1</sup> This sound does exist in Scottish English (spelt **ch**), e.g. *loch*, and is used by some English speakers in words borrowed from other languages, e.g. German and Yiddish.

<sup>2</sup> Note that this is different from the general English usage of the word *linguist* to mean a 'polyglot', i.e. someone who speaks a lot of languages.

<sup>3</sup> This concept was developed by Denes and Pinson (1963) in *The Speech Chain*.

We can study speech at any one of the points specified. Point 1 and point 5, which consider the formulation and interpretation of the message in the brains of the speaker and listener, form the link between phonetics and the science of linguistics, particularly **psycholinguistics**. Whilst we are speaking, we constantly monitor our own speech by listening to our performance. This is termed **audio-feedback**, and is shown on the diagram as the feedback link. Point 2 considers how the speech organs move, or articulate, to form speech sounds; this branch of the science is termed **articulatory phonetics**. Point 3 is where we can examine the physical nature of speech sounds and how they are transmitted through the air as sound waves. This branch is termed **acoustic phonetics**. Point 4 studies the way in which the ear of the listener receives the speech signal; this is called **auditory phonetics**. In this book, our emphasis will be on the articulatory branch of the subject, because this is the aspect which is generally considered most useful to the language learner.

### 1.3 WHAT SORT OF ENGLISH AND WHAT SORT OF DUTCH?

The idea of accent and dialect is a familiar one. Any living language has a number of ways in which it can be pronounced; these we term **accents**. If there are also differences in grammar, and the choice of vocabulary (also termed **lexis**), we use the term **dialects**. Linguists distinguish two types of dialect: **regional dialect**, which covers variation from one place to another, and **social dialect**, which reflects differences between one social group and another.

The first variation is usually accepted by everyone without question. It is common knowledge that people from Rotterdam do not speak Dutch in the same way as people from Breda; nor, for that matter, in the same way as people from Amsterdam, Antwerp, Bruges, Ghent, Groningen, Leuven or Utrecht.

What is more controversial is the question of social dialects. Some people take offence when linguists and sociologists state that accent and dialect are closely connected with social class, but it would be very difficult to deny this claim. In the Netherlands, it is fair to say that one variety of Dutch can be regarded as being connected with the better-off section of the population. As a result, it has tended to become what is termed the **prestige dialect**, i.e. a standard variety of the language which is highly regarded even by those who do not speak it, and which is associated with high status, education, and wealth. This dialect of Dutch is called **ABN** or **Algemeen Beschaafd Nederlands**.<sup>4</sup> Unlike the others mentioned above, it is not a regional dialect,

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<sup>4</sup> Some writers prefer the term *Algemeen Nederlands* (abbreviated to AN). We have retained the term ABN since it is in general use in the Netherlands. We have employed AN for the standard variety of Belgian Dutch since this term is nowadays in common usage in Flanders.

and even though it probably has more speakers in the provinces of Noord-Holland, Zuid-Holland and Utrecht (especially in the Randstad), this perhaps only reflects the economic development of that part of the Netherlands.

It is difficult, often impossible, to tell where ABN speakers were born or brought up. It is possible, though, to work out their social backgrounds; one can be fairly certain that they belong to the professional classes and have received a better than average kind of education. Until recently, it was extremely difficult for non-ABN speaking people to progress socially unless they modified their accents towards ABN, and though things are changing, this is still to a certain extent true. Although it is possible to find university professors with, for example, broad Rotterdam accents, these people are the exception and definitely not the rule.

In Belgium, where over 5 million people living in Flanders speak Dutch as their mother tongue, the standard variety of Dutch is known as **Algemeen Nederlands** (abbreviated to **AN**). In its written form, AN is in most respects identical to the ABN of the Netherlands — except for certain preferences of grammar and vocabulary. As regards its spoken form, a prestige variety of Belgian Dutch has been evolving in the twentieth century, which, whilst having much in common with the traditional ABN of the Netherlands, has nevertheless developed its own distinctive character. The overwhelming majority of newscasters and announcers of the Flemish services of Belgian radio and TV speak Dutch of this type — which is reflected by the fact that the term *BRT-Nederlands* has recently come into vogue. It is this standard variety which we shall use as the Belgian reference model in this book.

In addition, the Dutch-speaking area of Belgium has a wealth of vigorous local dialects, some of which (especially in West Flanders) are far removed from the standard language. Many educated people are effectively bidialectal, and are able to switch with ease from AN (employed for professional purposes and formal occasions) to a local dialect (used informally with family and intimate friends).

Throughout the book, when we mention ‘Dutch’, we shall normally be referring to the two standard varieties, Netherlands ABN and Belgian AN. Whenever it is necessary to distinguish between the two, we shall, for convenience, employ the labels **(NL) ABN** and **(B) AN**.

Some of what has been said about the Dutch-speaking world also applies in large measure to England. Once again, there are a large number of different local and social varieties, but one accent has a pre-eminent position. It is variously referred to as ‘Standard English’, ‘Oxford English’, ‘BBC English’, even the ‘Queen’s English’, but none of these names can be considered really accurate. For a long time, phoneticians have called this kind of British speech **Received Pronunciation** and just recently this term has started to be taken up by a wider public. The word ‘received’ implies ‘socially acceptable’, which was one meaning of the word in Victorian times. The full form is little used by modern phoneticians, who prefer the abbreviation **RP**.

RP is the classic example of a prestige accent, since although it is spoken only by a relatively small number of people, it has high status all over England and, to a certain extent, the world. Like the Dutch standard varieties, RP is not a regional accent but is to be heard all over the country. RP is often associated with the London area but again this may only reflect the greater wealth and development of the South East of England. RP speakers are to be found all over England. RP is used on the stage and at one time was virtually the only speech used by national BBC radio and television announcers.<sup>5</sup> Like the Dutch prestige varieties, RP is a social accent. If you doubt this, then tune in to the BBC television and radio transmissions from Parliament and listen to the speech of MPs.<sup>6</sup> You will find that the vast majority of Conservatives speak RP, or something close to it, whilst, very largely, Labour MPs, perhaps on principle, retain more of the flavour of their local speech. Welsh and Scottish Nationalists tend to hold on to their Welsh and Scots accents, perhaps in order to emphasise their regional identity.

English is not just spoken in England; it is a world language. In Scotland, Ireland and Wales, notwithstanding the fact that there are actually relatively few speakers of RP, the accent retains considerable status. This is also true of the former colonial countries such as Australia, New Zealand and South Africa. Although few people there still consciously imitate British English, as was once the case, nevertheless the speech of newscasters and announcers in these countries clearly has close relationships with RP. Even in the USA, there was formerly a tradition of using a special artificial type of English, based on RP, for the stage; today, the 'British accent' (by which Americans mean RP) still has a degree of prestige in the United States.

In this book, we use RP as our **model**; that is to say, it is the accent that we assume students will choose to imitate. Our main reason for selecting RP is that it is known and understood easily all over Britain and elsewhere. It is traditionally the kind of English taught to foreign students in most countries of the world. This is still true of Europe, though nowadays an American model is common in Latin America, Japan and a number of other countries. Because of this, RP has been more thoroughly described than any other accent of English. If you master this variety of English, you will speak in a way which is acceptable to educated people anywhere in the English-speaking world.

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<sup>5</sup> The BBC now has a conscious policy of employing announcers with (modified) regional accents.

<sup>6</sup> When Parliament is sitting, live transmissions from Westminster are regularly screened; *Today in Parliament* is broadcast on radio every evening.



Within RP itself, we can distinguish a number of different types.<sup>7</sup> The traditional narrow definition would only include persons who have been educated at one of the famous English public schools, like Eton or Winchester.<sup>8</sup> It was always true, however, that for social reasons many English people modified their speech and so ended up with something very close to RP, even if not RP in the traditional sense. Over the years, most writers on phonetics have extended their definition to take in this modified speech, and, consequently, RP is today best regarded as *educated British English speech lacking regional characteristics*. Nowadays, many millions of English people speak a type of English which is closer to RP than to any local accent, although it is often possible (if you have a sharp ear) to detect some geographical influences. It is this type — sometimes termed ‘general’ or ‘mainstream’ RP — that we describe in this book. We shall allow for the range of variation to be heard from middle and younger generation speakers in England who have a pronunciation without any obvious regional associations.

Just recently, there’s been talk of a ‘new’ variety of British accent which has been dubbed ‘Estuary English’ — a term which has to an extent caught on with the media. The estuary in question is that of the Thames, and the name has been given to the speech of those whose accents are a compromise between RP and popular London speech (Cockney, see pp. 294, 299). Claims have been made that Estuary English now rivals RP and in the future will replace it as the prestige British accent, but evidence for this is vague at the moment. Although RP is indeed no longer as narrowly defined as previously, and the speech of some younger RP speakers in the south east of England may show a degree of London influence, it is certainly far too early to predict a mass flight away from RP to this other variety. See Rosewarne (1994) for an opposing viewpoint.

In addition, we shall from time to time refer to some other kinds of variation. It is often possible to hear **old-fashioned** features in a person’s speech. These may include forms which were once prestigious but which can nowadays sound outdated, or even comical. One can also distinguish a type of pronunciation which is often disparagingly called ‘affected’. We shall use **affected** as a term to cover exaggerated forms which may sound unattractive to many people, including RP speakers themselves. Speech with neither of these tendencies is termed **neutral**, and it is this type that the student of English as a foreign language is recommended to imitate. The reason for this is plain. It is the kind of English which is easiest for the vast majority of English-speaking people to understand without any risk of distraction or irritation.

<sup>7</sup> See Wells (1982: 279-95) for a detailed discussion.

<sup>8</sup> This was a definition proposed by Daniel Jones in 1917, who used the term ‘Public School Pronunciation’ or ‘PSP’. But Jones said, even at that point, that many other people ‘use either this pronunciation or a pronunciation not differing very greatly from it’ (Jones 1917: viii).

## THE PHONEME

### 2.1 PHONEMES AND ALLOPHONES

When listening to any **utterance** (i.e. any stretch of speech), we hear a continuous stream of sound, broken up only by pauses for breath. Speech is therefore a **continuum**, i.e. there is a constant change without sharp divisions between one state and the next. One of the tasks of phonetics is to divide up this continuum into smaller chunks which are easier to describe. This process of splitting up the continuum into smaller units is called **segmentation**, and the resulting smaller units of sound are termed **segments**.

The segments correspond well to what we know from everyday usage as the **vowels** and **consonants**. If you ask Dutch speakers how many speech sounds there are in *zit*, they will almost certainly reply three, and name them as [z], [ɪ] and [t]. It is improbable that anyone would consider there to be two or four units of sound.

In dealing with a given language, we are usually interested in discovering what function its sounds have. Segments do not usually operate in isolation. In the example of *zit*, [z] [ɪ] and [t] can only be said to mean something if they are combined to form a word which has meaning: [z], [ɪ] or [t] have no meaning taken on their own.

In all languages, certain variations in sound are especially significant because they can change the meaning of words. Other variations are of less significance since they cannot affect meaning. Look at a few words in Dutch and see how this works. Take the Dutch word *maan*. If we replace [m] by [l], we produce a new word *laan*. This gives a pair of words distinguished in meaning by a single sound difference. Two words of this kind are termed a **minimal pair**.

#### EXERCISE 1

Find minimal pairs in Dutch using these words: *gaat, lief, kijk, zee, luid, heen, moet, niet*.

It is possible to take this process further. In addition to *laan*, we could also produce *baan, haan, gaan*. This is termed a **minimal set**.

Instead of the initial consonant, the vowel can be changed, e.g. *meen, man, men, min, mijn*, which provides us with another minimal set. We can also change the final sound, giving a third minimal set of this kind: *maan, maak, Maas, maag*, etc. Through such processes, we can eventually determine those speech sounds which are phonologically significant. These contrastive units of sound which can be used to change meaning are termed

**phonemes.** The word *maan* consists of the three phonemes /m/, /a:/ and /n/. Note that phonemes are placed between slant brackets / /.

Using the process of discovering minimal pairs, we can establish a **phonemic inventory** for Dutch, giving us 22 vowels and 20 consonants. The same can be done for English, giving 20 vowels and 24 consonants (see Section 2.4, pp. 12, 14).

Not every small difference that can be heard between one sound and another is enough to change the meaning of words. All languages have a certain degree of variation in each phoneme. Sometimes this is very easy to hear and can be quite striking. The Dutch /r/ is a good example. It can range from sounds made by the tip of the tongue ('*tong-r*') to various types of articulations involving the uvula ('*huig-r*').

### EXERCISE 2

1. Listen to a number of individual native speakers of Dutch, e.g. the members of your group or some of your friends, saying the word *raam*. Describe the articulations that you hear. For instance, is the /r/ alveolar (*tong-r*) or uvular (*huig-r*)? Is it a trill involving vibration of the tongue-tip or uvula, or is it a vowel-type sound?
2. Now do the same for word-final /r/, as in *maar*. Do you notice any difference in the way the same speaker articulates word-initial /r/ as compared with word-final /r/?
3. In the word *raar*, we find /r/ in initial and final position. Listen to how you and other people say these /r/ sounds. Are they similar or different?

Each phoneme is therefore really a compound of a number of different sounds which are interpreted as one meaningful unit by a native speaker of the language. This range is termed **allophonic variation**, and the variants themselves are called **allophones**.

It must be understood that it is actually only the allophones of a phoneme that exist in reality. They are concrete entities. Allophones can be recorded, stored and reproduced, and analysed in acoustic or articulatory terms. Phonemes, on the other hand, are abstract units. Their existence is only in the mind of the speaker/listener. It is, in fact, impossible to 'pronounce a phoneme', though this phrase is often loosely employed; one can only produce an **allophone** of the phoneme in question. As the phoneme is an abstraction, we often speak of it being **realised** as a particular allophone. The most frequently occurring realisation of a phoneme is termed the **phonemic norm**. Remember that phonemic transcription is enclosed within slant brackets / /. **Phonetic transcription**, used to represent allophones, is enclosed in **square brackets** [ ].

Although the phoneme units contain a range of variation, the allophones of any single phoneme generally have considerable **phonetic similarity** in both acoustic and articulatory terms; that is to say, the allophones of any given phoneme (1) sound similar, and (2) are articulated in a similar way.

We can now proceed to a working definition of the phoneme as: *a member of a set of abstract units which together form the sound system of a given language and through which contrasts of meaning are produced.*

## 2.2 THE PHONEME IN DUTCH AND ENGLISH

The speech of a single individual is termed an **idiolect**. Generally speaking, it is easy for one native speaker to interpret the phoneme system of another native speaker's idiolect, even if he or she speaks a different variety of the language. Problems may sometimes arise, but they are few, since broadly the phoneme systems will be similar. Difficulties occur for the foreign learner, however, because there are always important differences between the phoneme system of one language and that of another.

Take the example of an English native speaker learning Dutch. The Dutch are often surprised when they discover that an English person has difficulty in hearing the difference between words like Dutch *huid* and *hout*, because the Dutch vowel phonemes /œy/ and /au/ sound alike to English ears. The reason is that both seem to the English native speaker similar to the allophones of the English vowel phoneme /aʊ/ as in *out*. This can be represented as follows (using – to mean **contrasts with**):

Dutch	<i>huid</i> /œy/ – <i>hout</i> /au/
English	<i>out</i> /aʊ/

The same applies to the vowels D /ɑ/ and D /ɔ/ in *mat* and *mot*.<sup>1</sup> To a Dutch ear, these are two distinct phonemes, but an English person may at first interpret them as allophones of E /ɒ/ in *not*.

Dutch	<i>mat</i> /ɑ/ – <i>mot</i> /ɔ/
English	<i>not</i> /ɒ/

On the other hand, Dutch learners of English also have their problems. The English words *men* and *man* sound alike to Dutch ears, the vowels E /e/ and E /æ/ being heard as if they were allophones of D /ɛ/, as in Dutch *men*.

English	<i>men</i> /e/ – <i>man</i> /æ/
Dutch	<i>men</i> /ɛ/

Another example is the contrast of E /ʊ – u/ as in the words *pull* and *pool*:

English	<i>pull</i> /ʊ/ – <i>pool</i> /u/
Dutch	<i>poel</i> /u/

Dutch speakers tend to hear the two English vowels in terms of D /u/, as in *poel*.

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<sup>1</sup> Throughout this book, we use the abbreviations D (for Dutch) and E (for English) before the phoneme brackets, where such indications are necessary to avoid possible confusion.

Of course, we need not confine this to vowel sounds. Dutch learners often have trouble with some of the consonants of English, for instance, E /ð/, as in *then*. Dutch students have to learn to make a contrast between *then* and *den*. Dutch has no /ð/, and Dutch speakers are likely to interpret E /ð/ as D /d/, this being the phoneme which to a Dutch ear sounds closest to E /ð/.

English	<i>then</i> /ð/ – <i>den</i> /d/
Dutch	<i>den</i> /d/

From the moment children start learning to talk, they are taught to listen for those sound contrasts which are important for their own language and to ignore those which are not significant. The result is that we all interpret the sounds we hear in terms of the phonemes of our mother tongue. There are many rather surprising examples of this. For instance, the Japanese hear no difference between the contrasting phonemes /r/ and /l/ of English; Greeks cannot distinguish /s/ and /ʃ/ as in *same* and *shame*; Cantonese Chinese learners of English may confuse /l/ with /n/, so finding it difficult to hear the contrast between *Leeds* and *needs*.

The Dutch learner must learn to interpret the sound system of English as heard by English ears and ignore the patterns imposed by years of speaking and listening to Dutch.

### 2.3 SUMMARY

A phoneme is a member of a set of abstract units which together form the sound system of a given language, and through which contrasts of meaning are produced.

Each phoneme shows allophonic variation, i.e. there will be a number of variant sounds (phonetic realisations) which may represent the phonemic unit. Normally, there will be considerable phonetic similarity between these variant sounds. The allophones are easily placed in phoneme categories by a native speaker, but learning to do this is one of the chief problems of the learner of a foreign language.

The most frequently occurring allophone of a phoneme is termed the phonemic norm. Phonemic transcription is placed within slant brackets / /. Phonetic transcription (representing allophones) is placed in square brackets [ ]. Phonemic contrasts are shown by – .

## 2.4 THE ENGLISH AND DUTCH PHONEMIC SYSTEMS

### *The consonants of English and Dutch*

Certain of the consonants in both English and Dutch function as pairs, being in most respects similar, but differing in the energy used in their production.

For instance, E /p/ and E /b/ are produced in the same manner, but /p/ is a strong, energetic articulation (**fortis**), whereas /b/ is weak and less energetic (**lenis**). Other phonetic differences (e.g. voicing, aspiration) are discussed in Chapter 6. The English consonants /h, m, n, ŋ, l, w, j, r/ and the Dutch consonants /h, m, n, ŋ, l, v, j, r/ do not enter into the fortis/lenis opposition. Table 2.1 shows the English and Dutch consonant phonemes. Note that the sounds enclosed in brackets can be considered for certain speakers as marginal phonemes. See Sections 19.1 and 19.5.

Table 2.1 *The consonant systems of English and Dutch*

Consonants of English				Consonants of Dutch			
Fortis	Example	Lenis	Example	Fortis	Example	Lenis	Example
p	pipe	b	bob	p	pand	b	band
t	tight	d	died	t	tand	d	dans
k	cake	g	gag	k	kant	(g)	goal
tʃ	church	dʒ	judge	f	fee, cijfer	(f)	vee, vijver
f	fife	v	verve	s	sier, eisen	z	zier, reizen
θ	thirteenth	ð	they breathe	x	goochel	(ɣ)	kogel
s	sauce	z	zoos				
ʃ	shortish	ʒ	pleasure				
	h	hitch-hike			h	hoed	
	m	mime			m	mat	
	n	noon			n	nat	
	ŋ	banking			ŋ	bang	
	l	legal			l	laat	
	r	rural			r	raar	
	w	wigwam			v	waar	
	j	yoyo			j	jaar	

### *The vowels of English and Dutch*

The vowels in both English and Dutch fall into three groups:

1. Checked vowels
2. Free steady-state vowels
3. Free diphthongs

Those termed **checked** vowels are for the most part shorter, and are not found at the end of a word-final stressed syllable. Consequently, we do not find words such as \*/zɪ/ or \*/zɛ/ in Dutch or \*/sɪ/ and \*/se/ in English (\* is used to indicate an unacceptable or unrecorded form). Checked vowels are always represented by a single phonemic symbol.

**Free** vowels are typically longer than checked vowels and may occur in any context, including word-final. Words such as *zie* /zi/ and *zee* /ze:/ exist in Dutch and *see* /si:/ and *saw* /sɔ:/ in English. Free vowels may be of two types:

1. Those which consist of a single sound are termed **steady-state** vowels. They are represented by a symbol followed by a length mark, e.g. D /e:/ or E /ɑ:/. D /i, y, u/ are exceptions; except before /r/, they are typically short.<sup>2</sup>

In Dutch, we also find a pair of marginal phonemes used in loanwords: /ɛ:/, as in *bèta*, and /œ:/, as in *manoeuvre*. Most varieties of Netherlands Dutch, including (NL) ABN, also have an extra vowel /ɔ:/ in words such as *zone*. See Section 14.5.

2. Free vowels which include a movement from one vowel sound to another are termed **diphthongs**. These are shown as two symbols, e.g. D /ei/, E /əʊ/. (The Dutch vowels /e:, ø:, o:/ have traditionally been treated as steady-state vowels. This still holds for (B) AN, but in (NL) ABN these vowels are in most contexts realised as diphthongal glides. We shall term them **potential diphthongs**. See Section 14.3.)

In addition, Dutch has a set of **free vowel sequences**. These are combinations of free steady-state vowels, e.g. D /e:u/, as in *meeuw*, which is a sequence of D /e:/ and D /u/.

The vowel E /ə/, as in the final syllable of *bonus*, is referred to as **shwa**, from the name of the sound in Hebrew.<sup>3</sup> A similar sound is to be heard in Dutch, as in the second and third syllables of *werkelijk*. In both English and Dutch, /ə/ is normally to be found only in unstressed syllables and does not fit into the checked/free categories. Since it is usually short, we have chosen to group it with the checked vowels.

In Table 2.2, we have given a keyword for each vowel, so that the sound concerned can be conveniently specified.<sup>4</sup> Throughout the book, these keywords have been shown in small capitals (e.g. KIT, DRESS).

Formerly, some RP speakers distinguished *saw* – *sore*, giving an extra phoneme contrast /ɔ: – ɔə/. This is no longer heard.

A small minority of Dutch speakers have an additional vowel in their system, so making a difference between *bod* – *bot*, etc. See Cohen *et al.* (1972: 17) for further details of what has been termed ‘het rijkere systeem’.

<sup>2</sup> For many speakers of (B) AN, these vowels are long and could be represented as /i:, y:, u:/.

<sup>3</sup> Also spelt *schwa*. In some older books, this sound is referred to as the ‘murmur vowel’.

<sup>4</sup> The English keywords are based on those found in Wells (1982).





The syllable is a unit difficult to define, though native speakers of a language generally have a good intuitive feeling for the concept, and are usually able to state how many syllables there are in a particular word. For instance, if native speakers of Dutch are asked how many syllables there are in the word *spinazie* they usually have little doubt that there are three. For many words, however, they would find it difficult to say where one syllable ends and another begins.

### EXERCISE 3

In a word like *spinazie*, a Dutch native speaker would be inclined to place the syllable boundaries as follows: spi | na | zie. However, in some other examples the syllable boundaries may be more doubtful. How would you divide the syllables in words like *expres* and *extreem*?

There is considerable support for the idea of the syllable as a 'natural' phonological unit. For instance, traditional verse forms of a great many languages are based on arrangements of syllables in various patterns. Furthermore, most writing systems are either based on the syllable (e.g. Japanese) or have passed through a syllabic stage (e.g. our own Roman alphabet, which is ultimately derived from Semitic syllabaries).

We have said the syllable is regarded as a phonological unit. This means that we can define it in terms of how it functions in a given language. In Dutch, the syllable can be said to consist of an essential element at the centre termed the (**syllable**) **nucleus**. Vowels normally form this nuclear element. At either side of the nucleus, at the margins of the syllable, there may be one or more consonants. The possible syllable structures can be illustrated by these examples:

<i>ei</i>	V
<i>rij</i>	C V
<i>eis</i>	V C
<i>reis</i>	C V C
<i>krijjs</i>	CC V C
<i>reist</i>	C V CC
<i>krijst</i>	CC V CC

This gives only a selection of the possibilities. The following examples give more complex structures:

<i>spring</i>	CCC V C
<i>markt</i>	C V CCC

In Dutch, it is possible to have from zero to three consonants in syllable-initial position, and from zero to four consonants syllable-finally. This can be stated in the following form:

$$\text{Syllable} \rightarrow C^{0-3} V C^{0-4}$$

A word which provides an exemplification of the most complex syllable structure in Dutch is *striktst*.

English has a similar  $C^{0-3} V C^{0-4}$  syllable structure to that of Dutch:

<i>I</i>	V
<i>my</i>	C V
<i>ice</i>	V C
<i>nice</i>	C V C
<i>spy</i>	CC V
<i>spice</i>	CC V C
<i>spiced</i>	CC V CC
<i>spliced</i>	CCC V CC
<i>fifths</i>	C V CCC
<i>sixths</i>	C V CCCC

However, the rules for syllable structure are not exactly the same for Dutch and English, inasmuch as there are different restrictions on the possible **consonant clusters** (i.e. combinations of consonants) to be found at the beginning or end of the syllable. We have mentioned elsewhere that Dutch has the syllable-initial cluster /kn/, as in *knie*, which English does not have. On the other hand, English has the initial cluster /hj/, as in *huge*, which has no counterpart in Dutch. In addition, there are a large number of syllable-final clusters, e.g. /dz, bz, gz, vz, ndz/, as in *roads, robes, rogues, saves, bands*, to give but a few examples, which occur in English but not in Dutch.

In other languages, we may find very different kinds of restrictions on syllable structures. Dutch and English have both **closed** syllables (i.e. syllables ending in one or more consonants) and **open** syllables (i.e. syllables ending in a vowel). Many languages allow only open syllables, or alternatively, allow syllables to be closed by only a restricted range of consonants. For instance, Samoan (spoken on islands in the Pacific Ocean) allows only open syllables; and Yoruba (one of the major languages of Nigeria) permits only open syllables, or syllables closed by /m/ or /n/. When one language borrows words from another language, these are usually changed to conform in terms of phoneme and syllable structure. Consequently, in Yoruba, *Christmas* turns into *Kérésimesì* and *stone*<sup>5</sup> is *sítónù*. Samoan has numerous words borrowed from English and adapted to the Samoan (thirteen consonant) open syllable phonological system.

#### EXERCISE 4

The following are Samoan loanwords, all derived from familiar English items. See if you can guess the English originals. The first two are done for you. (Answers on p. 341.)

<i>sosi</i>	— 'sauce'
<i>lipoti</i>	— 'report'

<sup>5</sup> In the sense of a unit of weight.

<i>naifi</i>	—
<i>sipuni</i>	—
<i>kirisimasi</i>	—
<i>kapiteni</i>	—
<i>kirikiti</i>	—
<i>kalapu</i>	—
<i>polokalame</i>	—

Many languages have more complex consonant clusters than English and Dutch, e.g. Russian, Czech and Georgian. Georgian permits as many as six consonants in syllable-initial clusters, as in /prtskvna/ 'to peel' (Catford 1988: 208).<sup>6</sup>

## 2.6 SYLLABIC CONSONANTS

Certain consonants are capable of acting as the nuclear elements of syllables; for instance, in English, the nasals /m, n, ŋ/ and the lateral /l/: *kitten* /'kɪtən/, *rhythm* /'rɪðəm/, *bacon* /'beɪkən/, *battle* /'bætəl/. Here the syllabic element is not formed by the vowel, but by the consonants /m, n, ŋ, l/, which are longer and more prominent than they normally would be. These consonants are termed **syllabic consonants**, and are marked by the diacritic [̩] beneath the symbol in transcription.<sup>7</sup> Sometimes, as with the examples *rhythm* and *bacon*, alternative pronunciations with /ə/ are also possible: /'rɪðəm, 'beɪkən/.

In Dutch, /r/ and /l/ are often syllabic, e.g. *bakker* /'bəkər̩/, *beter* /'be:tər̩/, *makkelijk* /'mæklək/. /r/ can also be syllabic in certain types of English, e.g. General American: *baker* /'beɪkər̩/.

<sup>6</sup> /ts/ is regarded as a single phoneme.

<sup>7</sup> Although practice varies, syllabic consonants are treated in this book as phonemic entities. They are indicated wherever they occur, and may be placed in slant or square brackets depending on the nature of the remainder of the transcription.

## TRANSCRIPTION

### 3.1 PHONEMIC AND PHONETIC TRANSCRIPTION

One of the most familiar applications of phonetics is the use of transcription in dictionaries and language textbooks for the representation of the pronunciation of words. It is specially helpful in a language like English, where the orthography is complicated and sometimes misleading.

However, transcription need not be confined to individual words. It can also be used to represent whole stretches of speech. In all languages, there is a great difference between the way words are pronounced in isolation and the way they appear in connected speech. Section 3.4 covers these differences in some detail. Transcription enables us to show these effects with a degree of accuracy that would otherwise be beyond our reach. For this reason, it is one of the most useful exercises in training students of phonetics.

There is an important difference between phonetic and phonemic transcription. A **phonetic transcription** is one which can, potentially, indicate the minute articulatory detail of any particular sound. On the other hand, a **phonemic transcription** is confined to representing phonemes. It does not tell us precisely how each phoneme is realised, but shows only the distinctive contrasts.

This difference can be illustrated by returning to the example of Dutch /r/. Two of the main types, i.e. *tong-r* and *huig-r*, can be shown in phonetic transcription as [r] and [ʀ] respectively, e.g.: [ro:k] and [ʀo:k] *rook*.<sup>1</sup> Phonemically, we would simply show the word as /ro:k/. Here we are not concerned with whether somebody pronounces /r/ as a *tong-r* or a *huig-r*, since the replacement of one by the other does not result in words with different meanings. We merely want to establish that there is a sound /r/ which contrasts with other sounds such as /k, p, l, m/.

Phonetic and phonemic transcription are both useful to the phonetician. In practice, since we are usually most interested in the phonemic contrasts, phonemic transcription is used far more frequently. Phonemic transcription is not in any way a poor substitute for phonetic transcription. In fact, it could be regarded as a far more sophisticated system, since it eliminates all detail, leaving only the information necessary to meaning.

Very often, even in a phonetic transcription, we content ourselves with

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<sup>1</sup> Note that the phonetic symbol for *tong-r* is the same as the symbol used for the phoneme /r/.

showing only a very small proportion of the phonetic variation that occurs — what is most important in the particular context. A transcription of this type is termed **broad**. If a great deal of minor allophonic variation is shown, it is termed **narrow** and is normally shown with more elaborate symbols and additional small marks known as **diacritics**.<sup>2</sup> Note that once we introduce phonetic symbols — even a single diacritic — then the transcription must be enclosed in square brackets.

### 3.2 STRESS

Any word in its **citation form** (i.e. spoken in isolation, as opposed to occurring in connected speech) has at least one syllable which has more prominence than the others. We perceive this **stressed** syllable, as it is termed, as standing out from those around it. Stress, which can partly be related to the energy with which a syllable is articulated, is indicated by placing a mark [ ' ] before the syllable concerned, e.g. *language* /'læŋgwɪdʒ/, *translation* /træns'leɪʃn/.

#### EXERCISE 1

Say these Dutch words. Which syllable is stressed? *Veronderstelling, klinker, maatschappij, twijfel, gevangenis, bedrijf, plotseling, ondernemer, handenarbeid, belachelijk*. (Answers on p. 341)

Stress in the isolated word is termed **word stress**. However, we can also hear stress in connected speech (**sentence stress**). Here not every word has the same degree of stress; certain words carry strong stress, whilst others are weakly stressed or completely unstressed.

We shall return to consider both word stress and sentence stress in greater detail in Chapter 22. For the moment, we need only note that the words which are most likely to be stressed are those which are termed **lexical words**: nouns, adjectives, adverbs and main verbs. These are the words that normally carry a high information load. We can contrast these with **grammatical words**, i.e. determiners (e.g. *the, a*), conjunctions (e.g. *and, but*), pronouns (e.g. *me, them*), prepositions (e.g. *from, with*), auxiliary verbs (e.g. *do, be, can*). Words of this kind carry little information, although they are important for 'cementing' the sentence together. The lexical words are the 'bricks' of information. Only two sets of grammatical words, namely the demonstratives (e.g. *this, that, there*) and *wh*-interrogatives (e.g. *where, why, how, which*), are stressed with any frequency.<sup>3</sup>

<sup>2</sup> Formerly, many writers used 'broad' to imply 'phonemic' and 'narrow' to mean 'phonetic'. In modern usage, phonemic transcriptions are always broad; phonetic transcriptions may be relatively broad or narrow, depending on the amount of phonetic detail.

<sup>3</sup> When *wh*-words and *that* are used as relatives, e.g. *the fellow who gave the talk last night that we all found so boring*, they are normally unstressed.

### 3.3 STRONG, WEAK AND CONTRACTED FORMS

In both English and Dutch, there are a number of grammatical words which are pronounced in different ways according to whether they are stressed or unstressed. These words are very small in number, but they occur very frequently — hence their importance. Consider a typical pronunciation of the Dutch sentence: *Zij hadden het hem gezegd, maar dat had hij niet gehoord* /zə 'hadən ət əm xə'zɛxt | mar 'dat hat i ni xə'hø:rt/. Here the words *zij, het, hem, hij, niet* are unstressed and take reduced forms /zə, ət, əm, i, ni/. If the words were stressed, they would be pronounced /zɛi, hɛt, hɛm, hɛi, nit/. We term the form characteristic of the unstressed position the **weak form** (WF) and the form characteristic of the stressed context the **strong form** (SF).

English operates in a similar manner. Take the utterance: *Jack would prefer to meet them at the station* /'dʒæk əd prɪ'fɜ: tə 'mi:t ðəm ət ðə 'steɪʃn/. Here the words *would, to, them, at, the* are all pronounced with WFs: /əd, tə, ðəm, ət, ðə/. If these were uttered as citation forms they would instead have the SFs: /wʊd, tu:, ðem, æt, ði:/. A list of the most common WFs is given in Table 3.1.

Many grammatical words combine with other grammatical words, so producing **contracted forms** (CFs). Unlike weak forms, contracted forms can be stressed — and indeed frequently are. These forms are essential in spoken English. Without them, your English will sound stilted and unnatural to native speakers, and is also likely to give unintended emphasis to the grammatical words concerned. Not using CFs is perhaps even more immediately noticeable than not using WFs. Note that all the CFs have special spellings, though these are generally used mostly in informal writing and representations of dialogue. See Table 3.2 for a list of CFs.

The use of WFs is easier for the Dutch speaker than for many foreign learners (e.g. French, Spanish, Finnish or Hindi speakers) since WFs also play an important part in Dutch (see Section 22.5). Nevertheless, the excessive use of SFs is one of the main sources of error for Dutch-speaking students of English. Remember that SFs are rare in connected speech and must only be used in certain special circumstances (see below).

### 3.4 THE USE OF WEAK FORMS AND CONTRACTED FORMS

Weak forms and contracted forms are overwhelmingly more common than strong forms in connected speech. This applies to all styles of speech — formal or informal — at both slow and rapid tempo.

1. If a word is stressed for any reason, a WF cannot be used.
2. SFs are used at the end of the intonation group (see Chapter 23.4), even if the word is unstressed.

*Where do you come from?* /'weə də ju 'kʌm frɒm/.

Table 3.1 Select list of essential weak forms

Class	Word	Weak forms	Comments
<b>Determiners</b>	a	/ə/	Not before vowels
	an	/ən, ŋ/	Only before vowels
	the	/ðə, ðɪ/	/ðɪ, ði:/ before vowels
	some	/səm/	If unstressed and meaning an undefined amount
<b>Conjunctions</b>	and	/ənd, ən, ŋ/	
	as	/əz/	
	than	/ðən/	SF /ðæn/ is hardly ever used
	that	/ðət/	
<b>Prepositions</b>	at	/ət/	
	for	/fə/	/fər/ before vowels
	from	/frəm/	
	of	/əv, ə/	/ə/ is often used before /ðə/
	to	/tə, tu/	/tu/ or /tu:/ used before vowels
<b>Verb <i>be</i></b>	am ('m)	/əm, m/	/m/; see Contracted Forms (CFs)
	are ('re)	/ə/	/ər/ before vowels. See CFs
	is ('s)	/s, z/	See CFs; see 3.4.8 (pp. 23-4)
	was	/wəz/	
	were	/wə/	/wər/ before vowels
<b>Auxiliary verb <i>have</i></b>	has ('s)	/əz, s, z/	See 3.4.8 (pp. 23-4)
	have ('ve)	/əv, v/	See CFs
	had ('d)	/əd, d/	See CFs
<b>Other auxiliary verbs</b>	do	/də, dʊ/	
	does	/dəz/	
	can	/kən/	
	will ('ll)	/əl, ɪ/	See CFs
	shall ('ll)	/ʃəl, ɪ/	See CFs
	would ('d)	/əd, d/	See CFs
	should ('d)	/əd, d/	See CFs
<b>Pronouns</b>	that	/ðət/	If a <i>relative</i> . See 3.4.3 (p. 23)
	them	/ðəm, ðm/	
	us	/əs/	
	our	/ɑ:/	/ɑ:/ is also used in stressed contexts.
<b>Negative particle</b>	n't	/nt/	See CFs

Table 3.2 Select list of contracted forms

	Full Form	Written CF	Spoken CF	Comments
<b>be</b>	I am	I'm	/aɪm/	
	you are	you're	/jɔː, jʊə/	/jɔːr, jʊər/ before vowels
	he is	he's	/hiːz/ <sup>4</sup>	
	she is	she's	/ʃiːz/ <sup>4</sup>	
	it is	it's	/ɪts/	
	we are	we're	/wiːə/ <sup>4</sup>	/wiːər/ before vowels
	they are	they're	/ðeɪ/	/ðeɪr/ before vowels
<b>have</b>	I have	I've	/aɪv/	Not necessarily used if <i>have</i> is a main verb
	you have	you've	/juːv/ <sup>4</sup>	
	he has	he's	/hiːz/ <sup>4</sup>	Cannot be used if <i>have</i> is a main verb
	she has	she's	/ʃiːz/ <sup>4</sup>	
	it has	it's	/ɪts/	
	we have	we've	/wiːv/ <sup>4</sup>	Not necessarily used if <i>have</i> is a main verb
	they have	they've	/ðeɪv/	
<b>shall/ will</b>	I shall/will	I'll	/aɪl/	
	you will	you'll	/juːl/ <sup>4</sup>	
	he will	he'll	/hiːl/	
	she will	she'll	/ʃiːl/	
	it will	it'll	/ɪtɪl/	
	we shall/will	we'll	/wiːl/	
they will	they'll	/ðeɪl/		
<b>had/ would</b>	I had/ would	I'd	/aɪd/	There is no way of telling whether <i>had</i> or <i>would</i> is meant from pronunciation. Context usually makes the underlying form clear
	you had/would	you'd	/juːd/ <sup>4</sup>	
	he had/would	he'd	/hiːd/	
	she had/would	she'd	/ʃiːd/	
	it had/would	it'd	/ɪtəd/	
	we had//would	we'd	/wiːd/ <sup>4</sup>	
they had/would	they'd	/ðeɪd/		
<b>not</b>	are not	aren't	/ɑːnt/ <sup>5</sup>	Also used in <i>aren't I?</i> All auxiliaries may combine with <b>n't</b> to form CFs and only the most significant and/or irregular are given here. There are many more, such as <i>isn't</i> , <i>wasn't</i> , <i>couldn't</i> , <i>shouldn't</i>
	were not	weren't	/wɜːnt/	
	do not	don't	/dəʊnt/	
	shall not	shan't	/ʃɑːnt/	
	will not	won't	/wəʊnt/	
	cannot	can't	/kɑːnt/	
	must not	mustn't	/mʌsn̩t/	
dare not	daren't	/deɪnt/		
<b>let</b>	let us	let's	/lets/	Only as an auxiliary verb
<b>there</b>	there is	there's	/ðeəz, ðez, ðəz/	
	there are	there're	/ðeərə, 'ðerə, /ðərə/	
	there will	there'll	/ðeəl, ðəl/	
	there would	there'd	/ðeəd, ðəd/	

<sup>4</sup> These may be reduced to /hɪz, ʃɪz, wɪə, jʊv, wɪv, jʊl, jʊd, wɪd/.

<sup>5</sup> The older CF of *aren't* and *isn't* was *ain't*. This is now heard only in dialects.



Pronouns are exceptional in this respect. They retain the WF even in final position.

*Tony rather likes us* /təʊni 'rɑ:ðə 'laɪks əs/.

*Tony rather likes them* /təʊni 'rɑ:ðə 'laɪks ðəm/.

3. Demonstrative *that* always has the SF (even if not stressed).

*That's exactly what I want* /ðæts ɪg'zæktli wɒt aɪ 'wɒnt/.

*That play I saw was appalling* /ðæt 'pleɪ aɪ 'sɔ: wəz ə'pɔ:liŋ/.

Note that the relative pronoun *that* always has the WF, e.g. *The play that we saw* /ðə 'pleɪ ðæt wɪ 'sɔ:/. This also holds true for *that* used as a conjunction, e.g. *Daniel said that he was fond of drinking beer* /'dænjəl 'sed ðæt hɪ wəz 'fɒnd əv 'drɪŋkɪŋ 'brɪə/.

4. WFs ending in /ə/ are not used before vowels (see Table 3.1 for special forms).

5. For the WFs of words in Table 3.1 which begin with **h**, i.e. *have*, *has*, and *had*, pronunciation with /h/ is optional. The same is true of other pronouns not included in this list, i.e. *he*, *his*, *him*, *her*. The /h/ is invariably used following a pause, e.g. at the beginning of a sentence. In other cases, both the /h/ forms and /h/-less forms can be heard. However, although it is difficult to state any rules, the use of too many /h/ forms sounds somewhat over-careful.

6. WFs which include /ə/ preceding /m, n, l/ are regularly pronounced as syllabic consonants.

*John'll come* /'dʒɒnəl 'kʌm/

*Bread and butter* /'bredŋ 'bʌtə/

7. *Have* as a main verb is normally pronounced as a SF, e.g. *We have a bit of a problem* /wi: hæv ə 'bit əv ə 'prɒbləm/. Note, however, that CFs are occasionally used: /aɪv, wɪ:v, ðeɪv/ for *I've*, *we've*, *they've*, e.g. *We've a bit of a problem* /wi:v ə 'bit əv ə 'prɒbləm/. The forms \*/hi:z, ʃi:z/ for *he has*, *she has* are never heard.

8. Third person forms of *have* and *be* follow regular rules for pronunciation of **s** or **'s** (see also p. 314):

a. Following the consonants /b, d, g, v, ð/ (i.e. the lenis consonants excluding /z, ʒ, dʒ/, see p. 46), /m, n, ŋ, l/ and all vowels:

**'s** → /z/.

*David's working* /'deɪvɪdz 'wɜ:kɪŋ/

*The dog's barking* /ðə 'dɒgz 'bɑ:kɪŋ/

*Jill's arrived* /'dʒɪlz ə'raɪvd/

*Stan's coming later* /'stænz kʌmɪŋ 'leɪtə/

*Terry's decided to leave* /'terɪz dɪ'saɪdɪd tə 'li:v/

b. Following the consonants /p, t, k, f, θ/ (i.e. the fortis consonants, excluding /s, ʃ, tʃ/, see p. 46):

's → /s/.

*Jack's arrived* /ˈdʒæks əˈraɪvd/

*Geoff's coming later* /dʒɛfs kʌmɪŋ ˈleɪtə/

*Robert's decided to leave* /ˈrɒbəts dɪˈsaɪdɪd tə ˈli:v/

c. Following /s, z, ʃ, ʒ, tʃ, dʒ/, *is* becomes /ɪz/, *has* becomes /əz/.

*Max is coming later* /ˈmæks ɪz kʌmɪŋ ˈleɪtə/

*Mr Hodge has arrived* /mɪstə ˈhɒdʒ əz əˈraɪvd/

*Jones has decided to leave* /ˈdʒɔʊnz əz dɪˈsaɪdɪd tə ˈli:v/

9. Some common grammatical words do *not* have a regular WF, e.g. *on, in, if, up, when, what, then, one*.

### 3.5 TRANSCRIPTION SAMPLE

The following is a transcription showing WFs and CFs in connected speech. For further detail on the technique of phonemic transcription, see pp. 311-15. Note that the transcription below is only one possible version. There is considerable flexibility in, for instance, the placing of intonation group boundaries, stress, incidence of certain phonemes such as /ɪ/ and /ə/, etc.



*The Guardian newspaper is famous for its misprints. Why, there is even a Guardian misprint preserved in brass for posterity. Some years ago the El Vino wine bar decided to put up a plaque in honour of Philip Hope-Wallace, its most faithful and probably wittiest habitué. And so, mentioning his eminence as a wit, raconteur and critic, it was duly placed above his usual seat on the wall and unveiled at a small ritual. 'I don't want to seem ungrateful,' said the recipient, peering at it closely, 'but there's only one l in Philip and you've put in two.' 'How can that be?' gasped the management. 'We were careful to check with the Guardian.'*

ðə ˈgɑ:dɪən ˈnju:spetɪpəz | ˈfeɪməs fə r its ˈmɪsprɪnts || ˈwaɪ | ðeəz ˈi:vŋ ə  
 ˈgɑ:dɪən ˈmɪsprɪnt | prəˈzɜ:vɪd ɪn ˈbrɑ:s fə pɒˈsterətɪ || ˈsʌm jɜ:z əˈgəʊ | ði: el  
 ˈvɪ:nəʊ ˈwaɪn bɑ: | dɪˈsaɪdɪd tə ˈpʊt ˈʌp ə ˈplæk | ɪn ˈɒnə r əv ˈfɪlɪp hæʊp  
 ˈwɒlɪs | ɪts məʊst ˈfeɪθfəl | ŋ ˈprɒbəblɪ ˈwɪtɪst | hæˈbɪtʃu:ɪ || ŋ ˈsəʊ | ˈmenʃŋŋ  
 ɪz ˈemɪnəns əz ə ˈwɪt | rækɒnˈtɜ: | ŋ ˈkrɪtɪk | ɪt wəz ˈdʒu:ɪ ˈpleɪst | əˈbʌv ɪz  
 ˈju:zʊəl ˈsɪt | ɒn ðə ˈwɔ:l | ən ʌnˈveɪld ət ə ˈsmɔ:l ˈrɪtʃuəl || aɪ ˈdəʊnt wɒntə ˈsɪ:m  
 ʌnˈgretɪfəl | sed ðə rəˈsɪpɪənt | ˈpɪəriŋ ət ɪt ˈkləʊslɪ | bət ðeɪz əʊnlɪ ˈwʌn el ɪn  
 ˈfɪlɪp | ŋ ˈju:v pʊt ɪn ˈtu: || ˈhʌʊ kən ˈðæt bi: | ˈgɑ:spt ðə ˈmænɪdʒmənt || wɪ wə  
 ˈkeəfəl tə ˈtʃek wɪð ðə ˈgɑ:dɪən ||

Miles Kington in *Robert Morley's Book of Bricks*, rep. Pan Books (1979).

## THE SPEECH MECHANISM

### 4.1 INTRODUCTION

The speech mechanism can be compared to the functioning of a church organ, where air is put under pressure by the operation of a set of bellows. The airstream thus produced activates a reed, which functions as the sound source. The sound waves then pass through the organ pipe, which acts as a resonator, amplifying the sound and modifying its quality. In speech, a similar process takes place, as shown in Fig. 4.1.

In human speech, the airstream is set in motion by the action of the lungs. The air passes through the larynx ('Adam's apple'), which converts the energy of the airstream into a sound source. This is amplified and has its character modified by the resonator — the passageway formed by the throat, mouth and nose.

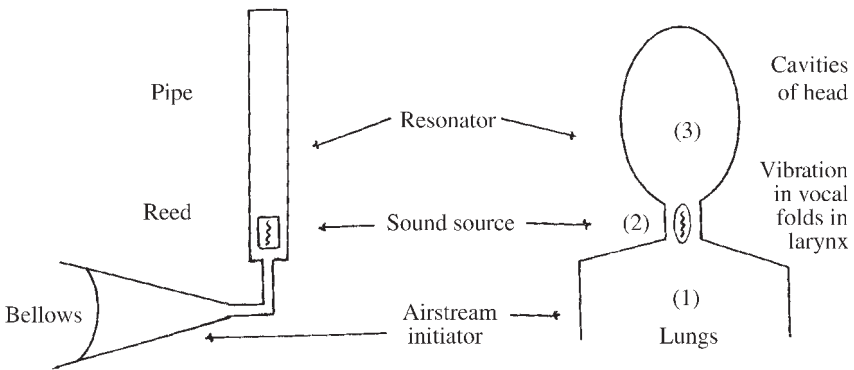


Figure 4.1 Comparison of human speech mechanism and a church organ.  
 (1) Respiratory system (2) phonatory system (3) articulatory system.

### 4.2 THE RESPIRATORY SYSTEM

The respiratory system consists of the lungs and the bronchial<sup>1</sup> tubes. The lungs are sponge-like and can be partially collapsed by the action of the chest-wall muscles and the diaphragm.<sup>2</sup> In this way, the air which is necessary for the production of the speech sound is pushed out of the lungs. Speech can be

<sup>1</sup> /'brʊŋkiəl/.

<sup>2</sup> /'daɪəfræm/.

regarded in a sense as controlled breathing: the lungs take in air rapidly and let it out slowly and under careful control. For normal respiration, breathing in (**inhalation**) and breathing out (**exhalation**) both take about the same length of time. In speech, the ratio varies but is typically about 1:8 in favour of exhalation.

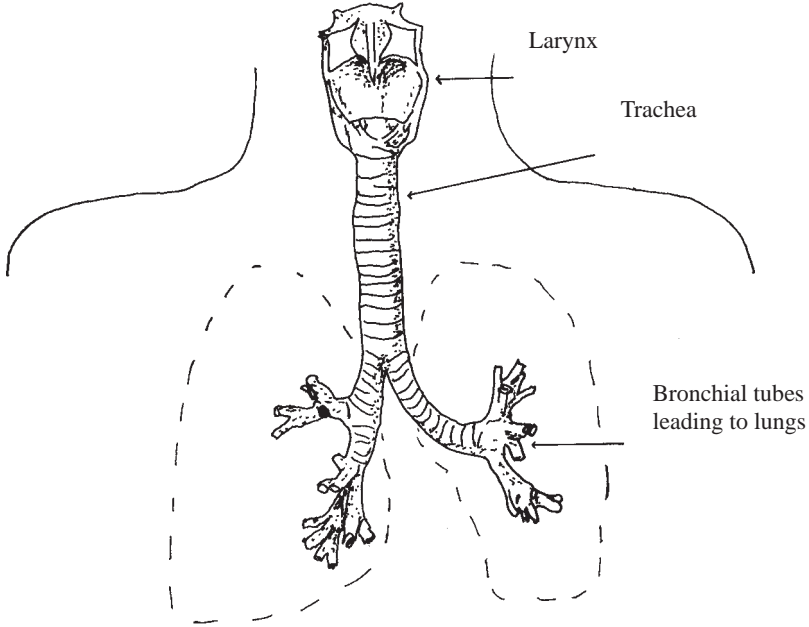


Figure 4.2 Larynx, trachea and bronchial tubes

#### EXERCISE 1

Breathe in and out sharply a few times. Then make a Dutch /a:/ vowel as in *LA*. Hold it for as long as you can. Try making the same noise breathing in. What differences do you notice? Try producing speech breathing in. Using just one breath, for how many seconds can you continue?

Nearly all speech sounds are made by using air that is pushed out of the lungs. This is termed a **pulmonic egressive** airstream. When you did Exercise 1 above, you will have noticed that it is very difficult to speak on an ingressive airstream for a long stretch of time. Sometimes an ingressive airstream is used involuntarily, for example when one is crying, or out of breath (try talking while you walk up a long flight of stairs) or in counting quickly, but no known language regularly uses ingressive pulmonic sounds in its phonemic system.<sup>3</sup>

<sup>3</sup> Although some languages use ingressive sounds like ‘clicks’ and ‘implosives’, these do not use lung air.

**EXERCISE 2**

Using a normal pulmonic egressive airstream, count up to ten in English or Dutch without taking in a breath. Then try the same on a pulmonic ingressive airstream. Notice how much more difficult it is to talk breathing inwards and how odd your voice sounds.

## 4.3 THE PHONATORY SYSTEM

The bronchial tubes lead into the windpipe or **trachea**.<sup>4</sup> At the top of the trachea, we find the **larynx**, which is a framework of cartilages containing the **vocal folds**. The larynx of a man is far larger than that of a woman, or a child, and can easily be seen as a projecting lump. The space between the vocal folds is termed the glottis. In swallowing, food is directed into the stomach via the **oesophagus**.<sup>5</sup> The vocal folds seal off the entrance to the trachea and protect the lungs from inhaling small particles of food. Sometimes this mechanism fails and we say that ‘food has gone the wrong way’.

In order to provide the vibrating sound source of speech, the larynx has had to evolve into something far more sophisticated than is necessary for its primary function described above. The vocal folds can vibrate very rapidly when an airstream is allowed to pass between them. These rapid vibrations (averaging about 120 times a second in men, and around twice that figure in women) produce what is termed **voice** — that is, a sort of ‘buzz’ one can hear and feel in vowels and in most consonant sounds.

**EXERCISE 3**

Say a vowel [a:] as in LA. Prolong it. Press your hand on your larynx, and feel the buzz — the voicing. Now say a long [m] and feel the same thing. Now say a long [s]. Go on to say a [z]. Prolong it. Can you feel and hear the voicing for the [z] sound? Say [s z s z] and feel the contrast of voiceless and voiced in these sounds.

The mechanism of the larynx will be dealt with in Chapter 10. The function of the larynx as a vibration source is termed **phonation**.<sup>6</sup> For the moment, we shall consider only the two states of **voiceless** and **voiced**. Throughout this book, in all cross-section diagrams, a plus sign (+) will be used to indicate *potentially voiced*, and a minus (–) to indicate *voiceless* (see, for instance, Figs 4.4.1 and 5.3). Variation in the speed of vibration of the vocal folds (termed **frequency**) is the vital factor in producing changes of **pitch**, i.e. the way in which we perceive sounds as being high or low. The higher the frequency (i.e. the more rapid the speed of vibration), the higher we perceive the pitch of a sound to be. Longer and larger vocal folds tend to produce slower vibrations (i.e. lower frequency, hence perceived as lower pitch). Consequently, the larger larynxes of men mean that their voices are usually much

<sup>4</sup> /trə'kiə/ or /'treɪkiə/.

<sup>5</sup> /i:'sɒfəgəs/.

<sup>6</sup> /fə'neiʃn/.

deeper in pitch than those of women. **Intonation** is the term used for variation in pitch over a stretch of speech (see Section 23.3).

#### 4.4 THE ARTICULATORY SYSTEM

The articulatory system is formed by the area above the glottis known as the **supraglottal vocal tract** (generally shortened to **vocal tract**), and consists of three cavities, i.e. the spaces inside the pharynx (i.e. the throat), the mouth and the nose. These act as resonators, modifying the ‘buzz’ produced by the vocal folds. Alterations in the shape of the cavities are particularly important in making different types of vowel sounds. It is convenient to examine the vocal tract by means of **sagittal cross-sections**. ‘Sagittal’ is an anatomical term meaning a plane of the body running from front to back. A relatively detailed sagittal cross-section is shown in Fig. 4.3.1. For our purposes we can use a much simplified version, as in Fig. 4.3.2, in which the resonating cavities have been indicated. Throughout the book, similar simple cross-sections will be used to illustrate consonant sounds.

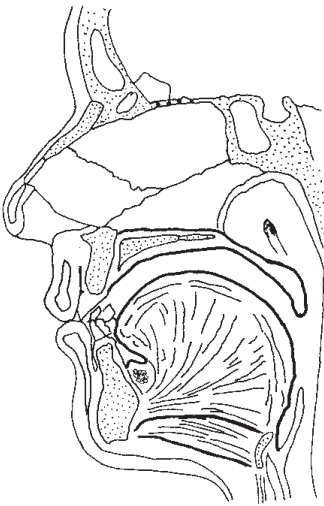


Figure 4.3.1 Sagittal cross-section of supraglottal organs of speech.

- 1 Nasal cavity
- 2 Oral cavity
- 3 Pharyngeal cavity

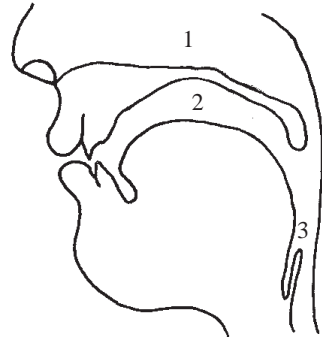


Figure 4.3.2 Simplified model of sagittal cross-section, showing nasal, oral and pharyngeal cavities.

The pharyngeal cavity, i.e. the space enclosed by the pharynx, is the portion of the vocal tract immediately above the vocal folds. The **epiglottis** is at the lower end of the pharynx and plays a part in the swallowing process, diverting the chewed-up food away from the vocal folds and the trachea. At the top of the pharynx, the passageway forks, with one part leading to the **oral cavity** (the space inside the mouth) and the other to the **nasal cavity** (the space in-

side the nose). The **soft palate** acts rather like a railway points mechanism.<sup>7</sup> The airstream can be switched to pass either: (1) through both the oral and nasal cavities simultaneously or, alternatively, (2) through the oral cavity only. In the latter case, the soft palate rises and forms a closure against the back of the pharynx, thus shutting off the entrance to the nasal cavity. For normal breathing, when one is not speaking, the soft palate remains lowered.

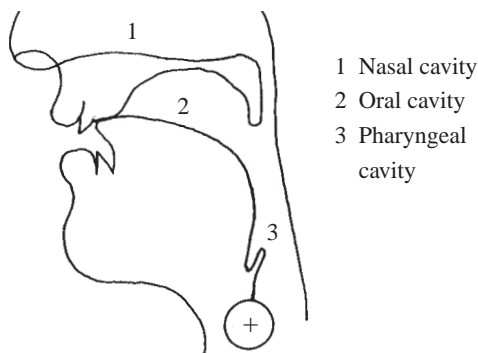


Figure 4.4.1 Cross-section illustrating articulation of /n/, showing soft palate lowered (absence of velic closure). Note that (+) means voiced (see p. 27).

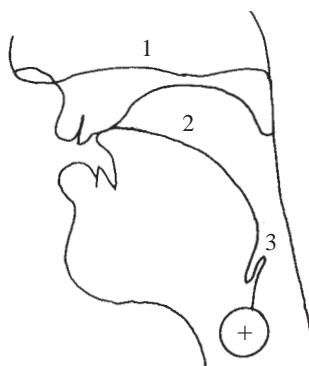


Figure 4.4.2 Articulation of /d/, showing soft palate raised (giving velic closure).

Most speech sounds are oral, being made with the soft palate raised, and so having only the resonance of the oral cavity. However, virtually all languages have at least one **nasal consonant**, e.g. [m, n, ŋ], and many have nasal vowels, e.g. the vowels in French *un bon vin blanc*. For nasal sounds, the soft palate is lowered, allowing the air to escape through the nose.

#### EXERCISE 4

Say a prolonged [m]. Now pinch your nostrils sharply. What happens? Do the same with [n] and [ŋ]. These consonants, where the airstream is allowed to resonate in the nasal cavity, are called nasals. When you block the point of the release at the nostrils, the airstream can no longer escape and the sound suddenly ceases.

### *The oral cavity*

We shall now examine in greater detail the oral cavity, i.e. the space inside the mouth, beginning with the lips.

#### *Lips*

The Latin word for lips is *labia*, giving us the adjectives **labial** and **bilabial**

<sup>7</sup> *Points* = Dutch 'wissel'.

(= two lips). The lips are flexible in several directions and can be rounded or spread. A simplified model for lip shape is shown in Fig. 4.5.

The two lips can close to block the airstream, as for bilabial /p, b, m/ in Dutch and English. Or the lips can allow air through, being so close together that audible friction is produced, as for the bilabial sound [β] in Spanish *Habana* ‘Havana’ or *aviso* ‘warning’. The lower lip can also be held close to the upper teeth, as for D /f, ʃ/ (e.g. *fee, vee*), or E /f, v/ (e.g. *fine, vine*).

In the production of vowels, the lips may be **spread**, e.g. D /i/ in *zie*, E /i:/ in *see*, or **neutral**, e.g. D /a:/ in *laan*, E /ɑ:/ in *car*. The lips may also be **rounded**, often with protrusion for many speech sounds. This may take the form of **open rounding**, e.g. E /ɒ/ in *box*, or **close rounding**, e.g. D /y/ in *nu*.

Consonants may also have lip-rounding, for instance, E /w/ in *we* has strongly rounded lips. For most English speakers, /r/ in *red* has lip-rounding. E /ʃ/ in *she* and E /tʃ/ in *chew* have lip-rounding and protrusion with the lips forming a distinctive type of outer lip-rounded trumpet shape. The somewhat similar D /sj/ in *sjaal* has less lip-rounding — with some speakers, virtually none at all.

#### EXERCISE 5

Use a small mirror to practise lip-rounding and spreading with vowel sounds. Say D /i/ as in *ziek*. Now say it and round your lips. What sort of vowel do you now get? Say the vowel in *nu*. Unround your lips. What sort of vowel do you hear? Say the sound /sj/ in *sjaal*. Observe whether you have your lips rounded or spread. Try adding or removing the lip-rounding from /sj/ and note what difference (if any) it makes to the sound.

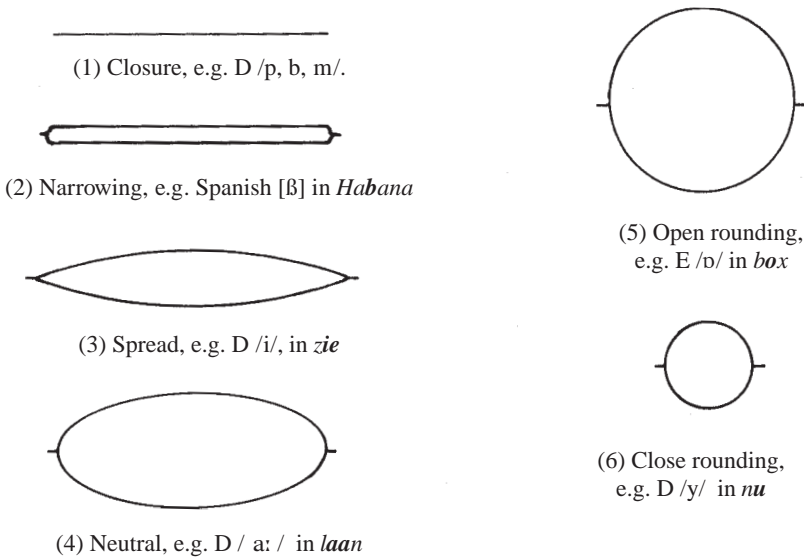


Figure 4.5 Simplified model of lip shapes



## Teeth

The teeth are fixed in position, acting as obstacles to the airstream when it is directed against them by the positioning of the tongue. The upper front teeth are the most important for speech. They are particularly important in the generation of the friction required for sounds like /s, z/ in Dutch and English, and it is very difficult to talk without them. (Ask anyone with false teeth.)

The tip of the tongue is held close to the front teeth in the articulation of the English sounds /θ/ in *think* and /ð/ in *rather*. Such articulations are termed **dental**, and usually pose a problem for Dutch speakers. In the languages of the world, dental fricatives similar to /θ/ and /ð/ are not uncommon; they are found, for example, in Spanish, Greek, Icelandic and Welsh.

As we have seen, the lips can articulate against the teeth for **labio-dental** sounds like E /f/ and /v/.

### EXERCISE 6

Try saying the dental sounds [θ] and [ð]. Use your mirror to check the position of your tongue and teeth. See if you can say the dental sounds by placing the tongue just behind the back of the upper front teeth. You should find it quite easy to produce [θ] and [ð] in this way.

## Alveolar ridge

In English, a large number of speech sounds are made with the tongue pressing against or moving towards the alveolar ridge, e.g. /t, d, n, s, z, l/. Dutch has similar sounds, differing in details which will be discussed later. In addition, D /r/ is frequently made by the tongue tapping against the alveolar ridge. Sounds involving the alveolar ridge are termed **alveolar**.<sup>8</sup>

### EXERCISE 7

If you put a finger into the mouth, the (upper) alveolar ridge can be felt as a corrugated ridge just behind the upper front teeth. You can easily feel it with the tip of the tongue.

## Hard palate

For Dutch and English /j/, e.g. *jaar*, *yes*, the tongue makes a movement towards the hard palate. Such articulations involving the tongue and the hard palate are termed **palatal**. For D /sj/ in *sjaal* and /tj/ in *gaatje*, a large portion of the tongue rises to articulate with the front of the palate and the rear of the alveolar ridge. Such articulations are termed **alveolo-palatal**.

Rather similar articulations are heard in E /ʃ/ in *ship*, E /ʒ/ in *measure*, E /tʃ/ in *choke*, E /dʒ/ in *joke*; but these are produced by the tongue rising towards the alveolar ridge and the frontmost part of the hard palate, and are

<sup>8</sup> /ælvɪˈbʊlə/.

termed **palato-alveolar**.<sup>9</sup> They are different from D /sj, tj/ in that a smaller portion of the front of the palate is involved.

#### EXERCISE 8

First run your finger, and then your tongue, back from the alveolar ridge. This will enable you to feel the dome of the hard palate. Say the word *ja* and feel the tongue come up for the /j/ as it moves towards the hard palate.

#### Soft palate

#### EXERCISE 9

If you feel brave, run your finger further back to feel where the hard palate joins the soft palate. It may make you feel — momentarily — sick! There is a reflex, called the ‘gag reflex’, the purpose of which is to deter you from swallowing large objects.

The alternative name for the soft palate — **velum** — gives us two further terms **velar** and **velic**,<sup>10</sup> and it is important to distinguish between them.

We have already discussed how the soft palate can move up to form a closure against the back wall of the pharynx, and so block off the nasal cavity. We term this a **velic closure**, and it is part of the articulation of all non-nasal sounds. But the velum, like the other parts of the roof of the mouth, can have the tongue articulating against it. Such a closure is used for [k, g, ŋ] and is termed a **velar closure**. Consequently, the articulations for [k, g] have a velic *and* a velar closure; [ŋ] has a velar closure, but since it is a nasal, it has no velic closure.

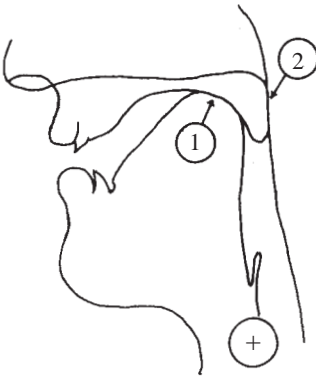


Figure 4.6.1 Articulation of /g/, showing (1) velar closure (2) velic closure.

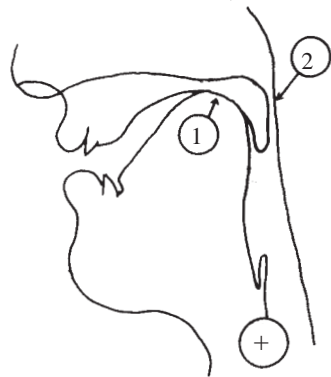


Figure 4.6.2 Articulation of /ŋ/, showing (1) velar closure (2) absence of velic closure.

<sup>9</sup> Note that, following Cruttenden (1994: 160) we have retained the term ‘palato-alveolar’ instead of ‘post-alveolar’ as recommended in the latest versions of the IPA chart (see pp. 352–53). This allows us to distinguish E /r/ as ‘post-alveolar’ (labelled as ‘alveolar’ in the IPA chart).

<sup>10</sup> /vi:ləm, 'vi:lə, 'vi:lɪk/.

## *Uvula*

At the back of the velum is the **uvula**, which can easily be seen in a mirror as a hanging lump of tissue at the back of the mouth. It is possible to make it vibrate and so produce a **uvular trill** [ʀ]. A similar sort of effect is obtained by gargling with water.

### **EXERCISE 10**

Try to produce a uvular trill [ʀ]. If you have difficulty, try going through the motions of gargling.

In many types of Dutch, including much (NL) ABN, the /r/ phoneme is a uvular sound with the airstream channelled between the uvula and the back of the tongue. Several other western European languages, e.g. French, German, and Danish (but not English), have a uvular articulation for /r/.

### **EXERCISE 11**

Is your own D /r/ normally a uvular or an alveolar sound? Check with a number of Dutch speakers — other students in your class, and your friends and relations. Are their articulations of /r/ made in the same way as yours? (See also pp. 199-201.)

## *Tongue*

Let us now examine one of the most interesting and complex of the organs of speech — the tongue. The tongue-body consists almost entirely of muscle. The whole of the upper surface of the tongue (termed the **dorsum**) is covered with a mucous membrane containing the taste nerve endings and the saliva-producing glands.

### **EXERCISE 12**

Take your mirror and use it to look at your tongue. Put your tongue out and examine the tip. Touch your upper lip with the tongue-tip and see how easily the tongue can be made to elongate and curl back so that the underside shows.

The tongue is extremely mobile and flexible, and the tip is a very sensitive organ of touch — much more sensitive, in fact, than the finger tips. Both this sensitivity and our ability to detect movement (i.e. **kinaesthetic** sense) diminish greatly towards the back of the tongue. Consequently, although we can easily control the tip of the tongue, it is very hard to make any conscious adjustments to the rear portion.

### **EXERCISE 13**

Looking in a mirror, run the tip of the tongue back from the teeth along the hard palate. How far back can you get the tongue-tip to go? Try saying [t] type sounds with your tongue at various points along the roof of the mouth. Can you make a trilled [r] with the tip of your tongue?

The tongue is one organ, with no natural divisions. But for phonetic purposes, it is usual to divide it up into parts, as shown in Fig. 4.7.1. It is important to note that the **front** of the tongue is actually *behind* the **tip** and **blade**. If we

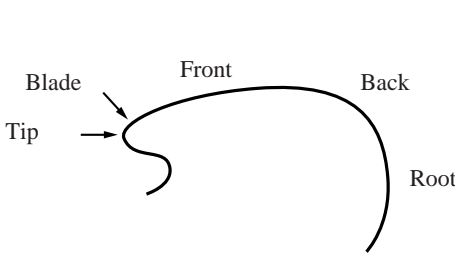


Figure 4.7.1 Parts of tongue.

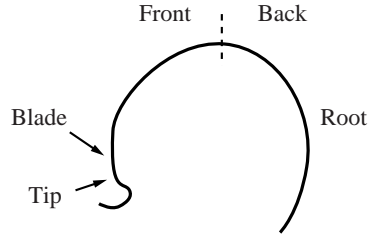


Figure 4.7.2 Parts of tongue (tongue-body raised and tip/blade lowered as for vowel articulations).

look at the tongue in another of its postures — with the tip down and the tongue-body raised, as for many vowel sounds — the reason for the label ‘front’ becomes clear (see Fig. 4.7.2).

Table 4.1. lists the standard terminology used in phonetics for the divisions of the tongue. In addition, the table shows the Latin-derived anatomical terms (nouns and adjectives) which you may encounter if you go on to read more advanced works on phonetics and phonology.

Table 4.1 Divisions of the tongue

Portion of tongue	Latin term	Adjective
Tip	Apex	Apical
Blade	Lamina	Laminal
Front/Back	Dorsum (used for whole upper surface)	Dorsal
Root	Radix	Radical

All the portions of the tongue are controlled by the complex mass of muscles located in the tongue-body. It is possible for the tongue to assume a variety of shapes. For instance, as we shall see in Chapter 8, the dorsum can be arched into various shapes to articulate vowel sounds. Alternatively, a groove can be formed along the **septum** or mid-line of the tongue, as is the case for [s, z].<sup>11</sup>

**EXERCISE 14**

Say [s] and then breathe in sharply. Feel how the cold air rushes in via the channel formed along the septum of your tongue.

**EXERCISE 15**

Stick your tongue out and, looking in a mirror, see if there is a natural tendency for it to form a channel along the septum. Some people have more control over this than others and can raise the sides and depress the mid-line with ease.

For /l/, the sides of the tongue are depressed.

<sup>11</sup> *Septum* is an anatomical term used for the mid-line of any organ of the body.

**EXERCISE 16**

Say [l] and then breathe in sharply. Where do you feel the cold air coming in? Along the septum, or along one or both sides?

In Table 4.2, an indication is given of some of the different movements and postures that the tongue can take up in speech.

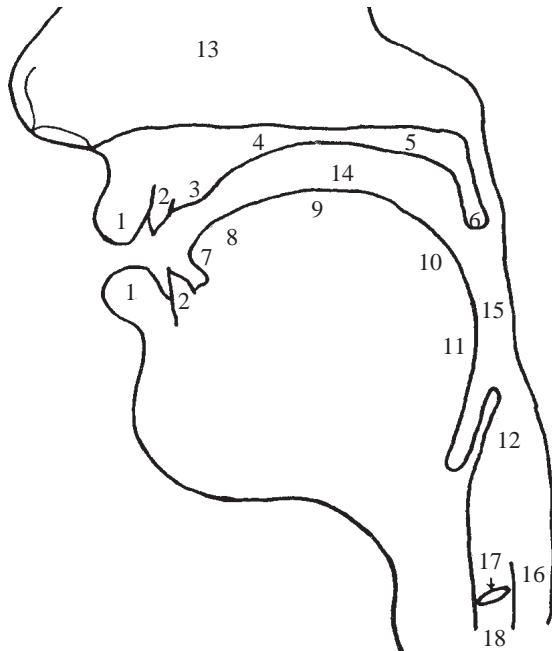
Table 4.2 Postures of the tongue

Tongue posture	Examples
1. Tongue-tip placed just behind front teeth (or slightly protruding).	E /θ, ð/; Spanish /t, d/
2. Tip/blade of tongue to alveolar ridge.	E /t, d, n, s, z, l/
3. Blade/front of tongue to alveolar ridge.	D /s, z/
4. Tongue-tip vibrating against alveolar ridge.	D <i>tong-r</i>
5. Centre of tongue raised along mid-line, sides lowered.	E /l/; D /l/
6. Centre of tongue grooved along mid-line, sides raised.	E /s, z/; D /s, z/
7. Front of tongue raised to hard palate.	D /j/; E /j/
8. Back of tongue raised to velum.	D /k, x/; E /k, g/
9. Back of tongue to uvula.	D <i>huig-r</i>
10. Tongue-tip curled back so that underside approaches or touches the palate (retroflex).	Some varieties of American /r/; /ɽ, ɖ/ in Indian languages.

**EXERCISE 17**

Fill in the blanks by consulting the text. Answers on p. 341.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.
- 13.
- 14.
- 15.
- 16.
- 17.
- 18.



## CLASSIFICATION OF CONSONANTS

### 5.1 DESCRIPTIVE LABELS

Consonants are often referred to by a brief **descriptive label** providing a useful ‘shorthand’ way of referring to them. These labels consist of two or three descriptive terms containing the following information:

1. Energy of articulation (where applicable)
2. Place of articulation
3. Manner of articulation

For instance, E /b/ can be described as a lenis bilabial plosive, E /s/ as a fortis alveolar fricative and E /ŋ/ as a velar nasal. This chapter will deal with the meanings of these terms.

### 5.2 PLACE OF ARTICULATION

An essential part of the description of consonant sounds is **place of articulation**. This tells us *where* in the vocal tract the sound is articulated.

#### *Active and passive articulators*

The **active articulator** is the term for the organ that *moves* in the articulation. The **passive articulator** is the *target* of the articulation — the point towards which the active articulator is directed.

Sometimes there is actual contact between the two, as in [t] and [k]. In other cases, the active articulator is positioned close to the passive articulator, as in [s] or [x]. With other articulations again, there is only a slight movement by the active articulator towards the passive articulator; this is true for E /r/, for example. Sometimes the distinction of passive and active articulator is not possible, e.g. with [h], formed at the glottis, or [p, b, m], made by the two lips moving together simultaneously.

The descriptive label is normally derived from the passive articulator. The cross-sections on pp. 37-8 show the chief places of articulation for English and Dutch.

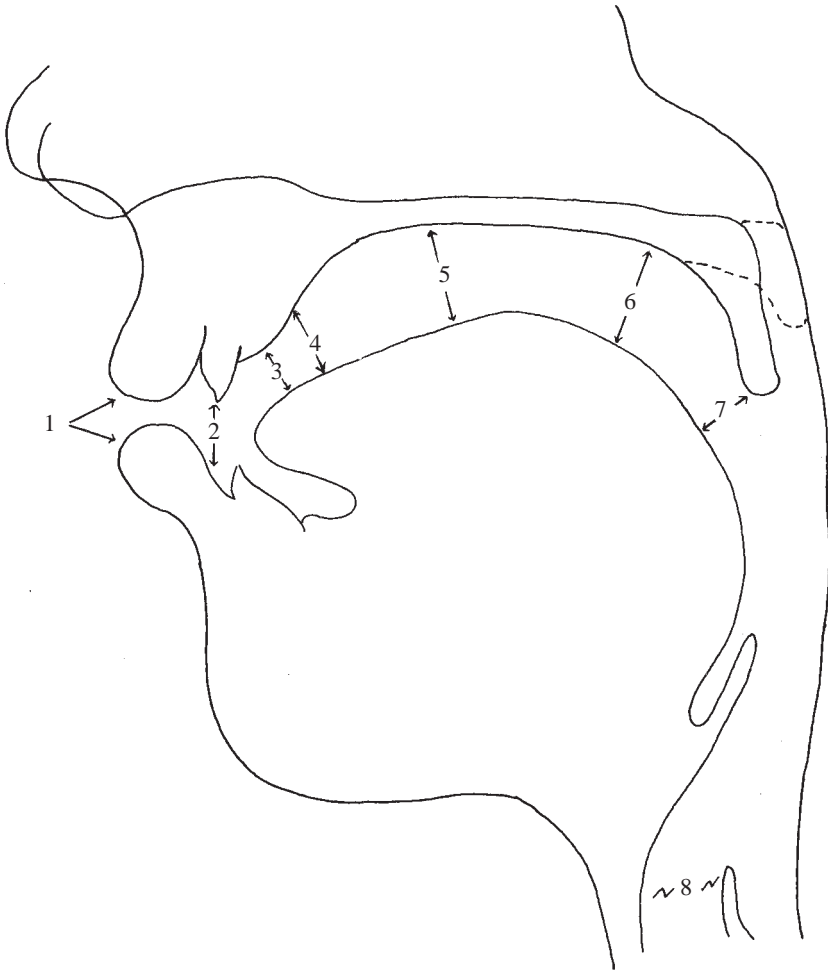


Figure 5.1 Places of articulation (Dutch)

1. Bilabial (lips)
2. Labio-dental (lip and teeth)
3. Alveolar (blade of tongue and alveolar ridge)
4. Alveolo-palatal (blade/front of tongue and rear alveolar ridge/hard palate)
5. Palatal (front of tongue and hard palate)
6. Velar (back of tongue and soft palate)
7. Uvular (back of tongue and uvula)
8. Glottal (vocal folds)

#### EXERCISE 1

Say these Dutch words and relate the consonants to the places of articulation in Fig. 5.1: *pijp* (bilabial), *vijf* (labio-dental), *tas* (alveolar), *sjouw* (alveolo-palatal), *ja* (palatal), *kijk* (velar), *hoe* (glottal). What about *rij*? Is the /r/ alveolar or uvular in your speech?

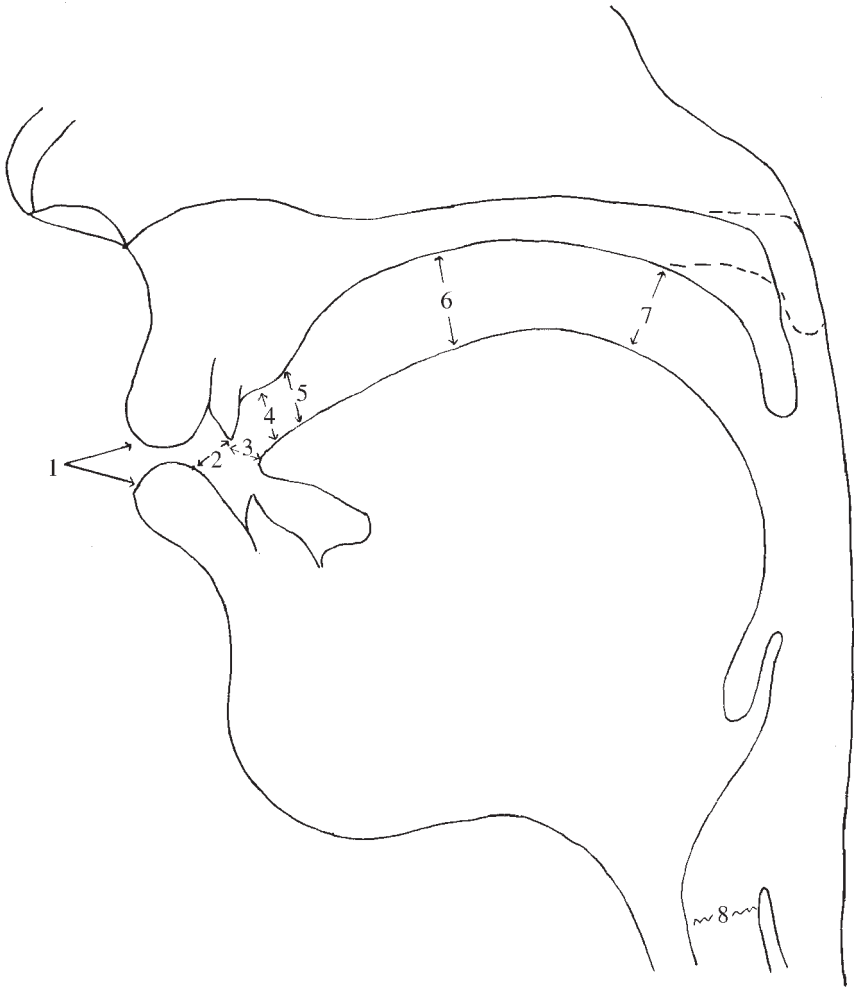


Figure 5.2 Places of articulation (English)

1. Bilabial (lips)
2. Labio-dental (lip and teeth)
3. Dental (tongue-tip and teeth)
4. Alveolar (tip/blade and alveolar ridge)
5. Palato-alveolar (blade/front of tongue and alveolar ridge/hard palate)
6. Palatal (front of tongue and hard palate)
7. Velar (back of tongue and velum)
8. Glottal (vocal folds)

#### **EXERCISE 2**

Now try saying these English words and relate the consonants printed in bold to the places of articulation in Fig. 5.2: **pub** (bilabial), **five** (labio-dental), **though** (dental), **side** (alveolar), **church** (palato-alveolar), **you** (palatal), **cake** (velar), **how** (glottal).



Table 5.1 Places of articulation

	Bilabial	Labio-dental	Dental	Alveolar	Palato-alveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
<b>Passive articulator</b>	—	Teeth	Teeth	Alveolar ridge	Alveolar ridge/ front of palate	Rear of alveolar ridge	Hard palate	Velum	Uvula	Pharynx	—
<b>Active articulator</b>	Lips	Lip	Tip of tongue	Tip of tongue	Blade/front of tongue	Underside of tongue-tip	Front of tongue	Back of tongue	Back of tongue	Root of tongue	Glottis
<b>Examples</b>	p b m	f v	θ ð t d <sup>1</sup>	t d n s z l ɹ <sup>2</sup>	ʃ ʒ	t ɳ d ɖ ɖ <sup>3</sup>	ç <sup>4</sup> j	k g x	χ ʀ ʁ <sup>5</sup>	ʕ <sup>6</sup>	h ʔ

1. Dental [t, d], e.g. Spanish *tonto*, *donde*.
2. [ɹ] as in English *red* (see p. 44).
3. [ɹ] as in some varieties of American, e.g. *rare*. [t d ɳ] occur in Indian languages, e.g. Hindi, Gujarati, Bengali, and in Indian English.
4. [ç]: German 'ich-Laut'. English [ç] in many speakers' realisations of /hj/, e.g. *huge* /hju:ɹdʒ/ [çu:ɹdʒ].
5. Varieties of Dutch *huig*-r. [ʀ] is a uvular fricative; [ʁ] is a uvular trill. Note that in the case of the trill the uvula is actually the active articulator.
6. Pharyngeal sounds occur in several languages, notably Arabic.

## 5.3 MANNER OF ARTICULATION

**Manner of articulation** is concerned with *how* the airstream is modified by the articulators. All articulations involve some important change in the shape of the vocal tract which can be described in terms of the relationship between the active and passive articulators. This is termed **stricture**.

Stricture implies the positioning of the active and passive articulators so as to block, hinder or alter in some way the passage of the stream of air from the lungs. Table 5.2 summarises the chief stricture possibilities: **complete closure**, **close approximation** and **open approximation**.

Table 5.2. Stricture possibilities and their effects

Nature of stricture	Effect of stricture
Complete closure	Forms obstruction which blocks airstream
Close approximation	Forms narrowing giving rise to friction
Open approximation	Forms no obstruction but changes shape of vocal tract, thus altering nature of resonance

### EXERCISE 3

Say D /t/ as in *tot*. Now say D /s/ as in *soos*. You can feel that for /t/ the active articulator (tongue-blade) and the passive articulator (alveolar ridge) form a complete closure and block the airstream. For /s/, there is hardly any contact but the articulators form a narrowing through which the airstream is channelled. There is a stricture of close approximation. Compare D /k/ in *kans* (complete closure) and D /x/ in *gans* (close approximation). Now say D /j/ in *Jans*. The degree of stricture is more open than for /x/; it is termed open approximation.

### *Complete closure*

#### *Stops*

For stop consonants, the soft palate is raised. There is a complete closure in the oral tract which blocks (or stops) the airstream, hence the term **stop**. The air can be released in one of the following two ways:

- a) The articulators part suddenly, allowing the compressed air to be released with explosive force (termed **plosion**) resulting in an audible burst of noise. The sounds made in this way are referred to as **plosives**. Examples are E /p, t, k, b, d, g/ and D /p, t, k, b, d/.

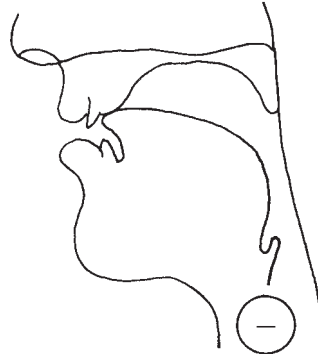


Figure 5.3 Plosive E /t/ (complete closure). Note that a minus sign (-) indicates *voiceless* (see p. 27).

b) The closure is released relatively slowly. As the articulators part, there is a brief period of close approximation, i.e. a narrowing which gives rise to **homorganic friction** (namely, friction at the same point of articulation as the stop closure). The sounds made in this way are termed **affricates**. Figs 5.4.1 and 5.4.2 illustrate the stages in E /tʃ/. In English, /tʃ/, as in *church*, and /dʒ/, as in *judge*, are the only affricate articulations which function as *phonemes*.

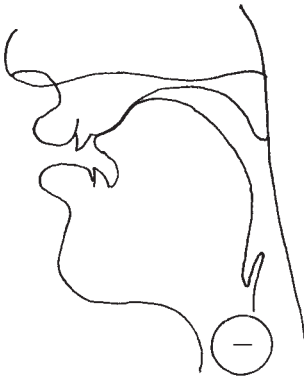


Figure 5.4.1 Affricate E /tʃ/, showing closure.

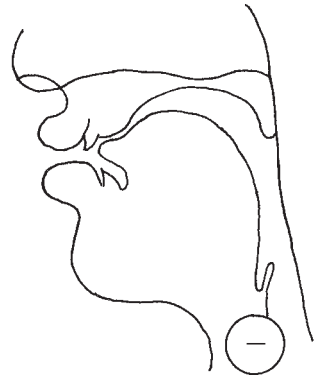


Figure 5.4.2 Affricate E /tʃ/, showing fricative release.

However, it is possible to find sequences of consonants consisting of a stop followed by a homorganic fricative which can be considered as affricates in a *phonetic* analysis, e.g. *fits* [fɪts] (alveolar), *train* [tʀɛɪn] (post-alveolar), *eighth* [eɪt̪θ] (dental). There are no phoneme affricates in Dutch, but /ts/ in *fiets* [fɪts] and /tʃ/ in *toetje* [ˈtutɕə] are in articulatory terms phonetic affricates. For further detail, see Section 16.3.

## Nasals

For **nasals**, there is a complete closure in the oral cavity similar to that for stops, but the soft palate is lowered, so the airstream can escape through the nasal cavity.<sup>1</sup> Examples are English and Dutch /m, n, ŋ/.

In English and Dutch, nasals are usually voiced. However, certain languages, e.g. Burmese, Welsh and Icelandic, have in addition a set of voiceless nasal phonemes.

### EXERCISE 4

In Burmese, a set of voiceless nasals /m̥, n̥, ŋ̥/ contrasts with /m, n, ŋ/. Try saying these examples: [m̥ɑ] ‘from’; [n̥ɑ] ‘nostril’; [ŋ̥ɑ] ‘in order to’.

## Trills and taps

A **trill** involves a series of rapid, percussive movements made by the active articulator as it strikes the passive articulator. We have already mentioned the two types of trill that occur fairly frequently in language, namely an alveolar trill (the tongue-tip striking the alveolar ridge) and a uvular trill (the uvula striking the back of the tongue). These are illustrated in Figs 5.5.1 and 5.5.2:

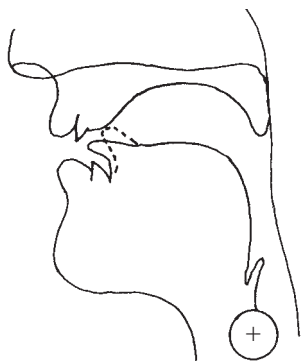


Figure 5.5.1 Alveolar trill as for Dutch *tong-r*.

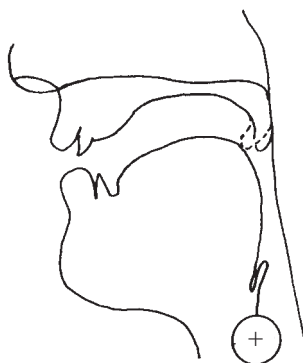


Figure 5.5.2 Uvular trill as for Dutch *huig-r*.

Both of these are found as realisations of D /r/. The trills are not common in the general speech of (NL) ABN, but many people produce trill articulations in careful or formal speech — for instance, on the stage. However, many Dutch speakers are only able to produce *one* of the two types and some are unable to articulate a trill of any sort.

A *single* rapid movement of a percussive type (i.e. like one movement of a trill) is termed a **tap**. Taps, both alveolar and uvular, are far more common than trills in Dutch. An alveolar tap, for instance, is the general realisation of /r/ in Noord-Holland and the north eastern provinces of the Netherlands and is also heard extensively in Belgium.

<sup>1</sup> Many modern writers actually use the term ‘nasal stop’ for these sounds.

**EXERCISE 5**

Start off by making a bilabial trill. This is the sort of noise we use to show that we feel cold. It is often shown in print as *brrr*. The phonetic symbol is [ʙ], and it occurs as a phoneme in some African Bantu languages (e.g. Ngwe, spoken in Cameroun). Look in a mirror as you say it, and you will be able to see as well as feel the rapid percussive action of the lips.

**EXERCISE 6**

If a tongue-tip alveolar trill does not occur in your type of Dutch, you can begin by trying to say a [d] very rapidly. Say *krentenbrood* as [ˈkɛntəbdɔːt]. Practice should enable you to make this rapid [d] into a tap, and then you can extend it into a trill.

**EXERCISE 7**

Now try articulating, between vowels, (1) an alveolar tap [ɾ] and (2) an alveolar trill [ara]. Now practise the uvular trill [ʀ] again, which you tried for the first time in Exercise 10 in Section 4.4 (p. 33).

RP, like virtually all other types of native-speaker English, has no trill articulation. However, an alveolar trill can be heard occasionally from some Scots. Many dialects (e.g. Scots, Liverpool) use an alveolar tap [ɾ] for E /r/. A tap is sometimes heard from old-fashioned RP speakers when E /r/ occurs between vowels, e.g. *carry*, *very*, and a tap articulation is often used by actors. E /t/, between vowels, is also frequently realised as a type of light tap [ɾ], e.g. *matter*, *better*, *sort of*, *put it out of gear*. In American English, /t/ between vowels is regularly a strong tap, and is often not distinguished from /d/.

*Close approximation (narrowing)**Fricatives*

The articulators move close to each other but not enough to form a complete closure. As a result, the airstream is not blocked, but is allowed to escape through a narrowing, i.e. a stricture of close approximation.

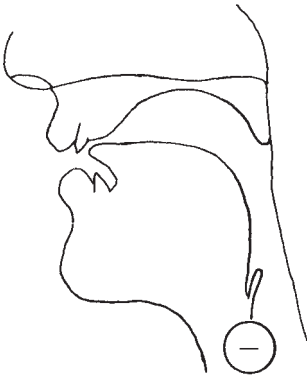


Figure 5.6.1 Fricative E /s/, showing narrowing (tip-blade of tongue and alveolar ridge).

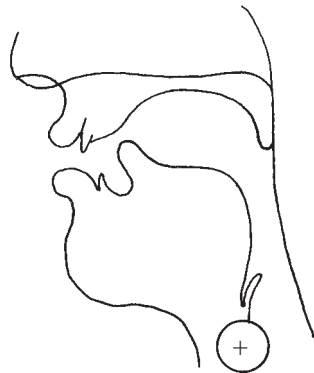


Figure 5.6.2 Approximant E /r/, showing post-alveolar stricture of open approximation.

