

THE VOWELS

A good example of the speech–writing difference is the way we have to re-think the idea that ‘there are five vowels’ when we begin to discuss speech. There are in fact some 20 or so vowels in most accents of English (the exact number often depending on the way the system is analysed), and their sound qualities can vary enormously from accent to accent. The vowel sounds of American English, for example, are clearly different from those of British or Australian, and the vowels typical of one locality in any of these countries can differ appreciably from those of another. Indeed, vowel differences make up most of the distinctiveness which we associate with a particular accent (p. 298).

The table on this page shows the set of vowels found in English, along with some common transcriptions (for their place of articulation, see p. 240). The most striking feature of a list of this kind is the number of special symbols (part of the *phonemic transcription*) which have to be devised in order to identify each vowel unambiguously. With only five (or six) vowel letters available in the traditional alphabet, extra symbols, combinations of symbols, and diacritic marks are needed to capture all the units in the system, as well as all the variations in vowel quality which distinguish different accents (pp. 240–1).

TYPES OF VOWEL

• **Monophthongs** (or *pure vowels*) are vowels with a single perceived auditory quality, made by a movement of the tongue towards one position in the mouth. The first 12 vowel qualities in the above table are all monophthongs.

• **Diphthongs** are vowels where two vowel qualities can be perceived. The remaining eight vowel qualities in the table are all diphthongs. In /aɪ/, for example, the sound begins with an open /a/-type quality and ends with a close /i/-type quality. It is important to note that here we are talking about phonetic diphthongs, not graphic ones: the sounds in *my*, *so*, and *how*, for example, are all diphthongs, even though each has only a single vowel letter.

• **Triphthongs** are vowels in which three vowel qualities can be perceived. The vowels in such words as *player* /pleɪə/, *fire* /faɪə/,

royal /rɔɪəl/, *tower* /taʊə/, and *lower* /ləʊə/ can all be analysed in this way. No new symbols are required, however, as each can be seen as a combination of a diphthong + /ə/.

Often, in the history of English, a vowel has changed its quality. There are two chief possibilities. When a diphthong becomes a monophthong, the sound is said to be *monophthongized*; conversely, when a monophthong becomes a diphthong, the sound is *diphthongized*. An example of the former is the Southern US pronunciation of *my man*, which has become something more like *ma man* (i.e. *my* /maɪ/ has become /ma/). An example of the latter is the British mock-pronunciation of *yes* /jes/ as *yays* /jeɪs/. Indeed, an even more exaggerated form can sometimes be heard, /jeɪs/, in which case we might say that the vowel has been *triphthongized*.

The vowels in	Gimson	Jones	F&R	Variants
sea, feet, me, field	i:	i:	i	
him, big, village, women	ɪ	ɪ	ɪ	ɪ
get, fetch, head, Thames	e	e	e	
sat, hand, ban, plait	æ	æ	æ	ʌ
sun, son, blood, does	ʌ	ʌ	ʌ	
calm, are, father, car	ɑ:	ɑ:	ɑ	
dog, lock, swan, cough	ɒ	ɒ	ɑ	
all, saw, cord, more	ɔ:	ɔ:	ɔ	
put, wolf, good, look	ʊ	ʊ	ʊ	ʊ
soon, do, soup, shoe	u:	u:	u	
bird, her, turn, learn	ɜ:	ɜ:	ʌ (+ r)	ɜ (+ r)
the, butter, sofa, about	ə	ə	ə	ə (+ r)
ape, waist, they, say	eɪ	eɪ	e	
time, cry, die, high	aɪ	aɪ	ay	
boy, toy, noise, voice	ɔɪ	ɔɪ	oy	
so, road, toe, know	əʊ	ou	o	
out, how, house, found	aʊ, ɑʊ	au	aw, æw	
deer, here, fierce, near	ɪə	ɪə	(i + r)	
care, air, bare, bear	eə	eə	(e + r)	
poor, sure, tour, lure	ʊə	uə	(u + r)	

TRANSCRIBING VOWELS

Several authors have devised sets of symbols for identifying English vowels.

The system used in this book is the one introduced by British phonetician A. C. Gimson in *An Introduction to the Pronunciation of English* (1st edn, 1962), which has been particularly influential in the field of teaching English as a foreign language.

• The Gimson system is given in the first column, after a selection of words which illustrate each sound. In several cases there is a wide range of spellings for the same vowel quality – a consequence of the mixed nature of English orthography (p. 274).

Two other vowel transcriptional systems are shown in the table.

• The system used by the British phonetician, Daniel Jones in his pioneering description of *Received Pronunciation* (p. 365). Gimson (a student of Jones) modified this system in an attempt to show vowel qualities more accurately. The Jones list does not include the use of /ɔə/, which in Jones's day was a common pronunciation in such words as *four*, and distinct from the vowel of *bought*.

• The system used by Victoria Fromkin & Robert Rodman (F&R) in *An Introduction to Language* (1st edn, 1974), a widely used teaching textbook in the USA. It is a simplified version of the influential system devised by John S. Kenyon & Thomas A. Knott in *A Pronouncing Dictionary of American English* (1953), which aimed to provide a standard transcription for the vowels of the main dialects of American English.

• The final column in the table lists a few other symbols which are often seen representing certain vowels. Some are simply typographic variants; some represent a particular sound effect, such as the presence of ‘colouring’ (p. 245); and /a/ is often used as a simpler alternative to /æ/.

Possible confusibles

The transcriptions use the same symbols in different ways, partly because of different views about the best way to analyse the vowel system, and partly because of the differences between British and American English.

• /a/ in the British systems does not appear as a separate phoneme. In F&R it is used in such words as *dog*, reflecting more directly the way this vowel is articulated further forward in the mouth. This is a major point of possible confusion for British-trained students casually reading an American transcription, for they risk interpreting /lag/ as *lag* instead of *log*. In addition, the same /a/ symbol is used by F&R in such words as *father*, *calm*, and *car*, again reflecting the typical sounds of these vowels in American English, whereas the British systems use /ɑ:/ – an important difference between the two sound systems.

• /e/ in F&R refers to the vowel in such words as *say*, whereas the British systems show the diphthongal nature of this sound (p. 239) as /eɪ/ or /ei/. Thus, /met/ refers to *met* in Gimson, but to *mate* in F&R.

• /ʌ/ in the British systems refers only to the vowel in such words as *sun*. In F&R it is also used for the vowel in such words as *bird* (along with a following /r/ consonant).

• /o/ in F&R refers to the vowel in such words as *so*. British students used to a diphthongal transcription would therefore be likely to interpret /kot/ as *cot* rather than *coat*.

• F&R do not have separate symbols for the sounds in such words as *deer*, *care*, and *poor*. These words are analysed as combinations of vowel + /r/, and their different status shown in the table by the use of parentheses.

Describing vowels

All vowels have certain properties in common, which distinguish them from consonants (p. 242).

- From a phonetic point of view (p. 236), vowels are articulated with a relatively open configuration of the vocal tract: no part of the mouth is closed, and none of the vocal organs come so close together that we can hear the sound of the air passing between them (what phoneticians call *audible friction*). The most noticeable vowel quality is therefore [a], said with the mouth wide open. Consonants have a very different method of articulation.

- From a phonological point of view (p. 236), vowels are units of the sound system which typically occupy the middle of a syllable (the nucleus, p. 246), as in *cat* /kæt/ and *big* /bɪg/. Consonants, by contrast, are typically found at the edges of syllables, shown also by these examples. (It is reasoning of this kind which explains why letter Y can be described either as a consonant or as

a vowel (p. 236). In such words as *yet*, it acts as a consonant, occupying the same position as other consonants (*met*, *set*, etc.). In such words as *my* and *tryst*, it acts as a vowel, occupying the same position as other vowels (*trust*, *me*, etc.).)

- Vowels typically involve the vibration of the vocal cords (*voicing*), and their distinctive resonances are made by varying the shape of the mouth, using the tongue and lips. In English, there are no vowels whose chief characteristic is the use of nasal resonance (*nasal vowels*) – unlike, say, French or Portuguese. English vowels are all *oral vowels*, and take on a nasal quality only when they are being influenced by an adjacent nasal consonant, as in *no*, *long*, and *man*.

The chief task in describing the articulation of vowels, accordingly, is to plot the movements of the tongue and lips. The most widely used method of doing this was devised by Daniel Jones, and is known as the *cardinal vowel system*.