This gives rise to air turbulence, which results in audible friction. Examples are E /f, v, θ, ð, s, z, ʃ, ʒ, h/ and D /f, ʃ, s, z, x, ʁ, h/.

### *Open approximation*

#### *Central approximants*

For central approximants, the articulators merely modify the shape of the mouth, giving rise to a stricture of open approximation. The space between the articulators is sufficiently large to allow the escape of the airstream without any audible friction.

Examples are E /w, j, r/, D /j/ and types of D /r/ and D /v/. E /j/ and /w/ are like very short vowels, similar to brief versions of E /i:/ and E /u:/ respectively. Similarly, D /j/ is like a rapidly articulated D /i/.<sup>2</sup>

#### **EXERCISE 8**

Say a D /i/ followed directly by D /a:/ in this way: [ia:]. If you say [i] quickly, you will end up with Dutch *ja*. Now try the same with /u/. If you say a rapid D /u/ followed by /ɛt/, you should end up with a sound close to E [w], and a word sounding like English *wet*.

E /r/ is usually approximant with the tip of the tongue approaching the rear of the alveolar ridge. We term it a post-alveolar approximant and the symbol for this sound is [ɹ]. D /v/ and D /r/ are frequently realised as approximant sounds.

### *Partial closure*

#### *Lateral (approximant)*

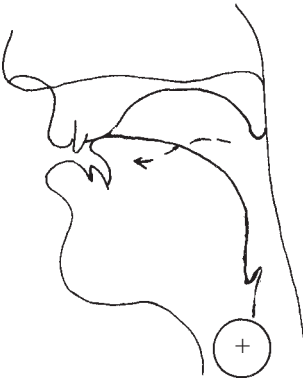


Figure 5.7.1 Lateral approximant E /l/.  
Airstream escapes without friction over lowered sides of tongue.

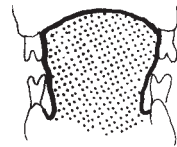
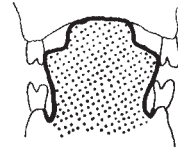


Figure 5.7.2 Cross-sections viewed from front. Top: tongue-sides lowered for lateral [l]. Bottom: tongue-sides raised for non-lateral, e.g. [t, d].

<sup>2</sup> In fact, a former term for these sounds was 'semi-vowels'.

Lateral consonants involve a special type of partial stricture, whereby the central part of the tongue forms a closure with the roof of the mouth, but one or both of the *sides* remain lowered. In most cases, the airstream escapes without friction over the lowered sides of the tongue, thus producing a **lateral approximant**. This is the case for D /l/ and most varieties of E /l/. However, if the distance between the lowered sides of the tongue and the roof of the mouth is only sufficient to produce a narrowing and if there is a forceful airstream, the result is a **lateral fricative** (either voiceless or voiced, symbolised as [ɬ] and [ɮ] respectively).

#### EXERCISE 9

Say an [l] a number of times. Now try saying the sound, pushing the sides closer to the roof of the mouth, and forcing a stronger airstream through. This gives you a voiced lateral fricative, [ɮ]. Now try 'switching off' the voice. This results in a voiceless lateral fricative [ɬ].

In the languages of the world, voiced lateral fricatives are unusual. However, [ɮ] functions as a phoneme in the South African languages Zulu and Xhosa. The voiceless lateral fricative [ɬ] is more common, and occurs as a phoneme not only in Zulu and Xhosa, but also in Welsh, Icelandic and Burmese. It is also thought that Old English had a voiceless lateral fricative represented by **hl**, e.g. *hlaford* 'lord'.



#### EXERCISE 10

In Welsh, /ɬ/ is represented in the spelling by **ll**. Try saying these Welsh words which contain the voiceless lateral fricative: *allt* /aɬt/ 'hillside', *allan* /'aɬan/ 'out', *llaeth* /ɬaiθ/ 'milk', *arall* /'aɪraɬ/, 'other', *lle* /ɬeɪ/ 'place', *llech* /ɬeɪx/ 'stone'.



#### EXERCISE 11

Just for fun, attempt a pronunciation of the longest Welsh place name, *Llanfairpwllgwyngyllgogerychwyrndrobwllllantysiliogogoch*  
[ɬan'vaɪrɸɔɬ'gwiŋgɪɬ'go:'ge:rəxwərn'drɔbɔɬɬ'ɬantɪsljɔ:'go:'go:'go:]

A similar sound, realised as a devoiced /l/ with weak friction (usually represented as [ɭ]), also occurs as an allophone of E /l/, following fortis plosives, as in *clean*, *play*, *atlas*.



#### EXERCISE 12

Say these words in English in order to practise voiceless [ɭ]: *clean*, *play*, *click*, *clock*, *please*, *plaster*, *plenty*, *cluster*.

### 5.4 ENERGY OF ARTICULATION (THE FORTIS/LENIS CONTRAST)

In addition to place and manner of articulation, there is a third possible distinction in consonant sounds. This is termed **energy of articulation**, and has already been mentioned briefly in Section 2.4.

Consider D /p/ and /b/, which are both bilabial (place of articulation) and plosives (manner of articulation), yet they are obviously different sounds. The

same goes for D /t/ and /d/, which are both alveolar plosives, but are certainly not identical. Again, take D /s/ and /z/ — both are alveolar fricatives but they are clearly not the same sound.

#### EXERCISE 13

Say these Dutch words a number of times:

*pak – bak*

*tik – dik*

Compare the initial sound in the first pair /p – b/. Which sound do you hear as the stronger, more energetic articulation? Look in a mirror. Can you see that your lips are tighter together for /p/?

#### EXERCISE 14

Say /p/ and /b/ between /a:/ vowels: /a:pa:, a:ba:/. Put your fingers in your ears and listen for voice. Voice ceases during /p/, but continues all the way through /b/. Now do the same for /t/ and /d/, and /s/ and /z/: /a:ta:, a:da:, a:sa:, a:za:/. Voice ceases for the consonants /t/ and /s/, but continues throughout for /d/ and /z/.

In Dutch, therefore, there are two classes of consonants: a class of the /p, t/ type, whose articulation is tense, energetic and voiceless, and a class of the /b, d/ type whose articulation is weaker, less energetic and is potentially voiced. Consonants of the /p, t/ type are termed **fortis** (Latin: ‘strong’), and of the /b, d/ type **lenis** (Latin: ‘soft’). We can divide the consonants in Dutch as follows:

#### Fortis

p, t, k, f, s, x

#### Lenis

b, d, (g),<sup>3</sup>f, z, ʏ

The fortis/lenis contrast only affects stops and fricatives in Dutch. The same holds true for English:

#### Fortis

p, t, k, tʃ, f, θ, s, ʃ

#### Lenis

b, d, g, dʒ, v, ð, z, ʒ

At a phonemic level, the systems of the two languages are similar inasmuch as only the stops and fricatives are affected. One crucial difference, however, is that, unlike English, Dutch has no fortis/lenis contrast in word-final position (see p. 48 for the instability of the fortis/lenis contrast in the Dutch fricatives).

At a phonetic level, we can also notice other differences between the two languages. Table 5.3 outlines the main ways in which the fortis/lenis contrast is produced in English. We shall return to these matters in greater detail in Chapter 6.

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<sup>3</sup> In (NL) ABN only found in loanwords, e.g. *goal, grill, golf*. In (B) AN, /ʏ/ is more commonly used in such words.



Table 5.3 *Fortis/lenis contrast in English*

<b>Fortis</b>	<b>Lenis</b>
1. Articulation is in all respects stronger and more energetic. It has more muscular effort and greater breath force.	1. Articulation is in all respects weaker. It has less muscular effort and less breath force.
2. Articulation is voiceless.	2. Articulation may have voice.
3. Plosives /p, t, k/ when initial in a stressed syllable have strong aspiration, e.g. <i>pop</i> [p <sup>h</sup> ɒp]. Some aspiration can often also be heard in final position.	3. Plosives are unaspirated, e.g. <i>bob</i> [bɒb].
4. Vowels are shortened before a final fortis consonant, e.g. <i>bit</i> .	4. Vowels have full length before a final lenis consonant, e.g. <i>bid</i> .
5. Syllable-final stops often have a reinforcing glottal stop (pre-glottalisation), e.g. <i>bit me</i> [br <sup>ʔ</sup> t mɪ].	5. Syllable-final stops never have a reinforcing glottal stop, e.g. <i>bid</i> [bɪd].

## FORTIS/LENIS CONTRAST IN DUTCH AND ENGLISH

### 6.1 CONTRASTIVE OVERVIEW

The main differences in the fortis/lenis contrast in Dutch and English are the following:

1. There are more signals for the fortis/lenis contrast in English than in Dutch. This is particularly the case with plosives.
2. The oppositions in Dutch are less clear in the fricative series. In the Netherlands, hardly any ABN speakers appear to maintain a consistent contrast between /x – ɣ/ in pairs such as *lachen* and *vlaggen*. Many Netherlands speakers (including ABN) also lack a true /f – ʃ/ contrast (except perhaps in their formal speech). In some accents, e.g. Amsterdam, /s/ and /z/ are not distinguished. In Belgium, the situation is different and all these contrasts are far more stable.
3. There is a very important difference in distribution. Dutch has no word-final fortis/lenis contrasts. The words *noot* and *nood*, though spelt differently, are **homophones** (i.e. they are pronounced in the same way). Dutch *rib* and *lip* are good rhymes.

In English, on the other hand, the fortis/lenis contrast *can* occur in final position, so Dutch learners have to learn to contrast words like *life* and *live*, and *rate* and *raid*. The final sounds in English *lip* and *rib* are not the same. (Many popular song lyrics written in English by Dutch songwriters sound wrong to native English ears, because words like *ride* and *night*, *his* and *kiss*, *at* and *sad* do not rhyme in English.)

4. Very often, Dutch loses a fortis/lenis contrast as a result of **assimilation**, e.g. *opdoen* / 'ɔbdun/, *opzet* / 'ɔpsɛt/ (see Section 20.8). This sort of assimilation is very rare in English.

### 6.2 VOWEL LENGTH AS AN INDICATOR OF THE FORTIS/LENIS CONTRAST IN SYLLABLE-FINAL POSITION

It is in syllable-final position that the English fortis/lenis contrast presents the greatest problems to the Dutch learner. A crucial factor is vowel length. Vowels are shortened before fortis consonants but maintain full length before lenis consonants. The feature is of special significance in stressed **monosyllabic** (i.e. single syllable) words.

**EXERCISE 1**

First, practise shortening the vowel before fortis and maintaining the full length of the vowel before lenis in the following minimal pairs. The lines indicate approximate vowel length.

grit	grid	bought	bored	pup	pub
kit	kid	rot	rod	loose	lose
greet	greed	light	lied	safe	save
neat	need	life	live	teeth	teethe

Note that before lenis consonants full length is heard with *all* the vowels, checked and free. It means that a checked vowel before a lenis consonant is as long or longer than a free vowel before a fortis. We can give an approximate indication of length using the diacritics [˘], [˙], [ː] to mean ‘extra short’, ‘half-long’, and ‘extra long’:

grit	greet	grid	greed
[grɪ˘t]	[grɪ˙t]	[grɪːd]	[grɪːd]

**EXERCISE 2**

Compare the following on your tape and imitate:

grit	greet	grid	greed
but	Bert	bud	bird
cot	caught	cod	cord

In open syllables, the vowels of English are also long.

**EXERCISE 3**

Listen and repeat these sets of English words, making sure that you lengthen the vowels in open syllables and before lenis consonants.

seat	see	seed	niece	knee	knees
goat	go	goad	boot	boo	booed
safe	say	save	loot	loo	lewd
weight	way	weighed	rate	ray	raid
height	high	hide	hurt	her	heard

Note that E /aɪ/ in *high* is much shorter than the vowel substituted by most Dutch learners. This length problem with /aɪ/ is especially noticeable before *fortis* consonants.

**EXERCISE 4**

Practise these minimal sets, making sure that /aɪ/ is short enough before fortis.

high	hide	height	try	tripe	tripe
why	wide	white	rye	ride	right

<i>eye</i>	<i>eyes</i>	<i>ice</i>		<i>lie</i>	<i>lies</i>	<i>lice</i>
<i>lie</i>	<i>live</i>	<i>life</i>		<i>die</i>	<i>dies</i>	<i>dice</i>

**EXERCISE 5**

Many very common words in English contain /aɪ/ before fortis. Practise this selection: *nice, rice, life, like, bike, white, fight, might, night, height, sight, right.*

**EXERCISE 6**

Practise these pairs with the checked vowels. The difference in length is not as obvious as with the free vowels but is still present.

—	—		—	—		—	—
<i>Dick</i>	<i>dig</i>		<i>wet</i>	<i>wed</i>		<i>muck</i>	<i>mug</i>
<i>wick</i>	<i>wig</i>		<i>hack</i>	<i>hag</i>		<i>duff</i>	<i>dove</i>
<i>hiss</i>	<i>his</i>		<i>tack</i>	<i>tag</i>		<i>sop</i>	<i>sob</i>

Notice that the shortening effect (known as **pre-fortis clipping**, see Wells 1990: 136) also applies to a nasal or lateral preceding fortis consonants. Compare pairs such as:

<i>shelf</i>	<i>shelve</i>
<i>bent</i>	<i>bend</i>
<i>rumple</i>	<i>rumble</i>
<i>bolt</i>	<i>bold</i>

## 6.3 FORTIS/LENIS CONTRAST IN ENGLISH STOPS

In English, fortis stop consonants have some important special additional phonetic markers of the fortis/lenis contrast. We deal with these in detail in Section 16.2, but it is necessary to mention them briefly here, since they are essential to the proper articulation of E /p, t, k, tʃ/.

*Pre-glottalisation*

In final position, the English fortis stops /p, t, k, tʃ/ are often reinforced by a preceding glottal stop. This effect is termed **pre-glottalisation** (or **glottal reinforcement**). The glottal stop [ʔ] is formed by closing the vocal folds completely for a brief period, and can be compared to the first part of a cough (see Chapter 10.4). It is formed before or during the articulation of the stop (see pp. 152-53). Glottal reinforcement is very important in RP, and in many cases it is the most significant indicator of a fortis stop. Reinforcing glottal stop is almost always to be heard before consonant sequences as shown below:

<i>shop window</i>	[ʃʔɒp wɪndəʊ]
<i>he hit them</i>	[hi: 'hɪʔt ðəm]
<i>black power</i>	[blæk ʔpaʊə]
<i>watch tower</i>	[wɒʔtʃ taʊə]

### *Aspiration*

Initially in a stressed syllable, the English fortis plosives /p, t, k/ are strongly **aspirated**. This means that there is a brief period of voicelessness (sounding like a short [h]) following the plosive. We indicate it in phonetic transcription by a raised [h]. More information is given on pp. 150-52.

Imitate aspiration, as in Exercise 7.



#### EXERCISE 7

Listen to the initial aspirated [p<sup>h</sup>] in the English word *pin*. First say the similar Dutch word *pin*. Now try saying the Dutch word, but this time say [p] with loose, lax lips, instead of the tense, compressed lips of D /p/. Keep the strong force of the airstream and you will obtain the aspiration of E /p/. Do the same with /t/ and /k/, (e.g. in words such as *tin* and *kin*), i.e. hold a lax position of the articulators, but keep the force of the airstream.

## 6.4 VOICING OF LENIS CONSONANTS

In other languages, the contrast between the two groups of consonants may not be one of energy, but rather one of voicing. This is true of most Romance languages, e.g. French and Spanish. Here the important difference between /p/ and /b/, or /s/ and /z/, is that /p/ and /s/ are always voiceless and /b/ and /z/ are always voiced. Consequently, for such languages the contrast is better termed **voiceless/voiced**. Many books also apply these terms to English and Dutch but, as we shall see below, they are somewhat misleading since lenis consonants lose voicing in many contexts in both languages.

In Dutch and English, the fortis consonants are always voiceless; the lenis consonants are potentially voiced. But in many contexts the latter do not have voice, or may have vocal fold vibration for only a small portion of their articulation. In English, lenis consonants are only fully voiced between vowels (or other voiced sounds).



At the beginning of a syllable, if preceded by silence or a voiceless sound, voicing does not begin until some way into the articulation (termed **initial devoicing**). In syllable-final position, before a voiceless consonant or pause, lenis consonants lose voicing early in the articulation (termed **final devoicing**).

This is shown in the diagrams below:

	<i>bar</i> [b̥ɑː]	<i>abbey</i> [æ b̥ ɪ]	<i>lab</i> [l æ b̥]
Voicing	⇒~~~~	~~~~	~~~~
	<i>zoo</i> [zuː]	<i>lazy</i> [l e ɪ z ɪ]	<i>laze</i> [l e ɪ z̥]
Voicing	⇒~~~~	~~~~	~~~~

Note that we show voice by a wavy line, and voiceless by two parallel lines  $\text{—}$ . The diacritic for voiceless or partially devoiced is [◌̚] or [◌̚̚]. In final position, even though the lenis consonant may be completely voiceless, nevertheless it will still be possible to distinguish it from a corresponding fortis sound because of other variables, (e.g. vowel length, energy of articulation, lack of pre-glottalisation). Consequently, even if lenis consonants are devoiced, we can hear a clear contrast between *par* – *bar* (energy and aspiration of /p/); *rope* – *robe* (short vowel before /p/, energy of /p/); *mat paint* – *mad painter* (energy and glottal reinforcement of /t/, short vowel before /t/). Between vowels, or other voiced sounds, the lenis consonants have full voicing throughout.

Compare: *sacking* – *sagging*; *matter* – *madder*; *lopping* – *lobbing*; *buckle* – *struggle*; *batches* – *badges*; *wafer* – *waver*; *ether* – *breather*; *lacy* – *lazy*; *mission* – *vision*. In *matter*, *lopping*, etc. the voice ceases for the consonant sounds; in *madder*, *lobbing*, etc. the voice continues throughout the utterance.

	<i>matter</i>	<i>madder</i>
	[mæ̚tə]	[mæ̚də]
Voicing		



### EXERCISE 8

Listen to the following English words on your cassette tape, and note the degree of voicing in the different contexts:

<i>bar</i>	<i>rabbi</i>	<i>lab</i>
<i>door</i>	<i>order</i>	<i>hoard</i>
<i>jar</i>	<i>Rajah</i>	<i>barge</i>
<i>zoo</i>	<i>lazy</i>	<i>laze</i>
<i>vat</i>	<i>savings</i>	<i>save</i>

Now try saying the words for yourself.

The nasals /m, n, ŋ/, lateral /l/ and approximants /w, j, r/ do not undergo devoicing in the manner described following or preceding pause. Consequently, in words like *ram*, *long*, *wall*, *moon*, *yell*, the initial and final sounds are fully voiced.

### EXERCISE 9

*We bathed at Broadstairs* [wi: 'beɪðd ət 'brɔ:dsteəz].

In this example, the fully voiced consonants are underlined, and those with devoicing shown by the 'devoiced' diacritic: [◌̚]. Do a transcription of the following utterances and mark the consonants in the same way.

*An old robe made of silk.*

*We got rid of our old car.*

*Bob divided the money between the two girls.*

Note that if a pair of lenis consonants occurs before silence or a voiceless sound, the first typically has partial devoicing and the second is completely voiceless, e.g.

*robbed* [r ɒ b̥ d̥]