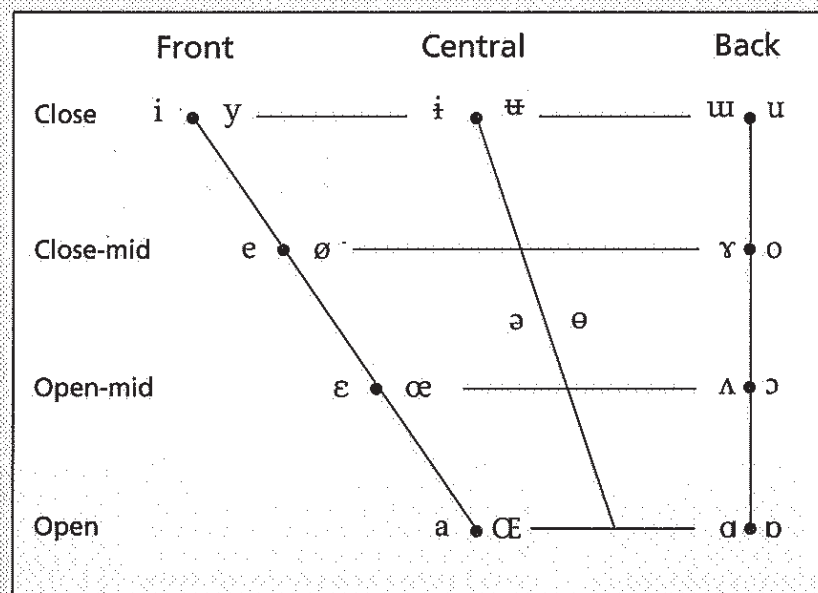
THE CARDINAL VOWEL SYSTEM

The cardinal vowel (CV) diagram was devised to provide a set of reference points for the articulation and recognition of vowels. Its dimensions correspond to the 'vowel space' in the centre of the mouth where these sounds are articulated. The positions of the front, centre, and back of the tongue (p. 236) are represented by vertical lines.

- At the front of the mouth, [a] represents the lowest point that it is theoretically possible for the body of the tongue to reach, and [ɪ] represents the correspondingly lowest point at the back of the mouth. Vowels in the region of [a] or [ɪ] are called *open* or *low* vowels.

- [i] represents the highest point at the front that the body of the tongue can reach while still producing a vowel sound (anything higher, and the tongue would come so near to the roof of the mouth that a consonant sound would result). [u], similarly, represents the highest point at the back of the mouth. Vowels in the region of [i] and [u] are called *close* or *high* vowels.

- Two horizontal lines divide the space between [i] and [a] into equal areas. Vowels made in the region of the higher of these lines, repre-



sented by [e] and [o], are called *mid-close* or *half-close*. Vowels made in the region of the lower of these lines, represented by [ε] and [ɔ], are *mid-open* or *half-open*. The term *mid* is often used to describe the whole of the area between these two lines.

- The CV diagram also includes information about lip-rounding. In most vowel positions, it is possible to hear a difference in vowel quality depending on whether the lips are *rounded* or *unrounded* (*spread*), and some languages (though not

English) exploit this dimension of contrast quite considerably. Thus, [i] is the high front unrounded vowel, heard in such words as *see*, while [y] is its rounded equivalent, heard often in French (*tu*), and sometimes in regional English (e.g. Scots). The rounded member of a vowel pair is always the symbol on the right in the diagram.

It is important not to confuse the phonetic symbols used to identify the 'cardinal' points in the CV diagram with the phonological symbols used in the actual

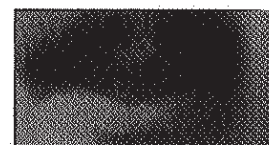
description of English. Most of the time the symbols correspond quite well, but sometimes they do not. For example, in Received Pronunciation the /i/ of *see* is very near the [i] point of the diagram (p. 240), and the /u/ of *shoe* is very near [u]. But the /e/ of *set* is in fact articulated half way between the cardinal values of [e] and [ε], and the /ʌ/ symbol, when it represents the vowels in such words as *does* and *cup*, is reflecting a sound that is much further forward in the mouth than the quality shown in the CV diagram.

THE LIPS

Lip position is an important factor in the description of vowels, and three main types are recognized.

- *Rounded*, where the lips are pushed forwards into the shape of a circle.
- *Spread*, where the corners of the lips are moved away from each other, as in a smile.
- *Neutral*, where the lips are not noticeably rounded or spread.

The lip positions of a selection of cardinal vowels are shown below. These photographs were taken over 50 years ago: the mouth belongs to Daniel Jones.



Lip position of [i]



Lip position of [ɔ]



Lip position of [u]



Lip position of [a]

The vowel system

A long list of vowels, such as that given on p. 237, is not as informative as a classification which groups them into types, draws attention to the common properties of each type, and notes the features which distinguish one type from another. Becoming aware of the difference between a pure vowel, a diphthong, and a triphthong is a start (p. 239), but there is much more to be said about the way vowels work in English. (The following examples are all from Received Pronunciation (RP, p. 365); regional variants are shown on pp. 240–1.)

A particularly important factor is length (symbolized by [:]). When we listen to the 12 pure vowels, it is evident that five of them are relatively long in duration, and seven are relatively short. Moreover, in several cases length seems to relate pairs of vowels which are articulated in roughly the same part of the mouth. In the following examples, pairs of words are followed by the same consonant. If each word is given the same amount of emphasis, there is no doubt that the vowel in /si:t/ *seat* is much longer than that in /sɪt/ *sit*; and similar effects can be heard in /fu:d/ *food* vs /gʊd/ *good*, /dɔ:n/ *dawn* vs /dɒn/ *don*, and /lɑ:(r)d/ *lard* vs /læd/ *lad*. There is also a length difference between /ɜ:/ and /ə/, though as the former occurs only in stressed syllables in RP (*bird*, *servant*), and the latter only in unstressed syllables (*above*, *butter*), this is not a contrast which enables a difference of meaning to be expressed.