Voicing:

~~~~~

### 6.5 COMPARISON WITH DUTCH AND ADVICE

In Dutch, there are considerable differences between what occurs when a word is said as a citation form and what happens in connected speech. In citation forms and in slow, careful speech, D /b, d/ have more voice in initial position than the English voiced stops. In connected speech, this difference is not as marked. Certainly, the Dutch stops do not strike an English ear as being over-voiced — as do, for instance, French /b, d, g/. Moreover, in Dutch, voice is often lost owing to assimilation (see Section 20.8 on assimilation).

For fricatives, the situation is different. As stated previously (p. 48), in connected speech, many Dutch speakers (in the Netherlands) do not make consistent contrasts of /f – f̥/, /s – z/, and /x – ɣ/. In all these cases, there is a tendency to use the fortis (voiceless) member of the pair. Consequently, the danger for learners of English in the Netherlands is under-voicing the English lenis fricatives rather than the reverse. In Belgium, on the other hand, these fricative contrasts are more stable. Belgian students are therefore mainly likely to have problems resulting from the effects of assimilation (see Section 20.8.).

The crucial area for the learner is in final position, where the fortis/lenis contrast does not exist in Dutch. Here it is necessary to pay close attention to the features of vowel length, energy of articulation and pre-glottalisation, as well as the presence or absence of voicing. Tables 6.1 and 6.2 give a classification of the Dutch and English consonants in terms of place, manner and, in the case of stops and fricatives, energy of articulation.

Table 6.1 Dutch consonants – manner and place of articulation

| Manner \ Place                  | Bilabial | Labio-dental     | Alveolar       | Alveolo-palatal | Palatal | Velar              | Uvular         | Glottal |
|---------------------------------|----------|------------------|----------------|-----------------|---------|--------------------|----------------|---------|
| <b>Plosive</b>                  | p b      |                  | t d            |                 |         | k (g) <sup>4</sup> |                |         |
| <b>Affricate</b>                |          |                  |                | [tʃ dʒ]         |         |                    |                |         |
| <b>Nasal</b>                    | m        |                  | n              | [ɲ]             |         | ŋ                  |                |         |
| <b>Trill</b>                    |          |                  | r <sup>1</sup> |                 |         |                    | r <sup>1</sup> |         |
| <b>Fricative</b>                |          | f ɸ <sup>2</sup> | s z            | [ç ʒ]           |         | x (χ) <sup>3</sup> |                | h       |
| <b>Approximant:<br/>Central</b> |          | v                |                |                 | j       |                    |                |         |
| <b>Approximant:<br/>Lateral</b> |          |                  | l              |                 |         |                    |                |         |

In each pair, the fortis precedes the lenis member.

1. Some speakers realise /r/ as an alveolar sound, others have a uvular articulation. At both places of articulation, /r/ may be realised as a trill, fricative or approximant. It is consequently not possible to state a norm for this phoneme, although a trill has traditionally been regarded as such.
2. For many (NL) ABN speakers, the contrast /f – ɸ/ is regularly lost in connected speech. For (B) AN speakers, the contrast is more likely to be maintained.
3. The contrast /x – χ/ is absent for the vast majority of (NL) ABN speakers.
4. /g/ is a marginal phoneme.



Table 6.2 *English consonants – manner and place of articulation*

| Manner \ Place                  | Bilabial         | Labio-dental | Dental | Alveolar       | Palato-alveolar | Palatal | Velar            | Glottal |
|---------------------------------|------------------|--------------|--------|----------------|-----------------|---------|------------------|---------|
| <b>Plosive</b>                  | p b              |              |        | t d            |                 |         | k g              |         |
| <b>Affricate</b>                |                  |              |        |                | tʃ dʒ           |         |                  |         |
| <b>Nasal</b>                    | m                |              |        | n              |                 |         | ŋ                |         |
| <b>Trill</b>                    |                  |              |        |                |                 |         |                  |         |
| <b>Fricative</b>                | (ʍ) <sup>3</sup> | f v          | θ ð    | s z            | ʃ ʒ             |         | (ʁ) <sup>3</sup> | h       |
| <b>Approximant:<br/>Central</b> | w <sup>2</sup>   |              |        | r <sup>1</sup> |                 | j       | w <sup>2</sup>   |         |
| <b>Approximant:<br/>Lateral</b> |                  |              |        | l              |                 |         |                  |         |

In each pair, the fortis precedes the lenis member.

1. /r/ is in fact post-alveolar, i.e. articulated at the rear of the alveolar ridge.
2. For /w/, there are two strictures: (1) at the lips and (2) the back of the tongue towards the velum (see pp. 59-60).
3. Some speakers (mostly non-RP) have an additional phoneme, the fortis labial-velar fricative /ʍ/, giving a contrast between words like *whales* – *Wales* /ʍeɪlz – weɪlz/.

## SECONDARY ARTICULATION

### 7.1 RANK SCALE OF ARTICULATION

Earlier on, when we discussed manner of articulation in Section 5.3, we saw that it was possible to have strictures of various kinds, ranging from complete closure to open approximation. It often happens that the production of a speech sound involves more than one stricture occurring simultaneously. Besides the main articulation, there may be an additional articulation which can be considered of less significance. The stricture of higher rank (i.e. the narrower stricture of the two) is termed the **primary articulation**, and that of lower rank the **secondary articulation**. In determining the position on the rank scale, the strictures in the oral cavity are taken to rank above those in the remainder of the vocal tract. Within the oral cavity, strictures involving complete closure, or a narrowing, rank above those of open approximation.<sup>1</sup>

The chief types of secondary articulation are discussed below. Notice that all the terms include the suffix *-ised* or *-isation*.

*Table 7.1. Rank scale of articulation*

| <b>Primary articulation</b>                                                                     | <b>Secondary articulation</b>                                                       |
|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 1. Oral stricture of complete closure or close approximation, i.e. stops and fricatives [t, s]. |                                                                                     |
| 2. Oral stricture of open approximation, i.e. approximants, vowels, e.g. [j, a:].               | 1. Labialisation<br>2. Palatalisation.<br>3. Velarisation.<br>4. Pharyngealisation. |
| 3. Stricture at the glottis, e.g. glottal stop [ʔ]                                              | Glottalisation                                                                      |
| 4. Resonance of the nasal cavity, e.g. nasals [m, n, ŋ]                                         | Nasalisation                                                                        |

<sup>1</sup> The whole topic of secondary articulation raises theoretical questions which are beyond the scope of this book. Most writers take only labialisation, palatalisation, velarisation and pharyngealisation into account (i.e. the oral strictures of open approximation). We have extended the concept to cover two other articulatory modifications, namely, glottalisation and nasalisation.

## 7.2 TYPES OF SECONDARY ARTICULATION

*Labialisation*

**Labialisation** involves adding lip-rounding to the primary articulation. We use the diacritic [ʷ] *after* the symbol to represent labialisation.

**EXERCISE 1**

Take your mirror and say the word *Mies* noting the lip shape. Now say *moes*. Where does the lip-rounding begin? Now say the words *muur*, *zus*, *boek*, *tot*. You'll find that in all cases the lip-rounding begins in the consonant preceding the rounded vowel. We can show these consonants as [m<sup>w</sup>, z<sup>w</sup>, b<sup>w</sup>, t<sup>w</sup>].

**EXERCISE 2**

Say the word *sjaal*. Do you have lip-rounding for D /sj/? There's no 'correct' answer. Some speakers do — many do not.

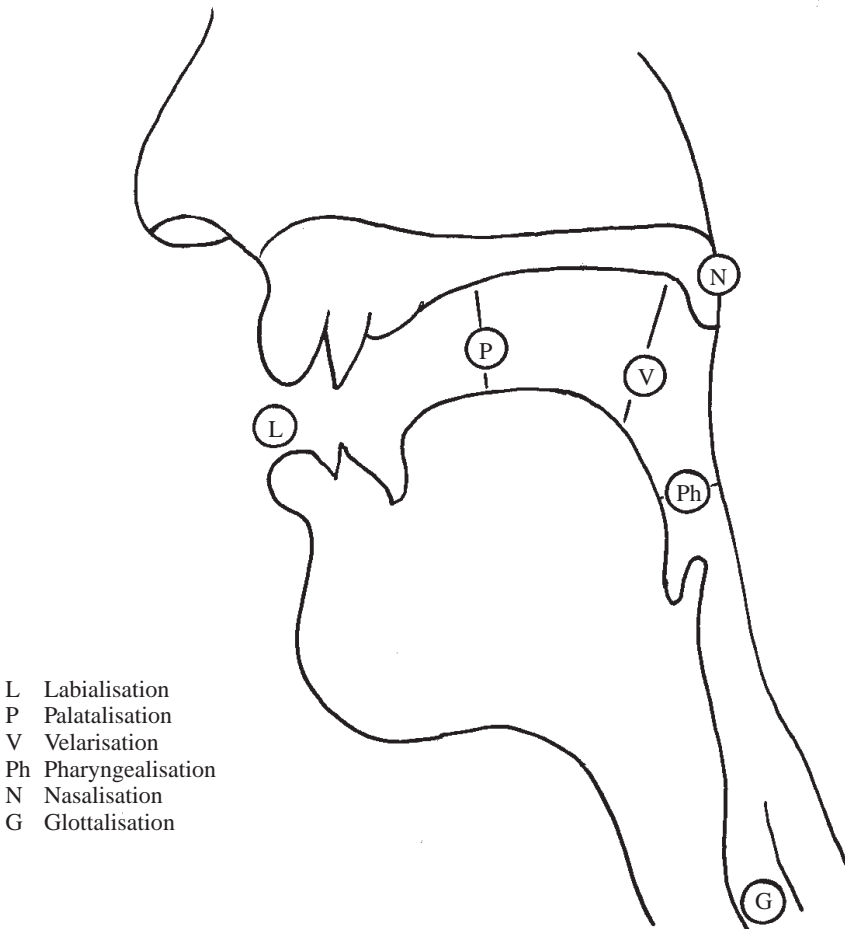


Figure 7.1 Location of types of secondary articulation

### *Palatalisation*

**Palatalisation** involves the front of the tongue being raised towards the hard palate, i.e. an [i] or [j] type articulation superimposed on a primary articulation. Note that we use the diacritic [j] placed *after* the symbol to show palatalisation.



#### **EXERCISE 3**

Say the English words *tune, dune, new, mew, assume, beautiful, putrid*. These all involve palatalised consonants [tʰ, dʰ, nʲ, mʲ, sʲ, bʲ pʲ].

In some languages, e.g. Russian, Irish and Scots Gaelic, a set of palatalised consonants contrasts phonemically with a set of non-palatalised consonants.

Note that in some accents of Dutch (e.g. Nijmegen and much of Belgium) /l/ is somewhat palatalised (often termed **clear**). The standard varieties of both French and German have strongly palatalised /l/ in all contexts.

### *Velarisation and pharyngealisation*

**Velarisation** involves the back of the tongue being brought up towards the velum so that the tongue assumes an [u]-like shape. **Pharyngealisation** is the result of the back of the tongue being retracted towards the pharynx wall. There is some similarity in the auditory effect of these two types of secondary articulation and both are covered by the term **dark**. Normal practice is to use the same diacritic for both: [ˀ] written *through* the symbol, e.g. [tˀ].

Nevertheless, it is quite easy to hear a difference between the effect of pharyngealisation and velarisation. For example, English final /l/ is velarised; (NL) ABN final /l/ is usually pharyngealised. (If we wish to distinguish the two, we can use the signs [ʲ] and [ˀ] respectively.) Belgian final /l/ is more variable, often being either velarised or slightly palatalised.



#### **EXERCISE 4**

Say the following words in Dutch: *stil, tel, haal, boel*.

Now these in English: *still, tell, shall, bull*.

And these in French: *style, tel, halle, boule*.

What is the quality of your final /l/? Is it pharyngealised (true of ABN and much of the Netherlands)? Alternatively, is it velarised or even slightly palatalised (true of parts of the eastern Netherlands and much of Belgium)? In English, final /l/ is velarised. In French, on the other hand, final /l/ has palatalisation. Remember that we call a pharyngealised or velarised variety *dark* and the palatalised type *clear*.

Arabic uses a phonemic contrast of a set of pharyngealised consonants /sˀ, zˀ, tˀ, dˀ/ opposed to a set of non-pharyngealised consonants, e.g. /sˤeef/ ‘summer’ and /seef/ ‘sword’.

### *Glottalisation*

**Glottalisation** involves the addition of a reinforcing glottal stop to an oral stop. This phenomenon is frequently encountered in English in the form of

pre-glottalisation of the fortis stops /p, t, k, tʃ/ in syllable-final position (see Section 6.3). It is symbolised as [ʔ], e.g. *lipstick* [lɪʔpstrɪk].

### Nasalisation

**Nasalisation** involves the addition of the resonance of the nasal cavity to an articulation of higher rank. The diacritic for nasalisation is [̃] above the symbol. In English and Dutch, vowels preceding nasals are nasalised, e.g. E *moon* [mū̃:n], D *maan* [mā̃:n].

It is also quite possible to have nasalisation of voiced consonants.



#### EXERCISE 5

Practise the following:

[aʒa, aʃa, aʝa, aļa, aĩa, aŋa, aʒa]

In English, nasalised [ĩ] is heard quite frequently in words such as *signalman* [ˈsɪgnl̃mən] where /l/ occurs between two nasals. Similarly, it occurs in Dutch in phrases like *veel mensen, welnu*, where /l/ precedes a nasal.

Table 7.2. Summary of secondary articulation

| Secondary articulation   | Description                                  | Symbol                                          | Example                                                   |
|--------------------------|----------------------------------------------|-------------------------------------------------|-----------------------------------------------------------|
| <b>Palatalisation</b>    | Front of tongue raised to hard palate        | <sup>j</sup> after symbol                       | E <i>tune</i> [tʰu:n]                                     |
| <b>Velarisation</b>      | Back of tongue raised to soft palate (velum) | <sup>v</sup> after symbol (or ~ through symbol) | E <i>still</i> [stɪl <sup>v</sup> ], [strɪ <sup>v</sup> ] |
| <b>Pharyngealisation</b> | Root of tongue drawn back to pharynx wall    | <sup>ɣ</sup> after symbol (or ~ through symbol) | D <i>stil</i> [stɪl <sup>ɣ</sup> ], [strɪ <sup>ɣ</sup> ]  |
| <b>Labialisation</b>     | Addition of lip-rounding                     | <sup>w</sup> after symbol                       | E <i>talk</i> [t <sup>w</sup> ɔ:k]                        |
| <b>Glottalisation</b>    | Addition of glottal stop                     | <sup>ʔ</sup> before symbol                      | E <i>stopwatch</i> [ˈstɒp <sup>ʔ</sup> wɔtʃ]              |
| <b>Nasalisation</b>      | Addition of resonance of nasal cavity        | <sup>̃</sup> above symbol                       | E <i>morning</i> [ˈmɔ:nɪŋ̃]<br>D <i>kans</i> [kãns]       |

## 7.3 SIMULTANEOUS OCCURRENCE AND DOUBLE ARTICULATION

### Simultaneous occurrence

More than one secondary articulation can occur simultaneously. For instance, in *signalman*, the /l/ is actually nasalised and velarised [l̃<sup>v</sup>]. In *fall short*, the

/l/ is not only velarised but also labialised [ɫ<sup>w</sup>] under the influence of the preceding rounded vowel and the following labialised consonant. It is even possible to articulate an /l/ which is simultaneously velarised, labialised and nasalised [ɫ<sup>w</sup>̃].

### *Double articulation*

There are also articulations where two places of articulation are employed which cannot be distinguished in terms of the narrowness of the stricture. Such cases are termed **double articulation**.<sup>1</sup>

For instance, E /w/ has two strictures of open approximation: (1) lips (2) velum (labial-velar approximation). Other cases of double articulation are the labial-velar stops and nasals heard in many West African languages [k̂p, ġb, ġm] (e.g. Ewe *àkpé /àġpé/* 'thanks'). Swedish has a double articulation [ʃ̂x], e.g. *sju* 'seven', formed by a palato-alveolar and a velar fricative occurring simultaneously.<sup>2</sup>

---

<sup>1</sup> Double articulation is indicated by a ligature  $\hat{\quad}$  joining the two symbols concerned.

<sup>2</sup> Although theoretically it is possible to regard lip-rounded vowels as a case of double articulation, they are not generally thought of in this way. Similarly, nasal consonants could be considered as nasalised stops, but they are generally treated as a separate primary type of articulation.

## DESCRIPTION AND CLASSIFICATION OF VOWELS

### 8.1 INTRODUCTION

Vowels cannot be described in the same way as consonants. Consonants generally involve the contact or near-contact of large areas of the articulators, whereas for vowels the articulators do not make any type of close contact. Consequently, the manner of articulation is always that of an approximant. Furthermore, although we can distinguish broadly between whether the front, centre or back of the tongue is raised for a vowel sound, the portion of the tongue involved will always be directed towards either the hard or the soft palate. There is therefore no possibility of the elaborate system of place classification which is so useful as a working basis for consonants. Finally, our third variable (energy of articulation) is not of help. Vowels as they function in language are typically voiced; there is no voiced/voiceless or fortis/lenis contrast as with consonants.

Vowel sounds involve changes of shape in the vocal tract, which, in physical terms, may be very small. For instance, the difference in tongue height in a vowel pair like D /ɪ/ in *zit* and D /ɛ/ in *zet*, or E /e/ in *set* and E /æ/ in *sat*, may be only a couple of millimetres. It would obviously be absurd to tell learners to improve their imitation of an English vowel by lowering the tongue 2.5 mm since it would be unrealistic to expect people to be able to feel such fine adjustments.

On the other hand, the description of vowels in auditory terms is beset with problems since it is so difficult to conceive of 'auditory space'. It is really impossible to talk of vowel qualities except in terms of other vowels — and these vary from language to language, from dialect to dialect, and from idiolect to idiolect. It is possible to use another means of description, namely acoustic data. But this again is by no means straightforward. Apart from the expense of obtaining suitable equipment, the interpretation of the information is a task involving considerable knowledge and skill. It is also time-consuming and it is impossible to make the sort of snap judgement that even people without training can make if asked about the sounds of their native language.

The most generally used description of vowel sounds is based on a combination of articulatory and auditory criteria, and takes into account the following parameters:

1. Tongue shape
2. Lip shape
3. Whether 1 and 2 are held constant or undergo change (i.e. is the vowel a steady-state vowel or is it a diphthong?)

4. Position of the soft palate
5. Duration
6. Larynx setting variation

## 8.2 TONGUE SHAPE

Change in the shape of the tongue is the most important factor in producing different vowels. Let us first examine the parameter of **tongue height** — that is to say how close the upper surface of the tongue is to the roof of the mouth.

### EXERCISE 1

Say the Dutch vowel /a:/, as in LA.<sup>1</sup> Put your finger in your mouth. Now say the vowel D /i/ (as in ZIE). Feel inside your mouth again. Which vowel has the closer tongue position? Check once again, using a mirror.

### EXERCISE 2

Say these Dutch vowels: /i/ as in ZIE, /e:/ as in ZEE, /ɛ:/ as in BEIGE, /a:/, as in LA. Then reverse them: /a:/, /ɛ:/, /e:/, /i/. Look in a mirror and see how the front of the tongue lowers from being close to the roof of the mouth for /i/ to being far away for /a/. Now you know why doctors ask you to say ‘ah’ when they want to see inside your mouth; the tongue is lower for /a:/ than it is for other vowels.

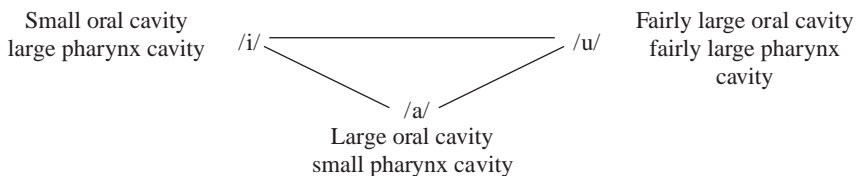
As the tongue lowers, the size of the oral cavity is increased. Consequently, the oral cavity is bigger for D /a:/ than it is for D /i/, and as a result it produces a lower-pitched resonance.

### EXERCISE 3

Now take another set of Dutch vowels and say them a number of times: D /a/, as in ZAT, D /ɔ/, as in ZOT, D /u/, as in MOE.

For the vowels D /a/ in ZAT, D /ɔ/ in ZOT and D /u/ in MOE, we cannot see the change because it is the back of the tongue which is highest; in any case, the lip-rounding for D /ɔ/ and D /u/ obscures our view. However, X-ray photos confirm that the tongue rises in the mouth from being low for D /a/ to being high for D /u/. Vowels articulated with the upper tongue surface close to the roof of the mouth (like D /i/ and D /u/) are called **close** vowels. Vowels with the tongue surface far away from the roof of the mouth (like D /a:/ and D /a/) are termed **open** vowels.

It is also essential to know which *part* of the tongue is highest in the vowel articulation. If the front of the tongue is highest (as in the first set /i, e:, ɛ:, a:/), we term the sounds **front vowels**. If the back of the tongue is the highest part, we have what are called **back vowels** (the second type, like /a, ɔ, u/).



<sup>1</sup> Note that keywords (see pp. 13, 14) are capitalised.



Although it is possible to some degree to see changes taking place in the mouth cavity, it is not possible to view with the naked eye what is happening in the pharynx cavity, but this can be observed with X-ray films, and from these we know that the open vowels like /a:/ have the tongue-root pushed back so that the pharynx cavity is small. For the other open vowels, and to an extent for all back vowels, the pharynx cavity is reduced in size.

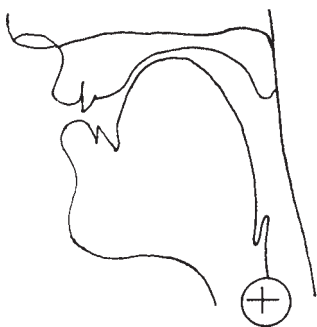


Figure 8.1.1 Shape of tongue for D /i/, as in ZIE.

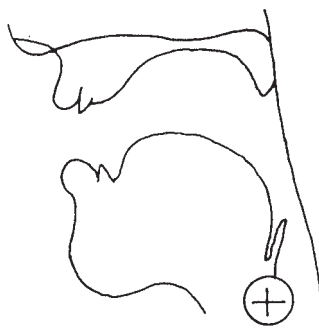


Figure 8.1.2 Shape of tongue for D /a:/, as in LA.

### 8.3 THE CARDINAL VOWELS

Phoneticians have always been aware of the problems of vowel description, but it was not until this century that a reasonably accurate way of describing and classifying vowels was devised. The British phonetician, Daniel Jones (1881-1967), produced his system of **Cardinal Vowels** (abbreviated to CVs) in 1917, and it is a method which is still widely employed to this day. We shall follow the main lines of his theory, making reference to Dutch sounds.

When any vowel is produced, the main body of the tongue is convex, i.e. arched into a hump, as illustrated in Fig. 4.7.2, implying that it is possible to distinguish the highest point of the tongue for any given vowel articulation. Jones proposed an **upper vowel limit** beyond which the surface of the tongue cannot rise in relation to the roof of the mouth. If the tongue is moved any closer to the palate, friction is produced and the resulting sound will be a fricative and not a vowel. The vowels at the upper vowel limit are the front vowel [i] and the back vowel [u].

#### EXERCISE 4

Say a close front vowel, e.g. D /i/. Now try to put your tongue even closer to the roof of your mouth. You will hear friction, and a [j]-like sound — in fact, the voiced palatal fricative [j]. Do the same for /u/. Once again you hear friction and [ɣ], a voiced velar fricative, will be the result.

Jones then defined a **lower vowel limit** dependent on the extent to which the tongue may be depressed. It is not physically possible for the front of the

tongue to be lowered more than a certain distance from the roof of the mouth, and it is impossible to retract the back of the tongue more than a certain distance towards the pharynx wall without producing a pharyngeal fricative. This gives us (according to Jones's theory) two other extreme vowels — a front vowel [a] and a back vowel [ɑ].



### EXERCISE 5

Listen to the cassette accompanying this book and imitate the vowels: [i, u, a, ɑ].

We now have the closest and most front vowel [i]; the closest and most back vowel [u]; the most open front vowel [a]; the most open and most back vowel [ɑ].<sup>2</sup>

The cross-sections (Figs 8.2.1 to 8.2.4) illustrate the approximate tongue positions necessary to produce these vowels:

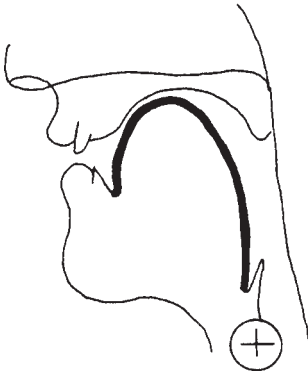


Figure 8.2.1 Shape of tongue for [i].

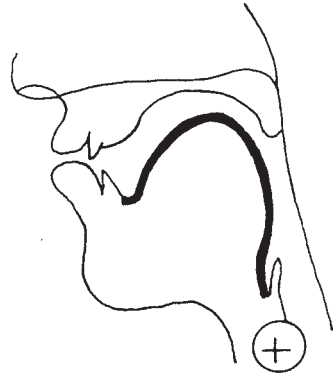


Figure 8.2.2 Shape of tongue for [u].

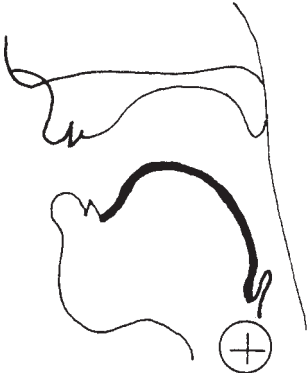


Figure 8.2.3 Shape of tongue for [a].

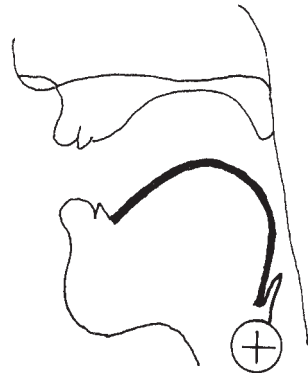


Figure 8.2.4 Shape of tongue for [ɑ].

<sup>2</sup> In phonetic discussion, the special comparative forms 'fronter', 'frontest', 'backer', 'backest', 'opener' and 'openest' are regularly encountered, but these are not employed in this book.

Jones linked the highest points on the upper surface of the tongue-arch, producing what he termed the vowel area, giving the shape in Fig. 8.3. In order to make it easier to draw, he straightened the lines, so obtaining a vowel quadrilateral (Fig. 8.4).

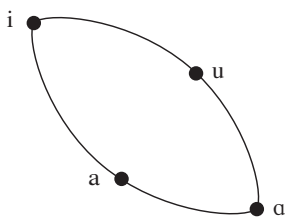


Figure 8.3 The vowel area.

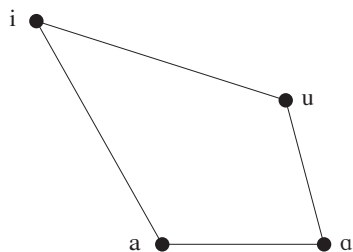


Figure 8.4 The vowel quadrilateral.

In his later work he simplified the shape yet again, arriving at the figure shown in Fig. 8.5.

Jones placed other vowels on the quadrilateral by auditory judgement, relying on his ear to determine equal steps between the vowels and relating this to tongue height. He thus derived four intermediate vowels, two back and two front, giving the arrangement shown in Fig. 8.6.

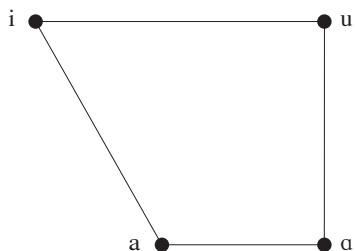


Figure 8.5 Simplified vowel quadrilateral.

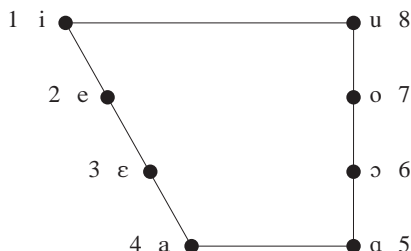


Figure 8.6 The basic vowel diagram.

### *Primary cardinal vowels*

The series of eight sounds described above was termed the **primary Cardinal Vowels** (after the cardinal points of the compass: North, South, East, West). The basic vowel diagram was completed by linking these vowels by lines and also marking off the central area, as in Fig. 8.7.

The CV system was adopted as a standard by phoneticians all over the world. In 1989, a vowel diagram closely based on Jones's work was introduced on to the International Phonetic Alphabet symbol chart. For the latest 1996 version, see pp. 352-53.

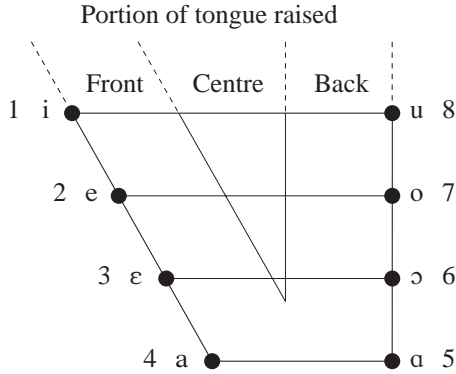


Figure 8.7 The primary Cardinal vowels.

Notice the labelling system for vowels:<sup>3</sup>

|                      |                     |
|----------------------|---------------------|
| [i]: front close     | [u]: back close     |
| [e]: front close-mid | [o]: back close-mid |
| [ε]: front open-mid  | [ɔ]: back open-mid  |
| [a]: front open      | [α]: back open      |

Below, we give some rough indications of what the primary Cardinal Vowels sound like (what is technically termed their **vowel qualities**). To do so, we use, for comparison, average qualities in familiar European languages:

|                        |                                     |
|------------------------|-------------------------------------|
| [i]: Dutch <i>ziet</i> | [u]: German <i>Schuh</i>            |
| [e]: German <i>See</i> | [o]: German <i>so</i>               |
| [ε]: Dutch <i>bèta</i> | [ɔ]: Dutch <i>rose</i> <sup>4</sup> |
| [a]: Dutch <i>naar</i> | [α]: Dutch <i>zat</i>               |

The above are intended only as approximate guides. Obviously, the quality of the vowels as they occur in natural languages have numerous kinds of variations — contextual, dialectal, and idiolectal. Jones recorded his Cardinal Vowels on disc, and these have served as a model for other phoneticians using the system.<sup>5</sup>

#### 8.4 LIP SHAPE

Change of lip shape is also an important factor in producing different vowel qualities. The main effects of lip-rounding on the shape of the mouth are: (1) to enlarge the space within the mouth; (2) to diminish the size of the opening

<sup>3</sup> The terms ‘half-close’, ‘half-open’ were formerly in use for *close-mid* and *open-mid*.

<sup>4</sup> This vowel does not normally occur in Belgian varieties of Dutch. See pp. 137-38.

<sup>5</sup> A recording of the CVs by Daniel Jones himself is available from the Linguaphone Institute.

of the mouth. Both of these factors deepen the pitch and increase the resonance of the front oral cavity.

Lip shape is used as an additional variable in the CV system. The lip shapes of the primary CVs are shown in Fig. 8.8.

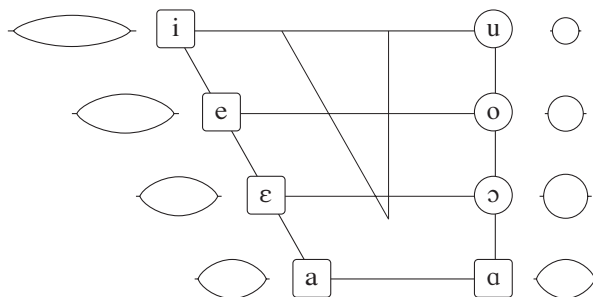


Figure 8.8 The lip shape of the primary Cardinal Vowels.

Jones claimed that this followed the pattern generally found in languages, namely that the front and open vowels are articulated with spread to neutral lip position, whilst back vowels have rounded lips. This patterning has been confirmed by later research.<sup>6</sup> The rounding is more marked with closer tongue height, with [ɔ] having open rounding whilst [u] has close rounding.



#### EXERCISE 6

Listen to the primary Cardinal Vowels on your cassette; get to know them so that you can recognise them and reproduce them with ease. At the same time, learn to associate the vowel with its number and symbol and its place on the diagram.

Listen to the vowels again, and repeat the vowels, this time using your mirror and noting carefully the shape of the lips.

### *Secondary Cardinal Vowels*

Although the pattern of lip-rounding so far described is the most common in language, it is not at all unusual to find languages with vowels which do not conform. Many languages spoken in Europe have front vowels with lip-rounding, for instance Dutch, French, German, Norwegian, Swedish, Danish, Finnish, Hungarian and Turkish. Unrounded back vowels are also to be heard, particularly in Far Eastern languages, e.g. Japanese and Vietnamese.

To cover these cases, Jones devised his secondary Cardinal Vowel system, with reverse lip positions, as shown in Fig. 8.9 (secondary CV 1 to CV 8).<sup>7</sup>

<sup>6</sup> A survey of languages from all over the world, carried out by the University of California, has shown that over 90% of front and back vowels are unrounded and rounded respectively (Maddieson 1984).

<sup>7</sup> Jones himself numbered the secondary Cardinal vowels 9 to 16, and added the two high central vowels [i] and [ɨ], CV 17 and 18.

Secondary CV 4 was observed by Jones not to occur in any known language (note that it is *not* included on the audio recording accompanying this book). Secondary CV 5 has only a slight auditory difference from its unrounded counterpart.

The vowel symbols can be shown with the following lip-shape indicators:

- Unrounded, e.g. D /ɛɪ/ in MEI, E /eɪ/ in FACE
- Rounded throughout, e.g. D /œy/ in LUI
- ◐ From spread (or neutral) to rounded, e.g. E /əʊ/ in GOAT, D /aʊ/ in KOU
- ◑ From rounded to spread or neutral, e.g. E /ɔɪ/ in CHOICE.

Note that the lip-shape indicator for ◐ and ◑ goes from left to right as in handwriting.<sup>8</sup>

## 8.5 LATER ADDITIONS

### *Central vowels and /æ/*

Jones added further vowels to his system to fill in the high central area: [ɨ] and [ɥ]. Other vowels are now included in the latest version of the vowel diagram incorporated into the International Phonetic Association Alphabet (see pp. 352-53). Perhaps the most important of these is the central vowel: [ə]. In addition, the following vowels are significant because of their frequent occurrence in languages: centralised CV 2 [ɪ], centralised CV 7 [ʊ], centralised secondary CV 2 [ɹ], a vowel between CVs 3 and 4, namely [æ] (termed 'ash'),<sup>9</sup> and an open central vowel [ɐ]. See Fig. 8.10.

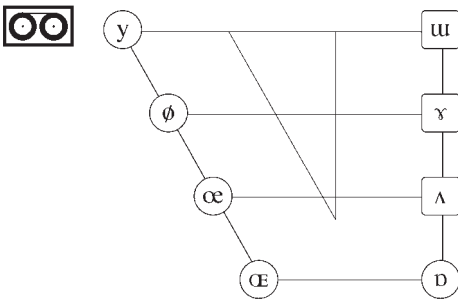


Figure 8.9 The lip-shape of the secondary Cardinal Vowels.

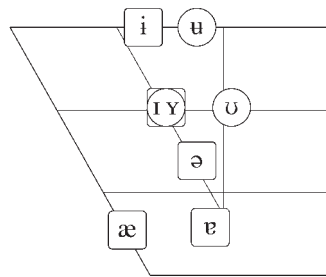


Figure 8.10 Additional Cardinal Vowels and other vowel references.

<sup>8</sup> These lip-shape indicators are not part of Jones's system but were devised later by Windsor Lewis (1969).

<sup>9</sup> After the name for the letter in Old English, *æsc*.

### *The value of the Cardinal Vowel system*

What Jones provided with his Cardinal Vowels was a mapping system which presented what is essentially auditory and acoustic information in a convenient visual form. Jones's approach can be faulted in many ways. He took no account of the significance of the root of the tongue and its relationship to the pharynx wall. Indeed, he disregarded the pharynx cavity altogether, mentioning only tongue height in his theory. Later research has shown that it is the relative size of the oral and pharyngeal cavities which is the crucial factor in vowel quality. Nevertheless, the very fact that the CV system has been so widely used over the years and is now recognised by inclusion in the IPA chart gives us an idea of its importance. It gave phoneticians a yardstick for measuring vowel quality which is invaluable in phonetic description.

## 8.6 STEADY-STATE VOWELS AND DIPHTHONGS

If the position of the tongue and the position of the lips is held steady in the production of a vowel sound, we term it a **steady-state** vowel. Other writers use the term pure vowel or **monophthong** (Greek for 'single sound').<sup>10</sup>

If there is an obvious change in the tongue or lip shape, we term the vowel a **diphthong** (Greek for 'double sound').<sup>11</sup> For a sound to be considered a diphthong, the change — termed a **glide** — must be accomplished in a single movement without the possibility of a break. Many of the languages of the world possess only steady-state vowels, but most European languages also have a number of diphthongs. This is true of Dutch, English, German, Spanish and Italian, for example. French is the best known example of a European language which has only steady-state vowels.<sup>12</sup>

### **EXERCISE 7**

Pronounce these Dutch diphthongs in your usual manner: /*ei*/, as in *MEI*; /*œy*/, as in *LUI*; /*au*/, as in *KOU*. Say the words a number of times. Now exaggerate the pronunciation. What tongue, lip or jaw movement do you notice? Now say the steady-state vowel /*a*/ as in *LA*. This time you should see virtually no lip, tongue or jaw movements, even if the sound is exaggerated or prolonged.

The starting-point of a diphthong is shown on the vowel diagram by a lip-shape indicator; the direction of the movement of the upper surface of the tongue is shown by an arrow. Fig. 8.11 illustrates by means of a cross-section the change in tongue position for the Dutch diphthongs /*ei*/ and /*œy*/. The arrow shows the highest point of the tongue at the beginning and end of the

<sup>10</sup> /mɒnəfθɒŋ/. Note the spelling with **phth**.

<sup>11</sup> /dɪfθɒŋ/. Note the spelling with **phth**.

<sup>12</sup> Phonetically, however, French can be considered as having diphthong-type sequences in words such as *oui* /wi/ [üi], *huit* /ɥit/ [ÿit], *pays* /pei/ [pëi].

glide. This corresponds to the arrow on the adjacent vowel diagram (Fig. 8.11).

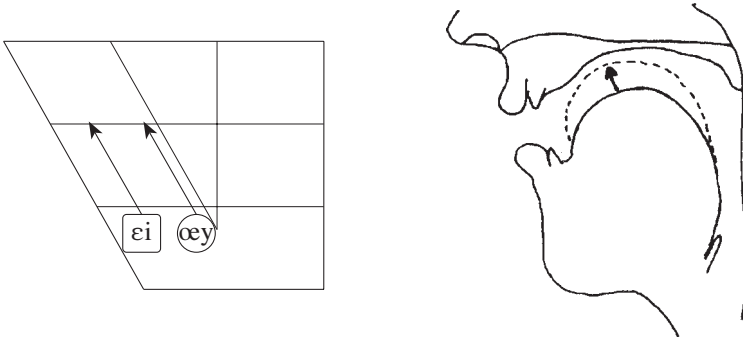


Figure 8.11 Vowel diagram representing D /*ei*/, as in *MEI*, and D /*øey*/, as in *LUI*. The cross-section shows the movement of the tongue for /*ei*/ and /*øey*/.

### EXERCISE 8

What we have shown on the vowel diagram are what are taken to be the typical realisations of the sounds /*ei*/ and /*øey*/ in (NL) ABN. Do you think your speech differs from this? (If your speech is (B) AN, it almost certainly will.)

Draw a vowel diagram and place on it what you consider to be your own realisations of /*ei*/ and /*øey*/. Now try adding /*au*/, as in *zou*. In your idiolect, are your lips unrounded or rounded at the beginning of /*ei*/, /*øey*/ and /*au*/? What about your lip shape at the endings of the glides? Does this correspond with the lip shapes shown on the diagram? Check again in the mirror.

## 8.7 POSITION OF THE SOFT PALATE

The function of the soft palate was discussed in Section 4.4; and in Section 7.2, we referred to nasalisation as a secondary articulation. Nasalised vowels, produced with the soft palate lowered, are frequent in language; several European languages employ such vowels as phonemes, the best known being French, Polish and Portuguese. Such vowel phonemes are called **nasal vowels**.

### EXERCISE 9

Listen to your cassette and practise making the nasal vowels in the French words given here: *brun* /brœ̃/, *train* /trɛ̃/, *banc* /bɑ̃/, *bon* /bɔ̃/.<sup>13</sup> Compare the oral vowels: *boeuf* /boɛf/, *très* /trɛ/, *bas* /ba/, *beau* /bo/.

Nasal vowels exist as marginal phonemes in Dutch in the pronunciation of French loanwords such as *genre*, *enfin*, etc. (see Section 14.5 on Dutch vowels). Be careful though — they do not sound like the nasal vowels in genuine French. Many RP speakers also use nasal vowels to imitate French words,

<sup>13</sup> Most present-day speakers of standard French have no contrast /*ɛ̃* – /*œ̃*/, using /*ɛ̃*/ for both.



e.g. *restaurant*. Again they have qualities different from the genuine French sounds. Another language which has nasal vowels is Afrikaans, spoken in South Africa, and closely related to Dutch. These sounds have developed from Dutch words where vowels precede nasals.



#### EXERCISE 10

Listen to these Afrikaans sounds on your audio recording: *kans* /kã́s/, *mens* /mẽ́s/, *ons* /ṍs/. Many accents of Dutch in both the Netherlands and Belgium have similar vowels occurring before written nasal consonants. To quote just one example, Hague speakers pronounce *kans* as [kã́s], *kunst* as [kṹst], where the consonant is often elided.

Do you know of any other types of Dutch which have nasalised vowels? In both (NL) ABN and (B) AN, vowels occurring before nasal consonants are to an extent nasalised, but the nasal consonant is retained. The same holds true for RP.

### 8.8 DURATION

**Duration**, in phonetic terms, implies the time taken by an articulation. To deal with this variable, however, it is necessary to do more than measure each sound in isolation; this can only provide the *absolute* duration of the sound. Vowel length, as it functions in language, is always *relative*. Each vowel has to be considered in relationship to other vowels in the language concerned.

If we want to compare the length of two different vowels, we must measure them under the same conditions (e.g. for English, before a fortis consonant, in similar stressed contexts, etc.). Some languages possess vowel phonemes which are distinguished by duration alone. For instance, in Danish, there is an opposition between long and short vowels: *vilde* ‘wild’–*hvile* ‘to rest’ /'vilə – 'vi:lə/, *hylde* ‘shelf’–*hyle* ‘to yell’ /'hylə – 'hy:lə/. However, in most languages, similar oppositions between sets of vowels are also marked by differences in vowel quality. As has been mentioned in Section 2.4, such combinations of duration and vowel quality are employed in Dutch and English, giving the contrast checked (short) vowels and free (long) vowels.



### 8.9 LARYNX SETTING VARIATION

The main types of larynx setting (e.g. normal voice, whisper, creaky voice, etc.) are considered in Chapter 10. In most languages, only vowel phonemes with normal voice are to be found. However, languages with voiceless vowel phonemes do exist, e.g. Malagasy (the national language of Madagascar). Japanese is notable for frequent voiceless allophones of its voiced vowel phonemes, e.g. *netsuke* [nets̺uki].<sup>14</sup> On a more limited scale, voiceless vowels as allophones also occur in French, Portuguese and Dutch. In Dutch, for in-

<sup>14</sup> A type of Japanese carved button. When used as a loanword in English, the preferred pronunciation is ['netski].

stance, voiceless vowels can be heard at the end of words before pause (see Section 14.3). In phonetic terms, in all languages in which it occurs, [h] can also be considered as a type of voiceless vowel. See p. 148.

Vowels with creaky voice occur in, for example, certain West African languages; vowels with breathy voice are to be found in numerous Indian languages.

### 8.10 DESCRIPTION OF VOWELS IN TERMS OF THE CV SYSTEM

The examples in Fig. 8.12 show how to describe vowels in terms of the CV system.

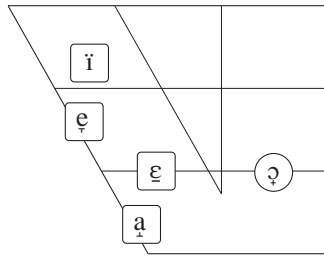


Figure 8.12 Use of diacritics to modify Cardinal Vowel symbols.

A vowel slightly below CV 2 is referred to as a lowered CV 2 [e̞].

A vowel slightly above CV 4 is referred to as a raised CV 4 [a̟].

A vowel somewhat further forward than CV 6 is termed an advanced CV 6 [ɔ̟].

A vowel more towards the centre of the diagram is called a centralised vowel, e.g. a centralised CV 1 [i̠].<sup>15</sup>

A vowel somewhat further back than CV 3 is termed a retracted CV 3 [ɛ̠].

### 8.11 VOWEL AND CONSONANTS

The distinction between vowels and consonants can be considered in several ways.

#### *Acoustic vowel/consonant*

We can consider vowels and consonants in terms of their acoustic make-up. Sounds are of two basic types: those made up of vibrations in the form of regular repeating wave patterns, which are called 'tones'; and those consisting of irregular non-repeating vibrations, which we term 'noise'. Everyday

<sup>15</sup> A recent IPA innovation is to show a vowel which is mid-centralised with a cross above the symbol, e.g. [ɛ̠̯].

examples of sounds which are composed of tones are the melodic sounds produced by most musical instruments, whistles, the chime of a bell, etc. Bangs, pops, rattles and hisses provide examples of sounds which are noise.

In speech, the sounds which are made up of tones are: vowels, central and lateral approximants and nasals. Sounds which are exclusively noise are the voiceless consonants, such as stops (plosives and affricates) and fricatives. The corresponding voiced consonants, together with voiced trills and taps, are a combination of noise plus a tone element produced by the vibration of the vocal folds.

An 'acoustic vowel' can be defined as a speech sound which has no noise component.

### *Phonological vowel/consonant*

In Section 2.5 on the syllable, it was pointed out that for languages like English and Dutch the syllable could be stated to consist of an obligatory vowel nucleus surrounded by optional consonants occurring at the margins, up to three in initial position, and as many as four in final position. For these languages, we may therefore define a vowel as a speech sound which functions as the **nucleus** of the syllable. A consonant is a speech sound which occurs at the **margins** of the syllable.

### *Sonority*

It is significant that the sounds which can occur as a syllable nucleus are those which are most sonorous — i.e. those which, other things being equal, have the greatest carrying power. This is closely related to their acoustic make-up; sounds composed largely of tones tend to be more sonorous than those which have more significant noise elements.

One example of an attempt to construct a sonority scale is shown in Fig. 8.13.

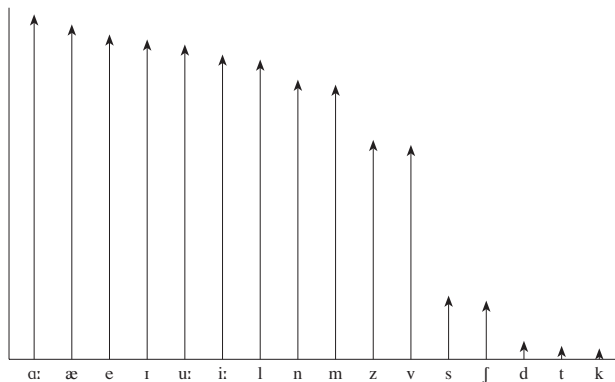


Figure 8.13 The relative sonority of selected English sounds (after Ladefoged 1993: 246)

It will be seen that it is possible to rank this selection of sounds in terms of sonority in this way:

1. Vowels

---

2. Nasals and approximants

---

3. Voiced fricatives
  - Voiceless fricatives
  - Voiced plosives
  - Voiceless plosives

On this basis we can consider three types of sound. Vowels typically form the nucleus of a syllable. Fricative and plosive consonants are found invariably at the margins of syllables. The intermediate category, nasals and approximants, typically occur at syllable margins. If, however, there is no vowel in the same syllable, these sounds can function as syllabic consonants. In such circumstances, they will be realised with extra length and loudness, associated with greater prominence. Look at the following examples in English.

|                 |                |
|-----------------|----------------|
| <i>blanks</i>   | /b l æ ŋ k s/  |
|                 | ■ ■ ■ ■ ■ ■    |
| <i>streaked</i> | /s t r iː k t/ |
|                 | ■ ■ ■ ■ ■ ■    |
| <i>hidden</i>   | /h ɪ d ŋ/      |
|                 | ■ ■ ■ ■        |
| <i>bottles</i>  | /b ɒ t l z/    |
|                 | ■ ■ ■ ■ ■      |

#### *Articulatory vowel/consonant*

We can also consider vowels and consonants in terms of manner of articulation. A phonetic consonant can then be defined as an articulation which involves a stricture which:

1. Blocks the airstream completely (stops, trills and taps)
2. Blocks the airstream, but allows nasal escape (nasals)
3. Blocks the airstream centrally, but allows lateral escape (laterals)
4. Hinders the airstream, giving rise to audible friction (fricatives)

According to this classification, all manners of articulation except *central* approximants are phonetic consonants. The central approximants (including all vowels) are considered as phonetic vowels. To avoid confusion, we use the terms **contoid** for a phonetic consonant and **vocoid** for a phonetic vowel.

It is helpful to have this terminology, since there is not a complete overlap in the meaning of the terms *contoid* and *consonant*; nor do the terms *vocoid* and *vowel* mean the same thing.

For instance, in English, /j, w, r/ function as consonants, i.e. they occur at the margins of syllables; but they are phonetically *vocoid*. Consider E /w/. The phonemic norm is an approximant and consequently *vocoid*. But in *twın* [twɪn], /w/ is realised as a voiceless fricative, which is a *contoid*. The same goes for E /r/ and /j/. The phonemic norms of these sounds are approximants and therefore *vocoid*; but when they occur after plosives, they are realised as fricatives, i.e. *contoids*, e.g. *pray* [pɹeɪ], *queue* [kju:]. Similarly, D /r/ may be realised as a fricative or a trill (*contoid*) or as an approximant (*vocoid*).

#### EXERCISE 11

Take your pronunciation of D /r/ in *raam*, *braaf*, *verder*, *jaar*, *trein*, *grappig*. Which allophones do you think are *contoid* and which *vocoid*?

On the other hand, *contoids* sometimes function in the syllable as vowels. The nasals /m, n, ŋ/ and the lateral /l/ may act as the nuclear non-marginal element in syllables, e.g. *kitten* /'kɪtɪn/, *little* /'lɪtəl/.

In Table 8.1, we have summarised some of the main characteristics of the two categories.

Table 8.1 *Vocoids and contoids*

|                     | <b>Contoid</b>                                                             | <b>Vocoid</b>                                              |
|---------------------|----------------------------------------------------------------------------|------------------------------------------------------------|
| <b>Articulatory</b> | Stricture involving closure, or narrowing giving rise to friction          | No such stricture                                          |
| <b>Phonatory</b>    | May or may not have voice                                                  | Usually has voice                                          |
| <b>Phonological</b> | Corresponds to phonological consonant. Generally, marginal in the syllable | Corresponds to phonological vowel. Nuclear in the syllable |
| <b>Examples</b>     | Plosives, affricates, fricatives, laterals, nasals                         | Central approximants (including vowels)                    |

The *vocoid/contoid* classification is not clear-cut and one may adopt different criteria from those used here. For instance, some phoneticians regard the nasals (which are acoustically similar to vowels) as *vocoid*. It is also possible to class the *lateral* approximant together with the *central* approximants as *vocoids*. Another difficult case is /h/ since it can be regarded as a voiceless vowel (see p. 148) and could for that reason be placed in the *vocoid* category.

## BACK TO THE PHONEME

### 9.1 PHONETIC SIMILARITY

In Section 2.1, we introduced the phoneme as a phonological unit. Let us now have a closer look at the phoneme and its place in linguistic organisation.

We have seen that the phoneme is an abstract unit which is realised as a number of allophones which are the concrete entities of speech. Allophones have **phonetic similarity**, that is to say, they are usually articulated by the speech organs in similar ways, and they are also similar in their acoustic make-up.

Taken to the finest level of analysis, no two realisations of a phoneme are ever exactly identical. Even if we get the same speaker to say the same sound under controlled conditions, there will still be very slight differences between one utterance and the next. However, this (almost philosophical) approach is not particularly useful in linguistic analysis. At a less precise level, we can say that most allophones fall into fairly well-defined categories and that it is possible to provide descriptive rules that determine their occurrence.

### 9.2 COMPLEMENTARY DISTRIBUTION

Consider the English phoneme /l/. This has three clearly defined recurring allophones.<sup>1</sup>

It is possible to state certain phonetic contexts where the allophones of /l/ occur:

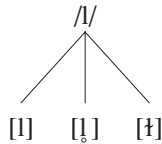


Figure 9.1 Chief allophones of E /l/.

Clear [l] occurs before vowels

Dark (velarised) [ɫ] occurs before a consonant or a pause

Voiceless (fricative) [ɬ] occurs at the beginning of a word when it follows /p/ or /k/.

---

<sup>1</sup> What is presented here is a simplification. For the other allophones of E /l/, see pp. 168-69.

We can demonstrate the distribution of allophones of /l/ in this way.

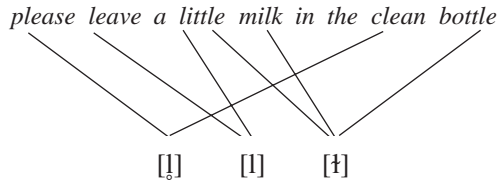


Figure 9.2 Distribution of allophones of E /l/

It is possible to provide a descriptive phonological rule for the distribution of /l/ allophones using a fairly standardised notation, thus:

$$\begin{aligned}
 /l/ &\rightarrow [l̥] / \text{ — } V \\
 /l/ &\rightarrow [l̥] / \text{ — } \left\{ \begin{array}{l} C \\ \emptyset \end{array} \right\}
 \end{aligned}$$

$$/l/ \rightarrow [l̥] / \text{ fortis plosive —}$$

- / — = in the context of
- V = vowel
- C = consonant
- ∅ = pause
- = is realised as
- { } = either/or

The occurrence of the allophones is predictable and can be described by a phonological rule. The allophones are the complements of each other; where one occurs the other cannot. Such a patterning is termed **complementary distribution**.

Nevertheless, not all the allophones of all phonemes can be accounted for in this way. We have already mentioned the /r/ phoneme in Dutch (p. 9), where some speakers employ an alveolar [r], whilst others use a uvular [ʀ]. Many people vary, and, in the same position in the word, use one type of /r/ on one occasion and another type of /r/ on another. Such variation cannot be accounted for in terms of complementary distribution, for we cannot predict from the context which allophone will be selected on which occasion. In such cases, the allophones are said to be in **free variation**, meaning that the occurrence of one realisation or another appears to be a matter of chance. Another example of free variation is the pronunciation of E /t/ in words like *Britain*, where some people realise the sound as alveolar [t] and others as [ʔ]: ['brɪtɪ] or ['brɪʔɪ].

However, there may be additional factors at play here. It is frequently the case that social influences are of significance, and that speakers' use of particular allophones on any given occasion may be determined by the back-

ground of the people they are in company with at the time, or possibly the formality of the circumstances. For example, a Dutch schoolboy who speaks with an Amsterdam accent may pronounce /a:/ in *raam* in different ways. In the playground, speaking to his schoolmates, he might use a back vowel [ɑ:]; in the classroom, when talking to his teacher, he might employ an [a:] type sound, closer in quality to that of the (NL) ABN vowel. Similarly, in the playground, a London schoolboy might use glottal stops for /t/ in words like *butter* and *bottle*, whereas, in the more formal classroom context, he might possibly realise these sounds as alveolar [t].

### 9.3 DIFFICULTIES OF DETERMINING A PHONEME INVENTORY

Furthermore, although the concept of complementary distribution is a useful one, inasmuch as it accounts for the distribution of the allophones of a phoneme, it can sometimes pose problems.

Consider the case of /h/ and /ŋ/. In Dutch, /h/ only occurs before a vowel (**pre-vocally**), while /ŋ/ only occurs following a vowel (**post-vocally**); they are therefore in complementary distribution. However, they cannot be analysed as belonging to the same phoneme for two reasons. One is that they lack any sort of phonetic similarity; /h/ is a voiceless glottal fricative while /ŋ/ is a voiced velar nasal. Typically, allophones of the same phoneme share phonetic characteristics.

Secondly, and even more important, they would not be considered as members of the same phoneme by native speakers of the language concerned. No Dutch speaker would accept that *hing* could be written phonemically as \*/ŋŋ/ or \*/hɦ/. Native speakers have an awareness of phonemes and hear them as significant linguistic units. Differences between allophones of the same phoneme either pass unheard or are shrugged off as insignificant. In the final analysis, **native-speaker intuition** must be regarded as the most decisive factor of all in determining the allocation of allophones to phonemic categories.

### 9.4 NEUTRALISATION

Sometimes two phonemes may show overlap in phonetic realisation. Consider the case of /m/ and /n/ in Dutch, where these occur before a labio-dental, as in *aanvang* and *omvang*. In both cases, the realisation of /m/ and /n/ may be a labio-dental nasal, which can be represented as [m]: ['a:mʏŋ, 'ɔ:mʏŋ]. In this case, there is no way of knowing whether [m] should be assigned to /m/ or to /n/. Both are voiced and both are nasal. /m/ is bilabial, and /n/ is alveolar. As /m/ and /n/ are never in opposition in this position in the word, we can



assign [ŋ] to either. The opposition between /m/ and /n/ has undergone **phoneme neutralisation**.

Another example is **a** in Dutch words like *kabinet*, *atheneum*, *stabiel*. Some speakers select /a:/ and others /a/, but the majority will use a vowel somewhere between the two: [kabi'nɛt, ətə'ne:ʊm, stɑ'bil]. There is thus neutralisation of /a:/ and /a/ in this context.

Yet another case of phoneme neutralisation is the realisation of stops in syllable-initial clusters after /s/ in English: *spool* /spu:l/, *stool* /stu:l/, *school* /sku:l/. After /s/, the fortis stops have none of the energy and aspiration characteristic of other allophones of /p, t, k/. In fact, they are phonetically closer to the allophones of /b, d, g/ and it would be perfectly reasonable (since there is no possibility of a contrast of the type /spu:l – sbu:l/ in English) to regard these as being: \*/sbu:l, sdu:l, sgu:l/. It would seem that spelling tradition is the main factor in their allocation to the /p, t, k/ categories, though in Danish similar occurrences are treated as being allophones of /b, d, g/. Furthermore, in Welsh, phonetically similar sequences are spelt with **sb** and **sg**, e.g. *sgâm* 'scheme', *sbâr* 'spare'.

Neutralisation is also found in the final sound in words like *city*, *coffee*, *caddie*. This vowel has traditionally been treated as /ɪ/ for RP, but in the present-day language it is often realised as a vowel which is short like /ɪ/ but of a quality similar to /i:/. Native speakers often express uncertainty on this point, and in the latest versions of some pronouncing dictionaries, a special symbol *i* has been used to indicate the neutralisation.<sup>2</sup>

#### 9.5 DIFFERENT PHONEME SYSTEMS IN DIFFERENT VARIETIES OF THE LANGUAGE

In providing a phonemic analysis of a language, account must be taken of its different varieties. The phonemic system may vary considerably from one accent to another. Accents may possess an extra phoneme contrast or, alternatively, lack a phoneme contrast that is present in other varieties. Chapter 27 on English accents provides further detail on this, but we can consider one or two examples at this point.

In most types of English, an /ʌ – ʊ/ contrast exists between words like STRUT and FOOT. However, in the north of England and in some southern Irish English, this opposition is lost, all words of this type being /ʊ/, and there being no /ʌ/ in the system.



On the other hand, most Welsh English has an extra vowel phoneme, with a contrast between the vowels in words such as *blue* and *blew*; *goose* and

<sup>2</sup> For instance, in the *Longman Pronunciation Dictionary* (2000), the *Shorter Oxford Dictionary* (1993) and the latest edition of the *English Pronouncing Dictionary* (1997).

*juice*, with the second word in each of these pairs being a diphthong /ɪʊ/. This means that Welsh English has an additional phoneme contrast /u: – ɪʊ/ as compared with most other varieties of English.

|                                     |              |
|-------------------------------------|--------------|
| Most varieties of English           | /ʊ/ – /ʌ/    |
| Northern English and Southern Irish | /ʊ/          |
| Most varieties of English           | /u: /        |
| Welsh English                       | /ɪʊ/ – /u: / |

RP, in common with Irish, Scottish and American speech has /h/. The broad varieties of most accents in England and Wales do not possess this phoneme, so that *Henry Higgins hates hot hamburgers* can become /'enrɪ 'ɪɡɪnz 'eɪts 'ɒt 'æmbɜ:ɡəz/.

As will be seen, a valid phonemic analysis can only be made for one particular accent of a language at a time. It is sometimes found that the differences between phonemic systems, especially vowels, can be very great indeed. For instance, many accents in Scotland, Northern Ireland and the north east of England have vowel systems which are considerably at variance with RP and most other varieties of English.

## PHONATION AND STATES OF THE GLOTTIS

### 10.1 STRUCTURE OF THE LARYNX

In Section 4.3, we dealt briefly with the structure of the larynx, when we discussed the organs of speech. We also considered one of the important functions of the larynx, namely voicing, in Section 6.4 on the fortis/lenis contrast. In addition, we mentioned the glottal stop and its use as a reinforcement of the fortis stop consonants. Now we are going to look at the larynx and its various phonation functions in rather greater detail.<sup>1</sup>

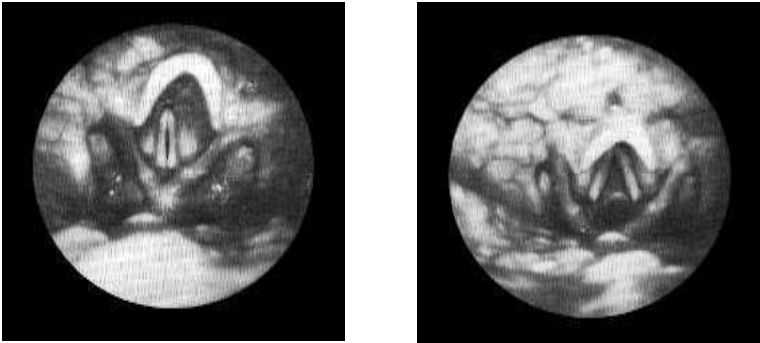


Figure 10.1 Photographs showing larynx viewed from above. Left: vocal folds in vibration as for voice. Right: vocal folds apart as for voiceless.

If the larynx is examined, for instance by means of a laryngoscope,<sup>2</sup> the vocal folds appear as whitish bands of ligament in the pink of the surrounding organs. The arytenoid cartilages,<sup>3</sup> which control the positioning of the vocal folds, look like red mounds. The vocal folds and the arytenoid cartilages themselves can be: (1) set wide apart, (2) placed together leaving a small aperture, or (3) held completely together leaving no space between. The vibrations of the vocal folds are far too fast to see with the eye, and can be

<sup>1</sup> The photographs used to illustrate this chapter were taken, using a rigid fibre-optic bundle, by Cor de Ruijter, Wilhelmina Gasthuis, Amsterdam. Subject: Luuk van Buuren (University of Amsterdam).

<sup>2</sup> A small mirror on an angled rod similar to that used for dental examinations. Nowadays, developments in fibre-optics have permitted easier observation of the larynx area.

<sup>3</sup> /æɾə'ti:nɔɪd/. The word is derived from the Greek word for a ladle ('soeplepel'); the organs are so called because of their spoonlike shape.

compared to the buzzing of an insect's wing. The gap between the open vocal folds or arytenoids is termed the **glottis** (adjective: **glottal**).

With an organ as complex as the larynx, it is difficult to discuss the various settings using photographs. We shall, for our purposes, use a simplified model as illustrated in Fig. 10.2.

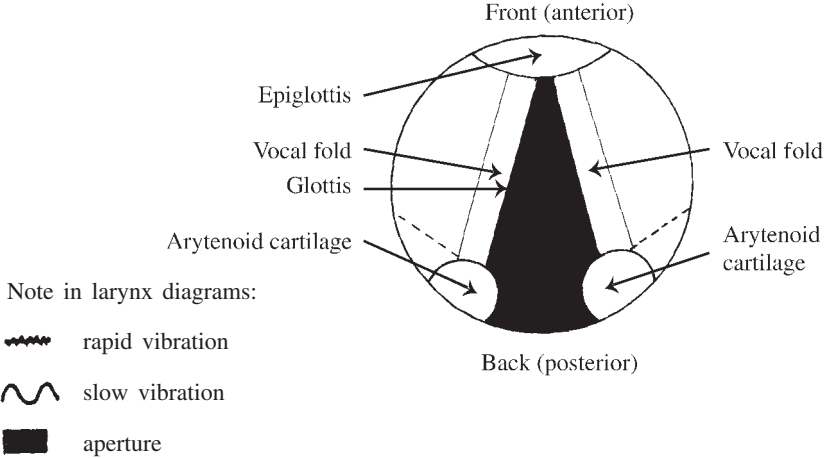


Figure 10.2 Simplified model of the larynx.

## 10.2 VOICED

For voicing, the vocal folds are brought together in light contact and vibrate at high speed along their entire length in the stream of air passing from the lungs.

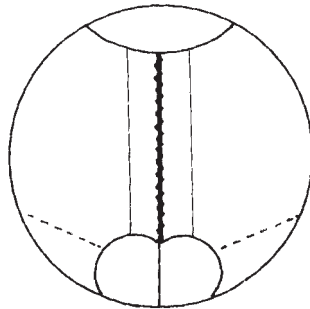


Figure 10.3 Larynx setting: voice.

The arytenoid cartilages are pressed firmly together. Because of the repeated rapid contact and parting of the vocal folds, the airstream escapes in a series of very high-speed puffs, on average 130 per second for a man's voice, and

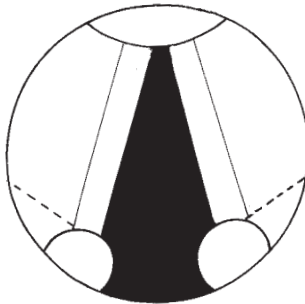
about 230 per second for a woman's voice, producing the effect of a buzz. This buzz is termed **glottal tone** or **voice**. The higher the **frequency** (i.e. the rate of vibration), the higher is the perceived pitch. Changes in the tension of the vocal folds and differences in the force of the airstream produced by the lungs combine to make the variations in the frequency of the glottal tone. Such pitch changes have an important linguistic function in features such as intonation (see Chapters 23-25).

#### EXERCISE 1

Try saying some voiced sounds: [a], [m], [z]. Hum the sound and change the pitch up and down. Notice that this is easy to do with the voiced sounds but impossible with a voiceless sound like [f] or [s].

### 10.3 VOICELESS

For **voiceless** sounds, the vocal folds and the arytenoid cartilages are held wide apart in a similar way to the state of the larynx for normal relaxed breathing. This allows a clear passage for the airstream passing from the lungs.



Vocal folds apart

Arytenoids apart

Figure 10.4 Larynx setting: voiceless.

#### EXERCISE 2

Repeat the test for voicing with [s] and [z] which you carried out earlier in Exercise 3 on p. 27; say an [s], then a strongly voiced [z]. Now alternate them. Do this with your fingers in your ears and you will hear a deep vibration for [z], but not for [s]. Now do the same for [f – v], [θ – ð] and [ʃ – ʒ].

The contrast of voiced and voiceless is a very important one in most languages; in English and Dutch, it is one of the phonetic variables which play a part in the fortis/lenis contrast (see Section 6.4). Vowels, nasals and approximants, in both English and Dutch, are usually voiced. Fortis stops and fortis fricatives are always voiceless. Lenis stops and fricatives are potentially voiced but vary according to context.

## 10.4 GLOTTAL STOP

At the other extreme from voiceless (where the vocal folds are wide apart) we have the larynx position for glottal stop [ʔ]. As the name implies, here the vocal folds and the arytenoids are pressed close together so that the airstream coming from the lungs is temporarily blocked. On the release of the closure, the blocked air rushes out, giving rise to plosion. The effect is rather like a weak cough.

In many languages, e.g. Arabic, Persian and Hawaiian, glottal stop functions as a voiceless stop phoneme. In Dutch and English, [ʔ] frequently occurs but is not itself a phoneme.

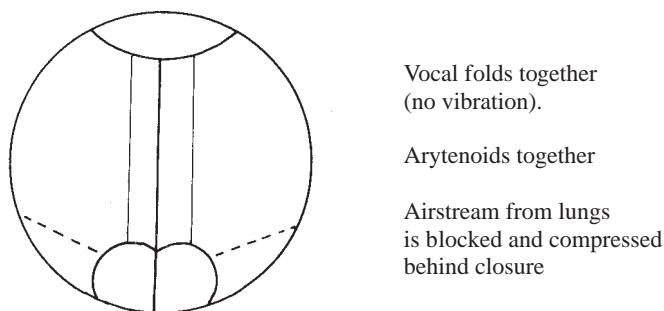


Figure 10.5 Larynx setting: glottal stop.

In Dutch, [ʔ] is regularly heard before a stressed syllable beginning with a vowel.

### EXERCISE 3

Say this sentence in Dutch: *Ome Arie eet altijd aardappels met appelmoes.*<sup>4</sup> You will probably find that you put in glottal stops before all the vowels if you say the sentence slowly and carefully (though in connected non-emphatic speech many of the glottal stops will be omitted).

In standard German, initial vowels are also articulated with a preceding glottal stop — more forceful than in Dutch and occurring more regularly. In English, [ʔ] occurs before many initial vowels, though the stop is rather weaker than in Dutch, and its occurrence less frequent.

[ʔ] plays a very important part in English as a reinforcement to fortis stop consonants in many contexts (see Section 16.2). In certain English dialects (e.g. Cockney, Geordie spoken in the North East, and most Scottish accents), [ʔ] occurs as a replacement for /t/, and in certain contexts for /p, k/.

<sup>4</sup> We are grateful to Luuk van Buuren for the example.

**EXERCISE 4**

Try imitating this sentence as it might be said in Cockney dialect: *I've got to put a lot of butter on that little bit of bread*: [aɪv 'ɡɒʔə 'pʊʔə 'lɒʔə 'bʌʔər ɒn ðæt 'lɪʔt 'bɪʔ ə 'bred]. Note that [ʔ] is not a phoneme; therefore we must enclose the transcription in square brackets.

[ʔ] cannot have a voiced counterpart, since the vocal folds are tight together for the articulation and so cannot vibrate. In some languages, as we have seen, it is one of the set of voiceless stop phonemes. It is therefore treated as a voiceless sound, even though it is, paradoxically, as far removed from the larynx position for voiceless as is possible.

## 10.5 CREAK AND CREAKY VOICE

It is possible to produce a rather slow vibration with the vocal folds, termed **creak**, which is like a succession of glottal stops, one after another, giving an effect rather similar to the noise you hear when an old door slowly swings open. The vibrations are slow enough (about 40 per second) to be heard individually rather than merge into a continuous tone. Creak is produced by keeping the arytenoids pressed together, and allowing the anterior (front) portion of the vocal folds to vibrate at slow speed.

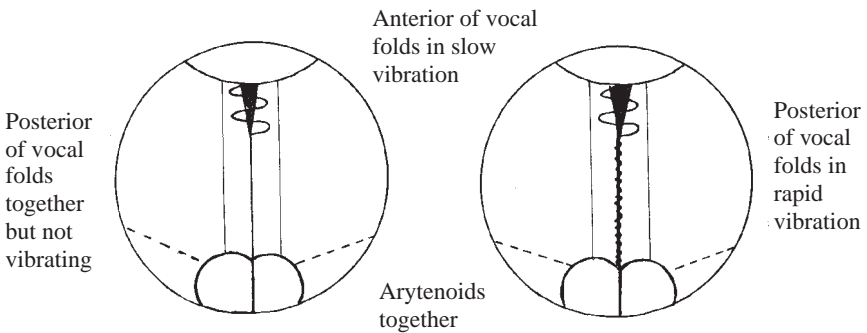


Figure 10.6.1 Larynx setting: creak. Figure 10.6.2 Larynx setting: creaky voice.

Creak can be combined with voice to produce **creaky voice**. Though it might appear more complex, and its exact mechanism is not fully understood, it is in fact far more common in language than simple creak. It is thought to be produced by the posterior (rear) portion of the vocal folds vibrating at relatively high speed for voice while the anterior portion vibrates much more slowly to produce the creak. The arytenoids are firmly pressed together.

Creaky voice is relatively uncommon in Dutch, but is employed regularly in English — especially in RP but also in many types of prestigious American speech — where speakers habitually go into creaky voice at the end of most utterances. It is an important element in English voice quality and intonation;

Dutch-speaking learners are advised to imitate creaky voice in order to make their English accents more convincing.

#### EXERCISE 5

Try to produce creaky voice on a vowel [a]. Go down the scale to as low a note as you can comfortably produce — and then go lower again. You will end up with creaky voice. Now try to remove the voicing so that there is no vowel sound at all — the harsh rattle-like sound you now have is creak.

In one European language, Danish, creaky voice can be considered to have a phonemic function. A feature of this language is that many words with otherwise the same phoneme structure are distinguished on the basis of whether or not they are uttered with creaky voice (known in Danish as *stød*). Examples of minimal pairs are:



#### Without *stød*

*hun* /hun/ 'she'

*man* /man/ 'one' (pron.)

*spil* /sbel/ 'game'

#### With *stød*

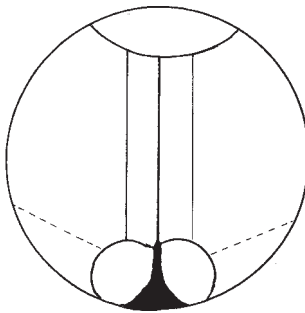
*hund* /hun' / 'dog'

*mand* /man' / 'man'

*spil!* /sbel' / 'play' (imperative)

Note that *stød* is conventionally indicated in transcription by ['].

### 10.6 WHISPER



Vocal folds together:  
no vibration

Gap between arytenoids

Figure 10.7 Larynx setting: whisper.

For the state of the glottis known as **whisper**, the vocal folds are brought together, but do not vibrate. The arytenoids are parted to leave a gap at the back of the larynx through which an airstream passes at fairly high velocity, giving rise to air turbulence and friction noise at this point. The glottis takes the form of a small hole, which appears to be capable of enlarging or contracting in the same way as the action of a camera shutter, i.e. a sphincter.<sup>5</sup>

<sup>5</sup> In many books, this is described as a 'whisper triangle'.



A much louder form of whisper can be produced by increasing further the force of the airstream and applying some constriction to the pharynx. This is sometimes called **stage whisper**, so termed because it is the artificially loud form used on the stage by actors to indicate that they are whispering. Whisper is to be heard in the articulation of /h/ in both English and Dutch.

#### EXERCISE 6

Say these Dutch sentences using whisper: *De weersverwachting tot hedenavond: Veel bewolking en mogelijk regen. Middagtemperaturen omstreeks 14 graden. Matige, aan de kust krachtige zuidwestenwind.* Now repeat using the louder stage whisper.

### 10.7 BREATHY VOICE<sup>6</sup>

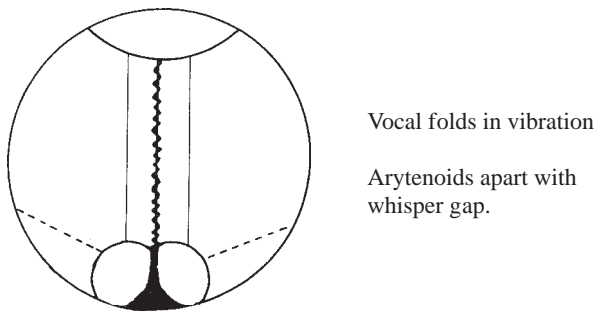


Figure 10.8 Larynx setting: breathy voice.

This larynx state is a combination of the states for voice and whisper.<sup>7</sup> It is produced by combining the normal voice of the vocal folds with the escape of air through the gap between the arytenoids. The resulting mixture of voice and whisper is heard in a certain voice quality associated with ‘sexy’ voices, and is regularly used by female popular singers as a special effect (to quote just two examples from former eras: Marilyn Monroe and Marlene Dietrich). One difference between classical and popular singing techniques is the deliberate introduction of larynx setting and voice quality into the latter.

#### EXERCISE 7

Listen to a number of singers (on CD or cassette, so that you can hear the same piece over again) and try to discover what special voice quality effects are being employed. Do you notice any differences in the voices of women and men singers in this respect?

In some languages, e.g. Hindi, Bengali (spoken in India and Bangladesh), breathy voice is utilised phonemically, some consonants being marked off in this way from others said with normal voice. In English, /h/ between vowels

<sup>6</sup> Also called ‘murmur’ and ‘whispery voice’.

<sup>7</sup> It is possible to produce other types of breathy voice. See Ladefoged (1993: 139-40).

is often said with breathy voice, e.g. *behind* [br'fiəmd]. D /h/ tends to be breathy voiced in all contexts.

### 10.8 SUMMARY

It is possible to regard the various states of the glottis as forming a kind of chain relationship. Voiceless is at one extreme of **openness** of the larynx; glottal stop is at the other extreme of **closed larynx state**. Voicing is placed in the centre as the most frequent state of the larynx in most languages. Creaky voice and breathy voice are combinations of creak and voice, and whisper and voice, respectively.

If we take a world view of languages, all these possibilities may be utilised linguistically. Dutch and English both use voiced and voiceless as a very significant factor in the fortis/lenis opposition. In addition, English uses glottal stop as a marker of certain fortis consonants. Creaky voice and creak occur regularly in English (especially in the more prestigious accents) as a part of the intonation process. Whisper and breathy voice are heard in /h/ and may also sometimes be used for special effects.

#### EXERCISE 8

Try to produce different glottis states for this sentence in English: *When your heart's on fire, smoke gets in your eyes.*

1. Voice; 2. whisper; 3. breathy voice; 4. creaky voice.

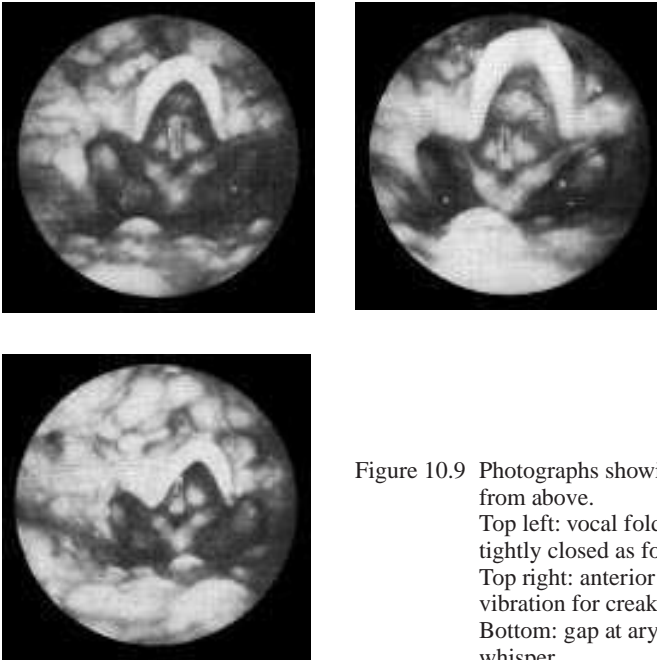


Figure 10.9 Photographs showing larynx viewed from above.

Top left: vocal folds and arytenoids tightly closed as for glottal stop

Top right: anterior vocal folds in vibration for creak

Bottom: gap at arytenoids as for whisper.

## ENGLISH CHECKED VOWELS

## 11.1 OVERVIEW OF THE ENGLISH VOWEL SYSTEM

Table 11.1 English reference vowels

| Checked |     | Free steady-state |      | Diphthongs |      |
|---------|-----|-------------------|------|------------|------|
| KIT     | /ɪ/ | FLEECE            | /i:/ | FACE       | /eɪ/ |
| DRESS   | /e/ | GOOSE             | /u:/ | GOAT       | /əʊ/ |
| TRAP    | /æ/ | PALM              | /ɑ:/ | PRICE      | /aɪ/ |
| STRUT   | /ʌ/ | THOUGHT           | /ɔ:/ | CHOICE     | /ɔɪ/ |
| LOT     | /ɒ/ | NURSE             | /ɜ:/ | MOUTH      | /aʊ/ |
| FOOT    | /ʊ/ |                   |      | NEAR       | /ɪə/ |
| bonUs   | /ə/ |                   |      | CURE       | /ʊə/ |
|         |     |                   |      | SQUARE     | /eə/ |

## 11.2 CHECKED STEADY-STATE VOWELS

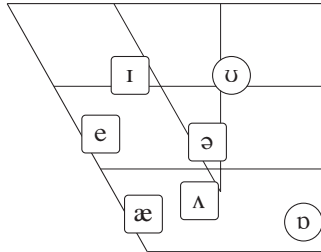


Figure 11.1 Checked vowels of English.

The checked vowels of English are shown in Fig. 11.1. The following features distinguish them as a separate class:

1. The checked vowels do not occur in word-final stressed open syllables. Consequently, there are no English words like \*/sɪ, 'se, 'sæ, 'sɒ/, whereas we do find free vowels (both steady-state and glide) in this context, e.g. *see* /'si:/, *say* /'seɪ/, etc.
2. Checked vowels can occur before the consonant /ŋ/, e.g. *string* /strɪŋ/, *strength* /streŋθ/, *sang* /sæŋ/, *strong* /strɒŋ/, *strung* /strʌŋ/; /ʊ/ is found only in

loanwords and proper names, e.g. *Jung* /jʊŋ/. The free vowels do not occur in this context, except as the result of assimilation.

3. In similar phonetic contexts, the checked vowels are shorter than the free vowels (but see p. 93 for lengthened /æ/). Since it does not occur in a stressed context, E /ə/ must be regarded as standing outside the free/checked classifications. Because it is short, we have considered it together with the checked vowels.

### *Checked vowel /ɪ/ (the KIT vowel)*

#### *Description*

Front-central, close-mid, unrounded, steady-state vowel. Phonemic norm: [ɪ].

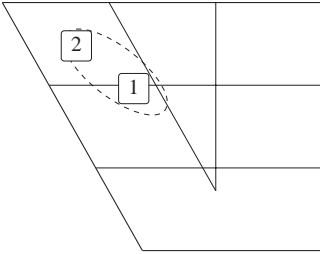


Figure 11.2.1

1. E /ɪ/, as in KIT. Dotted line indicates range of variation.
2. Closer allophone in final position.

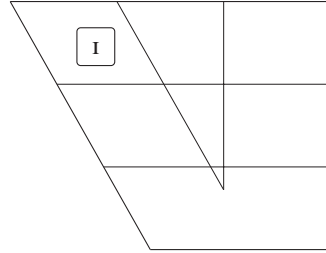


Figure 11.2.2 D /ɪ/, as in zɪt.

#### *Idiolectal variation*

The individual variation is indicated on the diagram. In modern RP, /ɪ/ is lower and more centralised than in more old-fashioned speech.

#### *Contextual variation*

1. The final vowel in words like *happy*, *coffee*, *movie*, etc. (sometimes referred to as the **happy words**<sup>1</sup>) nowadays has a considerably closer realisation than was formerly the case. Indeed, most speakers of English would regard it as falling into the FLEECE rather than the KIT category; this also holds true for most younger RP speakers. However, older RP speakers, Northerners from Yorkshire and most of Lancashire, and most Scots would regard the vowel as /ɪ/ and this, until recently, is how it has been classified. In this book,

<sup>1</sup> Wells (1982: 165-66).

we have retained the traditional categorisation and transcription. Until about 1950, most RP speakers had a very open vowel, almost like /e/, in this context: [hæpe]. This is hardly heard today and strikes most English people as amusingly archaic (or dialectal).

2. E /ɪ/ is centralised and lowered before dark [ɤ], giving [ɪ], e.g. *still, quilt*. This effect is found with all the front vowels before dark [ɤ].
3. Front vowels tend to be closer before velars, e.g. *kick* [kɪk].

### **Distribution**

E /ɪ/ varies with E /ə/ in unstressed syllables, e.g. *helpless, remove*, etc. Increasingly, /ə/ tends to be the dominant form, particularly in words ending in *-less, -ness, -let* and *-ity*, e.g. *hopeless, fitness, piglet* and *senility*.

The prefixes *be-, de-, pre-, re-* are normally pronounced with /ə/ or /ɪ/, e.g. *become* is either /bɪ'kʌm/ or /bə'kʌm/ (but never \*/bi:'kʌm/). The pronunciation /i:/ is only used for **productive** prefixes, i.e. when the prefix is used to convert an existing word to a new form, (e.g. *modify: premodify* /pri:'mɒdɪfaɪ/; *contaminate: decontaminate* /di:kən'tæmɪneɪt/; *sell: resell*: /ri:'sel/). Compare *predict, report, deploy*, which are said with /ə/ or /ɪ/.

### **Comparison with Dutch and advice**

The average quality of D /ɪ/, as in ZIT, can pass straight into English without alteration and so poses no problem for the vast majority of learners. See below, however, for the possible difficulties of some dialect speakers.

For final E /ɪ/ (in *happy*), Dutch speakers must avoid a very close vowel of D /i/ type. Cf. the pronunciation of English loanwords in Dutch, e.g. *hobby* /'hɒbi/, *sorry* /'sɔri/, *hockey* /'hɒki/, *volley* /'fɔli/. On the other hand, some students overcorrect, using a vowel similar to the one in D /ɛ/, as in ZET, e.g. *hobby* \*/hɒbɛ/. As noted above, open realisations are nowadays regarded as being comically old-fashioned. The student is recommended to use a vowel similar to D /ɪ/, which is normally acceptable to all English speakers.

In unstressed syllables, where there is variation, learners are recommended to choose E /ə/ rather than the more old-fashioned E /ɪ/, e.g. *helpless* /'helpləs/. The prefixes *pre-, de-, re-* can only have the /i:/ vowel where they are productive (see above).

Note that certain speakers of urban accents, e.g. The Hague, Rotterdam, Amsterdam, Antwerp, may have a D /ɪ/ which is closer and more front, sounding similar to types of E /i:/. These may sound dialectal if used for E /ɪ/, or cause confusion between E /ɪ - i:/. Accents such as Dordrecht, Nijmegen, areas of Noord-Brabant, Limburg and West Flanders have very open qualities, which may give rise to confusion with E /e/.

*Checked vowel /e/ (the DRESS vowel)***Description**

Front, above open-mid, unrounded, checked, steady-state vowel. Phonemic norm: [ɛ̟].

**Idiolectal variation**

Qualities are heard from just below close-mid to open-mid. Very close forms are often considered ‘affected’ by English speakers.

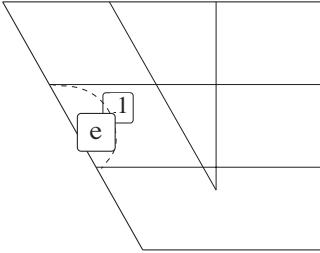


Figure 11.3.1 E /e/, as in DRESS. Dotted line indicates range of variation.  
1. Closer allophone before velars.

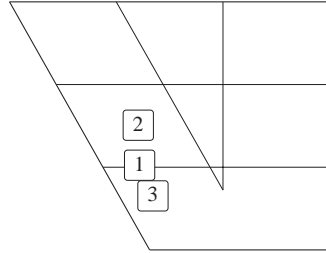


Figure 11.3.2 1. D /ɛ/, as in ZET.  
2. Closer variant heard in Randstad and Antwerp.  
3. D /ɛ/ before dark [ɫ].

**Contextual variation**

1. Lowered and centralised before dark [ɫ], e.g. *tell, felt*, giving [ɛ̟̠].
2. /e/ is closer before velars, giving [ɛ̟], e.g. *peg, peck*.

**Comparison with Dutch and advice**

Learners should use D /ɛ/, as in ZET, which will normally be successful as a replacement. Some Dutch speakers, however, have an [ɛ̟] quality which is too open for RP; such a quality is typical of affected varieties of (NL) ABN, and also of certain dialects, e.g. Noord-Brabant and Limburg. It is also true of many Belgian varieties, e.g. East and West Flanders. Other accents, e.g. much of the Randstad (particularly Amsterdam) and also Antwerp, have a vowel which is centralised and closer, and which may be confused with E /ɪ/. D /ɛ/ is particularly open before /n/ and /l/, and if transferred to English, strikes an English ear as sounding like E /æ/, e.g. *send, help* \*/sænd, hælp/.

The chief difficulty with E /e/ for Dutch speakers lies in the confusion with E /æ/, and to some extent /ɛə/, since there is only one Dutch vowel phoneme (plus the marginal /ɛ:/ as in BEIGE) in this area of vowel space, whereas in English there are three (see Fig. 11.4.1). Careful training is necessary to distinguish these sounds. Note that the spelling rules for E /e/ and E /æ/ are very reliable (see p. 124).

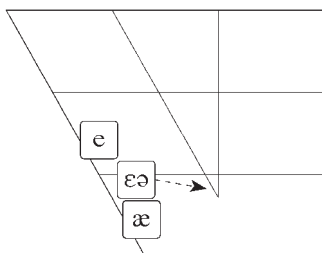


Figure 11.4.1 E /e, æ, ɛə/.

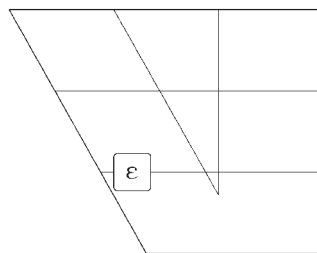


Figure 11.4.2 D /ɛ/, as in ZET.

### Checked vowel /æ/ (the TRAP vowel)

#### Description

Front, slightly above open, unrounded, checked, steady-state vowel. Phonetic norm: [a̟].

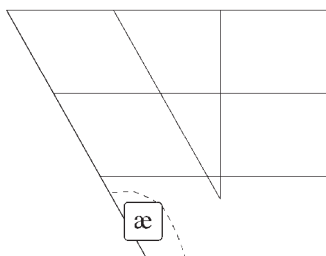


Figure 11.5.1 Range of E /æ/, as in TRAP.

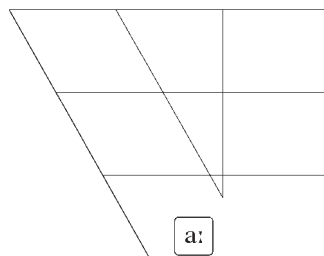


Figure 11.5.2 D /a:/, as in LA.

#### Idiolectal variation

1. Qualities vary from lowered CV 3 to CV 4. Close qualities sound old-fashioned; increasingly, a very open /æ/, similar to CV 4, is heard from many speakers. The extent to which this vowel has changed becomes obvious if one compares the speech to be heard in films and audio-recordings of the pre-1960 period with that of the present day.

2. E /æ/ is variable in length, being longer than the other checked vowels. For many (perhaps most) RP speakers, a small set of words have a lengthened /æ/ before lenis consonants and nasals, e.g. *bad, mad, sad, bag, man*. Such lengthening is very common, but not obligatory.

3. E /æ/ often has pharyngeal constriction, with a tendency to creaky voice quality, which helps to set it off from /ɛ/.

**Contextual variation**

1. E /æ/, like other front vowels, is affected by dark [ɫ], giving a retracted [ä], e.g. *pal, shall*.
2. E /æ/ is closer before velars, giving [æ̠], e.g. *back, bag, bang*.

**Comparison with Dutch and advice**

There is no Dutch vowel corresponding to E /æ/, and confusion of E /e/ with E /æ/ is a notoriously persistent learners' error (see Fig. 11.4.1). The contrast E /e – æ/ is crucial to the English vowel system, distinguishing the meaning of a great many commonly used words, and its absence may lead to a breakdown of intelligibility.

The learner should aim at an open quality (in the region of CV 4) which is clearly marked off from E /e/. Avoid the old-fashioned closer types of /æ/ regrettably still often prescribed by teachers and outdated textbooks. In making the contrast E /e – æ/, concentrate on E /æ/, making it suitably open. Aim at a quality more like D /a:/, as in LA. E /e/ can then be approached from D /ɛ/, as in ZET. When imitating E /æ/, use should be made of all the possible distinguishing features, i.e. length, pharyngeal constriction, in addition to quality.

Utrecht is well known for having a very front vowel for D /a/, as in *asbak* ['æzbæk], often imitated for comic effect. This can sound remarkably similar to E /æ/. A similar realisation of D /a/ is heard in some Belgian varieties, notably Brabant.

Note that the spelling/sound relationships /e – æ/ are very reliable. See pp. 124-25 for spelling of /æ, e, eɔ/.

**Checked vowel /ʌ/ (the STRUT vowel)****Description**

Central-front, below open-mid, unrounded, checked, steady-state vowel. Phonemic norm: [ə̠].

**Idiolectal variation**

Individual variation is wide, as the diagram (Fig. 11.6.1) shows, but the average quality is nowadays a central-front rather than a back vowel. This change in quality has occurred in the present century; on recordings dating from around 1900, a more retracted vowel is to be heard. Many outdated textbooks persist in representing the old-fashioned back /ʌ/ as the norm.

**Contextual variation**

1. E /ʌ/ is the shortest of the checked vowels and does not show as noticeable a lengthening before the lenis consonants as do other vowels, e.g. *bus – buzz*.



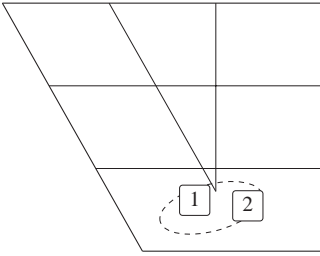


Figure 11.6.1 1. E /ʌ/, as in *STRUT*. Dotted line indicates range of variation.  
2. Allophone before [ʔ].

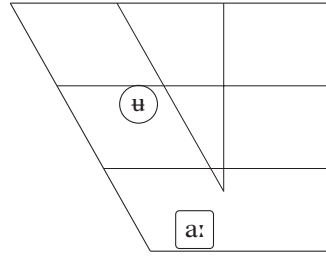


Figure 11.6.2 D /a:/, as in *LA*,  
and D /ʌ/, as in *NUT*.

2. E /ʌ/ tends to be retracted before dark [ʔ], e.g. *bulb*, *dull*, as shown on the diagram (Fig. 11.6.1).

### *Comparison with Dutch and advice*

D /ʌ/, as in *NUT*, which learners tend to substitute for E /ʌ/, is a very different sound, being not only considerably closer but also lip-rounded. Learners must practise unrounding (looking in a mirror) and using a quality similar to a short, but centralised, form of D /a:/, as in *LA*.



#### **EXERCISE 1**

Practise saying the English word *bus* by means of this system. Say *baas* and gradually shorten the vowel. Do not change the quality into D /a:/, as in *Bas*. Now try the following words using the shortened vowel:

*baas* [ba:s] → [bas] *bus*  
*haat* [ha:t] → [hat] *hut*  
*baat* [ba:t] → [bat] *but*

Now try using the modified vowel in the following pairs:

*bus* – *buzz*  
*fuss* – *fuzz*  
*but* – *bud*

Another possible approach is to relate E /ʌ/ to an open form of D /ə/.

Some students substitute D /a:/, as in *ZAT*. This is not advised since it produces a back vowel, which sounds old-fashioned or dialectal, and also runs the risk of confusion with E /ɒ/.

One of the most persistent errors of learners is to be misled by spelling into using E /ɒ/, as in *LOT*, instead of E /ʌ/ in a set of very common words, e.g. *love*, *mother* and *worry* (sometimes called the **worry words**). The full list of ‘worry words’ can be found on pp. 122-23. Note that the word *one* rhymes with *fun*; it is pronounced /wʌn/ and not \*/wɒ:n/.

*Checked vowel /ɒ/ (the LOT vowel)***Description**

Back, slightly above open, slightly rounded, checked, steady-state vowel. Secondary CV 5. Phonemic norm: [ɒ].

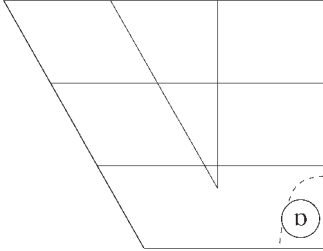


Figure 11.7.1 Range of E /ɒ/, as in LOT.

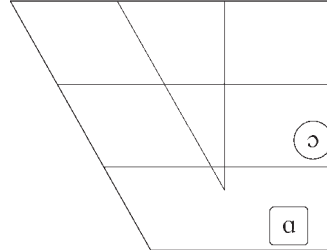


Figure 11.7.2 D /ɔ/, as in ZOT, and D /ɑ/, as in ZAT.

*Idiolectal variation*

There is little variation in tongue position. Lip-rounding varies from being slight to being absent altogether. Typically, it is very slight indeed.

*Contextual variation*

None of significance.

*Comparison with Dutch and advice*

The usual Dutch substitution for E /ɒ/ is D /ɔ/, as in ZOT, which is deficient in several respects: /ɔ/ is too close, too lip-rounded and generally tense in articulation. E /ɒ/ is in many ways more similar to D /ɑ/, as in ZAT, as pronounced by most (NL) ABN speakers and generally in the Zuid-Holland Randstad area. In fact, English speakers often hear D /ɑ/ in terms of E /ɒ/, whilst D /ɔ/ is perceived as having no English counterpart. Learners should aim at reducing lip-rounding, removing pharyngeal tension and achieving a more open tongue position. Speakers of (NL) ABN and of Randstad varieties such as The Hague, Rotterdam and Leiden can aim at a quality somewhat closer to their D /ɑ/.

Undesirably tense realisations of E /ɒ/ are especially noticeable before fortis plosives. Compare English *top* with the corresponding word in Dutch. Other examples are: *lot, not, cot, pot, shop, drop, frock, lock, dock*.

Students should ensure that, having acquired the correct pronunciation of the 'worry words' (see pp. 122-23), they do not then fall into the trap of hypercorrection by pronouncing other words spelt with *o* as /ɑ/. Avoid mispronunciations such as \*/ˈbɑtɪ/ for *bottle* (correctly /ˈbɒtəl/).

The various errors associated with E /ʊ/ tend to be very persistent, and are often heard from otherwise proficient speakers.

**Checked vowel /ʊ/ (the FOOT vowel)**

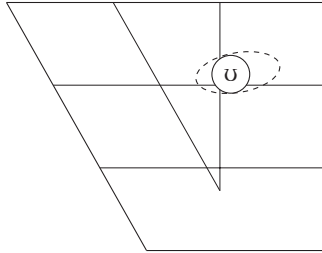


Figure 11.8 Range of E /ʊ/, as in FOOT.

**Description**

Back-central, close-mid, slightly rounded, checked, steady-state vowel. Phonemic norm: [ʊ].

**Idiolectal variation**

See diagram (Fig. 11.8). Lip-rounding is generally slight. Some speakers have a more central unrounded quality in common words, e.g. *good*.

**Contextual variation**

None of significance.

**Comparison with Dutch and advice**

All Dutch-speaking students confuse E /ʊ/ and E /u:/, hearing both in terms of their D /u/, as in MOE. Perhaps because there is nothing near E /ʊ/ in the (NL) ABN phoneme system, this centralised vowel is the most difficult sound for speakers from the Netherlands to imitate. Particularly objectionable to English speakers is the substitution of an extended glide of an /ɥy/ type as described on p. 103.

In (B) AN the quality of the MOE vowel is somewhat more central. As a result, the substitutions made by Belgian learners, even if off-target, are less conspicuous. Note that there are allophones of D /ɔ/ which are similar to E /ʊ/, namely those before nasals, especially /ŋ/. Dutch *jong* sounds very similar to the English version of the German name *Jung* /jʊŋ/ (as in the name of the well-known psychologist). This may be used as a starting-point for imitating the sound.

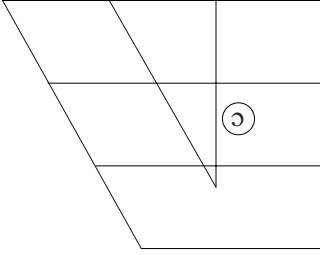


Figure 11.9.1 Allophone of D /ɔ/ before /ŋ/, as in *jong*.

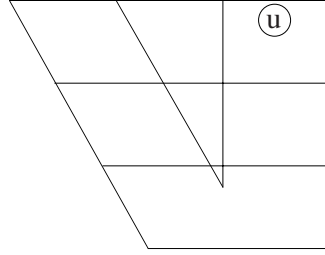


Figure 11.9.2 D /u/, as in MOE. Note that the (B) AN vowel is typically somewhat more central than shown here.

There are relatively few words in English containing /ʊ/ but many of them are high-frequency items. See Chapter 13, pp. 125-26, for spelling of /ʊ/.

### Vowel /ə/ (*the bonus vowel*)

#### *Description*

Central, open-mid, unrounded, steady-state vowel. Phonemic norm: [ə].

#### *Idiolectal variation*

Mainly degree of openness in word-final context.

#### *Contextual variation*

There are two distinct allophones:

1. A closer allophone before velars, e.g. *again*.
2. A more open variety in final position, similar to E /ʌ/, which can be phonetically represented as [ɐ], e.g. *doctor, china, soda, bitter*. With some speakers, this allophone is strikingly open.

#### *Comparison with Dutch and advice*

D /ə/, e.g. in *werkEɪlk*, is like E /ə/ in that it has no consistent spelling. Like E /ə/, it also almost always occurs in unstressed syllables. The quality of D /ə/ is similar to that of the English vowel in most contexts and transfers well.

Note that Dutch has an allophone in word-final position which is closer and lip-rounded (see Fig. 11.10.2). Whereas word-final E /ə/ is similar to E /ʌ/ (as in *STRUT*), D word-final /ə/ is close to D /ʉ/ (as in *NUT*). Since Dutch substitutions for final E /ə/ — being the result of spelling influence — are either D /ɛr/ or D /a:/, the different qualities of E /ə/ and D /ə/ in this context give rise to few problems.

The main problem for Dutch speakers is actually to remember to say /ə/ rather than the vowel associated with the spelling. The words *doctor*, *china*, *bitter*, *sulphur* all end in /ə/; and the vowel in the first syllable of the words *forgive*, *particular*, *circumference*, *surround* is in each case /ə/. Make sure that you are not misled by the orthography into using a vowel other than /ə/. Dutch in such contexts tends to use a centralised version of the vowel suggested by the spelling (see also Section 22.2 on vowel gradation).

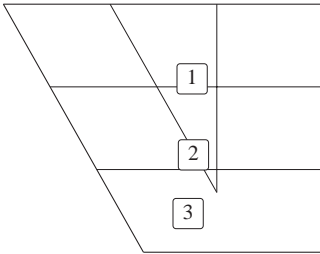


Figure 11.10.1 1. E /ə/ before velars.  
2. E /ə/. Phonemic norm.  
3. E /ə/ in final position.

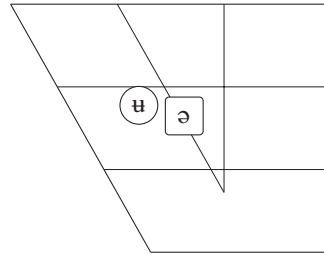


Figure 11.10.2 D /ə/, as in *werkelùk*,  
and D /u/, as in *NUT*.

Since many spellings of E /ə/ include **r**, it is also necessary to practise /r/-deletion for this vowel. It is important to realise that pairs like the following are good rhymes in English: *finer* – *China*, *spanner* – *Anna*, *fever* – *Eva*, *raider* – *Ada*.

## ENGLISH FREE VOWELS

### 12.1 FREE STEADY-STATE (LONG) VOWELS

In dealing with the free vowels, we consider first the steady-state vowels, i.e. those having a fairly steady position of the speech organs throughout their articulation, and not having an obvious change in tongue or lip position. See Section 8.6 on vowel theory. The variety of E / $\epsilon\alpha$ / used by many English speakers could be treated as a sixth free steady-state vowel. This fills a gap in the symmetry of the vowel system and fits in better with the intuition of many native speakers.

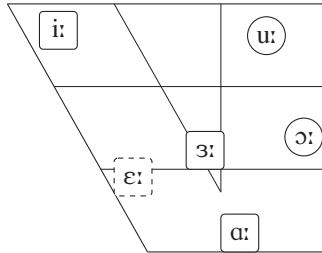


Figure 12.1 English free steady-state vowels.

The free vowels have the following distinguishing characteristics as a class:

1. They may occur finally in a stressed open syllable, e.g. *key* / $k\epsilon i$ /, *car* / $k\alpha$ /, *core* / $k\alpha$ /.
2. They do not occur before / $\eta$ / except as a result of assimilation, e.g. *green cucumbers* / $gr\epsilon\eta$   $kju:k\alpha mb\epsilon z$ /.
3. In similar phonetic contexts, they are longer than the checked vowels, e.g. *seed* – *Sid* / $s\epsilon d$  –  $s\epsilon d$ /, *roared* – *rod* / $r\alpha:d$  –  $r\alpha d$ /.

#### ***Free vowel /i:/ (the FLEECE vowel)***

##### ***Description***

Centred front close, unrounded, free, steady-state vowel. Phonemic norm: [i]

##### ***Idiolectal variation***

Many speakers regularly use a narrow diphthongal glide (of an [iɪ] type) in

contexts where /i:/ has full length, namely, in open syllables and before lenis or nasal consonants.

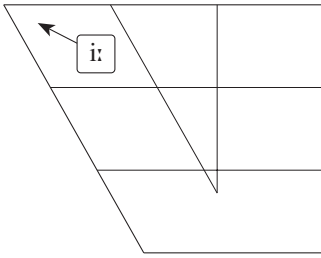


Figure 12.2.1 E /i:/, as in FLEECE.  
Diagram shows diphthongal glide allophone in non-pre-fortis context.

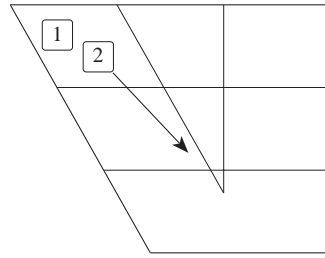


Figure 12.2.2 E /i:/, as in FLEECE.  
1. Steady-state vowel allophone.  
2. Centring diphthongal variety of /i:/ before [ʔ].

Before fortis consonants it is more usual to hear a steady-state vowel. Some RP speakers, particularly of the older generation, react unfavourably to any exaggeration of the glide.

### *Contextual variation*

1. See above for glide forms.
2. Before dark [ʔ], a centring glide is used (see Fig. 12.2.2). For most speakers, this means that there is no contrast between E /iə/ and /i:/ before E [ʔ], e.g. *real – reel*. See Section 17.1, p. 170 on E /ɪ/.

### *Comparison with Dutch and advice*

Usual replacement is D /i/, as in ZIE. D /i/ differs from E /i:/ in being closer; indeed the Dutch vowel may be so close that it ends in voiceless friction (*drie* [dri:] or [driç]). It is also more front and is short (except before /r/). The articulation is also considerably tenser than E /i:/. All these aspects are more apparent in the contexts where E /i:/ has full length. Learners should imitate the length variation and aim at a more open quality than D /i/. It is probably inadvisable to copy the glide which is heard from many English people. The objection some RP speakers have to even a slightly exaggerated glide seems to stem from the fact that wide diphthongs are typical of low-prestige varieties of London (Cockney), Birmingham, Southern U.S.A. and broad Australian.<sup>1</sup>

<sup>1</sup> In this chapter, reference is frequently made to certain accents which have realisations of vowels noticeably different from RP. These varieties have more open starting-points for FLEECE, GOOSE, FACE and more back for PRICE and closer for CHOICE. Accents with some or all of this kind of patterning include low-prestige varieties of London (Cockney), Birmingham/West Midlands and broad Australian. Such forms tend to suffer social stigmatisation and consequently cannot be recommended to the foreign learner.

**Free vowel /u:/ (the GOOSE vowel)****Description**

Centred from back close, rounded, free, steady-state vowel. Phonemic norm: [ü:].

**Idiolectal variation**

1. Most speakers regularly use a narrow glide where E /u:/ has full length, i.e. in open syllables and before lenis or nasal consonants. The glide is as shown in Fig. 12.3.2, and could be represented as [ʊü]. Before fortis consonants, it is more usual to hear a steady-state vowel.

The situation is very similar therefore to the corresponding front vowel E /i:/. Again, many RP speakers, especially of the older generation, react strongly to anything other than a very narrow glide. A steady-state vowel is often taught to actors and other professional speakers.

2. Lip-rounding is generally rather weak (particularly with those speakers who regularly use glides).

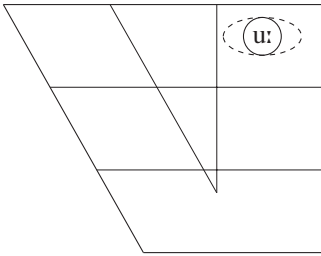


Figure 12.3.1 E /u:/, as in GOOSE. Range of steady-state allophone.

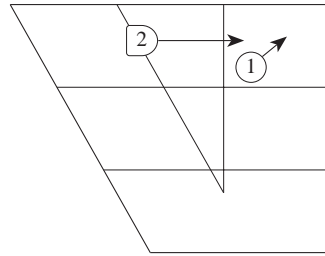


Figure 12.3.2 E /u:/, as in GOOSE.  
(1) Diphthongal allophone.  
(2) Glide /ju:/.

**Contextual variation**

1. See above for variation in glide forms.
2. After /j/, a very wide glide is found with all speakers, giving [iü], e.g. *use*, *new*, etc.; see Fig. 12.3.2.
3. Before [ʃ], E /u:/ is regularly steady-state for all speakers, e.g. *fool* [fʊ:ʃ].

**Comparison with Dutch and advice**

Most learners confuse E /u:/ and E /ʊ/ (as in FOOT), since there is no comparable contrast in Dutch. It is firstly important to ensure that a consistent contrast is maintained between the two English vowels (see pp. 125-26 for spelling of /u:/ and /ʊ/). Many beginners replace E /u:/ with D /ʊ/, as in MOE. Compared with



E /u:/, the Dutch vowel is closer and shorter (except before **r**, as in *moer*); it is also tenser. More advanced learners frequently replace E /u:/ by an extended diphthong based on the Dutch vowel /u:/, as in *NUT*, gliding towards /y/, as in *NU*, i.e. [u̯y]. A glide of this type is completely inappropriate and runs the risk of being considered ‘comic’ by English speakers.

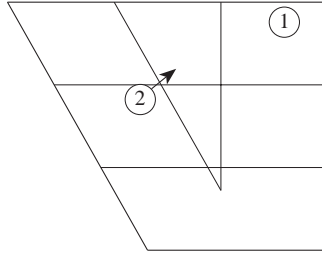


Figure 12.4 Diagram illustrating incorrect learners' substitutions for E /u:/: (1) D /u:/, as in *MOE*; (2) exaggerated glide /u̯y/.

It is therefore best to imitate the length and rather more open quality of RP /u:/, but to avoid any exaggerated glide. A steady-state vowel is very acceptable to English native speakers and is in fact regularly taught for public speaking.

### ***Free vowel /ɑ:/ (the PALM vowel)***

#### ***Description***

Central, open, unrounded, free, steady-state vowel. Phonemic norm: [ɑ:].

#### ***Idiolectal variation***

As indicated in Fig. 12.5.1., there is some variation in tongue position along the front/back axis. Very back qualities are more typical of old-fashioned speech or affected forms of RP.

#### ***Contextual variation***

None of significance.

#### ***Distribution***

See Chapter 13, pp. 119-20, for use of E /ɑ:/ in the ‘BATH words’, e.g. *draft*, *class*, *chance*, *example*.

#### ***Comparison with Dutch and advice***

The usual Dutch replacement is D /ɑ:/, as in *LA*. This vowel varies considerably in quality, as shown in Fig. 12.5.2, with prestigious varieties of Dutch

generally having a quality closer to CV 4. However, it will be seen that there is considerable overlap between D /ɑ:/ and E /ɑ:/.

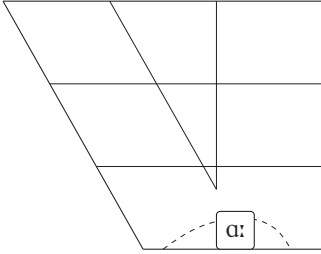


Figure 12.5.1 Range of E /ɑ:/, as in PALM.

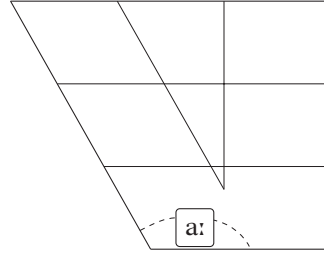


Figure 12.5.2 Range of D /ɑ:/, as in LA.

Learners who have a very front type of Dutch LA may find producing a suitably back pronunciation of E /ɑ:/ a problem. It is worth knowing that many accents of Dutch (e.g. Amsterdam, Utrecht, Antwerp, but *not* The Hague) have a kind of D /ɑ:/ which is much more back, and imitating these accents can be a very good approach for the RP sound.

A more persistent problem arises from the many English words with unsounded orthographic *r* (see Section 17.2, pp. 180-81, on /r/). Distribution of E /ɑ:/ and E /æ/ also needs to be watched with care. See Chapter 13, pp. 119-20, on spelling/sound relationships in the 'BATH words'.

### *Free vowel /ɔ:/ (the THOUGHT vowel)*

#### *Description*

Above open-mid, back, strongly lip-rounded, free, steady-state vowel. This is the most strongly lip-rounded of the English vowels in the present-day language. Phonemic norm: [ɔ:].

#### *Idiolectal variation*

See Fig. 12.6.1. More open varieties tend to be characteristic of the speech of the older generation.

#### *Contextual variation*

None of significance.

#### *Distribution*

Formerly, a contrast of E /ɔ:/ and /ɔə/ (e.g. *saw* /sɔ:/ and *sore* /sɔə/) existed,

/ɔə/ being used for words spelt **ore**. Although still mentioned in outdated textbooks, the contrast itself no longer exists in present-day speech.

Unlike RP, many varieties of English (e.g. Scottish, Irish, most Welsh and much American) have a distinction between two sets of words, one termed the **FORCE** set (e.g. *four, wore, sport*) and the other termed the **NORTH** set (e.g. *fore, war, short*). This distinction is even indicated in a number of dictionaries.<sup>2</sup> See Chapter 27 for further detail of dialect variation.

E /ɔ: – ʊə/: see p. 114 on E /ʊə/ for the increasing use of E /ɔ:/ in words traditionally pronounced with E /ʊə/. The following are so frequent that they are the obvious choice for the learner: *sure* /ʃɔ:/, *your/you're* /jɔ:/, and *poor* /pɔ:/.

### *Comparison with Dutch and advice*

There appears to be no regular substitution from Dutch speakers. Some use an extended D /ɔ/ as in *ZOT*, whilst others (particularly (NL) ABN speakers) use the marginal vowel D /ɔ:/, as in *ROSE*. Other learners employ the pre-/r/ allophone of the Dutch *zo* vowel (D /o:/, as in *spoor*). Of these, the *ROSE* vowel, which overlaps the quality of E /ɔ:/, is generally the best.

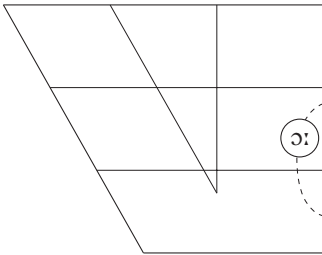


Figure 12.6.1 Range of E /ɔ:/, as in THOUGHT.

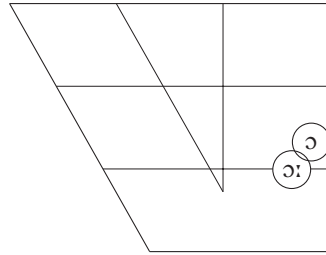


Figure 12.6.2 D /ɔ/, as in *ZOT*;  
D /ɔ:/, as in *ROSE*.

A general problem with E /ɔ:/ is that the spelling often includes unsounded orthographic **r**. See pp. 178, 180–81, on E /r/.

Both the /ɔə/ vowel and the **NORTH** – **FORCE** distinction mentioned above should be ignored by students of RP.

### *Free vowel /ɜ:/ (the NURSE vowel)*

#### *Description*

Central, open-mid, unrounded, free, steady-state vowel. Phonemic norm: [ɜ:].

<sup>2</sup> For example, Chambers (1993).

### *Idiolectal variation*

Tongue height varies as shown in Fig. 12.7.1. Very open qualities are typical of the speech of the older generation and of affected RP.

### *Contextual variation*

None of significance.

### *Comparison with Dutch and advice*

Frequent replacements are D / $\phi$ :r/, as in *deur*, and / $\text{ʌ}$ r/, as in *kurk*. Neither of these substitutions can be considered acceptable, since they are too close, have inappropriate lip-rounding and /r/-colouring.

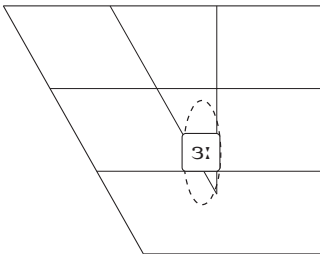


Figure 12.7.1 Range of E / $\text{ɜ}$ :/, as in *NURSE*.

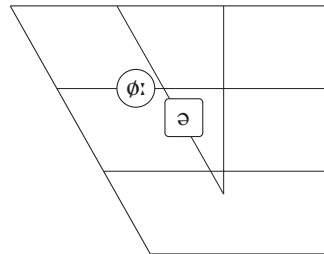


Figure 12.7.2 D / $\phi$ :/, as in *deur*;  