The contrast between long and short vowels is not just one of length (*quantity*); a different place of articulation (*quality*) is involved. This is why Gimson, for example, in his transcription gives different symbols to these pairs of vowels (/i:/ vs /ɪ/, etc.) – drawing attention to the quality differences between them (p. 237). If length were the only factor, a transcription of /i:/ vs /ɪ/ would suffice.

TYPES OF DIPHTHONG

From the point of view of length, the diphthongs (p. 237) are like long vowels; but the first part of a diphthong in English is much longer and louder than the second. When we listen to the diphthong in /haʊ/ *how*, for example, most of the sound is taken up with the /aʊ/ part, the glide to /u/ being quite short and rapid.

The eight diphthongs are usually grouped into three types, depending on the tongue movement involved.

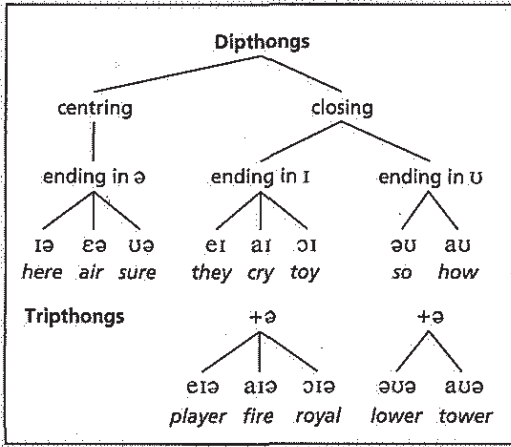
- The first group ends with a glide towards the [ə] vowel in the centre of the mouth, and are called *centring* diphthongs. They are heard in the words *here* /ɪə/, *air* /eə/, and *sure* /ʊə/. The remainder end with a

glide towards a higher position in the mouth, and are called *closing* diphthongs.

- One type of closing diphthong moves in the direction of an [i] quality at the front of the vowel area. These sounds are heard in the words *they* /eɪ/, *cry* /aɪ/, and *toy* /ɔɪ/.

- The other type of closing diphthong moves in the direction of an [u] quality at the back of the vowel area (and thus adds some lip rounding). These sounds are heard in the words *so* /əʊ/ and *how* /aʊ/.

The possibilities are shown in the diagram below. This also shows the two types of triphthong, formed by adding a central glide to the closing diphthongs.



VOWEL FREQUENCY

A study of the frequency of vowels in a sample of conversational RP gave the following results:

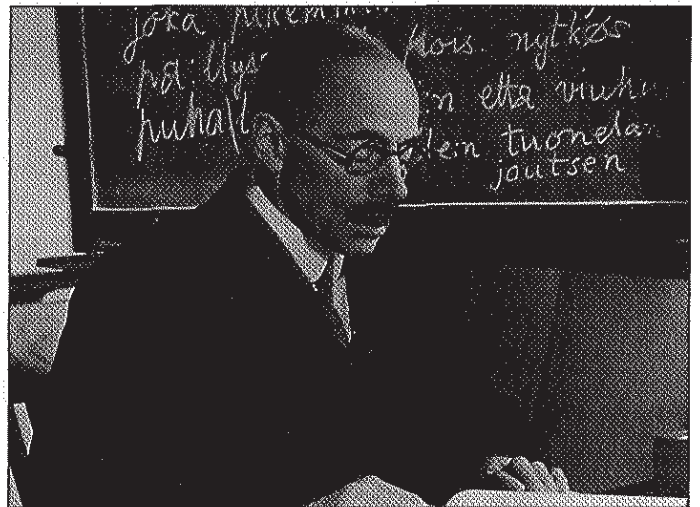
	%
/ə/	10.74
/ɪ/	8.33
/e/	2.97
/aɪ/	1.83
/ʌ/	1.75
/eɪ/	1.71
/i:/	1.65
/əʊ/	1.51
/æ/	1.45
/ɒ/	1.37
/ɔ:/	1.24
/u:/	1.13
/ʊ/	0.86
/ɑ:/	0.79
/aʊ/	0.61
/ɜ:/	0.52
/eə/	0.34
/ɪə/	0.21
/ɔɪ/	0.14
/ʊə/	0.06

The total for all vowels was 39.21 per cent. Consonant figures are given on p. 242. (After D. B. Fry, 1947.)

DANIEL JONES (1881–1967)

'DJ', as he was known within the profession, originally studied mathematics at Cambridge, and trained as a lawyer, but never practised. He first became interested in language when he took a course in conversational French at the age of 17, and found he had 'some aptitude for getting the pronunciation of French right'. He encountered phonetics after a visit to a language institute in Germany in 1900, studied the subject under Paul Passy in Paris, and gave his first course in phonetics at University College London, in 1907. He built up the Department of Phonetics there, becoming professor in 1921.

Although he researched the phonetics of many languages, his name was chiefly associated with two books, both on English: *An English Pronouncing Dictionary* (1917) and *An Outline of English Phonetics* (1918), both of which (in revised editions) are still used today. The cardinal vowels concept was also developed at that time. By the 1920s, DJ was being recognized as the British authority on phonetics. He served on the BBC Advisory Committee on Spoken English from its foundation (1926), and from 1909 was a strong supporter of the Simplified Spelling Society (becoming its president in 1946). He also served as secretary of the International Phonetics Association from 1927 to 1949, when he retired from university teaching, and was president of the Association from 1950 until his death.



VOWEL LOCATIONS AND VARIATIONS

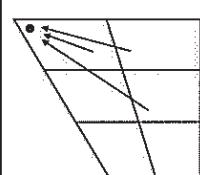
This table gives a brief description of how each English vowel is articulated, using Received Pronunciation (RP, p. 365) as the reference model. To put this accent in perspective, the table also lists just a few of the hundreds of local and international regional variations which affect each vowel, as well as some of the variations which are found within RP itself. The cardinal vowel diagrams show

the RP location of each vowel (in black) and the location of major variants (in red). Diphthongal movements are shown by an arrow; pure vowels by a dot.

Comments about regional variation should be interpreted with caution: to say that an RP vowel is diphthongized (p. 237) in Scots, for example, does not mean that this particular quality is to be found in *all* varieties of Scots. Any major regional dialect area presents a complex phonetic picture, with

many variants reflecting differences in age, social background, sex, and other factors. The vowel qualities referred to in the regional variant column, therefore, are intended to be illustrative, not representative: they relate to just one of the accents which are commonly associated with a region. Further details about regional norms can be found in §20, and a historical perspective is given in §7.

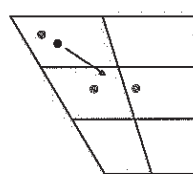
Pure vowels



Vowels /i:/
Articulation Front of tongue raised to slightly below and behind close front position; lips spread; tongue tense; side rims make firm contact with upper molars.

Some regional variants

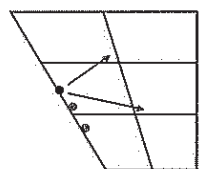
Often diphthongized in RP, with a slight glide from a more central position; noticeable glide [ɪi:] in several UK accents (e.g. Liverpool, Birmingham, London), and in broad Australian; shorter in Scots.



Vowels /ɪ/
Articulation Part of tongue nearer centre than front raised to just above half-close position; lips loosely spread; tongue lax; rims make light contact with upper molars.

Some regional variants

Centralized variants common (e.g. Scots, Northern Ireland); often replaced by [ə] in RP in unstressed syllables.



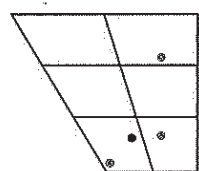
Vowels /e/
Articulation Front of tongue raised to between half-open and half-close positions; lips loosely spread; tongue tenser than for /ɪ/; rims make light contact with upper molars.

Various diphthongized forms, such as [eɪ] in Cockney, [eə] in refined RP.



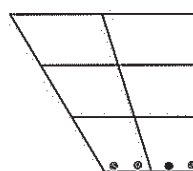
Vowels /æ/
Articulation Front of tongue raised to just below half-open position; lips neutrally open; rims make very slight contact with upper back molars.

More open and centralized [a] variants in N England, Wales; diphthongized [æə] in refined RP; triphthongized in some rural American (*man* /meɪən/).



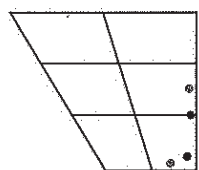
Vowels /ʌ/
Articulation Centre of tongue raised to just above fully open position; lips neutrally open; no contact between tongue and upper molars.

Further back in many older RP speakers; more open and front in Cockney; half-close back in N England, often rounded [ʊ].



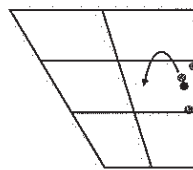
Vowels /ɑ:/
Articulation Tongue between centre and back in fully open position; lips neutrally open; no contact between rims and upper molars.

Fronted to [a:] in many varieties, e.g. Liverpool, broad Australian; further back in refined RP ('far back'); shorter in American [ɹ]-pronouncing accents (p. 93).