D / $\text{ə}$ /, as in *werkeluk*.

Since E / $\text{ɜ}$ :/ always has *r* in the spelling,<sup>3</sup> it is especially liable to involve incorrect /r/-insertion. Excessive lip-rounding can be monitored and corrected using a hand-mirror.

One way of approaching / $\text{ɜ}$ :/ is from an extended Dutch / $\text{ə}$ /, as follows:



#### **EXERCISE 1**

1. Say a Dutch word with a number of D / $\text{ə}$ / vowels, e.g. *gemakkelijk*.
2. Isolate / $\text{ə}$ /.
3. Extend the vowel, keeping your lips spread [ɜ:].
4. Now put this vowel in English words in various contexts, e.g. *fur, burn, girl, hurt, heard, slur, turn, hurl, shirt, bird*.

Be careful with / $\text{ɜ}$ :/ after lip-rounded consonants. In removing lip-rounding from / $\text{ɜ}$ :/, you must be careful to retain it in the consonant. It is especially important when / $\text{ɜ}$ :/ follows /w/.



#### **EXERCISE 2**

Practise *world, work, worse, word, whirl, swerve*, making sure you unround / $\text{ɜ}$ :/ and (even more important) that you do lip-round /w/. Then try with / $\text{ɜ}$ :/ in *shirt, Shirley, shirk, sherbet, church, journal*.

<sup>3</sup> Except in *colonel* /'kɜ:m/ and a few recent loans from French, e.g. *oeuvre* /'ɜ:vʁ/ and *Peugeot* /'pɜ:ʒəʊ/.

## 12.2 CHARACTERISTICS OF DIPHTHONGS

*Direction of tongue movement*

English has **closing** diphthongs (involving a tongue movement towards the roof of the mouth) and **centring** diphthongs (involving a movement to [ə]). The closing diphthongs can be further subdivided into **backing** (moving to [ʊ]) and **fronting** (moving to [ɪ]).

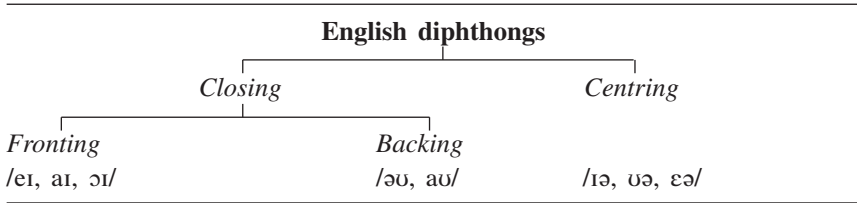
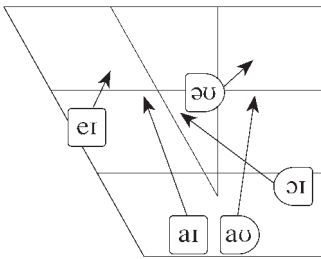
*Extent of diphthong*

Figure 12.8.1 English fronting and backing (closing) diphthongs.

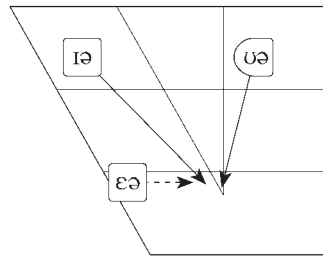


Figure 12.8.2 English centring diphthongs.

The diphthongs can be subdivided into two types. There are three **narrow** diphthongs: /əʊ/, /eɪ/ and /εə/ involving slight movements of the tongue. The remainder, /aɪ/, /aʊ/, /ɔɪ/, /ɪə/ and /ʊə/, involve a greater tongue movement and may be termed **extensive** diphthongs.

*Lip-shape changes*

The diphthongs E /eɪ, aɪ, ɪə, εə/ have unrounded lips throughout their articulation and are therefore represented by □ on vowel diagrams. The diphthongs /ʊə, ɔɪ/ involve a change from rounded to unrounded (represented by ◻). The diphthongs /əʊ, aʊ/ move from unrounded to rounded (represented by ◻). English has no vowel glides which are completely lip-rounded throughout.<sup>4</sup> However, Dutch has the diphthong /æy/, as in *LUI*, represented on diagrams by ○.

<sup>4</sup> Though for some speakers E /əʊ/ may involve lip-rounding on the first element.

*Prominence of elements*

English diphthongs are all typically **diminuendo** glides, i.e. the second element is briefer and less prominent than the first. However, certain realisations of /ɪə/ and /ʊə/ must be analysed as **crescendo** glides. See pp. 113, 114.

## 12.3 NARROW CLOSING DIPHTHONGS

*Diphthong /eɪ/ (the FACE vowel)**Description*

Narrow closing diphthong. Begins front, below close-mid. Moves towards front-central, close-mid, unrounded. Phonemic norm: [eɪ].

*Idiolectal variation*

There is some variation in the openness of the starting-point. Very close varieties are associated with the speech of the older generation. A quality which is more open (below CV 3) is characteristic of accents such as London (Cockney), Birmingham, Southern United States and broad Australian.

*Contextual variation*

1. Before fortis consonants the typical shortening effect results in a reduction of the length of the first element, compare *late* – *laid* [leɪt] – [leɪd].
2. Before dark [ɫ], the final element is obscured or may be of an [ə] type, e.g. *tale* [tɛːəɫ].

These types of variation are also found with the other fronting diphthongs.

*Comparison with Dutch and advice*

For most speakers in the Netherlands, the usual substitution of D /eɪ/, as in ZEE, causes no problems. The (NL) ABN vowel has a slightly closer and more centralised starting-point and moves to a more close and front position. It is typically a narrower glide than mainstream E /eɪ/. These differences, however, will not place it outside the range of acceptability for English.

Belgian accents, including AN, have a steady-state vowel in ZEE which is not suitable for English FACE. The same holds true for many types of Netherlands Dutch outside the Randstad. Speakers of such varieties must ensure that their English vowel has an appropriate [ɪ] glide. Other varieties of Netherlands Dutch (particularly the urban accents of the Randstad) have a wide diphthong, which is similar to the types of FACE vowel characteristic of accents such as Cockney, Birmingham, etc.

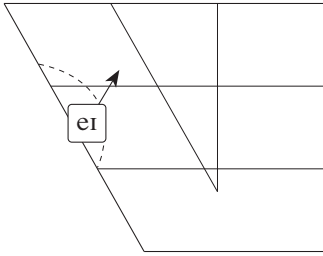


Figure 12.9.1 Range of E /eɪ/, as in FACE.

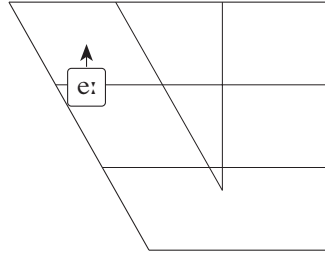


Figure 12.9.2 D /e:/, as in ZEE.

### *Diphthong /əʊ/ (the GOAT vowel)*

#### *Description*

Narrow closing diphthong. Begins central, close-mid. Moves towards back-central, slightly above close-mid. Unrounded, becoming slightly rounded. Phonemic norm: [əʊ].

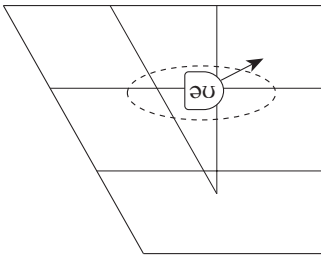


Figure 12.10.1 Range of E /əʊ/, as in GOAT.

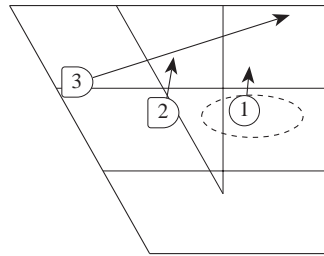


Figure 12.10.2 (1) D /o:/, as in zo.  
 (2) Fronted type of D /o:/ (e.g. Rotterdam).  
 (3) D /e:u/, as in MEEUW.

#### *Idiolectal variation*

The starting-point of the glide may vary considerably. Back starting-points are characteristic of very old-fashioned speech or may be the result of dialect influence. A very front beginning sounds unpleasantly affected to many English speakers. Open starting-points are often found in accents such as Cockney, Birmingham, broad Australian.

#### *Contextual variation*

1. The first element is shortened before fortis consonants. Compare *coat* [kəʊt] and *code* [kəʊd].
2. Before dark [ɫ], the second element is sometimes lost, partly reducing the

contrast between, for example, *coal* – *curl*, *whole* – *hurl*. Speakers born in London, or influenced by London speech, may use an [ɒʊ] type vowel, e.g. *gold* [gɒʊld]. Students are recommended not to imitate this vowel.

### *Comparison with Dutch and advice*

For most (NL) ABN speakers, the potential glide D /o:/, as in *zo*, provides a good replacement for the English sound. Although typically more retracted and with a rather narrower glide than E /əʊ/, it is often within the range of acceptability for RP.

Belgian varieties, including AN, have a very retracted vowel with little or no glide movement. The same holds true for several Netherlands accents (e.g. affected ABN, and many regional dialects outside the Randstad). Many speakers of urban accents (especially Rotterdam and The Hague) have a more front starting-point, which, although stigmatised in Dutch, can sometimes sound quite suitable for English.

Beware of using a very front starting-point for E /əʊ/, similar to that of Dutch MEEUW. This sounds unpleasantly affected to native English speakers.

## 12.4 EXTENSIVE CLOSING DIPHTHONGS

### *Diphthong /aɪ/ (the PRICE vowel)*

#### *Description*

Extensive closing diphthong. Begins front-central, open. Moves towards front-central, close-mid. Unrounded. Phonemic norm: [aɪ].

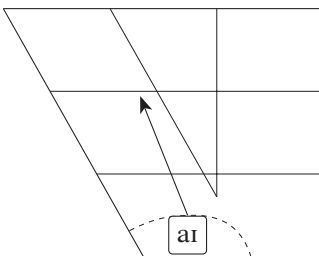


Figure 12.11.1 Range of E /aɪ/, as in PRICE.

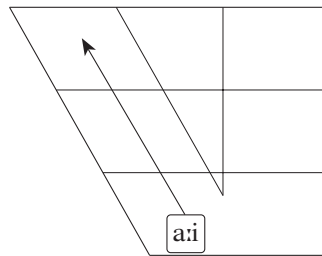


Figure 12.11.2 D /aɪ/, as in SAAL.

#### *Idiolectal variation*

Close starting-points, above [æ], are characteristic of affected speech. Retracted starting-points (close to CV 5) are found in accents such as Cockney, Birmingham, broad Australian.



**Contextual variation**

See p. 108 on /eɪ/ for variation before fortis consonants and dark [ɨ].

**Comparison with Dutch and advice**

Most Dutch speakers use a modification of D /a:i/ (as in SAAI). This has a similar starting-point to E /aɪ/ but is a glide with equal prominence on both elements, and not usually diminuendo as in English. Its use in English has the effect of making the vowel seem over-long, and this is especially noticeable before fortis consonants. This means that in words like *bike*, *might*, *type*, *nice*, *knife*, the corresponding lenis will be perceived, giving \*/baɪg, maɪd, taɪb, naɪz, naɪv/, and causing potential confusion in pairs like *right* – *ride*, *life* – *live*, *dice* – *dies*. Practice for /aɪ/ should concentrate on the context preceding fortis consonants.

Do not be tempted to imitate a starting-point which is of a very retracted type [ɑɪ]. This is unacceptable, being stigmatised because of its association with low-prestige dialects (see above).

**Diphthong /ɔɪ/ (the CHOICE vowel)****Description**

Extensive closing diphthong. Begins back, below open-mid. Moves towards front-central, close-mid. Rounded, becoming unrounded. Phonemic norm: [ɔɪ].

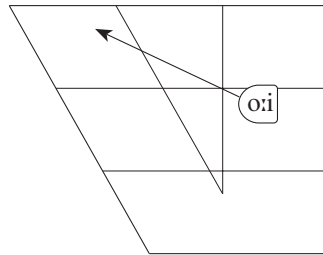
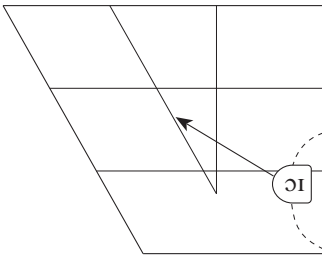


Figure 12.12.1 Range of E /ɔɪ/, as in CHOICE. Figure 12.12.2 D /oɪ/, as in MOOL.

**Idiolectal variation**

Very close starting-points (CV 7 or above) are heard only in dialects, e.g. Cockney.

**Contextual variation**

See p. 108 on /eɪ/ for variation before fortis consonants and dark [ɨ].

### *Comparison with Dutch and advice*

Most Dutch speakers produce an acceptable /ɔɪ/ by means of modifying D /oɪ/, as in *MOOI*. E /ɔɪ/, however, is a less extensive glide than the (NL) ABN and (B) AN sequence and also has a more open starting-point. Some Dutch speakers have a D /ɔɪ/ vowel, as in *ROSE*, which can be used as the beginning of E /ɔɪ/. Others can start from the *ZOT* vowel. Note that certain learners (e.g. people from Rotterdam) may use a very extended glide sequence of an [əui]-type for *MOOI*, but this is unacceptable for E /ɔɪ/.

The English vowel occurs only rarely before fortis consonants, e.g. *voice*, *rejoice*, *choice*, and inappropriate lengthening in this context does not seem to be a significant problem (cf. p. 111 on /aɪ/ above).

### *Diphthong /aʊ/ (the MOUTH vowel)*

#### *Description*

Extensive closing diphthong. Begins central, open. Moves towards back-central, close-mid. Unrounded, becoming slightly rounded. Phonemic norm: [ɹʊ].

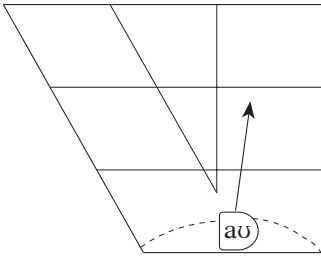


Figure 12.13.1 Range of E /aʊ/, as in *MOUTH*.

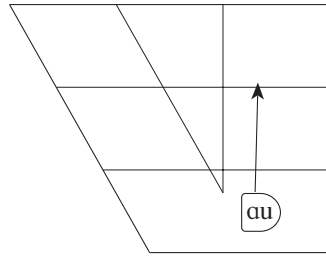


Figure 12.13.2 D /aʊ/, as in *KOU*.

#### *Idiolectal variation*

Back starting-points are found in prestigious older-generation RP. Fronted close starting-points [æʊ, eʊ] are characteristic of accents such as Cockney, Birmingham, broad Australian.

#### *Contextual variation*

First element is shorter before fortis consonants; compare *lout* – *loud* [lɹʊt – lɹʊd].

### *Comparison with Dutch and advice*

D /aʊ/ (as in *KOU*) is generally used by learners. This is on the whole successful although some speakers with lip-rounding on the first element may need

to modify this. Check your articulation using a mirror. Avoid modifying the starting-point towards [e]. As has been stated above, a front raised beginning for /aʊ/ is strongly stigmatised in English because of its frequent occurrence in dialect speech.

## 12.5 CENTRING DIPHTHONGS

### *Diphthong /ɪə/ (the NEAR vowel)*

#### **Description**

Centring diphthong. Begins front-central, above close-mid. Moves towards central, open-mid. Unrounded. Phonemic norm: [ɪ̯ə]

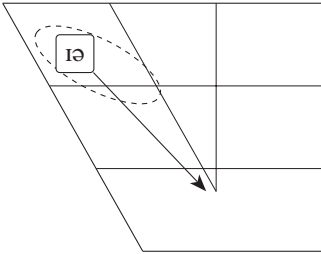


Figure 12.14.1 Range of E /ɪə/, as in NEAR.

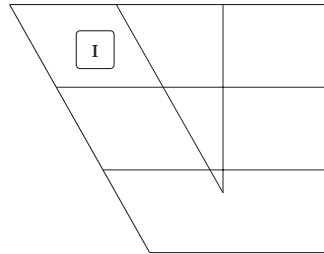


Figure 12.14.2 D /ɪ/, as in ZIT.

#### ***Idiolectal variation***

The starting-point may be somewhat closer, but for RP speakers it is nearer to /ɪ/ than /i:/. Dialect speakers often have very close starting-points and may regard the glide as a sequence of /i:/ to /ə/. The ending is typically around open-mid. Very open endings are characteristic of the older generation, affected speech, or regional accents (e.g. Cockney, Geordie).

See below for variation in prominence of the glide elements.

#### ***Contextual variation***

/ɪə/ is frequently realised as a crescendo glide [ɪ̯ə] in unstressed syllables, e.g. *media*, *greedier*, *invidious*, but is also with a few speakers to be found in stressed context, e.g. *mere*, *here*. Note that the word *year* is said as /jɜ:/ by a sizable minority of RP speakers.

#### ***Comparison with Dutch and advice***

There is no comparable Dutch vowel, and learners tend to replace by D /i/, using either /ir/ where **r** occurs in the spelling, e.g. *beer* \*/bir/, or /ia:/, as in *media* \*/midia:/.

Care must be taken to avoid too close a starting-point, and beginning with the D /ɪ/ (as in ZIT) is usually excellent for English. The major problem, as with all the centring glides, is the need for /r/-deletion. Note that in RP, words such as *India* – *windier* /'ɪndɪə – 'wɪndɪə/, *Maria* – *career* /mə'ɪə – kə'ɪə/ are good rhymes.

### *Diphthong /ʊə/ (the CURE vowel)*

#### *Description*

Centring diphthong. Begins back-central, above close-mid. Moves towards central, open-mid. Slightly rounded, becoming unrounded. Phonemic norm: [ʊə̯].

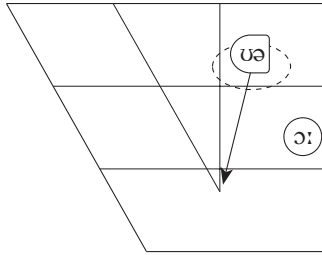


Figure 12.15 (1) Range of E /ʊə/, as in CURE; (2) E /ɔ:/, as in THOUGHT, employed by many speakers in certain CURE words.

#### *Idiolectal variation*

The ending varies in the degree of openness, but is typically around open-mid. Like /ɪə/, /ʊə/ may be realised as a crescendo glide, e.g. *influence* ['ɪnflʊəns]. Dialect speakers may lack /ʊə/, having instead a sequence /u:ə/. This may also be the case with those who have modified their speech from a local dialect towards RP.

#### *Contextual variation*

Before dark [ɫ], the /ə/ glide may be reduced.

#### *Distribution*

The use of /ʊə/ and distributional variants in modern RP is complex.

1. Many speakers use /ɔ:/ instead of /ʊə/ in certain high-frequency words, e.g. *sure*, *poor*, *your*, *you're*. The use of /ɔ:/ in less common words, e.g. *tourist*, *moor*, *cure*, *furious*, appears to be becoming more frequent in RP.

2. In words where /ʊə/ can be considered to be derived from a sequence of /u:/

+ /ə/, e.g. *truer*, *fewer*, an alternative pronunciation exists with /ʊə/, e.g. *truer* /tru:ə/ or /trʊə/, *fewer* /fju:ə/ or /fjʊə/.

### Comparison with Dutch and advice

There is no similar vowel in Dutch and learners usually replace it by the sequence D /ur/, as in *moer*, which is completely unacceptable for RP. Practice should concentrate primarily on /r/-deletion and then using for a first element a vowel similar to E /ʊ/ rather than D /u/. See pp. 97-98 on E /ʊ/. Learners are recommended to use /ɔ:/ in the common words *sure*, *poor*, *you're*, *your*. In less common words, /ɔ:/ may strike English listeners as affected or lead to difficulties in interpretation. In the words mentioned above derived from /u:ə/ (e.g. *truer*, *fewer*), you are recommended to retain /u:ə/.

### Diphthong /ɛə/ (the SQUARE vowel)

#### Description

Centring diphthong. Front, slightly below open-mid. May have a glide to below central open-mid. Unrounded. Phonemic norm: [ɛə] or [ɛ:].

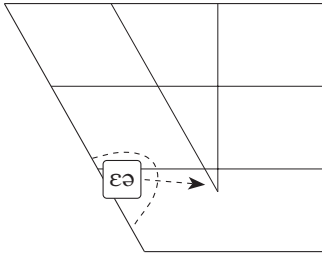


Figure 12.16.1 Range of E /ɛə/, as in *SQUARE*.  
Note frequent absence of centring glide.

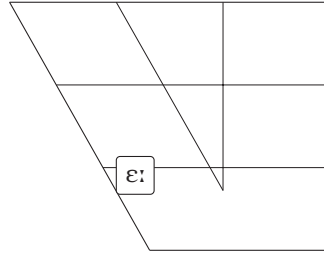


Figure 12.16.2 D /ɛ:/, as in *BEIGE*.

#### Idiolectal variation

The chief variation is in the presence or absence of the [ə] off-glide. Today, most speakers have the [ə] off-glide only in open syllables. Consequently, whilst *scare* may be realised as [skɛə], *scarce* and *scares* are usually [skɛ:s] and [skɛ:z]. Very few speakers have an off-glide before a sounded /r/, e.g. *parents* [pɛ:rɛnts]. Many speakers, in fact, use a steady-state vowel in all contexts and this seems likely to become the norm.<sup>5</sup> If so, it would be possible to regard /ɛə/ as a steady-state vowel with potential glide allophones. The increasing prevalence of the steady-state realisation is now reflected in the

<sup>5</sup> See Brown (1977: 36).

choice of /ɛ:/ as the symbolisation of the SQUARE VOWEL in the 1993 edition of the *Shorter Oxford Dictionary*.

### Comparison with Dutch and advice

Dutch speakers can safely use D /ɛ:/, as in BEIGE. Since the [ə] ending is so often absent in English, there is no need to imitate this, and learners are consequently recommended to treat E /ɛə/ as a steady-state vowel. This may also render /r/-deletion simpler, which is likely to be the greatest area of difficulty.

Note that it is necessary to make a clear distinction between words such as *fared*, *fed* and *fad*. Although a glide is not necessarily heard in /ɛə/, the vowel is clearly distinguished in terms of tongue height and length from both /e/ and /æ/.

## 12.6 DIPHTHONGAL SEQUENCES /aɪə, aʊə/

In the common sequences /aɪə/ and /aʊə/, the [ɪ] or [ʊ] element is generally reduced, and may be altogether absent. This effect has been termed **smoothing** (Wells 1982: 286). Nevertheless, words like *shire* and *shower* are normally distinct since the former will be realised with a more front starting-point than the latter, i.e. [aɪ] as opposed to [aʊ]. The contrast of /aʊə/ and /aɪ/ (i.e. *shower* and *Shah*) may be absent in the relaxed speech of some RP speakers but this may suffer stigmatisation, being labelled 'affected'. In mainstream RP, as in other forms of English, a clear contrast of /aʊə – aɪə – aɪ/ is generally maintained. Learners should do likewise and avoid the extreme steady-state vowel reductions.

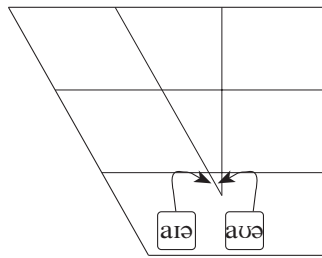


Figure 12.17. E /aɪə/ and E /aʊə/.

It is also possible to hear smoothing in other sequences, e.g. /eɪə/ as in *conveyor*, /əʊə/ as in *thrower*, /ɔɪə/ as in *royalist*. Extreme reductions such as the levelling of /eɪə/ and /ɛə/ (*layer* – *lair*) or /əʊə/ and /ɜ:/ (*slower* – *slur*) are

again characteristic of affected speech and as such are not recommended to learners.<sup>6</sup>

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<sup>6</sup> An instance of misunderstanding during a BBC radio programme was noted by one of the authors. A speaker's reference to 'slower film' (pronounced as /slɜ: 'film/) was taken up by another participant, who queried 'What is slurred film?'

## SOUNDS AND SPELLING: VOWELS

## 13.1 INTRODUCTION

The aim of this section is to state some relationships between spelling and sounds. Although English spelling is notorious for its complexities and apparent illogicalities, in reality a surprisingly large number of English words follow regular orthographic patterns. We are not attempting here to formulate all the intricacies of English, but merely to provide a simplified outline of some significant areas. Consequently, what follows here must be regarded as a set of guidelines and certainly not watertight rules.

**Notes:**

... intervening letter

**EXC** exception(s)

**1. Orthographic <a>**

| Spelling                    | Sound | Example                                                         |
|-----------------------------|-------|-----------------------------------------------------------------|
| <b>Main patterns</b>        |       |                                                                 |
| <b>a</b>                    | /æ/   | <i>fat</i>                                                      |
| <b>a...e</b>                | /ei/  | <i>fate</i>                                                     |
| <b>Subsidiary patterns</b>  |       |                                                                 |
| <b>a</b>                    | /ɑ:/  | <i>fast</i> (see below)                                         |
| <b>ae</b>                   | /i:/  | <i>formulae, anaemic</i>                                        |
| <b>ai</b>                   | /ei/  | <i>wait, daisy</i>                                              |
| <b>au, aw</b>               | /ɔ:/  | <i>cautious, law, audit, hawk</i>                               |
| <b>ay</b>                   | /ei/  | <i>day</i>                                                      |
| <b>a (final unstressed)</b> | /ə/   | <i>China, Linda, semolina</i>                                   |
| <b>Before r</b>             |       |                                                                 |
| <b>ar</b>                   | /ɑ:/  | <i>far</i> <b>EXC</b> <b>arr</b> in <i>carry, marry, barrel</i> |
| <b>are, air</b>             | /ɛə/  | <i>fare, fair</i>                                               |



| Spelling           | Sound | Example                                                                                                      |
|--------------------|-------|--------------------------------------------------------------------------------------------------------------|
| <i>Before l</i>    |       |                                                                                                              |
| <b>all</b>         | /ɔ:/  | <i>tall, all (+ also, although)</i> (EXC)                                                                    |
| <b>alm</b>         | /ɑ:/  | <i>shall calm, palm, psalm, balm</i>                                                                         |
| <i>After w, qu</i> |       |                                                                                                              |
| <b>wa, qua</b>     | /ɒ/   | <i>watt, squash</i> (EXC) Not before velar /k, g, ŋ/, where /æ/ occurs, e.g. <i>wag, whack, twang</i> , etc. |
| <b>war, quar</b>   | /ɔ:/  | <i>war, quarter</i>                                                                                          |

**Before nasal and/or fricative**

**a** before nasal and/or fricative is pronounced as /ɑ:/ in many common words. This set of words is known as the **BATH words**. Note that in many varieties of English these words are pronounced with the TRAP vowel. See Chapters 27 and 28.

|                                        |                                                                                                                                                                |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>af</b>                              | <i>after, craft(y), daft, draft, giraffe, graft, raft, rafter, shaft, staff</i>                                                                                |
| <b>av, alf, alv</b> (silent l)         | <i>calf, calve, half, halve, Slav</i>                                                                                                                          |
| <b>am</b>                              | <i>example, sample.</i> (EXC) <i>ample</i> with /æ/                                                                                                            |
| <b>ance</b>                            | <i>advance, chance, chancellor, dance, enhance, France, Frances, Francis, glance, lance, lancet, prance, trance.</i><br>(EXC) <i>romance, finance</i> with /æ/ |
| <b>anch</b>                            | <i>avalanche, blanch, branch, ranch</i>                                                                                                                        |
| <b>and</b> (in many polysyllables)     | <i>Alexander, Flanders, Sandra, slander</i>                                                                                                                    |
| <b>'mand</b> (final stressed syllable) | <i>command, remand, reprimand</i> (vb). Also <i>'reprimand</i> (n.)                                                                                            |
| <b>ans</b>                             | <i>answer</i>                                                                                                                                                  |
| <b>ant</b>                             | <i>advantage, can't, chant, enchant, grant, plant, slant, shan't, supplant</i>                                                                                 |
| <b>ask, asc</b>                        | <i>ask, bask, basket, cask, casket, flask, mask, task, rascal</i>                                                                                              |
| <b>asp</b>                             | <i>clasp, gasp, grasp, rasp, raspberry</i><br>/'rɑ:zbrɪ/                                                                                                       |
| <b>ass</b>                             | <i>brass, class, glass, grass, pass</i>                                                                                                                        |
| <b>ast</b>                             | <i>aghast, blast, broadcast, cast, castle, contrast, disaster, fast, forecast, ghastly, last, mast, master, nasty, plaster, vast</i>                           |

|            |                                |
|------------|--------------------------------|
| <b>ath</b> | <i>bath, path, lath</i>        |
| <b>au</b>  | <i>aunt, draught, laughter</i> |

Words derived from the above tend to follow similar patterns, e.g. *com-mando, downcast, enchanting, glassy, passable*. But note: /æ/ in *classical, classification, etc.*; *fastidious*.

The following **BATH** words are variable:

**a) Overwhelmingly pronounced with PALM** (i.e. /ɑː/):

*bastard, graph, -graph* (e.g. *telegraph, photograph, etc.*), *exasperate, Glas-gow, masque*

**b) Overwhelmingly pronounced with TRAP** (i.e. /æ/):

*alas, Basque, drastic, elastic, intransigent, masquerade, pasty, plaque, plas-tic, stance, trans-* (e.g. *transport, transistor*)

The following are invariably pronounced with the **PALM** vowel in all types of England English:

|                           |                                              |
|---------------------------|----------------------------------------------|
| <b>ath</b>                | <i>father, rather</i>                        |
| <b>am, alm</b> (silent l) | <i>balm, drama, calm, palm, psalm</i> /sɑ:m/ |
| <b>an</b>                 | <i>banana, soprano, sultana</i>              |

Note these words (commonly mispronounced by learners) which all have **TRAP**, NOT **PALM**: *ant, ass, bland, sand, dramatic* /drə'mætɪk/, *enthusiastic, exam, gas, passage* and the prefix *anti-*.

## 2. Orthographic <e>

| <i>Spelling</i>            | <i>Sound</i> | <i>Example</i>                       |
|----------------------------|--------------|--------------------------------------|
| <b>Main patterns</b>       |              |                                      |
| <b>e, ea</b>               | /e/          | <i>bed, head, setting, heading</i>   |
| <b>ee, e...e</b>           | /i:/         | <i>heed, obscene, obsolete</i>       |
| <b>Subsidiary patterns</b> |              |                                      |
| <b>ea</b>                  | /i:/         | <i>lean, sea, mead</i>               |
| <b>eight, ey</b>           | /eɪ/         | <i>weight, whey, they</i>            |
| <b>ew</b>                  | /u:/         | <i>blew, chew, lewd</i>              |
| <b>eu</b>                  | /ju:/        | <i>euthanasia, euphemism, feudal</i> |
| <b>Before r</b>            |              |                                      |
| <b>er (if stressed)</b>    | /ɜ:/         | <i>swerve, reverse, concern</i>      |
| <b>er (if unstressed)</b>  | /ə/          | <i>hammer, persist</i>               |
| <b>ear, eer</b>            | /ɪə/         | <i>hear, beer, gear, deer</i>        |

| Spelling           | Sound      | Example                                 |
|--------------------|------------|-----------------------------------------|
| ear                | /ɛə/       | <i>bear, tear, pear</i>                 |
| ear                | /ɜ:/       | <i>earth, learn</i>                     |
| <i>Prefixes</i>    |            |                                         |
| e (non-productive) | /ə/ or /ɪ/ | <i>become, decide, preserve, resist</i> |
| e (productive)     | /i:/       | <i>defuse, preset, re-activate</i>      |
|                    | See p. 91  |                                         |

### 3. Orthographic <i>

| Spelling                   | Sound | Example                                                                                                                                        |
|----------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Main patterns</b>       |       |                                                                                                                                                |
| i                          | /ɪ/   | <i>it, bitter</i>                                                                                                                              |
| i...e, ight                | /aɪ/  | <i>bite, item, night</i>                                                                                                                       |
| <b>Subsidiary patterns</b> |       |                                                                                                                                                |
| i                          | /i:/  | Loanwords from French, Italian, Spanish, etc.: <i>tequila, technique, police, pizza</i> /ˈpi:tʃə/, <i>marine, petite</i> /pəˈti:t/, <i>ski</i> |
| ia (non-final)             | /aɪə/ | <i>dial, diary</i>                                                                                                                             |
| ia (final)                 | /ɪə/  | <i>India, Sylvia, insomnia</i>                                                                                                                 |
| ie                         | /i:/  | <i>relief, thief</i>                                                                                                                           |
| ie (open monosyllables)    | /aɪ/  | <i>tie, pie</i>                                                                                                                                |
| <i>Before r</i>            |       |                                                                                                                                                |
| ir                         | /ɜ:/  | <i>birth, sir, whirl</i>                                                                                                                       |
| ier                        | /ɪə/  | <i>cloudier, easier</i>                                                                                                                        |
| ire                        | /aɪə/ | <i>fire, mire</i>                                                                                                                              |

### 4. Orthographic <o>

| Spelling             | Sound | Example                                   |
|----------------------|-------|-------------------------------------------|
| <b>Main patterns</b> |       |                                           |
| o                    | /ɒ/   | <i>hop, box, slot, rotten, doll, long</i> |
| o...e, o...o, o...a  | /əʊ/  | <i>hope, sole, solo, sofa, solar</i>      |

| Spelling                        | Sound | Example                                                                                  |
|---------------------------------|-------|------------------------------------------------------------------------------------------|
| <b>Subsidiary patterns</b>      |       |                                                                                          |
| <b>o</b>                        | /ʌ/   | <i>son</i> (see the ‘worry words’ below)                                                 |
| <b>o</b> (esp. final <b>o</b> ) | /əʊ/  | <i>tomato, banjo, potato</i>                                                             |
| <b>oa, oe</b>                   | /əʊ/  | <i>toad, toe</i>                                                                         |
| <b>oi</b>                       | /ɔɪ/  | <i>boil, voice</i>                                                                       |
| <b>oo</b>                       | /u:/  | <i>food, root</i>                                                                        |
| <b>ook</b>                      | /ʊ/   | <i>hook, look</i> (EXC) <i>spook, snooker</i><br>which have /u:/                         |
| <b>ou</b>                       | /aʊ/  | <i>house, pout, blouse</i>                                                               |
|                                 | /ʌ/   | <i>country, southern</i> (see below)                                                     |
|                                 | /u:/  | <i>group, youth</i>                                                                      |
| <b>ow</b>                       | /aʊ/  | <i>cow, town, growl</i>                                                                  |
| <b>ow</b>                       | /əʊ/  | <i>growth, own, shown</i>                                                                |
| <b>oy</b>                       | /ɔɪ/  | <i>toy, loyal</i>                                                                        |
| <b>Before r</b>                 |       |                                                                                          |
| <b>or, ore, oar, our</b>        | /ɔ:/  | <i>cord, sore, board, four, course</i>                                                   |
| <b>our</b>                      | /aʊə/ | <i>hour, sour</i>                                                                        |
| <b>oor</b>                      | /ʊə/  | <i>moor</i>                                                                              |
| <b>Following w before r</b>     |       |                                                                                          |
| <b>wor</b>                      | /ɜ:/  | <i>work, world, word</i>                                                                 |
| <b>Before l</b>                 |       |                                                                                          |
| <b>ol + C</b>                   | /əʊ/  | <i>gold, told, bolt, soldier</i>                                                         |
| <b>oul</b>                      | /əʊ/  | <i>mould, poultry</i> . Note /ʊ/ before silent <b>l</b> in <i>should, would, could</i> . |

### **The ‘worry words’**

There are a number of English words spelt with **o** which are pronounced with /ʌ/. These are sometimes known familiarly as the **worry words**. The most common are shown below, divided into groups, based on spelling, so that they can be learnt more easily. The *worry words* are a very important area of pronunciation error which can easily be corrected.

*done none son ton won one*  
*front month London Monday*  
*honey money wonder(ful)*

*onion sponge stomach*  
*among tongue monk monkey*  
*above glove love lovely shove shovel*  
*slovenly oven govern government*  
*cover covet covert (also /'kəʊvɜ:t/)*  
*come some Somerset*  
*comfort comfortable compass(es) company accompany*  
*brother mother smother other nothing*  
*dozen colour*  
*thorough borough worry*

To the list above we can add the following *worry words*:

| Spelling    | Sound | Example                                                         |
|-------------|-------|-----------------------------------------------------------------|
| <b>ou</b>   | /ʌ/   | <i>country, double, couple, trouble, touch, southern, young</i> |
| <b>oo</b>   | /ʌ/   | <i>blood, flood</i>                                             |
| <b>ough</b> | /ʌf/  | <i>enough, rough, tough</i>                                     |

### 5. Orthographic <u>

| Spelling                   | Sound  | Example                                 |
|----------------------------|--------|-----------------------------------------|
| <b>Main patterns</b>       |        |                                         |
| <b>u</b>                   | /ʌ/    | <i>bus, nut, rudder, gun</i>            |
| <b>u...e</b>               | /ju:z/ | <i>cube, assume</i>                     |
| <b>u (esp. ush, ull)</b>   | /ʊ/    | <i>bush, pull</i>                       |
| <b>Subsidiary patterns</b> |        |                                         |
| <b>u, ue, ui</b>           | /u:z/  | <i>blue, juice, suitable, ludicrous</i> |
| <b>Before r</b>            |        |                                         |
| <b>ur</b>                  | /ɜ:z/  | <i>turf, purpose</i>                    |
| <b>ure</b>                 | /jʊə/  | <i>pure,<sup>1</sup> cure</i>           |

<sup>1</sup> Some speakers pronounce certain of these words /jɜ:z/.

## 6. Orthographic <y>

| Spelling                   | Sound | Example                                   |
|----------------------------|-------|-------------------------------------------|
| <b>Main patterns</b>       |       |                                           |
| y (esp. final)             | /ɪ/   | <i>city, pygmy, rhythm, lynx</i>          |
| <b>Subsidiary patterns</b> |       |                                           |
| y, ye                      | /aɪ/  | <i>why, dye, cytologist, thyme</i> /təɪm/ |
| <b>Before r</b>            |       |                                           |
| yr                         | /ɪ/   | <i>Syrian, lyrical</i>                    |
| yre                        | /aɪə/ | <i>tyre, lyre, byre</i>                   |

## 7. Spelling/pronunciation guide to the commonest words containing /æ, e, εə/ (the TRAP, DRESS and SQUARE VOWELS)

1. /æ/ (TRAP) is always derived from the spelling **a**, e.g. *sad, hat, battle, band*.

**(EXC)** **ai** in *plait, plaid*

**(EXC)** **in** in a few recent French loanwords, e.g. *meringue* /mɛ'ræɪŋ/

**are** usually gives /εə/ as detailed in no. 3 below.

**ar** followed by a vowel other than **e** generally represents /æ/, e.g. *baron, carol, harass, tariff, charity, Paris, comparison, comparable* (or /kɒmpərəbl/), *barbaric* (cf. *barbarian* /bɑː'beəriən/), *maritime, baritone, larynx*.

**arr** generally represents /æ/ and never /εə/, e.g. *carry, marry, barrier, carrot, narrow*

2. /e/ (DRESS) is in almost all cases spelt either as **e** or **ea**, e.g. *met, egg, selfish, ready, sweat, bedstead*

**(EXC)** **a...y, a...e** *any, many, ate, Thames* /temz/. Note that *ate* is increasingly pronounced /eɪt/.

**(EXC)** **ai, ay** *said, again, against* (also /ə'geɪn, ə'geɪnst/), *says*

**(EXC)** *friend, leisure* /'leɪzə/, *Leicester* /'lestə/, *Geoffrey* /'dʒɛfrɪ/, *bury* /'berɪ/, *burial* /'berɪəl/.

3. /εə/ (SQUARE) is in almost all cases spelt as **are** or **air**, e.g. *bare, care, dare, fare, square, aware, compare, parent, air, fair, lair, stair, dairy, fairy, prairie*. Note also: **ary** and suffix **-arian**, e.g. *wary, vary, Mary, barbarian, vegetarian*.

- EXC** **ear** in *bear, pear, swear, tear* (vb), *wear*  
**EXC** *mayor, prayer, Sarah* /sɛərə/  
**EXC** *their, there, they're* (all /ðeə/), *heir, heiress*  
**EXC** *scarce* /skɛəs/, *scarcity* /ˈskɛəsəti/

## 8. Spelling/pronunciation guide to the commonest words containing /ʊ/ and /u:/ (the FOOT and GOOSE vowels)

Dutch-speaking learners of English sometimes find the spelling of the GOOSE and FOOT vowels a problem, but in fact these are not at all difficult to sort out. The GOOSE vowel has a lot of different spellings, but only three of these overlap with those of the FOOT vowel: **oo**, **u** and **o** (see no. 2 below).

- oo**      *moon, soon, spoon, boot, too, zoo, spook(y)*  
**u**        *music, Susan, Hugh* /hju:/, *Hughes* /hju:z/, *duty, ruthless*  
**o**        *do, to* (strong form, see p. 20), *who, two, tomb* /tu:m/, *womb* /wu:m/

All the following spellings represent /u:/ (GOOSE), *not* /ʊ/ (FOOT):

- oo...e**    *loose, choose, moose*  
**o...e**    *move, lose, prove, whose*  
**ou**        *group, youth, soup, through*  
**u...e**    *cube, duke, flute, tune, super, huge*  
**ui**        *juice, sluice, suitable, pursuit*  
**ew**        *chew, new, blew, view*  
**ue**        *blue, true, Sue, pursue*  
**eu**        *feud, neutral, manoeuvre, pseudo-* /ˈsju:dəʊ/

Common words with unusual spellings for /u:/ (GOOSE): *shoe, beauty*

The FOOT vowel has just four spellings, and occurs in only a few words but these include some of the commonest in the English language. You can easily learn *all* the important words containing this vowel by memorising the list below. The most frequently occurring items are shown in **bold letters**.

### 1. **oo**

Almost all words with **ook** are pronounced /ʊ/ (FOOT):

- ook**      **book, brook, cook(-ery), crook, crooked** /ˈkrʊkɪd/, **hook, look, nook, rook, shook, took**  
**EXC** *snooker, spook* (with /u:/)

**ood**      **good, hood** (also as suffix: *childhood, manhood, womanhood*, etc.), **wood(-en), stood**

Also:

**oot**      **foot** (*footing, footloose* /'fʊtlu:s/, *soot*(y))

**ool**      *wool, woolly, woollen, gooseberry* /'gʊzbrɪ/

2. **u** (mostly preceding **l** or **sh**)

**ul or ull**    *bull, (bulldog, bulldozer, bullfinch), bullet, bulletin* /'bʊlətɪn/, *bullock, bully, fulfil, fulsome, full, -ful* (e.g. *spoonful*),<sup>2</sup> **pull, pullet, pulley, pullover, pulpit**

**ush**        *ambush, bush, bushel, cushion, push*

Also:        *butch, butcher, cuckoo, pudding, puss*(y), **put, sugar**

3. **ould**    (when stressed in three common verb forms): **could, should, would**

4. **o** in      *bosom* /'bʊzəm/, *wolf, woman, Worcester* /'wʊstə/, *worsted* /'wʊstɪd/.

---

<sup>2</sup> Suffix *-ful* is often pronounced as /f/, e.g. *spoonful* /'spu:nfl/, etc.



## THE VOWELS OF DUTCH

## 14.1 THE VOWEL SYSTEM

The following system can be used to classify the Dutch vowels:<sup>1</sup>

Table 14.1 System of Dutch

| Checked<br>Steady-state | Free<br>Steady-state | Free<br>Potential<br>diphthongs | Free<br>Essential<br>diphthongs | Free<br>Vowel<br>sequences |
|-------------------------|----------------------|---------------------------------|---------------------------------|----------------------------|
| ɪ ZIT                   | i ZIE                | e: ZEE                          | ɛi MEI                          | a:i SAAI                   |
| ɛ ZET                   | y NU                 | ø: BEU                          | œy LUI                          | o:i MOOI                   |
| ɑ ZAT                   | u MOE                | o: ZO                           | ɑu KOU                          | ui BOEI                    |
| ɔ ZOT                   | a: LA                |                                 |                                 | iu NIEUW                   |
| ʊ NUT                   |                      |                                 |                                 | yu RUW                     |
| ə werkeɫʊk              |                      |                                 |                                 | e:u MEEUW                  |

In addition to the above basic system, Dutch has a number of marginal vowels (i.e. vowels used in loanwords): /ɛ:, œ:, ɔ:/, as in *BEIGE*, *OEUVRE*, *ROSE*. Furthermore, the nasal vowels /ɛ̃, ɑ̃, ɔ̃/, as in *bulletin*, *genre*, *plafond*, used in loanwords from French, can be considered to have marginal phoneme status.

In (NL) ABN, three of the free vowels, D /e:, ø:, o:/ (as in *ZEE*, *BEU*, *ZO*), are actually closing diphthongs. However, in (B) AN, the diphthongal glide is minimal or absent. This is true generally of Belgian varieties and also of some Netherlands varieties outside the Randstad. Preceding /r/, the closing diphthongal glide is lost (see p. 134). Traditionally, these sounds have been treated by Dutch phoneticians as steady-state vowels and this is reflected in the transcription. We shall term them **potential diphthongs**.

The vowels D /ɛi, œy, ɑu/, as in *MEI*, *LUI*, *KOU*, are more extensive closing glides. Though some dialects may have steady-state realisations, the glide is an essential part of the articulation for the standard varieties (i.e. (NL) ABN and (B) AN). We term them **essential diphthongs** for this reason.

<sup>1</sup> For a more detailed presentation of the Dutch vowel system, see Mees and Collins (1983).

**EXERCISE 1**

Say these Dutch words containing the potential diphthongs /eɪ, øɪ, oɪ/ (1) in your usual way and (2) extending or adding a glide by lowering the starting-point: *bleef, mee, heus, leuk, goot, zo*. Your second version may sound similar to *blijf, mei, huis, luik, goud, zou*. The effect of extending the potential diphthongs may remind you of what is to be heard in several urban accents in the Randstad (e.g. The Hague, Rotterdam and Amsterdam).

**EXERCISE 2**

Now try the reverse. Say these words (with essential diphthongs) as if they were steady-state vowels, i.e. lengthen the first element and do not change the tongue position: *kijk, pijn, buik, thuis, zou, koud*. The effect of compressing the essential diphthongs may remind you of what is to be heard in some urban accents in the Randstad (especially The Hague) and in much of Belgium.

## 14.2 CHECKED VOWELS

Like checked vowels in English, the Dutch checked vowels do not occur in word-final stressed open syllables. All are short and steady-state. We consider D /ɔ/ here together with the checked vowels; cf. the treatment of E /ə/ on p. 90. It is frequently found in open syllables and only in exceptional circumstances is it stressed.

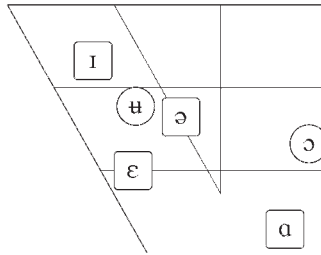


Figure 14.1 Dutch checked vowels.

*Checked steady-state vowels /ɪ, ʉ, ɛ, ɑ, ɔ, ə/*

**Description**

/ɪ/ (the ZIT vowel): front-central, above close-mid, unrounded.

/ʉ/ (the NUT vowel): front-central, close-mid, rounded.

/ɛ/ (the ZET vowel): front, open-mid, unrounded.

/ɑ/ (the ZAT vowel): back, open, unrounded.

/ɔ/ (the ZOT vowel): back, above open-mid, rounded.

/ə/ (the werkELuk vowel): mid, central, occasionally rounded.

**Contextual variation**

1. D /ə/, as in werkELuk, normally occurs in unstressed contexts, but stressed

/ə/ is occasionally used for special emphasis, e.g. *Dit is dé manier om beroemd te worden*. Like E /ə/, D /ə/ occurs as the unstressed counterpart of other vowels.

Many Dutch speakers feel D /ə/ to be the unstressed allophone of D /ʌ/;<sup>2</sup> the vowels have a close articulatory and acoustic relationship, though /ə/ may be somewhat more central, and with little or no lip-rounding.

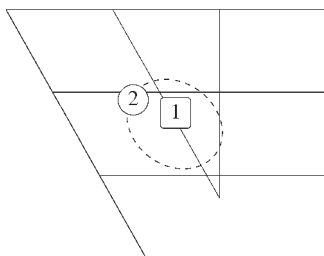


Figure 14.2 (1) Phonemic norm of D /ə/, as in *werkelùk*.  
(2) Word-final allophone of D /ə/, e.g. *witte*.

In word-final position, D /ə/ is closer and more obviously lip-rounded, in other words more like D /ʌ/. Compare the similarity of word-final E /ə/ and E /ʌ/. See p. 98.

### EXERCISE 3

Pronounce the following words, which all contain D /ə/: *lente*, *menigte*, *vrolijk*, *dergelijk*, *meter*, *motor*, *geval*, *methode*. Is final /ə/ different from /ə/ elsewhere in the word? Is it lip-rounded, and more like /ʌ/? What about the two sounds spelt **u** in the word *Bussum*? Are they the same or do you feel them to be different?

2. Before dark [ɫ], D /ɪ, ʌ, ε/ are lowered and centralised. The effect is most marked with D /ε/. (Note that to an English ear, the Dutch pronunciation of the word *Shell* often sounds similar to the English word *shall*.) A similar lowering effect is to be heard before /n/. D /ε/, for instance, tends to be more open in this context, giving [ɛ̃], e.g. *pen* [pɛ̃n].

3. Before the nasals /m, n, ŋ/, the checked vowels are often strongly nasalised and with many speakers /n/ is effectively lost in unstressed syllables, e.g. *onmogelijk* [ɔ'mo:ɣələk], *fantastisch* [fā'tastis], *tentamen* [tɛ'tamə]. In many dialects, this is also the case for stressed contexts, especially following open or open-mid vowels, e.g. *dansen* ['dāsə], *mensen* ['mɛsə], *kunst* ['küst], *gezond* [xə'zɔ̃t].

<sup>2</sup> Evidence of this is indicated in the results of research on spelling errors produced by Dutch children, where words such as *binnen* /'bɪnə/ are spelt \*<binnu> (van Rijnsvoer 1978). A mid-1990s *Nederlandse Spoorwegen* advertisement represented childish spelling in the following way: 'Met de trein kreig ik een furassing!'

4. Before velars, the checked vowels tend to be raised, and often somewhat centralised, e.g. *zacht* [zɑxt], *hek* [hɛk], *jong* [jɔŋ]. Note that to many English speakers, D /ɔ/ in *jong* sounds similar to E /ʊ/. Before the alveolo-palatal sequences /sj, tj, nj, nsj, ntj/, all the checked vowels are raised; the back vowels /ɑ, ɔ/ in addition have a palatal glide, giving a diphthongal effect, e.g. *Anja* ['ɑːnɑ:], *bandjes* ['bɑːntɕəs], *onsje* ['ɔːnɕə].

5. In (NL) ABN, all vowels are lengthened and more central before /r/. This is because of the type of /r/ used in post-vocalic position (see pp. 200-1). Usually there will be a centring glide, so that the second element of the vowel sounds [ə]-like. There may be some blurring of the contrasts with the corresponding free vowels in this context.

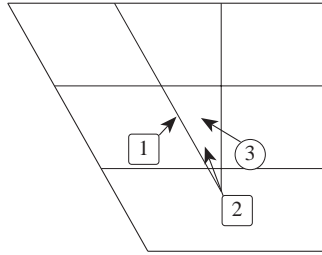


Figure 14.3 Allophones before /r/:

(1) /er/ in *ver*; (2) /ar/ in *hart*; (3) /ɔr/ in *Cor*.

#### EXERCISE 4

Pronounce:

|                         |                         |                             |
|-------------------------|-------------------------|-----------------------------|
| <i>vet</i> – <i>ver</i> | <i>bad</i> – <i>bar</i> | <i>pot</i> – <i>por</i>     |
| <i>het</i> – <i>her</i> | <i>kat</i> – <i>kar</i> | <i>tot</i> – <i>tor</i>     |
| <i>dek</i> – <i>der</i> | <i>nat</i> – <i>nar</i> | <i>schot</i> – <i>schor</i> |

Notice that in all varieties of Dutch, the vowels before /r/ are longer. In (NL) ABN and Randstad Dutch, the vowel has a more central quality and ends in a brief [ə]: [ɛə, ɑə, ɔə].

#### EXERCISE 5

Pronounce the word *schot* and isolate the /ɔ/ sound. Whisper the sound, making sure you feel the position of the tongue. Now isolate the /ɔ/ sound in *schort*. Contrast the two sounds. Can you feel and hear that the vowel in *schort* is more central than the vowel in *schot*, and that some of the rounding is lost? If you are a speaker of (NL) ABN, or of a Randstad variety, or a regional accent influenced by (NL) ABN, you probably will. If you speak a Belgian variety of Dutch (including AN), or a non-Randstad regional variety of Netherlands Dutch, this is far less likely.

In (NL) ABN, although the vowels /ɛ/ and /ɔ/ are somewhat longer before /r/, they are still not lengthened to such an extent that the contrasts /ɛ – ɛr/ and /ɔ – ɔr/ are lost; *ver* – *fair*, and *Cor* – *corps* remain distinct.

/ɪ/ and /ʉ/ have central articulations, so the centralisation effect is not so noticeable for these vowels. What is noticeable though, is that the allophones of /e:/ and /ø:/ before /r/ strongly resemble /ɪ/ and /ʉ/.<sup>3</sup>

#### EXERCISE 6

Say *keur* and *kurk*. Do the vowels sound similar? Both are centralised and have a glide towards [ə]. Now pronounce *keus* and *kus*. Here you will probably have a much clearer contrast, the vowel in *keus* being longer. In addition, in the case of Netherlands speakers the vowel in *keus* typically has a glide towards [y].

There are very few words with /ɪ/ followed by /r/, but examples are provided by *wirwar*, *Dirk*. Compare the sequence /ɪr/ with that of /e:r/ as in *weer*. If you take the vowel in *zit* (i.e. /ɪ/ before a consonant other than /r/) lengthen it and then replace /t/ by /r/, do you get something similar to *zeer*?

#### Accent variation

/ɪ/. In some urban accents, the ZIT vowel is closer and more front (e.g. The Hague, Rotterdam). A close vowel is also heard in some Belgian accents (e.g. Antwerp). More open vowels are found in Dordrecht, Nijmegen, affected (NL) ABN and in some Belgian varieties, especially East and West Flanders.

/ʉ/. There is considerable variation in place of articulation. Closer varieties of the NUT vowel are found in some dialects (e.g. Amsterdam, The Hague, Rotterdam, Antwerp). A more open vowel is found in the southern provinces and in affected (NL) ABN.

/ɛ/. Many speakers have a closer centralised ZET vowel [ɛ̟]. This is typical of certain varieties, e.g. Amsterdam. Other dialects (e.g. Dordrecht, Zeeland, Noord-Brabant, Limburg, Ghent, Bruges, and also affected (NL) ABN) have an open vowel of an [æ]-type, e.g. *zeg* [zæx], *hek* [hæk], which is particularly noticeable before /l/ and /n/, e.g. *held* [hælt], *mens* [mæns], *tennis* [tænis].

/ɑ/. Outside the Randstad, most varieties of Dutch have more front qualities for the ZAT vowel [ɑ̟]. Utrecht is noted for having a very front quality, often approaching [a]. In Amsterdam, the vowel is centralised: [ä]. Belgian varieties (including AN) are also generally more front, particularly Antwerp and Brabant. Some of these fronted /ɑ/ realisations can sound to English ears almost like the TRAP vowel. In Rotterdam and Leiden, on the other hand, /ɑ/ is a fully back vowel and closer, sometimes with lip-rounding, sounding almost like English LOT.

<sup>3</sup> Van Rijnsoever (1978) notes that Dutch children frequently write <i> for <ee> before <r>, e.g. \*<wir> for *weer*. Further confirmation is provided by T.M. van Schaick of Maastricht (personal letter), who states that primary schoolchildren in his charge regularly produced errors of this type. He also observes that the lengthening before <r> appears to have been noticed by these children since words such as *beer* were represented in some cases as \*<biir>.

/ɔ/. The ZOT vowel is very tense and generally has strong lip-rounding. There is retraction of the tongue-root towards the pharynx wall. In Amsterdam, /ɔ/ is raised and centralised. In dialects outside the Randstad, /ɔ/ may be more open in quality.

### 14.3 FREE VOWELS

#### *Close free vowels /i, y, u/*

##### *Description*

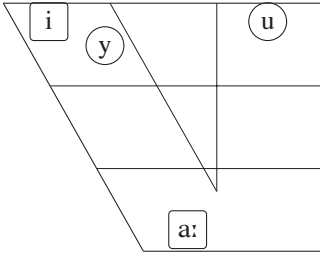


Figure 14.4.1 Dutch steady-state free vowels /i,y,u,a:/, as in ZIE, NU, MOE, LA.

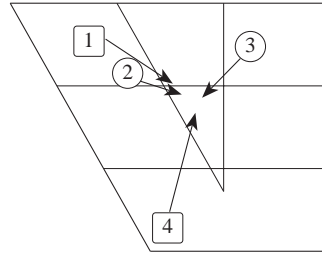


Figure 14.4.2 Allophones before /r/:

- (1) /i<sup>r</sup>/, e.g. *mier*.
- (2) /y<sup>r</sup>/, e.g. *muur*.
- (3) /u<sup>r</sup>/, e.g. *moer*.
- (4) /a<sup>r</sup>/, e.g. *maar*.

/i/ (the ZIE vowel): front, close, unrounded.

/y/ (the NU vowel): front-central, between close and close-mid, rounded.

/u/ (the MOE vowel): back-central, close, rounded.

##### *Contextual variation*

Word-finally these vowels may be very close and end in a voiceless vowel, e.g. *drie* [dri<sup>̥</sup>], *nu* [ny<sup>̥</sup>], *hoe* [hu<sup>̥</sup>].<sup>4</sup> Before /r/, all these vowels are lengthened in all varieties of Dutch. In addition, in (NL) ABN and most Randstad accents, they are centralised and have centring glides, e.g. *hier* [hi<sup>̥</sup>:ər], *duur* [d<sup>̥</sup>yər], *boer* [b<sup>̥</sup>üər].

##### *Accent variation*

These vowels, which in most contexts (except before /r/) are short in Netherlands Dutch, are frequently longer in (B) AN and most other Belgian varieties.

<sup>4</sup> Note that *KNMI* frequently ends in a voiceless [i<sup>̥</sup>], sounding almost like a palatal fricative [ç]. See also Moulton (1962).

In some Belgian varieties, especially in Antwerp and Brabant, /u/ is more front.

***Open free vowel /a:/ (the LA vowel)***

***Description***

Front-central, open, unrounded. This is the only true long steady-state vowel in Dutch; it is never realised as a diphthong.

***Contextual variation***

In (NL) ABN, /a:/ is fronted and raised before /r/, and retracted before dark [ɫ].

***Accent variation***

There is considerable accent variation. In the Netherlands and Belgium, many dialects, both urban (e.g. Amsterdam, Utrecht, Antwerp) and rural have a more retracted articulation [ɑ:]. The Hague and affected (NL) ABN may be raised, [a:], particularly before /r/, e.g. *maar* [mɑ:r], *Wassenaar* [ʋasəna:r]. Similarly, Groningen tends to have a front quality of a CV 4 type.

***Close-mid free vowels (potential diphthongs) /e:/, /ø:/, /o:/***

***Description***

/e:/ (the ZEE vowel). Begins front, close-mid. Ends front, above close-mid. Lips unrounded.

/ø:/ (the BEU vowel). Begins front-central, below close-mid. Ends front-central, above close-mid. Lips rounded.

/o:/ (the ZO vowel). Begins back-central, between close-mid and open-mid. Ends back-central, close-mid. Lips rounded.

As previously stated, despite the fact that these vowels have traditionally been described as steady-state vowels (hence the transcription) in (NL) ABN, they are overwhelmingly realised as narrow diphthongs. (B) AN retains steady-state realisations. To be able to deal with both possibilities, we have classed them as potential diphthongs. (The diphthongal nature of the (NL) ABN pronunciation is sometimes said to be a recent development, but was in fact noted by the English phonetician Henry Sweet as early as 1877.)<sup>5</sup>

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<sup>5</sup> H. Sweet (1877), *A Handbook of Phonetics*, pp. 139-40.

### Contextual variation

In (NL) ABN /e:, ø:, o:/ are lowered and centralised before dark [ɫ]. Before /r/, the vowels are raised and have a centring glide (see Fig. 14.5.2).

#### EXERCISE 7

Isolate the two /o:/ sounds in *poot* and *poort*. In *poot*, is there a glide towards an [u]-type vowel? In *poort*, is there a glide towards [ə]? Is the starting-point of /o:/ before /r/ raised and centralised, so that it resembles E /ʊ/? If you are a speaker of (NL) ABN or a Randstad accent, the answers to these questions are probably 'yes'. If you speak (B) AN, or a regional type of Netherlands or Belgian Dutch, you will probably answer 'no'.

While all varieties of Dutch make a clear contrast between /o:/ (as in *zo*), and /ɔ/ (as in *zot*), in most contexts, the distinction between the two vowels may be blurred before /r/ (especially in certain Randstad dialects, e.g. Leiden, The Hague and Rotterdam). *Wordt* and *woord* may sound similar in terms of vowel quality, though normally a length distinction is retained.

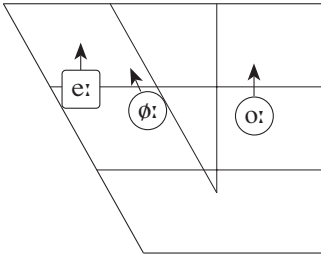


Figure 14.5.1 Dutch potential diphthongs /e:, ø:, o:/, as in ZEE, BEU, ZO.

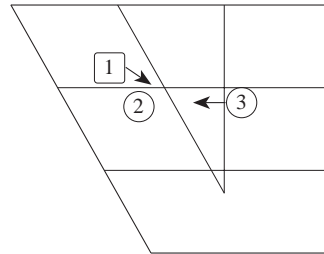


Figure 14.5.2 Allophones before /r/:  
(1) /e:r/, e.g. *eer*.  
(2) /ø:r/, e.g. *deur*.  
(3) /o:r/, e.g. *door*.

#### EXERCISE 8

Pronounce the Dutch word *worden*. To what extent is it similar to your pronunciation of *woorden*? And how about *bord* and *boord*?

In (NL) ABN and Randstad accents, the allophone of /u/ before /r/ is lowered and centralised (see Fig. 14.4.2). Thus the vowels /ɔ, o:, u/ in *worden*, *woorden*, *Woerden* sound more similar before /r/ than the same vowels in other contexts.

In (NL) ABN and Randstad varieties, the distinction /e: – i/ and /ø: – y/ may be blurred in a manner similar to the back vowels /o: – u/.

#### EXERCISE 9

Pronounce *beet* – *beer*, *biet* – *bier*. Are the vowels in *beer* and *bier* more similar than those in *beet* and *biet*? To what extent do the vowels in *keur* and *kuur* resemble each other?



### *Accent variation*

Some dialects (e.g. southern and eastern provinces except Groningen, most Belgian varieties) have little or no glide. Affected (NL) ABN speakers, especially of the older generation, sometimes have extremely narrow diphthongs. On the other hand, urban accents of the Randstad often have glides with open-mid starting-points [ɛ̞e, œ̞ø, ɔ̞u] which may make *zee*, *leuk*, *boot* similar to the (NL) ABN pronunciation of *zij*, *luik*, *bouwt*.

### *Open-mid free vowels /ɛi, œy, au/ (essential diphthongs)*

#### *Description*

These are diphthongs with extensive tongue movement.

/ɛi/ (the MEI vowel). Begins front, open-mid. Ends front, close-mid. Lips unrounded.

/œy/ (the LUI vowel). Begins front-central, open-mid. Ends front-central, close-mid. Lips rounded.

/au/ (the KOU vowel). Begins back-central, below open-mid. Ends back-central, close-mid. Lips unrounded becoming rounded.

The starting-points of the essential glides are closer in (B) AN than in (NL) ABN. In addition, the glide is shorter. Note also that, in (B) AN, the kou vowel tends to have rounding throughout.

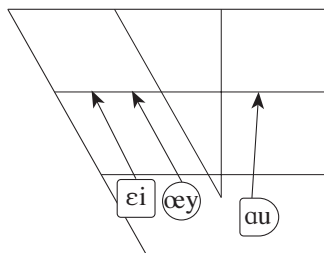


Figure 14.6 Dutch essential diphthongs /ɛi, œy, au/, as in MEI, LUI, KOU.

#### *Contextual variation*

In (NL) ABN, /ɛi/ is centralised and has a narrower glide before dark [ɤ], e.g. *zeil* [zɛ̞ɛ̞ɤ].

#### *Accent variation*

1. Some Netherlands speakers, especially of the older generation, have lip-

rounding throughout in /*ou*/.<sup>6</sup> This is also true of a large number of Belgian accents. Many speakers (e.g. Leiden, Rotterdam, Belgian) have no lip-rounding in the first element of /*œy*/, giving [œy].

2. Certain dialects have less extensive glides, e.g. speakers from the southern provinces and from Belgium. The Hague has steady-state vowels [ɛ:, œ:, ɑ:], e.g. *Rijswijkseplein* ['rɛ:zœ:ksə'plɛ:m], *broodje ei met ui* ['brɔ:tə 'ɛ: mɛt 'œ:]. Broad Amsterdam has [a:] for /*ei*/, e.g. *Leidseplein* [la:tsə'plɛ:n]. In this urban accent, the word *geitenkaas* may sound very similar to the (NL) ABN pronunciation of *gatenkaas*.

Other dialects have more open first elements, especially for /*ei*/, e.g. Utrecht, Rotterdam, e.g. *Feyenoord* [faijəno:rt].

#### 14.4 FREE VOWEL SEQUENCES

##### *Free vowel sequences /iu, yu, e:u, ai:, oi:, ui/*

##### *Description*

/iu/ (the NIEUW vowel). Begins front, close. Ends back-central, close. Lips unrounded to rounded.

/yu/ (the RUW vowel). Begins front-central, between close-mid and close. Ends back-central, close. Lips rounded throughout.

/e:u/ (the MEEUW vowel). Begins front, close-mid. Ends back-central, close. Lips unrounded to rounded.

/ai:/ (the SAAI vowel). Begins front-central, open. Ends front-central, close. Lips unrounded.

/oi:/ (the MOOI vowel). Begins back-central, below close-mid. Ends front-central, close. Lips rounded to unrounded.

/ui/ (the BOEI vowel). Begins back-central, close. Ends front-central, close. Lips rounded to unrounded.

These diphthongs can in all cases be regarded as a sequence of the component vowels.<sup>7</sup> They are different in prominence from the other Dutch diphthongs. Compare /*ei*/ and /*ai*/. The diphthong /*ei*/ can be heard to be *diminuendo*, i.e. the prominence is on the first element.

<sup>6</sup> Some phoneticians transcribe this vowel as /*ou*/.

<sup>7</sup> The reason we treat /*ai*, *oi*, *ui*, *iu*, *yu*, *e:u*/ as phoneme units rather than separate sounds is that the two vowel sounds occur in the same syllable. Compare *loei* and *Louise*, *haai* and *Haiiti*, *rooi* and *heroïsch*. In the first of each of these pairs, the movement is within one and the same syllable. In the second, there is a clear break between the two vowels, and the syllable boundary may even be marked by a glottal stop [ʔ].

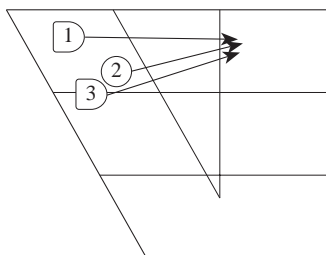


Figure 14.7.1 Dutch free vowel sequences /iu, yu, e:u/, as in (1) NIEUW, (2) RUW, (3) MEEUW.

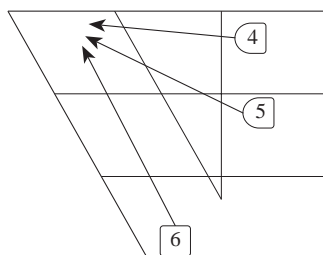


Figure 14.7.2 Dutch free vowel sequences /ui, oi, ai/, as in (4) BOEI, (5) MOOL, (6) SAAL.

For /a:i/ both elements appear to have equal prominence.

The vowel sequences /iu, yu, e:u/ sometimes have alternative realisations with a labio-dental approximant /v/, e.g. *nieuw* [niu] or [niv], *nieuwe* ['niuə] or ['nivə]. (Medially, /v/ is very common.)

#### EXERCISE 10

Do you pronounce the following words with [u] or labio-dental [v]: *eeuw, eeuwig, Leeuwarden, ruw, ruwe, meeuw, duwen, schuw, geeuw, luwte, leeuwen, nieuws, Zeeuws*?

### 14.5 MARGINAL VOWELS

In addition to the basic system of Dutch already discussed, there is also a set of marginal vowel phonemes. These occur in loanwords, mostly of French origin.

#### *Long vowels* /ɛ:, œ:, ɔ:/

The long vowel /ɛ:/ occurs in words such as *BEIGE, bêta, scène, crème, prairie, gêne, crêpe, crèche, militaire*. /ɔ:/ occurs in *ROSE, zone, contrôle, corps, garde-robe, loge*. /œ:/ occurs in very few words, the only ones of any frequency being *oeuvre, manoeuvre, freule*.

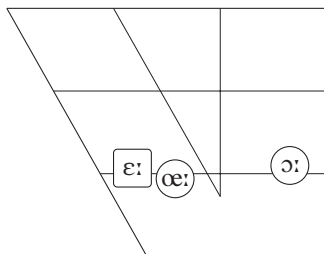


Figure 14.8 Dutch marginal vowels /ɛ:, œ:, ɔ:/.

The more commonly used words are being adapted to the native Dutch system, so that words like *crème*, *crêpe*, *crèche* are often heard with a short vowel /ɛ/. Numerous speakers in the Netherlands (especially non-ABN) select /ɔ/ or /o:/ for long /ɔ:/, e.g. *corps* /kɔɾ/ (homophonous with *Cor*) or /ko:ɾ/ (homophonous with *koor*); *zone* /'zo:nə, zɔnə/ (homophonous with *zonen* or *zonnen*). Belgian speakers typically select /o:/, e.g. *garderobe*, *loge*.

### *Nasal vowels* /ɛ̃, ɑ̃, ɔ̃/

The nasal vowels are used in some words borrowed from French, e.g. /ɛ̃/ in *bulletin*, /ɑ̃/ in *genre*, and /ɔ̃/ in *plafond*. Most of these words are being accommodated to the native Dutch system, e.g. *restaurant* /rɛsto:'rant/, *enquête* /ɑŋ'ke:tə/, *pardon* /pɑr'dɔn/.

#### **EXERCISE 11**

The use of nasal vowels varies from one speaker to another. See if you have nasal vowels in the following loanwords: *restaurant*, *branche*, *Française*, *entree*, *pantalón*, *dansant*, *enfin*, *enquête*, *bonbon*, *timbre*, *monseigneur*; *pardon*, *chanson*, *nuance*.

## ENGLISH FRICATIVE CONSONANTS

## 15.1 FRICATIVE SYSTEMS IN ENGLISH AND DUTCH

Table 15.1 Systems in English and Dutch

|                | Labio-dental | Dental | Alveolar | Palato-alveolar | Alveolo-palatal | Velar | Glottal |
|----------------|--------------|--------|----------|-----------------|-----------------|-------|---------|
| <b>ENGLISH</b> | f v          | θ ð    | s z      | ʃ ʒ             |                 |       | h       |
| <b>DUTCH</b>   | f (f̥)       |        | s z      |                 | [ç ʒ]           | x (χ) | h       |

( ) = Phonemic contrast not consistently maintained by all speakers.

[ ] = Frequent allophones.

1. Dutch lacks dental fricatives and has no sounds similar to E /θ, ð/.
2. As stated on p. 48, the energy contrast in English operates throughout the system. In Dutch, however, this does not play as significant a role. No lenis fricatives exist in word-final context. In connected speech, assimilation reduces the energy contrasts yet further. For most Netherlands Dutch speakers, the /f – f̥/ contrast is not consistent, and for some it is absent altogether. The opposition /x – χ/ occurs only between vowels and is absent for many speakers. The only energy contrast that is stable is that of /s – z/.

In Belgium, on the other hand, all the energy oppositions mentioned above are maintained much more consistently than in the Netherlands. See Section 19.1 for further detail.

3. The alveolo-palatal fricatives [ç, ʒ] result from the sequences /sj, zj/. See p. 191.

*Labio-dental fricatives /f, v/**Description*

The lower lip makes a light contact with the upper front teeth. For /v/, the articulation is weaker than for /f/, and /f/ is noticeably louder and longer. /v/ has potential voice.

*Main allophonic variation*

/f/. Fortis voiceless labio-dental fricative [f], e.g. *fight, life*. Exact point of contact may vary, being more forward on the lip for front vowels, and retracted for back vowels. Some speakers may produce an affricate articulation in /pf/ sequences (i.e. [pʰf]) such as *cupful*.

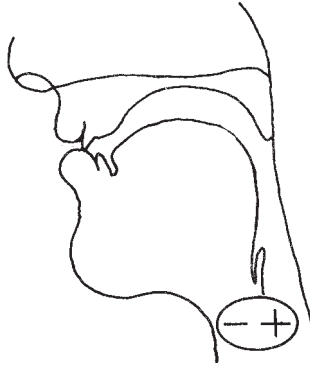


Figure 15.1 E /f, v/.

/v/. Lenis voiced labio-dental fricative [v]. Between voiced sounds, e.g. *never*, there is full voicing. Initial /v/, e.g. *very*, has slight devoicing. Final /v/ is strongly devoiced, [v̥], and is often realised without any voicing at all. Place variation as for /f/. Many speakers produce a bilabial affricate [bβ] for /bv/, e.g. *obvious*.

### ***Comparison with Dutch and advice***

Belgian speakers tend to have relatively few problems with E /f, v/ since a more stable contrast is maintained in (B) AN and in other Belgian varieties. For most Netherlands Dutch speakers, on the other hand, there is (particularly in word-initial contexts) no consistent opposition of /f/ and /f̥/ in connected speech, /f/ often being used for both. As a result, D /f/ is substituted for E /v/.

Intervocally, in citation forms, and also in careful or emphatic speech, most Dutch speakers do make a distinct contrast in Dutch. It is then, however, not a fortis/lenis difference but rather a voiceless/voiced opposition. D /f̥/ is generally just as energetic in its articulation as D /f/. Therefore, even if D /f̥/ is used for E /v/ it will not be acceptable to an English ear.

D /f/ often has voiced allophones occurring between other voiced sounds. For a typical articulation of *vijfentwintig*, in phonetic terms, the **v** is [f] and the **f** is realised as [v]. If transferred to English, this results in significant losses of the all-important energy contrast (see Section 20.10 on assimilation).

For many Netherlands Dutch speakers, D /v/ as in *wat* (as pronounced in ABN) provides a better basis for the articulation of E /v/. D /v/ is also labio-dental and is frequently realised as a weak fricative, similar to E /v/. Unlike D /f̥/, D /v/ has consistent voicing in almost all of its allophonic range.

D /f/ and /f̥/ have a more retracted place of articulation than the corre-

sponding English sounds (see Figs 15.2.1 and 15.2.2). This difference is obvious in energetic articulations of citation forms, but can normally be ignored as far as connected speech is concerned.



Figure 15.2.1 E/f, v/. Advanced labio-dental contact.



Figure 15.2.2 D/f, f/. More retracted labio-dental contact.

### *Dental fricatives /θ, ð/*

#### *Description*

Both /θ/ and /ð/ are *slit* fricatives, lacking the grooving along the mid-line of the tongue found in the alveolar fricatives /s, z/ (see Figs. 15.5.1 and 15.5.2). This means that the airstream escapes in a diffuse manner over the whole surface of the tongue.

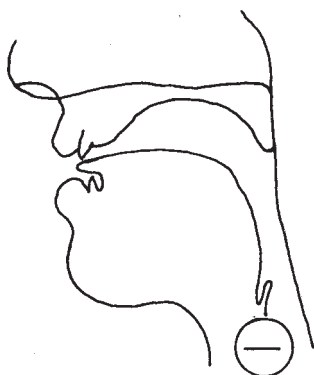


Figure 15.3.1 E /θ/ (inter-dental).

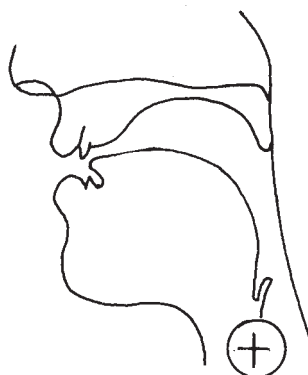


Figure 15.3.2 E /ð/ (post-dental).

For /θ/, the tongue-tip often has contact with the rear of the upper teeth, and may even protrude (i.e. *inter-dental*). Energetic articulations of /ð/ (e.g. in citation forms) may also be inter-dental. In connected speech, however, /ð/ is articulated quite differently. As well as being weaker, /ð/ has a noticeably retracted *post-dental* tongue position a little behind the front teeth. The fric-

tion is typically weak, and in fact /ð/ is normally an approximant [ð̪], without friction, being merely a dental onset to the following vowel. /ð/ easily undergoes assimilation and elision, especially in unstressed syllables (see p. 209).

### **Distribution**

Initial /ð/ occurs *only* in the following grammatical words: *the, this, that, these, those, then, than, thus, there, they, their, them*; also in the archaic words: *thou, thee, thence, thy, thine, thither*.

### **Main allophonic variation**

/θ/. Fortis voiceless dental fricative [θ], e.g. *think, path*. May be inter-dental [θ̟] in energetic articulations.

/ð/. Lenis voiced dental fricative [ð] if between voiced sounds, e.g. *weather*. Devoiced [ð̟] if final before pause or voiceless sounds, e.g. *breathe, smooth surface*. Especially when /ð/ is initial in unstressed syllables it is realised as an approximant [ð̪], e.g. *the, this*. Note that this is one of the most frequent phonetic contexts for /ð/.

### **Comparison with Dutch and advice**

Since there are no similar sounds in Dutch, the English dental fricatives pose major problems of recognition and articulation for the learner. Replacement of /ð/ by /d/ is one of the most common and persistent Dutch errors.

*Table 15.2 Learners' substitutions for the dental fricatives /θ, ð/*

| SOUND | CONTEXT      | EXAMPLE       | COMMON (NL) SUBSTITUTION | COMMON (B) SUBSTITUTION |
|-------|--------------|---------------|--------------------------|-------------------------|
| /θ/   | Initial      | <i>think</i>  | /s/ (or /t/)             | /t/                     |
| /θ/   | Intervocalic | <i>ether</i>  | /s/                      | /t/                     |
| /θ/   | Final        | <i>bath</i>   | /s/ (or /t/)             | /f/                     |
| /ð/   | Initial      | <i>these</i>  | /d/                      | /d/                     |
| /ð/   | Intervocalic | <i>rather</i> | /d/ (or /z/)             | /d/                     |
| /ð/   | Final        | <i>bathe</i>  | /s/                      | /f/                     |

Because both /θ/ and /ð/ are represented by **th** in spelling, many students are unaware of the fact that two different dental sounds exist in English (see spelling/pronunciation rules in Chapter 18, p. 185). Table 15.2 shows the sub-



stitutions likely to be made by Dutch-speaking learners.<sup>1</sup>

Good articulation of /θ/ and /ð/ is impossible to achieve unless consideration is given to the question of setting (see Chapter 21, pp. 219, 223). A particularly significant point is to acquire the tapered tongue-tip used in English as opposed to the blunter lingual setting characteristic of Dutch. It is essential for students to put in considerable practice on this feature.

/θ/ is the less difficult sound of the pair. The traditional instruction of *tongue between teeth* obtains the slit tongue shape which distinguishes /θ/ from /s/. It is advisable to move away from an inter-dental articulation as soon as reasonable fluency is achieved.

/ð/ is far harder for all students. It is best presented as a completely different type of articulation from /θ/. This would seem to fit in with many learners' own inclinations, since /θ/ is often perceived as a fricative and /ð/ as a type of plosive.

Speakers should aim at a post-dental place of articulation (i.e. tongue-tip behind the upper front teeth), and certainly not an inter-dental fricative. Apart from the fact that the inter-dental place of articulation may produce friction which is too strong to sound natural in English connected speech, it is often difficult to move the tongue back to the positions required for other sounds (see Chapter 21 on setting).

A useful approach to E /ð/ is to begin from D /d/, but to articulate the sound with the *tongue-tip*, and make sure that the tongue does not touch the roof of the mouth. This usually produces a type of post-dental approximant which will pass for E /ð/, and from which one can easily move to the appropriate tongue position for the following consonant.

Because /ð/ is frequently subject to assimilation and elision, using these features can be useful in avoiding difficult articulatory sequences, particularly with the very frequent word *the* (p. 209).



### EXERCISE 1

(1) Say D /d/, as in *doos*. (2) Then change the articulation as follows: use the tip of your tongue and do not let the tongue come anywhere near the roof of the mouth. It does not matter if the tongue makes a *light* contact with the teeth. (3) Put the new articulation into English words, as shown below:

|         |   |         |   |         |                |
|---------|---|---------|---|---------|----------------|
| [dɪs]   | → | [ɸɪs]   | → | /ðɪs/   | <i>this</i>    |
| [ʌðə]   | → | [ʌɸə]   | → | /ʌðə/   | <i>other</i>   |
| [dəʊz]  | → | [ɸəʊz]  | → | /ðəʊz/  | <i>those</i>   |
| [brʌðə] | → | [brʌɸə] | → | /brʌðə/ | <i>brother</i> |
| [den]   | → | [ɸen]   | → | /ðen/   | <i>then</i>    |
| [smu:d] | → | [smu:ɸ] | → | /smu:ð/ | <i>smooth</i>  |

<sup>1</sup> We are grateful to Anne-Marie Vandenberg and James O'Driscoll (both of the University of Ghent) for the information on the substitution errors of Belgian speakers.

*Alveolar fricatives /s, z/***Description**

The tip/blade of the tongue rises to the alveolar ridge, whilst the sides of the tongue are held against the upper side teeth. The airstream is channelled through a groove along the mid-line of the tongue, giving rise to friction between the tongue-blade and the alveolar ridge.

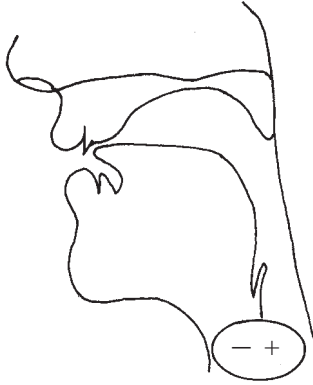


Figure 15.4 E /s, z/.

These alveolar fricatives are therefore *groove* types, unlike the *slit* articulations for /θ, ð/.

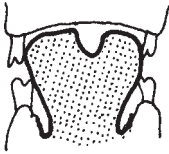


Figure 15.5.1 Cross-section viewed from front, showing grooved shape of tongue for /s/.

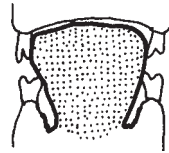


Figure 15.5.2 Cross-section viewed from front, showing slit shape of tongue for /θ/.

**Main allophonic variation**

/s/. Fortis voiceless alveolar fricative [s], e.g. *so*, *hiss*.

/z/. Lenis voiced alveolar fricative [z]. Between voiced sounds, e.g. *dizzy*, there is full voicing. Initial /z/, e.g. *zoo*, may have slight devoicing. Final /z/, e.g. *lose*, is strongly devoiced, [z̥], and is often realised without any voicing at all.

### *Comparison with Dutch and advice*

Apart from difficulties relating to the final fortis/lenis contrast, the articulation of E /s, z/ poses relatively few problems for most Belgian speakers. For many Netherlands speakers, on the other hand, the articulation of E /s, z/ is noticeably different from what has been described for English. The sounds are typically articulated with a portion of the tongue between front and blade whilst the tip is kept down behind the front teeth (see pp. 221, 223, 224). With some speakers there may also be some lip-rounding. D /s/ has a less firmly held stricture than E /s/; the jaw is more open with a laxer articulation. As a result, the friction of D /s/ is *graver* than the *sharp* friction which characterises the English sound.<sup>2</sup>

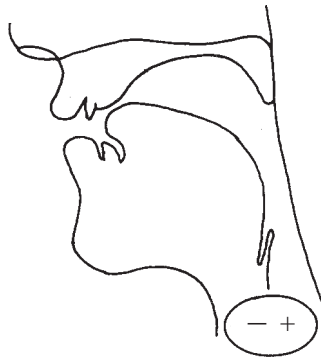


Figure 15.6 D /s, z/.

The exact extent of this difference varies considerably, not only from one dialect to another but even amongst (NL) ABN speakers. This means that some Netherlands speakers produce a D /s/ which is acceptable if transferred into English, whilst others produce a sound which is between E /s/ and E /ʃ/. The problem is more obvious for E /s/ than for E /z/, and is especially noticeable when E /s/ occurs in initial clusters, e.g. *spate, state, skate, smoke, snake, slate*. Note that many learners produce a final /s/ which for English is overgrave and has excessive lip-rounding, e.g. in *boss, house, horse, bus*.

These problems of articulation are perhaps best solved as part of a general approach to setting (see Chapter 21). Practise raising the tongue-tip for all the English alveolar sounds, particularly /s, z, n, l/. Remove any lip-rounding before front vowels. Imitate the sharper hiss of the E /s/, with a more firmly held stricture.

<sup>2</sup> *Grave*: having a preponderance of lower frequency noise. *Sharp*: having a preponderance of higher frequency noise.

Some Dutch accents lack a contrast /s – z/. Other accents have no contrast /s – sj/ and /z – zj/. Broad Amsterdam, for example, has none of these contrasts, which adds considerably to the difficulties of the Amsterdam learner of English.

E /s, z/ are liable to be assimilated to /ʃ, ʒ/ before palatal and palato-alveolar consonants, e.g. *gas showroom* /'gæʃ ʃəʊru:m/, *are these yours* /ə 'ði:z 'ʒɔ:z/. However, a clear distinction is made *within the word* between /sj – ʃ/ and /zj – ʒ/: \*/ə'ʃu:m/ *assume* and \*/pɹɪ'ʒu:m/ *presume* are not acceptable for English. In cases where students have great difficulty, it is best to use the less common, but perfectly acceptable, pronunciations /ə'su:m, pɹə'zu:m/. For words like *suit*, *super* the pronunciation with /s/ rather than /sj/ is far more common in present-day RP and is recommended as a means of avoiding serious errors like \*/ʃu:t/ and \*/ʃu:pə/.<sup>3</sup>

*Pronunciation* and *association* are pronounced /pɹənʌnsɪ'eɪʃn/ and /əsəʊsɪ'eɪʃn/ and not \*/pɹo:nʌnʃeɪʃn/, \*/æso:ʃeɪʃn/, which is a typical Dutch learner's error. Note the incorrect stressing.

### *Palato-alveolar fricatives /ʃ, ʒ/*

#### *Description*

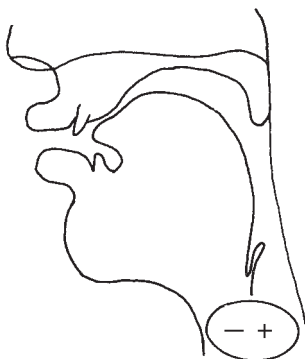


Figure 15.7 E /ʃ, ʒ/.

Like /s, z/, these fricatives are also articulated with the rims of the tongue raised against the upper side teeth so that a groove is formed along the midline of the tongue; however, the depression for /ʃ, ʒ/ is much shallower. The

<sup>3</sup> In the 14th edition of the *English Pronouncing Dictionary* (p. xviii), mention was made of the 'increasing dominance of /su:-/ over /sju:-/ in words like *superstitious*, *suit*'. The *Longman Pronunciation Dictionary* quotes a questionnaire response which indicates that over 70% of RP speakers use the form without /j/ in the word *suit* (Wells 1990: 689).

extent of the stricture (as can be seen from Fig. 15.7) is also larger than for the alveolars. A large portion of the tongue (tip/blade/front) rises to form the narrowing with the alveolar ridge and the front of the hard palate.

E /ʃ, ʒ/ have very strong outer lip-rounding and protrusion of a trumpet-like shape, which contributes to the graver character of the hiss, as opposed to the sharper friction of /s, z/.

### ***Distribution***

/ʒ/ occurs only in medial position, i.e. between vowels, e.g. *measure*. /ʒ/ may also be syllable-initial or syllable-final in recent French loanwords, e.g. *garage* /'gærɑ:ʒ/, *beige* /beɪʒ/, *genre* /'ʒɒnrə/. In many cases, there are alternative pronunciations with /dʒ/.

### ***Main allophonic variation***

/ʃ/. Fortis voiceless labialised palato-alveolar fricative [ʃ<sup>w</sup>], e.g. *shock*, *wish*.  
 /ʒ/. Lenis voiced labialised palato-alveolar fricative [ʒ<sup>w</sup>] if between voiced sounds, e.g. *measure*. Devoiced [ʒ̥] if not between voiced sounds, e.g. *beige*.

### ***Comparison with Dutch and advice***

The Dutch sequence /sj/ as in *chef* (realised as an alveolo-palatal fricative [ç]) has a more obvious palatal off-glide than its English counterpart. The articulation may be unrounded or have slight inner lip-rounding of a type quite different from most E /ʃ, ʒ/ articulations. The effect of this is to make D /sj/ sharper in friction. For most Dutch speakers, their /sj/ will pass quite easily into English, particularly in the flow of connected speech. Those who find that it is too sharp and palatalised to an English ear should imitate the strong outer lip-rounding of the English sound, which is usually enough in itself to correct these faults.

A minority of learners from certain areas of the Netherlands (especially Frisians and speakers from Zeeland) may produce an unacceptable palatalised [sj] instead of E /ʃ/. Such students require careful training to acquire the extensive stricture of the palato-alveolar, in addition to copying the liprounding. There is need to take special care in two contexts: (1) before close front vowels, e.g. *she*, *sheer*, *shame*; (2) in syllable-final position, e.g. *wish*. In these contexts, many Dutch speakers whose D /sj/ is in other contexts acceptable for English produce a palatalised [sj] which English native speakers interpret as E /s/. In such cases, it helps (1) to raise the tip of the tongue towards the alveolar ridge, (2) to copy the strong outer lip-rounding which characterises the English consonant.

*Glottal fricative /h/***Description**

In phonetic terms, /h/ can be considered a type of voiceless vowel. The articulators are in the position for the following vowel sound and a strong airstream produces friction both at the glottis and throughout the vocal tract. Consequently, there are as many allophones of /h/ as there are vowels in English.<sup>5</sup>

**Distribution**

/h/ occurs only preceding vowels.

**Main allophonic variation**

/h/. Voiceless glottal fricative [h], e.g. *hat*. Voiced glottal fricative [ɦ] between vowels and voiced sounds, e.g. *apprehensive*.

**Comparison with Dutch and advice**

E /h/ tends to have somewhat stronger friction than D /h/, and voiceless *pharyngeal* friction can be heard from some speakers.<sup>6</sup>

On the whole, E /h/ is sufficiently similar to D /h/ to pose no problems for most Dutch-speaking students. Certain varieties (especially West Flanders, some parts of East Flanders, Zeeland) lack /h/ (see p. 192) and speakers from these areas may have difficulties with the English sound.

E /h/ is only voiced between voiced sounds, whereas D /h/ is more likely to have voice in all contexts. However, these differences are not easily perceived by English native speakers, and consequently the sound poses few problems for learners. Note that E /h/ is frequently elided in weak forms (see p. 23).

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<sup>5</sup> It would be possible to show *hat* as [æ̥æt] in phonetic transcription, but /h/ is normally used, even in narrow transcription. The lip and tongue position is assumed to be that of the following vowel.

<sup>6</sup> E /h/, especially in stressed syllables, may be realised as a glottal affricate [ʔh].

## ENGLISH STOP CONSONANTS

### 16.1 STAGES OF A STOP

The category **stops** includes plosives (generally characterised by a rapid release of the blocked airstream) and affricates (having a slower parting of the articulators accompanied by homorganic friction in the release).

In the first stage of a stop (i.e. the **approach** stage), the articulators come together and form a closure; in the second stage (i.e. the **hold** stage), air is compressed behind the closure; and in the third stage (i.e. the **release** stage), the closure is released. The result is an equalisation of air pressure in the vocal tract and the atmosphere, giving rise to what is termed **plosion**.

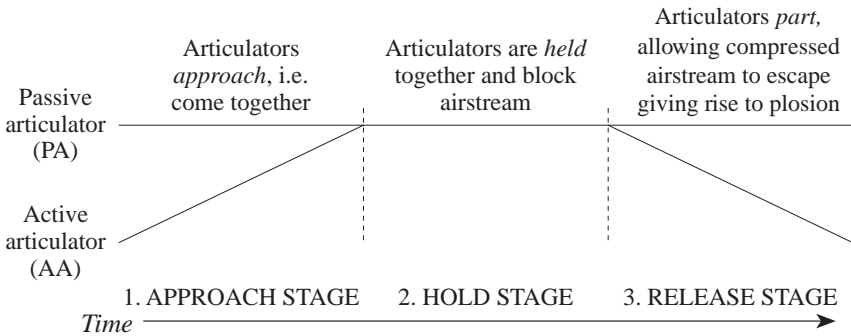


Figure 16.1 Articulation timing diagram showing the stages of a stop.

### 16.2 FORTIS/LENIS OPPOSITION IN STOPS

The following factors are significant in the fortis/lenis contrast: (1) voicing (2) aspiration (3) pre-glottalisation.

#### *Voicing in stops*

In voiceless stops (e.g. the fortis stops in English and Dutch), the hold stage is a brief period of silence. All the information about place of articulation is in the approach and release stages.

In lenis stops, voicing may be heard throughout the stop or, as is more usually the case in English, only in a portion of the articulation (see Section 6.4). Compare the following diagrams for /b/ in: (1) *bag*, (2) *rabbit*, (3) *lab*.

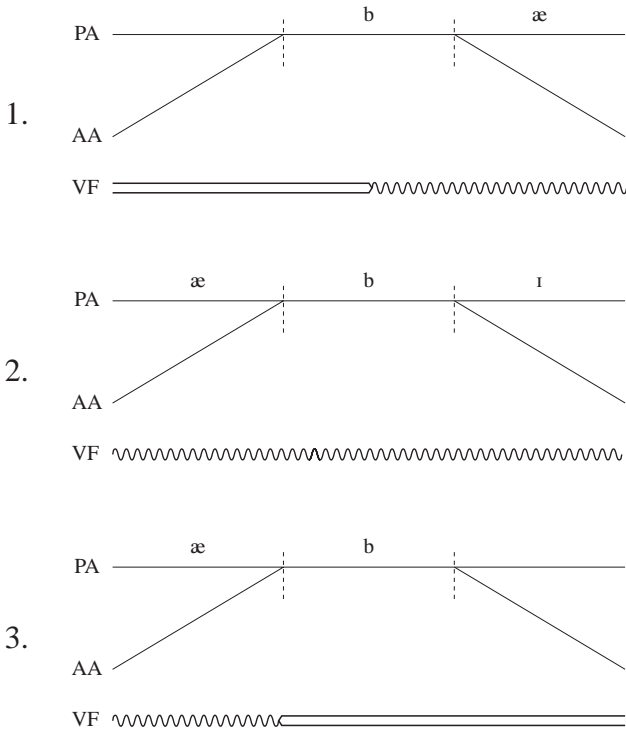


Figure 16.2 Voicing in English lenis stops as in (1) *bag* (2) *rabbit* (3) *lab*.  
VF = state of vocal folds. See p. 52 for explanation.

- If preceded by silence or voiceless sounds, English stops have initial devoicing; voice does not usually begin until well into the hold stage.
- Between vowels (or other voiced sounds), voice will continue through all stages.
- Preceding silence or voiceless sounds, English stops have final devoicing in the hold and release stages, and are frequently completely devoiced. Nevertheless, the vowel preceding a final lenis is always lengthened.

In certain languages, e.g. French, voiced stops have vocal fold vibration throughout in all contexts (compare French *bague* [bag] with E *bag* [bæɡ]). In Dutch, experiments have shown that initial devoicing of stops is less than that of English; however, initial lenis stops produced by Dutch learners do not usually strike an English ear as being over-voiced as do those of French speakers. Between vowels, the voicing in Dutch is the same as in English.

### *Aspiration*

Aspiration is heard in English initial fortis plosives /p, t, k/, where these occur in stressed syllables. It takes the form of a delay in the onset of voicing, and is heard as a brief period of voicelessness, sounding like a puff of air, after the



release of the stop. [h] is used to symbolise aspiration; if it is necessary to indicate lack of aspiration, the diacritic [=] may be used.<sup>1</sup>

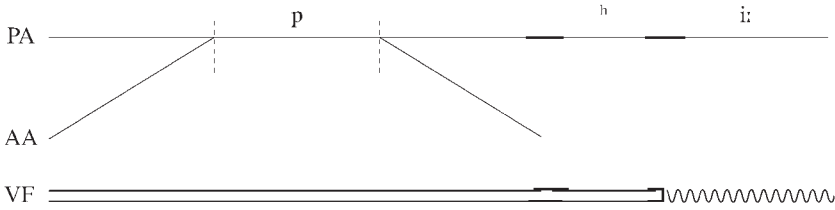


Figure 16.3 Delayed voice onset (aspiration) in E /p/, as in *Pete*.

Dutch plosives are unaspirated; the vocal fold vibration begins immediately after the release of the closure.

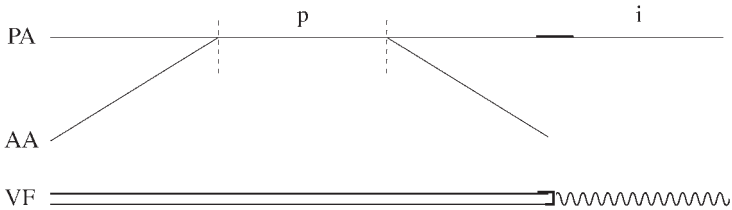


Figure 16.4 D /p/, as in *Piet*, showing lack of aspiration.  
Voicing begins immediately after release of bilabial closure.

It is noticeable that the Dutch fortis plosives /p, t, k/ have much firmer closures than their English counterparts; this is visible as lip compression in the case of /p/. The English articulations can be regarded as an inefficient valve; the period of aspiration can be compared to the leaking of air as the closure opens. Dutch articulations form an efficient valve and the compressed air is released smartly and rapidly.

In English, aspiration is most marked in stressed syllable-initial position. In words like *potato*, aspiration is heard clearly on the first /t/ and very little aspiration is heard on the unstressed initial /p/. In clusters preceded by /s/, e.g. *stare, spare, scare*, aspiration is minimal. In final position, aspiration is in variation with pre-glottalisation (see below).

Aspiration is present in most English varieties (including RP) and in many other languages (e.g. Standard German, the Scandinavian languages, and Welsh). It is also heard in Groningen Dutch. In other languages, e.g. most varieties of Dutch (including ABN and AN), French, Spanish, Italian,

<sup>1</sup> This is not an official IPA symbol.

southern dialects of German, aspiration of stops is minimal. A few dialects of English (e.g. Lancashire and most Scottish) also lack aspirated stops.<sup>2</sup>

Where /l, r, j, w/ follow a fortis plosive as part of an initial cluster in a stressed syllable, there is little or no aspiration; instead they are devoiced and have added friction:

|              |        |         |
|--------------|--------|---------|
| <i>play</i>  | /pleɪ/ | [p̚leɪ] |
| <i>pray</i>  | /preɪ/ | [p̚reɪ] |
| <i>twin</i>  | /twin/ | [t̚wɪn] |
| <i>queue</i> | /kju:/ | [k̚ju:] |

Note that this devoicing is not found where /s/ is the first element in a three-consonant cluster, e.g.

|               |         |          |
|---------------|---------|----------|
| <i>spray</i>  | /spreɪ/ | [sp̚reɪ] |
| <i>square</i> | /skweə/ | [sk̚weə] |

### *Pre-glottalisation*

An extremely significant feature of English syllable-final fortis stops is the possibility of the addition of a reinforcing glottal stop at or before the hold stage. This is termed *pre-glottalisation* or *glottal reinforcement* (see Section 6.3).

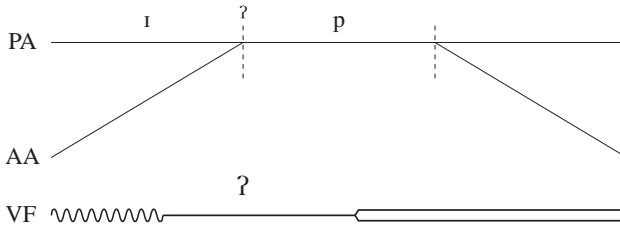


Figure 16.5 Pre-glottalisation in E /p/ in *lipstick*.

The sequence is normally as follows:

1. Vocal fold vibration for preceding vowel ceases.
2. Vocal folds close tightly together just before the hold stage of the stop (sometimes during the hold stage).
3. Vocal folds part and relax.
4. Oral closure is inaudibly released.

<sup>2</sup> Some languages have more elaborate stop systems than do Dutch and English. Thai has a three-term phonemic opposition of voiceless aspirated, voiceless unaspirated, and voiced (/t<sup>h</sup>am/ 'to do'; /tam/ 'to pound'; /dam/ 'black'). Several Indian languages, e.g. Hindi, possess a set of voiced aspirated consonants having breathy voice following the release of the closure, e.g. [b<sup>h</sup>indi] (*bhindi*: a type of tropical vegetable). See Ladefoged (1993: 141-47) for further information.

The effect of pre-glottalisation in English is to cut off sharply the voicing of the preceding vowel. In the final part of the vowel there may be a tight, slightly creaky voice quality. The vowel is shortened before a fortis consonant. Compare this with the articulation of a final lenis stop, as indicated in Fig. 16.2, where the vowel has full length, the voicing terminates early but less abruptly and without any hint of glottal closure.

In English, pre-glottalisation is one of the most significant phonetic markers of final fortis stops. It is found in the following contexts.

a) Syllable-final fortis stops are regularly pre-glottalised before another consonant (see below for exceptions), e.g.

|                               |                             |
|-------------------------------|-----------------------------|
| <i>Don't get them hot tea</i> | [dəʊnʔt geʔt ðm 'hɒʔt 'ti:] |
| <i>sick room</i>              | ['sɪʔkru:m]                 |
| <i>lipstick</i>               | ['lɪʔpstɪk]                 |
| <i>rock music</i>             | ['rɒʔkmju:zɪk]              |
| <i>watchmaker</i>             | ['wɒʔtʃmeɪkə]               |

Note that /tʃ/ has optional glottalisation in all contexts except syllable-initial.

b) In the following contexts, non-glottalised forms are also frequent: (1) before pause, (2) before /h/, (3) word-finally preceding a vowel:

|                               |                                  |
|-------------------------------|----------------------------------|
| (1) <i>(It's) hot</i>         | [hɒʔt] or ['hɒt]                 |
| (2) <i>hot-house</i>          | ['hɒʔthaʊs] or ['hɒthaʊs]        |
| (3) <i>(It's) hot in here</i> | [hɒʔt in 'hɪə] or ['hɒt in 'hɪə] |

c) Pre-glottalised forms are *never* used:

1. With *any* lenis consonant. This is an error which is characteristic of the English of more advanced learners, who tend to produce \*[gʊʔd 'mɔ:niŋ], \*[dɒʔgkɒlə] for *good morning*, *dog-collar*.
2. With any consonant other than a stop.
3. Word-medially between vowels (except with /tʃ/), e.g. *hotter* \*['hɒʔtə].
4. Preceding syllabic dark [ɹ], e.g. *little* \*['lɪʔtɹ].

### ***Glottal replacement***

Sometimes, in the case of /t/, there may be complete replacement by [ʔ] before another consonant or before syllabic /ŋ/, so that *velvet trousers*, *jetplane*, *mittens* may be [velvɪʔ 'traʊzəz, 'dʒeʔpleɪn, 'mɪʔŋz]. This is also true where /p, k/ are followed by a homorganic stop or nasal, e.g.

|                    |               |
|--------------------|---------------|
| <i>hip pockets</i> | ['hɪʔ pɒkɪts] |
| <i>rock group</i>  | ['rɒʔ gru:p]  |

*pop music*                    ['pɒ? mju:zɪk]  
*New York girls*            ['nju: jɔ:?'gɜ:lz].

Note that /tʃ/ is never replaced by [ʔ].

### 16.3 TYPES OF RELEASE AND APPROACH

#### *Affricate release*

See also Section 5.3 on manner of articulation. If the articulators do not part immediately, remaining for a brief period relatively close to each other, then friction is heard in the release stage. This friction is homorganic, i.e. at the same place of articulation as the stop. So a [p] gives rise to a bilabial fricative release [pɸ], a [t] to alveolar friction [ts] etc. Affricates can therefore be described as having a relatively *slow* release as opposed to the *rapid* release of the plosive stops. This is diagrammed in Fig. 16.6.

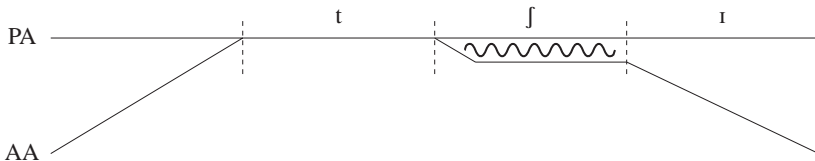


Figure 16.6 Affricate release. E /tʃ/, as in *chin*. Note friction in release stage.

In English, /tʃ/ and /dʒ/ are **phoneme affricates**, as is shown by minimal pairs where /tʃ/ and /dʒ/ contrast with other phonemes such as /p, t/, e.g. *pin – tin – chin* /pɪn – tɪn – tʃɪn/, *lop – lot – lodge* /lɒp – lɒt – lɒdʒ/. In addition, English has numerous *phonetic affricates*. Thus /t, d/ in clusters give rise to sequences which are, in phonetic terms, affricate articulations. (Note that /t, d/ are often at a place of articulation other than alveolar.)

|      |                     |       |                                |
|------|---------------------|-------|--------------------------------|
| /tr/ | <i>tread</i>        | [t̚ɹ] | fortis post-alveolar affricate |
| /dr/ | <i>dread</i>        | [d̚ɹ] | lenis post-alveolar affricate  |
| /ts/ | <i>goats</i>        | [ts]  | fortis alveolar affricate      |
| /dz/ | <i>toads</i>        | [dz]  | lenis alveolar affricate       |
| /tθ/ | <i>eighth</i>       | [t̚θ] | fortis dental affricate        |
| /dð/ | <i>I heard that</i> | [d̚ð] | lenis dental affricate         |

Note that many speakers produce bilabial affricates [pɸ, bβ] as realisations of /pf, bv/, e.g. *cupful, obvious*.

The sequence /tj/ in Dutch is typically an alveolo-palatal affricate [tɕ].

#### **EXERCISE 1**

Say some common words containing /tj/ [tɕ]: *beetje, katje, voetje*. Listen to the friction in the affricate [tɕ]. Say the very frequent word *beetje*. For this word many Dutch speakers use a fricative [ç] like a German *ich-Laut*. Is this so in your speech?

Another palatal affricate, this time post-palatal (i.e. further back along the palate), is to be heard in the sequence /kj/, e.g. *beekje*, *bakje*, *boekje*. Phonetically, this is [ç].

### EXERCISE 2

Listen to yourself saying the words *beetje* and *beekje*. Try to feel the difference in the point of articulation. Could this be lost for you in rapid speech? Or would you, in your idiolect, always keep the sounds apart?

The Dutch consonant sequence /ts/ as in *mits* provides an exemplification of an alveolar affricate [ts]. German has two phoneme affricates, namely voiceless alveolar /ts/ and voiceless bilabial /pf/ (phonetically [pʰ]). Both are to be found in *Zapf* /tsapf/.

### Nasal release

When a plosive is followed by a *homorganic* nasal, the closure is not released in the usual way. Instead, the soft palate lowers, which allows the airstream to pass out through the nasal cavity; this is termed *nasal release*.

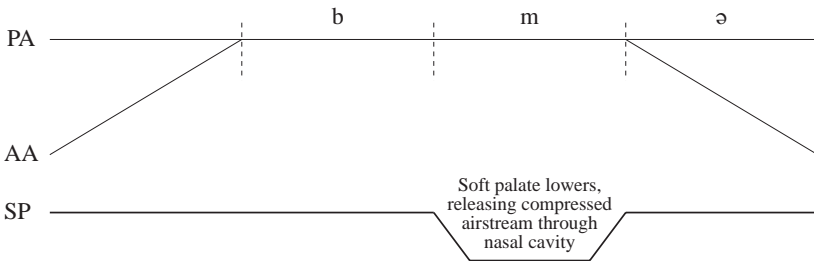


Figure 16.7 Nasal release in English *submarine* /sʌbmə'ri:n/.  
SP = position of soft palate.

English sequences involving a plosive followed by homorganic nasal are generally realised with nasal release in English, e.g. *stop me*, *submarine*, *fitness*, *Sydney*. Nasal release of /t, d/ is also heard in final /tn, dn/ leading into a syllabic nasal, e.g. *bitten* /'bɪtŋ/, *madden* /'mædŋ/. In more rapid speech, nasal release can be heard in cases when bilabials or velars precede /n/ and this will result in place assimilation, e.g. *open* /'əʊpŋ/, *ribbon* /'rɪbŋ/, *darken* /'dɑ:kŋ/. This last type need not be imitated by the learner.

Note that in all the examples of nasal release cited with fortis plosives, there may also be accompanying glottalisation, e.g. *stop me* [stɔ'p̚ mɪ], *fitness* [fɪ'tnəs̚]. Dutch has examples of nasal release of /pm, tn/ across syllable boundaries: *opmerken* /'ɔpmerkə/, *ontnemen* /ɔntnɛ:mə/, *het nummer* /ət 'nʉmər/. Some varieties of East and West Flanders and many dialects of the eastern Netherlands (e.g. Groningen) frequently show nasal release leading into syllabic nasals, e.g. *hopen* /'hɔ:pŋ/, *reden* /'re:dŋ/, *takken* /'takŋ/. This is not found in (NL) ABN or (B) AN, where /n/ in such cases is typically elided,

but if realised will have /ə/ without nasal release of the stop. In German, in such contexts, nasal release is the most common realisation, giving syllabic nasals (often with assimilation) e.g. *haben* /'ha:bəm/, *Zeiten* /'tsaitn̩/, *fliegen* /'fli:ɡ̃n̩/. Since /ŋ/ does not occur in syllable-initial position in Dutch, one does not find nasal release with sequences of velars. Note that the stops may sometimes be voiced as a result of assimilation, e.g. *opmerken* ['ɔbmɛrkə], *ontnemen* [ɔnd'nɛ:mə].

### *Lateral release*

Similarly, in English, /t/ and /d/ can have *lateral release*, i.e. the alveolar closure is released by lowering the sides of the tongue, as indicated in Fig. 16.8; e.g. *rattle*, *shortly*, *cuddle*, *cuddly*. Following /t/, there is initial devoicing of /l/ [ræt̚l̥], [ʃɔ:t̚l̥].

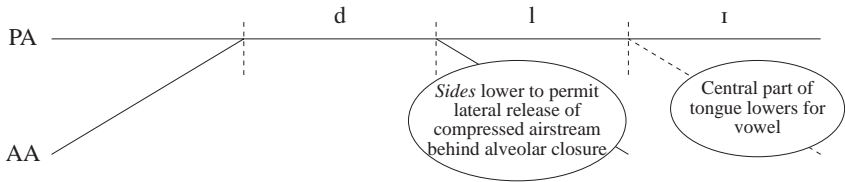


Figure 16.8 Lateral release in English *cuddly* /kʌdlɪ/.  
(A dotted line indicates an inaudible articulation.)

Lateral release in English often leads into syllabic laterals. In many accents, e.g. Cockney, an /ʊ/ or /ə/ vowel is inserted giving *cuddle* /'kʌdʊl, 'kʌdəl/. Perhaps because such articulations are also characteristic of children's speech, lack of lateral release may strike the older generation of RP speakers as 'childish'. However, possibly as a result of the spread of London influences in English, realisations without lateral release have become increasingly common, even among RP speakers (at least of the younger generation).

In Dutch, lateral release is also regularly heard, as in *atlas*. Note, however, that in English, /l/ is devoiced [l̥] following fortis /t/; whereas in Dutch, /l/ is not devoiced. In standard forms of Dutch, in words like *sleutel* /'slø:təl/, there is no lateral release.