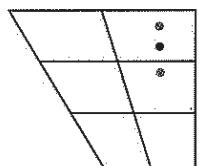
Vowels /ɒ/
Articulation Back of tongue in fully open position; slight, open lip rounding; no contact between rims and upper molars.

No lip rounding in American; lengthened and closer variant in conservative RP (*off* as /ɔ:/ 'orff') and Cockney.



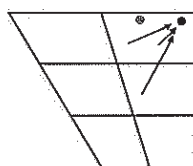
Vowels /ɔ:/
Articulation Back of tongue raised between half-open and half-close positions; medium lip rounding; no contact between rims and upper molars.

Often a triphthong in Cockney (*four* /fɔ:ʊə/); closer lip rounding in refined RP; length reduced in parts of USA (especially New England).



Vowels /ʊ/
Articulation Tongue nearer centre than back, raised to just above half-close position; lips closely but loosely rounded; tongue lax; no firm contact between rims and upper molars.

Little variation, apart from some reduced lip rounding; longer and closer in Scots and some N England accents.



Vowels /u:/
Articulation Back of tongue raised to just below close position; lips closely rounded; tongue tense; no firm contact between rims and upper molars.

Front rounded variant marked in Scots; centralized and diphthongized in Cockney.

Vowels	Articulation	Some regional variants	Vowels	Articulation	Some regional variants
	/ɜ:/ Centre of tongue raised between half-close and half-open; lips neutrally spread; no firm contact between rims and upper molars.	Closer in Birmingham, Liverpool, Australian; more open in conservative RP; shorter when followed by [r] in Scots, SW England, American; diphthongized in some regional American (<i>bird</i> /bɔɪd/).		/ə/ Centre of tongue raised between half-close and half-open; lips neutrally spread; no firm contact between rims and upper molars.	Only in unstressed syllables in RP; replaces /ʌ/ as a stressed vowel in many regional accents; replaced by stronger vowel qualities in Caribbean and other stress-timed accents (p. 249).
Diphthongs					
	/eɪ/ Glide begins from slightly below half-close front position, moves upwards and slightly backwards towards [ɪ]; lips spread.	Noticeably more open first element in Cockney and broad Australian; monophthongized to [e:] in many British accents; closer start and more central second element in Caribbean (<i>Jamaica</i> /dʒamieka/).		/aɪ/ Glide begins slightly behind front open position, moves upwards towards [ɪ]; lips change from neutral to loosely spread; obvious closing movement of the lower jaw.	Considerable variation in first element, both further forward and further back; often centralized, e.g. in Canadian; further back and often rounded in broad Australian; monophthongized to [i:] in some Scots (<i>die</i> [di:]) and to [a:], or with a weak glide, in S USA (part of the 'southern drawl').
	/ɔɪ/ Glide begins between back half-open and open positions, moves upwards and forwards towards [ɪ]; lips open rounded changing to neutral.	Closer first element in Cockney; more open in conservative RP; longer first element in S USA.		/əʊ/ Glide begins in central position between half-close and half-open, moves upwards and back towards [ʊ]; lips neutral changing to slightly rounded.	First element more rounded and further back in conservative RP and Dublin; tendency to monophthongize in RP (<i>goal</i> [gɔ:l]); more open start in broad Australian, and also in Cockney, where the glide is more extensive, with little or no lip rounding.
	/aʊ/ Glide begins between back and front open positions, moves upwards and slightly backwards towards [ʊ]; lips change from neutrally open to slightly rounded; jaw movement quite extensive.	First element fronted in Cockney and broad Australian, and more noticeable rounding on second element; unrounded fronted second element in 'royal family' RP (<i>house</i> [haʊs]); monophthongized close rounded vowel in Scots (<i>house</i> [hu:s]); first element fronted towards mid-open in West Country and Dublin; centralized first element in Canada (p. 342).		/ɪə/ Glide begins in position for /ɪ/, moves backwards and downwards towards /ə/; lips neutral, with slight movement from spread to open.	More open first element in conservative RP; second element sometimes strong in 'affected' RP (<i>here</i> /hɪə/).
	/eə/ Glide begins in half-open front position, moves backwards towards /ə/; lips neutrally open throughout.	Closer start in Cockney; much more open in refined RP; centralized long vowel in Birmingham [ɜ:]; more open long vowel in Liverpool [ɛ:]; closer long vowel in Scots [ē:].		/ʊə/ Glide begins in position for /ʊ/, moves forwards and downwards towards /ə/; lips weakly rounded becoming neutrally spread.	Much variation in RP, with more open first element; often monophthongized to [ɔ:], so that <i>sure</i> appears as [ʃɔ:] 'shaw'.