### *Lateral escape*

A similar type of articulation is found in the sequences /kl, gl, pl, bl/, as in *prickle*, *prickly*, *struggle*, *struggling*, *grapple*, *grappling*, *bubble*, *bubbly*. However, this cannot strictly be regarded as the same as the process in /tl, dl/, since it does not merely involve the lowering of the sides of the tongue. Instead, the tongue position for a lateral approximant /l/ is taken up during the *hold stage* of the stop. On the release of the bilabial or velar clo-

sure, the compressed airstream escapes over the lowered sides of the tongue. This is diagrammed in Fig. 16.9.

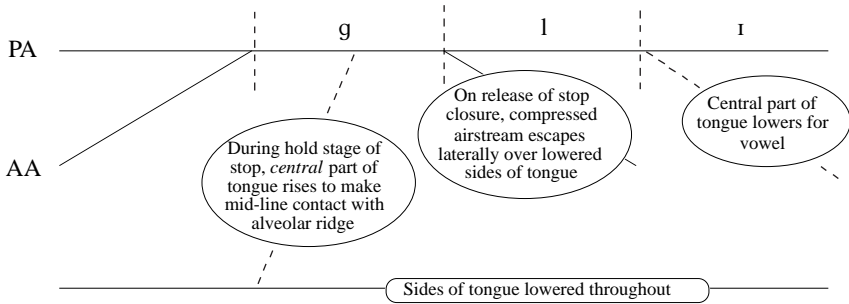


Figure 16.9 Lateral escape in English *struggling* /ˈstrʌɡlɪŋ/.  
(A dotted line indicates an inaudible articulation.)

As with lateral release, lateral escape occurs before syllabic laterals, and realisations such as \*/græpəl/ or \*/græpʊl/ sound ‘childish’ or dialectal, particularly to RP speakers of the older generation. Consequently, even though there is no danger of misunderstanding, Dutch learners aiming at an RP model should practise lateral escape and the typical devoicing of /l/ following /p, k/. See Exercise 2 on /l/ in Section 17.2, p. 172.

### *Nasal and lateral approach*

Sequences such as /nt/ or /nd/, as in *sent* or *send*, provide exemplifications of *nasal approach*. In this case, the articulators are already in the position for the alveolar stop and it is merely necessary for the soft palate to rise. A bilabial stop preceded by /m/, e.g. *I’m back*, *slump*, and a velar stop preceded by /ŋ/, e.g. *Frank*, *angry*, provide two more examples of nasal approach. The sequences /lt, ld/ exemplify lateral approach. In each case, the change from alveolar lateral to alveolar stop is effected by raising the sides of the tongue, e.g. *old salt*.

Dutch also has similar articulatory sequences, and nasal and lateral approach present no problem to the Dutch learner of English.

## 16.4 OVERLAPPING STOPS

Sequences such as /pt, pd, pk, bg, kt, gd, ptʃ, gdʒ/, where a plosive consonant is immediately followed by a stop, are termed *overlapping stops*. In such cases, the first stop has inaudible release,<sup>3</sup> represented phonetically by the

<sup>3</sup> In a sequence affricate/stop, the affricate will have full normal release, e.g. *sketchbook* [ˈsketʃbʊk], *lodge gate* [lɒdʒ ˈgeɪt].

diacritic [ː], e.g. *big deal* [bɪɡˈdi:l]. The second stop has an inaudible approach. The cluster /gd/ is illustrated in Fig. 16.10.

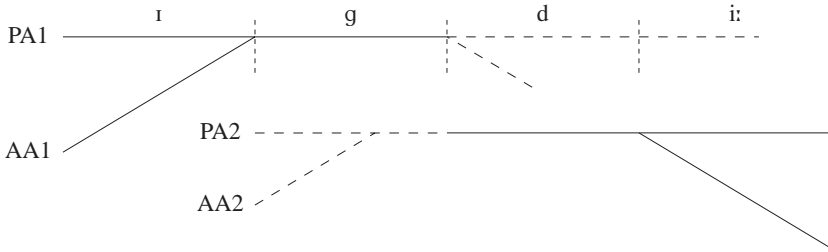


Figure 16.10 Overlapping stops in English *big deal*.  
 PA/AA1 Velar closure for /g/.  
 PA/AA2 Alveolar closure for /d/.  
 Dotted lines indicate inaudible articulations.

The articulation sequence is as follows:

1. The back of the tongue approaches the velum for /g/ and makes a firm closure.
2. The closure is maintained (giving hold stage of /g/).
3. The tip/blade rises to form a second closure at the alveolar ridge (inaudible).
4. The back of the tongue lowers, so releasing the velar closure (inaudible).
5. The tip/blade lowers from the alveolar ridge with audible plosion (release stage of /d/). Some examples of common words and phrases in English involving overlapping stops are: *white bread*, *clicked*, *object*, *facts*, *outgrow*, *practising*, *suspected*, *shocked*.<sup>4</sup> Note that generally in cases where a fortis stop is first in the sequence there will also be glottal reinforcement. See p. 153.

### EXERCISE 3

The examples listed above were taken from two pages of a novel. Do the same thing yourself. Underline all the examples of overlapping stops that you can find on a page of an English book.

In English, in a sequence of three stops, the central consonant lacks both audible approach and release stages. Such a stop is always alveolar and in the case of (voiceless) /t/ is realised merely by a period of silence. Stops in this context are often elided in anything other than careful speech, e.g. *shocked condition* /'ʃɒk kən'dɪʃn/, *shaped curiously* /'ʃeɪp 'kjʊəriəsli/, *scrubbed boards* /skrʌb 'bɔ:dz/ (see Section 20.7 on elision).

<sup>4</sup> Across word boundaries, as in *white bread*, realisations with audible release are also possible.



## 16.5 SEQUENCES OF HOMORGANIC STOPS

Sequences of homorganic stops (i.e. two stops made at the same place of articulation) result in a *single* but *prolonged* hold stage, with only one approach stage and one release stage. The effect is therefore of one longer stop rather than of two separate articulations. Fig. 16.11 illustrates the sequence /bb/ (phonetically [b:]) as in *rib-bone*.

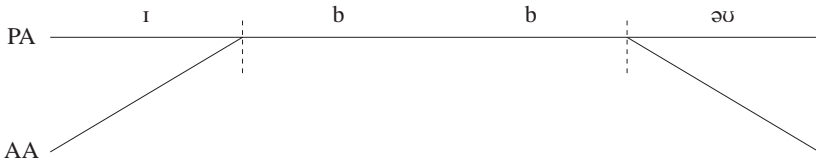


Figure 16.11 Prolonged hold stage for [b:] in English *rib-bone*.

Note: prolonged stops /pp, bb, dd/ etc. can be shown *phonetically* as [p:, b:, d:] etc. Further examples of homorganic stops are: *hip pockets, black comedy, hot tea, chipboard, punk group, hard times, old Dutch, drag queen*. Apart from the sequences just quoted, where a plosive precedes another plosive, a prolonged hold stage is also found in plosive/affricate sequences, e.g. *spot check, hard cheese, Sid James, short jacket, blood drip, should try*. Note that where there is an affricate/affricate sequence (e.g. *Dutch gin, Judge Jeffries*) or an affricate/plosive sequence (e.g. *such timing, huge temple*) the two stops retain all their stages.

Where there is an energy contrast in the sequence, the vocal folds either begin or cease vibrating during the hold stage. For *chipboard*, the voicing begins shortly before the release stage [tʃɪpˌbɔ:d]. In *hard times* [hɑ:d 'taɪmz], voicing ceases shortly after the approach stage.

Where the first of a sequence of homorganic stops is a fortis, this will be subject to glottal reinforcement. Since there is only one hold stage, this can be regarded as glottal replacement. See preceding sections on *glottal reinforcement* and *glottal replacement* (pp. 152-54).

Sequences of homorganic plosives are especially difficult for Dutch-speaking learners of English since Dutch generally reduces such sequences to a single plosive with neutralisation of the fortis/lenis contrast (where applicable) without prolongation of the hold stage, e.g. *rond ding* [rɔn 'dɪŋ], *boottocht* [bo:tɔxt]. See Section 19.2 on Dutch stops and Sections 20.8 and 20.9 on Dutch assimilation and elision.

## 16.6 STOP SYSTEMS IN ENGLISH AND DUTCH

Table 16.1 Systems in English and Dutch

|                | Bilabial | Alveolar | Post-alveolar | Palato-alveolar | Alveolo-palatal | Velar   | Glottal |
|----------------|----------|----------|---------------|-----------------|-----------------|---------|---------|
| <b>ENGLISH</b> | p b      | t d      | [t̠ d̠]       | tʃ dʒ           |                 | k g     | [ʔ]     |
| <b>DUTCH</b>   | p b      | t d      |               |                 | [tɕ]            | k ([g]) |         |

[ ] = frequent allophones

( ) = phoneme contrast marginal to the system

*Distribution*

The English phonemes /p, t, k, b, d, g, tʃ, dʒ/ occur in all positions.

The Dutch lenis stops /b, d, g/ do not occur in syllable-final position (except as the result of assimilation). The marginal /g/ occurs only in loanwords. See Section 19.5.

*Bilabial plosives /p, b/**Description*

The airstream is compressed behind a closure formed at the lips and then released with force. The fortis consonant /p/ is articulated more energetically than the lenis /b/. /b/ has potential voice.

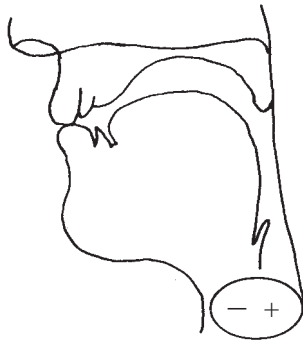


Figure 16.12 E /p, b/.

### Main allophonic variation

/p/. Fortis voiceless bilabial plosive; strongly aspirated [p<sup>h</sup>] when initial in stressed syllables, e.g. *park*. Slight aspiration may also be heard syllable-finally, e.g. *mop*. Generally, pre-glottalised [ʔp] when syllable-final before consonants, e.g. *top spin*. Unaspirated [p<sup>-</sup>] in clusters beginning with /s/, e.g. *spa*.

/b/. Lenis voiced bilabial plosive [b] if between voiced sounds, e.g. *labour*. Partially devoiced [b̥] in initial position, e.g. *buy*, and strongly devoiced [b̚] in final position, e.g. *knob*. /p, b/ are palatalised [pʲ, bʲ] before /j/, e.g. *pure, beautiful*; labio-dental [p̪, b̪] before /f, v/, e.g. *cupful, obvious*.<sup>5</sup>

### Alveolar plosives /t, d/

#### Description

The closure is formed by the tip/blade of the tongue against the alveolar ridge. /t/ is fortis with relatively energetic articulation; /d/ is lenis with weaker articulation and potential voice.

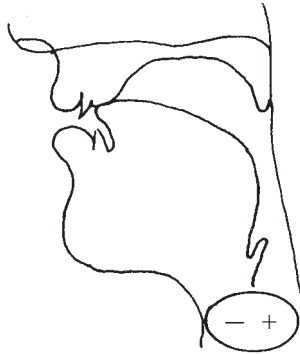


Figure 16.13 E /t, d/.

### Main allophonic variation

/t/. Fortis voiceless alveolar plosive. Strongly aspirated [t<sup>h</sup>], or with brief [s]-like off-glide (i.e. weak affrication [t<sup>s</sup>]), when initial in stressed syllables, e.g. *ten*. Slight aspiration may also be heard syllable-finally, e.g. *rat*. Generally pre-glottalised [ʔt] (or replaced by [ʔ]) when syllable-final before consonants, e.g. *hat trick*. Unaspirated [t<sup>-</sup>] in /s/ clusters, e.g. *star*.

<sup>5</sup> There is no recognised symbol for labio-dental plosives. We employ [p̪, b̪].

/d/. Lenis voiced alveolar plosive [d] if between voiced sounds, e.g. *rider*. Partially devoiced [d̥] in initial position, e.g. *do*, and strongly devoiced [d̚] in final position, e.g. *add*. /t, d/ may be labialised [tʷ, dʷ] especially before /w/, e.g. *twist*, *dwindle*; palatalised [tʲ, dʲ] before /j/, e.g. *tulip*, *duty*; dental [t̪, d̪] adjacent to dentals, e.g. *both teams*, *had them*.

The sequences /tj, dj/ are frequently reduced in colloquial speech (including RP) to /tʃ, dʒ/, so giving no contrast between words like *Jew* and *due*, *choose* and the first syllable of *Tuesday* (see p. 173). Before /r/, /t, d/ are realised as post-alveolar affricates [t̟, d̟], e.g. *try*, *dry*. The tip of the tongue forms a closure with the rear of the alveolar ridge. The compressed airstream is released relatively slowly, resulting in a period of homorganic friction. See Fig. 17.6.2 on /r/ for a diagram of the hold stage of [t̟, d̟]. The sequences /ts, dz/ are realised as alveolar affricates [ts, dz], e.g. *hats*, *lids*.

In present-day colloquial RP, intervocalic /t/ is frequently realised as a very brief tap [ɾ], e.g. *better*, *sort of*, *fanatic*, *bit of*. This realisation is particularly common in high-frequency words and expressions. The brevity of the tap serves to maintain the contrast with /d/. Unlike American English, there is no tendency in RP to reduce the contrast /t – d/ in pairs such as *rating/raiding*, *coating/coding*, *debtor/deader*, *whiter/wider*. See p. 165 for advice to the Dutch learner.

### Velar plosives /k, g/

#### Description

For /k, g/ the back of the tongue rises to form a closure against the velum. /k/ (fortis) has relatively energetic articulation; /g/ (lenis) has weaker articulation with potential voice.

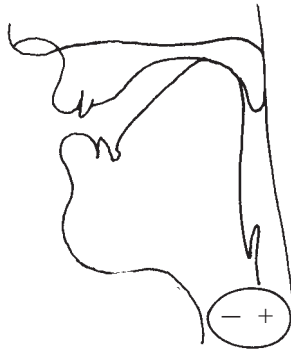


Figure 16.14 E /k, g/.

**Main allophonic variation**

*/k/*. Fortis voiceless velar plosive; strongly aspirated [k<sup>h</sup>] when initial in stressed syllables, e.g. *cat*. Slight aspiration may also be heard syllable-finally, e.g. *rock*. Generally pre-glottalised [ʔk] when syllable-final before consonants, e.g. *duck soup*. Unaspirated [k<sup>̰</sup>] in */s/* clusters, e.g. *skin*; palatalised [k<sup>i</sup>] before */j/*, e.g. *cute*.

*/g/*. Lenis voiced velar plosive [g] if between voiced sounds, e.g. *luggage*. Partially devoiced [g̚] in initial position, e.g. *gun*, and strongly devoiced [g̚] in final position, e.g. *dig*. The velar closure for */k, g/* is advanced [k<sup>+</sup>, g<sup>+</sup>] before front vowels, e.g. *keen, geese*; retracted [k<sup>-</sup>, g<sup>-</sup>] before back vowels, e.g. *caught, goose*; labialised [k<sup>w</sup>, g<sup>w</sup>], especially before */w/*, e.g. *quest, Gwent*.

**Palato-alveolar affricates /tʃ, dʒ/****Description**

A closure is formed between a large area of the tip, blade and the front of the tongue with the alveolar ridge and the front of the hard palate. The airstream is compressed behind this closure and released relatively slowly, giving rise to homorganic friction. E */tʃ, dʒ/* have strong trumpet-shaped outer lip-rounding, similar to that of */ʃ, ʒ/*. */tʃ/* is fortis and energetically articulated and */dʒ/* lenis with a weaker articulation and potential voice.

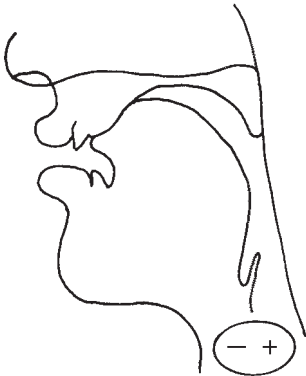


Figure 16.15.1 Affricates E */tʃ, dʒ/*, showing closure.

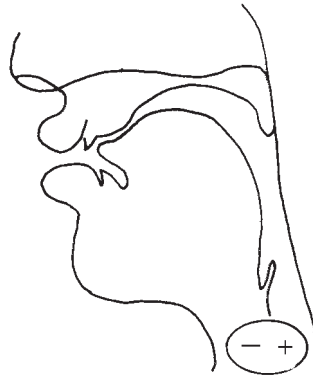


Figure 16.15.2 Affricates E */tʃ, dʒ/*, showing fricative release.

**Main allophonic variation**

*/tʃ/*. Fortis voiceless labialised palato-alveolar affricate [tʃ<sup>w</sup>]. May be pre-glottalised [ʔtʃ] when syllable-final, e.g. *touch*.

/dʒ/. Lenis voiced labialised palato-alveolar affricate [dʒ<sup>w</sup>] if between voiced sounds, e.g. *hedges*. Partially devoiced [d̥ʒ] in initial position, e.g. *gin*, and strongly devoiced [d̥ʒ] in final position, e.g. *badge*.

## 16.7 COMPARISON WITH DUTCH

### *Place of articulation*

/p, b/ and /k, g/ are similar in terms of place of articulation in Dutch and English.

E /t, d/ are articulated with the tip/blade of the tongue against the alveolar ridge. For D /t, d/ the articulation is formed by a larger area of the tongue, with the blade/front forming a closure against a large area of the alveolar ridge. Dutch lacks the typical [s]-like off-glide of E /t/.<sup>6</sup> See p. 161.

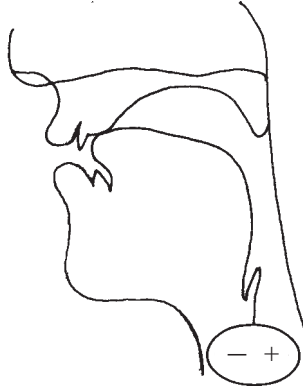


Figure 16.16 D /t, d/ (hold stage).

E /tʃ/ and E /dʒ/ are labialised palato-alveolar consonants. In Dutch, the sequences /tʃ, dʒ/ are alveolo-palatal, being formed somewhat further back than in English, frequently with less labialisation than in English and much less lip protrusion.

### *Energy contrast*

1. Dutch lenis stops do not occur word-finally.
2. Dutch fortis plosives do not have aspiration but have tenser articulation than their lenis counterparts.
3. Dutch syllable-final fortis stops do not have pre-glottalisation.

<sup>6</sup> Though this is heard in some dialects, e.g. Rotterdam, Leiden.

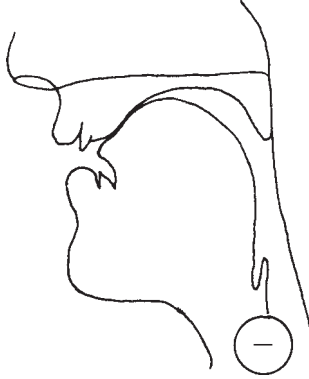


Figure 16.17 D /tj/ (hold stage).

### *Contact with other consonants*

1. In Dutch, sequences of homorganic stops are typically reduced to a single stop (without pre-glottalisation or prolonged hold stage), e.g. *bootdienst* /'bo:dinst/, *vakkennis* /'fakənɪs/, *rijsttafel* /'reɪsta:fəl/.
2. In connected speech, the fortis/lenis contrast is frequently neutralised (see Chapter 6 on fortis/lenis and 20.8 on assimilation).
3. /tr, dr/ in English are post-alveolar affricates. In Dutch, such sequences are formed from /t, d/ followed either by a uvular /r/ or by an alveolar tap or trill.

### *Advice*

The main difficulties arise from the fortis/lenis contrast, especially in syllable-final position. The following strategies are helpful:

1. Imitate vowel shortening before fortis and extension before lenis (see Section 6.2).
2. Use pre-glottalisation wherever possible for final fortis stops.
3. Avoid loss of lenis/fortis contrast as a result of assimilation.
4. Dutch learners (particularly the less proficient) often realise intervocalic E /t/, and E /t/ before syllabic /l/ and /ŋ/, as /d/, e.g. \*/'bedə, 'sɔ:dəv, 'prɪdɪ, 'lɪdəl, 'kɔdən/ for *better, sort of, pretty, little, cotton*. This is probably owing to interpreting the English tap allophone of /t/ as /d/; though it may also be the result of American influence. Note that, as stated above (p. 162), in RP, the contrast between /t/ and /d/ is clearly maintained in such contexts, and not neutralised, as in American English and English dialects.
5. Learners should adopt a more relaxed articulation in order to obtain the aspiration characteristic of English plosives. Avoid a strong [h]-like puff, as

recommended in certain old-fashioned textbooks; this sounds forced and unnatural.

#### EXERCISE 4

Use your mirror. Say Dutch *Piet*. Watch the closure for /p/. The lips are pressed together firmly. Feel the muscular tension. Now relax the lips, keeping the force of the airstream going. This will give you a sound closer to the E /p/ in *Pete*. Notice that the closure is much less firm than for Dutch. The lips hardly touch each other. It is almost as if you are saying a bilabial fricative [ɸ] for which there is no closure, but only a narrowing of the lips.

It is important to practise the laxer articulation characteristic of the English stops, and concentrate on this as well as aspiration.<sup>7</sup> Note that Dutch fortis stops may have aspiration when they occur word-finally. Compare the two /t/ articulations in Dutch *tot*; the first is tense and unaspirated, but the second is laxer and has slight aspiration in the release.

#### EXERCISE 5

Try imitating English initial fortis stops and making them less tense by starting from Dutch word-final /p, t, k/: D *lak* [lak<sup>h</sup>] → E *luck* [lʌk<sup>h</sup>] → E *key* [k<sup>h</sup>i:]; D *zit* [zit<sup>h</sup>] → E *sit* [sit<sup>h</sup>] → E *tea* [t<sup>h</sup>i:].

6. Some Dutch speakers have difficulty with E /tʃ, dʒ/. Mostly these articulations will be considerably improved if students imitate the outer lip-rounding characteristic of the English sounds.
7. Beginners and less proficient learners in the Netherlands often use D /ts/ and /tʃ/ for final E /t/ and /dʒ/, e.g. *hitch* \*/hɪts, hɪtʃ/, *edge* \*/ets, ɛtʃ/; cf. the pronunciation of Dutch loanwords such as *match* /mets, mɛtʃ/. This is not typically a problem for Belgians.
8. Learners should make a conscious effort to use the tongue-tip in the articulation of E /t, d/. (See Chapter 21 on setting.)
9. Practise nasal and lateral release into syllabic /ŋ, l/.
10. Beginners may have difficulty with /g/ and /dʒ/ in all positions since these sounds do not occur in Dutch. They are not typically a persistent problem.

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<sup>7</sup> A number of English dialects lack aspiration in /p, t, k/. However, because of the lack of a very firm closure, such articulations do not sound exactly the same as /p, t, k/ in Dutch.



## ENGLISH NASAL AND APPROXIMANT CONSONANTS

### 17.1 NASALS

*Table 17.1 Systems in English and Dutch*

|                | Bilabial | Alveolar | Alveolo-palatal | Velar |
|----------------|----------|----------|-----------------|-------|
| <b>ENGLISH</b> | m        | n        |                 | ŋ     |
| <b>DUTCH</b>   | m        | n        | [ɲ]             | ŋ     |

[ ] Frequent allophone

*Bilabial, alveolar and velar nasals /m, n, ŋ/*

#### *Description*

In all three cases, the place and manner of articulation is similar to that of the corresponding stops /b, d, g/. However, the soft palate is lowered, adding the resonance of the nasal cavity. The vocal folds vibrate throughout. In initial and final position, there is none of the devoicing characteristic of the fricatives and stops, cf. *rag – rang* [ræŋ – ræŋ].

#### *Distribution*

English and Dutch /ŋ/ occur only syllable-finally following checked vowels.

#### *Main allophonic variation*

/m, n/. Following /s/ in initial clusters, /m, n/ are partially devoiced [m̥, n̥], e.g. *smack* [sm̥æk], *snack* [sn̥æk]. Before /j/, e.g. *mule, new*, /m, n/ are palatalised [mʲ, nʲ]. This may also occur before /ɪə/, e.g. *mere, near*. Before labio-dental /f, v/, both /m/ and /n/ may be realised as a labio-dental nasal [ɱ], e.g. *gin fizz, symphony*. Note that, despite the spelling, the consonant clusters in *symphony* and *sinfonia* are normally pronounced identically.

/n/ shows place variation typical of alveolars: dental [n̪] before and following dentals, e.g. *menthol, heathen, ethnic, bathnight, on that*; palato-alveolar [n̠] before /tʃ, dʒ, ʃ, ʒ/, e.g. *bench, fringe, insure*.

/ŋ/ shows place variation typical of velars: advanced [ŋ̟] after front vowels and retracted [ŋ̠] after velars, e.g. *King Kong* [kɪŋ̟ kɒŋ̠].

### *Nasalisation*

The soft palate anticipates the action of the other articulators. Consequently, there is a tendency for vowels to be somewhat nasalised preceding nasals, e.g. *lamb* [læ̃m], *barn* [bɑ̃:n], *wrong* [rɔ̃ŋ]. This tendency can be much stronger in varieties of English other than RP, e.g. most American English.

### *Comparison with Dutch and advice*

The nasal consonants in Dutch and English show more similarity than most other areas of the sound systems, and problems are few. One noticeable difference, however, is that, particularly for Netherlands speakers, /n/ has pharyngealisation similar to that described on p. 170 for Dutch /l/; consequently, D /n/ also has a lowering effect on front vowels (see p. 92) and this may cause problems for learners, particularly with the contrast /e – æ/ (e.g. making *send* sound like *sand*); see Chapter 21.

Compared with RP English, (NL) ABN has somewhat more obvious nasalisation. This effect is even more noticeable in (B) AN, whilst in non-standard varieties of Dutch, the phenomenon is yet more prominent. Consequently, difficulties are likely to arise from excessive nasalisation preceding vowels. This is especially the case with open vowels. Many Dutch speakers elide /n/ completely in words like *vakantie* [fa'kɑ̃si] and then transfer such realisations to English, e.g. *dance* \*[dɑ̃:s]. (See also p. 71.)

Nasal release of /t, d/ may provide problems for Dutch students, particularly into syllabic consonants. Dutch learners tend to insert /ə/ between stop and nasal, e.g. *rotten* \*/'rɔtən/, *wouldn't* \*/'wudənt/, which may sound 'childish' or dialectal — at least to RP speakers of the older generation.

## 17.2 APPROXIMANTS

### *Lateral (approximant)*

#### *Description*

The tip and blade of the tongue form a central closure with the alveolar ridge, while the sides of the tongue remain lowered. The airstream escapes over the lowered sides.

#### *Main allophonic variation*

Clear [l] occurs before vowels and /j/, e.g. *leaf*. The tongue shape is slightly palatalised, so that the upper surface is convex. This gives a close front vowel [i]-type resonance to the lateral articulation. The palatalisation is strongest before /j/, as in *billiards* ['bɪljədz], *medallion* [mə'dæljən], *million* ['mɪljən].

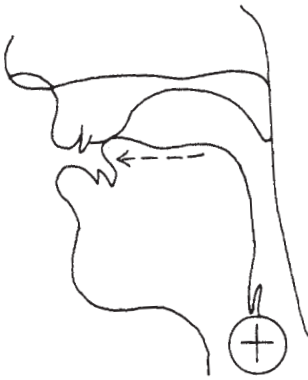


Figure 17.1.1 English dark [ɫ].

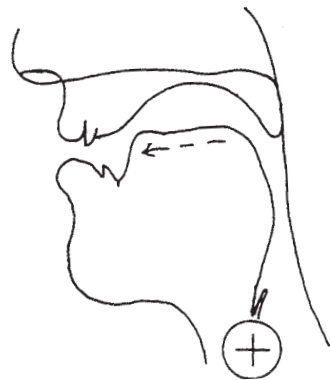


Figure 17.1.2 Dutch dark [ɫ], with absence of alveolar contact.

Dark [ɫ] occurs before consonants and pause. The articulation is slightly velarised, i.e. the tongue has a concave shape with the back raised towards the velum, giving a back-central vowel [ʊ]-type resonance, *sell* [seɫ], *silk* [sɪɫ]. Dark [ɫ] is often a syllable bearer, when it will be of longer duration [ɫ:], e.g. *bottle* /'bɒtɫ/ ['bɒtɫ:]. Some younger RP speakers, especially those brought up in London and the South East, nowadays have a more vocalic dark [ɫ], often with loss of alveolar contact. Nevertheless, many mainstream RP speakers still tend to stigmatise this feature, regarding it as substandard.

Voiceless fricative [ɬ] occurs in initial clusters following /p, k/<sup>1</sup> in a stressed syllable and corresponds to the aspiration of the fortis plosives found in other contexts, e.g. *please*, *clean*. Some devoicing may also be heard following fortis fricatives, e.g. *flat*, *slip*. Similar devoicing and slight friction is found in syllabic /l/, e.g. *sparkle*, *ripple*, *metal*.

Adjacent to nasals, /l/ is nasalised [l̃], e.g. *signalman* ['sɪgnɫ̃mən]. Before rounded vowels and /w/, /l/ is labialised [lʷ], e.g. *law*, *railway*. Before and after dentals, /l/ is dental [l̪], e.g. *filthy*, *breathless*.

The allophonic distribution of clear and dark /l/ quoted above is true of RP; other types of English show different patterns, e.g. most Welsh and many Irish accents have clear [l] in all contexts, and many Scottish and American varieties only have dark [ɫ]. See Chapter 27 on accent variation.

<sup>1</sup> The cluster /tɬ/ does not occur in initial position.

### Effect of dark [ɫ] on preceding vowels

Dark [ɫ] has a significant phonetic conditioning effect on preceding front vowels, which are centralised and lowered in this context. This is indicated in Figs 17.2.1 and 17.2.2.

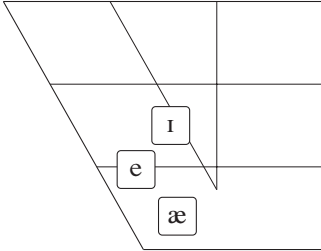


Figure 17.2.1 English front vowels centralised before dark [ɫ]: /ɪ/ in *still*, /e/ in *tell*, /æ/ in *balcony*.

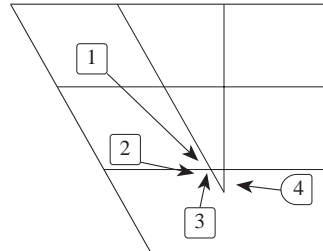


Figure 17.2.2 English diphthongs before dark [ɫ]: /i:/ in *meal*, /eɪ/ in *male*, /aɪ/ in *mile*, /ɔɪ/ in *oil*.

Before dark [ɫ], the fronting glides in FACE, PRICE, CHOICE, have the terminal [ɪ]-element obscured or [ə]-like, e.g. *ale* [ɛəɫ], *mile* [maəɫ], *oil* [ɔəɫ]. In /i:/, there is usually a centring glide, so that for many speakers there is no contrast with /ɪəl/, e.g. *reel* – *real*.<sup>2</sup>

### Comparison with Dutch and advice

The distribution of clear [l] and dark [ɫ] in both (NL) ABN and (B) AN is similar to RP English, although for many Netherlands Dutch speakers, intervocalic /l/ may be dark (e.g. *alleen* [ɑːɫeːn]). Many non-standard varieties in the Netherlands (e.g. Rotterdam, Amsterdam) have dark [ɫ] in all contexts, including initial position. A few accents, e.g. Nijmegen, have clear [l] throughout. This is also the case with certain Flemish varieties.

Articulation of clear [l] is similar in Dutch and English. Dutch /l/ is not devoiced following fortis plosives, compare E *plan* – D *plan* [pʲæn – plan] and E *class* – D *klas* [kʲɑːs – klas].

Netherlands Dutch dark [ɫ] has significant differences from its English counterpart:

1. There is pharyngealisation rather than velarisation with a noticeable retraction of the tongue-root towards the pharynx wall. Note that Belgian dark [ɫ], which is typically post-palatalised or velarised without apparent tongue-root retraction, strikes an English ear as being far more acceptable (see Chapter 21 on setting).

<sup>2</sup> Many English native speakers seem unsure of how to transcribe *feel*, i.e. as /fi:l/ or /fiəl/. Thus the effect of dark [ɫ] can be to neutralise the FLEECE – NEAR contrast.

2. There is often no contact between the tongue and the alveolar ridge, so that the articulation takes on the character of a back vowel.

In both (NL) ABN and (B) AN, the sequences /f, lp, lm, lk, lx/ often exhibit /ə/-insertion,<sup>3</sup> e.g. *help* /'hɛləp/, *melk* /'mɛlək/, *film* /'fɪləm/. See Section 19.4. This effect is even more noticeable in non-standard varieties.

/ə/-insertion occurs only in a few English dialects (e.g. types of Scottish, Irish, Lancashire). In other varieties, it is completely unacceptable and sounds comic to the overwhelming majority of native English speakers. The error is common with beginners but can usually be easily corrected once attention is drawn to it.

The advice below is directed mainly to Netherlands learners and those Belgian students who feel they have an inappropriate dark [ɫ] for English.

1. Articulate a dark [ɫ] which is less strongly pharyngealised. It sometimes helps if learners think of the German or French clear [l] as a step towards imitating the slightly velarised English quality.

2. Maintain tongue-tip contact for E dark [ɫ]. This is particularly important after back vowels and /ʌ/, e.g. *hall*, *hold*, *doll*, *full*, *fool*, *dull*, where especially Netherlands speakers tend to produce a back vowel-like sound for /l/. This may, to an English ear, sound as if /l/ has been elided. This feature of E /l/ can be approached as part of the general problem of setting. See Chapter 21.

3. Be careful of vowel quality before dark [ɫ]. Dutch speakers tend to produce too open a quality for front vowels, especially /e/, so that E *help* sounds like \*[hælp].

Many Dutch learners are very uncertain of the distribution of E /ɒ, ɔ:, əʊ, ɑ:/ before /l/. Some guidelines appear in Chapter 18 on spelling/sound relationships.

4. Practise clear /l/ between vowels and before /j/.



#### EXERCISE 1

Say *ballet*, *jelly*, *mellow*, *hilly*, *falling*, *jolly*, *television*, making sure that /l/ is clear between vowels. Now try making /l/ clear before /j/, e.g. *million*, *billion*, *billiards*, *value*, *valiant*, *Elliot*, *brilliant*, *resilient*.

Errors involving /l/ are very common even with quite proficient speakers. Note that most of the advice given in many general books on English pronunciation (i.e. those not intended for Dutch learners) is of no value, since it is normally directed at those who lack a dark [ɫ] in their mother tongue (e.g. French, German, Italian) and aims at making the /l/ darker. This is the reverse of what most Dutch speakers have to do.

Most (B) AN speakers and many who speak non-standard varieties will already be producing types of /l/ which transfer well into English. These, consequently, need no adjustment.

<sup>3</sup> This effect is called *svarabhakti* by some writers, a term taken from the classical Indian language, Sanskrit, where a similar /ə/-insertion existed.

All Dutch speakers — both Netherlands and Belgian — can benefit from the following advice:

1. Practise lateral release/escape, with syllabic /l/, concentrating on the slight devoicing following /p, k, t/.



### EXERCISE 2

Say the following words with lateral release/escape (and devoicing of /l/, where appropriate):

|        |         |          |        |
|--------|---------|----------|--------|
| bottle | buckle  | tickle   | haggle |
| rattle | couple  | tackle   | waggle |
| apple  | little  | middle   | wiggle |
| ripple | riddle  | struggle | muddle |
| metal  | pickle  | bubble   | babble |
| cattle | cripple | trouble  | table  |

2. Avoid /ə/-insertion in sequences /lf, lp, lm, lk/.



### EXERCISE 3

Practise the following, avoiding /ə/-insertion: *help, film, silk, gulf, gulp, bulk, wolf, talc, self, milk, shelf, helm, shelve, whelk, wolves, realm*.

## Palatal approximant /j/

### Description

The palatal approximant /j/, which occurs only pre-vocally, is a rapid vowel-like glide on to a vowel of longer duration. The tongue movement is from a fairly close front vowel to a more open vowel. The tongue is raised towards the hard palate, to approximately the position for an [i] or [ɪ]-type vowel. If /j/ is followed by a close vowel such as /i/, it will have a closer starting-point than if it is followed by an open vowel such as /ɒ/. Because of its similarity to vowel sounds, /j/ (like /w/) can be indicated on a vowel diagram (see Fig. 17.3.1).

### EXERCISE 4

Say a prolonged D /i/. Now say a long Dutch /o:/. Move back to /i/. Repeat this a number of times: /i o: i o: i o: i o:/. Shorten the /i/ vowel [i̠] and you will find yourself saying *jojo*.

Note that the glide for /j/ on to a following vowel is crescendo, i.e. the second element is more prominent than the first, e.g. *yes* [ɪes].

### Allophonic variation

1. In syllable-initial clusters following /p, t, k/, /j/ is devoiced and fricative [j̥], e.g. *putrid, tutor, cute*. It may be realised as a completely voiceless palatal fricative [ç] similar to the German *ich-Laut*. In the case of /t/, the friction is usually pre-palatal [ç̟]. Although the /t/ is palatalised [t̟], it remains an alveo-

lar articulation rather than becoming an alveolo-palatal affricate, as is the case with the Dutch sequence /tj/ (see below).

2. The sequence /hj/ in *huge*, *human*, is frequently realised as a weak palatal fricative [ç], e.g. *huge* /hju:dʒ/ [çu:dʒ].

3. The sequences /tj, dj/ are often realised as the corresponding palato-alveolar affricates /tʃ, dʒ/. This is by far the most common form within the word (e.g. *educated* /'edʒʊkeɪtɪd/), and also occurs in assimilated forms involving *you*, *your*, e.g. *won't you* /'wʌntʃu:/, *couldn't you* /'kʊdntʃu:/, *did you hurt yourself* /dɪdʒu: 'hɜ:tʃɔ:'self/. It is also frequently heard in stressed syllables, e.g. *tune* /tʃu:n/, *dune* /dʒu:n/; however, these forms are not always accepted by older-generation RP speakers and may be stigmatised by some as 'lazy speech'.

### *Comparison with Dutch and advice*

D /j/ is similar to the English sound, but is often realised with friction, thus giving a voiced palatal fricative [j]. Like E /j/, D /j/ occurs only pre-vocally. Because of the similarities of E /j/ and D /j/, there are few significant problems for the learner. In forms such as *won't you*, *couldn't you*, *could you*, the Dutch error is replacement with alveolo-palatal D [tʃ] or even [ç]. See p. 215 and p. 218.

Many speakers find initial /hj/ a problem. Note that in words like *huge*, *human*, pronunciations like \*/ju:dʒ, 'ju:mən/ are not acceptable in RP or, indeed, most varieties of British English. Notwithstanding that they may be heard in some educated American English, they should be avoided by the learner with a British model.

For speakers of (NL) ABN and most varieties of Netherlands Dutch, /hj/ is probably best approached as a voiceless palatal fricative [ç], which occurs as an allophone of /j/ for many Dutch speakers, e.g. in *beetje* ['be:çə]. For speakers of Belgian varieties (including AN), the palatal fricative allophone of /x/ to be heard in *vliegje* can be used as a starting-point.

### *Labial-velar approximant /w/*

Like /j/, /w/ is a crescendo glide on to another vowel of greater prominence. The tongue movement is from an [u] or [ʊ]-like vowel accompanied by strong lip-rounding. /w/ can be considered a type of *double articulation*, i.e. a combination of two strictures of equal rank; in this case, labial and velar open approximations. See Section 7.3 on secondary articulation. Note that because of the lip-rounding of /w/, consonants preceding /w/ are strongly labialised, e.g. *dwelling* [d<sup>w</sup>welɪŋ], *twelve* [t<sup>w</sup>welv], *inquest* [ɪŋ<sup>w</sup>kwɛst], *Gwent* [g<sup>w</sup>went], *switch* [s<sup>w</sup>wɪtʃ].

Because of its similarity to vowel sounds, /w/ (like /j/) can be indicated on a vowel diagram (see Fig. 17.3.1).

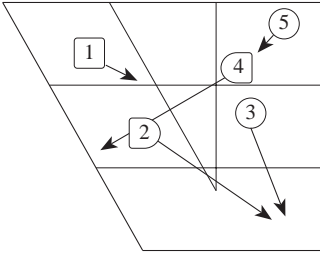


Figure 17.3.1 E /w/ and E /j/:  
 (1) /j/ in *Yiddish*  
 (2) /jɔ/ in *yacht*  
 (3) /wɔ/ in *what*  
 (4) /we/ in *wet*  
 (5) /wu:/ in *woo*

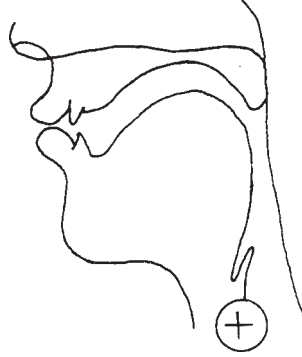


Figure 17.3.2 E /w/. Note the rounded lips

### Main allophonic variation

Like /j/, the starting-point of /w/ varies according to the degree of openness of the following vowel. Before a close vowel as in *woo* /wu:/ the starting-point will be closer than before an open vowel as in *what* /wɔt/.

Following the fortis plosives /t, k/, /w/ is partially devoiced [w̥], e.g. *in-quest*. In initial clusters with /t, k/ in *stressed* syllables, there may be complete devoicing, and /w/ will be realised as a voiceless labial-velar fricative [ɰ]. Note that the friction is only at the lips and not velar,<sup>4</sup> e.g. *inquiry* [ɪŋ'k<sup>w</sup>maɪəri], *between* [brɪ<sup>w</sup>mi:n], *quick* [k<sup>w</sup>ɪk], *twelve* [t<sup>w</sup>ɛlv]. Labialisation begins in the preceding consonant.

Some speakers have an additional phoneme contrast, with /ɰ/ used in all words beginning **wh**, e.g. *where* – *wear* /ɰɛə – wɛə/. This is sometimes prescribed as ‘correct’ speech, although few RP speakers make this contrast naturally. This extra contrast is also found in some educated American English and is heard almost invariably in Scottish and Irish English.

### Comparison with Dutch and advice

Different advice is required for Netherlands, as opposed to Belgian, learners. For the former, the typical (NL) ABN substitution is D /v/, as in *waar*, which is classed as a labio-dental approximant, but is typically articulated with friction (see Section 19.4 on Dutch consonants). The lips are unrounded for the Dutch sound, and there is a slight retracting movement of the lower lip in relation to the upper teeth. In connected speech, the overall effect is far closer to E /v/ than to E /w/. One case where Netherlands Dutch has an articulation

<sup>4</sup> The sound would be more precisely termed a velarised bilabial fricative, but we have accepted here the description of the IPA.



similar to E /w/ is following /au/ in words like *trouwe*, *lauwe* (and also often in *oude* and *koude*), where one can hear a glide similar to E /w/, e.g. *kauwen* ['kauwə], *oude* ['auwə].



Figure 17.4.1 D /v/. Approximation of lower lip and upper front teeth. Lower lip may move as indicated by arrow.



Figure 17.4.2 E /v/. Light contact between lower lip and upper teeth producing labio-dental friction.

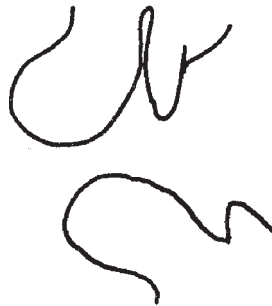


Figure 17.5 E /w/. Note marked lip-rounding and protrusion.

E /w/ therefore presents a major problem for most Netherlands Dutch learners,<sup>5</sup> both in terms of articulation and in confusion of the E /w – v/ contrast. D /v/ is very different from E /w/, and would in fact be better as a basis for E /v/. For most learners, it is necessary to forget D /v/ completely when tackling the E /w/ sound.

Some speakers can approach E /w/ from D/w/, in *kauwen*. For others, the best way to approach E /w/ is to think of it as a brief [u] vowel. This ensures that you obtain the essential lip-rounding and the correct tongue position.

<sup>5</sup> Some varieties of Netherlands Dutch also possess a bilabial fricative or approximant [β, β̥] for Dutch /v/. This is common in, for example Noord-Brabant, Limburg and Zeeland. A labial-velar approximant [w] is heard from Surinamese Dutch speakers (see p. 199).

Begin with D /u/ as in *zoet*. Say this as a brief onset to the following vowel, gradually speeding up until an E /w/-like effect is achieved.



#### EXERCISE 5

Say:

|        |   |        |       |             |
|--------|---|--------|-------|-------------|
| [u et] | → | [uwet] | /wet/ | <i>wet</i>  |
| [u ik] | → | [uwik] | /wik/ | <i>wick</i> |
| [u ɔ:] | → | [uwɔ:] | /wɔ:/ | <i>war</i>  |
| [u ɒt] | → | [uwɒt] | /wɒt/ | <i>what</i> |

Now try the same with other words: *week, wit, why, way, where, woman*.

If you still have trouble with the lip-rounding, then try the lip shape for a kiss, or a whistle, when imitating the English sound.

Belgian /v/, being typically a bilabial consonant rather than labio-dental (see Section 19.4), provides a much better basis for the English sound. However, the Belgian tongue position is post-palatal, whereas that of English is velar, and hence there may be a need for some modification. In addition, E /w/ requires more lip-rounding; any hint of labial friction should be avoided. As with Netherlands Dutch speakers, it may be useful for Belgians to emphasise the vowel-like nature of E /w/.

If /w/ comes before a vowel which is lip-spread (especially one where lip-spreading is desirable, e.g. E /ɜ:/ or E /ʌ/) it is even more important to retain the lip-rounding on E /w/ than the lip-spread position for the vowel. Lack of lip-rounding on /w/ will blur the phoneme contrast with E /v/; lip-rounding on /ɜ:/, /ʌ/ is indeed undesirable, but there is no danger of losing any phoneme contrast.



#### EXERCISE 6

Say these words, maintaining the lip-rounding for /w/, and lip-spreading for the vowel: /ɜ:/ *world, worst, work, worm, word, worth, swerve, whirl, twirl, Wordsworth*. /ʌ/ in *one, won* (both /wʌn/), *wonderful, wondrous, once*.

Following /t, k/ in initial clusters, D /v/ is strongly fricative and often devoiced, e.g. *kwis* [kʷɪs], *twee* [tʷe:]. As a result, following /t, k/ and sometimes /s/, the sound produced by learners (particularly those from the Netherlands) often gives English listeners the impression of a kind of [f]. It is essential to introduce the lip-rounding into the consonant in these cases and also in the few words where /d/ or /g/ precedes /w/.



#### EXERCISE 7

Say the following words, looking in a mirror to ensure that the consonant preceding /w/ is lip-rounded: *twice, twist, twelve, between, twirl, dwelling, dwarf, dwindle, quite, queen, quaint, inquest, quarter, Gwent, switch, swipe, swear, swerve, swore*.

### *Post-alveolar approximant /ɹ/*

#### *Description*

The tip of the tongue moves towards the rear of the alveolar ridge, producing a stricture of open approximation. The main body of the tongue has lateral

bunching, i.e. the sides are expanded and raised so as to come into close contact with the back teeth and the rear edges of the palate. Though /r/ is classed as a post-alveolar approximant, the lateral bunching is certainly at least as important as the tongue-tip movement. Most speakers have noticeable lip-rounding and protrusion, giving labialised [r<sup>w</sup>].

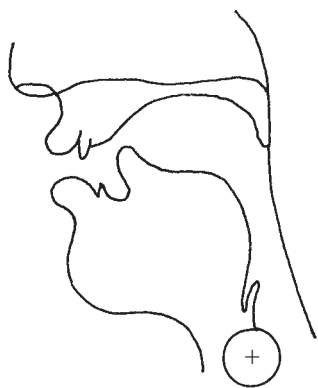


Figure 17.6.1 E /r/.

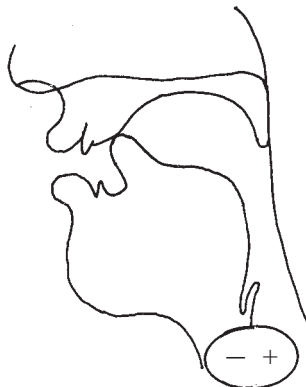


Figure 17.6.2 English post-alveolar affricates /tr, dr/: [t̚, d̚] (hold stage).

### *Main allophonic variation*

#### **1) *Idiolectal***

Some speakers have little or no lip-rounding except before rounded vowels. As traditionally described, one significant variant of E /r/ was an alveolar tap [ɾ], particularly in intervocalic position after checked vowels, e.g. *ferry*, *sorry*, *worry*, *very*. Today, tap [ɾ] is heard only from a few older-generation RP speakers although it is still taught by speech trainers and is often used on the stage.<sup>6</sup> It is also found in several regional accents (notably Liverpool and many Scottish, Irish and Welsh varieties).

#### **2) *Contextual***

The initial clusters /tr/ and /dr/ (*trip*, *drip*) are realised as post-alveolar affricates, [t̚], [d̚]. See Section 16.3 on stops.

In initial clusters, in stressed syllables, a completely voiceless post-alveolar fricative [ʃ̚] is realised following fortis plosives /p, k/, e.g. *appropriate*,

<sup>6</sup> Certain American books give the false impression that tap [ɾ] is still the RP norm.

*press*. In the sequence /pr/, bilabial friction may be heard. In the clusters /spr, str, skr/, there is no friction, but there may be devoicing: *spread, stretch, scratch*. A partly devoiced post-alveolar fricative [ɹ̥] is found in unstressed syllables and after fricatives: *Fred, empress, thread, shred*.

### **Distribution**

Accents of English can be divided into two groups according to their /r/ distribution.

In what are termed **rhotic** accents, the /r/ is pronounced in all contexts. Such dialects comprise the majority of American English varieties — taking in the prestige accent, General American, and Canadian — Scots, Irish, Caribbean, and many regional accents spoken in the west of England. In **non-rhotic** dialects, /r/ is never pronounced before a consonant or pause. These varieties include most of those in England and Wales; American English spoken in the southern and eastern States,<sup>7</sup> Australian, South African and most New Zealand. Note that in non-rhotic varieties, /r/ is typically pronounced across word boundaries, e.g.

*tar* /tɑː/  
*tar and feather* /tɑː r ən 'feðə/  
*mother* /'mʌðə/  
*mother-in-law* /'mʌðə r ɪn lɔː/

This is termed **linking-r**. With most speakers of non-rhotic English, it is also possible to hear linking-r when there is no **r** in the spelling. This is termed **intrusive-r**.

*the idea of it* /ðiː aɪdɪə r əv ɪt/  
*the data in the report* /ðə 'deɪtə r ɪn ðə rɪ'pɔːt/  
*I saw Emma yesterday* /aɪ 'sɔː r 'emə 'jestədeɪ/  
*Majorca in the spring* /mə'ʃɔːkə r ɪn ðə 'sprɪŋ/  
*the Shah of Iran* /ðə 'ʃɑː r əv ɪ'rɑːn/

Intrusive-r is heard after the vowels /ɑː, ɔː, ə/ and the diphthongs terminating in /ə/.<sup>8</sup> Quite a number of native speakers are aware of the existence of intrusive-r and many of these make a conscious effort to avoid it (especially after /ɑː/ and /ɔː/). It is often thought of by English people as 'lazy' or 'uneducated' speech. Nevertheless, it is a regular feature of RP, and is also heard from the overwhelming majority of those who use a non-rhotic dialect variety of Eng-

<sup>7</sup> English as spoken by most black Americans, from all areas of the USA, is non-rhotic.

<sup>8</sup> /ə/ is always spelt with **r** (except possibly in the word *yeah* as a form of *yes*). Final /ɜː/ virtually always has **r** in the spelling (one exception is *milieu* /'miːliːjʊː/). The open checked vowels do not occur in word-final position.

lish. Many native speakers will insert a glottal stop in examples like those given above, in a conscious effort to avoid producing an /r/-link. Since intrusive-r often provokes a strong reaction from English speakers themselves, it is far better for the learner not to imitate it (see below).

The tendency to produce this **r-liaison** is so strong in non-rhotic English speakers that it is possible to hear it transferred to their attempts at other languages, e.g. Spanish: *Viva r España*, French *à r Orly*, Dutch *een nieuwe r auto*, *een prima r idee*, *zeve r appels*.

An interesting counterpart to English linking-r is the use of **linking-n** in Dutch, e.g. *midden – midden* in /ˈmɪdə – mɪdə n m/. **Intrusive-n** also occurs, e.g. *red je 't?* /rɛt jə n ət/.

### *Comparison with Dutch and advice*

The articulation of D /r/ is described in detail in Section 19.4, pp. 199-201. Those Dutch speakers who habitually produce some type of *tong-r* generally have little trouble with the articulation of the English sound. A weak alveolar tap of the kind Dutch speakers often have is usually acceptable for English, though the stronger taps used in Zeeland and in many types of Belgian Dutch may have to be weakened.

Most Dutch learners who have a type of *huig-r* also have little difficulty. Often such speakers have a pre-velar approximant before consonants and in word-final position. This allophone, especially if lip-rounding is added, can be used to produce an adequate pre-vocalic /r/ for English. A minority of speakers have a very strong, scrapy uvular fricative [ɣ] (sometimes termed 'brouwende r'). This is unpleasant to English ears and may need a great deal of training to correct. It is especially common in Gelderland, Noord-Brabant, Limburg, but may also be heard in The Hague, parts of Belgium, and from speakers of affected types of ABN.

### **Articulation**

It can be seen that although the articulation of D /r/ is so variable, and D /r/ is markedly different from E /r/, nevertheless only a minority of Dutch speakers produce an /r/ which is totally unacceptable for English. It is for this group of people that this section is intended.

It is important to forget your own uvular articulation of D /r/ and approach E /r/ as a totally new sound. It is essential to work systematically on changing to a more front articulation. In producing E /r/, it may help to adopt the lip-rounding which is commonly found with English speakers (taking care, of course, not to exaggerate this so as to produce [w]).

#### **EXERCISE 8**

Some speakers may be able to approach E /r/ from the /tr, dr/ affricates [t̚r, d̚r]. In this case, they should work on these drills.

|                                           |                                                      |
|-------------------------------------------|------------------------------------------------------|
| <i>trip</i> → <i>drip</i> → <i>rip</i>    | [t <sub>ɹ</sub> ɪp] → [d <sub>ɹ</sub> ɪp] → [ɹɪp]    |
| <i>train</i> → <i>drain</i> → <i>rain</i> | [t <sub>ɹ</sub> eɪn] → [d <sub>ɹ</sub> eɪn] → [ɹeɪn] |
| <i>try</i> → <i>dry</i> → <i>rye</i>      | [t <sub>ɹ</sub> aɪ] → [d <sub>ɹ</sub> aɪ] → [ɹaɪ]    |

Others again may need to focus on an entirely different type of sound. One way to start is from D /sj, zj/. These, like E /r/, are front articulations and are also sometimes slightly labialised. Though /sj, zj/ are fricatives, they can be weakened to give an approximant articulation.

### EXERCISE 9

Start from Dutch /sj/. Add voice and round your lips to make E /ʒ/. Now raise the sides of your tongue to your back teeth and diminish the friction to obtain [ɹ].

D *shock* /sjɔk/ → [ʒ<sup>w</sup>ɔk] → [ɹɔk] → E *rock*

D *cheque* /sjek/ → [ʒ<sup>w</sup>ek] → [ɹek] → E *wreck*

But probably most find the imitation of an American type retroflex [ɹ] the easiest way to approach E /r/ — the American sound is often familiar from films and television. Begin with post-vocalic position and then move to pre-vocalic position, e.g. *bird* → *red*.

It is important to remember that E /r/ is vowel-like in most respects — not a trill, tap or fricative. So you can also try starting from D /ʁ/, as in *NUT*, and bunching the sides of the tongue. Note that the use of D /ʁ/ provides the lip-rounding typical of E /r/.

### Distribution

The overwhelming problem for most Dutch speakers is not in fact the articulation of E /r/, but its distribution. Dutch is similar to an English rhotic dialect in that /r/ is pronounced in all positions in the word. Since this is something which is constantly reinforced by the spelling, it is not surprising that Dutch learners pronounce E /r/ on a rhotic pattern. The rule for the distribution of /r/ in RP and other non-rhotic accents is straightforward and invariable: *only pronounce /r/ if there is a following vowel*. It is best to think of spelt English **r** (before consonant and pause) merely as an indicator of length and quality for the preceding vowel.

Many students have a false idea about the impression created by pronunciation of /r/ on a non-rhotic pattern, thinking that not pronouncing spelt **r** is characteristic of affected styles of speech, or at least, that it holds true only for RP and not for other accents. In fact, non-rhotic speech is normal for the overwhelming majority of British English speakers of all social classes. Rhotic accents are less common and have considerably fewer speakers. Non-rhotic pronunciation is just as much a characteristic of Cockney, Liverpool, Leeds or Cardiff as it is of RP. The same goes for many other world varieties, notably Australian English.

Rhotic speech (particularly with a strong post-vocalic retroflex type /r/ similar to that used by many Dutch learners) is frequently employed on the

British stage for comic effect, and is thought of as being characteristic of 'rustic' or 'peasant' dialects.<sup>9</sup> Consequently whilst, of course, General American and educated Scots or Irish demand a rhotic /r/ patterning, this must obviously be avoided by those having RP as a model for English.

The typical patterning of linking-r can be imitated by those learners who find it easy to copy. It is important to make sure that the /r/ is a true link on to the following word and does not impart any r-colouring to the preceding vowel. Other learners may find it simpler if they merely attempt to avoid pronouncing word-final /r/ in all contexts — whether or not a word beginning with a vowel follows. This is probably easier for the learner, and is not normally unacceptable to native speakers.

It is not advisable to imitate intrusive-r, which sounds conspicuous if heard from a non-native speaker, particularly if the articulation is not completely correct. Intrusive-r is stigmatised by many English native speakers, even by those who habitually use it. Speakers of rhotic varieties — Americans, for example — generally find intrusive-r distracting and highly amusing.<sup>10</sup> Nevertheless, intrusive-r is a common feature of most non-rhotic accents and students certainly need to be aware of its existence, and to be able to *recognise* when it is likely to occur.



#### EXERCISE 10

To practise /r/-deletion, take a passage of English and go through it crossing out each **r** which is not to be pronounced. Then read it, using a cassette or minidisc recorder to monitor your performance, as in this example.

The worst thing that anybody can say to a politician is, 'you won't remember me. The approach is a form of vanity to discover if one has indeed remembered the questioner. I once made a supreme effort and replied: 'Of course, I remember you. You're Miss Bag.' 'No', came the thunderous reply, 'I'm Miss Gas.'<sup>11</sup>

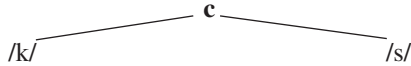
<sup>9</sup> A convention in playing Shakespeare is that the low comic characters speak with rhotic accents. Actors refer to this as a 'Mummerset accent'.

<sup>10</sup> Intrusive /r/ has caused problems in the past for some famous political figures. President John F. Kennedy, who had non-rhotic New England speech, was sometimes represented in cartoons saying things like 'Cuba r invasion'. Margaret Thatcher was nicknamed 'Laura Norder' because of her references during her period of office to 'law and order' with an intrusive /r/.

<sup>11</sup> Jeremy Thorpe in *Robert Morley's Book of Bricks*, rep. Pan Books (1979).

## SOUNDS AND SPELLING: CONSONANTS

## 1. Orthographic &lt;c&gt;



(sometimes termed ‘hard c’)

Before **a, o, u** and in combination  
with other consonants:  
*call, collect, cub, clip, pack*

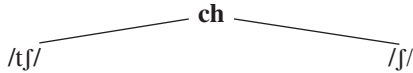
(sometimes termed ‘soft c’)

Before **e, i, y**:  
*cell, cinema, cylinder, brace,*  
*peace, icy, icicle*  
**Note:** final **ce** never represents /z/

**Note**

Before **ia, ea, ie, iou** in an unstressed syllable, **c** is pronounced as /ʃ/: *racial, social, ocean, ancient, conscious*. (EXC) In *pronunciation, society*, /s/ is heard: /prənʌni'eɪʃn, sə'saɪəti/.

## 2. Orthographic &lt;ch&gt;



Regular pattern: /tʃ/  
*chips, cheese, chair, bachelor, speech*

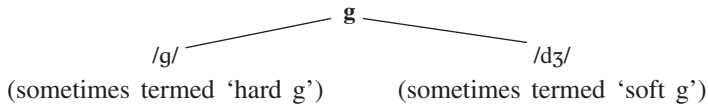
/ʃ/ in recent French loanwords,  
most of which have a counterpart  
in present-day French: *champagne, chic, chef, crochet, moustache, machine, chalet, chassis, charlatan, chauffeur, nonchalant, chivalry, brochure, chute*

**Note**

In scholarly or medical words of Greek origin, **ch** is pronounced as /k/: *epoch, stomach, chasm, archaic, architect, archives, mechanism, chaos, chemical, chorus, psychology, psychiatrist, hierarchy, anarchy, ache, archangel, trachea*.



### 3. Orthographic <g>



1. Before **a, o, u**: *gang, got, gum*.

**(EXC)**: *margarine* with /dʒ/.

2. **gu**: the **u** is used merely to indicate a 'hard g' and is not pronounced. In words of French origin: *guess, guise, guile, plague, colleague, dialogue, rogue, intrigue*.

Note two pronunciations of **g** in combination with other letters:

1. **ngu** /ŋ/ in *tongue* /tʌŋ/, *meringue* /mə'ræŋ/.

But also /ŋgw/ in *lingual, penguin, extinguish*.

2. **ng** between vowels in words like (1) *anger, finger* (2) *singer, hanger, longing*. In the first type of word, not derived from verbs, **g** is pronounced. In the second type, derived from verbs, **g** is silent. Compare *longing* /'lɒŋŋ/ from the vb *to long* and *longer* /'lɒŋgə/ from the adj. *long*. Note, however, *longish, strongish, wrongish* with silent **g**; the word *hangar* is variable.

3. **gh** /g/ initially: *gherkin, ghost(ly), aghast, spaghetti, yoghourt* /'jɒgət, 'jəʊgət/.

4. **gh** /f/ finally (and also in **ght**): *enough* /ɪ'nʌf/, *tough* /tʌf/, *cough* /kɒf/, *laughter* /'lɑ:ftə/, *draught* /dra:ft/.

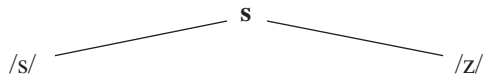
5. **gh** and **ght**: see pp. 186-88 on silent letters.

6. **gg** always /g/ except in *suggest* /sə'dʒest/, e.g. *luggage, dagger*.

1. Before **e, i, y**: *gem, general, gin, danger, gibberish, gymnasium, magic*.

**(EXC)**: There are numerous exceptions including some very common words: *girl, gear, tiger, get, together, begin, eager, target, lager, giddy, girth, girdle*.

#### 4. Orthographic <s>



1. Initial **s** regular form: *six, socks*.

2. Medial between vowels (+ /j/): /s/ is rather more common:

a) Prefixes: **mis-**, **dis-**, e.g. *misinterpret, disapprove*

b) Longer words (3 syllables or more) ending in **sy**: *jealousy, heresy*

c) **ss**: /s/ in *essential, assist, essence*

**(EXC)**: /z/ in *dessert, possess, scissors, dissolve*

d) **sch**: /sk/ in *scheme, school, schizophrenia*. **(EXC)**: /ʃ/ in *schedule*.

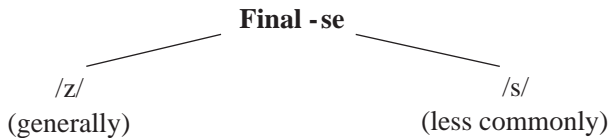
1. Initial **z** always /z/, never /s/.

2. Medial between vowels (+/j/): /z/ is rather less common, but does occur in a number of high-frequency words:

a) Prefixes: **de-**, **pre-**, **re-** followed by a stressed syllable beginning **s**, e.g. *desire, deserve, preside, reside, resist*

b) Short words ending in **sy**: *daisy, busy, cosy*

#### 5. Orthographic <se>



**aise**: *praise, braise*

**ause**: *applause, pause*

**ase**: *erase, phase, phrase, vase* /vɑ:z/

**eese**: *cheese*

**ese**: *journalese, Chinese, Portuguese*

**ise**: *disguise, advise*

**yse**: *paralyse, analyse*

**ose**: *oppose, propose, expose, whose, close (vb), lose*

**oise**: *noise, poise*

**ouse**: *blouse, rouse, house (vb), espouse*

*base, case, chase, purchase*

*geese*

*precise, paradise, practise, premise*

*close (n. and adj.), jocose, verbose, morose*

*porpoise* /'pɔ:pəs/, *tortoise* /'tɔ:təs/

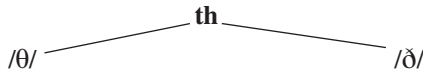
*house (n.), mouse, louse, grouse*

|                                                                                                                                                 |                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>oose:</b>                                                                                                                                    | <i>loose, goose</i>                                                                                                             |
| <b>owse:</b> <i>browse, drowse</i>                                                                                                              | <i>dowse</i>                                                                                                                    |
| <b>use:</b> <i>accuse, confuse, fuse, ruse, use</i><br>(vb), <i>abuse</i> (vb), <i>excuse</i> (vb), <i>refuse</i><br>(vb), <i>diffuse</i> (vb). | <i>recluse, abstruse, obtuse, profuse,</i><br><i>use</i> (n.), <i>excuse</i> (n.), <i>refuse</i> (n.),<br><i>diffuse</i> (adj.) |

When final **se** follows a consonant (including **r**), **s** → /s/, e.g. *else, immerse, immense, lapse, sparse.*

(EXC): *cleanse* /klenz/, *parse* /pɑ:z/.

## 6. Orthographic <th>



1. In initial position. (EXC) grammar words. See list opposite.

1. In the following grammar words: *the, this, that, these, those, then, than, thus, there, they, their, them, thou, thee, thence, thy, thine, thither.*

2. In medial position in words from Greek: *atheist, author, cathedral, ether, method, mathematics* (note also *maths*)

2. In Germanic words, e.g. *father, mother, other, smother, northern, southernly, worthy, betrothal*

(EXC) *rhythm* and derivatives.

Also *rhythm* and derivatives.

3. In final position, e.g. *heath, beneath, teeth, growth*. Note a few of these words produce /ðz/ in the plural, e.g. *paths* /pɑ:ðz/, *oaths* /əʊðz/

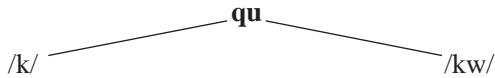
3. In final position in *booth, smooth, with*

**-the** in all cases, e.g. *breathe*.

(EXC) *booth, smooth, with*.

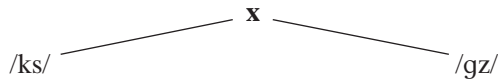
4. **th** is /t/ in *thyme*, and some proper names, e.g. *Thames, Thomas, Anthony, Thomson, Esther*.

## 7. Orthographic <qu>



1. Before unstressed **er**, **or** in a few words, e.g. *conquer*, *conqueror*, *exchequer*, *lacquer*, *liquor*. Regular form, e.g. *quiz*, *quiet*, *banquet* /'bæŋkwɪt/.
2. In numerous words which are recent loans from French, e.g. *coquette*, *liqueur*, *croquet*, *piquant*.
3. Final **que** is always /k/, e.g. *cheque*, *opaque*, *antique*.
4. Also *mosquito* /mɒ'ski:təʊ/, *queue* /kju:/, *quay* /ki:/.

## 8. Orthographic <x>



- 1) Regular pronunciation, e.g. *box*, *mix*, *axle*, *excellent*, *execute*. Where **ex** is followed by a stressed vowel, or **h** and a stressed vowel, e.g. *exact*, *exaggerate*, *examine*, *example*, *exasperate*, *exempt*, *exert*, *exorbitant*, *exuberant*, *exult*, *exhaust*, *exhibit*, *exhilarate*, *exhort*, *exotic*, *exemplify*, *executive*, *exonerate*.
- 2) In initial position, **x** is pronounced as /z/, e.g. *Xerox*, *xylophone*.

## 9. Silent Letters

### **b** final in **mb**

*limb*, *lamb*, *tomb*, *climb*, *bomb* /bɒm/, *womb* /wu:m/, *comb* /kəʊm/, *crumb*, *dumb*, *numb*, *plumb*, *succumb*, *thumb*, and derived forms, e.g. *bomber*, *plumber*, *numbing*

**Note:** in medial **mb** in other cases, **b** is pronounced, e.g. *lumber*, *timber*

|                                                                                           |                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>b</b> in <b>bt</b>                                                                     | <i>debt, doubt, subtle, redoubtable</i> (+ derivatives)                                                                                                                                                                                                                               |
| <b>c</b> in <b>sc</b>                                                                     | <i>corpuscle, muscle, scissors, scene, obscene</i> , but <i>muscular, corpuscular</i> (i.e. <b>c</b> = /k/)                                                                                                                                                                           |
| Initial <b>g</b> in <b>gn</b>                                                             | <i>gnash, gnat, gnome</i>                                                                                                                                                                                                                                                             |
| Final <b>g</b> in <b>gn</b>                                                               | <i>align, reign</i>                                                                                                                                                                                                                                                                   |
| Medial and final <b>gh</b>                                                                | <i>sigh, weight, caught, bought</i>                                                                                                                                                                                                                                                   |
| <b>h</b> when (1) initial<br>(2) intervocalic (3) after <b>ex</b>                         | <i>heir, honest, honour, hour</i> and derivatives<br><i>Cohen</i> /'kəʊɪn/, <i>vehicle, vehement, exhaust, exhibit, exhilarate, exhort, exhume</i>                                                                                                                                    |
| Initial <b>kn</b>                                                                         | <i>knee, know</i>                                                                                                                                                                                                                                                                     |
| <b>l</b> silent in several combinations, the most important of which are indicated below: |                                                                                                                                                                                                                                                                                       |
| <b>al</b> /ɑ:/                                                                            | <i>half, almond, alms, calm</i> . <b>Note:</b> <i>salmon</i> /'sæməŋ/, <i>halfpenny</i> /'heɪpni/ (now also said as /'hɑ:f 'penɪ/)                                                                                                                                                    |
| <b>al</b> /ɔ:/                                                                            | <i>chalk, stalk, talk, walk</i>                                                                                                                                                                                                                                                       |
| <b>aul</b> /ɔ:/                                                                           | <i>caulk, baulk</i>                                                                                                                                                                                                                                                                   |
| <b>ol</b> /əʊ/<br>/ə/                                                                     | <i>yolk, folk</i><br><i>Norfolk, Suffolk</i><br><b>Note:</b> /ɜ:/ in <i>colonel</i> /'kɜ:nl/                                                                                                                                                                                          |
| <b>ould</b> /ʊ/                                                                           | <i>should, could, would</i>                                                                                                                                                                                                                                                           |
| <b>n</b> in final <b>mn</b>                                                               | <i>condemn, damn, hymn, solemn</i> (derivatives have <b>n</b> pronounced: <i>hymnal, condemnation</i> )                                                                                                                                                                               |
| <b>p</b> before <b>n</b>                                                                  | <i>pneumonia, pneumatic</i>                                                                                                                                                                                                                                                           |
| <b>p</b> before <b>s</b>                                                                  | <i>psychologist, psychiatrist, pseudo</i> . <b>Note:</b> the pronunciation with /p/ is given in some dictionaries, but is hardly ever heard, and would strike most English speakers as eccentric.<br>Also: <i>coup</i> /ku:/, <i>corps</i> /kɔ:/, <i>cupboard, raspberry, receipt</i> |
| <b>r</b> (see p. 178 on /r/)                                                              | Only pronounced before a vowel in RP (and other non-rhotic accents). <b>Note:</b> <i>iron</i> /aɪən/                                                                                                                                                                                  |

**s** in some loans (especially recent) from French     *chassis* /ʃæsi/, *debris* /de(ɪ)bri:/, *corps* /kɔ:/, *precis* /preisi:/, *rendezvous* /rɒnd(e)ivʊ:/, *aisle* /aɪl/, *isle* /aɪl/, *island* /aɪlənd/, *viscount* /vaɪkaʊnt/

**t**     *soften*, *Christmas*, *often*. **Note:** in *often*, /t/ is pronounced by many speakers

In some loans (especially recent) from French     *mortgage* /mɔ:ɡɪdʒ/, *cachet* /kæʃeɪ/, *crochet* /krɒʃeɪ/, *sachet* /sæʃeɪ/, *bouquet* /bu:'keɪ/, *ballet* /bæleɪ/, *buffet* /'bʊfeɪ/, *chalet* /ʃæleɪ/, *depot* /'depəʊ/, *ragout* /'ræɡu:/, *cabaret* /kæbəreɪ/<sup>1</sup>

---

<sup>1</sup> Some parts of this section are based on materials supplied by J. Posthumus (University of Groningen).

## THE CONSONANTS OF DUTCH

## 19.1 FRICATIVES

Table 19.1 System in Dutch

| Labio-dental | Alveolar | Alveolo-palatal | Velar | Glottal |
|--------------|----------|-----------------|-------|---------|
| f (f̥)       | s z      | [ç z]           | x (ɣ) | h       |

[ ] = frequent allophones.

( ) = phoneme contrast not consistently maintained by all speakers.

*Distribution and fortis/lenis contrast*

The lenis fricatives do not occur in syllable-final position.<sup>1</sup> The fortis/lenis contrast in the Netherlands fricative system is far less stable than in the stops. Most speakers of (NL) ABN do not make a consistent contrast of initial /f - f̥/ as in *fee - vee*. Though the distinction is retained in careful speech, it is more often than not lost in relaxed styles. Intervocally, it is more consistent, though some speakers, especially of varieties other than (NL) ABN (e.g. Amsterdam), may pronounce *vijver* as /'feifər/, thus rhyming with *cijfer*. The use of /f - f̥/ is further complicated by Dutch assimilation (see Section 20.8).

The contrast /s - z/ (e.g. *C - zee, eisen - reizen*) is more stable than /f - f̥/, even though speakers of some dialects (notably the Amsterdam area) have no consistent contrast.<sup>2</sup> Lack of any contrast must be considered as falling outside (NL) ABN.

In the Netherlands, particularly in ABN and in most of the Randstad, and in the North generally, the velar pair /x - ɣ/ is even less stable than /f - f̥/. Though some speakers contrast pairs such as *lachen - vlaggen* /'laxə - 'flaɣə/, *goochel - kogel* /'xɔ:xəl - 'kɔ:ɣəl/ (/ɣ/ being represented in orthography by *g*), this is not true generally; /ɣ/ does not occur either finally, or initially, /x/ being used in all cases, e.g. *goed* /xut/, *geen* /xɛ:n/, *gedrag* /xə'drɑx/. Outside the Randstad and the North, /ɣ/ occurs in medial and also sometimes in initial position.<sup>3</sup>

<sup>1</sup> For a more detailed presentation of the Dutch consonant system, see Mees and Collins (1982).

<sup>2</sup> People are well aware of this and use it as a humorous device. The following notice on the door of an Amsterdam shop was spotted by one of the authors: *Frijdagz iz de saak gezlote*.

<sup>3</sup> Many books show /ɣ/ used in initial position, but this does not seem to correspond with the reactions of many Netherlands native speakers.

The description above applies to the Netherlands. In Belgium, the situation is somewhat different. Like (NL) ABN, (B) AN has no *final* fortis/lenis contrast. Certain (B) AN speakers have no fortis/lenis contrast of /x – ɣ/ in initial position, although — unlike (NL) ABN — they will employ a palatal [ç] rather than a velar, or even uvular, voiceless fricative. Others have a /x – ɣ/ contrast, using a slightly voiced fricative for /ɣ/ in all contexts (except final). However, in general, in Belgium, the fortis/lenis contrasts are more likely to be maintained throughout the fricative system except where affected by assimilation processes (Section 20.8).

/h/ has no lenis counterpart.

### *Labio-dental fricatives /f – ɸ/*

#### *Description and allophonic variation*

The articulations are formed by a light contact of the inside of the lower lip and the upper front teeth, the point of articulation being more retracted than in English /f, v/. In initial position, D /ɸ/ has greater breath effort than E /v/, and considerable friction; in addition it may have voicing throughout. In medial position, the articulation is weaker, and always fully voiced. See pp. 140–41 on English fricatives for problems resulting from the transfer of the unstability of D /f – ɸ/ into English, and for differences between D /ɸ/ and E /v/.

### *Alveolar fricatives /s – z/*

#### *Description and allophonic variation*

In the Netherlands, these are typically formed by the blade/front of the tongue against the alveolar ridge. The tip may even rest against the upper or lower front teeth, taking no active part. The articulation is less tense than for the English alveolar fricatives, producing graver friction, especially noticeable with /s/. In fact, with many speakers of Netherlands Dutch (notably with urban Randstad accents but also with certain affected ABN speakers), D /s/ can strike an English ear as resembling E /ʃ/; this effect is often apparent in (1) clusters, e.g. *spel, stel, bioscoop*; (2) final /s/, especially following rounded vowels, e.g. *bus, huis, mos* and (3) also after /r/, e.g. *krakers*. Some dialects (e.g. Amsterdam) have no contrast of /s – z/. In Belgium, /s/ and /z/ are articulated differently, being in many ways similar to their counterparts in English (see p. 145). Crucially, from the point of view of the learner of English, there is not the grave friction found with some Netherlands speakers.



*Alveolo-palatal fricatives /sj – zj/***Description and allophonic variation**

The sequences /sj, zj/ are realised as alveolo-palatal fricatives [ç, ʒ]. They are articulated with an extensive area of the blade and the front of the tongue, raised to form a light contact with the rear of the alveolar ridge and the forward portion of the hard palate. Unlike E /ʃ, ʒ/,<sup>4</sup> there is no trumpet-shaped lip-rounding (see pp. 146–47); if present, the lip-rounding is of a weak inner-lip type. In the Netherlands, D /sj/ has sharper friction than E /ʃ/ and generally is more obviously palatal — especially before front vowels, e.g. *chef*, *Chinees*, *shag*. In some Dutch dialects (e.g. Amsterdam), the contrast /s – sj/ may be lost.

As in the case of /s – z/, the Belgian articulations of /ʃ – ʒ/ are generally much closer to their English counterparts. The (B) AN consonants may be palato-alveolar, and often exhibit lip-rounding with some protrusion.

D /sj/ is restricted to (1) loanwords, e.g. *chocolade*, *chauffeur* (French), *shag*, *show* (English), *sjoelen* (Frisian), *sjofel* (Yiddish), and (2) forms resulting from assimilation, e.g. *tasje* /'tasjə/ ['tɑçə], *kies je* /'kisjə/ ['kiçə]. Note that /sj/ rarely occurs in final position, *hasj* and *crèche* being some of the few examples.

*Velar fricatives /x – ɣ/***Description**

The back of the tongue makes a light contact with the rear of the velum. The exact point of articulation varies, but is probably more precisely described as post-velar [x̠]<sup>5</sup> or pre-uvular [χ]. Typically, D /x/ as realised in (NL) ABN has a very energetic articulation<sup>†</sup> with considerable scrapiness. In other areas (e.g. Southern Netherlands, Belgium), /x/ is made further forward, either true velar [x] or post-palatal [ç], and is articulated less energetically. These articulations are popularly termed the *zachte g*.

**EXERCISE 1**

Listen to the various articulations of /x/ amongst a group of your friends. If they come from the South of the Netherlands, or Belgium, try to decide what type of *zachte g* they are producing. Is it palatal or velar?

**EXERCISE 2**

Many (NL) ABN speakers produce a more advanced allophone of /x/ before /j/, e.g. *wiege*, *religieus*, *lichtje*. Test yourself to decide whether this is true of your idiolect.

<sup>4</sup> French and German also have marked outer lip-rounding, if anything even more than English.

<sup>5</sup> True velar fricatives can be heard in Russian and Polish, and also in the allophone of German /x/ after close back vowels, e.g. *Buch*.

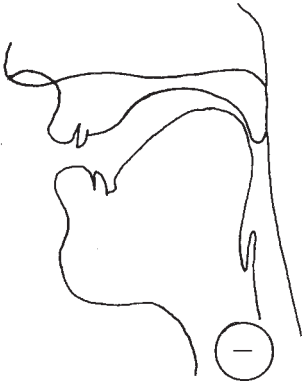


Figure 19.1.1 (NL) ABN /x/, e.g. *lachen*.

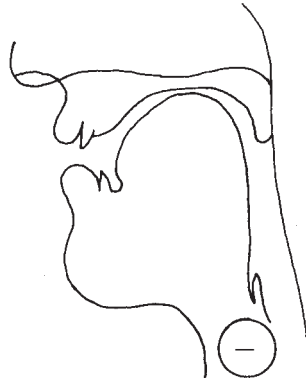


Figure 19.1.2 *Zachte g*. Southern Netherlands and Belgian variety of /x/, i.e. [ç].

Dialects which have *zachte g* are more likely to have a consistent contrast of /x – ɣ/. In this type of speech, /ɣ/ is either a voiced velar fricative [ɣ] or a post-palatal [j]. The (NL) ABN /ɣ/, where realised, is usually weaker and of longer duration than /x/, but does not normally have voice.

### *Glottal fricative /h/*

The friction for /h/ is usually not only at the glottis, but also throughout the vocal tract, so that /h/ is sometimes thought of as a type of voiceless vowel. Typically, however, /h/ has voice [ɦ], e.g. ‘*Ben je heel hard naar huis gehold?*’

D /h/ is lost in weak forms such as *heb, heeft, had, hij, het, haar, hem* (see Section 22.5 for a discussion of Dutch weak forms, and Section 3.4 for English weak forms).

Non-standard Belgian varieties, particularly in West Flanders, frequently lack /h/, or replace /x/ by /h/, so that *hoed* may be /ut/ and *goed* may be /hut/. In most dialects of the Netherlands (except Zeeland and East Groningen), the distribution of /h/ is as in (NL) ABN, and so there is nothing similar to the ‘h-dropping’ characteristic of the accents of England and Wales.

## 19.2 STOPS

*Table 19.2 System in Dutch*

| Bilabial | Alveolar | Alveolo-palatal | Velar |
|----------|----------|-----------------|-------|
| p b      | t d      | [tç dz]         | k (g) |

[ ] = frequent allophones

( ) = marginal phoneme

### *Distribution*

Lenis stops do not occur word-finally in Dutch (except as a result of assimilation, see p. 213). /g/ is a marginal phoneme (see pp. 201-2).

### *Bilabial, alveolar, alveolo-palatal and velar stops*

#### *Description and allophonic variation*

/p, b/. These are articulated as bilabial consonants. There is no place variation of significance.

/t, d/. These are typically made with the tip of the tongue close to the back of the upper teeth, while the blade/front forms a closure with the alveolar ridge, giving a larger area of contact than is the case for E /t, d/. For Dutch, the tip is not active in the articulation, and may even rest against the lower front teeth (especially in Netherlands varieties).

The very frequent sequence /tj/, e.g. in *katje* or *had je*, is realised as an alveolo-palatal affricate [tʃ]. The blade forms a closure with the rear of the alveolar ridge, and the front with the front of the hard palate. The tip plays no part in the articulation.<sup>6</sup>

In some high-frequency words and sequences, e.g. *beetje*, *weet je*, *moet je*, *dat je*, a voiceless palatal fricative [ç] (similar to the German *ich-Laut*) is often realised.

/k/. The place of articulation varies, being advanced (pre-velar) before front vowels, and retracted (post-velar) before back vowels. Compare *kies* [k̟is] and *kop* [k̠ɔp]. Before /j/, an advanced articulation of D /k/ is even more noticeable; the realisation being a post-palatal affricate [çç], e.g. *takje*, *beekje*, *koekje*.

#### **EXERCISE 3**

Say the words *beekje*, *kiosk*, *kies*, *kaas*, *kast*, *kocht*. Feel how the tongue moves from a post-palatal through a pre-velar to a velar position. Why is the tongue more front for /k/ in *kies* than /k/ in *kocht*?

/g/. In addition to its potential occurrence as a marginal phoneme, [g] is found as a voiced allophone of /k/, e.g. in *kerkdienst* [k̟ɛrgdɪnst], *weekdag* [v̥e:gdax], *breekbaar* [b̥re:gbar]. Many speakers replace marginal /g/ by /k/ or /ɣ/ (see pp. 201-2).

---

<sup>6</sup> Some phoneticians regard this sequence as a separate phoneme, often represented as a palatal plosive /c/. We prefer to consider it as an allophonic representation of the sequence /tj/. It is normally only found in medial position (e.g. in the formation of diminutives such as *praatje* or as a result of assimilations such as *praat je*). It occurs in other contexts only in loanwords, e.g. Frisian *tjalk*, *Tjebbe*.

### *Voicing, aspiration and tension*

The fortis plosives are voiceless, except when affected by assimilation. Lenis plosives are fully voiced between voiced sounds. In word-initial position, they tend to be partially devoiced, e.g. *doos* [d̥o:s], *been* [b̥e:n]. Such devoicing is generally less than is the case in English. In emphatic speech or citation forms, word-initial /b, d, g/ have full voicing.

Dutch fortis plosives /p, t, k/ have no aspiration, so that voice begins immediately after the release of the closure. They are articulated with considerably greater tension than their lenis counterparts. It is also noticeable that they are much tenser than the English fortis plosives. This is visible as lip compression in the case of D /p/. For D /t, k/, there is a larger area of tongue contact than in the corresponding English sounds. The release of the closure is brisker and more energetic in Dutch /p, t, k/. In most accents, including the standard varieties (NL) ABN and (B) AN, /t/ has none of the aspiration or slight affrication to be heard from most English speakers (see pp. 150-52; p. 161). Following fortis stops, [v] is often partially devoiced and fricative, e.g. *kwik* [k̥vɪk], *twaalf* [t̥vɑ:lɛf]. Note that this strikes an English ear as being similar to E /f/. See p. 176.

Similarly, D /r/, for speakers who have uvular articulations, may be realised as a type of weak devoiced uvular fricative [ʁ̥], e.g. *trein* [t̥ʁeɪn], *krant* [k̥ʁɑnt], *praatje* [p̥rɑ:tʃə].

/l/ following D /p, k/ does not typically devoice or become fricative, e.g. *klein* [kleɪn], *plein* [pleɪn]. Compare E /l/ in such contexts, where a devoiced lateral [ɫ̥] is realised.

Unlike English, glottal stop is never used as a replacement or reinforcement of final fortis stops, but it is found as an onset to vowels in word-initial position, e.g. *op eigen initiatief* [ʔɔp <sup>ʔ</sup>eiɣə <sup>ʔ</sup>initsjə'tif].

### *Overlapping stops*

In Dutch, a sequence of two homorganic stops is usually reduced to a single stop, e.g. *stampot* [stɑmpɔt]. In the case of a voiceless stop followed by a voiced homorganic stop, the first regularly becomes voiced and is generally deleted, e.g. *tot dan* /tɔd 'dɑn/ → /tɔ 'dɑn/. In English, a sequence of two homorganic stops is not reduced to one consonant but we find a prolonged hold stage, with pre-glottalisation if the first stop is fortis, e.g. *bookcase* [bʊ<sup>ʔ</sup>k'eɪs], *cup pack* [kʌb<sup>ʔ</sup>pæk].

In Dutch, two stops which are non-homorganic (e.g. /kp/, /tk/) often have overlapping articulations, i.e. the closure for the second plosive is made before the release of the first. This is particularly the case within the word, less so at word boundaries. Consider the following examples:

|       |                  |                           |
|-------|------------------|---------------------------|
| /k t/ | <i>taktiek</i>   | [tak <sup>ʔ</sup> tɪk]    |
| /k b/ | <i>stokbrood</i> | [stɔg <sup>ʔ</sup> bro:t] |

|       |                 |             |
|-------|-----------------|-------------|
| /p t/ | <i>optellen</i> | [ɔpʰtɛlə]   |
| /p d/ | <i>opdagen</i>  | [ɔbʰdaːyə]  |
| /t k/ | <i>tot kijk</i> | [tɔtʰ keik] |
| /t b/ | <i>meetbaar</i> | [meːdʰbar]  |

In more careful speech, the closure of the second plosive is made after the release of the first and the release is audible.<sup>7</sup> In other languages (e.g. French), the articulations of two plosives do not typically overlap, and one hears two distinct sounds. In English there is virtually always an overlap.

Note that in words like *stokbrood*, *opdagen*, *meetbaar* the first stop becomes lenis under the influence of the second. This should not be taken to mean that it becomes a fully voiced sound but rather a devoiced lenis stop, e.g. *stokbrood* [ʰstɔŋbroːt].

### *Types of approach and release*

Nasal approach and lateral approach in Dutch are similar to English, e.g. *kamp*, *vandaar*, *speelt*, *speelde*. (See p. 157).

For a phonetic description of nasal release and lateral release/escape, see pp. 155-57. In Dutch, nasal release can be heard in *opmaken*, *snotneus*, where there is a sequence of homorganic stop/nasal. Release into syllabic nasals (as is typical of English or German) is not found in (NL) ABN or (B) AN, but may be heard in northern and eastern dialects of the Netherlands and is reported to occur in East and West Flanders, e.g. *kopen* /koːpm̩/, *praten* /praːt̩n̩/ (ABN and AN /koːpə(n), 'praːtə(n)/).

Lateral release is also heard in Dutch, when alveolar /t, d/ are followed by /l/, e.g. *eetlepel*, *hardlopen*, *atlas*. Devoicing and friction in /l/ following /t/ is not heard in Dutch, and there is no lateral release into syllabic laterals, as in English. Compare Dutch *sleutel* /sløːtɛl/ and English *hurtle* /hɜːtl̩/ (with devoiced [l̩]).

Lateral escape is found in Dutch, e.g. *opleggen*, *dakloos*, where /l/ follows /p/ or /k/. D /l/ does not become voiceless or fricative, nor does one hear escape into syllabic /l/. Compare D *lepel* and E *papal* /leːpəl – 'peɪpəl/; D *hekel* and E *tackle* /heːkəl – 'tækəl/.<sup>8</sup>

### *Accent variation*

Northern and eastern accents of the Netherlands have aspirated plosives [p<sup>h</sup>, t<sup>h</sup>, k<sup>h</sup>] similar to English. Some urban accents in the Randstad (e.g. Leiden, Rotterdam) have affricated [t<sup>s</sup>], similar to frequent allophones of initial E /t/ in stressed syllables.

<sup>7</sup> Overlapping stops appear to be more frequent in Dutch when the second is articulated further forward than the first, as in /kp/.

<sup>8</sup> Certain accents of Dutch have syllabic /l/, e.g. northern and eastern accents in the Netherlands.

Southern accents of the Netherlands and most Belgian varieties have very tense fortis and strongly voiced lenis plosive consonants.

Glottalisation of medial and final stop consonants is reported to occur in certain accents, e.g. Zeeland.

### 19.3 NASALS

*Table 19.3 System in Dutch*

| Bilabial | Alveolar | Alveolo-palatal | Velar |
|----------|----------|-----------------|-------|
| m        | n        | [ɲ]             | ŋ     |

[ ] = frequent allophone

#### *Distribution*

/ŋ/ does not occur syllable-initially.

#### *Bilabial, alveolar, alveolo-palatal and velar nasals*

#### *Description and allophonic variation*

/m, n, ŋ/ correspond in place of articulation to the stop consonants /b, d, g/. For /m/ there is no place variation of significance. D /ŋ/, like other velars, varies under the influence of adjacent vowels. In the Netherlands, /n/ following back vowels tends to be noticeably pharyngealised, similar to dark [ɫ] (see Chapter 21 on setting). Front vowels, especially /ɛ/, are lowered and centralised before /n/.

The sequence /ɲj/ is realised as an alveolo-palatal nasal [ɲ] as in *kastanje*, *champagne*, or in sequences such as *kan je*, *meen je*. The preceding vowel is strongly nasalised and also raised, with a palatal glide, giving a diphthongal effect. With some speakers, there is little or no tongue/palate contact: [kɑ̃ːjə, ˈmɛ̃ːjə].

In *handje*, *hondje* etc., there is a sequence alveolo-palatal nasal and stop: [ˈhɑ̃ːɲtɕə, ˈhɔ̃ːɲtɕə]; in *Hansje*, *onsje* there is a sequence of alveolo-palatal nasal and fricative: [ˈhɑ̃ːɲçə, ˈɔ̃ːɲçə]. Again the nasal consonant may be elided, leaving only a strongly nasalised vowel.

### 19.4 APPROXIMANTS

*Table 19.4 System in Dutch*

| Labio-dental | Alveolar | Palatal | Uvular |
|--------------|----------|---------|--------|
| v            | l r      | j       | ʀ      |

*Lateral (approximant) /l/**Description and allophonic variation*

D /l/ is articulated by the blade/front of the tongue rising to make a central contact with the alveolar ridge. The sides of the tongue remain lowered and the airstream escapes over the sides, without friction. There are several significant allophones.

In (NL) ABN, /l/ is clear [l] before vowels; and dark [ɫ] before consonants and pause. Intervocalic /l/ varies, tending to be clear, except after open back vowels, e.g. *holle* ['hɔlə], *getallen* [xə'tɑlə]. However, some speakers have dark [ɫ] in *all* intervocalic contexts. In final position, many speakers realise /l/ as a strongly pharyngealised vocoid without any alveolar contact, i.e. an unrounded back vowel of a [ɤ] type (see Chapter 21 on setting and Fig. 17.1.2). This means that after back vowels, /l/ may be realised as a very narrow diphthongal glide, e.g. *dol* [dɔɤ], *hal* [hɑɤ], *riool* [ri'ɔɤ], *koel*, [kuɤ].

In (B) AN, /l/ often has a post-palatalised or velarised rather than a pharyngealised quality. There appears to be little contextual clear/dark variation and some speakers have a relatively clear (post-palatalised) /l/ in all contexts.

**EXERCISE 4**

Say /l/ in *leef* and *meel* in the normal manner. Now try switching the two allophones of /l/ around so that you have a dark [ɫ] in initial position and a clear [l] in final position [ɫe:f, me:l].

**EXERCISE 5**

Say these words: *stil*, *meel*, *vernielt*, *bol*, *kool*. Do you have a blade/alveolar contact in all cases, or is the contact lost, giving a back vowel? Does *vernielt* sound like *vernieuwt*?

Clusters with /lf, lp, lm, lk, lx/ (i.e. /l/ followed by a non-homorganic consonant) may show /ə/-insertion (**svarabhakti**), giving an additional syllable, e.g. *twaalf* ['twa:ɪəlf], *help* ['hɛləp], *helm* ['hɛləm], *melk* ['mɛlək], *Belg* ['bɛləx].

Although often mistakenly thought of as substandard, this type of /ə/-insertion is found in all types of Dutch, including (NL) ABN and (B) AN, in word-final position (and also word-finally in compounds, e.g. *melkboer* ['mɛləkbur]). Non-standard varieties may extend /ə/-insertion to other cases (see below).

*Accent variation*

1. Many Dutch accents have dark [ɫ] in all contexts, e.g. Rotterdam, Amsterdam. In Belgium, /l/ may be velarised rather than pharyngealised, giving a less dark quality.
2. Some accents in the eastern regions along the German border (e.g. around Nijmegen) have clear [l] in all contexts.

3. /ə/-insertion is extended in many non-standard accents to contexts within the word, e.g. *Hilversum* /'hɪləfərsəm/, *helpen* /'hɛləpə/, *kalme* /'kələmə/, *Kalverstraat* /'kələfəstra:t/. This feature is well known and is often imitated for humorous effect.

### *Palatal approximant /j/*

#### *Distribution*

/j/ only occurs pre-vocally.

#### *Description and allophonic variation*

/j/ is articulated by the front of the tongue in open approximation with the hard palate. Frequently, D /j/ is realised as a voiced palatal fricative [j̥]. This is especially common in emphatic speech.

In diminutive forms with **-je**, /j/ is realised as a devoiced palatal fricative, e.g. *raampje* ['ra:mpjə], *hofje* ['hɔfjə]. See p. 193 for the sequences /tj, kj/.

#### *Accent variation*

None of significance.

### *Labio-dental approximant /v/*

#### *Distribution*

[v] occurs in all contexts, but is less common finally, occurring in variation with /u/ in words such as *ruw*, *sneeuw*, *nieuw*. The word *murw* provides a rare instance of final /v/.

#### *Description and allophonic variation*

In (NL) ABN, /v/ is formed at a similar place of articulation to D /f, f/. In syllable-initial context, there is an approximation between the upper teeth and the inner part of the lower lip; the lip moves back with a 'brushing' effect. In connected speech, there is generally voiced friction [v̥], accounting for the fact that English speakers hear this Dutch sound as similar to E /v/. (B) AN typically has a voiced bilabial approximant [β]. Many Belgian speakers have a labial-palatal approximant [ɥ] (similar to the French sound in *huit*), particularly before close front vowels, e.g. *weten*, *wit*.

Following /t/ or /k/ as in *twee* or *kwis*, fricative allophones are general, and there is often some devoicing, giving [v̥]: [tʏɛ:, kʏɪs]. English speakers tend to interpret such allophones as E /f/.

#### **EXERCISE 6**

The articulation of D /v/ can be easily examined using a mirror. Say the following words, and look at the relationship of the lower lip and the upper teeth: *wist*, *waar*, *wat*, *wiel*, *wol*, *wet*. Compare D /v/ in these words to /f/ in *vist*, *vaar*, *vat*, *viel*, *vol*, *vet*.



In syllable-initial clusters preceding /t/, as in *wraak*, /w/ is typically a voiced fricative [ɸ].

### EXERCISE 7

Say the words: *wraak*, *wreker*, *wrang*, *wreed*, *wrak*, *wrok*, *wrijf*. Some speakers may consider that w here is better represented by D /f/ – is this true in your case?

### Accent variation

Many southern Netherlands varieties have an articulation similar to that described for (B) AN above. Surinamese Dutch is notable for having a labial-velar approximant [w], similar to E /w/.

### Uvular/alveolar /r/

#### Distribution

/r/ occurs in all positions.

#### Description

There are two main places of articulation for D /r/.

- (1) Uvular: formed by the uvula against the back of the tongue (*huig-r*).
- (2) Alveolar: formed by the tongue-tip against the alveolar ridge (*tong-r*).

In the Netherlands, uvular articulations appear to be gaining ground over alveolar [r], especially in the Randstad. This does not appear to be the case in Belgium.

Table 19.5 Types of /r/ in Dutch

|                  |                          |             |
|------------------|--------------------------|-------------|
| <b>Uvular</b>    | Trill                    | [ʀ]         |
|                  | Tap                      | [ʀ̥]        |
|                  | Voiced fricative         | [ʁ]         |
|                  | Weak voiceless fricative | [ʁ̥] or [χ] |
|                  | Approximant              | [ʁ̥]        |
| <b>Pre-velar</b> | (Bunched) approximant    | [ɹ]         |
| <b>Alveolar</b>  | Trill                    | [r]         |
|                  | Tap                      | [r̥]        |
|                  | Voiced fricative         | [r̥]        |
|                  | Voiceless fricative      | [r̥]        |
|                  | Approximant              | [r̥]        |

Although it is often classed as such, D /r/ is rarely in fact a trill, except possibly in very emphatic or deliberate utterance (e.g. speaking carefully on a telephone line), or as a special effect.<sup>10</sup> D /r/ can be realised in many different ways. Table 19.5 summarises a variety of the allophones. It is notable that the same speaker will often use very different allophones in different contexts.

### *Allophonic variation*

In general, Dutch speakers confine themselves to either alveolar or uvular articulations.<sup>11</sup> In (B) AN, /r/ is typically realised as an alveolar tap in all positions in the word, so that /r/ in *rood*, *parel* and *weer* is pronounced similarly. However, Netherlands Dutch is more complex:

1. **Pre-vocalic** (initial and medial position), e.g. *rood*, *rond*, *reden*, *merel*, *kerel*.

Typical realisations: either (1) uvular approximant or voiced fricative or (2) alveolar tap.

2. **Clusters.** Following /p, t, k, x/, uvular [ʁ] may be devoiced with weak friction, giving [ʁ̥] or with some speakers (especially of affected varieties) [χ]: *prima* ['pʁ̥ima:], *trein* [tʁ̥ein], *kroeg* [kʁ̥ʉx], *groot* [χʁ̥o:t]. Alveolar tap is not devoiced in such consonant clusters.

3. **Word-final.** Trills are very uncommon except in emphatic utterances, though alveolar /r/ speakers may have tap [ɾ]. In present-day (NL) ABN and Randstad varieties of Dutch, probably the most frequent allophone is the pre-velar bunched approximant. The back of the tongue is bunched, and the root retracted, giving rise to a type of retroflex resonance. A similar sound is heard as a very common variety of American /r/, termed loosely 'retroflex'. Although it is not a true retroflex articulation (the tip is not curled back or even raised), for convenience we have used the symbol [ɻ].

Some common allophones are mentioned below:

Affected speakers may have uvular fricatives, e.g. *hoor* [ho:χ], *door de deur daar* [dø:χ də 'dø:χ 'da:χ].

Word-final /r/ may be replaced by a close [ə] off-glide. This is not infrequent after the close free vowels /i, y, u/ and close-mid free vowels /e:, ø:/, e.g. *mier* [mi:ə], *muur* [mü:ə], *moer* [mü:ə], *meer* [më:ə], *deur* [dö:ə]. Note that the preceding vowel may be lengthened and is often centralised. See Chapter 14 on Dutch vowels. After /ε, a:/ and the non-close back vowels /ɑ, ɔ, o:/, this

<sup>10</sup> Note the use that disc-jockeys occasionally make of a rolled /r/.

<sup>11</sup> Note, however, that speakers with basically uvular realisations may use alveolar articulations in initial clusters: *schrijf*, *groet*, *fraai*, *brand*, etc. Many speech trainers advocate the use of alveolar /r/. Consequently, some uvular /r/ users, attempting to eliminate [ʁ], may also employ some alveolar articulations.

may sound like a short [ɪ] or [j] type glide, e.g. *spoor* [spö:ɪ], *maar* [ma:ɪ], *kerk* [kɛɪk], *sport* [spöɪt].<sup>12</sup>

In casual speech, final /r/ may be elided (especially in unstressed syllables), e.g. *we zijn vier honderd kilometer verder gereden* [və zɛin 'fiɹ'hɔndət 'kilo:mɛ:tə 'fɛ:ɪdə xə're:də].

#### EXERCISE 8

Make an audio recording of an unscripted conversation in Dutch between a group of friends. Listen to a short section (say three minutes) and note (1) the chief allophones of /r/, (2) where /r/ is elided. See if any significant pattern of distribution emerges.

Clusters of /rk, rp, rm, rn, rf, rx/ exhibit /ə/-insertion, e.g. *kerk, dorp, arm, urn, erf, erg* ['kɛrək, 'dɔrəp, 'arəm, 'ərən, 'erəf, 'erəx]. Note that in (NL) ABN /ə/-insertion only occurs in word-final position following a contoid /r/. Many non-standard accents may extend this to medial contexts, e.g. *morgen* ['mɔrəxə], *arme* ['arəmə].

#### Accent variation

Speakers from Noord-Holland (including Amsterdam), Utrecht, the north eastern provinces and much of Belgium (particularly East and West Flanders) use alveolar articulations, either taps or sometimes trills. Leiden has a true retroflex (inverted tongue-tip) /r/. In and around Ghent, extending as far as Bruges, uvular realisations (fricatives and approximants) predominate. The Hague also has uvular articulations (often fricative, voiced and voiceless); elision of final /r/ is common. A variety of realisations are heard in Rotterdam including both uvular and alveolar articulations. Particularly strong, scrapy, uvular fricatives (sometimes referred to as 'brouwende r') are found in Gelderland and the southern provinces of the Netherlands. In Limburg, a type of pharyngeal approximant is to be heard.

#### 19.5 MARGINAL CONSONANT AND MARGINAL CONSONANT SEQUENCES

/g/ lenis velar plosive.

/zj/ [z] alveolo-palatal fricative.

/dj/ [dʒ] alveolo-palatal affricate.

In the Netherlands, /g/ occurs in loanwords such as *golf, gala, guerilla, guilotine, gletsjer, gobelin, goal, grill, grapefruit, gangster, leggings*. In many of these examples, /g/ is replaced by /k/, e.g. *goal* /ko:l/, *grapefruit* /'kre:pfrut/.

<sup>12</sup> This can occasionally give rise to confusion in connected speech between pairs such as *maar* ~ *maai*, *kerk* ~ *cake*. However, in citation forms, all speakers retain a contrast.

Other words, e.g. *gala*, *grill*, *gletsjer*, often have initial /x/. Substitutions of this type are not unusual in (NL) ABN, and are common in dialects. Belgian varieties (including AN) have /ɣ/ rather than /g/ or /x/ in all these cases. Thus for the overwhelming majority of Belgian speakers, /g/ can not be regarded as a marginal phoneme and exists only as an allophone of /k/ (see p. 193).

#### EXERCISE 9

Go through the list of words above and work out how you pronounce them. Listen to other people as well, for instance newsreaders and sports commentators. Do you have a three-way opposition between *golf* 'wave', *golf* 'game of golf', and *kolf*? Do you use /x/ for the first word, /g/ for the second, and /k/ for the third? Or are the first two identical in your speech, so that you use /x/ or /ɣ/ for *golf* in both senses? Or do you perhaps pronounce *golf* 'game of golf' and *kolf* with /k/?

How do you pronounce *spaghetti*, *ragoût*, *goulash*?

Note that the word *garage* is pronounced with a fricative by almost by all speakers nowadays.

The sequence /zj/, realised as an alveolo-palatal [z], is found in French loanwords and Russian transliterations, e.g. *genre*, *geste*, *journalist*, *jus*, *beige*, *Brezjnev*, *Zjtomir*, *Zjirinovski*, and also in English *jam*. In those words which are frequent items, e.g. *jus*, /zj/ is frequently replaced by /sj/ in the Netherlands. In less common words, /zj/ is more likely to be maintained, e.g. *genre* /zjārə/ [zārə].

/dj/ is used by some careful speakers in loans from English, e.g. *jazz*, *jingle*, *jungle*, *junkie*, *jukebox*, *discjockey*, *job*, *Jimmy*, *Jeff*; also in Indonesian *Djakarta*. It is the lenis counterpart of /tj/. Increasingly, in the Netherlands, it is replaced by /tj/, /j/, or /sj/, e.g. *jingle* /'tjɪŋgəl/ ['tɛɪŋgəl], *job* /jɔp/ [jɔp], *Jimmy* /'sjɪmi/ ['ɛɪmi]. In Belgium, /dj/ is almost always retained.

## PATTERNS OF ADJUSTMENT IN CONNECTED SPEECH: ASSIMILATION AND ELISION

### 20.1 INTRODUCTION

In all known languages, difficult articulatory sequences are modified in connected speech in order to simplify the articulation process. However, the manner in which this is achieved varies from one language to another.

#### EXERCISE 1

Read these transcriptions of Dutch words and phrases, firstly as in column A and then as in column B. Note the differences. Which sounds more typical of connected speech?

|                         | A                 | B             |
|-------------------------|-------------------|---------------|
| <i>onmogelijk</i>       | /ɔn'mo:ɣələk/     | /ɔm'mo:ɣələk/ |
| <i>opdragen</i>         | /'ɔpdra:ɣə/       | /'ɔbdra:ɣə/   |
| <i>kan ik ook</i>       | /'kan ik 'o:k/    | /'kanʃk 'o:k/ |
| <i>postcode</i>         | /'pɔstkɔ:də/      | /'pɔskɔ:də/   |
| <i>ik weet het niet</i> | /ik 've:t ət nit/ | /ɪ 'kve:ni/   |

The differences between the citation forms (represented above by column A) and the simplified connected speech forms (column B) are not just a matter of chance. Clear patterns are distinguishable, though these are not the same in all languages, or even in all varieties of any particular language. For instance, there are very important differences between the patterns of simplification of English and Dutch, and this forms one of the most important areas of potential error for the Dutch learner.

#### *Phonetic conditioning*

Phonetic conditioning is a term used to cover the way in which speech segments are influenced by adjacent (or near-adjacent) segments, causing phonemes to vary in their realisation according to the phonetic context. We can distinguish three main types: (1) allophonic variation; (2) assimilation; (3) elision.

### 20.2 ALLOPHONIC VARIATION

Throughout the sections on English and Dutch segments, we have discussed deviations from the target forms of phonemes. This results from phonetic conditioning and is responsible for the greater part of any range of allophones in complementary distribution.

## 20.3 ASSIMILATION

Where, as a result of phonetic conditioning, one phoneme is replaced by a second under the influence of a third we term the effect **assimilation**.<sup>1</sup>

Consider the Dutch word *vanmiddag*, which in careful pronunciation is /vʌn'mɪdax/, but in connected speech may become /vʌm'mɪdax/. Here, one phoneme /n/ has been replaced by a second /m/ under the influence of a third /m/. This could be stated in a brief rule thus:

|                  |   |                  |        |                  |
|------------------|---|------------------|--------|------------------|
| <i>Phoneme 1</i> |   | <i>phoneme 2</i> |        | <i>phoneme 3</i> |
| /n/              | → | /m/              | before | /m/              |

We can distinguish here the two forms of the word *van*: (1) /vʌn/, (2) /vʌm/; where form (1) can be considered the **ideal form**, corresponding to the target that native speakers have in their minds. This is what is produced in the slowest and most careful styles of speech; it often bears a close resemblance to the spelling representation. Form (2), more typical of connected speech, is termed the **assimilated form**.

A similar example from English occurs when *hard cash* /hɑ:d 'kæʃ/ is pronounced as /hɑ:ɔ 'kæʃ/.

|                  |   |                  |        |                  |
|------------------|---|------------------|--------|------------------|
| <i>Phoneme 1</i> |   | <i>phoneme 2</i> |        | <i>phoneme 3</i> |
| /d/              | → | /ɔ/              | before | /k/              |

### *Patterns of assimilation*

Assimilation can be analysed as falling into several patterns.

#### *Direction of influence*

(1) Features of an articulation may anticipate (*lead* into) those of a *following* segment, e.g. English *art gallery* /ɑ:t gæləri/ → /ɑ:k gæləri/, Dutch *inkomsten* /'ɪŋkɔmstə/ → /'ɪŋkɔmstə/. This is termed **leading assimilation**.<sup>2</sup>

(2) Features of articulation may be held over from a *preceding* segment, so that the articulators *lag* in their movements, e.g. English *in the corner* /ɪn ðə 'kɔ:nə/ → /ɪn nə 'kɔ:nə/; Dutch *op zoek* /ɔp 'zʊk/ → /ɔp 'sʊk/. This is termed **lagging assimilation**.<sup>2</sup>

(3) In many cases there is a two-way exchange of articulation features, e.g. English *choose your weapons* /tʃu:z jɔ: 'wepɪnz/ → /tʃu:z ɜ: 'wepɪnz/. This is termed **reciprocal assimilation**.

<sup>1</sup> This is the terminology employed in this book. Other writers use *phonetic assimilation* or *partial assimilation* to cover allophonic variation brought about by phonetic conditioning (Section 20.2). What we have called assimilation they term *complete assimilation* or *phonemic assimilation*.

<sup>2</sup> Other writers may use different terminology. Leading assimilation is variously termed *anticipatory* or *regressive*; lagging assimilation is termed *perseverative* and *progressive*.

### *Types of influence*

(1) Certain assimilations involve a change in place of articulation. This is termed **place assimilation** and is common in both English and Dutch.

For instance, in English, final alveolars in ideal forms are often replaced by bilabials (preceding /p, b, m/) or velars (preceding /k, g/) or palato-alveolars (preceding /ʃ/), e.g. *hardboard* /'hɑ:dbɔ:d/ → /'hɑ:bbɔ:d/, *slight pressure* /slait 'prefə/ → /slaip 'prefə/, *nutcrackers* /'nʌtkrækəz/ → /'nʌkkrækəz/, *hot muffins* /hɒt 'mʌfɪnz/ → /hɒp 'mʌfɪnz/, *odd cups* /ɒd 'kʌps/ → /ɒg 'kʌps/, *this shop* /ðɪs 'ʃɒp/ → /ðɪʃ 'ʃɒp/. In Dutch, examples are *treinkaartje* /'treɪŋka:rtjə/ → /'treɪŋka:rtjə/, *onmogelijk* /ɔn'mo:ɣələk/ → /ɔm'mo:ɣələk/, *tot kijk* /tɒt 'keik/ → /tɒk 'keik/. (See Section 20.9 for further details of where some of the Dutch forms will be subjected to a further process of **elision**, e.g. /tɒ 'keik/.)

(2) Assimilations may involve reduction of the fortis/lenis contrast. Such assimilations are termed **energy assimilation** and are particularly frequent in Dutch, e.g. *noodzakelijk* /no:t'za:kələk/ → /no:t'sa:kələk/, *opbellen* /'ɔpbələ/ → /'ɔbbələ/, *geenszins* /'xɛ:nszɪns/ → /'xɛ:nssɪns/, *weekdag* /'ve:kdax/ → /'ve:gdax/, *dankbaar* /'dɑŋkba:r/ → /'dɑŋgba:r/, *soepbord* /'supbɔ:rt/ → /'subbɔ:rt/, *lesuur* /'lesy:r/ → /'lezɪ:r/, *asbak* /'asbak/ → /'azbak/, *op die manier* /ɔp 'di mən'ni:r/ → /ɔp 'ti mən'ni:r/ or /ɔb 'di mən'ni:r/.

In stressed syllables, assimilations of this kind are less common in English, occurring only in certain words and phrases, e.g. *I have to go* (meaning 'must') /'hæftə/, *newspaper* /'nju:zpeɪpə/ → /'nju:speɪpə/. However, in unstressed syllables they are much more frequent, e.g. *he was certain* /hɪ wəz 'sɜ:tɪn/ → /hɪ wəs 'sɜ:tɪn/.

(3) Assimilations may involve a change in the manner of articulation, e.g. an ideal form containing a fricative may be replaced by a nasal or a lateral. This is termed **assimilation of manner**.

Nasal and lateral assimilations occur in English, mainly affecting initial /ð/ in unstressed words, e.g. *turn the key and open the door* /'tɜ:n ðə 'ki: ən 'əʊpən ðə 'dɔ:/ → /'tɜ:n nə 'ki: ən 'əʊpən nə 'dɔ:/, *all the best* /ɔ:l ðə 'best/ → /ɔ:l lə 'best/, *will there be anything else* /wɪl ðə bi: 'eniθɪŋ 'els/ → /wɪl lə bi: 'eniθɪŋ 'els/. They also occur in more rapid colloquial Dutch, e.g. *een beetje* /ən 'be:tjə/ → /əm 'me:tjə/, *laat maar* /'la:t ma:r/ → /'la:m ma:r/.

Nasal assimilations are especially common in French, e.g. *un demi* /œ dəmi/ → /œ nmi/, *on demande* /ɔ dəmɑ̃d/ → /ɔ nmɑ̃d/.

### *Co-occurrence of assimilations*

1. Assimilations of different types may occur simultaneously, e.g. *should you* /'ʃʊdju:/ → /'ʃʊdʒu:/. Here both *place* and *manner* assimilation affects /d/ and /j/ of the ideal form:

/d/ (alveolar plosive) /j/ (palatal approximant)  
 \-----/ /dʒ/ (palato-alveolar affricate) /-----\

2. More than one phoneme may be affected by an assimilation, e.g. *tent peg* /'tent peg/ → /'temp peg/.

#### 20.4 ELISION

A change from the ideal form in connected speech may involve the deletion of a phoneme, e.g. English *first class* /fɜːst 'klɑːs/ → /fɜːs 'klɑːs/, Dutch *mistbank* /'mɪstbɑŋk/ → /'mɪsbɑŋk/. The phoneme is said to be **elided** and the process is termed **elision**.

Frequently, assimilation processes may lead to elision, e.g. English *standpoint* /'stændpɔɪnt/ → /'stæmpɔɪnt/ → /'stæmpɔɪnt/, Dutch *brandpunt* /'brɑntpʉnt/ → /'brɑmpʉnt/ → /'brɑmpʉnt/.

The converse of elision is **liaison**, i.e. the insertion of an extra sound in order to facilitate the articulation of a sequence. Liaison is found in English RP, and other non-rhotic varieties, in the form of **linking-r** and **intrusive-r**. Dutch has **linking-n** and **intrusive-n** (see pp. 178-79). French is notable for its elaborate system of liaison, e.g. *Elle est assez intelligent*, where 'est' and 'assez', pronounced /ɛ/ and /asez/ in citation form, recover the final consonants when they occur pre-vocalically in connected speech: /ɛl ɛt asez ɛ̃telizɑ̃/.

#### 20.5 HISTORICAL ASSIMILATION AND ELISION

One may distinguish between **contemporary** and **historical assimilation/elision** processes.

In contemporary assimilation/elision there is an ideal form. The assimilation (or elision) takes place only in a certain phonetic context, and in most cases, assimilation or elision is optional. Historical assimilation/elision refers to cases where the original ideal forms have become extinct and the assimilated/elided forms are fixed, e.g. *cupboard* /'kʌpbɔːd/, where the form \*/kʌpbɔːd/ has died out.

English spelling is full of 'silent letters' which bear witness to historical elision, e.g. *walk, card, lamb, knee, should, knight, gnash, castle, write, iron*. See pp. 186-88. (Note that **card** and **iron** would contain a silent **r** only in non-rhotic English accents).

#### EXERCISE 2

Go through two or three pages of a novel and find more examples of 'silent letters' in English. Then check with pp. 186-88.

Afrikaans provides some interesting examples of historical assimilations and



elisions which have developed from Dutch. These are now fixed in the spelling of the language, but derive from variant (now often dialectal) pronunciations in Dutch.

| <b>Afrikaans</b> | <b>Dutch</b>   |
|------------------|----------------|
| <i>as</i>        | <i>als</i>     |
| <i>aande</i>     | <i>avonden</i> |
| <i>hê</i>        | <i>hebben</i>  |
| <i>ou</i>        | <i>oud</i>     |
| <i>oggend</i>    | <i>ochtend</i> |

Often plurals retain a form closer to Dutch, e.g. Afr. *lig* – *ligte*, D *licht* – *lichten*, Afr. *insek* – *insekte*, D *insekt* – *insekten*, Afr. *hoof* – *hoofde*, D *hoofd* – *hoofden*.

There is a tendency nowadays for some historical elisions and assimilations to revert back to the original forms as a result of the influence of spelling. For instance, in English, /t/ is heard frequently in *often* (formerly only /ɒfn̩/). In Dutch, /d/ is increasingly heard in words like *rijden*, *oude*.

## 20.6 PATTERNS OF ASSIMILATION IN ENGLISH

### *General observations*

Assimilation and elision tend to be more frequent in:

1. Unstressed rather than stressed syllables.
2. Rapid rather than slow tempo.
3. Informal rather than formal registers.

### *1. Leading assimilation of place of final alveolars*

**Alveolar** → **bilabial in context preceding bilabial**

(a) /t/ → /p/ preceding /p, b, m/ and less commonly /w/.



*bright pink* /braɪp 'pɪŋk/  
*dartboard* /'dɑ:pbɔ:d/  
*Whit Monday* /wɪp 'mʌndɪ/  
*whitewash* /'waɪpwɔʃ/

(b) /d/ → /b/ preceding /p, b, m/ and less commonly /w/.

*third part* /θɜ:b 'pɑ:t/  
*head boy* /heb 'bɔɪ/  
*red meat* /reb 'mi:t/  
*hard work* /hɑ:b 'wɜ:k/

(c) /n/ → /m/ preceding /p, b, m/ and less commonly /w/.

*on paper* /ɒm 'peɪpə/

*Zen Buddhism* /zɛm 'bʊdɪzɪm/  
*in Middlesborough* /ɪm 'mɪd|zbrə/  
*one way street* /wʌm weɪ 'stri:t/

**Alveolar → velar in context preceding velar**

(a) /t/ → /k/ preceding /k, g/

*shortcake* /ʃɔ:kkeɪk/  
*bright green* /braɪk 'grɪn/

(b) /d/ → /g/ preceding /k, g/

*hard cash* /hɑ:g 'kæʃ/  
*head girl* /heg 'gɜ:l/

(c) /n/ → /ŋ/ preceding /k, g/

*in Cardiff* /ɪŋ 'kɑ:dɪf/  
*sunglasses* /'sʌŋglɑ:sɪz/

Note that the allophone of /p, k/ representing orthographic **t** is typically strongly pre-glottalised and never has audible release [ʔp, ʔk], e.g. *bright pink* [braɪʔp 'pɪŋk], *bright green* [braɪʔk 'grɪn]. Similarly, /b, g/ representing orthographic **d** have a prolonged hold stage [b:, g:], e.g. *head boy* [heb: 'bɔɪ], *head girl* [heg: 'gɜ:l].

**Alveolar → palato-alveolar in context preceding palato-alveolar**



(a) /s/ → /ʃ/ preceding /ʃ/

(b) /z/ → /ʒ/ preceding /ʃ/

*Christmas shopping* /krɪsməs ʃɒpɪŋ/  
*rise sharply* /raɪz ʃɑ:plɪ/

**Reciprocal assimilation before /j/**

The plosives /t, d/ coalesce regularly with the words *you* and *your*. The fricatives /s, z/ have reciprocal assimilation of place with any word-initial /j/:

(a) /t/ + /j/ → /tʃ/

(b) /d/ + /j/ → /dʒ/

(c) /s/ + /j/ → /ʃʒ/

(d) /z/ + /j/ → /ʒʒ/



*get your coat* /'getʃɔ: 'kəʊt/  
*I heard you come in* /aɪ 'hɜ:dʒu: kʌm 'ɪn/  
*nice young man* /naɪʃ 'ʒʌŋ 'mæn/  
*Clare's usually late* /'kleɪʒ 'ʒu:zəli 'leɪt/

Assimilations of this sort are especially common in tag-questions with *you*.

*You'll do the cooking, won't you?* /'wəʊntʃu:/  
*You could stay the night, couldn't you?* /'kʊdntʃu:/  
*You should pay him back, shouldn't you?* /'ʃʊdntʃu:/  
*You can be there, can't you?* /'kɑ:ntʃu:/

## 2. Lagging assimilation involving /ð/



Initial /ð/ in unstressed words may be assimilated following /n, l, s, z/.

*in the corner* /ɪn nə 'kɔ:nə/  
*all the books* /ɔ:l lə 'bʊks/  
*what's the point?* /wɒts sə 'pɔɪnt/  
*where's the breadknife?* /weəz zə 'brednaɪf/

Assimilations are most frequent with the word *the*. Notice, however, that (except at very rapid tempo) a difference is still to be heard between *the* and *a*. Apart from lengthening of the preceding segment, there is also a difference in rhythm. (| = rhythm group boundary.)



*in the hole – in a hole* /ɪn nə | 'həʊl/ – /ɪn | ə 'həʊl/  
*fill the hole – fill a hole* /fɪl lə | 'həʊl/ – /fɪl | ə 'həʊl/  
*where's the breadknife – where's a breadknife* /weəz zə | 'brednaɪf/ –  
 /weəz | ə 'brednaɪf/

It is the placing of the rhythm group boundary, together with the lengthening of the previous segment, that is important for the distinction to be heard by a native speaker.

With words other than *the*, assimilation of this type is less frequent, though by no means uncommon (at least in unstressed contexts).



*in this book* /ɪn nɪs 'bʊk/  
*in their opinion* /ɪn nəər ə'pɪnjən/  
*within these four walls* /wɪðɪn ni:z 'fɔ: 'wɔ:lz/  
*all their problems* /ɔ:l ləə 'prɒbləmz/  
*till they come back* /tɪl lei kʌm 'bæk/  
*as there won't be any left* /əz zεə 'wəʊnt bi: enɪ 'left/  
*pass those stamps* /pɑ:s zəʊz 'stæmps/

In stressed syllables, assimilation of this type is less common, except at rapid tempo, and is possibly more characteristic of dialectal forms of English. Note that no assimilation of /ð/ is heard with plosives /p, b, t, d, k, g/, though /t/ and /d/ may be dental before /θ, ð/. /t/ is realised with strong glottal reinforcement [ʔt] (or more probably, glottal replacement) before /ð/.



*hit this ball* ['hɪʔ ðɪs 'bɔ:l], not \*['hɪt tɪs 'bɔ:l]  
*ate those cakes* ['eʔ ðəʊz 'keɪks], not \*['et təʊz 'keɪks]  
*get the paper* ['geʔt ðə 'peɪpə], not \*['get tə 'peɪpə]

### 3. Assimilation of energy

In English, energy assimilations are rare in stressed syllables. Two obligatory assimilations are *used to* and *have to* (where equivalent to 'must'), e.g.



*I used to wear a suit* /aɪ 'juːstə 'weər ə 'suːt/

*I used two* (main verb) /aɪ 'juːzd 'tuː/

*I have to be early* /aɪ 'hæftə bɪ 'ɜːli/

*I have two* (main verb 'possess') /aɪ 'hæv 'tuː/

Note that some speakers extend this assimilation to *has to* /'hæstə/.

There are also some word-internal energy assimilations, generally with free variation between two possible forms: *newspaper* /'njuːspeɪpə/ or /'njuːzpeɪpə/; *absurd* /əb'sɜːd/ or /əb'zɜːd/; *absolute* /'æpsəluːt/ or /'æbsəluːt/; *absorb* /əb'zɔːb/ or /əb'sɔːb/; *obsession* /əp'seɪʃn/ or /əb'seɪʃn/. The assimilated forms are characteristic of more relaxed speech.

Energy assimilations across word boundaries are rare in **stressed** syllables. Because of the frequent occurrence of such assimilation patterns in Dutch, this is a major problem area. However, in **unstressed** syllables, energy assimilations of lenis to fortis are very frequent (particularly, with final inflexional /d/ and /z/, and also with grammatical items such as *as* and *of*, and auxiliary verbs):

*he collected stamps* /hiː kə'lektɪt 'stæmps/

*I was sure* /aɪ wəs 'ʃɜː/

*as cold as ice* /əs 'kəʊld əz 'aɪs/

*she refuses to answer* /ʃɪ rɪ'fjuːzɪs tu 'ɑːnsə/

*of course* /əf 'kɔːs/

*six of Tom's letters* /'sɪks əf 'tɒmz 'letəz/

*James could tell him* /'dʒeɪmz kət 'tel ɪm/

This feature is to be heard constantly in all but the most careful styles of speech. Note that fortis to lenis assimilations (heard frequently in Dutch) are *never* heard in English (with the notable exception of Scottish varieties).

## 20.7 PATTERNS OF ELISION IN ENGLISH

### *Elision of /t, d/ in consonant sequences*

1. Elision of /t, d/ is common in certain consonant sequences. This could broadly be stated thus (C standing for consonant):

C t,d C (other than /h/) → CC

#### *Fricatives*



/ft/ *cleft palate* /klef 'pælət/

/sʃ/ *waste paper* /weɪs 'peɪpə/

/ʃʃ/ *crushed strawberries* /krʌʃ 'strɔːbrɪz/

/θ/ *bathed the baby* /'bɑ:θ ðə 'beɪbɪ/  
 /vð/ *dived below* /'daɪv bɪ'ləʊ/  
 /zð/ *closed doors* /kləʊz 'dɔ:z/  
 /ðð/ *breathed deeply* /'bri:ð 'di:plɪ/

### Stops

/pʔ/ *trapped by* /'træp baɪ/  
 /kʔ/ *cracked pots* /'kræk 'pɒts/  
 /bð/ *dubbed film* /dʌb 'fɪlm/  
 /gð/ *bugged telephone* /bʌg 'teləfəʊn/  
 /tʃʔ/ *enriched foodstuffs* /enrɪtʃ 'fu:dstʌfs/  
 /dʒð/ *ridged surface* /rɪdʒ 'sɜ:fəs/

### Nasals

/mð/ *slammed the door* /'slæm ðə 'dɔ:z/  
 /nð/ *hair-brained scheme* /'heəbreɪn 'ski:m/  
 /ŋð/ *stringed musical instrument* /'strɪŋ mju:zɪkl̩ 'ɪnstɾəmənt/

It will be seen that elisions such as these very frequently remove the marker of past tense in verbs. The meaning is usually (not always) clear through context.



2. Elision of /t, d/ is not heard before /h/: *a packed house* /ə 'pækt 'haus/. If /nt/ or /lt/ are followed by a consonant, there is no elision of /t/ (except at very rapid tempo, or in dialect), though /t/ will be glottally reinforced [ʔ] or replaced by [ʔ]. Note that the vowel before /nt/ and /lt/ is shortened: *print through* /'prɪnt θru:/ [pɾɪnʔ θru:] or [pɾɪnʔ θru:]; *salt beef* /sɔ:l't 'bi:f/ [sɔ:lʔt 'bi:f] or [sɔ:lʔ 'bi:f]. See pp. 50, 153. Dutch-speaking learners regularly elide /t/ and pronounce a long vowel, e.g. *can't buy* \*[kɑ:n 'baɪ], *don't remember* \*[dəʊn rɪ'membə]. Even though such elisions are heard in rapid RP (with a short vowel), they tend to sound over-casual, and are best avoided.

3. The sequences C + /tj/ and C + /dj/ generally retain /t/, but often have reciprocal assimilation to /tʃ/ and /dʒ/:



*I've stopped your allowance* /aɪv 'stɒptʃɔ:r ə'lauəns/  
*Have you sold your house* /həv ju: 'səʊldʒɔ: 'haus/

The verb forms *wouldn't you*, *didn't you*, etc. are normally heard with this assimilated form: /'wʊdntʃu:, 'dɪdntʃu:/

4. The sequence /skt/ has elision of /k/, instead of, or in addition to, /t/:



*I asked Henry* /aɪ 'ɑ:st 'henrɪ/

*masked gunman* /'mɑ:st 'gʌnmən/ or /'mɑ:s 'gʌnmən/  
*basked lazily in the sun* /'bɑ:st 'leɪzəlɪ/ or /'bɑ:s 'leɪzəlɪ/

### ***Other notable elisions***

The following are examples of words where elision frequently exists, not covered by the list above:



1. Two high-frequency words have common alternative forms with elided dental fricatives: *months* /mʌns/, *clothes* /kləʊz/.
2. Forms of numerals, e.g. *fifth*, *sixth*, do not elide /θ/ but instead elide the preceding consonant: /fiθ, sɪkθ/.
3. Elision of /v/ in *of* is especially common before /ð/, e.g.



*seven of those apples* /'sevən ə ðəʊz 'æplz/  
*six of the best* /'sɪks ə ðə 'best/

It is also heard at more rapid tempo before other consonants:

*two pounds of pears* /'tu: 'paʊnz ə 'peəz/  
*a box of matches* /ə 'bɒks ə 'mætʃɪz/  
*a pint of milk* /ə 'paɪnt ə 'mɪlk/

At rapid tempo, /v/ is elided before /m/:

*Give me your word* /'gɪ mɪ jɔ: 'wɜ:d/  
*Leave me some more pudding* /'li: mɪ səm 'mɔ: 'puɪɪŋ/  
*He musn't have my share* /hɪ 'mʌsnt hæ maɪ 'ʃeə/

4. The sequence /tʌ/ is normally reduced to /t/ in three common verbal forms, i.e. *ought to*, *want to*, *got to*:



*I ought to go* /aɪ 'ɔ:tə 'gəʊ/  
*I want to drive* /aɪ 'wɒntə 'draɪv/  
*We've got to be careful* /wi:v 'gɒtə bɪ 'keəfʊl/



5. When *going to* is used to form a tense, it is pronounced /gənə/ in all but very careful speech, e.g. *we're going to move house* /wɪə gənə 'mu:v 'haus/. This form is sometimes shown as 'gonna' in informal writing.

## 20.8 PATTERNS OF ASSIMILATION IN DUTCH

### ***Assimilation of energy***

#### ***1. Lagging assimilation of energy***

Sequence of fortis plosive or fricative + lenis fricative → fortis + fortis fricative.



*uitzicht* /'œytsɪxt/  
*gemakzuchtig* /xəmak'sʊxtəx/  
*taakverdeling* /'ta:kfər'de:lɪŋ/  
*'t eens zijn* /ət 'e:ns sein/  
*half vijf* /'haləf 'feif/

## 2. Leading assimilation of energy

Sequence of fortis plosive or fricative + lenis plosive → lenis + lenis.



*schipbreuk* /'sxɪbrø:k/ (often reduced to /'sxɪbrø:k/)  
*opdragen* /'ɔbdra:γə/  
*eetbaar* /'e:dba:r/  
*spoeddebat* /'spuddə'bat/ (often reduced to /'spudə'bat/)  
*vakbond* /'fʌgbɔnt/<sup>3</sup>  
*kerkdienst* /'kɛrgdɪnst/<sup>3</sup>  
*afbreken* /'afbre:kə/  
*beloofde* /bə'lo:fde/  
*bos bloemen* /'bɔz 'blumə/  
*busdienst* /'bʊzdɪnst/

Note that in a sequence of two identical consonants, e.g. *schipbreuk* above, one consonant is generally elided (see Section 20.9 on elision).

With some speakers, fortis fricatives may become lenis before *all* voiced non-fricative sounds (including vowels; see below), and not just before lenis plosives. For instance, /f/ may be /f/ before /m, n, l, r, v/ as well as before /b, d/.

*afmaken* /'afma:kə/  
*afnemen* /'afne:mə/  
*afleren* /'afle:rə/  
*afremmen* /'afremə/  
*afwas* /'afvas/  
*afbreken* /'afbre:kə/  
*afdoen* /'afdun/

An exception to rule 2 is a group of grammatical words: *dit, die, dat, daar, dus, d'r, dan*.

*is dit juist* /ɪs tɪt 'jœyst/  
*op die manier* /ɔp ti mən'ni:r/

<sup>3</sup> D /g/ is a marginal phoneme. If a speaker does not possess this phoneme in his or her idiolect, the transcription of these words will be enclosed in square brackets: [fʌgbɔnt, 'kɛrgdɪnst].

*moet dat dan* /'mut tət tən/  
*of dat* /ɔf tət/

Many people, particularly in the south of the Netherlands and Belgium, have leading assimilation (e.g. *op die* /ɔb di/) or use leading and lagging assimilation in free variation.

### 3. Intervocalic assimilation of energy

The fricatives /f, s/ may become lenis between vowels:



*af en toe* /'ɑfən 'tu/  
*rasecht* /'rɑzɛxt/

Sometimes the alveolar plosive /t/ also becomes voiced between voiced sounds:

*tandarts* /'tɑndɑrts/  
*rondom* /'rɔndɔm/  
*Noordeinde* /no:rd'eində/  
*toentertijd* /tundər'teɪt/  
*uiteindelijk* /œyd'eindələk/  
*had 'm* /'hɑd əm/

This type of assimilation is particularly common in the southern provinces of the Netherlands.

### *Assimilation of place*

#### *Leading assimilation of place of final alveolars*

Note the comments on the phonetic realisations.

#### **a) Alveolar to bilabial**

/t/ → /p/ before /p/  
 /t/ → /b/ before /b/



*voetpad* /'fuppat/ (often reduced to /'fupət/)  
*kladpapier* /'klɑppɑpɪr/ (often reduced to /'klɑpɑpɪr/)  
*kladblok* /'klɑbblək/ (often reduced to /'klɑblək/)

/n/ → /m/ before /p, b, m/

*in principe* /ɪm prɪn'sɪpə/  
*loonbelasting* /'lo:mbə'lɑstɪŋ/  
*van mij* /fɑm 'mei/

Note also a sequence of /n/ + /t/ where both consonants are affected:



*stuntprijs* /stʌmpprɛis/ (often reduced to /stʌmpɹɛis/)  
*landbouw* /lʌmbbau/ (often reduced to /lʌmbau/)  
*ontmoedigen* /ɔmp'mudəɣə/ (often reduced to /ɔ'mudəɣə/)

### b) Alveolar to velar

/t/ → /k/ before /k/

*tot kijk* /tɔk 'kɛik/ (often reduced to /tɔ 'kɛik/)

/n/ → /ŋ/ before /k, x, ɣ/ and marginal /g/



*inkomen* /'ɪŋko:mə/  
*kleingeld* /'kleiŋxɛlt/, /'kleiŋɣɛlt/  
*een goal* /əŋ 'go:l/

In the last example, speakers of varieties other than (NL) ABN may use /k, x, ɣ/. In these cases, the assimilation pattern would nevertheless be the same.

### 2) Alveolo-palatal realisations of /t, s, n/ before /j/

In our analysis, realisations of D /t, s, n/ before /j/ as [tɕ, ç, ɲ] are not strictly assimilation, since [tɕ, ç, ɲ] are not phonemes. However, since alveolo-palatal sequences are so frequent, and are substituted by Dutch-speaking learners for certain English patterns, they are mentioned in this section.

/t j/ → [tɕ] *katje* ['katɕə], *had je* ['hatɕə]

/s j/ → [ç] *haasje*, *haast je* ['ha:çə]

/s sj/ → [ç]

*doos chocola* ['do: çɔ:kə'la:]  
*fles champagne* ['fle çam'pɑŋə]  
*glas sherry* ['xla 'çeri]

/n j/ → [ɲ]

/nt j/ → [ɲtɕ]



*kan je* ['kɑŋə]  
*van je* [fɑŋə]  
*meen je* ['me:ŋə]  
*hondje* ['hɔŋtɕə]  
*bandjes* ['bɑŋtɕəs]  
*vond je* ['fɔŋtɕə]

In all these, the vowel is raised, with a palatal off-glide, e.g. [ɔ̟<sup>1</sup>, ɑ̟<sup>1</sup>]. The nasal consonant is frequently elided, e.g. *bandjes* [bɑ̟<sup>1</sup>tɕəs]. See p. 196.

*Co-occurrence of assimilations*

Assimilations of different types may occur simultaneously:

*voetbal* /<sup>ʃ</sup>fubbal/ (place and energy of assimilation).

*laat maar* /<sup>l</sup>la:mma:r/ (place, energy, and manner of assimilation).

## 20.9 PATTERNS OF ELISION IN DUTCH

1. /t/ is elided when central in certain consonant sequences.



*rechtstreeks* /<sup>r</sup>ɛx'stre:ks/

*luchtpost* /<sup>l</sup>ʌxpɔst/

*de helft van* /də 'hɛləf fan/

Note that if the consonant following /t/ is a lenis plosive, one may find assimilation of energy together with elision, e.g. *postzegel*, *postbus* /<sup>p</sup>ɔsse:xəl, 'pɔzbʊs/ (see 2. below).

2. Elision of one consonant in a sequence of two identical consonants:



*stampot* /<sup>s</sup>tampɔt/

*brodtrommel* /<sup>b</sup>ro:trɔmə/

*kookkunst* /<sup>k</sup>o:kʌnst/

Often these may be derived from two non-identical consonants:

*clubbestuur* /<sup>k</sup>lʌpbə'styr/ → /<sup>k</sup>lʌbbə'styr/ → /<sup>k</sup>lʌbə'styr/

*voetbal* /<sup>f</sup>ʊtbal/ → /<sup>f</sup>ʊbbal/ → /<sup>f</sup>ʊbal/

*groot deel* /xro:t 'de:l/ → /xro:d 'de:l/ → /xro: 'de:l/

(*zijn*) *best doen* /<sup>b</sup>ɛst 'dun/ → /<sup>b</sup>ɛzd 'dun/ → /<sup>b</sup>ɛz 'dun/

*postbus* /<sup>p</sup>ɔstbʊs/ → /<sup>p</sup>ɔzbbʊs/ → /<sup>p</sup>ɔzbʊs/

Note that in the two final examples /s/ in *best* and *post* does not always change to /z/: /<sup>b</sup>ɛs 'dun/, /<sup>p</sup>ɔsbʊs/.

3. Syllable-final /k/ is sometimes elided when it occurs between /ɪ/ and another consonant:



*ik denk dat* /ɪg 'dɛŋ dat/

*dankbaar* /<sup>d</sup>ɑŋba:r/

*bankbiljet* /<sup>b</sup>ɑŋbɪljɛt/

4. Elision of /n/ in unstressed final **en** (frequently in plurals and verb forms): *beren* /<sup>b</sup>ɛ:rə/, *smeren* /<sup>s</sup>mɛ:rə/, *open* /<sup>o</sup>:pə/, *morgen* /<sup>m</sup>ɔrɣə/, *tegen* /<sup>t</sup>ɛ:ɣə/, etc.

If **-en** is followed by a vowel, /n/ may be retained: *midden in* /'mɪdə ɪn/ or /'mɪdən ɪn/.



5. /ə/ is elided in unstressed syllables when it occurs between a consonant and /l/ or /r/. This is most frequent in casual speech, e.g. *makkelijk* /'maklək/, *interessant* /ɪntɹəsənt/, *gelijk* /xleik/, *belachelijk* /'blaxlək/, *ongelooflijk* /ɔŋ'ɣlo:flək/, *daarom* /drəm/.

## 20.10 COMPARISON WITH DUTCH AND ADVICE

1. Assimilation in English is primarily of place. In Dutch, it is primarily of energy. Consequently, when speaking English the Dutch learner should avoid energy assimilations (apart from the few exceptions like *have to* mentioned above), especially in stressed syllables. Otherwise, the imposition of Dutch patterns will mean the loss of the all-important fortis/lenis contrasts. Errors of this type involve syllable-final stops and fricatives:

### Fortis wrongly replaced by lenis

### Dutch error



*keep my place*  
*get them*  
*back door*  
*matchbox*  
*if they come*  
*both my children*  
*face the music*  
*push both sides*

\*/'ki:b maɪ 'pleɪs/  
\*/'gɛd ðəm/  
\*/'bæɡ 'dɔː/  
\*/'mædʒbɒks/  
\*/'ɪv ðeɪ 'kʌm/  
\*/'bəʊð maɪ 'tʃɪldrən/  
\*/'feɪz ðə 'mjuːzɪk/  
\*/'puʒ bæʊθ 'saɪdz/

### Lenis wrongly replaced by fortis

### Dutch error

*rib cage*  
*slide projector*  
*flagpole*  
*bridge club*  
*drove past*  
*breathe slowly*  
*lose speed*

\*/'rɪp keɪdʒ/  
\*/'slɑɪt prə'dʒektə/  
\*/'flækpəʊl/  
\*/'brɪtʃ klʌb/  
\*/'drəʊf 'pɑːst/  
\*/'briːθ 'sləʊli/  
\*/'luːs 'spiːd/

The last category could be considered as a different problem, i.e. the difficulty of producing final lenis in any context. So *flag* will be realised as \*/flæk/ even if it is not followed by a fortis consonant. However, the problem seems closely related to the other assimilation cases, and furthermore, many

speakers have far greater difficulty with final lenis consonants when they precede a fortis than before pause or a non-fortis consonant.



2. Dutch tends to reduce sequences of identical consonants, by elision, to a single consonant. In English this is a significant problem when it is imposed on sequences of plosives: *sharp pieces* \*/ʃɑ: 'pi:si:z/, *part two* \*/pɑ: 'tu:/, *cheque card* \*/tʃe 'kɑ:d/, *hot chocolate* \*/hɒ 'tʃɒklət/. In these cases, where the first consonant is a fortis stop, **glottal reinforcement** is probably the most important feature to imitate: [ʃɑ:ʔp 'pi:si:z], [pɑ:ʔt 'tu:], [tʃeʔk 'kɑ:d], [hɒʔt 'tʃɒklət].

Where the first consonant is a lenis, the main features will be the **length of the vowel** before lenis consonants and the **prolongation of the hold stage** in the stop sequence: *crab paste* ['kræbpeɪst], *drab brown* [dræb 'braʊn], *hard times* [hɑ:d 'taɪmz], *guide dog* ['gaɪd dɒg], *dog club* ['dɒg klʌb], *big game* [brɪg 'geɪm], *good choice* [gʊd 'tʃɔɪs], *good judge* [gʊd 'dʒʌdʒ]. See p. 159.

3. The sequence /tj/ in Dutch is realised as an alveolo-palatal affricate [tʃ].

Frequently in English, /t + j/ across word boundaries gives rise, by reciprocal assimilation, to /tʃ/. Similarly, /d + j/ gives /dʒ/. With some learners, e.g. many from the Randstad, there is a tendency to replace these by D [tʃ] or, in some cases, by a palatal fricative [ç].

*Did you get your camera?*

|            |                           |
|------------|---------------------------|
| Incorrect: | *[dɪtʃu: 'getʃɔ: 'kæmərə] |
| Correct:   | [dɪdʒu: 'getʃɔ: 'kæmərə]  |



*Could you meet your aunt?*

|            |                           |
|------------|---------------------------|
| Incorrect: | *[kʊtʃu: 'mi:tʃɔ:r 'a:nt] |
| Correct:   | [kʊdʒu: 'mi:tʃɔ:r 'a:nt]  |

Other examples are *would you*, *should you*. Sequences like *can't you*, *won't you*, *find your*, which involve a preceding nasal, often lead to incorrect elision and nasalisation:

*Can't you find your way?*

|            |                                             |
|------------|---------------------------------------------|
| Incorrect: | *[kɑ:ɲɔ: 'faɪnɔ: 'wei, kɑ:ɲɔ: 'faɪnɔ: 'wei] |
| Correct:   | [kɑ:ntʃu: 'faɪndʒɔ: 'wei].                  |

Sequences of this type, which are very frequent in English, are a common source of error for the Dutch learner. Correction should concentrate on (1) retaining fortis/lenis contrast, (2) imitating lip-rounding for English /tʃ/ or /dʒ/.

4. Assimilation of /s + j/ to /ʃ/, e.g.

*pass your plate* /'pɑ:ʃʃɔ: 'pleɪt/ is paralleled by the phonetic realisation of

D /sj/ as [ç], e.g. *lees je* ['le:çə]. In addition, English /z + j/ may be /ʒ/, e.g. *where's yours* /'weəz 'zɔ:z/. As is typical of English, the fortis/lenis contrast needs to be carefully maintained. Note that such assimilations of /sj, zj/ only occur across word boundaries. Assimilations within the word are heard frequently from Dutch learners but do not fall within RP, e.g. *suitable* \*/ʃu:təbl/, *pursuit* \*/pə'sju:t/, *assume* \*/ə'sju:m/, *presume* \*/prə'zju:m/. Except for the case of **-ume** words, alternatives with /s/ are gaining ground and are recommended to the learner, e.g. /'su:təbl/, pə'su:t/. A minority use /ə'su:m, prə'zju:m/ and this can be copied if /sj, zj/ sequences prove too difficult.

5. A very useful assimilation pattern for imitation is the lagging assimilations affecting /ð/ in unstressed syllables. Knowledge and practice of this pattern enables the learner to avoid some of the most troublesome sequences involving /ð/ (see p. 209).

6. Elision of /t, d/ in consonant sequences (see Section 20.7) is also something which can be usefully employed since it is similar to Dutch patterns, and renders complex consonant clusters far easier to deal with.

7. Elision of /k/ in *asked* /ɑ:st/ and of /θ/ in *months* /mʌns/, /ð/ in *clothes* /kləʊz/ is useful for dealing with these three high-frequency words. In *of*, /v/ may be elided before /ð/, e.g. *six of those cakes* /'sɪks ə ðəʊz 'keɪks/, *none of them* /'nʌn ə ðəm/, *many of their efforts* /'meni ə ðeə 'efəts/. This is easier to articulate and is probably more commonly heard from native speakers.

8. Dutch learners often incorrectly elide syllable-final /k/ following /ŋ/ where it is followed by another consonant:



*I think that* \*/aɪ 'θɪŋ ðət/  
*Pink Floyd* \*/pɪŋ 'flɔɪd/  
*punk music* \*/pʌŋ mju:zɪk/  
*junk shop* \*/dʒʌŋ ʃɒp/  
*thanks very much* \*/θæŋz veri 'mʌtʃ/  
*drink too much* \*/drɪŋ tu: 'mʌtʃ/.

This is not permissible in English. Nor is the articulation of /k/ as /g/ in examples like *I think that* \*/aɪ 'θɪŋg ðət/.



9. Elision of /ə/ is frequent before /r/ in words containing the suffixes *-ory*, *-ally*, *-ary*: *temporary* /'tempəri/, *literary* /'lɪtrɪ/, *literally* /'lɪtrəli/, *satisfactory* /sætɪs'fæktəri/, *stationery* /'steɪʃnəri/. The acceptability of some of these forms is questioned by certain writers, but they are very often heard from educated native speakers.

10. Assimilations involving lenis to fortis are only acceptable in *unstressed* syllables. *Note that in stressed syllables such assimilations should be avoided by the learner, as should all fortis to lenis assimilations.*

## ARTICULATORY SETTING IN ENGLISH AND DUTCH

### 2 I. I THE CONCEPT OF ARTICULATORY SETTING

Differences between languages are not only confined to differences in articulation between corresponding individual speech sounds. In addition, much variation is continuous, or recurrent, during speech. The term used to describe such phenomena is **articulatory setting**.

Articulatory setting refers to the overall way in which the speech organs (i.e. lips, tongue, mouth and throat muscles, velum, larynx) are held throughout the speech process. Note that settings vary not only between one language and another but also, sometimes strikingly, between different varieties of the same language. For instance, there are noticeable differences between the two standard varieties of Dutch, (NL) ABN and (B) AN, and also between regional accents in both countries. Similarly, one finds setting differences between RP and, for example, General American or Scottish — to quote only two examples. In our contrastive analysis below, we have chosen to compare (NL) ABN with RP. However, wherever there are significant differences between ABN and (B) AN, these have been noted.

English (RP) typically has loose lips, relaxed tongue and relaxed throat muscles. Dutch (ABN), on the other hand, generally has tight lips, tense tongue and tense throat muscles — often with some pharyngeal constriction. The extra tension in the articulators is particularly noticeable in the stop consonants. Dutch has firm closures with little or no aspiration in /p, t, k/. In English, the closures are less firm, comparable to a ‘leaky valve’, leading to the aspiration of English fortis plosives /p, t, k/. For fricatives, however, Dutch tends to have lax, loose strictures as opposed to English, which has firmer articulations; hence English /s, f/ are sharp as compared with graver D /s, f/. For (B) AN, the situation for plosives is similar to that for (NL) ABN. On the other hand, (B) AN fricatives are, if anything, closer to English, with relatively sharp friction.

An important characteristic of English is its tapered tongue setting and its use of the tip/blade area for alveolar articulations. For corresponding sounds, Dutch — both (NL) ABN and (B) AN — has a blunter lingual setting, utilising the blade/front of the tongue. The English alveolar consonants /t, d, n, s, z, l/ and the dental fricatives /θ, ð/ are tip or tip/blade articulations with small contact areas. The alveolar sounds in Dutch are said with a large portion of the tongue (i.e. the blade/front part of the tongue *behind* the tip) articulating with the alveolar ridge. For many speakers, particularly in the Netherlands, the tip itself may be depressed and inactive behind the lower front teeth.

In (NL) ABN, the posterior of the tongue (i.e. back/root) is much more significant than in English. The back of the tongue is active for the high-frequency consonant /x/, and for /k, ŋ/. In addition, the root of the tongue is retracted to produce the pharyngealisation for dark [ɤ], /n/ and the MOT vowel /ɔ/. Furthermore, the realisation of D /r/ is uvular for many speakers. In English, the only notable back tongue activity, apart from the velar articulation of /k, g, ŋ/, is slight velarisation for dark [ɤ]. Thus, for (NL) ABN, the centre of gravity for tongue activity is posterior (back/root) whilst in English it is anterior (tip/blade). In these respects, (B) AN differs strikingly from (NL) ABN. The place of articulation of /x, ɣ/ is post-palatal rather than velar. There is less tongue-root retraction, and post-vocalic /l/ is typically post-palatalised rather than pharyngealised. In Belgium generally, and particularly with AN speakers, *tong-r* predominates over *huig-r*. The centre of gravity for tongue activity appears to be front-central.

English could be represented on a diagram such as Fig. 21.1 as 2 + 5 (i.e. alveolarisation plus some velarisation). (NL) ABN could be considered as 6/7 + 3 (uvularisation/pharyngealisation plus palato-alveolarisation). (B) AN could be regarded as 4 + 3 (palatalisation plus palato-alveolarisation).

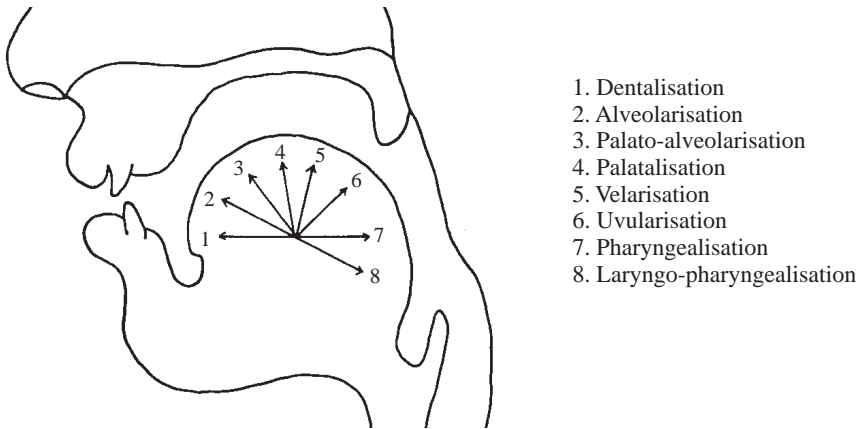


Figure 21.1 Range of tongue settings (after Laver 1980: 45 with modified numbering).

Further differences between RP and (NL) ABN are to be found in labial and velar settings. The lips are held more firmly in (NL) ABN, with inner rounding. RP tends to have lax, loosely rounded lips, with considerable protrusion for sounds such as /w/ and the THOUGHT vowel /ɔ/. In addition, the palato-alveolar consonants (i.e. /ʃ, ʒ, tʃ, dʒ/) are articulated with characteristic 'trumpet-shaped' lip protrusion. In terms of lip-protrusion, (B) AN appears to be more similar to English; however, like (NL) ABN, lip-tension is far greater than in English. The tense labialisation of (B) AN, together with the palatalisation mentioned above, is reflected in the most typical articulation of /v/ in *wie* (see p. 198).



In (NL) ABN, the velum is lax, giving rise to semi-continuous background nasalisation. This effect is even more noticeable in (B) AN and is one of the typical characteristics of Belgian voice quality. English RP tends to have a rather firmer velic closure. Although semi-continuous nasalisation is to be heard from certain RP speakers, and is common in regional varieties, it tends to suffer stigmatisation.

The setting of the larynx also reveals crucial differences in the two languages. (NL) ABN has raised larynx, with little creaky voice and a relatively high pitch range (noticeable particularly in male speakers). Glottal stop occurs only intermittently as an optional onset to syllable-initial vowels. English has lowered larynx, with a laxer glottal setting. Creaky voice is a characteristic feature, and pitch range is noticeably lower than in Dutch. Although in prevocalic position, glottal stop is heard less frequently than in Dutch, glottalisation figures prominently and recurrently in modern RP, where it is an essential marker of syllable-final fortis stop consonants.

Like (NL) ABN, (B) AN lacks creaky voice or glottalisation, but raised larynx and higher pitch range is not as noticeable as in ABN. A striking Belgian feature is a kind of huskiness produced by breathy voice. This, like nasalisation, is a typical Belgian voice-quality characteristic.

## 21.2 ADVICE TO LEARNERS

For many students, working on articulatory setting can often produce better results than concentrating solely on the articulation of individual speech sounds. By definition, articulatory setting features are supra-segmental, and any improvement will affect not just one isolated phoneme, but whole stretches of speech. It can therefore be regarded as a potentially efficient and effective form of pronunciation training.

Dutch-speaking learners of English are advised to make the following modifications to articulatory setting:

- (1) Adopt a tapered tongue-tip setting for alveolar and dental consonants /t, d, s, z, n, l, θ, ð/.
- (2) Use laxer settings of tongue and lips for stop consonants (which should aid considerably in achieving convincing aspiration for fortis consonants /p, t, k/).
- (3) (For Netherlands students.) Avoid tongue-root retraction and consequent pharyngealisation (which should improve the articulation of dark [ɫ] and the LOT vowel /ɒ/).
- (4) (Especially Belgian students.) Adopt a firmer velic closure to avoid excessive nasalisation.

Table 21.1 *Comparison of articulatory setting characteristics of Dutch and English*

|                                   | DUTCH                                                                                                                                                                                                                                                                                                    | ENGLISH                                                                                                                                                                                                                                                                                       |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Lips</b>                       | Held firmly and drawn back at the corners. Tendency to tight inner lip-rounding for vowels, e.g. /y, ø/. (For NL) Little lip protrusion for consonants.                                                                                                                                                  | Laxer with loose spreading and relaxed corners. Lip-rounding is open with protrusion, e.g. /w, ɔ/. ‘Trumpet-shaped’ rounding and protrusion for /ʃ, ʒ, tʃ, dʒ/.                                                                                                                               |
| <b>Tip/blade of tongue</b>        | <i>Blade/front</i> is active for alveolar /t, d, n, s, z, l/. (For NL) <i>Tip</i> is usually inactive and may be lowered behind bottom front teeth.                                                                                                                                                      | <i>Tip</i> is raised and active. Dental /θ ð/ are <i>tip</i> articulations. Alveolars /t, d, n, s, z, l/ are <i>tip/blade</i> articulations.                                                                                                                                                  |
| <b>Centre/back/root of tongue</b> | (B only) Centre of tongue raised to palate for /x, ɣ/; /l/ is <i>palatalised</i> . (NL only) <i>Root</i> pushed back to approach pharynx wall. Apparent in strong <i>pharyngealisation</i> of dark [ɫ], /ɔ/, and also /n/. Back of tongue is active for /x/. Many speakers have uvular varieties of /r/. | Posterior of tongue is active only for back vowels and velars. Dark [ɫ] is weakly <i>velarised</i> . Posterior of tongue is generally lax and plays little part in most articulations.                                                                                                        |
| <b>Soft palate</b>                | (Especially B.) Velic closure tends to be lax. Many speakers have semi-continuous <i>nasalisation</i> throughout their speech.                                                                                                                                                                           | Velic closure is firmer with stronger contrast of nasal/oral sounds. Semi-continuous <i>nasalisation</i> is stigmatised but is heard as an idiosyncratic feature, and is common in accents other than RP.                                                                                     |
| <b>Larynx</b>                     | 1. Glottal setting tends to be tight. Larynx raised.<br>2. Higher-pitched intonation patterns.<br>3. Creaky voice is rare. Belgians have breathy voice quality.<br>4. [ʔ] occurs frequently before syllable-initial vowels. No glottal reinforcement of syllable-final fortis stops.                     | 1. Glottal setting laxer. Larynx lowered.<br>2. More extended intonation range, descending into lower pitches.<br>3. Creaky voice is a recurrent feature at low pitches.<br>4. [ʔ] less frequent before syllable-initial vowels. [ʔ] is essential as a marker of syllable-final fortis stops. |
| <b>Tension of articulators</b>    | <b>Stops.</b> Large areas of articulators. Firm valve closure. No aspiration in fortis consonants.<br><b>Fricatives.</b> (NL only). Lax, loosely held articulators (graver /s, f/).                                                                                                                      | <b>Stops.</b> Laxer; smaller areas of the articulators. Valve closure is less firm, with aspiration in fortis /p, t, k/.<br><b>Fricatives.</b> Firmly held narrowings (sharper /s, f/).                                                                                                       |

- (5) (Especially Netherlands students.) Adopt lip-rounding with protrusion (which will improve /w/, /j, ʒ, tʃ, dʒ/ and the THOUGHT vowel /ɔ:/).
- (6) Adopt lowered larynx with laxer glottal setting. Employ (1) creaky voice and (2) glottal reinforcement of syllable-final /p, t, k, tʃ/.
- (7) (For Belgian students.) Avoid excessive breathy-voice huskiness.

Table 21.1 on p. 224 summarises the major apparent differences in articulatory setting between Dutch (ABN and AN) and English (RP).

## STRESS AND RHYTHM

### 22.1 SUPRA-SEGMENTAL FEATURES

Up till now we have been dealing mainly with the segments of English and Dutch, i.e. the vowels and consonants. We shall now consider the features which operate over a unit greater in extent than a single phoneme. These are termed **supra-segmental**, and include stress, rhythm and intonation.

Stress was introduced in Chapter 3 (p. 19) and has been used in transcription throughout the book, but it is now necessary to look more closely at stress, to discover (1) what is implied in phonetic terms; (2) what function stress has to play in the sound systems of English and Dutch.

#### EXERCISE 1

Say the following pairs:

A

*(de) appel*  
*uitstekend* ('protruding')  
*overkomen* ('come over')  
*voorkomen* ('happen')  
*achterruit*  
*verkoop* (n.)  
*misbruik* (n.)  
*overval* (n.)  
*onderricht* (n.)

B

*(het) appel*  
*uitstekend* ('excellent')  
*overkomen* ('happen')  
*voorkomen* ('prevent')  
*achterruit*  
*(ik) verkoop* (vb)  
*(ik) misbruik* (vb)  
*(ik) overval* (vb)  
*(ik) onderricht* (vb)

The difference between these pairs is that in the words in column A the first syllable is more strongly stressed; but in column B the stress falls on a later syllable. Note that stress is the most important phonological feature distinguishing meaning in these words.

#### *Word stress and sentence stress*

We shall employ the distinction made in Section 3.2 between **word stress** (stress in the isolated word, as in its citation form) and **sentence stress** (stress in connected speech).

### 22.2 PHONETIC FEATURES OF STRESS

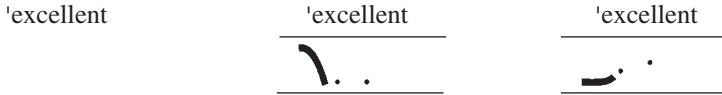
It is possible to distinguish the following significant phonetic parameters:

### 1. *Intensity*

This is the greater breath effort and muscular energy associated with stressed syllables. It is closely related to **loudness** as perceived by the listener.

### 2. *Pitch variation*

Marked changes in pitch are probably the most significant of all the means of signalling a stressed syllable. The change may be either to a higher or lower pitch, or may involve a sustained pitch on a low or high tone, noticeably different from the unstressed syllables in the neighbourhood, e.g.



See Chapter 23 on intonation.

### 3. *Vowel quality*

In many languages (e.g. English, Dutch, German and Russian, to quote only a few examples), there is a strong tendency for unstressed syllables to contain shorter and more centralised vowels (whereas stressed syllables normally contain vowels on the periphery of the vowel space); see Fig. 22.1. This general tendency is termed **vowel reduction**. In Dutch (particularly Netherlands Dutch), vowels in unstressed syllables undergo vowel reduction and typically have noticeably centralised realisations, cf. *konijn* [kō'nein] – *koning* ['ko:nɪŋ] (note that we employ ['ɪ'] to indicate a more centralised quality of the vowel; see p. 72).

Diphthongal vowels often partially lose their glide quality in unstressed syllables, cf. English *sight* – 'insight; *a round* – 'foreground.

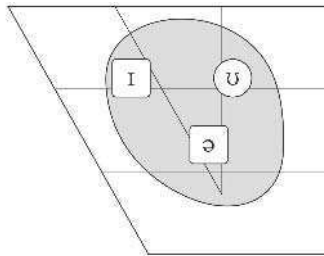


Figure 22.1 Vowel diagram illustrating peripheral and central vowel space.

A more extreme vowel reduction of this type is termed **vowel gradation**. In English, this involves the complete replacement of a peripheral vowel by one of three vowels which are generally associated with unstressed syllables,

namely E /ə, ɪ, ʊ/. Of these, /ə/ is found only in unstressed syllables, and the vowels /ɪ, ʊ/ also tend to occur in this context, e.g.: *library* /'laɪbrəri/, *regular* /'regjʊlə/, *exaggerate* /ɪg'zædʒəreɪt/. In addition, syllabic consonants (notably /ŋ, l/) are also frequently found in unstressed syllables, e.g. *convention* /kən'venʃn/, *convertible* /kən'vɜ:təbl/.

### EXERCISE 2

Transcribe the following words phonemically, marking stress. Underline the vowels that show gradation. What difference do you notice between the nouns and verbs?

|                        |                        |
|------------------------|------------------------|
| <i>concert</i> (noun)  | <i>concert</i> (verb)  |
| <i>conduct</i> (noun)  | <i>conduct</i> (verb)  |
| <i>proceeds</i> (noun) | <i>proceeds</i> (verb) |
| <i>compress</i> (noun) | <i>compress</i> (verb) |
| <i>record</i> (noun)   | <i>record</i> (verb)   |
| <i>export</i> (noun)   | <i>export</i> (verb)   |
| <i>content</i> (noun)  | <i>content</i> (adj.)  |
| <i>absent</i> (adj.)   | <i>absent</i> (verb)   |

In Dutch, although vowel gradation is not as pervasive as in English, nevertheless a similar tendency can be observed. D /ə/ overwhelmingly occurs in unstressed syllables, and /ɪ/ is also found frequently in unstressed contexts, e.g. *betekenis* /bət'e:kənɪs/, *vergadering* /fər'xɑ:dərɪŋ/. Syllabic consonants, especially /r/, are not uncommon in Dutch, e.g. *beter* /'be:tər/; syllabic /l/ and /n/ are found less frequently than in English, occurring mainly in weak forms (see pp. 239-40).

#### 4. Duration of vowels



Duration of vowels is an important factor in indicating stress. In English and Dutch, vowels are longer in stressed than in unstressed syllables, e.g. English *sarcasm* ['sɑ:kæzəm], *sarcastic* [sɑ'kæ:stɪk]. Cf. Dutch *monotoon* [mono'to:n], *banaan* [ba'na:n], *T.V.* [te'fe:].

#### 5. Full/partial articulation

The articulation of consonants in stressed syllables is usually full and complete, as against unstressed syllables where consonants tend to have only partially complete articulation. As a result, in stressed syllables, stops have complete closure and fricatives have obvious friction. In unstressed syllables, on the other hand, often only a gesture is made towards the closure of stops so that effectively they become fricatives. Similarly, there is a tendency for fricatives to lose their friction and turn into approximants. Furthermore, the fortis/lenis contrast, which is clearly maintained in stressed syllables, may often be blurred in unstressed syllables. For example, in English, strong aspiration of syllable-initial fortis stops is associated with stressed context (see pp. 51, 150-52).

Table 22.1 summarises the phonetic characteristics of stressed and unstressed syllables in English.

Table 22.1 *Characteristics of stressed and unstressed syllables in English*

|                          | STRESSED                                                                                                                                           | UNSTRESSED                                                                                                                               |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1. Intensity</b>      | Articulation with greater breath/muscular effort. Perceived as <i>greater loudness</i>                                                             | Less breath/muscular effort. Perceived as having <i>less loudness</i>                                                                    |
| <b>2. Vowel quality</b>  | May contain any vowel (except /ə/).<br><br>Vowels have clear (peripheral) quality. Glides have clearly defined second element.                     | Generally have central vowels /ə, ɪ, ʊ/ or syllabic consonants. Vowels may have centralised quality. Glides tend to lose second element. |
| <b>3. Vowel duration</b> | Vowels have full length                                                                                                                            | Vowels are considerably shorter                                                                                                          |
| <b>4. Pitch</b>          | Marked change in pitch or pitch is sustained                                                                                                       | Syllables tend to follow the pitch trend set by previous stressed syllable                                                               |
| <b>5. Articulation</b>   | Stops have complete closure.<br><br>Fricatives have full friction.<br><br>Features of fortis/lenis contrast (e.g. aspiration) are clearly defined. | Stops have incomplete closure.<br><br>Fricatives tend to lose friction and become approximants. Fortis/lenis contrast is blurred.        |

### 22.3 WORD STRESS

It is possible to distinguish varying degrees of stress — as many as five. The example below, shows this, using superscript figures 1-5: 1 for strong stress, 5 for least stress:



2      4      1    5    3

*eccentricity* /e k s ə n t r ɪ s ə t ɪ/

Systems of 4-term (or even 5-term) degrees of stress are employed in books dealing with stress from the point of view of theoretical phonological analysis. However, for practical purposes, such as learning a foreign language, it is necessary to consider at most three degrees. The strongest is termed **primary** stress; and the next level of stress, **secondary** stress; anything else is regarded as **unstressed**. A common form of stress-marking is to show primary stress by a short vertical *above* the line, thus ' (as we have been doing throughout

this book). Where it is necessary to show a secondary stress, it is marked as a vertical *below* the line, thus [,]. Unstressed syllables are left unmarked, e.g. ,*eccen'tricity*, ,*rationali'sation*, ,*deto'nation*, 'under,writer, 'proto,plasm, a,ccli-mati'sation.

From now on, we shall return to the practice of showing primary stress only, unless there is some particular reason to indicate a secondary stress. This has the advantage of simplification; providing primary stress is correct, interference caused by learners' errors with secondary stresses is minimal.

### *Predictability of stress*

In certain languages, it is possible to state that the stress falls overwhelmingly on a syllable in a particular position in the word (positional stress). For instance, in Czech and Slovak the stress is regularly on the first syllable. In many languages, it is on the penultimate (last but one) syllable, e.g. Italian, Welsh and Polish. Some languages have stress on the final syllable, e.g. Farsi. In certain languages, e.g. French and many Indian languages, e.g. Hindi, Gujarati, native speakers do not appear to consider stress of significance. For instance, in French, although the tendency is for the word in isolation to have stress on the final syllable, this is often shifted to other syllables in connected speech.

In English and Dutch, stress behaves in none of these ways. Stress is not easily and regularly predictable (an effect which may be termed dynamic). On the other hand, it is of importance to the word shape, and is not (as a rule) shifted from one syllable to another in connected speech. Consequently, we may say that for English and Dutch, and many other languages (e.g. Frisian, German, Russian, Danish, Spanish), stress is usually fixed for each word, but may occur on any syllable. Furthermore, in these languages, stress is of paramount importance to the native speaker in determining the meaning of the word.

In most languages, and English is no exception, it is often hard for a learner to predict the primary stress from the orthography, and rules for stress are difficult to formulate and may have numerous exceptions.<sup>1</sup> However, the native speaker is generally able to guess the stress of an unfamiliar word, which would indicate that there is an underlying rule system in operation.

Since the 1960s, linguists have moved from a position where it was said that there were few rules for predicting English stress to one where some would say that stress is completely predictable. From the point of view of a foreign learner, however, any prescriptive rule system which aimed at being complete would be hopelessly complex. Consequently, it is probably best for learners to consider English stress as being in part rule-governed, and only to concern themselves with learning the most useful and frequent patterns.

---

<sup>1</sup> Spanish is unusual in showing non-predictable stress by means of an accent, e.g. *corazón*.



Together with the guidelines which follow, the traditional advice of noting and memorising the stress pattern of each word when you first meet it must still apply.

Table 22.2 Some examples of word stress in English and Dutch

|                     | ENGLISH                           | DUTCH                              |
|---------------------|-----------------------------------|------------------------------------|
| <b>1st syllable</b> | 'dextrous<br>'overcoat            | 'uitzondering<br>'wedstrijd        |
| <b>2nd syllable</b> | ri'diculous<br>hi'storical        | ver'dediging<br>kwart'ier          |
| <b>3rd syllable</b> | millio'naire<br>medi'eval         | tele'foon<br>maga'zijn             |
| <b>4th syllable</b> | authori'sation<br>electio'neering | veronder'stelling<br>communi'catie |

#### 22.4 SOME STRESS GUIDELINES

It must be emphasised that the indications given below for the placing of English stress are to be considered *guidelines* rather than rules, as in nearly all cases there are a number of exceptions (indicated by **(EXC)**).

##### *Short words (2 or 3 syllables)*

General guide: primary stress on first syllable, e.g. 'trousers, 'cabinet, 'dangerous, 'optional, 'minimum, 'punishment, 'sensible, 'gravitate, 'error.

##### *Prefix words*

General guide: in shorter words beginning with a prefix, the primary stress typically falls on the syllable **following** the prefix: im'possible, be'hind, ex'plain, re'call, de'mand, dis'charge, in'flation, con'ceal, over'see, per'tain, to'morrow, un'do. **(EXC)**: a large number of nouns and adjectives, e.g. 'indolent, 'exercise, 'concept, 'reflex.

Note that numerous verbs with prefixes are distinguished from identically spelt nouns/adjectives by means of stress. We can term this a **switch stress** pattern. In these cases, the noun/adj. has stress on the prefix.

|             |                  |             |                  |
|-------------|------------------|-------------|------------------|
| <b>VERB</b> | <b>NOUN/ADJ.</b> | <b>VERB</b> | <b>NOUN/ADJ.</b> |
| com'pound   | 'compound        | in'crease   | 'increase        |
| con'vict    | 'convict         | re'ject     | 'reject          |

| VERB              | NOUN/ADJ.         | VERB             | NOUN/ADJ.        |
|-------------------|-------------------|------------------|------------------|
| <i>con'cert</i>   | <i>'concert</i>   | <i>pro'gress</i> | <i>'progress</i> |
| <i>su'spect</i>   | <i>'suspect</i>   | <i>per'vert</i>  | <i>'pervert</i>  |
| <i>tran'sport</i> | <i>'transport</i> |                  |                  |

### Longer words (four or more syllables)

A very strong tendency is for stress to fall on the **antepenultimate** syllable, i.e. the last but two, e.g. *e'mergency*, *ca'lamity*, *hi'storical*, *cosmo'politan*, *geo'graphical*, *sig'nificant*, *e'stablishment*, *em'barrassment*, *i'ronical*.

### Suffix words

A number of suffixes provide stress indications.

#### 1. Stress on suffix (e.g. *main'tain*, etc.)

|                            |                                                                                                                            |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>-ade</b> (nouns)        | <i>lemonade, cavalcade, marinade.</i> (EXC) <i>'marmalade</i>                                                              |
| <b>-ain</b> (verbs)        | <i>maintain, ascertain</i>                                                                                                 |
| <b>-ee</b> (nouns)         | <i>referee, employee, chimpanzee, dungarees.</i> (EXC) <i>'coffee, 'toffee, 'Pharisee, 'Yankee, 'pedigree, com'-mittee</i> |
| <b>-eer</b>                | <i>domineer, pioneer, engineer, career</i>                                                                                 |
| <b>-esce</b> (verbs)       | <i>coalesce, acquiesce</i>                                                                                                 |
| <b>-esque</b> (adjs/nouns) | <i>picturesque, grotesque, burlesque</i>                                                                                   |
| <b>-ess</b> (verbs)        | <i>obsess, depress, possess, address</i>                                                                                   |
| <b>-ette</b> (nouns)       | <i>usherette, cigarette, marionette.</i> (EXC) <i>'etiquette</i>                                                           |
| <b>-ique</b> (nouns/adjs)  | <i>technique, unique, antique</i>                                                                                          |
| <b>-oon</b>                | <i>typhoon, saloon, festoon, cartoon</i>                                                                                   |
| <b>-self, -selves</b>      | <i>yourselves, himself, themselves</i>                                                                                     |

#### Stress on syllable preceding suffix (e.g. *eco'nomie*, etc.)

|                        |                                                                                                                                                                                   |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>-ative, -itive</b>  | <i>representative, prohibitive, relative</i>                                                                                                                                      |
| <b>-cient, -ciency</b> | <i>efficient, efficiency, proficiency, sufficient</i>                                                                                                                             |
| <b>-eous</b>           | <i>beauteous, aqueous</i>                                                                                                                                                         |
| <b>-ety</b>            | <i>propriety, sobriety</i>                                                                                                                                                        |
| <b>-ian</b>            | <i>politician, proletarian</i>                                                                                                                                                    |
| <b>-ial</b>            | <i>alluvial, special, beneficial</i>                                                                                                                                              |
| <b>-ic</b>             | <i>economic, atomic, diplomatic, semitic, chaotic, horrific, esoteric, phonetic.</i> (EXC) <i>'Arabic, a'rith-metic (n.), 'rhetoric, 'lunatic, 'catholic, 'heretic, 'politics</i> |
| <b>-ical</b>           | <i>psychological, grammatical, phonological</i>                                                                                                                                   |
| <b>-ident</b>          | <i>confident, diffident</i>                                                                                                                                                       |

|                      |                                                                               |
|----------------------|-------------------------------------------------------------------------------|
| <b>-inal</b>         | <i>attitudinal, terminal, original, medicinal</i>                             |
| <b>-ion</b>          | <i>communication, persuasion, commotion, position</i>                         |
| <b>-ital</b>         | <i>sagittal, hospital, capital</i>                                            |
| <b>-itous</b>        | <i>fortuitous, felicitous</i>                                                 |
| <b>-itude</b>        | <i>attitude, gratitude</i>                                                    |
| <b>-ity</b>          | <i>severity, familiarity, capability, majority, inflexibility, insecurity</i> |
| <b>-ive</b>          | <i>effective, productive, distinctive, active, vindictive</i>                 |
| <b>-ual</b>          | <i>eventual, residual</i>                                                     |
| <b>-ular</b>         | <i>molecular, particular</i>                                                  |
| <b>-uous</b>         | <i>impetuous, tempestuous, incestuous</i>                                     |
| <b>-wards</b> /wədz/ | <i>upwards, inwards. (EXC) towards /tə'wɔ:dz/</i>                             |

## 22.5 STRESS IN DUTCH

In most Dutch words of two or more syllables, stress falls on the first syllable, e.g. 'woning, 'voorbeeld, 'sommige, 'koninklijk, 'eigenschap, 'medeklinker, 'wetenschap, 'ongeluk.

Compound words also tend to be stressed on the first syllable, e.g. 'theelepел, 'lampenkap, 'boekenkast, 'kippenhok, 'woordenboek, 'staatsgreep. Note the following exceptions:

1. Words beginning with many prefixes **ge-**, **be-**, **her-**, **ver-**, **on-**, **ont-**, e.g. *be'drag*, *ver'drag*, *herkennen*, *ge'drag*, *on'mogelijk*, *ontzag*, *be'zet*, *ver'zet*, *ge'zet*, *ont'zet*.
2. A large number of words borrowed from other languages, in particular French, Latin, and Greek.

a) Suffixes such as the following function as stress attractors:

|                  |                                |
|------------------|--------------------------------|
| <b>-aal</b>      | <i>radicaal, doctoraal</i>     |
| <b>-aat</b>      | <i>internaat, apparaat</i>     |
| <b>-age</b>      | <i>bagage, reportage</i>       |
| <b>-ant</b>      | <i>informant, contant</i>      |
| <b>-ast</b>      | <i>gymnasiast, enthousiast</i> |
| <b>-ein, ijn</b> | <i>terrein, venijn, konijn</i> |
| <b>-ent</b>      | <i>moment, docent</i>          |
| <b>-es</b>       | <i>lerares, barones</i>        |
| <b>-(i)eel</b>   | <i>controversieel, moreel</i>  |
| <b>-iek</b>      | <i>antiek, journalistiek</i>   |

|              |                                            |
|--------------|--------------------------------------------|
| <b>-ier</b>  | <i>leverancier, populier</i>               |
| <b>-isme</b> | <i>socialisme, realisme</i>                |
| <b>-ist</b>  | <i>socialist, realist</i>                  |
| <b>-ij</b>   | <i>slagerij, schilderij</i>                |
| <b>-on</b>   | <i>perron, ballon</i>                      |
| <b>-tair</b> | <i>elementair, elitair</i>                 |
| <b>-teit</b> | <i>kwaliteit, universiteit</i>             |
| <b>-teur</b> | <i>monteur, taxateur</i>                   |
| <b>-tief</b> | <i>kwalitatief, representatief, actief</i> |
| <b>-ure</b>  | <i>allure, procedure</i>                   |
| <b>-uur</b>  | <i>literatuur, lectuur</i>                 |

b) Other words are stressed on the syllable immediately preceding the suffix:

|              |                                         |
|--------------|-----------------------------------------|
| <b>-baar</b> | <i>meetbaar, uitvoerbaar, blijkbaar</i> |
| <b>-die</b>  | <i>subsidie, remedie, komedie</i>       |
| <b>-isch</b> | <i>logisch, statisch, fantastisch</i>   |
| <b>-tie</b>  | <i>instantie, garantie, politie</i>     |

## 22.6 STRESS IN ENGLISH COMPOUNDS

Word stress in compounds is not as important for intelligibility as in simple words. Nevertheless, incorrect placement of stress in English compounds is a very persistent error in the English of Dutch-speaking learners, and is therefore particularly significant for the advanced student.

Stress in English compounds falls into two main patterns:<sup>2</sup>

1. **1st Element Stress.** These have main stress on the first element of the compound, e.g. *'cherry stone*, *'running shoes*.



2. **2nd Element stress.** These have main stress on the second element of the compound, e.g. *cherry 'pie*, *running 'water*.

In English, both types of compound stress pattern are common — but in Dutch the overwhelming majority of compounds are of the 1st Element Stress type.

---

<sup>2</sup> Many restrict the term 'compound' to combinations with 1st Element Stress, regarding a compound with 2nd Element Stress as a 'phrase'. Note that many writers regard this as 'double stress' or 'equal stress'. We use the term *2nd Element Stress* because although it may shift in certain circumstances, the stress is noticeably more prominent on the second element. The Dutch-speaking learner's typical error is to overstress the first element.

### *Stress guidelines for compounds*

Stress in compounds — and especially the use of 2nd Element Stress — is a difficult area for the student of English. To provide a complete guide would be effectively impossible since there are many exceptions and irregularities. In the end, the learner has to use some guesswork, but knowing these few simple guidelines can make learning compound stress much easier and allow you to guess right, say, nine times out of ten.

#### (1) **Word shape**

Compounds written as *one word* nearly always have 1st Element Stress, but those written as *two words*, or with a *hyphen*, can be of either stress type.



#### (2) **The Manufactures Rule** (2nd Element Stress).

If the first element of a compound is a material used to manufacture the whole object (e.g. an *apple tart* is a tart made of apples), then the compound typically has 2nd Element Stress. This is termed the **Manufactures Rule**, e.g. *apple* 'tart, *chicken* 'soup, *cherry* 'brandy, *paper* 'bag, *stone* 'wall, *cotton* 'socks, *diamond* 'ring. Cf. non-manufactured items, which instead take 1st Element Stress, e.g. 'apple-tree, 'chicken feathers, 'cherry stone, 'cotton-reel, 'diamond cutter.



#### (3) **Location Rule** (2nd Element Stress).

There is a strong tendency for a compound to take 2nd Element Stress if it in some way involves location. This is termed the **Location Rule** and there are a number of categories.

(a) If the first element is the name of a country, region or town, the compound takes 2nd Element Stress, e.g. *German* 'measles, *Russian* roulette, *Siamese* 'cat, *Dutch* 'courage, *Danish* 'pastry, *Shetland* 'pony, *Bristol* 'Cream, *York* 'ham, *Bermuda* 'shorts, *London* 'pride, *Welsh* 'rabbit.

(b) The vast majority of **place-names** have 2nd Element Stress. This includes all street names, except those actually ending in the word *street*, e.g. *Cathedral* 'Road, *St John's* 'Square, *Park* 'Place, *Churchill* 'Way, *Museum* 'Avenue. Cf. *Cathedral Street*, *St John's Street*, etc.

Names of cities, towns, suburbs, districts, etc. with two components have 2nd Element Stress, e.g. *Milton* 'Keynes, *Castle* 'Bromwich, *New* 'York, *Notting* 'Hill.

(c) The Location Rule also holds true for the names of parks, bridges, stations, gardens, public buildings, geographical features, and even football teams and other sports clubs. These almost invariably have 2nd Element Stress, e.g. *Green* 'Park, (the) *Forth* 'Bridge, *Euston* 'Station, (the) *Wigmore* 'Hall, *Clarence* 'House, *Kew* 'Gardens, *Land's* 'End, *Beachy* 'Head, *Long* 'Island, *Manchester U* 'nited, *Glasgow* 'Rangers, *Brooklyn* 'Dodgers.

(d) Parts of a house (or any other building) and its surroundings tend to have 2nd Element Stress, e.g. *front* 'door, *kitchen* 'window, *back* 'stairs, *attic* 'ceiling, *garden* 'seat, *office* 'desk, *church* 'clock, *works* can'teen. (EXC) Note that compounds with *-room* are stressed on the first element, e.g. 'bedroom, 'living room, 'sitting room, 'drawing room (but *front* 'room).

(e) Other examples of the Location Rule are to be seen where positioning is involved, e.g. *left* 'wing, *middle* 'class, *Low* 'German, *upper* 'crust, *bottom* 'line.

(f) Time location also tends to have 2nd Element Stress, e.g. *Middle* 'Ages, *morning* 'coffee, *afternoon* 'tea, *January* 'sales, *winter* 'sports, *April* 'showers, *weekend* 'return, *Easter Parade*, *Christmas* 'Day.

### Further useful guides



(1) The vast majority of **food items** are covered by either the Manufactures Rule or the Location Rule. Consequently, with the exceptions noted below, virtually all **food items** take 2nd Element Stress, providing they have undergone some form of preparation, e.g. *Yorkshire* 'pudding, *mint* 'sauce, *Bakewell* 'tart, *port* 'wine, *cabinet* 'pudding, *baked* pōtatoes, *roast* 'beef, *macaroni* 'cheese.

(EXC): some items take 1st Element Stress, because although they may be served as food, they can also be considered as part of the living plant or animal, e.g. 'chicken leg, 'goose liver, 'lemon juice, 'vine leaves. Other significant exceptions are: *-bread*, *-cake*, *-paste*, e.g. 'shortbread, 'Christmas cake, 'shrimp paste.

(2) Names of **magazines, newspapers**, etc. have 2nd Element Stress (many involve place or time and are covered by the Location Rule), e.g. *Daily* 'Mirror, *Evening* 'Standard, *Baltimore* 'Sun, *Radio* 'Times, *Woman's* 'Own, *Yorkshire* 'Post.

(3) Names of **academic subjects, skills**, etc. have 1st Element Stress, e.g. 'maths teacher, 'medical school, 'swimming instructor, 'technical college, 'history book, 'English student (i.e. a student of English), 'French mistress (i.e. a woman who teaches French), 'Russian class, 'driving test.

### Morphological stress patterns

(1) Nouns formed from **verb + particle** take 1st Element Stress, e.g. 'pick-up, 'make-up, 'come-back, 'flashback, 'look-out. (Note that this is the reverse of what takes place in loanwords in Dutch, e.g. Dutch *pick-up*, *make-up*, etc.) Exceptions are few, but note: (EXC) *lie-*'down, *look-*'round, *set-*'to.

(2) Nouns ending in **-er or -ing + particle** take 2nd Element Stress, e.g.

*hanger-'on, looker-'on, passer-'by, runner-'up, washing-'up, summing-'up.*

(3) Compounds formed from **-ing + noun** are of two types:

(a) Where *an aim is achieved or an activity is aided by the object* (i.e. 'running shoes help you to run, a 'washing machine helps you to wash clothes). These take 1st Element Stress, e.g. 'sewing machine, 'running shoes, 'scrubbing brush, 'washing machine.



(b) Where *a compound suggests a characteristic of the object, with no idea of aiding some activity* (a whistling 'kettle cannot help you to whistle). These take 2nd Element Stress, e.g. running 'water, casting 'vote, working 'man, leading 'article, sliding 'scale.

(4) **Nouns ending in -er preceded by adjective**<sup>4</sup> tend to have 2nd Element Stress, e.g. free'thinker, loud'speaker, left'hander, out'sider, two'seater.

(5) **Adjective + past participle.** These are overwhelmingly 2nd Element Stress, e.g. heavy-'handed, thick-'skinned, quick-'tempered, cold-'blooded, evil-'minded. (EXC) are few: 'downcast, 'thoroughbred, 'crossbred.

(6) **Noun + noun ending in -er** tend to have 1st Element Stress, e.g. 'proof-reader, 'newsreader, 'stockholder, 'shock absorber, 'caretaker, 'ratepayer, 'hairdrier. Note that there is a tendency for the first element of the compound to be the object of an action, e.g. a proofreader reads proofs, etc. (EXC): stage 'manager, town'crier.

(7) **Verb + noun.** These are overwhelmingly 1st Element Stress, e.g. 'play-boy, 'search party, 'watchdog, 'singsong, 'driftwood, 'pickpocket.

More detailed accounts of stress in English are to be found in Kingdon (1958b) and Fudge (1984).

### *Comparison with Dutch*

The vast majority of Dutch compounds have 1st Element Stress. The main problems for learners therefore lie in the greater variability of English compound stress and especially in applying 2nd Element Stress correctly. In very many cases where 2nd Element Stress occurs in English, 1st Element Stress is heard in Dutch. Compare the examples over page:

<sup>4</sup> Adjective is taken here in a wide sense, including adverbs, numerals, etc.

**Dutch**

'*appel*taart  
to'*maten*soep  
'*luid*spreker  
'*voor*deur

**English**

*apple* 'pie  
to*mat*o 'soup  
*loud* 'speaker  
front 'door

## 22.4 SENTENCE STRESS

We have already noted, in particular with reference to transcription (see p. 19) that many of the potential stresses of citation forms (i.e. word stress) are lost in connected speech (i.e. sentence stress). The general pattern is that words which are likely to lose stress completely are those which convey relatively little information. These are the words important for the structure of the sentence, i.e. the **grammatical words** (articles, auxiliary verbs, verb *be*, prepositions, pronouns, conjunctions; see Section 3.2). The **lexical words** (nouns, main verbs, adjectives, most adverbs), which carry a high information load, are normally stressed.

I've 'heard that 'Clare and 'Phil 'spent the 'holidays in 'London.  
G G L G L G L L G L G L

(L = lexical word, G = grammatical word).

Dutch works in a similar way:



'k heb ge'hoord dat 'Clara en 'Phil hun va'kantie in 'Londen hebben 'doorgebracht  
G G L G L G L G L G L G L

There are certain exceptions to the general pattern stated above:

1. Two sets of grammatical words frequently receive stress.
  - a) Wh-words where these form questions, e.g. *where*, *why*, *how*.
  - b) Demonstratives, e.g. *this*, *that*, *there*, *those*, *here*.

Note that these particular grammatical words often add significant information; the demonstratives also provide contrast (see below).

2. Grammatical words normally receive stress when they indicate a contrast:
  - a) *I said give **her** a kiss, not **him**.*
  - b) *It's **my** money, not **yours**.*
  - c) ***That's** the book you want, not **this**.*

3. Prepositions are frequently stressed where a contrast is stated or implied by means of a negative (see also p. 280):

*In fact, I know very little **about** music, but I'd like to learn.*

A related effect is that *repeated* lexical items are not generally stressed: *'There'll be some 'hold-ups in 'Birmingham and 'areas 'close to Birmingham.*



A similar effect can be heard in items which are direct equivalents:

- a) 'Know 'Bob 'Wright at all?  
'Can't say I've 'heard of the fellow.
- b) D'you 'like 'whisky?  
I 'love the stuff.

3. At more rapid tempo, the number of unstressed syllables will increase, and more lexical words will be unstressed, e.g. *I've heard that 'Clare and 'Phil spent the holidays in 'London.*

## 22.5 WEAK FORMS

The **weak forms (WFs)** of English were discussed in Section 3.4. Let us now examine the WFs that occur in Dutch, some of the most frequent of which are given in Table 22.3:

Table 22.3 Weak forms in Dutch

|                                         | Word             | Strong form | Weak form                                      |
|-----------------------------------------|------------------|-------------|------------------------------------------------|
| <b>Determiners</b>                      | <i>een</i>       | /e:n/       | /ən/                                           |
|                                         | <i>het</i>       | /hɛt/       | /ət, t/                                        |
| <b>Prepositions</b>                     | <i>aan</i>       | /a:n/       | /ən, n̩/                                       |
|                                         | <i>met</i>       | /mɛt/       | /mət/                                          |
|                                         | <i>naar</i>      | /na:r/      | /nər, n̩r, nə/                                 |
|                                         | <i>ten</i>       | /tɛn/       | /tən/                                          |
|                                         | <i>ter</i>       | /tɛr/       | /tər, t̩r, tə/                                 |
|                                         | <i>van</i>       | /f̥ɑn/      | /f̥ən/ or /fən, f̩n/                           |
|                                         | <i>voor</i>      | /f̥o:r/     | /f̥ər, f̩r, f̥ə/ or /fər, f̩r, fə/             |
| <b>Personal and possessive pronouns</b> | <i>ik</i>        | /ɪk/        | /k/                                            |
|                                         | <i>jij</i>       | /jɛi/       | /jə/                                           |
|                                         | <i>hij</i>       | /hɛi/       | /i/: <i>heeft ie, gaat ie, dat ie,</i><br>etc. |
|                                         | <i>zij</i>       | /zɛi/       | /zə/                                           |
|                                         | <i>het</i>       | /hɛt/       | /ət, t/                                        |
|                                         | <i>wij</i>       | /vɛi/       | /və/                                           |
|                                         | <i>haar</i>      | /ha:r/      | /dər, d̩r, də, ər, ə/                          |
|                                         | <i>hem</i>       | /hɛm/       | /əm, m̩/                                       |
|                                         | <i>mijn</i>      | /mɛin/      | /mən, m̩n/                                     |
|                                         | <i>jouw, jou</i> | /jau/       | /jə/                                           |
| <i>zijn</i>                             | /zɛin/           | /zən, z̩n/  |                                                |

|                        | Word         | Strong form | Weak form           |
|------------------------|--------------|-------------|---------------------|
| <b>Auxiliary verbs</b> | <i>ben</i>   | /bɛn/       | /bən/               |
|                        | <i>is</i>    | /ɪs/        | /əs, s/             |
|                        | <i>was</i>   | /vɑs/       | /vəs/               |
|                        | <i>heb</i>   | /hɛp/       | /əp, həp/           |
|                        | <i>heeft</i> | /he:ft/     | /əft/               |
|                        | <i>had</i>   | /hɑt/       | /ət/                |
|                        | <i>kan</i>   | /kɑn/       | /kən, kɪ/           |
|                        | <i>zal</i>   | /zɑl/       | /zəl, zɪ/           |
| <b>Miscellaneous</b>   | <i>als</i>   | /ɑls/       | /əls, əs/           |
|                        | <i>daar</i>  | /da:r/      | /dər, dɪ, də/       |
|                        | <i>dan</i>   | /dɑn/       | /dən/               |
|                        | <i>dat</i>   | /dɑt/       | /dət/               |
|                        | <i>eens</i>  | /e:ns/      | /əns, əs, s/        |
|                        | <i>en</i>    | /ɛn/        | /ən, ɪ/             |
|                        | <i>er</i>    | /ɛr/        | /ər, ɪ, ə, dər, dɪ/ |
|                        | <i>maar</i>  | /ma:r/      | /mər, mɪ, mə/       |
|                        | <i>of</i>    | /ɔf/        | /əf, f/             |
|                        | <i>waar</i>  | /va:r/      | /vər, və, vɪ/       |
|                        | <i>wat</i>   | /vɑt/       | /vət/               |
|                        | <i>wel</i>   | /vɛl/       | /vəl, vɪ/           |

Certain of the examples above, notably those with syllabic consonants, are more typically found in rapid colloquial speech (see below). These forms appear also to be more common in (NL) ABN than in (B) AN. Note that the more firmly established WFs are shown with a reduced vowel in spelling, e.g. *zij*, *haar*; *hij*, *eens*, which are written as *ze*, *d'r*; *ie*, *'s*.

#### *Comparison of weak forms in English and Dutch and advice*

Following the principles of vowel reduction stated on pp. 227-28, in Dutch, the tendency for the vowels of WFs to be reduced to /ə/ is less marked than in English. Dutch frequently uses centralised forms of the vowel, e.g. in words like *naar* and *voor* [nɑ:r, fö:r]. WFs containing /ə/ (e.g. /nə, fə/) or syllabic /ɾ/ (/nɾ, fɾ/) are more characteristic of rapid, colloquial styles of speech.

In English, on the other hand, realisations without /ə/ sound both over-emphatic and foreign. This, together with the tendency of learners to speak over-carefully in the target language, leads to the excessive use of strong forms by the Dutch-speaking learner of English. Note that English WFs (see Section 3.3) are often *obligatory* whereas WFs in Dutch tend to be *optional*.

The importance of using WFs and contracted forms in English has already

been emphasised in Chapter 3. Few things will be more effective in making your English sound fluent and genuine.

## 22.6 STRESS AND RHYTHM

Sentence stress is the basis of rhythm in both English and Dutch. Stressed syllables tend, in both languages, to occur at roughly equal intervals of time; the unstressed syllables in between are shorter or longer according to their number.

### EXERCISE 3

Say the following sentences:

*'Robert 'heeft een 'huis in 'Leiden.*  
 — • — • — • — •

*'Judith was 'niet in 'staat om haar 'huiswerk te 'maken.*  
 — • • — • — • • — • • — •

*Yvonne 'schijnt weer 'helemaal 'beter te 'zijn.*  
 • — • — • • — • • — • • —

Note how the stressed syllables come at regular intervals; if you pronounce the words in a regular ‘singsong’ manner, it is possible to tap out the rhythm with a pencil. Try doing so.

### EXERCISE 4

Now say these sentences in English. Then tap out the rhythm:

*'Robert's got a 'house near 'London.*  
 — • • • — • — •

*'Judith's not been 'able to do her 'homework.*  
 — • • • — • • • — • •

*Yvonne seems to have re'covered almost completely*  
 • — • • • • • — • • • • — •

We term this effect **stress timing**, and it is characteristic of languages such as English, Dutch, Frisian, German, Danish, Russian, Welsh, and many others. Related to this feature is the variable length of vowels in polysyllabic words.

### EXERCISE 5

Say these sentences, noting how the vowel tends to shorten somewhat as unstressed syllables are added. The lines underneath give an approximate indication of vowel length.

*The man's over there* /m æ n z/  
 ───────────

*The manor's over there* /'m æ n ə z/  
 ──── ────

*The manager's over there* /'m æ n ə dʒ ə z/  
 ──── ──── ────



Note the same effect with these words:

|                    |                   |                |                 |
|--------------------|-------------------|----------------|-----------------|
| <i>Jan</i> /dʒæɪn/ | <i>ban</i>        | <i>awed</i>    | <i>stew</i>     |
| <i>Janet</i>       | <i>banner</i>     | <i>order</i>   | <i>stupid</i>   |
| <i>janitor</i>     | <i>bannister</i>  | <i>auditor</i> | <i>stupidly</i> |
| <i>craft</i>       | <i>lead</i>       | <i>tie</i>     | <i>boy</i>      |
| <i>crafty</i>      | <i>leader</i>     | <i>tidy</i>    | <i>boyish</i>   |
| <i>craftily</i>    | <i>leadership</i> | <i>tidily</i>  | <i>boyishly</i> |

Other languages work on a different principle, *syllable timing*, and maintain a roughly equal length for each syllable regardless of stressing. Take this example from French: *Voulez-vous partir demain matin de bonne heure?* /vule vu partir | dmɛ matɛ | dbɔn œr |/. Here each syllable has roughly equal time value, except for the final one of each group, which is extended. Other languages with a tendency to equal syllable length are: Italian, Spanish (and other Romance languages), Greek, Turkish, Polish, Hindi and other Indian languages.

Probably the two most important influences on rhythmic structure are (1) stress or syllable-timing (2) the distribution of word stress. Table 22.4 indicates the possibilities for some languages. Note that Dutch and English fall into the same category.

Table 22.4 *Rhythmic structure in a number of languages*

|                               | Stress-timed                                        | Syllable-timed  |
|-------------------------------|-----------------------------------------------------|-----------------|
| <b>No fixed word stress</b>   |                                                     | French, Hindi   |
| <b>Positional word stress</b> | Czech, Welsh                                        | Polish, Italian |
| <b>Dynamic word stress</b>    | English, Dutch, Frisian,<br>German, Danish, Russian | Spanish         |

### *Rhythm in English and Dutch*

Stress-timing appears to operate for all types of English spoken by native speakers, with the exception of those strongly influenced by Creoles, such as the English of the West Indies. Some types of English employed as a second language (e.g. the English used by many Indians and West Africans) have the syllable-timing of the mother tongue of the speakers, but such varieties are normally very difficult for a native English speaker to understand. Similarly, although Netherlands and Belgian Dutch dialects are stress-timed, Dutch spoken in Surinam and the Antilles may have syllable-timing carried over from Sranan Tongo and Papiamentu.

However, the strict division **stress-timed** and **syllable-timed** (which most linguists have employed) is an over-simplification, and it is better to consider stress/syllable-timing in terms of the *tendency* of a language or dialect to-

wards one or the other. Certainly some Belgian varieties, such as those spoken in West Flanders, appear to be influenced by the syllable-timing of French. In the Netherlands, too, many dialects, including the broad varieties of town dialects such as Rotterdam and Amsterdam, seem less obviously stress-timed than the standard language.

Stress-timing is achieved mainly by lengthening certain vowels at the expense of others. As has been shown, vowels tend to be lengthened in stressed syllables and shortened in unstressed syllables. In many dialects of Dutch, this tendency is less marked. It is worth noting that /ə/-insertion occurs to a far greater extent in regional accents than in the two standard varieties. This adds considerably to the syllable-timing effect. In the pronunciation without /ə/-insertion, the words of two and three syllables have a first syllable which is noticeably longer than the remaining syllables. With /ə/-insertion, syllables tend more to be of equal length and therefore closer to syllable-timed rhythm.

Another significant difference between English and all Dutch varieties is that, in Dutch, vowel length is less influenced by following consonants. In English, vowels are longer or shorter according to whether lenis or fortis consonants close the syllable. In Dutch, the lenis/fortis contrast is neutralised in syllable-final position (all vowels being shorter), and only /r/, and to a lesser degree /l/ and the nasals, have any marked lengthening effect. However, it is noticeable that the Dutch free vowels (especially /a:/) tend to be lengthened considerably in stressed syllables, particularly when they form the nucleus of the intonation group (see pp. 248-49).

Another significant difference between Dutch and English is the system of **vowel gradation**. English changes the phonemic shape of the word by replacing vowels in unstressed syllables by /ə, ɪ, ʊ/ (see p. 227-28). In Dutch, the tendency is instead to shorten and centralise vowels in unstressed syllables but generally to maintain the same phoneme pattern, e.g.

|                      |                  |                     |                  |
|----------------------|------------------|---------------------|------------------|
| <i>communication</i> | /kəmju:nɪ'keɪʃn/ | <i>communicatie</i> | [kɔ̃myni'ka:tsi] |
| <i>container</i>     | /kən'teɪnə/      | <i>container</i>    | [kɔ̃n'te:nə]     |
| <i>gradation</i>     | /grə'deɪʃn/      | <i>gradatie</i>     | [grä'da:tsi]     |
| <i>macabre</i>       | /mə'ka:bə/       | <i>macaber</i>      | [mä'ka:bər]      |
| <i>production</i>    | /prə'dʌkʃn/      | <i>productie</i>    | [prö'dʌksi]      |

### Advice

- (1) Because of the differences in vowel length patterns, Dutch-speaking learners regularly have difficulties with this aspect of English (e.g. most vowels over-short before lenis; /a:/ over-long before fortis).
- (2) Furthermore, difficulties of vowel gradation may result in the use of vowels other than /ə, ɪ, ʊ/ in some unstressed syllables, which may give undue prominence.

Problems with post-vocalic /r/ distribution (see pp. 180-81) and use of close D /i/ for syllable-final E /i/ in **happy words** (see pp. 90-91) also lead to

over-prominence of certain unstressed syllables, and disturbs the rhythmic pattern.

Overall, whilst rhythm is not the problem for most Dutch speakers that it is for Spanish, French or Polish speakers, for example, it should not be neglected. It should be practised (along with correct stress placement, intonation and elimination of /ə/-insertion).

## PITCH, TONE, AND INTONATION

### 23.1 INTRODUCTION

In speech, the most important factor in determining the pitch of the voice is the speed of vibration (i.e. frequency) of the vocal folds; in general terms, the higher the frequency, the higher the pitch and vice-versa.

Pitch variation is an essential component of normal human speech. Indeed, if for any reason variation of pitch is absent (giving a robot-like impression), listeners reject the speech as literally inhuman. This is a major problem which has to be faced by a person who has had the larynx removed owing to disease. Surrogate larynxes are available which are able to produce a voicing buzz, but these as yet still cannot mimic realistically the pitch variation of natural speech.

#### *Pitch movement*

Many students find it difficult to judge whether a pitch is rising or falling; the following simple analogy may help.<sup>1</sup>

The engine of a motor car when ‘revving up’ to start produces a series of rising pitches. When the car is cruising on the open road, the engine pitch is more or less level. On coming to a halt, the engine stops with a rapid fall in pitch.



#### **EXERCISE 1**

Imitate the pitches just described, using [a:]

(1) *Rises* (‘revving up to start’)



(2) *Level pitch* (‘open road’)



(3) *Fall* (‘coming to a halt’)



Pitch variation has an important role to play in communication, adding meaning additional to that conveyed by the segmental phonemes. We can distinguish two significant ways in which pitch functions, namely (1) **tone** and (2) **intonation**.

<sup>1</sup> We are indebted to J. Windsor Lewis for this idea.

## 23.2 TONE LANGUAGES

In many languages, it is possible to use pitch differences to distinguish the *dictionary meaning* of words. This function of pitch is known as **tone** and such languages are termed **tone languages**.<sup>2</sup> Tone languages may make use of different numbers of pitch levels. Two levels (high and low) or three (high, mid and low) are common.

**EXERCISE 2**

Try imitating these examples from Ewe, a three-tone language spoken in Ghana and Togo. Note that (˘) indicates low tone, (ˊ) indicates high tone. Mid tone is left unmarked.

|                |         |                 |              |         |           |
|----------------|---------|-----------------|--------------|---------|-----------|
| <i>tsí tsí</i> | [ ˊ ˊ ] | ‘ladle’         | <i>kú kú</i> | [ ˊ ˊ ] | ‘hat’     |
| <i>tsì tsì</i> | [ ˘ ˘ ] | ‘growth’        | <i>kù kù</i> | [ ˘ ˘ ] | ‘digging’ |
| <i>tsì tsí</i> | [ ˘ ˊ ] | ‘extinction’    | <i>kù kú</i> | [ ˘ ˊ ] | ‘dying’   |
| <i>àtá</i>     | [ ˘ ˊ ] | ‘thigh’         | <i>tó</i>    | [ ˊ ]   | ‘ear’     |
| <i>átá</i>     | [ ˊ ˊ ] | ‘you will draw’ | <i>tò</i>    | [ ˘ ]   | ‘buffalo’ |

Languages, like these, which use a tone system of two or three significant pitch **levels** are called **register tone** languages. In the Far East, **contour tone** languages are more common. These chiefly employ falling and rising pitches; examples are to be found in the languages of China.

**EXERCISE 3**

Say the following words in Mandarin Chinese. The pitch pattern is indicated:

|            |       |           |            |         |                |
|------------|-------|-----------|------------|---------|----------------|
| <i>han</i> | [ ˊ ] | ‘foolish’ | <i>han</i> | [ ˊ ˋ ] | ‘rare’         |
| <i>han</i> | [ ˋ ] | ‘cold’    | <i>han</i> | [ ˋ ˊ ] | ‘perspiration’ |

The tones of a tone language may be analysed in a way comparable to the segmental phonemes, giving **tonemes** and **allotones**.

Taking the languages of the world as a whole, it is probable that most employ tone. Certainly, the vast majority of Far Eastern,<sup>3</sup> African and American Indian languages are tonal. Europe is exceptional in that it has few tone languages; however, Serbian and Croatian (spoken in former Yugoslavia), Norwegian and Swedish have a tonal element.

Furthermore, a tone system operates in one variety of Dutch, namely that spoken in Limburg. In virtually the whole of Limburg, many words are distinguished on the basis of tone, with two contrasting pitch patterns termed

<sup>2</sup> This is common usage though perhaps *tonemic languages* would be a better term.

<sup>3</sup> Indonesian is not a tone language. However, another language to be heard in the Netherlands, Sranan (the creole spoken in Surinam), does employ some tone distinctions.



*sleptoon* and *stootoon*. Pairs of words which exemplify such contrasts are:

- (1) *douf* meaning either 'deaf' or 'pigeon'
- (2) *bein* meaning 'leg' or 'legs'.

### 23.3 INTONATION

Languages like English, Dutch (excluding Limburg), French and German do not use pitch to indicate dictionary meaning. For instance, you can say the Dutch word *ja* on a number of different pitch patterns:



but it continues to mean 'yes' and not 'rare' or 'perspiration'. Moreover, we cannot distinguish homophones like Dutch *weer* ('weather' or 'again') or English *two* and *too*, by means of pitch. Instead, pitch variation takes the form of **intonation**. Intonation tunes operate over an extent greater than a single word, usually over complete clauses or sentences.

In Chapter 24, we shall examine in detail the part played in language by intonation. For the moment, we can say that intonation can be used in the following ways.

- 1) It can be used to focus on or highlight certain words (**focussing function**).
- 2) It can reflect the attitude of the speakers to the words they utter (**attitudinal function**).
- 3) It can provide extra grammatical information in addition to what is provided by the bare text (**grammatical function**).
- 4) It can help organise the structure of conversations by indicating that the speaker has finished, or that there is more to come (**discourse function**).