CONSONANTS

The difference between the number of letters and sounds found in English, so dramatic in the case of vowels (p. 237), is far less significant in the case of consonants. There are 21 consonant letters in the written alphabet (B, C, D, F, G, H, J, K, L, M, N, P, Q, R, S, T, V, W, X, Y, Z), and there are 24 consonant sounds in most English accents. The difficulty of transcribing speech is therefore less serious, as most of the written symbols can be assigned individual phonetic values, and the resulting transcription thus looks much more immediately readable than that of vowels. However, because of the erratic history of English spelling, there is no neat one-to-one correlation between letters and sounds. In several cases, one consonant sound is spelled by more than one letter (e.g. *th* in *this*) or one consonant letter symbolizes more than one sound (e.g. *x* in *fox*/fɒks/). There are thus two answers to the question, 'How many consonants are there at the beginning or end of the word *thick*?': 'Two' (in writing); 'One' (in speech, /θɪk/).

Describing consonants

All consonants have certain properties in common, which identify them in contrast to vowels (p. 238).

- From a phonetic point of view (p. 236), they are articulated in one of two ways: either there is a closing movement of one of the vocal organs, forming such a narrow constriction that it is possible to hear the sound of the air passing through; or the closing movement is complete, giving a total blockage. The closing movement may involve the lips, the tongue, or the throat, but in each case the overall effect is very different from the relatively open and unimpeded articulation found in vowels.

- From a phonological point of view (p. 236), they are units of the sound system which typically occupy the edges of a syllable (the margins, p. 246), as in *dogs* /dɒɡz/ and *glad* /glæd/. They may also appear in sequences (*clusters*), as these examples show. In fact, up to three consonants may be used together at the beginning of a spoken word in English (as in *string*), and up to four consonants at the end, though not always very comfortably (as in *twelfths* /twelfθs/ and *glimpsed* /ɡlɪmpst/).

- Some consonants involve the vibration of the vocal cords: these are the *voiced* consonants, such as /b/ and /m/. Others have no vocal cord vibration: these are the *voiceless* consonants, such as /p/ and /s/. The distinction is not absolute: depending on where in a word a consonant appears, there may be degrees of voicing. At the end of a word, for example, a voiced consonant typically loses a great deal of its vibration (it is *devoiced*). The /z/ sound at the beginning of *zoo* /zu:/ is much

more vibrant than the one at the end of *ooze* /u:z/ (to voice this fully would produce an unnatural buzzing effect at the end of the word).

- An alternative way of capturing the difference between such consonant pairs as /p/ and /b/ is to compare the force with which they are articulated. Voiceless consonants are produced with much greater force than their voiced counterparts, and the terms *fortis* ('strong') and *lenis* ('weak') have come to be used to identify the two types. Thus, /p/, /t/, /k/, /f/, /θ/, /s/, /ʃ/, and /tʃ/ are all fortis consonants; /b/, /d/, /g/, /v/, /ð/, /z/, /ʒ/, and /dʒ/ are all lenis.

- Unlike vowels, some consonants are primarily identified through their use of the nasal cavity. Normally, in English, when we speak we keep the soft palate (p. 236) raised, so that it presses against the back of the throat and allows no air out through the nose. With the three nasal consonants, /m/, /n/, and /ŋ/, however, the soft palate remains lowered (as it is when we breathe), and the result is a series of sounds with a distinctive nasal resonance.

Consonant or vowel

The distinction between consonant and vowel is fundamental, but some sounds sit uneasily between the two, being articulated in the same way as vowels, but functioning in the language in the same way as consonants. /j/ as in *yes* and /w/ as in *we* are like this. /j/ is formed like a very short [i] vowel (as can be heard if we draw out the *y* of *yes*), but it occurs at the beginning of the word, as do other consonants (*yes*, *mess*, *best*). Similarly, /w/ is formed like a short [u] vowel, but acts as a consonant (*we*, *me*, *see*). These two consonants are therefore sometimes described as *semi-vowels*.

Certain other consonants are also somewhat vowel-like, in that they can be sounded continuously without any audible friction: the three nasals, /m/, /n/, and /ŋ/, /l/ as in *lie*, and /r/ as in *red*. These can all be classed together as (frictionless) continuants or sonorants, within which the four oral items (/l/, /r/, /w/, /j/) are often recognized as forming a distinct group.

CONSONANT FREQUENCY

A study of the frequency of consonants in a sample of conversational RP gave the following results:

	%		%
/n/	7.58	/b/	1.97
/t/	6.42	/f/	1.79
/d/	5.14	/p/	1.78
/s/	4.81	/h/	1.46
/l/	3.66	/ŋ/	1.15
/ð/	3.56	/g/	1.05
/r/	3.51	/ʃ/	0.96
/m/	3.22	/j/	0.88
/k/	3.09	/dʒ/	0.60
/w/	2.81	/tʃ/	0.41
/z/	2.46	/θ/	0.37
/v/	2.00	/ʒ/	0.10

The total for all consonants was 60.78 per cent. Vowel figures are given on p. 239. (After D. B. Fry, 1947, with later corrections incorporated.)