Intonation is therefore crucial to human communication adding meaning additional to what is supplied by the words themselves. Think how often you hear people say things like: 'It wasn't so much *what* he said, as the *way* that he said it.'

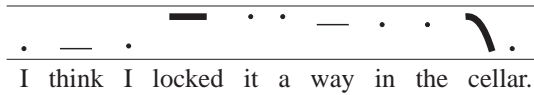
#### *Marking systems for intonation*

In this book, we employ two marking systems for intonation. The **interlinear system** indicates pitch patterns between an upper and lower line corresponding to the highest and lowest normal pitch range of the voice.<sup>4</sup> Stressed

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<sup>4</sup> We have chosen to ignore the effect of *declination*, a term used to describe the tendency in language for there to be a fall and compression of pitch patterns towards the end of each utterance.

syllables are shown by lines (—) and unstressed syllables by dots (.). Thicker lines (—) are used to show stressed syllables with particular prominence, resulting from a marked movement or sustention of pitch; extra loudness; longer duration.



The more economical **in-text** system, which removes some of the complexity of the interlinear system, allows us to see more clearly the significant elements of intonation structure. Intonation patterns are shown *within* the text by means of circles, angled marks and arrows, placed before each stressed syllable. In this manner, it is possible to show both sentence stress and intonation simultaneously.

I<sub>o</sub> think I<sup>↑</sup> locked it a<sup>o</sup> way in the `cellar.

#### 23.4 THE STRUCTURE OF INTONATION PATTERNS IN ENGLISH

##### *Intonation group division*

The basic unit of intonation is the **intonation group**. This is a complete pattern of intonation, often extending over an entire grammatical clause. Intonation group boundaries which have close grammatical connection are indicated by single bars (|); intonation groups which are not closely connected have a boundary shown by a double bar (||), e.g.:

1. The second man sat down | and glared at my companion. ||
2. Darlington was obviously at home | so I rang the bell. ||

However, it is possible for an intonation group to be shorter than the clause. For instance, a noun phrase may have a complete group to itself.

3. The leader of the Liberal party | held a press conference later. ||

Or an adverbial phrase may have its own group:

4. Hopefully | this situation will never arise again. ||

It is also possible for an intonation group to extend over *two brief* clauses:

5. I'll resign if I have to. ||

An intonation group boundary may be crucial for meaning. Compare:

6. Don't stop and consider. ||
7. Don't. || Stop and consider. ||

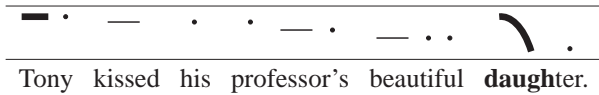
Where an intonation group boundary occurs, it is possible to pause, though in

actual speech these pauses are as often as not omitted. This intonation variable is often, but not always, indicated in the written language by punctuation, e.g. stops, commas, dashes, brackets.

### *The nucleus and nucleus location*

In any intonation group, one of the stressed syllables (sometimes more than one) stands out as being more prominent than the rest. This prominence is derived from the fact that the syllable usually carries a marked change in pitch compared with the syllables surrounding. In addition, it is typically of longer duration and will be perceived as having greater loudness.

Consider this example:



The marked pitch fall on /dɔː/, combined with its extra duration and loudness, highlights the syllable, giving the word *daughter* prominence in the sentence. We term this most prominent of the stressed syllables the **nucleus** (henceforth shown in bold).

In English, the nucleus generally falls on the stressed syllable of the last lexical item in the intonation group. This word is frequently the direct object, as in the example above. If the nucleus falls on an *earlier* syllable, this usually indicates a special *focussing* effect. The function of **nucleus location**, as it is termed, is examined in Chapter 24 (p. 256).

### *Nuclear tone*

The pitch pattern carried by the nucleus is termed **nuclear tone**. Unlike the variables considered so far, nuclear tone shows considerable differences both between one language and another, and also between different varieties of one language. Let us consider the possible tones carried by the nucleus in RP English, using the monosyllable *brown* as an illustration.

#### *Falls*

Falls have been found to be the commonest type of nuclear tone. Research has shown that simple falling patterns account for at least half of all types used in conversation. Falls divide into two broad categories: the **high fall** and the **low fall**.

The **high fall** is one of the commonest nuclear tones. It consists of a swoop down from the highest point of the normal pitch range to the lowest point. It is not infrequently preceded by a very brief upward movement (which we have not indicated on the diagrams). To a Dutch ear, the high fall seems to be a very

extended, perhaps exaggerated, pitch movement, but it is important to imitate its full extent to sound convincingly English. We symbolise the high fall thus: (ˊ). The **low fall** is more compressed, starting from mid, or slightly below, and moving to a low pitch. It is symbolised as (ˋ).



High fall

ˊBrown.



Low fall

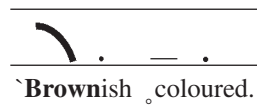
ˋBrown.

Any syllables after the nucleus follow the pitch pattern established by it, and are termed the **tail**. In the case of falls, the syllables in the tail are all on a low pitch. A stressed syllable is marked with (ˊ); unstressed syllables are unmarked.



High fall

ˊBrownish.

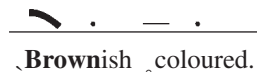


ˊBrownish ˋcoloured.



Low fall

ˋBrownish.



ˋBrownish ˋcoloured.

**EXERCISE 4**

Say the following words on (1) high fall, (2) low fall:

ˊEight; ˊeighty; ˊnine; ˊninety; ˊgood; ˊgoodness; ˊhard; ˊhardness; ˊspeed; ˊsplendid; ˊwin; ˊwinter; ˊspring; ˊspringtime.

ˋEight; ˋeighty; ˋnine; ˋninety; ˋgood; ˋgoodness; ˋhard; ˋhardness; ˋspeed; ˋsplendid; ˋwin; ˋwinter; ˋspring; ˋspringtime.

**EXERCISE 5**

Say the following as (1) high fall, (2) low fall. Cue sentence: *What's her name?*

ˊJane; ˊPat; ˊSheila; ˊSusan; ˊJudith; ˊSally; ˊBarbara.

ˋJane; ˋPat; ˋSheila; ˋSusan; ˋJudith; ˋSally; ˋBarbara.

**Rises**

Rising patterns are considerably less common than falling ones. The most frequent rise is the **low rise**, which has a pitch movement from low to mid, and is symbolised as (ˊ). A much less common variant is the **high rise**, from around mid to high; it is symbolised as (ˋ).

In monosyllabic words, the rise takes the form of an upward glide; in poly-syllabic words the rise in pitch is spread over a number of syllables. Stressed syllables in rising tails are marked (ˊ).



Low rise

ˊBrown.



ˊBrownish.



ˊBrownish ˊcoloured.

|                                                                                   |                                                                                   |                                                                                    |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|                                                                                   |                                                                                   |                                                                                    |
|  |  |  |
| High rise <b>Brown.</b>                                                           | <b>Brownish.</b>                                                                  | <b>Brownish</b> ° coloured.                                                        |

**EXERCISE 6**

Say the following words on (1) low rise, (2) high rise.

Cue sentence: *He's been sent to jail.*

,Phil? ,Jim? ,Don? ,Freddy? ,Simon? ,James? ,Gordon? ,Keith? ,Michael? ,Johnny?  
 ,Martin? ,Jonathan? ,Christopher? ,Henry? ,Henry's °brother?  
 'Phil? 'Jim? 'Don? 'Freddy? 'Simon? 'James? 'Gordon? 'Keith? 'Michael? 'Johnny?  
 'Martin? 'Jonathan? 'Christopher? 'Henry? 'Henry's °brother?

*Fall-rise*

In addition to simple falls and rises, we also find 'broken' tones, i.e. the fall-rise and the rise-fall.



The **fall-rise** nucleus, symbolised (˘), moves from high to low to mid. If the fall-rise is spread over more than one syllable, the fall takes place on the first stressed syllable of the nucleus; each of the following syllables is spoken on a low pitch and the rise is on the last stressed syllable. In the in-text marking system, all stressed syllables of the tail are shown by a high circle (°) to indicate that the termination of the pattern is a rise.

|                                                                                   |                                                                                   |                                                                                    |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|                                                                                   |                                                                                   |                                                                                    |
|  |  |  |
| Fall-rise <b>Brown.</b>                                                           | <b>Brownish.</b>                                                                  | <b>Brownish</b> ° coloured.                                                        |

**EXERCISE 7**

Say the following words with fall-rise.


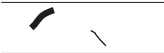
Cue sentence: *Jack's moving to Manchester.*

˘Leeds; ˘York; ˘Swindon; ˘Bristol; ˘Portsmouth; ˘Newport; ˘Birmingham; ˘Coventry;  
 ˘Hereford; ˘Halifax.

*Rise-fall*

The **rise-fall**, the least common of the nuclear tones considered here, involves a pitch movement from mid to high to low, and is symbolised (ˆ). If the rise-fall is spread over more than one syllable, the patterns are likely to be as shown below:



|                                                                                     |                                                                                     |                                                                                      |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|                                                                                     |                                                                                     |                                                                                      |
|  |  |  |
| Rise-fall <b>Brown.</b>                                                             | <b>Brownish.</b>                                                                    | <b>Brownish</b> ° coloured.                                                          |

Note that the stressed syllables of the tail are shown as (◌).



### EXERCISE 8

Say the following words with rise-fall.

Cue sentence: *What did you get as a present?*

A ˆkitten; a ˆpuppy; a ˆcamera; a ˆbicycle; a ˆradio; a ˆmotor-car; a ˆpen; a ˆbike; a ˆbag.



### EXERCISE 9

Compare the following patterns with rise-fall (sounding impressed) and fall-rise (correcting the speaker).

Cue sentence: *Young Maxwell is going to be a doctor, I hear.*

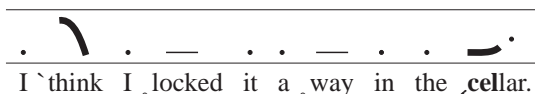
A ˆdoctor. ˆReally. ˆSplendid. A ˆmazing. ˆHeavens. In ˆdeed. ˆOh.

˘Really. ˘Certain? A ˘lawyer. A ˘surgeon. A ˘dentist. A psy˘chologist. A ˘nurse. A ˘vet. An ˘undertaker.

## Compound nucleiuses

It is possible for intonation groups to contain more than one nucleus, and a commonly occurring example of this is the **separated fall plus rise**. This is similar to a high fall followed by a low rise. Intervening syllables, stressed or unstressed, are on a low level pitch. Prominence is distributed over two nucleiuses, though the fall is dominant.

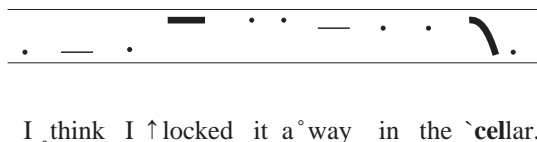
The fall plus rise pattern is generally employed where a speaker wishes to focus on an earlier item in the intonation group whilst retaining in addition a prominence towards the end. It is very frequent in colloquial English.



## The head

### High heads

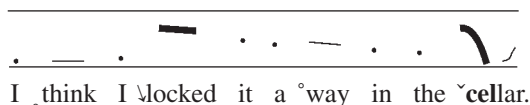
When analysing the pitch pattern of an intonation group, we have to take into account not only the nucleus (and tail) but also the pre-nuclear pitch contour. The most significant portion is termed the **head**.



In this example, the head extends from the first high-pitched syllable *locked* to the syllable immediately preceding the nucleus. The first syllable of the head, though not as prominent as the nucleus, is also marked by phonetic features such as change or sustention of pitch, loudness and duration.

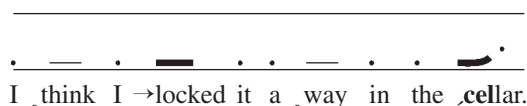
The pattern above provides an example of one of the commonest types of head, i.e. the **high (stepping) head**; the high-pitched first stressed syllable (the **onset**) is indicated by an arrow (↑), and each subsequent stressed syllable by a high circle (°). Typically, there is a declining pitch movement over this type of head with a descent in a series of steps on each stressed syllable. (In more rapid speech, the decline in pitch may be somewhat less apparent.)

A second type of high head, termed the **high sliding head**, consists of a series of falling pitches. This head (which is especially common before a fall-rise nucleus) is indicated by an arrow (↘) at its onset and by (°) on the subsequent stressed syllables:

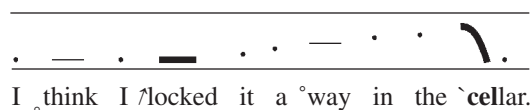


### Low heads

These have a low-pitched syllable as the onset. One type is the **low level head**, where the following syllables are low and level throughout. It frequently occurs before a low rise nucleus.



The onset of the low head is shown by an arrow (→); subsequent stressed syllables by a circle on the line (°). Another type of low head, the **low climbing head**, has stressed syllables climbing from an initial low pitch. It is especially common before a high fall.



The onset is shown by a rising arrow (↗). Each subsequent stressed syllable is shown by a high circle (°).

### Pre-head

The **pre-head** consists of the syllables before the onset of the head. They are typically (1) low-pitched, (2) unstressed or weakly stressed, (3) not more than three in number. Unstressed syllables are unmarked; weakly stressed syllables are shown with a circle on the line (°).<sup>5</sup>

<sup>5</sup> We have not considered the (less frequent) high pre-head. See O'Connor and Arnold (1973).

## 23.5 SUMMARY OF INTONATION STRUCTURES

The intonation group has an essential element, termed the **nucleus**. This is the most prominent syllable; it is always strongly stressed and usually has a marked pitch movement. In the in-text marking system, the nucleus is always shown by an angled mark, e.g. [ ^ ˇ ]. The nucleus may be followed by a **tail**, i.e. unstressed or weakly stressed syllables which continue the pitch pattern established by the nucleus. If there are no stressed syllables in the tail, it is left unmarked. Stressed syllables which are part of a rising tune are marked by high circles. Low circles are used to mark low, level stressed syllables in the tail.

The nucleus is generally preceded by a **head**; the initial syllable of the head is the second most prominent syllable in the whole intonation group and is termed the **onset**. The in-text marking symbols for onset are shown by arrows, e.g. [↑ ʔ]. The remaining stressed syllables of the head are shown by either high or low circles.

Before the head, there may be a brief **pre-head** consisting of low-pitched syllables lacking strong stress. If unstressed, the pre-head is unmarked; if (weakly) stressed, it is indicated by a low circle.

We can now return to our first example to indicate the various parts.

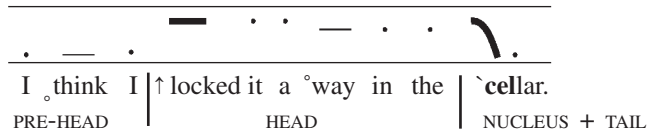


Table 23.1 In-text marking system for intonation English

### Pre-head

Weakly stressed syllables: (◌)

Unstressed syllables are unmarked

| Heads         | Onset | Subsequent stresses |  |  |  |
|---------------|-------|---------------------|--|--|--|
| High stepping | (↑)   | (◌)                 |  |  |  |
| High sliding  | (↘)   | (◌)                 |  |  |  |
| Low level     | (→)   | (◌)                 |  |  |  |
| Low climbing  | (↑)   | (◌)                 |  |  |  |

| Nucleus type | Nucleus | Tail | Nucleus type | Nucleus | Tail |
|--------------|---------|------|--------------|---------|------|
| High fall    | (◌)     | (◌)  | Low rise     | (◌)     | (◌)  |
| Low fall     | (◌)     | (◌)  | High rise    | (◌)     | (◌)  |
| Rise-fall    | (◌)     | (◌)  | Fall-rise    | (◌)     | (◌)  |



## 23.6 PARALINGUISTIC FEATURES

In addition to *intonation* as such, other factors provide in a similar manner information additional to the bare content of the words uttered by the speaker. These features, both phonetic and non-phonetic, are often brought together under the heading of **paralanguage**. Of the phonetic paralinguistic features, we may instance four.

(1) **Pitch range and key**

**Pitch range** refers to the extent of pitch employed by a speaker on a particular occasion, and **key** to the portion of the pitch range (high — mid — low) used. Greater emotion is often indicated by speakers extending their normal pitch range, and also possibly employing higher key. On the other hand, barely controlled fury may be associated with low key and restricted pitch range.

(2) **Variation in loudness**

Greater loudness is associated with anger, excitement, etc.

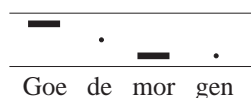
(3) **Tempo**

A drawled, slow rate of delivery may indicate boredom; drawl, combined with exaggerated intonation (and, in English, often with creaky voice) is also often used to indicate superior attitude. Proficient public speakers, especially politicians, manipulate tempo variation with great skill in order to build up and hold the attention of their audience.

(4) **Phonation types**

Breathy voice (especially from females) is often correlated with ‘sexiness’. A harsh voice quality, produced at the front portion of the larynx (anterior voice) may indicate anxiety, or the desire to impose authority (one type of ‘school-master voice’). See also Chapter 10.

Non-phonetic paralinguistic features include such factors as facial expression, gesture and other body movements (sometimes brought together as **body language**). In addition, context is crucial to our interpretation of a speaker’s words and intonation patterns. For instance, given the surroundings of a railway carriage, the immediate reaction of Dutch-speaking people to someone in uniform saying: ‘Goedemorgen’



is not to reply to the greeting, but to interpret it (correctly) as an instruction to produce evidence that they have paid their train fares.

## FUNCTIONS OF INTONATION IN ENGLISH

### 24.1 FOUR FUNCTIONS OF INTONATION

Intonation performs four important linguistic functions (see also p. 247):

(1) **Focussing function**, which allows the speaker to focus on the most significant information in an utterance. The location of the nucleus is the most important aspect of the accentual role of intonation, acting as the focus of attention of the speaker/listener. As stated earlier (p. 247), the nucleus is typically to be found terminally in the intonation group and in fact is frequently a syllable of the last lexical item. Any shifting of the nucleus to an earlier syllable normally indicates a desire on the part of the speaker to highlight some information elsewhere in the utterance. This can easily be demonstrated by taking the example given on p. 249 and moving the location of the nucleus to earlier syllables (shown here in **bold** type).

Tony kissed his professor's beautiful **daughter**. (Neutral)

Tony kissed his professor's **beautiful** daughter. (Not the less prepossessing one)

Tony kissed his **professor's** beautiful daughter. (Not the vice-chancellor's)

Tony kissed **his** professor's beautiful daughter. (Not another professor's daughter)

Tony **kissed** his professor's beautiful daughter. (He didn't engage in any other amorous activity)

**Tony** kissed his professor's beautiful daughter. (It was Tony — not Tom or John)

Nucleus location functions similarly in Dutch.

#### EXERCISE 1

Try putting the nucleus on different words in this Dutch sentence:

Ik wandelde gisteren langs de **singel**.

Ik wandelde gisteren **langs** de singel.

Ik wandelde **gisteren** langs de singel.

Ik **wandelde** gisteren langs de singel.

**Ik** wandelde gisteren langs de singel.

#### EXERCISE 2

Take a number of sentences out of a Dutch novel and try moving the nucleus around. What sort of words are difficult to focus on in this way?

Nucleus location functions as a focussing device, not only in Dutch and English but also in many other languages, e.g. German, Frisian, Spanish, Italian. However, some languages make relatively little use of this feature; French

almost invariably has prominence on the last syllable of the intonation group, and consequently greater use is made of grammar and vocabulary as means of focussing.

(2) **Attitudinal function**, which allows speakers to superimpose an attitude on top of the bare semantic content of what is being said.

We can only broadly designate some different attitudinal implications for the nuclear tones since the attitude implied by a tone inevitably depends on context and on the basic semantic content of the words in the intonation group. Nevertheless, it is possible to make the following broad distinctions:

- 1) Two tones, **high fall** and **low rise**, can be regarded as *neutral*.
- 2) Two tones, **low fall** and **high rise**, act as *strengthenings*. These tones tend to add to, emphasise or exaggerate a speaker's basic attitude.
- 3) Two tones, **fall-rise** and **rise-fall**, are *attitudinally marked*, i.e. these tones are inherently laden with one or more of the following implications:

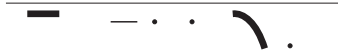
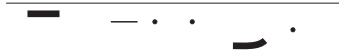
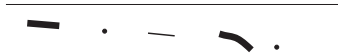
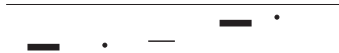
**Fall-rise:** doubt, correction, reservation, appeal to the listener to reconsider.

**Rise-fall:** impressed, arrogant, confident, self-satisfied, mocking, putting down.

However, as we shall see, one cannot judge patterns solely in terms of nucleus but account has to be taken of the combination head and nucleus.

(3) **Grammatical function**, which permits speakers to distinguish certain syntactic relationships, e.g. phrase and clause boundaries, question versus statement.

One frequent example of the grammatical function of intonation in English and Dutch is where a statement is distinguished from a question employing exactly the same string of words:

|                                                                                                                     |                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <br>↑ Paul's ° going to `morrow. | <br>↑ Paul's ° going to ,morrow? |
| <br>↓ Paul ver ° trekt `morgen.  | <br>↑ Paul ver ° trekt 'morgen?  |

Conversely, in English (though not normally in Dutch), it is also possible for a question to be turned into an emphatic statement or exclamation, e.g.

(Have you heard about poor old Jack Lawrence?) Isn't it `awful!

What might also be considered a further grammatical function of intonation is illustrated in Section 24.7 on English tag-questions below.

(4) **Discourse function**, covering such diverse matters as the organisation of conversation between two or more speakers (e.g. signals for turn-taking), the indication of speaker/listener relationship (e.g. in relation to power and authority) and the indication of new versus old information.

In this context, we can broadly allocate the nuclear tones to two categories on the basis of whether they are (terminally) falling or rising:

**Falling tones** (i.e. high fall, low fall and rise-fall) suggest: (1) finality, (2) completion of utterance, (3) unloading of information.

**Rising tones** (i.e. low rise, high rise, fall-rise) indicate: (1) non-finality, (2) incompleteness, (3) information is requested or anticipated, rather than unloaded.

Consequently, we usually find that complete statements and commands involve falling tones, whereas questions and introductory non-final clauses more typically have rising nuclei, e.g.:

**Statements:** He de ↑cided to °join the `army.

**Commands:** ↑Put your °bicycle in the `garage.

**Questions:** Are you ↑going to °see ,George?  
↑Who's the °best °chap for the `job?

**Non-final clause:** ↑Since the °weather's so `ghastly (I sug ↑gest we °take a `taxi).

However, the above are broad categorisations and there are notable exceptions, often reflecting a combination of discourse and attitudinal function. For instance, commands are frequently given rising intonation, which tends to take the 'edge' off them, making them sound warmer and friendlier.

**Yes-no questions**, i.e. questions (like the first question example directly above) which begin with an auxiliary verb and expect the answer yes or no, are indeed normally said with a rise. However, **Wh-questions**, i.e. questions (like the second example above) which begin with a word like *what*, *why*, *where*, *how*, may be said with one of two patterns: either they are said with a rising pattern, which makes them sound friendly, engaging and leading on to more, or no less frequently, they may be uttered on a falling pattern (in which case they sound more distant, business-like and as if there is a conclusive answer to the question), e.g.:

↑Who's the °best °chap for the `job?

The overall correlation of rises with non-finality and falls with finality is well exemplified by the frequent intonation pattern heard in lists, e.g.:

The ↑house has °central ,**heating**, | a ,telephone, | a °large ,garden | and a `garage.

#### 24.2 FALLING PATTERNS

Here we outline the function of intonation based on head-nucleus combinations, which we shall classify under the headings **falling**, **rising**, **falling-rising** and **rising-falling**.

##### *High (stepping) head + fall*



This pattern with a **high** fall is one the commonest for **statements**.

- (1) .  
↑David's got a °new °job in `Bristol.
- (2) It's ↑almost a °quarter to `three.
- (3) He de ↑cided to °join the `army.

It tends to give a lively, positive impression. The more compressed **low** fall is often associated with a degree of coolness and may sound somewhat more deliberate or give the impression that what is said is expected in advance.

- (4) .  
↑David's got a °new °job in ,Bristol.
- (5) It's ↑almost a °quarter to `three.
- (6) He de ↑cided to °join the `army

In Wh-questions, fall patterns imply a straightforward business-like attitude — in the case of the high fall, this will nevertheless convey interest and often a degree of animation.

- (7) ↑What's the °make of your `pressure °cooker?
- (8) ↑Who's the °best °chap for the `job?

The low fall loses this animation and is associated with distancing and coolness. It could be considered as routine information gathering, e.g. a police interview.

- (9) ↑What's the °make of your `pressure °cooker?
- (10) ↑Who's the °best °chap for the `job?



### EXERCISE 3

Practise the following sentences with high head + high fall.

Cue sentence: *Where's your brother?*

He's ↑gone to `bed. He's ↑joined the `army. He's ↑doing his `homework. ↑George has got the `sack, I'm a ◦fraid. He's ↑out with his ◦new `girlfriend. He's de↓cided to ◦join a `monastery. He's ↑staying `in to ◦night. He's de↓cided to ◦do a ◦bit of `work for a ◦change.

**Commands** are also often said with a falling pattern. The high fall sounds energetic and animated.

- (11) ↑Open your `books.  
 (12) ↑Put your ◦bicycle in the `garage.  
 (13) ↑Be `sensible, ◦Charlie.  
 (14) ↑Have a ◦little ◦bit of `sense.



The low fall has implications of coolness, emphasis and deliberation:

- (15) ↑Open your `books, etc.

If Yes-no questions (which are typically said with rising intonation patterns, see below), are uttered on a falling pattern, they take on the force of emphatic statements or commands. Once again, high fall sounds lively and animated whilst low fall sounds distanced with hints of coolness and even hostility.

- (16) Will you ↑open that `letter?  
 (17) ↑Could we ◦possibly ◦have a bit of `quiet?  
 (18) Shall we ↑ever get to the `root of the ◦matter?  
 (19) Will you ↑open that `letter? etc.

### *Fall (without head)*

#### *Statements*

Falls without heads are often found in responses to questions. The high fall sounds lively and involved.



- (20) (Where does Susan come from?) `Wales, `Cardiff, `Lancaster, East  
 `Grinstead.

Low fall is once again less animated, more detached and routine.

- (21) `Wales, etc.

#### *Wh-questions*

With high fall on the Wh-word, these sound brisk and impatient; such patterns are relatively rare. See p. 258 for contrast with rise.

(22) `What's your name?

(23) `Where do you live?



With low fall, they sound even more impatient and possibly hostile.

(24) `What's your name? etc.

### *Yes-no questions*

The emphatic statement/command effect of using fall intonation patterns mentioned above is even more apparent if there is no head.



(25) `Will you keep quiet?

(26) `Aren't you going to tell her?

(27) `Can't you keep a promise?

It is stronger still with low fall.

(28) `Will you keep quiet? etc.

For the use of falls in tag-questions and tag responses, see Section 24.7.

### *Commands*

Commands frequently take patterns lacking heads. High fall correlates with emphasis and animation. Low fall adds coolness and deliberation and may sometimes be interpreted as threatening.



(29) `Eat up your cabbage, Simon.

(30) `Open your eyes.

(31) `Don't treat me like a baby.

(32) `Never do that a gain.

Cf.:

(33) `Eat up your cabbage, Simon, etc.

## 24.3 RISING PATTERNS

*High (stepping) head + rise*



This pattern with a *low* rise is very common for Yes-no questions.

(34) Are you ↑going to °see ,George?



(35) ↑Do we °really ,need a °second °car?

(36) Have you ↑heard °anything of °old ,Higgins?

(37) ↑Did you °manage to °get to °Max's ,party?



#### EXERCISE 4

Practise the following sentences with high heads + low rise.

Cue sentence: *I went back home this weekend.*

↑Did you °see ,Alex? ↑Did you °see ,Terry? ↑Bump into ,Fred? ↑Did you °see anything of ,Hugh? ↑Did you get °round to the ,Thompsons? ↑Did you °hear anything of °old ,Higgins?

A *high rise* adds considerable emphasis, indicating surprise or doubt, and adding prominence to the nucleus.



(38) Are you ↑going to see 'George? etc.

#### Echo-questions

High rise is common in **echo-questions**, i.e. questions which repeat the words of the question. These occur fairly frequently in native-speaker English as fillers, being used to give time to think. Cf. Dutch *nou, even kijken, wacht even*.



(39) (Are you staying the night?) ↑Am I °staying the 'night? (I hadn't thought of doing so.)

(40) (D'you know John Hancock?) ↑John 'Hancock? (Of course, I know him.)

Low rise, often preceded by low head and sounding less animated, could also be used in all these examples.

(41) →Am I, °staying the ,night? etc.

#### Wh-questions

Wh-questions are also frequently said on this *high stepping head + low rise* pattern. If uttered in this way, they sound warmer and more engaging than with falls. There is also often an implication that the questions are introductory to further discourse. The rise pattern makes the questions warmer and gentler in tone — in this case, possibly, the initial stages of courtship.<sup>1</sup>



(42) ↑What's your ,name?

(43) ↑Where do you ,live?

(44) ↑What are you °doing this ,evening?

<sup>1</sup> Some textbooks give the misleading impression that Wh-questions are never said on a rising tone.



Said on a fall this sequence of questions sounds more businesslike. With low falls there could be a strong impression of distancing and routine, possibly like a policeman interviewing a suspect.<sup>2</sup>

(45) ↑What's your **name**? etc.

### Commands

Commands said on a rising nucleus tend to correlate with a gentler, warmer tone than the more neutral falling pattern. The discourse effect given is one of non-finality, i.e. that something will soon follow. Compare:

(46) (I want you to go to sleep now.) ↑Put the **light** out.



(47) ↑Put the **light** out. (We're going to watch some videos.)

(48) (The test's over now.) ↑Open your **books**, children.

(49) ↑Open your **books**, children. (We're going to read the section on dinosaurs.)

### Low head + low rise

Low heads are less frequent than high heads, and are here considered only before a rising nucleus. In such cases, the low head tends to add an emphatic, somewhat negative tone. It is heard in questions.



(50) →Have you told **Nancy** yet?

(51) →Don't you **think** you should tell her?

In these cases, the low head may sound somewhat intimidating, indicating an authority relationship of superior addressing inferior. In yes-no questions one may sometimes infer that the speaker knows the answer before asking the question.

(52) →Wasn't that rather a **long** phone call, Mr Lewis?

(53) →Is there any **point** in meeting at this stage?

(54) D'you in-tend to see **James** next week?

Statements on the *low head + low rise* pattern sound strong and somewhat aggressive. This is especially true of negative statements.

(55) I →find that difficult to be **lieve**.

(56) →Hugh isn't short of **money**.

(57) →I'm not going out in **this** weather.

<sup>2</sup> This effect is even more marked if a *low* head precedes: →What's your **name**?, etc.

### Commands

The low head tends to make the command sound cool and detached, and the rise contributes to a discourse effect of incompleteness.

(58) →Put your books in your desks children (And then we can all go home.)



(59) →Leave the light on. (We'll be coming back in a moment.)

(60) →Don't tamper with that equipment. (It could be dangerous.)

### Low head + high rise

The use of high rise is less usual, adding marked emphasis and giving an impression of surprise, sometimes exasperation.

(61) →Don't you think you should tell her?



(62) D'you intend to see James next week?

(63) →Don't tamper with that equipment.

See pp. 281-82 for the over-use of high rise as a Dutch error.

### Rise (without head)

Here, there is a more obvious discourse effect of non-finality.

### Wh-questions

Placing the nucleus on the Wh-word adds emphasis with an impression of impatience.



(64) Who's responsible for this mess?

(65) Why can't we ride our bikes, Mummy?

### Yes-no questions

Placing the nucleus on the auxiliary verb adds sharpness.



(66) Aren't you going to tell Nancy?

(67) Didn't Sheila telephone after all?

### Statements



(68) Hugh isn't short of ready cash.

(69) Jim's a decent sort of fellow.

### Commands

Low rise is often found in short commands. Not only does this take the harshness away from them, but it also has a discourse effect of indicating that more is to come.



- (70) **Mind!** (You'll knock that jug over.)  
**Wait!** (There's a car coming.)  
**Stop!** (The lights are red.)  
**Slow!** (There's something coming round the corner.)

A high rise is sometimes used to change a statement into an echo-response indicating surprise or doubt.

- (71) (Josephine's had twins.) **Josephine's** had °twins?  
 (Mike's won the pools.) **Mike's** °won the °pools?

#### 24.4 FALLING-RISING PATTERNS

Within this category, we may consider (1) *fall-rise*, (2) *high sliding head + fall-rise*, (3) *separated fall + rise*. As has already been stated, falling-rising patterns are heavily attitudinally laden, conveying an impression of doubt, correction, reservation, or an appeal to the listener to reconsider. Furthermore, they have a discourse effect of non-finality.

#### *Fall-rise*

The above attitudes are clear in fall-rises without a head. Such patterns are often used as a way of guardedly disputing information.



- (73) (Robert's moving to Plymouth.) **Bath.** **Sheffield.** **Newcastle.**

Fall-rise tunes also occur in questions, and once again the implication is reservation and doubt.

- (74) (The room's thirteen metres long.) **Is** it?

Short questions of this kind (**tag-type responses**) are discussed in more detail on p. 272-73.

#### *Sliding head + fall-rise*



The fall-rise is often preceded by a **high sliding head**. In this case, a certain amount of emphasis is imparted to the syllables of the head, in particular the first. The effect of reservation and contradiction is similar, with the sliding

head adding somewhat to the strength of this. There is often a discourse effect of 'more to come'.

(75) (What a pity Norman's so gullible.) I ↘wouldn't° call him ↗gullible.

(76) (Feel like painting the attic?) I ↘can't say I'd be ex°actly ↗thrilled.

(77) (That woman Edna's cooking's ghastly.) Well, she's ↘not the° best  
°cook in the ↗world (though I've ↘tasted ↗worse.)

(78) (Have you read *War and Peace*?) I ↘didn't° manage to° read it ↗all  
(though I ↘did read° quite a ↗lot of it).

*Separated fall + rise*



This pattern with compound nucleus serves a special focussing function, allowing *two* nuclear syllables to be highlighted. It is employed where the speaker feels that two elements of the intonation group should receive focus, with the main prominence on the first nucleus. Since the final nucleus is a rise, there can also be a discourse effect of non-finality:

(79) (Getting there by plane, are you?) I can't af°ford to go by ,air. (So I'm taking the train.)

(80) (Who's got the room?) `Nancy's° place is° big e°nough for a ,party.  
(So we don't need to look any further.)

(81) (There was no need for concern.) `Stan° seemed° awfully ,worried  
a°bout it. (So you'd better have a word with him.)

(82) (Isn't that Lou Cohen over there?) I wouldn't° mind having a ,chat  
with ,Lou. (I haven't seen him for ages.)

*Wh-questions*

The fall is frequently (though by no means invariably) on an auxiliary verb, thus allowing it to be stressed.

(83) (It's gone midnight.) ↑What° time `is it ,actually?

(84) (I've paid all the bills.) How much `did we° owe° after ,all?

*Yes-no questions*

Similarly, here the fall is often (though not invariably) on an auxiliary verb.

(86) (It's a bit of a problem.) ` **May** I<sub>0</sub> offer some ad, **vice**?

(87) (That's the phone.) ` **Would** you<sub>0</sub> answer it , **Emma**?

### Commands

This pattern is frequent, serving again to highlight two elements, the first often occurring early in the intonation group.

(88) ` **Shut** the , **door**, ° David!



(89) ` **Don't** answer me , **back**, ° Howard!

(90) ` **Please** leave the , **dog** a lone!

## 24.5 RISING-FALLING PATTERNS

In the rising-falling patterns, we include (1) (High head +) rise-fall, (2) (Climbing head +) high fall. As stated earlier, the rise-fall — like the previous pattern — is heavily attitudinally laden: impressed, arrogant, confident, self-satisfied, mocking, 'putting down'.

### *Rise-fall and High head + rise-fall*



This nuclear tone is not as frequent as the others we have discussed and is even absent from some regional varieties, e.g. much of the north of England. Nevertheless, in many accents, including RP, it is by no means uncommon. It is always strongly marked, giving an impression of complacency, at times antagonism, and may often sound patronising. Because of these socially perilous implications, it is undoubtedly more important for foreign learners to learn to *recognise* the tone when it occurs rather than to learn to use it themselves.

(91) (How many did you get for the test?) ^ **Nine**. ^ **Ninety**. ↑ Nine and a ^ **half**.



(92) (Who's the letter from?) My ↑ old ^ **girl**-friend. ↑ My M. ^ **P**.

(93) (How fast can it go?) ↑ Over a ^ **hundred**.

### *Wh- and Yes-no questions*



(94) (He's moved to Fressingfield.) Where's ^ **that**?

(95) (I've given in most of my essays.) How ^ **many** ex<sub>0</sub>actly?

(96) (Have you heard about poor old Jack Lawrence?) ↑Isn't it ^**awful**?

(97) (I wonder what's happened to Peter.) ↑Haven't you ^**heard**?

### Commands

(98) (I'll get it replaced). Don't ^**bother**.

(99) (I forget.) Well ↑try to re^**member**.

*Climbing head + high fall*



If preceded by a climbing head, a high fall also produces an overall rising-falling pattern. In fact, this type of tune appears to occur more frequently than the rise-fall nucleus and lacks the brittle overtones of the latter. The attitudinal effect is weaker and more restrained than the rise-fall nucleus discussed above with an implication more of protest than of arrogance. Compare the following examples with the examples above.

(100) My ↑old`**girl**-friend. (Implying: why do you ask?)

(101) ↑Even a °little`**child** could use it.

(102) ↑Isn't it`**awful**?

(103) Well ↑try to re`**member**.

Whilst not essential, this can be a useful pattern for the learner to imitate and has far fewer dangers than the rise-fall nucleus.

## 24.6 INTONATION GROUP SEQUENCES

Up till now we have concentrated on the isolated intonation group. In this section, the types of pattern employed in certain intonation group **sequences** are discussed.

### *Non-finality*

As has already been stated, rising nucleuses (i.e. high rise, low rise, fall-rise) have a discourse implication of non-finality. Consequently, such patterns are often used as lead-ins to further information.

(104) After ↑hypnotising the ,**subject**, | I ↑question him a °bout his`**childhood**.

- (105) ↑ Since the° weather's so `ghastly | I sug ↑ gest we° take a `taxi.  
 (106) ↑ If you° really `must go | ↑ hurry `up a bout it.

### *Lists*

As mentioned in Section 24.1, lists provide a very clear illustration of the discourse divide of finality versus non-finality. Here, a very frequent pattern is for all the items, except the last, to have a series of rises. The last is said on a fall.

- (107) You ↑ have to° take ,English, | ,maths, | ,chemistry | and a ↑ foreign ,language.  
 (108) `Scandinavia | con→sists of ,Iceland, | ,Sweden, | ,Norway | and `Denmark.  
 (109) The ↑ house has central ,heating, | a ,telephone, | a large ,garden | and a `garage.  
 (110) (What languages are spoken in Belgium?) ,Dutch, | ,French | and `German.

### *Parenthetical intonation*

Another discourse effect is exemplified by parenthetical intonation. Certain intonation groups may be said on a sustained low pitch, if they contain information which could be regarded as additional and possibly enclosed in brackets. The intonation pattern frequently used in these cases is a low head with a low rise, the rise having very little pitch movement.

- (111) In `this situ,ation | and you→,all ° know what I ,mean | we ° must be `extra ° cautious.  
 (112) In ad ↑ dressing the `music lovers ,here | and I pre→,sume ° that means ,everyone | I feel ↑ confident of ° your sup`port.  
 (113) He be ↑ gan ,lunch | it was an→, almost auto ° automatic ,reflex | by ↑ ordering ° smoked `salmon.

Parenthetical intonation is especially common in more formal registers, e.g. speeches, lectures, broadcast talks, and in reading aloud.

## 24.7 TAG-QUESTIONS AND TAG-TYPE RESPONSES

This is one of the most important areas for the Dutch student. The system follows regular patterns and mastery of these is essential for the command of colloquial English intonation.

### *System of tags*

**Tag-questions** are short questions of the yes-no type, attached to the main statement. They duplicate the information in the main statement by means of an appropriate auxiliary verb and pronoun.

Barbara's moving house, isn't she?

Trevor hasn't got a new car, has he?

Nothing corresponds to this structure in Dutch, where the equivalents are normally monosyllabic exclamations, e.g. *hè, niet, hoor, toch*, which are most commonly said on a rising pattern. They lack both the syntactic and intonational complexity of the English tags.

### *Balanced and unbalanced tags*

The examples so far given show the typical pattern for a tag-question, i.e. if the main statement is positive, the tag is negative and vice-versa. These we term **balanced tags**.

Barbara's moving house | isn't she?

(positive)

(negative)

Trevor hasn't got a new car | has he?

(negative)

(positive)

A less common type is the **unbalanced tag**, i.e. either *positive/positive*:  
Maureen's going round later, | is she?

or, more rarely, *negative/negative*:

Evans didn't acknowledge my letter, | didn't he?

### *Nucleus location in tags*

In all tags, the nucleus *invariably* falls on the verb and *never* on the pronoun. An intonation pattern such as the following with the pronoun as the nucleus, is completely unacceptable in English, but is sometimes produced in error by learners:



\* ↑Barbara's ° moving **house**, | isn't **she**?

### *Intonation in balanced tag-questions*

Balanced tags can be said on two main intonation patterns, giving two different meanings. The difference can be viewed as an example of the grammatical function of intonation. If the tag rises, e.g.



(114) ↑Barbara's ° moving **house**, | **isn't** she?



the implication is that the speaker is not certain of the statement. It is, in meaning terms, equivalent to a true question.

If the tag has a fall pattern, e.g.

(115) ↑Barbara's° moving, **house**, |, **isn't** she?

this indicates a far greater confidence in what the speaker is saying. Despite the conventional question mark, the falling tag is here not so much a true question as a means of inviting confirmation of the statement.

The system can be summarised as follows:

Tag with rising nucleus: *a true question.*

Tag with falling nucleus: *a request for confirmation.*

### *Intonation in unbalanced tag-questions*

Unbalanced tags can always be said on low rises. *The positive/positive* type are used to respond to recently acquired information.

(116) So, ↑Ted's° failed a, **gain**, |, **has** he?

(117) ↑William's° down with **chicken-pox**, |, **is** he?

The rare *negative/negative* tags sound forceful and may be associated with hostility. The statements tend to be preceded by *so*.

(118) So ↑Evans° didn't ac° knowledge my **letter**, |, **didn't** he?

(119) So ↑Andy hasn't paid **up**, |, **hasn't** he?

### *Tags in commands*

Tags using *would you*, *will you*, *could/can you*, etc. are often added to commands. These are usually rising. They soften the command semantically into the equivalent of a request.

(120) ↑Go and° get me the **paper** |, **would** you?

(121) ↑Lean a° little, **this** way |, **will** you?

(122) ↓Open the° door a° bit **wider** |, **can** you° Ian?

Negatives (mostly with *won't you*, *can't you*) sound rather more insistent.

(123) ↑Lean a° little, **this** way |, **won't** you?

(124) ↓Open the° door a° bit **wider** |, **can't** you° Ian?

### *Types of nucleus used in tags*

Whilst rising versus falling nuclei are employed for the grammatical distinction in tag-questions, the attitudinal function is reflected in the **type** of

nucleus used, i.e. high or low fall, low or high rise, etc. The main variation is in types of fall. The most frequent variety is the high fall.

(125) It's ↑ rather **interesting** | **isn't** it?

The low fall, which is far less common, sounds less animated. It often follows a low fall in the main statement.



(126) It's ↑ rather **interesting** | **isn't** it?

Rise-fall is also possible, sounding extremely emphatic, almost arrogant, especially if preceded by a rise-fall in the main statement.

(127) It's ↑ rather **interesting** | **isn't** it?

Rises exhibit some variation, the low rise being overwhelmingly the commonest pattern; however, a high rise may be used to indicate doubt.

(128) → That's **not** really **significant** | **is** it?

### *Tag-type responses*

A very frequent feature of native-speaker conversational English is the occurrence of brief responses of a similar structure to the tags just discussed. These **tag-type responses** are of special interest since, because they lack any real semantic content, they allow the attitudinal function of intonation to be displayed most clearly.

(129) (Lucy's growing her hair long.) **Is** she?



(130) (It's getting difficult to make ends meet.) **Is** it?

(131) (Ian shouldn't mix with that sort of person.) **Shouldn't** he?

(132) (I've got a gold sovereign.) **Have** you?

Both low and high rises have a discourse effect of inviting continuation. However, a difference is discernible between low and high rises. Low rises indicate a neutral acknowledgement of what has been said. A high rise shows a stronger reaction, of surprise or doubt.

(133) **Is** she? **Is** it? **Shouldn't** he? **Have** you?

Tags with falling nuclei indicate acceptance of what has been said. High falls give a far more sympathetic acceptance than the low falls, which may have undertones of hostility and lack of interest. Compare:

(134) ... **Is** she? ... **Is** it? ... **Shouldn't** he? ... **Have** you?

(135) ... **Is** she? ... **Is** it? ... **Shouldn't** he? ... **Have** you?

The broken tones have their inherent heavily laden attitudinal function, the rise-fall tags sounding arrogant or mocking.

(136) ...<sup>^</sup>**Is** she? ...<sup>^</sup>**Is** it? ...<sup>^</sup>**Shouldn't** he? ...<sup>^</sup>**Have** you?

The fall-rise is employed to indicate doubt, correction or polite disagreement.

(137) ...<sup>˘</sup>**Is** she? ...<sup>˘</sup>**Is** it? ...<sup>˘</sup>**Shouldn't** he? ...<sup>˘</sup>**Have** you?

#### 24.8 OTHER APPROACHES TO INTONATION

The best overall survey of the field is Cruttenden's (1986) *Intonation*, from which it will be seen that the brief outline of intonation presented here follows the British tradition, derived from the work of Palmer in his (1922) *English Intonation with Systematic Exercises*. This approach was later developed by Kingdon in his (1958a) *The Groundwork of English Intonation*, and subsequently by O'Connor and Arnold in their (1973) *Intonation of Colloquial English*. Our scheme is closest to this last named, but it should be noted that there are several differences, both in the marking system and in the interpretation of certain intonation patterns.

Other useful material is to be found in Windsor Lewis's (1977) *People Speaking*, which provides a segmental and supra-segmental analysis of a corpus of material, for the most part spoken by actors. The same author's (1969) *Guide to English Pronunciation* has a good set of chain-response intonation drills, similar to the type we use in some of our exercises. Crystal and Davy's (1975) *Advanced Conversational English* analyses recorded impromptu conversation. Brown's (1990) *Listening to Spoken English* discusses several features of connected speech, including intonation, drawing on a variety of material, mainly derived from radio broadcasts.

An introduction to a discourse approach to intonation can be found in Brazil *et al.*'s (1980) *Discourse Intonation and Language Teaching*; a more recent practical course based largely on this theory is Brazil's (1992) *Pronunciation for Advanced Learners of English*.

## INTONATION IN DUTCH AND ENGLISH COMPARED

### 25.1 INTONATION IN DUTCH

Taken overall, the intonation systems of English and Dutch show many similarities. Nevertheless, there are a number of significant phonetic differences and certain pitch patterns have different implications.

We have used as our model for Dutch the standard Netherlands variety, (NL) ABN, although much of what we say can also be taken to apply in general terms to (B) AN. Nevertheless, in Belgium, intonation is the realm where the influence of local speech on the standard variety is perhaps most obvious, many local accents showing strikingly different intonation patterns from what is described here. As yet, work on the intonation of such regional varieties could be considered as being in its infancy. In the Netherlands, too, some dialects have intonation patterns which are noticeably different from those of the standard. Two examples which spring to mind are Limburg and, within the Randstad, the accent of Leiden.

An early study of Dutch intonation is Collier and 't Hart's (1981) *Cursus Nederlandse Intonatie*, which uses a different analytical system from ours. Another interesting approach has been produced by Van Buuren (1980, 1990). A selection of more specialised studies is to be found in the bibliography.

#### *In-text marking system*

The restricted outline of Dutch intonation presented here employs the following in-text marking system. Note that although the same term has sometimes been used for Dutch and English intonation features, and the same in-text intonation mark may have been used, this should not be taken to imply that these are phonetically identical.

*Table 25.1 In-text marking system for intonation in Dutch*

| Heads           | Onset | Subsequent stresses |
|-----------------|-------|---------------------|
| Descending head | (↘)   | (°)                 |
| Low head        | (→)   | (◦)                 |
| Climbing head   | (↗)   | (◌°)                |


| Nucleus type | Nucleus          | Tail             | Nucleus type | Nucleus          | Tail             |
|--------------|------------------|------------------|--------------|------------------|------------------|
| Mid drop     | ( <sup>˘</sup> ) | ( <sub>˘</sub> ) | Low rise     | ( <sub>˘</sub> ) | ( <sup>˘</sup> ) |
| Low drop     | ( <sub>˘</sub> ) | ( <sub>˘</sub> ) | High rise    | ( <sup>˘</sup> ) | ( <sup>˘</sup> ) |
| Sharp drop   | (\)              | ( <sub>˘</sub> ) | Drop-rise    | ( <sup>˘</sup> ) | ( <sup>˘</sup> ) |

Unstressed syllables are unmarked.

### *Falling patterns*

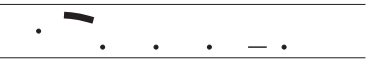
In Dutch, as in English, falls imply finality and frequently occur in completed statements, commands and WH-questions (i.e. questions beginning with interrogatives such as *wie, wat, waar, hoe*).

#### *Statements*

- 
- (1) De →woningnood is **groot**.<sup>1</sup>
- (2) Mijn →auto is **rood**.
- (3) Ma →rijke woont in **Gent**.
- (4) Ik **lust** geen spruitjes.




#### *WH-questions*

- 
- (5) Wat **eten** we van avond?
- (6) Hoe **laat** kom je?
- (7) →Waarom heb je dat niet **eerder** gezegd?
- (8) →Wie van jullie heeft **Ton** gezien?



#### *Commands*

- 
- (9) →Schiet **op**, Hans.



<sup>1</sup> Notice that the interlinear pattern indicated in the examples on pp. 275-78 applies in each case to the first example quoted. Subsequent examples have been chosen to indicate possible variation in the nuclear and pre-nuclear patterns.

(10) Blijf ↓niet de °hele °avond ,werken.

(11) Doe ↓Petra de ,groeten.

In Dutch, the mid-drop nucleus has less pitch movement than the English high fall. The descent is typically achieved by a step down to subsequent stressed syllables. Compare the Dutch and English patterns:



| DUTCH               | ENGLISH            |
|---------------------|--------------------|
|                     |                    |
| →Schiet `op, °Hans. | °Hurry `up, °Jack. |

### *Rising patterns*

Again, like English, rises are associated with non-finality and tend to be used for incomplete statements, Yes-no questions, and also often WH-questions. The Dutch mid-rise nucleus starts on a higher pitch than the English low-rise.

#### *Yes-no questions*

(12) ↓Weet je °hoe je °daar moet ,komen?



(13) Is ,Jan al aan° wezig?

(14) →Kan ik °U ,helpen?

#### *WH-questions*

(15) Hoe ,laat °kom je?



(16) Wat ,eten we van° avond?

(17) ↓Waarom heb je dat °niet ´eerder ge° zegd?

(18) ↓Wie van° jullie heeft ´Ton ge° zien?

#### *Incomplete statements*

(19) ↓Toen hij de °krant had ge ,lezen (gaf hij ´m aan Lex)

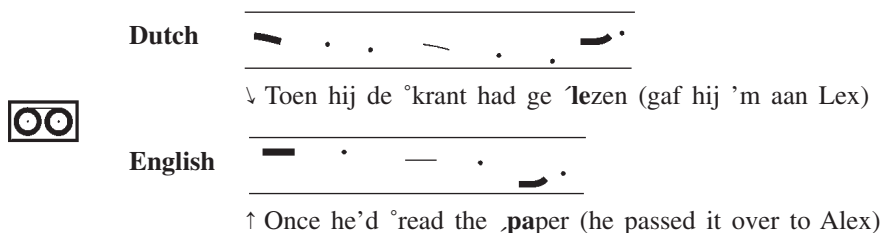


(20) Hoe →wel ik het met je ´eens °ben (moeten we toch doen wat Peter zegt).

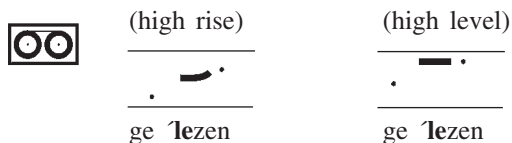
(21) Als →dat zou ge´beuren (zou ik me geen raad weten).

Here again, although the total pitch contour in Dutch in some ways parallels that of English, there are significant realisational differences. Dutch generally has a rise from *mid* to *high*; in English, the rise is from *low* to *mid*.

Compare:



The phonetic realisation of the rises in incomplete clauses is a significant area of difference between Dutch and English. The following patterns are common in Dutch:

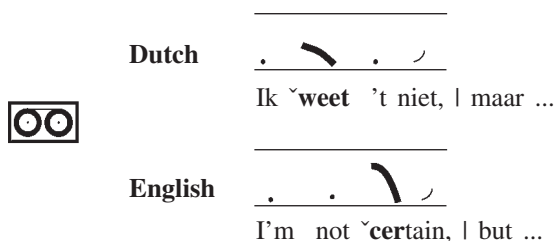


These can be regarded as variants of the same basic pitch pattern.


In all these rising nucleuses, the syllables are noticeably prolonged. This, together with the level or step-like pitch rise, may be one reason why the intonation of English, as spoken by Dutch learners, is so often stigmatised as 'monotonous' by English native speakers. Another tone used in incomplete statements is the *drop-rise* (see below), which exhibits the same prolongation of the nuclear, and post-nuclear, syllables.

### *Drop-rise*

A **drop-rise**, in some ways phonetically similar to the English fall-rise, is frequently heard in Dutch. It tends to be associated with mild correction, disagreement, contradiction, and non-finality. In fact, it has many attitudinal similarities with the English fall-rise tone. The pitch contour is possibly less extended than the English fall-rise and may be more prolonged. Compare:




The drop-rise is frequently heard on *ja* and *nee* where these are followed by contradictions, e.g.:

(22)   
 (22)  $\checkmark$ Ja, | maar volgens  $\checkmark$ mij ...

(23)  $\checkmark$ Nee, |wat  $\checkmark$ ik be<sup>o</sup>doel...

### *Sharp drop*

Another, but less common type of nucleus, which we shall term the *sharp drop*, consists of a high level pitch, followed by a low level. If said on a single syllable, it is connected by a downward swoop in pitch.

(24)   
 (24) (Ik zei)  $\setminus$ zout (niet suiker)

(25) (Ik zei)  $\setminus$ thee (niet koffie).

Here again, the nuclear syllable tends to be drawn out. A pattern of this type is associated with exasperation, irritation, correction, impatience. It is often the communication of something which is patently obvious to the speaker, but not to his or her listener.

(26)   
 (26) Wat  $\setminus$ doe je nou?


(27) Maar dat → heeft toch geen  $\setminus$ zin?

(28) Maar dat → was toch niet de be $\setminus$ doeling?

Note this is an example of a Dutch intonation pattern which is likely to strike an English ear as exaggerated and over-emotional.

### *Separated drop + rise*

The *separated drop + rise* is commonly employed (in a manner similar to English) to focus on two elements of an intonation group.

(29)   
 (29) Men → kan de re  $\setminus$ gering niet ver  $\setminus$ wijten, | dat ...

(30) De proce`dure die hier ge $\setminus$ volgd is...

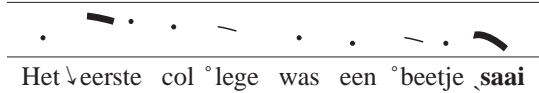
(31) De  $\setminus$ weersverwachting tot morgen  $\setminus$ avond...



### *Pre-nuclear patterns*

#### *Descending head*

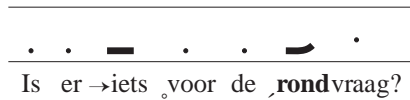
A frequent type of pre-nuclear pattern in Dutch, here termed a *descending head*, starts at a mid pitch (i.e. not as high as the onset of the English high heads) and descends in a gradual drop in pitch on each of the following syllables. Each strongly stressed syllable is marked by a small step up before the resumption of the descent, e.g.



This, which might be considered the *neutral* pre-nuclear pattern for Dutch, bears a strong resemblance to the English high sliding head (used before fall-rise) described above. Note that the pitch range (the distance between the highest and lowest syllables) is usually considerably smaller than in English high heads.

#### *Low head*

This *low head*, also commonly found in Dutch, has an overall contour which is low and level; the strongly stressed syllables step up slightly in pitch:



In statements, low heads are associated with a more detached, less animated attitude. When followed by a rising nucleus, the low head is a very common way of forming questions (especially Yes-no questions).

#### *Climbing head*

Here, each strongly stressed syllable after the onset is marked by an upward step in the intonation pattern.



The *climbing head* is emotively marked, and may be associated with impatience, surprise, etc.

## 25.2 COMPARISON WITH DUTCH AND ADVICE

In a contrastive analysis of Dutch and English intonation, the following areas are most significant:

(1) **Intonation group division.** This is, in general, similar in Dutch and English. Nevertheless, particularly in reading and formal speaking, Dutch learners often tend to have over-long intonation groups, which may have the effect of sounding monotonous (see p. 284).

(2) **Nucleus location.** If allowance is made for differences in word order, the systems in the two languages are quite similar.

Nucleus location functions similarly in all varieties of English. It does not, for the most part, give rise to problems for Dutch learners even though the grammatical structure of Dutch, which often involves a verb at the end of a clause, means that the nucleus does not fall as frequently at the end of an intonation group. Compare:



- |                                    |                                     |
|------------------------------------|-------------------------------------|
| 1. I lent him the <b>cash</b> .    | Ik leende hem het <b>geld</b> .     |
| 2. I've lent him the <b>cash</b> . | Ik heb hem het <b>geld</b> geleend. |

Another interesting difference between Dutch and English is that English far more readily places the nucleus on prepositions. This effect is particularly noticeable where there is a contrast implied or stated, usually in a sentence containing a negative. A selection of examples is given below:



- (Have you done your library research?) Actually, there aren't any books **in** the library **on** this topic.
- (I hear you're working in the same section as Dan Jones.) No, I do work **with** Dan, but not in the same department.
- (Is it true you're a bit of a music expert?) In fact, I know very little **about** music, but I'd like to learn.
- (I don't see why Charles should go to Spain on his own.) You're right, you should go to Spain **with** Charles.

Note that it is always possible to produce utterances such as the above with the nucleus on a word other than the preposition, e.g. 'In fact, I know very little about **music**, but I'd like to learn', etc. Consequently, no problems will arise for the Dutch learner. Nevertheless, it is useful to appreciate this tendency of English and to realise the emphatic implications of this aspect of nucleus location.

(3) **Nuclear tone.** Here, more differences are apparent, though perhaps it is wise to remember that even these are not any greater than the difference be-

tween RP and many English varieties, e.g. Geordie (North East), Birmingham, South Wales, Scottish, Southern U.S.A., to name a few examples.

(4) **Pre-nuclear pitches** (pre-head and head). This is probably the area where Dutch and English are most at variance, though once again, dialects of English also show considerable differences.

Differences in nuclear tone and pre-nuclear pitch contours include choice of a particular pitch pattern; the particular attitudinal, grammatical and discourse association of the chosen pitch pattern; the phonetic realisation.

### *Pitch range and voice quality*

The general range of pitch in RP English is noticeably greater than in Dutch. In particular, one finds that English reaches lower pitches, and regularly on descents employs creaky voice phonation; this is true of women as well as men. In Dutch, creaky voice is relatively rare and probably more an idiosyncratic feature of voice quality. In general, Dutch pitches do not reach the low level which is typical of English.

| English     | Dutch |
|-------------|-------|
| ----- creak |       |

Creaky voice is very characteristic of RP, but is also heard in several other varieties of English; it is very common, for example, in educated General American. The use of creaky voice (both by men and women) is one of the most convincing ways of obtaining a good command of English intonation and voice quality.

Dutch has a higher and somewhat more restricted voice range, together with raised larynx setting, which often gives the impression of an excessively high-pitched, tense, sometimes almost strangled quality for English — an effect which is particularly noticeable with some male voices. Again, a conscious effort to lower pitch range and in addition to employ creaky voice quality can improve performance considerably.

### *Distribution of pitches*

Both Dutch and English reach high intonation peaks, but there is a significant difference in the distribution of these. In English, high pitches are commonly found *towards the beginning* of the intonation group, functioning as the onset of a high head. Later in the pattern, high pitches occur mainly as the beginning of a high fall nucleus, or the mid point of a rise-fall. Rises are for the most part from low to mid; high rises are comparatively rare and attitudinally marked.

In Dutch, the onset of the descending head begins on a lower pitch than the

English high head. Furthermore, low heads are commoner in Dutch than in English. On the other hand, in Dutch, high rise, high level, and fall-rise nuclear tones are frequent — all being found at the *end* of the intonation group. Recurring prolonged high tones at the termination of pitch contours, may, if transferred to English, strike the English native speaker as ‘monotonous’.

### *Extent and duration of pitch movements*

One of the most significant differences between English and Dutch is the extent and duration of otherwise similar pitch movements. In English, the nuclear tones generally have pitch changes which are *rapid, extensive, sweeping falls or rises*; in addition, considerable use is made of *sharply changing pitch movement* in the fall-rise and rise-fall.

In Dutch, the nuclear tones tend more often to be levels, or less extensive pitch movements than in English. In particular, there is less use of *high fall to a very low pitch*. Rises tend to be steps up to a prolonged high pitch from mid, and not from the very low pitch characteristic of the beginning of the English low rise. Even though falling-rising tones are frequent in Dutch, the use of changing nuclear pitch movement appears more restricted than in English and there is no equivalent to the English rise-fall.

Perhaps the rapidity of the English pitch movements is even more striking than their extensive range. This is what frequently calls forth the description ‘exaggerated’ from Dutch learners. It is important to realise that this is not the feeling of English speakers, who find Dutch imitations of English dull and drawn out.

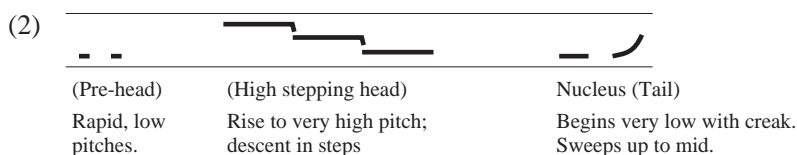
### *Head contours*

The typical contour of the English head is different from that found in Dutch. English regularly employs steps *down* in the high stepping head, which is used extensively both in statements and in questions. The typical pattern of Dutch is an even, sliding descent, broken only by short steps *up* at stresses. In addition, Dutch makes greater use of the low head than does English.

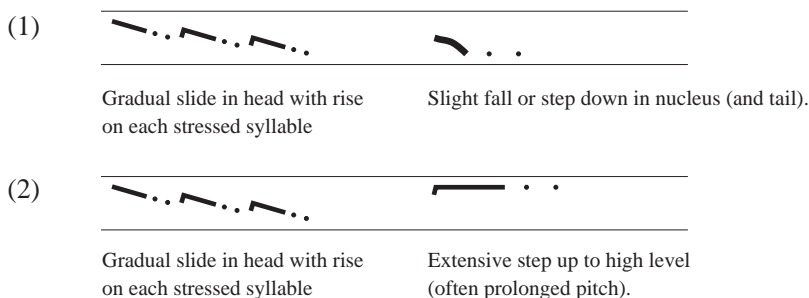
### *Overview of head/nucleus patterns*

Many English intonation patterns are of the following type:

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                          |                      |                |                     |                                           |                                                                                                                          |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------|----------------|---------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| (1)                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                          |                      |                |                     |                                           |                                                                                                                          |
|                     | <table border="0" style="width: 100%;"> <tr> <td style="width: 33%; text-align: center;">(Pre-head)</td> <td style="width: 33%; text-align: center;">(High stepping head)</td> <td style="width: 33%; text-align: center;">Nucleus (Tail)</td> </tr> <tr> <td style="text-align: center;">Rapid, low pitches.</td> <td style="text-align: center;">Rise to very high pitch; descent in steps</td> <td style="text-align: center;">1) Rise to high pitch, followed by extensive sweep down to very low pitch. End in creak.<br/>2) Low fall ending in creak.</td> </tr> </table> | (Pre-head)                                                                                                               | (High stepping head) | Nucleus (Tail) | Rapid, low pitches. | Rise to very high pitch; descent in steps | 1) Rise to high pitch, followed by extensive sweep down to very low pitch. End in creak.<br>2) Low fall ending in creak. |
| (Pre-head)          | (High stepping head)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Nucleus (Tail)                                                                                                           |                      |                |                     |                                           |                                                                                                                          |
| Rapid, low pitches. | Rise to very high pitch; descent in steps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1) Rise to high pitch, followed by extensive sweep down to very low pitch. End in creak.<br>2) Low fall ending in creak. |                      |                |                     |                                           |                                                                                                                          |



Compare the equivalent Dutch patterns:



Dutch students should practise in particular the use of the following English features: (1) high stepping heads; (2) high fall nucleus, imitating the extended, rapid downward sweep of the fall; (3) low rise nucleus, making sure that the beginning of the nuclear tone is on a truly low pitch with an appropriate rise rather than a step upwards; (4) forms of the Dutch drop-rise and drop + rise, which, with modification, can be transferred to English. The sharp drop (see p. 278) should be avoided, since it tends to sound exaggerated and over-emotional to an English ear.

Finally, Dutch learners need to be able to *recognise* the English rise-fall, though its powerful emotional associations mean that a learner should use it with caution, if at all.

### *Tag-questions and tag-responses*

Dutch lacks completely any system of tags or tag responses. It is essential for any learner past the beginner stage to learn the main features of the English tag-question/response system both for recognition and performance. It is an area of English intonation which is (1) most crucial for meaning; (2) of very high frequency in colloquial English. It is necessary to remember that the nucleus always falls on the verb component of the tag.

### *Discourse features in conversation and reading/formal speaking*

There is very considerable overlap between Dutch and English intonation with respect to the discourse function in conversation. This should not, on the whole, prove to be an area of difficulty for the student of English as far as normal colloquial language is concerned.

Nevertheless, in certain speech registers, e.g. formal public speaking, or reading texts aloud, it is a good idea for the student to have conscious control over certain aspects of discourse and it is advisable to devote time to practising these matters. It is also worth mentioning, in passing, that training in speaking in front of a group of people and reading aloud are both useful strategies for achieving good intonation.

Significant areas for students to concentrate on are the following:

1. Intonation groups should be kept short, the text should be divided up accordingly, and a deliberate attempt should be made to make the nuclear and onset syllables as prominent as possible.
2. Use of English rises and fall-rises as non-finality indicators, for instance for introductory, non-final clauses (see pp. 268-69). This is particularly effective in narrative and elucidating an argument. Note that the rising tones should be a faithful imitation of the sharply sweeping patterns characteristic of English.
3. Use of list intonation patterns, where a sequence of some sort is involved. These can be employed to add variety.
4. Use of parenthetic intonation. Although it would appear to be a dull, level pattern, nevertheless, paradoxically, it adds variety because it allows the speaker to set off a small portion of the text.

As in all other aspects of language learning, it is essential not to have inhibitions. The English accusation that Dutch intonation sounds dull and monotonous is matched by the Dutch feeling that English patterns are 'exaggerated' and 'affected'. Imitation of English native speakers (using specialist language lab drills, or audio recordings of books read by authors or professional actors) and constant listening to English radio programmes are good ways to get accustomed to the 'feel' of English intonation patterns.

## ERROR ANALYSIS

In this section, a survey is given of the main errors produced by Dutch-speaking learners, followed by an indication of the significance of these for the English native speaker/listener.

Note the following abbreviations: BLPS = Beginners/Less proficient speakers; ADV = Advanced learners. NL and B imply errors typical of Netherlands and Belgian students.

### *Consonants: general difficulties*

1. The most important general error is confusion of the fortis/lenis contrast, especially where this causes word-final lenis consonants to be replaced by fortis. This error is particularly significant in stressed syllables.
2. Associated with this is the **over-shortening** of vowels preceding lenis consonants. Note that /aɪ/ is **over-long** before fortis.
3. BLPS lack glottalisation with final fortis consonants. ADV extend the use of glottal stop incorrectly, employing it to replace or reinforce final lenis stops, e.g. *good morning* \*[gʊʔ 'mɔːnɪŋ], *big car* \*[bɪʔ 'kɑː].
4. Dutch assimilation patterns are employed, which contribute to the confusion of the lenis/fortis contrast at syllable boundaries, e.g. *iceberg* \*/'aɪzbɜːg/. Sequences of plosives are often reduced to a single plosive after the Dutch pattern, e.g. *night dress* \*/'naɪdrɛs/.
5. The Dutch learner typically has problems connected with **setting**. This affects the alveolar consonants /t, d, n, s, z, l/, which are articulated with the blade/front area of the tongue rather than the tip/blade as in English. Connected with this is the fact that stops generally have a tenser articulation in Dutch compared with English, whilst fricatives are tenser in English than they are in Dutch (particularly in the Netherlands). Effects of setting produce sounds which are 'dull' to the English ear.

### *Consonants: specific errors*

- /p t k/ Lack aspiration in stressed syllable-initial context; lack glottalisation in syllable-final context (see above). Medial /t/ is replaced by /d/, e.g. *better* \*/'bedə/.
- /b d g/ Confused with /p, t, k/ in syllable-final position. BLPS (especially NL) tend to replace /g/ with /k/ in all contexts.

- /tʃ/ Dutch sequence /tj/ in *beetje* (realised as alveolo-palatal affricate [tʃ]) is substituted. Lacks lip-rounding. In syllable-final position, BLPS replace /tʃ/ (especially NL) by /ts/, e.g. *lunch* \*/lʌnts/.
- /dʒ/ Dutch sequence /dj/ in loanword *jazz* (realised as alveolo-palatal affricate [dʒ]) is substituted. Lacks lip-rounding. Initially, BLPS use D /tj/. In syllable-final position, BLPS (especially NL) replace by /ts/, e.g. *hedge* \*/hets/.
- /f/ Confused with E /v/ in medial context, e.g. *if I* \*/iv aɪ/.
- /v/ Final /v/ is replaced by /f/. In addition, because D /f – ʋ/ is unstable for many Dutch speakers (especially NL), there is a strong tendency to confuse E /f – v/ in initial position.
- /θ/ NL: replaced by /s/ or /t/.  
 B: replaced by /t/ (or, word-finally, /f/).  
 BLPS may not realise that orthographic **th** may represent two phonemes, i.e. unawareness of /θ – ð/ contrast.  
 See Table 15.2, p. 142.
- /ð/ NL: when initial, replaced by /d/. Medially, replaced by /d/ (or /z/). In final position, replaced by /t/ or /s/.  
 B: when initial and medial, replaced by /d/. In final position, replaced by /f/.  
 BLPS may not be aware of contrast /θ – ð/.  
 See Table 15.2, p. 142.
- /s/ (1) (Especially NL) Setting problems give possible confusion with E /ʃ/. (Some dialects, e.g. broad Amsterdam, may lack a D /s – sj/ contrast.)  
 (2) Spelling gives rise to confusion E /s – z/. See Chapter 18, pp. 184-85.  
 (3) The sequence E /sj/, e.g. *assume*, is replaced by D [ç], which English speakers interpret as E /ʃ/. BLPS extend this error to words like *suit*, *super*, etc.
- /z/ Final /z/ is replaced by /s/. Spelling problems lead to confusion with /s/ in other contexts (see Chapter 18, p. 184). The sequence E /zj/, e.g. *presume*, is replaced by D [z], which English speakers interpret as E /ʒ/.
- /ʃ/ Substitution of D [ç] is generally successful, but a minority of learners produce too palatalised and over-sharp E /ʃ/ before close front vowels (e.g. *she*, *sheer*). Insufficient lip-rounding and protrusion. In syllable-final position, BLPS (especially NL) replace by /s/, e.g. *wish* \*/wis/.



- /ʒ/ Gives little difficulty. Substitution of D [z] in *genre* is generally successful.
- /h/ Gives little difficulty except for certain regional accents which lack D /h/ (Zeeland, extensive areas of Belgium, especially West Flanders).  
Incorrect omission of /h/ in sequence /hj/, e.g. *huge* \*/ju:dʒ/.
- /m/ Gives little difficulty.
- /n/ (Especially B) Excessive nasalisation on preceding vowels (notably open vowels), e.g. *dance* \*[dã:ns].  
(Especially NL) Preceding /e/ lowered to /æ/.
- /ŋ/ Gives little difficulty.
- /l/ (Especially NL) Syllable-final /l/ is over-dark (pharyngealised). May lack tongue-tip/alveolar contact, giving an unacceptable back vowel type articulation. After open back vowels (e.g. *doll*, *hall*), /l/ appears to be completely elided to an English ear.  
A preceding /e/ vowel may be incorrectly lowered to /æ/.  
Some learners wrongly treat initial and medial /l/ as dark [ɫ]. Almost all learners produce incorrect dark [ɫ] before /j/, e.g. *million* \*/mɪɫjən/. Syllable-initial /pl, kl/ lack the devoicing and friction typical of English, e.g. *plan* [pɫæn], *clue* [kɫu:].  
(B) Belgian /l/ transfers well into English. Some speakers incorrectly use clear [l] in medial and final positions.  
(Both B and NL) BLPS insert /ə/ between /l/ and any following /p, f, m, k/ (especially in words having a Dutch counterpart, e.g. *help*, *self*, *film*, *milk* \*/heləp, seləf, filəm, mɪlək/).
- /r/ D /r/ has many types of articulation (see pp. 199-201). Substitutions of front or 'retroflex' types are usually not unduly distracting. Uvular articulations ('brouwende r') are completely unacceptable.  
One of the most persistent distributional errors is r-insertion, i.e. using /r/ whenever it occurs in spelling instead of only before vowels. See also general vowel difficulties below.
- /j/ Gives little difficulty apart from /hj, sj, zj/ mentioned above.
- /w/ (NL) Replaced by D /v/, lacking essential lip-rounding, and with labio-dental articulation. Confused with E /v/. In clusters /tw, kw/ (e.g. *twice*, *queen*), it may sound like E /f/ to an English ear.  
(B) Fewer difficulties provided lip-rounding is adequate.

### *Vowels: general difficulties*

1. Dutch learners find it difficult to imitate the complex variation of length in English vowels, especially the lengthening of vowels before lenis consonants, compared with shortening before fortis consonants.

2. RP (like most types of English spoken in England and Wales) is non-rhotic. Dutch learners almost invariably insert /r/ whenever this is indicated in the spelling, which results in a completely false concept of the English vowel system. The vowels affected are /ɑ:, ɔ:, ɜ:, ə, ɪə, eə, uə/. The result is distracting to an English ear and may give an impression of dialectal pronunciation.

### *Vowels: specific errors*

- /i:/ Too close and tense. Sometimes too short. Certain ADV learners have as over-compensation too long a vowel, or an exaggerated diphthong of an [ëi] type, which sounds dialectal.
- /ɪ/ Final /ɪ/ too close in *happy words* (p. 90). Some NL speakers (especially from the Randstad) and B speakers (e.g. Antwerp) make /ɪ/ too close in all contexts. It is generally not enough to cause confusion of E /ɪ – i/ (KIT – FLEECE), but often sounds dialectal. Others (both B and NL) have too open a vowel (see p. 91), resulting in confusion with E /e/.
- /e/ Confused with /æ/. Southern Netherlands and some B learners make /e/ too open. Students from all NL areas tend to make /e/ too open before /n, l/. Some NL (Randstad) and B (Antwerp) students have a centralised, closer quality which can be confused with E /ɪ/.
- /æ/ Almost invariably replaced by the Dutch ZET vowel (D /ɛ/), giving a vowel which is too close and causing confusion of E /e – æ/ (DRESS – TRAP). This is a major and persistent error.
- /ɑ:/ With certain speakers (often of prestigious forms of Dutch) too fronted. Problems arise through r-insertion, e.g. *car* \* /ka:r/. Confusion with TRAP vowel /æ/ in BATH words (see pp. 119-20).
- /ɒ/ Replaced by the Dutch ZOT vowel (D /ɔ/), which is (1) too close (2) over-tense, (3) pharyngealised, (4) excessively lip-rounded. These problems vary from one individual to another. Spelling causes uncertainty in distribution of /ɒ – ʌ/ (LOT – STRUT) in the *worry words* (see pp. 122-23) and /ɒ – ɔ:/ (LOT – THOUGHT).
- /ɔ:/ Main difficulty is r-insertion. Some ADV speakers have an over-close quality; others use D /ɔ/, as in ZOT, which may be too short and pharyngealised. Spelling causes uncertainty in distribution of E /ɒ – ɔ:/ (LOT – THOUGHT).

- /ʊ/ Contrast /ʊ – u:/ (FOOT – GOOSE) is lost.  
(Especially NL) /ʊ/ is replaced by (1) D /u/ (BLPS), (2) ADV Dutch learners regularly replace with an extended glide which is based on the Dutch vowel in NUT moving towards the NU vowel, i.e. /ɥy/, e.g. *good* \*/gʊyd/.  
(B) The problems for Belgians are similar, but the effects are less conspicuous.
- /u:/ Loss of contrast /ʊ – u:/ (FOOT – GOOSE). BLPS use D /u/, as in MOE, which is too short, close and tense. ADV use glide /ɥy/ (see above), which sounds dialectal.
- /ʌ/ BLPS replace by D /ɥ/, as in NUT, which is too close and lip-rounded. Spelling results in confusion with /ɒ/ in the ‘worry words’, e.g. *front, wonder, nothing, lovely*.
- /ɜ:/ Replaced by Dutch sequence in *deur*, which is incorrectly lip-rounded instead of spread/neutral. A major problem is r-insertion.
- /ə/ Main difficulties concern the replacement by vowel in the spelling. A major problem is r-insertion in words containing orthographic **r** (e.g. *better*).
- /eɪ/ (NL) Replacement by D /e:/, as in ZEE, normally gives few problems. Dialect speakers outside the Randstad may have too narrow a glide; dialect speakers in the Randstad may have too extended a glide. (B) Too narrow a glide.
- /əʊ/ Replaced by D /o:/, as in ZO. (NL) Normally gives few problems except in some dialect areas outside the Randstad, where there is too narrow a glide. (B) Too back and too narrow a glide.  
More ADV students substitute an exaggerated front diphthong, similar to the Dutch vowel sequence /e:u/ in MEEUW. This sounds unpleasantly ‘affected’ to an English ear.
- /aɪ/ Typically over-long before fortis, giving the impression of a following lenis, e.g. *twice* \*/twarɪz/, *light* \*/laid/, *quite* \*/kwaid/.
- /aʊ/ Gives little difficulty. Imitation of fronted and raised starting-point, e.g. [ɛʊ], may sound dialectal. Some (mostly B) have too rounded and too close a starting-point.
- /ɔɪ/ Often has too close a starting-point.
- /ɪə/ Main difficulty arises through r-insertion. Starting-point over-close.
- /eə/ Main difficulty is r-insertion. Confusion with /æ/ and /e/.
- /ʊə/ Main difficulty is r-insertion. Starting-point too close.

### *Hierarchy of error in pronunciation*

We can now make a tentative classification of errors on a scale, ranging from most to least significant.

---

**Most significant** *Level 1.* Errors causing a breakdown in intelligibility (often involving the loss of a phonemic contrast).

**Significant** *Level 2.* Errors involving a distortion of sound, sufficient to cause distraction, irritation or amusement on the part of the native speaker.

**Least significant** *Level 3.* Errors which are easily detectable, but which do not distract, irritate, or amuse the native speaker.

---

We may also distinguish between errors in terms of (1) those which are common to a majority of learners and which are difficult to eradicate, (2) those which are produced by beginners, but which are generally non-persistent (BLPS). Certain errors are, paradoxically, commoner with more advanced students (ADV).

Table 26.1 is based on the above categorisation. Level 1 has been split into two categories: (a) persistent errors which are common to most learners and not easily eradicated and (b) non-persistent errors heard mainly from BLPS and only a small minority of ADV students. In this table, no division has been made into Netherlands and Belgian errors. For this, see error analysis above.

*Table 26.1 Hierarchy of error in pronunciation*

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#### **Level 1. Most significant**

##### *Persistent errors*

1. Final fortis/lenis contrast including assimilation errors.
2. Use of [ʔ] with final lenis stops (ADV).
3. Articulation of /ð/.
4. Confusion of initial and medial /f – ʃ/ contrast.
5. Confusion of /v – w/ contrast.
6. Confusion of /æ – e – εə/ contrast; articulation of /æ/.
7. /aɪ/ over-long before fortis.
8. /ʊ – u:/; articulation of /ʊ/.
9. Lack of weak and contracted forms.
10. False assimilations.

## Level 1. Most significant

### *Non-persistent errors*

1. Uvular [ʁ] (general problem in some dialect areas).
2. Initial /g/ confused with /k/.
3. Final /tʃ, dʒ/ replaced by /ts/.
4. /ʃ – s/.
5. /ə/-insertion between /l/ and following non-alveolar consonant.
6. /θ/ replaced by /s/, /t/ or /f/.
7. Misplacement of primary stress.

## Level 2. Significant errors

1. r-insertion (vowels /ɑ:, ɔ:, ɜ:, ə, ɪə, εə, uə/).
2. Aspiration lacking, and over-tense articulation of initial fortis stops.
3. Over-dark (pharyngealised) /l/.
4. Over-rounded and false vowel quality of /ɜ:, ʌ, ɒ/.
5. Over-fronted starting-point with /əʊ/ (ADV).
6. Exaggerated glide for /u:/.
7. /eɪ, əʊ/ too narrow a glide.
8. Monotonous intonation owing to restricted intonation range and lack of high heads.
9. Intonation of tag-questions.
10. Over-use of final high-level rise.
11. Stress in compounds.

## Level 3. Least significant

1. /ɪ/ over-close.
2. /ɑ:/ over-fronted.

### SOME CRITERIA FOR EVALUATING THE PRONUNCIATION OF THE MORE ADVANCED LEARNER OF ENGLISH

#### *Native/near-native speaker*

#### *Excellent*

Has virtually full sound system of the native speaker. Complete range of genuine sounding vowels. Contrasts such as /æ – e, u: – ʊ/ are well maintained. Has vowel length under good control. Good consonant articulation and hardly any problems with fortis/lenis (F/L) or with aspiration and glottalisation. /ð/ causes no difficulty. No Dutch-type F/L assimilations. Hardly ever makes a stress error. Weak/contracted forms (WFs/CFs) are no problem. Pitch range is wide with varied, convincingly English-sounding intonation patterns.

**Overall impression:** few traces of a foreign accent; can sometimes sound similar to a native speaker.

### *Good*

Speaker has most vowel contrasts available but lapses at times with /æ – e/, whilst both /u:/ and /ʊ/ may be replaced by an extended diphthong based on D /ʌ/, as in NUT, gliding towards /y/, as in NU, i.e. /ʌy/ (esp. NL). Vowel length occasionally gives rise to difficulties, e.g. over-long /aɪ/. Even if vowels are not spot-on, they are easily intelligible. Few problems with vowel gradation in unstressed syllables. Final F/L well maintained but glottalisation may be too frequent, being used wrongly for lenis stops (more characteristic at this level than with less competent speakers who make little use of [ʔ]). A few false Dutch-type assimilations, e.g. \*/ət'faiz/ for 'advise'. /ð/ poses a problem at times. [l] may be over-dark (NL) or over-clear (some B). Only occasional evidence of incorrect /r/ distribution. Few stress errors, but some slips with compounds may occur. An obvious awareness of WFs/CFs. Intonation more restricted than that of the native speaker; pitch range reduced but not unduly monotonous. Evidence of incorrect voice quality and setting as detailed in the section below.

**Overall impression:** a noticeable but generally unobtrusive foreign accent.

### *Satisfactory*

Uncertain of vowel contrasts, e.g. /æ – e, u: – ʊ/. Many vowel realisations sound unconvincing, e.g. /ɒ/. Monophthongal /eɪ, əʊ/. Vowel length is often inaccurate, especially /aɪ/. Vowel gradation in unstressed syllables is inconsistent. /ð/ is a recurring problem. Lapses with initial /v/ (esp. NL). Final F/L is a noticeable stumbling-block and Dutch-type assimilation occurs from time to time. Frequent problems with aspiration; glottalisation is largely absent. Problems with distribution of /r/. Word stress on the whole accurate but frequent lapses with compounds. WFs/CFs are present but inconsistent. Intonation is noticeably restricted in pitch range and patterns lack variety, making speaker sound somewhat monotonous (especially when reading). Voice quality/setting may not be appropriate, e.g. over-tense, pharyngealised and high-pitched (D); 'husky', nasalised (B).

**Overall impression:** an obvious foreign accent but easy to follow and only rarely distracting.

### *Borderline*

Most vowels sound non-English and contrasts such as /æ – e, u: – ʊ/ are not attempted; /ɜ:/ is rounded. Vowel length is a constant problem. Vowel gradation in unstressed syllables is largely absent. /ð/ is overwhelmingly replaced

by /d/. Constant problems with initial /v/ and /θ/. Final /ʃ, tʃ, dʒ/ pose a problem (esp. NL). Occasional problems with /g/; and /h/ (some B). Final /l/-clusters may occasionally have inappropriate /ə/-insertion, e.g. *film* /'fɪləm/. F/L is very inconsistent. No attempt at glottalisation; aspiration, if present, is hit and miss. Assimilations are for the most part on Dutch lines. There is little attempt at correct /r/ distribution, /r/ being pronounced in all contexts. Far too few WFs; CFs are rarely used. Inaccurate word stresses hinder intelligibility from time to time. Intonation is restricted and monotonous and may be distracting. Voice quality and setting obviously inappropriate.

**Overall impression:** a very noticeable foreign accent which can be distracting, requiring extra attention on the listener's part.

### *Unsatisfactory*

Little attempt at vowel contrasts — uses Dutch vowel system with only minor modification. Unable to articulate consonants such as /w, v, dʒ/ (esp. NL), /h/ (some B) and /θ, ɡ/. Final /l/-clusters may show inappropriate /ə/-insertion. F/L is haphazard and assimilation is entirely of Dutch type. /r/ in all contexts. Very few WFs and virtually no CFs. Word stress is frequently incorrect. Intonation along Dutch lines with little attempt at an English pattern. One may sometimes need repetition to understand what is being said.

**Overall impression:** a strong Dutch accent which is irritating and occasionally blurring the message. Sometimes slips into a *classic Dutch-speakers' accent* (see below).

### *Poor*

No attempt at vowels or consonants. Speakers merely transfer the Dutch system. Stressing is haphazard, often leading to lack of intelligibility. Effectively no use of WFs/CFs. Stress, rhythm and intonation all transferred from Dutch. Virtually every sentence will contain numerous significant pronunciation errors which may be enough to reduce intelligibility.

**Overall impression:** a *classic Dutch-speakers' accent*, with no apparent attempt by the speaker to modify. Often very difficult to understand.

### **Intelligibility breaks down**

## A BRIEF LOOK AT OTHER ACCENTS OF THE BRITISH ISLES

### 27.1 MAJOR BRITISH AND IRISH ACCENTS

In this chapter, we provide an overview of a number of regional varieties of English to be found in the United Kingdom and the Republic of Ireland. In order to make you aware of the English with the widest currency, we have chosen the accents which are spoken in the larger cities and conurbations.

The accompanying audio cassette provides samples of the types of speech discussed, which have been produced in each case by genuine speakers of the variety concerned. Transcripts of each sample are available in the workbook *Working with the Phonetics of English and Dutch* (1996).

Certain of the accents have nicknames which are in common usage, i.e. Cockney, Geordie, Scouse, Brummie. The 'core area' of the accent is shown in brackets. Numbers of speakers are only approximate estimates.

1. 'Cockney' (Greater London and adjacent conurbations): more than 10 million
2. West Country (Bristol and Bath): nearly 4 million
3. 'Brummie' (Birmingham and West Midlands including Coventry): 3 million
4. North (Greater Manchester, Leeds-Bradford, Sheffield): nearly 7 million
5. 'Scouse' (Liverpool and Merseyside): 1.5 million
6. 'Geordie' (Newcastle and Tyneside): nearly 1 million
7. Scots (Glasgow, Edinburgh and Central Lowlands): 4 million
8. Ulster (Belfast and surrounding area): 1 million
9. Dublin (Greater Dublin): 1 million
10. South Wales (Glamorgan and West Gwent): 2 million

Apart from the varieties discussed above, we have included three further samples on the audio cassette: Southampton (showing similarities to Bristol and other West Country accents), Cardiff (related to other South Wales accents) and Hartlepool (related to North Eastern accents such as Geordie).

#### *English reference vowels*

The set of reference vowels (p. 89) is not adequate to deal with all the features of regional accents. For this purpose, four additional keywords are required: BATH, JUICE, FORCE, NORTH. Our full list of keywords is printed below:



Table 27.1. Keywords for reference vowels<sup>1</sup>

|              |         |        |
|--------------|---------|--------|
| KIT          | FLEECE  | FACE   |
| DRESS        | PALM    | GOAT   |
| TRAP         | THOUGHT | PRICE  |
| LOT          | NURSE   | MOUTH  |
| STRUT        | GOOSE   | CHOICE |
| FOOT         | JUICE   | NEAR   |
| BATH         | NORTH   | CURE   |
| <i>bonus</i> | FORCE   | SQUARE |
| <i>happy</i> |         |        |

## 27.2 TYPES OF VARIATION FOUND IN ACCENTS

When discussing varieties of a language, linguists generally distinguish between the terms **dialect** (covering pronunciation, grammar and vocabulary) and **accent** (where only the pronunciation differences are considered). In our survey, we have deliberately restricted ourselves to pronunciation differences, i.e. accents rather than dialects.

It is usual to classify pronunciation variation between accents along the following lines.

**1) Systemic variation:** where one accent possesses more or fewer phonemes than another accent in a particular part of the sound system, e.g.

- (a) Northern English and many Southern Irish accents lack the contrast /ʌ – ʊ/ in STRUT/FOOT; such varieties have no phoneme /ʌ/ as found in other types of English.
- (b) Most broad accents in England and South Wales are **h**-less, i.e. lack consistent /h/.
- (c) South Wales has an additional contrast in GOOSE/JUICE with an extra phoneme /ɪu/ not found in other accents.

**2) Lexical-incidential variation:** where the phoneme chosen for a word or a specific set of words is different in one accent as compared with another, e.g.

In the BATH words, e.g. *bath, pass, dance, sample* etc., Northern and Midland accents select the TRAP vowel; Cockney and RP select the PALM vowel.

<sup>1</sup> Adapted from Wells (1982: 120); see Wells for details of corresponding lexical sets; JUICE is additional to Wells's categorisation.

**3) Distributional variation:** where the occurrence of a particular phoneme is distributed according to a different pattern in one accent as compared to another, e.g.

RP and most varieties of England English and Welsh English are non-rhotic, i.e. /r/ is pronounced only where it is followed by a vowel; see p. 178. Other accents, e.g. Scots, Ulster, Southern Irish, West Country, are rhotic, i.e. pronounce /r/ in all phonetic contexts. Distributional variation operates 'across the board' and is not restricted to a particular set of words; it is therefore predictable by rule.

**4) Realisational variation:** all variation which is not covered by any of the three categories above will relate to the realisation of a phoneme, or set of phonemes, in one accent as compared with another, e.g.

- (a) FACE and GOAT are narrow glides in Scots, Irish, Welsh and Northern English accents but wide glides in Cockney and Birmingham.
- (b) Initial /p t k/ are unaspirated in Lancashire, aspirated in RP, and are often affricated in Scouse and Cockney.

Although realisational variation functions within phoneme categories, this does not imply that patterning is necessarily absent. Most realisational variation will involve factors such as the symmetry of the vowel system, or articulations triggered by specific phonetic contexts. Related patterns of variation will often be found to affect more than one phoneme, as in the examples above.

## 27.3 FEATURES OF THE SELECTED ACCENTS

### *Some significant variables in British English accents*

#### **1. Rhotic or non-rhotic distribution (distributional)**

RP and most English and Welsh varieties are non-rhotic. Scots, Irish, West Country and parts of Lancashire are rhotic (see pp. 178-79).

#### **2. /h/ (systemic)**

Most accents in England and Wales are **h**-less, and so potentially lose contrasts such as *hit* – *it*. This is one of the best-known phonetic social markers in English, and is severely stigmatised. Consequently, many **h**-less speakers strive to acquire /h/ and at least to use it in formal speech.

### 3. *Replacement of medial /t/ in bottle by [ʔ] (realisational)*

Certain accents have more extensive glottalisation than that described for RP (see pp. 152-54). In particular, these varieties have glottal replacement of medial /t/, e.g. *letter*, *bottle* ['leʔə, 'bɒʔl].

### 4. */l/ realised as dark [ɫ]; vowel-like; or clear [l] (realisational).*

RP has clear [l] before a vowel or /j/, and dark [ɫ] before pause or a consonant (e.g. *milk*, *hill* [mɪɫk, hɪɫ]). Certain accents have only clear [l], or only dark [ɫ], which is used in all contexts. The realisation of dark [ɫ] may be darker than in RP, often like a back vowel or approximant of an [ʊ]-type without any alveolar contact. This is labelled 'vowel-like' in the table.

### 5. [ŋg] or [ŋ] in singer, song (systemic or distributional)

In many Midland and some North Country accents, medial **ng** invariably has sounded /g/, e.g. *singer* is pronounced as ['sɪŋgə]. A few varieties extend this to all contexts, thus lacking a true phoneme /ŋ/. Consequently, [ŋ] in these accents must be regarded as an allophone of /n/ occurring before velars. (Note that almost all working-class accents in Britain will in any case realise final **-ing** as /ɪŋ/, e.g. *playing* /'pleɪɪŋ/, *ceiling* /'si:lɪŋ/.)

### 6. *Vowel /ʊ/ or /ʌ/ in the STRUT words (systemic)*

Northern and some Midland accents in England have no contrast /ʊ/ – /ʌ/ in words like *pull* – *gull*. /ʌ/ is lacking from the system in these accents, and /ʊ/ is used in all cases, giving *gull* /gʊl/, *blood* /blʊd/, *strut* /strʊt/ etc.

### 7. *TRAP or PALM vowel in the BATH words (lexical-incidental)*

RP, Cockney and other South Eastern accents have the **PALM** vowel in a set of words which have been termed the **BATH** words (most of which are spelt with the letter **a** followed by a fricative or nasal, e.g. *craft*, *bath*, *pass*, *chance*, *plant*). Here, most other accents have the **TRAP** vowel. (See also pp. 119-20.)

### 8. *Narrow or wide diphthongs in the FACE and GOAT words (realisational)*

RP is used here as a yardstick to indicate whether the realisation of the diphthongs /eɪ/ and /əʊ/ tends to be narrow (possibly steady-state) or wide.

### 9. *Final vowel in happy (distributional)*

The final vowel in words such as *happy*, *parties*, *coffee* has the **FLEECE** vowel /i:/ in some accents where other accents (including RP) have the **KIT** vowel /ɪ/. (See pp. 90-1.)

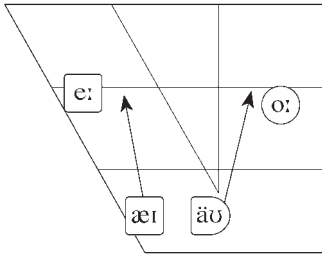


Figure 27.1.1 The vowels in FACE and GOAT realised (1) as narrow diphthongs or steady-state vowels (South Wales), (2) as wide diphthongs (Cockney).

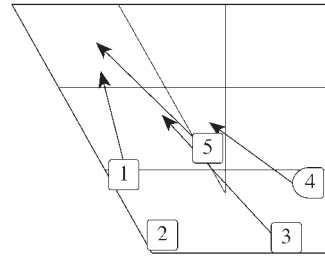


Figure 27.1.2 Dialect variation in the English PRICE vowel. (1) Tyneside [ɛɪ]; (2) Northern [a:]; (3) Cockney [ɑɪ]; (4) Birmingham [ɔɪ]; (5) South Wales [əɪ].

TABLE 27.2 *Distinguishing features of selected accents of English together with RP*

|                     | <b>Rhotic order</b> | <b>[h] hot</b> | <b>[ʔ] bottle</b> | <b>[ɪ]</b>              | <b>[g] singer</b> | <b>STRUT/ FOOT</b> | <b>BATH</b> | <b>FACE/ GOAT</b> | <b>happy</b> |
|---------------------|---------------------|----------------|-------------------|-------------------------|-------------------|--------------------|-------------|-------------------|--------------|
| <b>Cockney</b>      | —                   | —              | ?                 | clear/dark (vowel-like) | —                 | different          | PALM        | wide              | FLEECE       |
| <b>West Country</b> | r                   | —              | ?                 | clear/dark (vowel-like) | —                 | different          | variable    | mid               | FLEECE       |
| <b>Birmingham</b>   | —                   | —              | t                 | clear/dark              | g                 | different          | TRAP        | wide              | FLEECE       |
| <b>North</b>        | —                   | —              | t                 | clear/dark              | variable          | same               | TRAP        | narrow            | KIT          |
| <b>Scouse</b>       | —                   | —              | t                 | clear/dark              | g                 | same               | TRAP        | mid               | FLEECE       |
| <b>Geordie</b>      | —                   | h              | ?                 | clear                   | —                 | same               | TRAP        | narrow            | FLEECE       |
| <b>Scots</b>        | r                   | h              | ?                 | dark                    | —                 | different          | TRAP        | narrow            | KIT          |
| <b>Belfast</b>      | r                   | h              | variable          | clear/dark              | —                 | different          | TRAP        | narrow            | KIT          |
| <b>Dublin</b>       | variable            | h              | t                 | clear/dark              | —                 | same               | TRAP        | narrow            | FLEECE       |
| <b>S. Wales</b>     | —                   | —              | t                 | clear                   | —                 | different          | variable    | narrow            | FLEECE       |
| <b>RP</b>           | —                   | h              | t                 | clear/dark              | —                 | different          | PALM        | mid               | KIT          |

## 27.4 DETAILS OF INDIVIDUAL ACCENTS

**1. Cockney (Greater London)**

Cockney is **h**-less and non-rhotic.

Initial /p, t, k/ are strongly aspirated/affricated; when final/medial, they are strongly glottalised, with replacement of /t/ by [ʔ], e.g. *what a lot of bottles* = [wɒʔ ə 'lɒʔ ə 'bɒʔʊz]. Many speakers replace /θ, ð/ by /f, v/, e.g. *three feathers* = ['frəi 'fevəz]. Post-vocalic [l] is very dark, sounding like [ʊ], e.g. *milk* = [mɪʊk].

Systemically, Cockney is very similar to RP but the realisation of vowels is very different. Front checked vowels KIT, DRESS and TRAP tend to be closer: [ɪ, e, ɛ]. The STRUT vowel is very fronted and open = [a]. FLEECE and GOOSE vowels are extended diphthongs [ɛi] and [əu]. Vowel glides are wide in FACE, PRICE and GOAT so that Cockney *day, try, no* sound like RP *die, troy, now* (cf. Birmingham). The MOUTH vowel is fronted, often raised, and ends unrounded, [a:] or [eə].

**2. West Country**

The accent is **h**-less. It is strongly rhotic with /r/ being realised as a retroflex approximant [ɻ] with accompanying vowel colouring (rather similar to General American). There is extensive glottalisation with much consonant assimilation and elision in connected speech. /t/ is often replaced by [ʔ] (as in Cockney).

STRUT is close and not regularly contrasted with /ə/. A number of BATH words contain the TRAP vowel. The PALM vowel is more front than in RP, giving a contrast with TRAP which is of length rather than of quality.

Much of the South West has similar features to the above but Bristol itself is unique in that words ending in orthographic **a, ia** have very close final /ə/ (i.e. [ɻl]), which gives the impression of an 'intrusive-l', commonly known as 'Bristol l' e.g. *sofa, Austria* = ['səʊfɻl, 'ɔ:stɪɻl].

**3. Birmingham/West Midlands**

The accent is **h**-less and non-rhotic. Medial **ng** typically has sounded /g/ (cf. Lancashire, Scouse).

Front checked vowels tend to be closer. KIT sounds very close = [i], similar to RP FLEECE, whilst both FLEECE and GOOSE are extended glides [ɛi], [əu]. The vowels of STRUT and FOOT are very similar; a potential contrast exists notwithstanding what is stated in many books, but it is certainly difficult for a non-Midlander to recognise. STRUT is present, with a realisation very similar to an unrounded [ʊ], i.e. [ʏ]. FOOT is closer and more rounded than RP. NURSE is front and lip-rounded [œ:ɪ]. There are wide glides in FACE, GOAT. The PRICE vowel is more back (cf. Cockney). Broad speakers may even

have no PRICE/CHOICE contrast, with the result that *tie* and *toy* are homophones. MOUTH is raised and fronted [ɛʊ] (cf. Lancashire).

Midlands English is notable for its extended intonation patterns with sharp falls or rise-falls.

#### 4. North

The North is here taken to include most of Yorkshire and Lancashire (excluding Merseyside).

Northern accents are all **h**-less and most are non-rhotic (but see below). /p, t, k/ have very weak aspiration. The definite article *the* is realised as /t/, which is often glottalised or elided, e.g. *I saw t' book in t' cupboard* [a: 'sɔ: ʔt 'bʊk ɪn ʔt 'kʊbəd]. The happy vowel is a very open [e]-like version of KIT, e.g. *mucky* [mʊke]. DRESS is more open and TRAP is retracted, giving [ɛ, ʌ]. Old-fashioned speakers have FLEECE vowel in PRICE words like *right* = [rit]. Other PRICE vowels have a very narrow glide (or even a steady-state vowel) [a:].

In Lancashire, some areas have sounded /g/ for medial **ng**, i.e. /ŋg/, e.g. *singer* = ['sɪŋgə]. Quite an extensive area to the north of Manchester (but not the city itself) is rhotic. The MOUTH vowel glide starts raised and fronted, i.e. [æʊ].

Yorkshire is notable for assimilation from lenis to fortis, e.g. *Bradford City* [bratfət 'sɪtɪ].

#### 5. Scouse

As a result of a massive influx of Irish and North Welsh migrants to Liverpool over the last two hundred years, this accent sounds strikingly different from the rest of the North.

The accent is **h**-less and non-rhotic. There is relatively little glottalisation, but /p, t, k/ are heavily aspirated or, more commonly, affricated [pʰ, ts, kx], e.g. *pet cat* [pʰɛts 'kxats]. Medial /ŋ/ frequently has sounded /g/. Typically, /r/ is a strong tap [ɾ]. Intervocalic /t/ may also be realised as [ɾ], e.g. *get it* [gɛɾ ɪt], *matter* [mætɾə]. Many speakers replace /θ, ð/ by /t, d/ *they're thin* = [de: 'tɪn] (cf. Dublin).

Like other northern varieties, Scouse lacks the STRUT – FOOT contrast. Furthermore, there is another systemic gap in that there is no contrast of SQUARE and NURSE, so that *fair* and *fur* sound identical. PALM is very fronted [a:].

Intonation is characterised by rise-fall intonation patterns.

#### 6. Geordie

Geordie has very great phonetic/phonological differences from the standard

language and is in some ways similar to Scottish accents. It is, for instance, the only large conurbation in England (or Wales) which has an **h**-pronouncing accent. On the other hand, unlike Scots, it is non-rhotic.

Glottal stop [ʔ] frequently reinforces /p, t, k/, e.g. *better*, *paper* ['betʔə, 'pe:pʔə]. /l/ is invariably clear. Broader speakers (generally of the older generation and outside Newcastle itself) sometimes realise /r/ as a uvular fricative [ʁ].

Both final /ə/ and the second element of the centring glides NEAR and CURE are very open, e.g. *better* ['betʔə], *beer* [biə], *cure* [kjʊə]. Certain PALM words, namely those spelt **ar** (e.g. *start*), have a very back vowel, sounding rather like RP THOUGHT. An extra vowel /a:/ exists for THOUGHT words spelt with **al**, e.g. *walk* = [wa:k]. This means that *talk* and *yawn* contain different vowels /ta:k – jɔ:n/. In broad accents, NURSE and NORTH words are merged, e.g. both *shirt* and *short* are pronounced [ʃɔ:t] and, in some words, MOUTH may be replaced by /u:/, e.g. *house* /hu:s/ (cf. Scots). The PRICE vowel has a very close glide, e.g. *Tyneside* ['teɪnseɪd]. FACE and GOAT are realised either as steady-state vowels [e:, o:] or as opening diphthongs [ɪə, əə].

Geordie is well known for its extended 'lilting' intonation with a preponderance of rising tunes.

## 7. Scots

Scots is **h**-pronouncing and /hw/ occurs in words spelt **wh**, e.g. *which*, *wheel* = [hwɪtʃ, hwil]. An extra phoneme /x/ exists, e.g. *loch* /lɔx/. Initial voiceless plosives have little aspiration but there is considerable glottalisation of final/medial /p, t, k/ with glottal replacement of /t/. /l/ is relatively dark in all contexts and may sound vowel-like in final position, especially after back vowels, e.g. *little* ['lɪʔɪ], *full* [fu:].

Scots is rhotic, generally with a strongly tapped /r/ = [r̥]; some varieties have types of fricative /r/. There are important systemic differences in the vowel system, far greater than in any other form of English, with, for instance, no contrast of GOOSE/FOOT vowels (both being realised as [y]) and frequently no opposition between LOT/THOUGHT so that *cot* – *caught* are homophones. On the other hand, RP /ɜ:/ may be represented by /ɪr/ as in *sir*, /ʌr/ as in *burn*, *word*, /ɛr/ as in *stern*. The KIT vowel is very open, sounding similar to [ə]. In broader varieties, the incidence of many vowels may be radically different from the norm, e.g. *good* = KIT [gɪd]; *house* = GOOSE [hus]; *home* = FACE [hem]; *dead* = FLEECE [did]. There is a split of words which in RP have /ɔ:/ into two sets FORCE and NORTH, the first set having the GOAT vowel and the second the THOUGHT vowel, e.g. *force* /fɔ:rs/ and *north* /nɔ:rθ/ (see p. 105). Vowel length also operates quite differently from most other accents of English.

There is an interesting East-West difference in intonation. Glasgow is notable for terminally rising tunes which are largely absent from the speech of the Edinburgh region.

## 8. *Belfast*

As a result of massive immigration from Scotland in previous centuries, the accents of Northern Ireland sound quite different from those of the Irish Republic, being similar to Scots in many ways. The information below applies particularly to the area around Belfast. Many Ulster rural accents (some of which are termed ‘Scotch-Irish’) show even more Scottish features.

Ulster is **h**-pronouncing with many speakers retaining /h/ in **wh** words. The accent is rhotic, with /r/ usually being realised as retroflex = [ɹ]. Fortis stops are heavily glottalised, and in rural accents (but not usually in Belfast) intervocalic /t/ may be replaced by [ʔ], e.g. *pretty* [ˈprɪʔɪ].

Broader varieties have deviant incidence of vowels compared with most accents of England, e.g. *bag* = DRESS [beg]; *doll* = THOUGHT [dɔ:l]. There is also noticeable realisational variation. KIT, especially when final, is particularly open [ɛ̃]. STRUT is retracted [ɚ̃]. The MOUTH glide has a very fronted and lip-rounded realisation [œy]. GOOSE is very fronted.

Ulster is noted for its characteristic intonation with more rising than falling tunes.

## 9. *Dublin*

Dublin is **h**-pronouncing with some use of /h/ in **wh** words. Irish accents are overwhelmingly rhotic, with /r/ realised as a weak tap or fricative. Working-class Dublin is exceptional, being for the most part non-rhotic, as can be heard from the speakers on the tape. /θ, ð/ are replaced regularly by dental [t̪, d̪] or affricated [t̪θ, d̪ð] (cf. Liverpool) and with many speakers the contrasts /θ – t/ and /ð – d/ are lost. Final /t/ is very often fricative, e.g. *late* [le:θ]. The sequences /rɪm/ and /lɪm/ may be realised with /ə/-insertion, e.g. *arm, film* = [ˈarəm, ˈfɪləm].

The Dublin vowel system is somewhat closer to RP than is that of Ulster, but there is still much significant variation. The STRUT vowel is close and back and the contrast with FOOT is often absent. Furthermore, for some speakers, the contrast LOT/FOOT may also be uncertain with a vowel of an [ɔ]-type being employed. Broader speakers may replace the vowel in certain FLEECE words by the FACE vowel, e.g. *feet, sea* = [fe:t, se:]. The contrast CHOICE/PRICE may be absent. TRAP and PALM differ in length and are both about [a] in quality. GOOSE is a wide glide [əu]. MOUTH is fronted [æu].

Rural Irish accents have characteristic ‘lilting’ intonation patterns. Dublin has similar patterns but these are much less extended in pitch range.

## 10. *South Wales*

The Welsh language was very widespread in this area until well into the present century (and still holds out in some districts). As a result of this influence, Welsh English is very different from most English varieties.

The accent is **h**-less and (except for older-generation native Welsh speak-



ers) non-rhotic. /r/ is realised as a light tap [ɾ]. Plosives lack any glottalisation. Medial consonants may be lengthened, e.g. *pretty* = [ˈprɪtɪtɪ]. /l/ is always clear.

Welsh English has two extra vowel contrasts. Words with GOOSE in other kinds of English split systemically into GOOSE /u:/ (e.g. *goose, blue, mood, do*) and JUICE /ɪu/ (e.g. *juice, blew, nude, include*), e.g. *through – threw* [θru: – θɹɪu]. Like Scots, there is a NORTH/FORCE split /ɔ: – ou/. STRUT is often more front than open: [ɛ̃], while NURSE may be closer and rounded [ø:]. The TRAP vowel is open and retracted whilst PALM is fronted, and the contrast may be only of length, e.g. *black car* [ˈblak ˈka:]. FACE and GOAT are typically steady-state vowels [e:, o:]. PRICE and MOUTH have central first elements, giving [əi, əu], e.g. *lighthouse* [ˈləɪtəʊs].

South Wales English has extremely extended ‘ilting’ intonation patterns, similar to those of the Welsh language. Sharp rise-falls are particularly common.

The Cardiff/Newport area (about half a million population) is less influenced by Welsh, and sounds quite distinct from the remainder of South Wales. Cardiff has less extended intonation; BATH words are variable; the PALM vowel is fronted and raised = [æ:]; GOAT and FACE are diphthongs. There are no FORCE/NORTH or GOOSE/JUICE splits; /l/ has clear/dark patterning similar to RP; and there is some glottalisation of fortis stops.

## SOME DIFFERENCES BETWEEN AMERICAN AND BRITISH ENGLISH

### 28.1 INTRODUCTION

This chapter provides a brief summary of the main differences between RP and General American, henceforth **GA**. For more detailed descriptions of GA, see Kreidler (1989) and Wells (1982).

### 28.2 VOWELS

Many of the vowels in GA are the same as (or at least similar to) their counterparts in RP. They are also, with a few exceptions, shown here with the same symbols. For GA the ‘length mark’ for free vowels has been omitted since there is not the close connection between length and free vowels as there is in RP (see p. 13). Other important differences are listed below:

1. GA is a rhotic variety (see p. 178). When **r** occurs in the spelling, RP /ɑː, ɔː, ɜː, ə, ɪə, eə, uə/ correspond in GA to a vowel followed by /r/. See Section 28.3 on consonants below.

|               | <b>RP</b> | <b>GA</b> |
|---------------|-----------|-----------|
| <i>hard</i>   | /hɑːd/    | /hɑrd/    |
| <i>born</i>   | /bɔːn/    | /bɔrn/    |
| <i>work</i>   | /wɜːk/    | /wɜrk/    |
| <i>summer</i> | /ˈsʌmə/   | /ˈsʌməɾ/  |
| <i>clear</i>  | /klɪə/    | /klɪr/    |
| <i>bear</i>   | /beə/     | /bet/     |
| <i>cure</i>   | /kjʊə/    | /kjʊr/    |

2. In GA, the **GOAT** vowel traditionally began more back and is thus represented here by /oʊ/, e.g. *Boat Show* /ˈboʊt ʃoʊ/. However, increasingly, younger Americans pronounce a more central vowel similar to RP /əʊ/.

3. In GA, the **TRAP** vowel is closer and lengthened, sounding rather like the RP **SQUARE** vowel. It occurs in **BATH** words (see pp. 119-20), where RP has **PALM** /ɑː/:

|             | <b>RP</b> | <b>GA</b> |
|-------------|-----------|-----------|
| <i>bath</i> | /bɑːθ/    | /bæθ/     |

|               |          |         |
|---------------|----------|---------|
| <i>half</i>   | /hɑ:f/   | /hæf/   |
| <i>answer</i> | /ˈɑ:nsə/ | /ˈænsə/ |
| <i>can't</i>  | /kɑ:nt/  | /kænt/  |
| <i>class</i>  | /klɑ:s/  | /klæs/  |

Note that in American English certain foreign names and loanwords spelt with **a** are said with /ɑ/ rather than /æ/, e.g. *pasta*, *mafia*, *macho*, *Picasso*, *Parmesan*.

Many Americans (away from the eastern seaboard) make no difference between words such as *merry*, *marry* and *Mary* — pronouncing all three as /ˈmeri/.<sup>1</sup>

4. The STRUT vowel is generally closer — more like /ə/ than in RP. Before /r/, in words where RP has /ʌ/, GA uses /ɜ/, e.g. *worry*: GA /ˈwɜ:ri/.

5. Words which contain RP LOT may have one of two possibilities in GA.

(a) GA /ɑ/ (similar to RP /ɑ:/)

|             | <b>RP</b> | <b>GA</b> |
|-------------|-----------|-----------|
| <i>rock</i> | /rɒk/     | /rɑk/     |
| <i>rob</i>  | /rɒb/     | /rɑb/     |
| <i>nod</i>  | /nɒd/     | /nɑd/     |

(b) Before /g, ŋ, s, f, θ/, GA usually has /ɔ/ (similar to RP /ɔ:/), but note that usage varies.

|              | <b>RP</b> | <b>GA</b> |
|--------------|-----------|-----------|
| <i>dog</i>   | /dɒg/     | /dɔg/     |
| <i>long</i>  | /lɒŋ/     | /lɔŋ/     |
| <i>cost</i>  | /kɒst/    | /kɔst/    |
| <i>soft</i>  | /sɒft/    | /sɔft/    |
| <i>cloth</i> | /klɒθ/    | /klɔθ/    |

6. Many words ending in *-ile* have /aɪ/ in RP, and /ɪ/ in GA.

|                | <b>RP</b>  | <b>GA</b> |
|----------------|------------|-----------|
| <i>reptile</i> | /ˈreptaɪl/ | /ˈreptɪl/ |
| <i>missile</i> | /ˈmɪsaɪl/  | /ˈmɪsɪl/  |

### 28.3 CONSONANTS

The basic consonant systems of RP and GA are the same and are shown here with the same symbols. However, note the following points about the occurrence of consonants in GA.

<sup>1</sup> In *happy words* (see p. 90) GA has neutralisation of /i/ and /ɪ/. Since most Americans seem to consider the vowel as FLEECE, we have transcribed /i/.

1. In RP, /r/ is said only before a vowel. GA speakers pronounce /r/ wherever it occurs in the spelling.

|               | RP       | GA        |
|---------------|----------|-----------|
| <i>worker</i> | /ˈwɜ:kə/ | /ˈwɜrkər/ |
| <i>mirror</i> | /ˈmɪrə/  | /ˈmɪrər/  |

The /r/ is often syllabic (see p. 17), giving : /ˈwɜrkɹ̩, ˈmɪrɹ̩/. ‘Dropping /r/’ (i.e. non-rhotic speech) is nowadays regarded by Americans as characteristic of dialects or old-fashioned pronunciation. Americans do not use the intrusive /r/ (see p. 178).

2. GA /t/ is generally voiced [ɾ] in medial position; for the vast majority of Americans, in anything other than careful speech, the contrast /t - d/ may be neutralised in this context, so that /t/ and /d/ in *writer* and *rider* are identical. This is termed **T-Voicing**.

|               | RP       | GA        |
|---------------|----------|-----------|
| <i>writer</i> | /ˈraɪtə/ | /ˈraɪdər/ |
| <i>thirty</i> | /ˈθɜ:ti/ | /ˈθɜrdi/  |
| <i>pretty</i> | /ˈprɪti/ | /ˈprɪdi/  |

Many GA speakers also reduce medial /nt/ to /n/.

|               | RP        | GA       |
|---------------|-----------|----------|
| <i>twenty</i> | /ˈtwentɪ/ | /ˈtweni/ |

3. Many American speakers (not all) make a contrast between words spelt with **w** and **wh**. This sounds affected or old-fashioned in RP.

|                     | RP           | GA            |
|---------------------|--------------|---------------|
| <i>where, wear</i>  | /wɛə, wɛə/   | /hwɛr, wɛr/   |
| <i>which, witch</i> | /wɪtʃ, wɪtʃ/ | /hwɪtʃ, wɪtʃ/ |

4. Most Americans (not all) omit /j/ before /u/ after the following dental and alveolar consonants /θ, t, d, s, z, n, l/.

|                | RP          | GA        |
|----------------|-------------|-----------|
| <i>student</i> | /ˈstju:dnt/ | /ˈstudnt/ |
| <i>tune</i>    | /tju:n/     | /tun/     |
| <i>due</i>     | /dju:/      | /du/      |
| <i>news</i>    | /nju:z/     | /nuz/     |

In RP, some words have a less common alternative form without /j/. In GA, this is the *usual* form.

|                     | <b>RP</b> (usual form) | <b>GA</b> (usual form) |
|---------------------|------------------------|------------------------|
| <i>enthusiastic</i> | /ɪnθju:zɪ'æstɪk/       | /ɪnθuzɪ'æstɪk/         |
| <i>consume</i>      | /kən'sju:m/            | /kən'sʌm/              |
| <i>presume</i>      | /prə'zju:m/            | /prə'zʌm/              |

5. Many GA speakers (not all) produce /l/ with strikingly darker realisations than those found in RP. Some Americans have dark [ɫ] in all contexts. American /l/ can strike a speaker of British English as very similar to /w/, so that *life* sounds like *wife*.

#### 28.4 STRESS AND STRESS-RELATED FEATURES

There are some significant differences between RP and GA in (1) allocation of stress, (2) the pronunciation of unstressed syllables.

1. Words ending in *-ary* and *-ory* take a secondary stress on that syllable, and the vowel is *not* reduced to /ə/.

|                  | <b>RP</b>    | <b>GA</b>    |
|------------------|--------------|--------------|
| <i>momentary</i> | /məʊməntəri/ | /mouməntəri/ |
| or               | /məʊməntri/  |              |
| <i>secondary</i> | /sekəndəri/  | /sekəndəri/  |
| or               | /sekəndri/   |              |
| <i>territory</i> | /terətəri/   | /terətəri/   |
| or               | /terəttri/   |              |

2. Words from French are generally stressed on the first syllable in RP. They often have final syllable stress in GA.

|                | <b>RP</b> | <b>GA</b> |
|----------------|-----------|-----------|
| <i>ballet</i>  | /bæleɪ/   | /bæ'leɪ/  |
| <i>buffet</i>  | /bʊfeɪ/   | /bə'feɪ/  |
| <i>garage</i>  | /gærɑ:ʒ/  | /gə'rɑ:ʒ/ |
| <i>Bernard</i> | /bɜ:nəd/  | /bɪ'nɑrd/ |

#### 28.5 FREQUENT INDIVIDUAL WORDS

The following is a short select list of individual words not covered by the above. The pronunciations listed are those which appear to be found most commonly either side of the Atlantic. Note that in some cases a minority of GA speakers may use forms which are more typical of RP speakers, and vice versa. Words of this type are indicated by †.

|                               | <b>RP</b>        | <b>GA</b>                   |
|-------------------------------|------------------|-----------------------------|
| <i>address</i> (n.)           | /ə'dres/         | /ædres/†                    |
| <i>ate</i>                    | /et/†            | /eit/                       |
| <i>borough</i>                | /'bʌrə/          | /'bɜ:rou/                   |
| <i>thorough</i>               | /'θʌrə/          | /'θɜ:rou/                   |
| <i>clerk</i>                  | /kla:k/          | /klɜ:rk/                    |
| <i>cigarette</i>              | /sigə'ret/†      | /'sigəret/†                 |
| <i>depot</i>                  | /'depəʊ/         | /'dipou/†                   |
| <i>detail</i>                 | /'di:teɪl/       | /'dɪ'teɪl/†                 |
| <i>dynasty</i>                | /'dɪnəstɪ/       | /'daməstɪ/                  |
| <i>docile</i>                 | /'dəʊsaɪl/       | /'dɑsɪ/                     |
| <i>either</i>                 | /'aɪðə/†         | /'iðər/†                    |
| <i>neither</i>                | /'naɪðə/†        | /'niðər/†                   |
| <i>erase</i>                  | /'reɪz/          | /'reɪs/                     |
| <i>figure</i>                 | /'fɪgə/          | /'fɪgjər/                   |
| <i>herb</i>                   | /'hɜ:b/          | /'ɜrb/                      |
| <i>inquiry</i>                | /'ɪŋ'kwærɪ/      | /'ɪŋkwəri/†                 |
| <i>laboratory</i>             | /'lə'bɒrətɪrɪ/   | /'læbrətɔri/                |
| <i>leisure</i>                | /'leɪzə/         | /'li:zər/                   |
| <i>lever</i>                  | /'li:və/         | /'levər/†                   |
| <i>Parisian</i>               | /'pəri:ziən/     | /'pəri:zɪn/ or /pəri:zɪn/   |
| <i>process</i> (n.)           | /'prəʊses/       | /'pruses/                   |
| <i>progress</i> (n.)          | /'prəʊgres/      | /'pragrəs/                  |
| <i>record</i> (n.)            | /'rekɔ:d/        | /'rekərd/                   |
| <i>schedule</i>               | /'ʃedju:l/†      | /'skedʒul/                  |
| <i>shone</i>                  | /'ʃɒn/           | /'ʃoun/                     |
| <i>simultaneous</i>           | /'sɪməl'teɪmɪəs/ | /'saɪməl'teɪmɪəs/           |
| <i>tomato</i>                 | /'tə'mɑ:təʊ/     | /'tə'meɪtəʊ/ or /tə'meɪdəʊ/ |
| <i>vitamin</i>                | /'vɪtə'mɪn/†     | /'vaɪtə'mɪn/ or /vaɪdə'mɪn/ |
| <i>what</i>                   | /'wɒt/           | /(h)wʌt/ or /(h)wɑ:t/       |
| <i>z</i> (letter of alphabet) | /'zed/           | /'zi/                       |

Note also the following prefixes:

|               | <b>RP</b> | <b>GA</b>  |
|---------------|-----------|------------|
| <i>anti-</i>  | /'æntɪ/   | /'æntaɪ/†  |
| <i>multi-</i> | /'mʌltɪ/  | /'mʌltaɪ/† |
| <i>semi-</i>  | /'semi/   | /'semaɪ/†  |

## 28.6 PLACE-NAMES

The pronunciation of similarly spelt place-names frequently varies between Britain and the USA, with a tendency for American versions to be more influenced by the orthography:

|                     | RP         | GA                           |
|---------------------|------------|------------------------------|
| <i>Berkeley</i>     | /bɑ:kli/   | /bɜrkli/                     |
| <i>Birmingham</i>   | /bɜ:mɪŋəm/ | /bɜrmiŋhæm/                  |
| <i>Derby</i>        | /dɑ:bi/    | /dɜrbi/                      |
| <i>Oxford</i>       | /ɒksfəd/   | /ɑksfɔrd/                    |
| <i>Peterborough</i> | /pi:təbrə/ | /pitərbɜrou/ or /pidərbɜrou/ |
| <i>Warwick</i>      | /wɔrɪk/    | /wɔrwɪk/                     |

## 28.7 DIFFERENCES IN SETTING, RHYTHM AND INTONATION

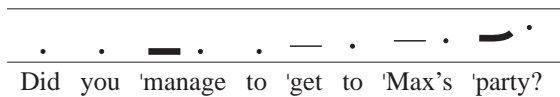
*Setting*

One of the most noticeable differences between GA and RP setting is that GA vowels are influenced by **r-colouring**, affecting adjacent consonants as well as vowels. For example, in *partner*, not only the vowels are affected but also the /t/ and the /n/. The body of the tongue is bunched up to a pre-velar position and the root of the tongue is drawn back to the pharynx wall.

American English is also coloured by **nasalisation** running throughout speech. This is sometimes referred to disparagingly as a ‘nasal twang’.

*Intonation*

Much of what has been said about RP intonation applies to GA intonation with this important difference: GA intonation tends to have fewer of the rapid pitch changes characteristic of RP, and rises and falls are more spread out over the *whole* tune. A very typical pattern, for instance, is this sort of rising tune for questions.



Because of these differences, American English can strike a British ear as monotonous. British English intonation can sound ‘exaggerated’ or ‘affected’ to Americans.

*Rhythm*

A second difference concerns rhythm. American English, because of a tendency to lengthen stressed vowels, and a generally slower rate of delivery, strikes a British ear as 'drawled'. British English, because of the general tendency to eliminate weakly stressed vowels, and a somewhat more rapid rate of delivery, strikes an American ear as 'clipped'.



# GUIDE TO THE TECHNIQUE OF PHONEMIC TRANSCRIPTION

Transcription may either be from a text in conventional orthography or from actual speech (e.g. a dictation or dialogue recorded on tape).

## I. TRANSCRIPTION FROM A TEXT

1.1 Read the passage *aloud* several times.

1.2 In transcribing, you must take account of the forms of connected speech, and not consider the text as a string of isolated words. Your next step should be to mark off the *intonation groups* (see p. 248). An intonation group boundary can sometimes be recognised by a brief pause. However, though there is often no break in the flow of speech, the intonation group boundary will occur at the point where a pause could potentially be made. The boundaries of intonation groups which have close grammatical connection are marked by single bars ( | ); intonation groups which are not closely connected have a boundary shown by a double bar ( || ), e.g.:

The *Guardian* newspaper | is famous for its misprints ||

Note that for any written text there are usually several different possibilities for division into intonation groups.

1.3 Next, still using the orthographic text, mark the stressed syllables as found in connected speech (i.e. *sentence stress*). This stressing is different from the potential stresses of the isolated word as indicated in the dictionary (*word stress*). Sentence stress is most likely to fall on a syllable of lexical words (i.e. nouns, main verbs, adjectives, most adverbs). Grammatical words (except for demonstratives, e.g. *this, those*, and Wh-words used in questions, e.g. *what, where, who*) are far less likely to carry stress. Mark sentence stress by a small vertical stroke ['] *before* the stressed syllable, e.g.

The 'Guardian' newspaper | is 'famous for its 'misprints ||

1.4 Now begin your transcription into phonemic symbols. If you are in doubt about certain words, attempt to transcribe them and once you have got to the end of the text, go back and look up any doubtful items in a pronouncing dictionary. Remember that there may be some small differences between the transcription system used in your dictionary and the one which we employ in

this book. Your dictionary may also show a number of alternative pronunciations, possibly by means of superscript or italic letters. Don't indicate these variant pronunciations in your transcription but choose *one* of the possibilities.

## 2. TRANSCRIPTION FROM AN AUDIO RECORDING

2.1 Listen to the whole passage several times.

2.2 Mark intonation group boundaries. Then concentrate on one intonation group at a time.

2.3 Mark sentence stress.

2.4 In a spoken passage, there is no possibility of choosing between a variety of interpretations of intonation group division and sentence stress placement. Nor is there room for a choice of different pronunciations for words, as is the case with transcription from a written text. All these variables must represent faithfully what has been produced by the speaker.

## 3. WRITING THE SYMBOLS

3.1 Always use the forms of print rather than handwriting, e.g.

misprints *not: MISPRINTS*

3.2 Note the *shapes* of the following symbols: E /ə ɔ ɪ ʊ ɜ ɛ æ a ɒ ʃ ʒ θ ð g/, D /œ ø/.

3.3 Make sure that you distinguish these from each other:

|     |     |     |       |       |
|-----|-----|-----|-------|-------|
| ɪ i | ɛ ɜ | ə a | æ ɑ a | ʊ ʊ ʊ |
| æ œ | z ʒ | ʒ ʒ | θ ə ɔ | ʊ u u |
| m ʌ | s ʃ | ɒ ʊ | ɒ ɔ ɑ |       |

3.4 The symbol ɒ is like b without an ascending stroke.

θ is written as 0 with a cross-stroke (not as ʰ which can be confused with ð).

ð is like a reversed 6 with a cross-stroke.

f does not descend below the line.

a, ə, æ and œ are best tackled as shown below:



3.5 Don't use any capital letters.

3.6 Don't confuse orthography and phonemic representation. Make sure you avoid gross 'spelling transcription' errors such as \*/written, nætʊrælli/ for *written* and *naturally*.<sup>1</sup>

3.7 Don't include symbols which are used in orthography but which are not part of the transcription system (e.g. c y q x o for English).

3.8 Don't use *phonetic* symbols, e.g. [ʔ, ɹ, ʔ], in a *phonemic* transcription.

3.9 Remember to use appropriately the *weak forms* and *contracted forms* of the grammatical words. The WF/CFs are approximately twenty times more frequent than strong forms in connected speech.

3.10 Mark syllabic consonants by a small stroke beneath the symbol: *bottle* /'bɒtl̩/, *written* /'rɪt̩n̩/. Note that in RP the most frequent syllabic consonants are /l, n/. Syllabic /m/ and /ŋ/ are also found.

3.11 Don't enclose each word in slant brackets. These are necessary to mark off phonemic transcription occurring in the body of a text in conventional orthography. However, slant brackets are quite unnecessary and incorrect in a transcription consisting exclusively of phonemic symbols.

3.12 It is not necessary to show *any* punctuation. Nevertheless, if you wish, you may use question marks and exclamation marks.

3.13 Numbers or abbreviations that occur in a passage should be transcribed in their full *spoken* form, e.g.

*17* /sevn'ti:n/

*B.B.C.* /bi: bi: 'si:/

*R.S.V.P.* /ɑ:r es vi: 'pi:/

Note that the stress always falls on the last item of abbreviations.

<sup>1</sup> Correctly /'rɪt̩n̩, 'nætʃrəli/.

## 4. SOME REMINDERS

4.1 /ə/ always occurs in unstressed syllables. In stressed syllables you will generally find /ʌ/ or /ɜ:/, e.g. *butter* /'bʌtə/, *burglar* /'bɜ:glə/.

4.2 In RP, /r/ only occurs before a vowel, e.g. *fairy* /'feəri/, but *far* /fɑ:/, *farm* /fɑ:m/. Note that to indicate the possibility of **linking-r** (see p. 178), e.g. *far off* /fɑ: r 'ɒf/, many dictionaries transcribe words with a superscript r, e.g. /fɑ:ʳ/. In your own transcriptions, you should omit this superscript r or, where there is **linking-r**, transcribe it between words with a full-size letter.

4.3 The *happy words* (see p. 90), i.e. those ending in **y**, **ie** or **ee**, are traditionally regarded as having /ɪ/ in RP, and you are recommended to keep to this convention. The same applies to inflexional **-ies** and **-ied**, e.g. *silly* /'sɪli/, *coffee* /'kɒfɪ/, *fairies* /'feəri:z/, *married* /'mæri:d/. (Note that very many dictionaries indicate the neutralisation of /ɪ – i:/ by a special symbol: i.)

4.4 Refer to Chapters 13 and 18 for guidelines to spelling/phonemic relationships in English. Note especially the following pages: pp. 124-25 for /æ – eə – e/; pp. 125-26 for /ʊ – u:/; pp. 122-23 for /ʌ – ɒ/; pp. 184-85 for /s – z/ and p. 185 for /θ – ð/.

4.5 The pronunciation of **s** in plurals and verb endings, and **'s** found in possessives and the weak forms of *has* and *is*, is governed by the preceding sound.

- a) Following the fortis consonants /p, t, k, f, θ/, **s** → /s/, e.g. *sits* /sɪts/, *Jack's* /dʒækz/.
- b) Following /s, z, ʃ, ʒ, tʃ, dʒ/, **s** → /ɪz/, e.g. *horses* /'hɔ:sɪz/, *bushes* /'bʊʃɪz/, *matches* /'mætʃɪz/.
- c) In all other cases, **s** → /z/, e.g. *seeds* /si:dz/, *Doug's* /dʌgz/, *seems* /si:mz/, *sees* /si:z/.

4.6 The ending **ed** → /t/ following fortis consonants (except /t/). Following /t/ or /d/, **ed** → /ɪd/. Following all other consonants or vowels **ed** → /d/, e.g.:

*looked* /lʊkt/, *laughed* /lɑ:ft/  
*seemed* /si:md/, *pleased* /pli:zd/, *saved* /seɪvd/, *barred* /bɑ:d/  
*folded* /'fəʊldɪd/, *waited* /'weɪtɪd/

4.7 Several verbs ending in **n** or **l** have two pronunciations and spelling forms, e.g. *spelled*, *spelt*; *burned*, *burnt*. In British English, the pronunciation with /t/ is far more common.

4.8 Certain adjectives have forms with /ɪd/, e.g. *crooked* /'krʊkɪd/, *naked* /'neɪkɪd/. Some other examples are: *ragged*, *aged*, *jagged*, *-legged* (as in *four-legged*, *bow-legged*), *rugged*, *wicked*, *crabbed*, *learned*, *cursed*, *blessed*, *beloved*.

4.9 If transcribing from speech (dictation or a recording), you must show all assimilations and elisions you can hear. When transcribing from a written text, it adds interest to show assimilations and elisions where these are possible.

## 5. PASSAGES FOR PHONEMIC TRANSCRIPTION (ENGLISH)

Transcribe phonemically, marking stress and intonation group boundaries, and *using weak forms and contracted forms whenever appropriate*. Keys to the transcriptions are to be found in the accompanying workbook to this course.

### Passage A

Algernon: Do you know it is nearly seven?  
 Jack: Oh! It always is nearly seven.  
 Algernon: Well, I'm hungry.  
 Jack: I never knew you when you weren't.  
 Algernon: What shall we do after dinner? Go to a theatre?  
 Jack: Oh, no! I loathe listening.  
 Algernon: Well, let us go to the club?  
 Jack: Oh, no! I hate talking.  
 Algernon: Well, we might trot round to the Empire at ten?  
 Jack: Oh, no! I can't bear looking at things. It is so silly.  
 Algernon: Well, what shall we do?  
 Jack: Nothing!  
 Algernon: It is awfully hard work doing nothing. However, I don't mind hard work where there is no definite object of any kind.

### Passage B

Jack: Well, will you go if I change my clothes?  
 Algernon: Yes, if you are not too long. I never saw anybody take so long to dress, and with such little result.  
 Jack: Well, at any rate, that is better than being always over-dressed as you are.  
 Algernon: If I am occasionally a little over-dressed, I make up for it by being always immensely over-educated.  
 Jack: Your vanity is ridiculous, your conduct an outrage, and your

presence in my garden utterly absurd. However, you have got to catch the four-five, and I hope you will have a pleasant journey back to town.

### Passage C

‘What — is — this?’ he said at last.

‘It’s a child! We only found it to-day. It’s as large as life, and twice as natural!’

‘I always thought they were fabulous monsters!’ said the Unicorn. ‘Is it alive?’

‘It can talk’ said the Messenger.

The Unicorn looked dreamily at Alice, and said ‘Talk, child.’

Alice couldn’t help her lips curling up into a smile as she began: ‘Do you know, I always thought Unicorns were fabulous monsters, too! I never saw one alive before!’

‘Well, now that we *have* seen each other,’ said the Unicorn, ‘if you’ll believe in me, I’ll believe in you. Is that a bargain?’

### Passage D

‘When *I* use a word,’ Humpty Dumpty said, in rather a scornful tone, ‘it means just what I choose it to mean — neither more nor less.’

‘The question is,’ said Alice, ‘whether you *can* make words mean so many different things.’

‘The question is,’ said Humpty Dumpty, ‘which is to be master — that’s all. They’ve a temper some of them — particularly verbs. They’re the proudest. Adjectives you can do anything with, but not verbs. However, *I* can manage the whole lot of them!’

### Passage E

Cecily: Sugar?

Gwendolen: No, thank you. Sugar is not fashionable any more.

Cecily: Cake or bread and butter?

Gwendolen: Bread and butter, please. Cake is rarely seen at the best houses nowadays.

Cecily: Here you are, Miss Fairfax.

Gwendolen: You have filled my tea with lumps of sugar, and though I asked most distinctly for bread and butter, you have given me cake. I am known for the gentleness of my disposition, and the extraordinary sweetness of my nature, but I warn you, Miss Cardew, you may go too far.

### Passage F

‘Well, in *our* country,’ said Alice, still panting a little, ‘you’d generally get to somewhere else if you ran very fast for a long time as we’ve been doing.’

‘A slow sort of country!’ said the Queen. ‘Now, *here*, you see, it takes all the running *you* can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that.’

‘I’d rather not try, please!’ said Alice. ‘I’m quite content to stay here — only I *am* so hot and thirsty!’

‘I know what *you’d* like!’ the Queen said good-naturedly, taking a little box out of her pocket. ‘Have a biscuit?’

### Passage G

‘Crawling at your feet,’ said the Gnat (Alice drew her feet back in some alarm), ‘you may observe a Bread-and-Butter-fly. Its wings are thin slices of bread-and-butter, its body is a crust, and its head is a lump of sugar.’

‘And what does it live on?’

‘Weak tea with cream in it.’

‘Supposing it couldn’t find any?’ Alice suggested.

‘Then it would die, of course.’

‘But that must happen very often,’ Alice remarked thoughtfully.

‘It always happens.’

### Passage H

Lady Bracknell: Good afternoon, dear Algernon, I hope you are behaving very well.

Algernon: I’m feeling very well, Aunt Augusta.

Lady Bracknell: That’s not quite the same thing. In fact the two things rarely go together...I’m sorry if we’re a little late, Algernon, but I was obliged to call on dear Lady Harbury. I hadn’t been there since her poor husband’s death. I never saw a woman so altered; she looks quite twenty years younger. And now I’ll have a cup of tea, and one of those nice cucumber sandwiches you promised me.

### Passage I

‘The time has come,’ the Walrus said,

‘To talk of many things:

Of shoes — and ships — and sealing-wax

Of cabbages — and kings —

And why the sea is boiling hot —

And whether pigs have wings.’

### Passage J

Lady Bracknell: Do you smoke?

Jack: Well, yes, I must admit I smoke.

Lady Bracknell: I am glad to hear it. A man should always have an occu-

- pation of some kind. There are far too many idle men in London as it is. How old are you?
- Jack: Twenty-nine.
- Lady Bracknell: A very good age to be married at. I have always been of opinion that a man who desires to get married should know either everything or nothing. Which do you know?
- Jack: I know nothing, Lady Bracknell.
- Lady Bracknell: I am pleased to hear it. I do not approve of anything that tampers with natural ignorance. Ignorance is like a delicate exotic fruit; touch it and the bloom is gone. The whole theory of modern education is radically unsound. Fortunately in England, at any rate, education produces no effect whatsoever. If it did, it would prove a serious danger to the upper classes, and probably lead to acts of violence in Grosvenor Square.

### Passage K

- ‘It’s a poor sort of memory that only works backwards,’ the Queen remarked. ‘What sort of things do *you* remember best?’ Alice ventured to ask. ‘Oh, things that happened the week after next. For instance, now, there’s the King’s Messenger. He’s in prison now, being punished, and the trial doesn’t even begin till next Wednesday. And of course the crime comes last of all.’ ‘Suppose he never commits the crime?’ ‘That would be all the better, wouldn’t it?’

### Passage L

- Gwendolen: Mr. Worthing, there is just one question I would like to be permitted to put to you. Where is your brother Ernest? We are both engaged to be married to your brother Ernest, so it is a matter of some importance to us to know where your brother Ernest is at present.
- Jack: Gwendolen — Cecily — it is very painful for me to be forced to speak the truth. It is the first time in my life that I have ever been reduced to such a painful position, and I am really quite inexperienced in doing anything of the kind. However, I will tell you quite frankly that I have no brother Ernest. I have no brother at all. I never had a brother in my life, and I certainly have not the smallest intention of ever having one in the future.

### Passage M

- ‘I can’t believe *that!*’ said Alice. ‘Can’t you?’ the Queen said in a pitying tone. ‘Try again: draw a long breath, and shut your eyes.’



Alice laughed. 'There's no use trying,' she said: 'one *can't* believe impossible things.'

'I daresay you haven't had much practice.' said the Queen. 'When I was your age, I always did it for half an hour a day. Why, sometimes I've believed as many as six impossible things before breakfast.'

### Passage N

Jack: Is this the handbag, Miss Prism? Examine it carefully before you speak. The happiness of more than one life depends upon your answer.

Miss Prism: It seems to be mine. Yes, here is the injury it received through the upsetting of a Gower Street omnibus in younger and happier days. Here is the stain on the lining caused by the explosion of a temperance beverage, an incident that occurred at Leamington. And here, on the lock, are my initials. I had forgotten that in an extravagant mood I had had them placed there. The bag is undoubtedly mine. I am delighted to have it so unexpectedly restored to me. It has been a great inconvenience being without it all these years.

Jack: Miss Prism, more is restored to you than this handbag. I was the baby you placed in it.

### Passage O

'I don't understand you,' said Alice. 'It's dreadfully confusing.'

'That's the effect of living backwards,' the Queen said kindly. 'It always makes one a little giddy at first.'

'Living backwards!' Alice repeated in great astonishment. 'I never heard of such a thing!'

'But there's one great advantage in it — that one's memory works both ways.'

'I'm sure *mine* only works one way,' Alice remarked. 'I can't remember things before they happen.'

### Passage P

Jack: Pray excuse me, Lady Bracknell, for interrupting you again, but it is only fair to tell you that according to the terms of her grandfather's will Miss Cardew does not come legally of age till she is thirty-five.

Lady Bracknell: That does not seem to be a grave objection. Thirty-five is a very attractive age. London society is full of women of the very highest birth who have, of their own free choice, remained thirty-five for years. Lady Dumbleton is an instance in point. To my own knowledge she has been

thirty-five ever since she arrived at the age of forty, which was many years ago now. I see no reason why our dear Cecily should not be even still more attractive at the age you mention than she is at present. There will be a large accumulation of property.

### Passage Q

F.E. Smith used to make fun of Lord Chief Justice Hewart's corpulence. Once he came up to him, patted Hewart's ample stomach, and asked: 'What are you going to call it?'

Hewart retorted: 'If it's a boy, I'll name it George, and if it's a girl, Elizabeth. But if, as I suspect, it's merely a large quantity of wind, I'm going to call it F.E. Smith.'

### Passage R

'That's another thing we've learned from *your* Nation, map-making. But we've carried it much further than *you*. What do you consider the *largest* map that would be useful?'

'About six inches to the mile.'

'Only *six inches*. We very soon got to six *yards* to the mile. Then we tried a *hundred yards* to the mile. And then came the grandest idea of all! We actually made a map of the country, on the scale of *a mile to the mile!*'

'Have you used it much?'

'It has never been spread out, yet. The farmers objected: they said it would cover the whole country, and shut out the sunlight! So we now use the country itself, as its own map, and I assure you it does nearly as well.'

### Passage S

A story is told of the way one old professor of medicine used to train his students. Holding a sample of urine in his hand, he would tell them that he was going to test for the presence of sugar. Then he'd proceed to dip his finger in, and lick it. The students would then, very unwillingly, follow his example. 'My friends, you have now discovered for yourselves a most important principle of diagnosis. Attention to detail.' The students would be mystified. 'I shall explain. You'll note that I put my index finger in the test tube, but I licked my middle finger. Unlike you people.'

Passages A, B, E, H, J, L, N and P have been taken from Oscar Wilde's *The Importance of Being Earnest*. Passages C, D, F, G, I, K, M and O are from *Through the Looking-Glass* by Lewis Carroll. Passage R is from *Sylvie and Bruno* by the same author. Certain of the selections have been slightly adapted.

## 6. PASSAGES FOR PHONEMIC TRANSCRIPTION (DUTCH)

**Passage T**

Het volgende waar gebeurde verhaal maakt duidelijk wat het risico is dat je loopt, als je een land bezoekt waarvan je de taal helemaal niet kent. Een Engelse familie vertelde aan een Nederlandse vriend wat de moeilijkheden waren die ze ondervonden hadden, toen ze probeerden een bepaalde stad in Holland te vinden. Ze wisten dat de stad tamelijk groot en belangrijk moest zijn, omdat ze de naam ervan op zoveel borden hadden zien staan. Toch kwam de naam op geen van hun kaarten voor. Ze vroegen zich af of het wellicht een van die Nederlandse steden was zoals Den Haag of Den Bosch; een van die steden met twee namen om een buitenlander op een dwaalspoor te brengen. De Nederlander vroeg hun om de naam op te schrijven van de stad waarnaar ze hadden gezocht. En deze was: 'Doorgaand verkeer'.

**Passage U**

In Rotterdam achter de Boompjes,  
daar ligt een Engels schip.  
De Fransen zijn gekomen,  
ze zijn zo rijk als ik.  
Zij dragen hoeden met pluimen,  
rokjes van perkament.  
De ganse stad moet ruimen  
voor zulk een rijke vent.

**Passage V**

In Den Haag daar woont een graaf  
en zijn zoon heet Jantje,  
als je vraagt waar woont papa,  
dan wijst hij met zijn handje.  
Met zijn vingertje en zijn duim,  
op zijn hoed draagt hij een pluim.  
Aan zijn arm een mandje.  
Dag mijn lieve Jantje.

**Passage W**

'Is 't al drie uur, Barend?' vroeg de moeder.  
Barend keek op zijn horloge, en antwoordde: 'Dat scheelt niet veel.'  
'Dan moet ik zo langzamerhand aan het eten denken,' zei de moeder weer; en  
d'r bewegingen werden wat vlugger van tempo.  
'En ik zal eindelijk ook 'es naar binnen gaan,' zei de zoon, opstaand.

**Passage X**

'Ik ben dol op koffie, en je vader ook,' sprak de moeder. 'Trouwens jij houdt er ook wel van. Henk niet zo.'

'Ja,' antwoordde Wels. 'Koffie wekt op. Weet u, wat lui doen, als ze bijvoorbeeld een hele nacht moeten werken?'

'Nou?' vroeg zij, en ze liet zich ongemerkt op 'n stoel glijden. 'Als ze om 'n uur of twaalf 's avonds wat sufferig worden, en slaperig, ziet u. Ja, dat word je; dat kan je gebeuren, als je 'n beetje zwaar gestudeerd heb. Ik ben dan altijd zo wijs om maar naar bed te gaan...'

'Ja, natuurlijk,' viel de moeder in.

'Maar als ze dan met alle geweld op willen blijven, dan zetten ze sterke koffie; verschrikkelijk sterk, ziet u. En dan nemen ze een of twee koppen daarvan, en dan is alle slaperigheid en sufheid weg... Dan kunnen ze desnoods de hele nacht doorwerken...'

'Dat vind ik toch overdreven hoor.'

'Ja,' gaf Wels toe, 'het is stom.'

Passages W and X have been taken from *Barend Wels* by Theo Thijssen. Slight adaptations have been made.

# GUIDE TO THE TECHNIQUE OF ALLOPHONIC DESCRIPTION

## I. INTRODUCTION

1.1 The aim of allophonic description is to enable the student to describe in a concise and systematic manner the allophonic variation that is likely to occur in the realisation of any utterance.

1.2 The conventional brief two or three-term labels for consonant sounds (e.g. alveolar lateral, fortis bilabial plosive) are useful aids to memory but are often somewhat imprecise. The realisation of a phoneme in a particular phonetic context may deviate considerably from the phonemic norm implied in the label. To give some familiar examples: /l/ in *wealthy* is likely to be dental [ɭ] rather than alveolar; /p/ in *cupful* typically has a labio-dental articulation and is also pre-glottalised; /k/ in *key* is fronted; in *core*, it is retracted and labialised. Similarly, the brief description of vowels, and their 'normal' places on vowel diagrams does not take account of variation of tongue and lip shape as a result of phonetic conditioning.

## 2. PROCEDURE

2.1 Provide a phonemic transcription of the utterance, marking stress.

2.2 Give a phonetic transcription, marking in detail any allophonic variation.

2.3 Directly beneath the phonetic transcription, draw lines to represent the state of the glottis:

|             |          |                |
|-------------|----------|----------------|
| ==          | ^v^v^v   | >—<            |
| (voiceless) | (voiced) | (glottal stop) |

2.4 Beneath this, place another line to indicate the raising or lowering of the soft palate. Note that the soft palate is lowered at the outset and returns to a lowered position upon the completion of the utterance.

2.5 Draw a vowel diagram and place on it the vowels in the utterance, taking account of allophonic variation. Indicate lip shape thus:



Unrounded



Rounded

Unrounded  
to roundedRounded  
to unrounded

See section 8.4. Tongue movements in diphthongal glides should be represented by arrows. See Section 8.6. Remember that the glides of the consonants /j/ and /w/ should also be shown on vowel diagrams.

2.6 Now each segment of the utterance should be described in a systematic and economical manner, using a neutral type of RP as a model. See Section 1.3, p. 7.

### 3. DESCRIPTION OF CONSONANTS AND VOWELS

3.1 The information for consonants should include the following:

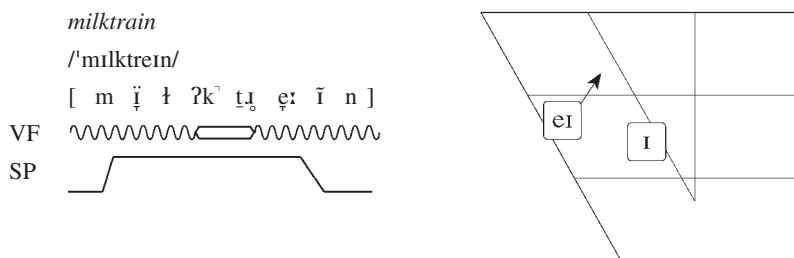
- (a) Fortis/lenis contrast (where applicable).
- (b) State of the glottis.
- (c) Place of articulation.
- (d) Manner of articulation.

In addition, mention features such as the presence of aspiration and secondary articulation of any type.

3.2 The information for vowels should include the following:

1. The height of the tongue (open, open-mid, etc.)
2. Part of tongue that is raised (front, centre, or back).
3. The shape of the lips.
4. Whether the vowel is steady-state or a diphthong.
5. An indication of vowel length.
6. Nasalisation.
7. In the case of diphthongs, describe the starting-point and the estimated movement of the tongue. State also whether the glide is *diminuendo* or *crescendo*.
8. Finally describe the vowel in terms of the Cardinal Vowel system (with the addition of [ə], [ɪ], [ʊ] and [ɐ]).

## 4. EXAMPLE



- [m] Voiced bilabial nasal.
- [ɪ̯] Unrounded; front-central; below close-mid; checked; steady-state vowel. Short. Lowered and centralised before dark [ɫ]. (Lowered [ɪ]).
- [ɫ] Voiced alveolar lateral approximant. Velarised in pre-consonantal context. // is not prolonged before fortis /k/.
- [ʔk̟] Voiceless (fortis) velar plosive. Inaudible release owing to overlap with following /t/. Pre-glottalised.
- [t̟̞] Voiceless (fortis) post-alveolar affricate. Lacks audible approach owing to overlap with preceding /k/.
- [ɛːɪ̯] Unrounded; free diphthong. Begins front; below close-mid. Ends front-central; above close-mid. Diminuendo. Full length. Ends nasalised owing to following /n/.
- [n] Voiced alveolar nasal.

## 5. ALLOPHONIC DESCRIPTION EXERCISES

Provide allophonic descriptions on the same lines as in the example above for the following:

- (1) Ferns. (2) Spots. (3) Drumstick. (4) Hampered. (5) Bookshelves. (6) Tap dancers. (7) Plane trees. (8) Dark tunnels. (9) Exactly three. (10) Treacle tarts. (11) Thick tubes. (12) Tell the queen. (13) Rock-climber. (14) Quiz programme. (15) Trade unions.

Keys to these examples are to be found in the accompanying workbook.

## GLOSSARY OF TECHNICAL TERMS

No attempt has been made here to provide precise, elegant, formal definitions but rather to give the meanings of the terms in language which is reasonably easy to understand. The use of terms in phonetics varies from one writer to another. The meanings given here are those we have used in this course. In some cases we have added the terms commonly employed in other textbooks.

Words in **bold type** are explained elsewhere in the glossary.

### ABN

Algemeen Beschaafd Nederlands. The prestige **dialect** of Dutch as used by educated speakers in the Randstad conurbation (the built-up area of Zuid-Holland, Noord-Holland and Utrecht) and to an extent throughout the Netherlands.

### ACCENT

The phonological/phonetic features characteristic of the speech of a group of people. Cf. **dialect**.

### ACTIVE ARTICULATOR

The articulator which moves in the production of a speech sound, e.g. the tongue-tip/blade in English /t/.

### ADVANCED

Articulated further forward. Diacritic [<sub>+</sub>], e.g. E /k/ in *key* [k̟i:]. Opposed to **retracted**.

### AFFRICATE

A **manner of articulation** where there is a complete closure in the **vocal tract** which is released relatively slowly, giving rise to the corresponding **homorganic friction**, e.g. E /tʃ/.

### AIRSTREAM

A flow of air. An airstream of some sort (usually **pulmonic**) is necessary to produce any speech sound.

### ALLOPHONE

A phonetic **realisation** of a **phoneme**. The allophones of a phoneme form a set of sounds which are usually phonetically similar to each other and occur either in **complementary distribution** or **free variation**.

### ALVEOLAR

A **place of articulation** with the tip/blade of the tongue as the **active articulator** and the alveolar ridge as the **passive articulator**, e.g. E /t/.



**ALVEOLO-PALATAL**

A **place of articulation** with the blade/front of the tongue as the **active articulator** and the rear of the alveolar ridge and the hard palate as the **passive articulator**, e.g. D /tj/ → [tɕ] in *beetje*.

**AN**

Algemeen Nederlands. The term in current use for the prestige **dialect** of Dutch in Northern Belgium (Flanders). In its written form it is virtually identical to **ABN**. Although the pronunciation has a distinct character of its own, it is in fact structurally very similar to ABN.

**ANTERIOR**

Referring to the front. Cf. **posterior**.

**APPROACH**

The first stage in the **articulation** of **stop** consonants when the articulators are coming together (also called closing stage).

**APPROXIMANT**

A **manner of articulation** (normally applied to **consonants**) where the articulators are sufficiently far apart for the **airstream** to pass through without producing audible **friction**, e.g. E /j/.

**ARTICULATION**

The movement made by the speech organs of the **vocal tract** so as to produce a speech sound.

**ASPIRATION**

A delay in **voicing** after the **release** of a **voiceless stop**, often described as a brief 'puff of air' or an [h]-like sound, e.g. English *pin* [pʰɪn].

**ASSIMILATION**

The replacement of one **phoneme** by another under the influence of a third as a result of **phonetic conditioning**, e.g. if *treatment* is said as /'tri:pmənt/, then /t/ is said to assimilate to /p/ under the influence of the following /m/.

**BACK VOWEL**

A **vowel** with the back of the tongue as the highest part, e.g. E /u:/.

**BILABIAL**

A **place of articulation** involving both lips, e.g. E /p, b, m/.

**BREATHY VOICE**

A **phonation type** in which the **vocal folds** are vibrating but the arytenoids are held apart, so that a large amount of air escapes through the open **glottis**, e.g. Hindi [bʰ].

**CARDINAL VOWEL SYSTEM**

A scheme of reference **vowels** independent of any language.

**CENTRAL VOWEL**

A **vowel** with the centre of the tongue the highest part, e.g. [ə].

**CENTRALISED**

A **vowel** which is articulated towards the centre of the vowel diagram.

**CHECKED VOWELS**

A phonological class of **vowels** found in certain Germanic languages. The checked vowels in English are those which do not occur finally in a stressed **open syllable**, i.e. /ɪ, e, æ, ʌ, ɒ, ʊ/. Given similar phonetic contexts, checked vowels are generally shorter than free vowels. In this course, /ə/ is considered together with the checked vowels (see Section 11.2, p. 90). Cf. **free vowels**.

**CITATION FORM**

The **realisation** of a word when pronounced in isolation.

**CLEAR-L**

A type of /l/ with slight **palatalisation**, e.g. E /l/ in *leaf*, French /l/ in *style*, German /l/ in *Milch*.

**CLOSE**

Articulated with the tongue raised near to the roof of the mouth.

**CLOSED SYLLABLE**

A **syllable** which ends in a **consonant**, e.g. English *bat*.

**CLUSTER**

A sequence of two or more **consonants** in the same **syllable**, e.g. /sp/ in English *sport*, /str/ and /ks/ in Dutch *straks*.

**COALESCENCE**

Reciprocal **assimilation** of two underlying **phonemes** resulting in a third, e.g. /d/ + /j/ → /dʒ/ in *did you*.

**COMPLEMENTARY DISTRIBUTION**

Where the **allophones** of a **phoneme** are distributed in such a manner that the occurrence of any one is predictable, given the phonetic context, e.g. the allophones [l, ɫ, ɭ] of the phoneme E /l/. Cf. **free variation**.

**COMPOUND**

Words used in combination to form a new lexical item, generally with a change of meaning.

**CONSONANT**

One of a group of sounds occurring at the margins of **syllables** in a given language.

**CONTROID**

A speech sound involving a **stricture** which is sufficiently narrow either

to block the **airstream** partially or completely or to produce audible **friction**. This class therefore includes all **manners of articulation** apart from the **approximants** and **vowels**.

#### CONTRACTED FORM

A form which is derived from the compression of two grammatical items, e.g. *won't* derived from *will not*.

#### CREAK

Low **frequency** vibration of the front part of the **vocal folds**. In language, almost always found in combination with **voice** as **creaky voice**.

#### CREAKY VOICE

A **phonation type** often heard in English in which the arytenoids are firmly together with the forward part of the **vocal folds** vibrating slowly and the rear portion more rapidly.

#### CRESCENDO DIPHTHONG

A **diphthong** which has more prominence on its second element, e.g. English *yes* /jes/ [jɛs] (also termed rising diphthong). Cf. **diminuendo diphthong**.

#### DARK-L

A realisation of /l/ which is **velarised**, e.g. English *fill*, or **pharyngealised**, e.g. Dutch *stil*. Symbolised as [ɫ].

#### DENTAL

A **place of articulation** involving the tip of the tongue and the front teeth, e.g. E /θ, ð/ in *thin, this*; Spanish /t, d, n/ [t̪, d̪, n̪] in *tonto, donde*.

#### DIACRITICS

Small marks added to phonetic symbols so as to give additional information, e.g. [˜] added to a vowel [ɑ] indicates that it is **nasalised** [ɑ̃].

#### DIALECT

The language variety of a group of people, defined geographically and/or socially. Note that dialect applies to *all* linguistic features, e.g. grammar, lexis and pronunciation. Cf. **accent**.

#### DIMINUENDO DIPHTHONG

A **diphthong** which has more prominence on its first element, e.g. *eye* /aɪ/ [aɪ̯] Cf. **crescendo diphthong**.

#### DIPHTHONG

A **vowel** articulated with an obvious change in tongue or lip shape. Also termed vowel glide.

#### DISCOURSE ANALYSIS

Linguistic analysis which examines language in quantities greater in extent than a single sentence, e.g. conversations.

**DOUBLE ARTICULATION**

A speech sound involving in its **articulation** two **strictures** of equal rank, e.g. [k̂p, ġb] in Ewe, as in àkpá 'part', àgbà 'load'.

**EGRESSIVE**

An airstream which moves in a direction whereby air is pushed out of the **vocal tract**. Opposite of **ingressive**.

**ELISION**

A process by which a phoneme is deleted, e.g. /t/ in English *last week* ['la:s 'wi:k].

**ENERGY OF ARTICULATION**

Another term to cover the **fortis/lenis** contrast.

**ESSENTIAL DIPHTHONGS**

A set of **diphthongs** (D /ei, œy, au/) which always involve a change of vowel quality. Cf. **potential diphthongs**.

**FORTIS**

Label for a class of **consonants** produced with relatively energetic **articulation** and without **voice**, e.g. E /p, t, s/. Opposed to the class of **lenis**.

**FREE VARIATION**

When the occurrence of one particular phonetic phenomenon rather than another is not predictable from the context. Cf. **complementary distribution**.

**FREE VOWELS**

A phonological class of **vowels** found in certain Germanic languages which includes all except the **checked vowels**. In English, free vowels are those which can occur finally in a stressed **open syllable**, e.g. /i:, e:/. Given similar phonetic contexts, free vowels are typically longer than checked.

**FREQUENCY**

The number of vibrations in a given time; used here particularly of the speed of vibration of the **vocal folds**.

**FRICATIVE**

A **manner of articulation** which involves the **airstream** being directed through a narrowing in the **vocal tract** (a **stricture** of close approximation) so that audible friction is produced, e.g. E /s, z/.

**FRICTION**

Hiss produced by air turbulence in the **vocal tract**.

**FRONT VOWEL**

A **vowel** articulated with the front of the tongue highest, e.g. E /i:, æ/, as in FLEECE, TRAP, D /y/, as in NU.

**GLOTTAL**

An **articulation** involving the **glottis**, e.g. [h, ʔ].

**GLOTTALISED**

A **secondary articulation** involving the addition of [ʔ] to another **articulation**, e.g. syllable-final E /p, tʃ/ in *stopwatch* [stɒʔpwɒʔtʃ].

**GLOTTIS**

The space between the **vocal folds**.

**GRADATION**

See **vowel gradation**.

**GRAMMATICAL WORDS**

Words such as prepositions, pronouns, conjunctions, articles, auxiliary verbs, contributing to the structure of a sentence, rather than giving additional information. Cf. **lexical words**.

**GROOVED**

**Fricative** sounds involving a channel formed along the mid-line of the tongue, e.g. [s, z, ʃ, ʒ]. Opposed to **slit**.

**HEAD**

Those stressed **syllables** in an **intonation group** which immediately precede the **nucleus**. The first syllable of the head is termed the **onset**.

**HOLD STAGE**

The second stage in the **articulation** of **stop consonants**, when the articulators are held momentarily in contact so as to block the passage of the airstream (also termed compression stage).

**HOMOPHONES**

Two or more words (often with different spellings) which are pronounced in the same way, e.g. English *two – too*, Dutch *Leiden – lijden*.

**HOMORGANIC**

Having the same **place of articulation**, e.g. /m/ and /p/ in English *lumpy* /'lʌmpɪ/.

**IDIOLECT**

The speech of a single individual.

**INGRESSIVE**

An airstream which moves in a direction whereby air is sucked into the **vocal tract**. Opposite of **egressive**.

**INITIATOR**

The speech organs which start off an airstream mechanism, e.g. the chest muscles and the lungs in the case of a **pulmonic airstream** mechanism.

**INTERLINEAR**

A system of **intonation** marking which indicates **pitch** by means of lines and dots within two horizontal parallel lines.

**IN-TEXT**

A system of **intonation** marking by which **pitch** patterns can be shown within a piece of text by means of stylised marks (e.g. arrows, circles, angled marks) placed before stressed syllables.

**INTONATION**

The **pitch** pattern of connected speech.

**INTONATION GROUP**

A group of words in connected speech which form a complete **intonation** tune. The boundaries of such a group are sometimes marked by a brief breath pause. Other authors also use terms such as sense group, word group, tone group.

**INTRUSIVE /r/**

In **non-rhotic** English, /r/-**liaison** which has no representation by **r** in the spelling, e.g. *law and order* /'lɔ:ɾ ən 'ɔ:də/. Cf. **linking** /r/.

**KEY**

The portion of **pitch range** (either high, or mid, or low) used by an individual at any given time.

**LABIAL**

Concerning the lips.

**LABIALISATION**

A **secondary articulation** involving lip-rounding, e.g. E [k<sup>w</sup>] in *queen*.

**LABIAL-VELAR**

A **double articulation** at the **labial** and **velar** places of **articulation**, e.g. E /w/.

**LABIO-DENTAL**

A **place of articulation** involving the upper lip and lower front teeth, e.g. E /f, v/.

**LATERAL**

A **manner of articulation** in which the airstream escapes over the lowered sides of the tongue, e.g. English and Dutch lateral **approximant** /l/.

**LATERAL APPROACH**

A **homorganic** sequence lateral/stop for which the stop has an **approach** stage which involves the raising of the lowered sides of the tongue, e.g. English *sold*, *belt*.

**LATERAL ESCAPE**

An **articulation** which involves the passage of the airstream over the lowered sides of the tongue following a non-**homorganic stop**, e.g. English *apple*.

**LATERAL RELEASE**

The **release** of a **plosive** by means of lowering the sides of the tongue following a **homorganic stop**, e.g. English *bottle*.

**LENIS**

Label for a class of **consonants** said with relatively little energy and having potential **voice**, e.g. E /b, d, z/. Opposed to the class **fortis**.

**LEXICAL WORDS**

Words such as nouns, main verbs, adjectives, adverbs, which have a high information load. Cf. **grammatical words**.

**LIAISON**

The insertion of an extra consonant in order to facilitate the articulation of a sequence, e.g. French *ses* /se/, *amis* /ami/ but *ses amis* /se z ami/.

**LINKING /r/**

In English, a **liaison** found in **non-rhotic accents** involving the pronunciation of post-vocalic /r/ when it occurs before a **vowel**, e.g. *far away* /fɑː ə'weɪ/. Cf. **intrusive /r/**.

**MANNER OF ARTICULATION**

The way in which the **active** and **passive articulators** affect the airstream at a particular place in the **vocal tract**, resulting in either a complete blockage, or a **stricture** of close or open approximation.

**MARGINAL PHONEME**

A **phoneme** which is found only within a highly restricted set of items in the sound system of a language, e.g. loanwords. For instance, D /ā/ and /ē/ in *enfin*, E /x/ in *loch*.

**MINIMAL PAIR**

A pair of words in a given language distinguished by a single **phoneme**, e.g. English *bag* – *back*.

**MINIMAL SET**

A set of words in a given language distinguished by a single **phoneme**, e.g. English *bag* – *back* – *ban* – *bat*.

**MONOPHTHONG**

See **steady-state** vowel.

**NARROW TRANSCRIPTION**

Transcription which shows considerable phonetic detail.

**NASAL**

1) Concerning the cavity within the nose. 2) A **manner of articulation** involving the lowering of the soft palate so that the airstream escapes through the nose, e.g. E /m, n, ŋ/. Cf. **oral**.

**NASAL APPROACH**

A **homorganic** sequence of **nasal/stop** for which the stop has an **approach** stage which involves the raising of the soft palate, e.g. English *send*, *lamp*.

**NASALISATION**

A **secondary articulation** involving the addition of nasal resonance to an **oral** sound, e.g. the **vowel** in English *pan* [pæ̃n].

**NASAL RELEASE**

The release of a **plosive** by the lowering of the soft palate allowing the airstream to pass out through the nose e.g. [dŋ] in *gladden*.

**NATIVE SPEAKER**

A person who speaks a language as his or her mother tongue.

**NEUTRALISATION**

In certain phonetic contexts, it may not be possible to allocate an **allophone** to one **phoneme** category rather than another. The phonemic opposition is thus neutralised; e.g. the plosive following /s/ in *spy* could be regarded as either /p/ or /b/, as its **realisation** shares features of both these phonemes.

**NON-RHOTIC**

Those varieties of English where orthographic **r** is pronounced only before a vowel, e.g. RP, most forms of English spoken in England and Wales, Australian and South African.

**NUCLEUS**

(1) The most prominent **syllable** in an **intonation group**. Other writers also use the term tonic; (2) See **syllable nucleus**.

**ONSET**

See **head**.

**OPEN SYLLABLE**

A **syllable** which does not end in a **consonant**, e.g. English *boy*. Opposed to **closed syllable**.

**OPEN VOWEL**

A **vowel** which is articulated with considerable space between the upper surface of the tongue and the palate, e.g. E /ɑ:/, D /a:/. Opposed to **close vowel**.

**ORAL**

1) Concerning the cavity within the mouth. 2) A **manner of articulation** involving the raising of the soft palate so that air escapes via the mouth. Cf. **nasal**.

**OVERLAPPING STOPS**

A sequence of **stops** which involves one or more stages being inaudible.

**PALATAL**

A **place of articulation** involving the front of the tongue and the hard palate, e.g. D and E /j/.

**PALATALISATION**

A **secondary articulation** involving the raising of the front of the tongue, e.g. English *news* [n<sup>j</sup>ju:z].



**PALATO-ALVEOLAR**

A **place of articulation** involving the alveolar ridge and the front of the hard palate, e.g. E /ʃ, ʒ, tʃ, dʒ/.

**PARALANGUAGE**

Vocal features or body movements which convey meaning but in a less structured or systematic way than phonemic sequences or intonation patterns, e.g. voice qualities, gestures, facial expressions. Adjective: 'paralinguistic'.

**PASSIVE ARTICULATOR**

The articulator which does not move in the production of a speech sound, e.g. the alveolar ridge in E /t/.

**PHARYNGEAL**

A **place of articulation** involving the root of the tongue and the pharynx wall, e.g. Arabic [ħ]. Also spelt 'pharyngal'.

**PHARYNGEALISATION**

A **secondary articulation** where the tongue root is drawn back towards the pharynx wall, e.g. D [ʔ] in *hel*. Also spelt 'pharyngalisation'.

**PHONATION**

The vibration of the **vocal folds** in order to produce **voice**.

**PHONEME**

One of a set of minimal abstract units which together form the sound system of a given language, and through which contrasts of meaning are produced.

**PHONEMIC NORM**

The most frequently occurring **allophone** of a **phoneme**.

**PHONEMIC TRANSCRIPTION**

An alphabetic system for showing the sounds of a language, which allots one symbol to each **phoneme**. Phonemic transcription is placed between slant brackets //.

**PHONETIC CONDITIONING**

A term used to cover the way in which speech sounds are influenced by adjacent (or near-adjacent) **segments**.

**PHONETICS**

The science of speech sound.

**PHONETIC TRANSCRIPTION**

Transcription which shows articulatory detail by means of representing the **allophones** of **phonemes**. Phonetic transcription is placed between square brackets [ ].

**PHONOLOGY**

The branch of linguistics that deals with the system and patterning of sounds in a language or languages.

**PITCH**

The quality of a sound (related to **frequency**) which enables a listener to perceive it as high or low. Although there is not a precise correspondence, in rough terms, the higher the frequency, the higher the pitch.

**PITCH RANGE**

The extent of pitch employed by any individual speaker.

**PLACE OF ARTICULATION**

The point in the **vocal tract** at which a sound is articulated.

**PLOSIVE**

A **manner of articulation** which involves a complete closure of the **vocal tract**, without nasal escape, followed by a rapid release, e.g. E /p, t, k, b, d, g/.

**POSTERIOR**

Referring to the rear. Cf. **anterior**.

**POTENTIAL DIPHTHONGS**

A set of diphthongs (D /eɪ, øɪ, oɪ/) which typically involve a narrow glide movement, but may also have **steady-state allophones**. Opposed to **essential diphthongs**.

**PRE-HEAD**

The unstressed (or low-pitched weakly stressed) **syllables** which may precede the **head**.

**PRIMARY ARTICULATION**

The articulation of the highest rank in cases where a sound involves two simultaneous **strictures**. Rank is defined by two factors: (1) narrowness of the stricture (narrow strictures rank higher than more open strictures) and (2) location of the stricture (oral strictures are ranked higher than those located elsewhere). Cf. **secondary articulation**.

**PROMINENCE**

A combination of such properties as **stress, pitch**, duration and loudness, which renders a particular sound (or group of sounds) more obvious than others to the listener.

**PULMONIC**

Involving the lungs. A pulmonic **airstream** is the airstream used for almost all sounds in all languages.

**REALISATION**

The process by which the abstract phonemic unit becomes physical reality in the form of sound. Loosely, the way in which a particular **phoneme** is said on a given occasion.

**RELEASE**

The final stage of **stop** articulations in which the articulators part and the compressed airstream is allowed to escape.

**RETRACTED**

Articulated further back. Diacritic [ ], e.g. E /k/ in *cork* [kɔ:k]. Opposed to **advanced**.

**RETROFLEX**

A **place** and **manner of articulation** which involves the tongue-tip being curled back to articulate with the rear of the alveolar ridge, e.g. [ʈ, ɖ, ɳ] in Indian languages (e.g. Hindi), many types of American /r/ [ɻ].

**RHOTIC**

Those varieties of English where orthographic **r** is pronounced wherever it occurs, e.g. most forms of American English, Scottish and Irish English. Cf. **non-rhotic**.

**RHYTHM**

Patterns of timing of the occurrence of **syllables** in speech analogous to rhythmic patterns in music. See **stress-timed** and **syllable-timed**.

**r-COLOURING**

Adding a **retroflex** quality to **vowels**, e.g. typical General American /ɜr/, as in *bird*.

**ROLL**

See **trill**.

**RP**

Received Pronunciation. The ‘prestige **dialect**’ of British English heard from BBC news announcers and used as a model for most students learning a British form of English.

**SAGITTAL**

An anatomical term for a plane of the body running from front to back. Used in phonetics with particular reference to the stylised cross-section of the vocal tract.

**SECONDARY ARTICULATION**

An **articulation** lower in rank than the **primary articulation** and with either a more open degree of **stricture** or with a **stricture** located elsewhere than in the oral cavity. Secondary articulations include **palatalisation**, **velarisation**, **labialisation**, **pharyngealisation**, **glottalisation**, **nasalisation**.

**SEGMENT**

**Consonant** and **vowel** speech sounds which can be represented by means of a phonetic alphabet. Adjective: ‘segmental’.

**SEGMENTATION**

The process of splitting up an utterance into speech sounds.

**SEMI-VOWEL**

A term formerly used to denote an **approximant** which is a type of brief

**vowel** functioning as a **consonant**. For instance, E /w, j/, which are similar to brief forms of [u] and [i] respectively.

#### SETTING

A term used to cover the way in which the speech organs are held throughout the speech process, and which varies from one language to another, and from one **accent** to another.

#### SHWA

The **central vowel** /ə/, as in English *about*, Dutch *gemakkelijk*. Derived from the Hebrew name for the sound in that language. Most writers use the German spelling *schwa*.

#### SLIT

**Fricative** sounds which do not involve a channel along the mid-line of the tongue, e.g. E /θ, ð/, D /x/, German [ç]. Cf. **grooved**.

#### SONORITY

The relative loudness of a sound compared to that of other sounds which have the same apparent length, **stress** and **pitch**.

#### STEADY-STATE VOWEL

A **vowel** which is articulated with the tongue and the lips held steady throughout. Also termed pure vowel and **monophthong**. Cf. **diphthong**.

#### STOP

A sound class including **plosives** and **affricates**, involving a complete closure in the **vocal tract** with the soft palate raised.

#### STRESS

A combination of loudness, **pitch**, vowel length and vowel quality which makes certain **syllables** in an utterance appear more prominent than others.

#### STRESS-TIMED

Languages which have a **rhythm** based on the recurrence of stressed **syllables** at roughly equal intervals of time, e.g. English, Dutch, and German. Cf. **syllable-timed**.

#### STRICTURE

The narrowing of a part of the **vocal tract** by the actions of the **articulators**.

#### STRONG FORM

The form which certain words have when pronounced stressed or in isolation. Opposed to **weak form**.

#### SUPRA-SEGMENTAL

Phonetic phenomena which cover a length of time greater than the individual segment, e.g. **pitch**, **stress**. Opposed to **segmental**.

**SVARABHAKTI**

A term borrowed from Sanskrit to describe the inserted [ə] sometimes heard between /r, l/ followed by another **consonant**, e.g. Dutch *melk* [ˈmɛlək], Irish English *film* [ˈfɪləm].

**SYLLABIC CONSONANT**

A **consonant** which functions as a **syllable nucleus**, e.g. E /ŋ/ in *button* /ˈbʌtɪŋ/.

**SYLLABLE**

A linguistic unit consisting of a peak of sonority. A syllable can be considered as ranking between the **phoneme** and the word.

**SYLLABLE NUCLEUS**

The most prominent, sonorous element of a syllable, typically a vowel but also possibly a **syllabic consonant**; also termed simply nucleus; other writers use the term syllable peak.

**SYLLABLE-TIMED**

Languages which are claimed to have a **rhythm** based on **syllables** occupying roughly equal amounts of time, e.g. French, Spanish, Yoruba. Cf. **stress-timed**.

**TAG-QUESTION**

A question-like structure consisting of an auxiliary verb and a pronoun attached to the end of a statement, e.g. 'Jack works in Leeds, doesn't he?'

**TAG-TYPE RESPONSE**

A brief question similar in structure to a **tag-question**. Tag-type responses are used as fillers or rejoinders in **discourse**.

**TAIL**

The unstressed (or weakly stressed) **syllables** following the intonation **nucleus** and continuing the **pitch** pattern established by it.

**TAP**

A **manner of articulation** where the **active articulator** (usually the tongue-tip or uvula) strikes the **passive articulator** once, in a rapid, percussive manner, e.g. some American **realisations** of *little* [ˈlɪtɫ], Spanish *caro* 'dear' [ˈkaro].

**STONE**

**Pitch** movements that can distinguish word meaning, e.g. Mandarin *han* (1) [˨˨] 'foolish', (2) [˨˨˨] 'cold' (3) [˨˨˨˨] 'rare', (4) [˨˨˨˨˨] 'perspiration'.

**STONE LANGUAGE**

A language which in its standard form, utilises **tones** as **phonemes**, e.g. Mandarin Chinese, Yoruba, Thai, Serbian/Croatian.

**TRILL**

A **manner of articulation** where the **active articulator** (generally the

tongue-tip or uvula) strikes the **passive articulator** in a series of rapid, percussive movements, e.g. Spanish *carro* ‘cart’ [‘karo].

**UTTERANCE**

Any stretch of speech.

**UVULAR**

A **place of articulation** involving the uvula and the back of the tongue.

**VELAR**

A **place of articulation** involving the velum and the back of the tongue.

**VELARISATION**

A **secondary articulation** involving the raising of the back of the tongue towards the velum, e.g. English dark [ɫ].

**VELIC CLOSURE**

A closure made between the soft palate and the pharynx wall during the **articulation** of non-**nasal** sounds.

**VOCAL FOLDS**

The two folds of ligament contained in the larynx that by vibration produce **voice**. Also termed vocal cords.

**VOCAL TRACT**

The passage-ways above the larynx utilised in speech, i.e. the **nasal, oral** and **pharyngeal** cavities (also termed supra-glottal vocal tract).

**VOCOID**

Speech sounds which involve **strictures** allowing a free passage of the airstream (as opposed to the strictures involved in **contoids**), i.e. vowels and approximants.

**VOICE**

Rapid vibration of the **vocal folds**, producing a ‘buzz’ which accompanies almost all **vowel** sounds and certain **consonants**, e.g. all the sounds in English *madder*.

**VOICED**

A sound articulated with **voice**. Opposed to **voiceless**.

**VOICELESS**

A sound which lacks **voice**, e.g. the **consonants** in English *sixths*. Opposed to **voiced**.

**VOWEL**

A sound acting as the **syllable nucleus**.

**VOWEL GLIDE**

See **diphthong**.

**VOWEL GRADATION**

A more extreme type of **vowel reduction**, involving the complete replacement of peripheral vowels in unstressed syllables by E/ə, I, ʊ/ or a syllabic consonant.

**VOWEL REDUCTION**

The tendency for **vowels** to become **centralised**, particularly in unstressed **syllables**.

**WEAK FORM**

Certain words — mostly **grammatical** words — have two or more possible pronunciations. These are (1) the **strong forms** where the word is **stressed** or is a **citation form**; (2) the weak forms where the word is unstressed, e.g. *can* /kæn/ (strong form) and /kən, kɪ/ (weak forms).

**WHISPER**

A technical term for a state of the larynx in which a **pulmonic airstream** is forced between the arytenoid cartilages.

## KEY TO EXERCISES

Answers to Exercise 4 on pp. 16-17: *Knife, spoon, Christmas, captain, cricket, club, programme.*

Answer to Exercise 1 on p. 19:

*Veronder'stelling, 'klinker, maatschap'pij, 'twijfel, ge'vangenis, be'drijf, 'plotseling, onder'nemer, 'handenarbeid, be'lachelijk.*

Answers to Exercise on p. 35. (1) lips. (2) teeth. (3) alveolar ridge. (4) hard palate. (5) soft palate or velum. (6) uvula. (7) tip of tongue. (8) blade of tongue. (9) front of tongue. (10) back of tongue. (11) tongue root. (12) epiglottis. (13) nasal cavity. (14) oral cavity. (15) pharyngeal cavity. (16) oesophagus. (17) larynx. (18) trachea.

## FURTHER READING AND LIST OF WORKS CONSULTED

The following is a select list of the chief works on which we have drawn for this book, together with other works which may prove of interest to the student. (D) indicates books outside section 3 with useful information on Dutch.

### I. GENERAL PHONETICS

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## 2. ENGLISH

### 2.1 *Description of English*

- AVERY, P. and EHRLICH, S. (1992), *Teaching American English Pronunciation*, Oxford: Oxford University Press.
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- GARCÍA LECUMBERRI, M.L. and MAIDMENT, J.A. (2000), *English Transcription Course*, London: Arnold.
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## VOWEL SYMBOLS USED IN VARIOUS SYSTEMS OF TRANSCRIPTION

|         | PED | EPD/LPD | DJ | SOD |
|---------|-----|---------|----|-----|
| KIT     | ɪ   | ɪ       | i  | ɪ   |
| DRESS   | e   | e       | e  | ɛ   |
| TRAP    | æ   | æ       | æ  | a   |
| LOT     | ɒ   | ɒ       | ɔ  | ɒ   |
| FOOT    | ʊ   | ʊ       | u  | ʊ   |
| STRUT   | ʌ   | ʌ       | ʌ  | ʌ   |
| bonus   | ə   | ə       | ə  | ə   |
| FLEECE  | i:  | i:      | i: | i:  |
| PALM    | ɑ:  | ɑ:      | ɑ: | ɑ:  |
| THOUGHT | ɔ:  | ɔ:      | ɔ: | ɔ:  |
| GOOSE   | u:  | u:      | u: | u:  |
| NURSE   | ɜ:  | ɜ:      | ə: | ə:  |
| FACE    | eɪ  | eɪ      | eɪ | eɪ  |
| PRICE   | aɪ  | aɪ      | aɪ | ʌɪ  |
| CHOICE  | ɔɪ  | ɔɪ      | ɔi | ɔɪ  |
| MOUTH   | aʊ  | aʊ      | au | aʊ  |
| GOAT    | əʊ  | əʊ      | ou | əʊ  |
| NEAR    | ɪə  | ɪə      | iə | ɪə  |
| CURE    | ʊə  | ʊə      | uə | ʊə  |
| SQUARE  | ɛə  | ɛə      | ɛə | ɛ:  |

PED *The Phonetics of English and Dutch* (present volume)

EPD *English Pronouncing Dictionary* (Jones 1997)

LPD *Longman Pronunciation Dictionary* (Wells 1990)

DJ Jones (1962), *Outline of English Phonetics*

SOD *New Shorter Oxford English Dictionary* (1993)

## SELECT LIST OF DIACRITICS AND PHONETIC SYMBOLS

The following shows the most important diacritics and phonetic symbols used in this book. We have excluded (1) the symbols used to represent English and Dutch phonemes (pp. 12, 14), (2) the primary and secondary CVs (see Chapter 8), (3) intonation marking (see Section 23.5). For a more comprehensive list, see IPA chart on pp. 352-53 (reproduced by permission of the International Phonetic Association).

---

|     |                                                                                                                     |
|-----|---------------------------------------------------------------------------------------------------------------------|
| β   | voiced bilabial fricative, Spanish <i>H<u>a</u>bana</i>                                                             |
| ç   | voiceless palatal fricative, German <i>ich</i>                                                                      |
| ŋ   | labio-dental nasal, E <i>com<u>f</u>ort</i>                                                                         |
| ɲ   | palatal nasal, D <i>an<u>j</u>er</i> , Spanish <i>ma<u>ñ</u>ana</i>                                                 |
| ɸ   | voiceless bilabial fricative, Ewe <i>f<u>ù</u></i> ‘bone’; second element in German /pʰ/ [pʰɸ], <i>P<u>f</u>erd</i> |
| ɹ   | post-alveolar approximant, E <i>re<u>d</u></i>                                                                      |
| ɻ   | retroflex approximant, American E <i>ra<u>r</u>e</i>                                                                |
| ʀ   | uvular trill. Types of D /r/ <i>ra<u>ar</u></i>                                                                     |
| ʁ   | voiced uvular fricative, French <i>rou<u>g</u>e</i> , German <i>ro<u>t</u></i> .                                    |
| ʙ   | voiceless labial-velar fricative, Scottish English <i>wh<u>i</u>ch</i>                                              |
| ʔ   | glottal stop, E <i>ho<u>t</u> tea</i> [hɒʔ ti:]                                                                     |
| ɾ   | alveolar flap, Spanish <i>pe<u>r</u>o</i> ; types of E and D /r/.                                                   |
| ɮ   | voiced lateral fricative, Zulu <i>dh<u>l</u>a</i> ‘to eat’                                                          |
| ɽ   | voiced retroflex plosive, Gujarati <sup>1</sup> <i>dja<u>ḍ</u>i</i> /ʃa <u>ḍ</u> i/ ‘fat’.                          |
| ɻ   | voiceless retroflex plosive, Gujarati <i>cha<u>ṭ</u>i</i> /ca <u>ṭ</u> i/ ‘licked’.                                 |
| ɻ̃  | retroflex nasal, Gujarati <i>dja<u>ṅ</u>i</i> /ʃa <u>ṅ</u> i/ ‘knew’.                                               |
| ɻ̄  | retroflex lateral, Gujarati <i>dja<u>ḷ</u>i</i> /ʃa <u>ḷ</u> i/ ‘net’.                                              |
| χ   | voiceless uvular fricative, French <i>tr<u>ai</u>n</i>                                                              |
| ç   | voiceless alveolo-palatal fricative, D <i>sja<u>al</u></i>                                                          |
| ʒ   | voiced alveolo-palatal fricative, D loanword <i>ge<u>n</u>re</i>                                                    |
| tʃ  | voiceless alveolo-palatal affricate, D <i>bee<u>t</u>je</i>                                                         |
| dʒ  | voiced alveolo-palatal affricate, D loanword <i>jo<u>ck</u>ey</i> .                                                 |
| ħ   | voiced glottal fricative, D <i>ge<u>h</u>eim</i>                                                                    |
| //  | enclosing phonemic transcription                                                                                    |
| [ ] | enclosing phonetic transcription                                                                                    |
| < > | enclosing orthographic representations                                                                              |

---

<sup>1</sup> Gujarati, spoken in India (Gujarat province) by over 40 m. speakers.



|                |                                                                |
|----------------|----------------------------------------------------------------|
| *              | hypothetical or unattested form                                |
|                | intonation group boundary                                      |
|                | intonation group boundary without close grammatical connexion. |
| a:             | full length                                                    |
| a'             | half length                                                    |
| ǎ, aǎ          | brief. Also to show less prominent element of diphthong        |
| ɔ, ɔ̟          | more open                                                      |
| a, ɪ̟          | closer                                                         |
| ɔ, ɔ̟          | more front                                                     |
| a, ɔ̟          | more back                                                      |
| ä              | more central                                                   |
| ě              | mid and centralised                                            |
| ɔ, ɔ̟          | voiceless (or partially devoiced)                              |
| t, f           | voiced                                                         |
| t̟             | dental (applied to alveolars)                                  |
| l̟, n̟         | palatalised                                                    |
| ɫ              | velarised                                                      |
| tʷ             | labialised                                                     |
| ã, ã̟          | nasalised                                                      |
| ʔp             | pre-glottalised                                                |
| p̟             | lack of audible release                                        |
| ɔ, ɔ̟          | creaky voice                                                   |
| ɔ, ɔ̟          | breathy voice                                                  |
| p <sup>h</sup> | aspirated                                                      |
| p̄             | unaspirated                                                    |
| ŋ              | syllabic consonant                                             |
| kp̟            | simultaneous articulation                                      |
| á              | high tone                                                      |
| à              | low tone                                                       |
| 'a             | primary stress                                                 |
| ,a             | secondary stress                                               |



OTHER SYMBOLS

- M** Voiceless labial-velar fricative **ɕ** Alveolo-palatal fricatives
- W** Voiced labial-velar approximant **ɹ** Alveolar lateral flap
- ɥ** Voiced labial-palatal approximant **ɥ** Simultaneous **ʃ** and **x**
- H** Voiceless epiglottal fricative **ħ** **kp** **ts**
- ɕ** Voiced epiglottal fricative
- ʕ** Epiglottal plosive

Affricates and double articulation can be represented by two symbols joined by a tie bar if necessary.

SUPRASEGMENTALS

- ˈ** Primary stress
- ˌ** Secondary stress
- ː** Long **ˌfoʊnəlˈtʃən**
- ˑ** Half-long **eˑ**
- ˑ̆** Extra-short **ĕ**
- |** Minor (foot) group
- ||** Major (intonation) group
- Syllable break **ˌi.i.ækt**
- ˘** Linking (absence of a break)

DIACRITICS Diacritics may be placed above a symbol with a descender, e.g. **ɪ̥**

|   |                 |            |            |            |            |            |            |                                            |            |            |
|---|-----------------|------------|------------|------------|------------|------------|------------|--------------------------------------------|------------|------------|
| o | Voiceless       | <b>ɳ̥</b>  | <b>ɳ̥</b>  | <b>ɳ̥</b>  | <b>ɳ̥</b>  | <b>ɳ̥</b>  | <b>ɳ̥</b>  | Dental                                     | <b>ɳ̥</b>  | <b>ɳ̥</b>  |
| ˘ | Voiced          | <b>ɳ̣</b>  | <b>ɳ̣</b>  | <b>ɳ̣</b>  | <b>ɳ̣</b>  | <b>ɳ̣</b>  | <b>ɳ̣</b>  | Apical                                     | <b>ɳ̣</b>  | <b>ɳ̣</b>  |
| h | Aspirated       | <b>ɳ̥ʰ</b> | <b>ɳ̥ʰ</b> | <b>ɳ̥ʰ</b> | <b>ɳ̥ʰ</b> | <b>ɳ̥ʰ</b> | <b>ɳ̥ʰ</b> | Laminal                                    | <b>ɳ̥ʰ</b> | <b>ɳ̥ʰ</b> |
| ː | More rounded    | <b>ɳ̥ː</b> | <b>ɳ̥ː</b> | <b>ɳ̥ː</b> | <b>ɳ̥ː</b> | <b>ɳ̥ː</b> | <b>ɳ̥ː</b> | Nasalized                                  | <b>ɳ̥ː</b> | <b>ɳ̥ː</b> |
| ˘ | Less rounded    | <b>ɳ̥˘</b> | <b>ɳ̥˘</b> | <b>ɳ̥˘</b> | <b>ɳ̥˘</b> | <b>ɳ̥˘</b> | <b>ɳ̥˘</b> | Nasal release                              | <b>ɳ̥˘</b> | <b>ɳ̥˘</b> |
| + | Advanced        | <b>ɳ̥+</b> | <b>ɳ̥+</b> | <b>ɳ̥+</b> | <b>ɳ̥+</b> | <b>ɳ̥+</b> | <b>ɳ̥+</b> | Lateral release                            | <b>ɳ̥+</b> | <b>ɳ̥+</b> |
| - | Retracted       | <b>ɳ̥-</b> | <b>ɳ̥-</b> | <b>ɳ̥-</b> | <b>ɳ̥-</b> | <b>ɳ̥-</b> | <b>ɳ̥-</b> | No audible release                         | <b>ɳ̥-</b> | <b>ɳ̥-</b> |
| ˘ | Centralized     | <b>ɳ̥˘</b> | <b>ɳ̥˘</b> | <b>ɳ̥˘</b> | <b>ɳ̥˘</b> | <b>ɳ̥˘</b> | <b>ɳ̥˘</b> |                                            | <b>ɳ̥˘</b> | <b>ɳ̥˘</b> |
| x | Mid-centralized | <b>ɳ̥˘</b> | <b>ɳ̥˘</b> | <b>ɳ̥˘</b> | <b>ɳ̥˘</b> | <b>ɳ̥˘</b> | <b>ɳ̥˘</b> |                                            | <b>ɳ̥˘</b> | <b>ɳ̥˘</b> |
| ˘ | Syllabic        | <b>ɳ̥</b>  | <b>ɳ̥</b>  | <b>ɳ̥</b>  | <b>ɳ̥</b>  | <b>ɳ̥</b>  | <b>ɳ̥</b>  | ( <b>ɳ̥</b> = voiced alveolar fricative)   | <b>ɳ̥</b>  | <b>ɳ̥</b>  |
| ˘ | Non-syllabic    | <b>ɳ̥</b>  | <b>ɳ̥</b>  | <b>ɳ̥</b>  | <b>ɳ̥</b>  | <b>ɳ̥</b>  | <b>ɳ̥</b>  | ( <b>ɳ̥</b> = voiced bilabial approximant) | <b>ɳ̥</b>  | <b>ɳ̥</b>  |
| ˘ | Rhoticity       | <b>ɳ̥</b>  | <b>ɳ̥</b>  | <b>ɳ̥</b>  | <b>ɳ̥</b>  | <b>ɳ̥</b>  | <b>ɳ̥</b>  | Advanced Tongue Root                       | <b>ɳ̥</b>  | <b>ɳ̥</b>  |
| ˘ |                 | <b>ɳ̥</b>  | <b>ɳ̥</b>  | <b>ɳ̥</b>  | <b>ɳ̥</b>  | <b>ɳ̥</b>  | <b>ɳ̥</b>  | Retracted Tongue Root                      | <b>ɳ̥</b>  | <b>ɳ̥</b>  |

TONES AND WORD ACCENTS CONTOUR

- é** or **↑** Extra high
- è** or **↓** High
- ē** or **↗** Mid
- è** or **↘** Low
- ē** or **↗** Extra low
- ↓** Downstep
- ↗** Upstep
- ↘** Global fall
- ↗** Global fall

# ENGLISH PHONEMIC SYMBOL CHECKSHEET

## *Vowels*

| Vowels | Keywords | Additional frequent spellings                        |
|--------|----------|------------------------------------------------------|
| 1      | ɪ        | KIT<br>pygmy passage carries                         |
| 2      | e        | DRESS<br>dead friend                                 |
| 3      | æ        | TRAP                                                 |
| 4      | ɒ        | LOT<br>wash                                          |
| 5      | ʊ        | FOOT<br>put could w <u>o</u> man                     |
| 6      | ʌ        | STRUT<br>love young                                  |
| 7      | ə        | bon <u>U</u> s<br>surrender numerous tomato zebra    |
| 8      | i:       | FLEECE<br>seat these un <u>i</u> que rel <u>i</u> ef |
| 9      | ɑ:       | PALM<br>hard heart pass chance half Shah             |
| 10     | ɔ:       | THOUGHT<br>cord caught call raw pour soar war        |
| 11     | u:       | GOOSE<br>rude chew juice soup prove true do          |
| 12     | ɜ:       | NURSE<br>heard first serve worse                     |
| 13     | eɪ       | FACE<br>laid ray weigh they break                    |
| 14     | aɪ       | PRICE<br>try tie eye                                 |
| 15     | ɔɪ       | CHOICE<br>boys                                       |
| 16     | əʊ       | GOAT<br>wrote know though cold toe solo              |
| 17     | aʊ       | MOUTH<br>drown                                       |
| 18     | ɪə       | NEAR<br>queer mere eas <u>i</u> er India             |
| 19     | ʊə       | CURE<br>tours                                        |
| 20     | ɛə       | SQUARE<br>scares scarce bear fair there their        |

## *Consonants*

|    |            |    |              |   |                    |
|----|------------|----|--------------|---|--------------------|
| p  | pipe       | b  | bob          | m | mime               |
| t  | tight      | d  | died         | n | noon               |
| k  | cake       | g  | gag          | ŋ | bank <u>ing</u>    |
| tʃ | church     | dʒ | judge        | l | leg <u>al</u>      |
| f  | fife       | v  | verve        | r | rur <u>al</u>      |
| θ  | thirteenth | ð  | they breathe | j | yoy <u>o</u>       |
| s  | sauce      | z  | zoos         | w | wigw <u>am</u>     |
| ʃ  | shortish   | ʒ  | pleasure     | h | hitch-h <u>ike</u> |

*Notes*

1. Syllabic consonants are indicated by  $\underset{\cdot}{}$  placed *beneath* the symbol, e.g. *rattle* /rætl̩/, *rotten* /rɒt̩n̩/, *rhythm* /rɪð̩m̩/.
2. Primary stress is indicated by ' *before* the stressed syllable, e.g. *bicycle* /ˈbaɪsəkl̩/, *between* /bɪˈtwiːn̩/, *impulsive* /ɪmˈpʌlsɪv̩/. Secondary stress (if indicated) is shown by  $\underset{\cdot}{}$  *before* the syllable, e.g. *participation* /pɑːtɪˈsɪpeɪʃ̩n̩/.
3. Consonants are shown in initial and final position except where underlined.

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