It should be noted that this particular study did not take word frequency into account in the sample analysed. All sounds in the sample were counted, regardless of how many times a particular word was used there. This is why /ð/, in particular, has such a high place in the table: it is largely due to the high frequency of this sound in the definite article (*the*) and demonstratives (*this*, *that*, etc.).

TRANSCRIBING CONSONANTS

A British and an American transcription system for consonants: A. C. Gimson (1962) and V. Fromkin & R. Rodman (1974) (details on p. 237).

The consonants in	Gimson	F&R	The consonants in	Gimson	F&R
pie, up	p	p	so, us	s	s
by, ebb	b	b	zoo, ooze	z	z
tie, at	t	t	shoe, ash	ʃ	ʃ
die, odd	d	d	genre, rouge	ʒ	ʒ
coo, ache	k	k	he	h	h
go, egg	g	g	me, am	m	m
chew, each	tʃ	č, tʃ	no, in	n	n
jaw, edge	dʒ	j, dʒ	hang	ŋ	ŋ
fee, off	f	f	lie, eel	l	l
view, of	v	v	row, ear (not RP)	r	r
thigh, oath	θ	θ	way	w	w
they, booth	ð	ð	you	j	y

TYPES OF CONSONANT

All English consonants are made with an air-stream from the lungs moving outwards (unlike certain consonants in some other languages, which use other types of air-stream). To differentiate the 24 consonants from each other, phoneticians use a classification based on the place and manner of articulation, in addition to the criteria of whether they are voiced or voiceless or oral or nasal, as described on the facing page. (For the names and locations of the vocal organs, see the diagram on p. 236. For a full description of each individual consonant, see pp. 244–5.)

Place of articulation

We need to know *where* in the vocal tract the sound is made, and which vocal organs are involved. The important positions for English are the following:

- **Bilabial**: using both lips, as in /p/, /b/, /m/, /w/.
- **Labio-dental**: using the lower lip and the upper teeth, as in /f/, /v/.
- **Dental**: using the tongue tip between the teeth or close to the upper teeth, as in /θ/ and /ð/.
- **Alveolar**: using the blade of the tongue close to the alveolar ridge, as in /t/, /d/, /s/, /z/, /n/, /l/, and the first elements of /tʃ/ and /dʒ/.
- **Post-alveolar**: using the tongue tip close to just

behind the alveolar ridge, as in /r/ (for some accents).

- **Retroflex**: using the tongue tip curled back to well behind the alveolar ridge, as in /r/ (for some accents).
- **Palato-alveolar**: using the blade (and sometimes the tip) of the tongue close to the alveolar ridge, with a simultaneous raising of the front of the tongue towards the roof of the mouth, as in /ʃ/ and /ʒ/, and the second elements in /tʃ/ and /dʒ/.
- **Palatal**: raising the front of the tongue close to the hard palate, as in /j/.
- **Velar**: raising the back of the tongue against the soft palate, as in /k/, /g/, and /ŋ/.
- **Glottal**: using the space between the vocal cords to make audible friction, as in /h/, or a closure, as in the glottal stop (in some accents).

Manner of articulation

We need to know *how* the sound is made, at the various locations in the vocal tract. Four phonetic possibilities are recognized.

Total closure

- **Plosive**: a complete closure is made at some point in the vocal tract, with the soft palate raised; air pressure builds up behind the closure, which is then released explosively, as in /p/, /b/, /t/, /d/, /k/, /g/, the first elements of /tʃ/ and /dʒ/, and the glottal stop.
- **Nasal**: a complete closure is made at some point in the mouth, with the soft palate lowered, so that air escapes through the nose, as in /m/, /n/, /ŋ/.

- **Affricate**: a complete closure is made at some point in the mouth, with the soft palate raised; air pressure builds up behind the closure, which is then released relatively slowly (compared with the suddenness of a plosive release), as in /tʃ/ and /dʒ/.

Intermittent closure

- **Roll or Trill**: the tongue tip taps rapidly against the teeth ridge, as in the 'trilled /r/' heard in some regional accents; a trill in which the back of the tongue taps against the uvula is also sometimes heard regionally and in some idiosyncratic 'weak /r/' pronunciations.

- **Flap**: a single tap is made by the tongue tip against the alveolar ridge, as in some pronunciations of /r/ and /d/.

Partial closure

- **Lateral**: a partial closure is made by the blade of the tongue against the alveolar ridge, in such a way that the air stream is able to flow around the sides of the tongue, as in /l/.

Narrowing

- **Fricative**: Two vocal organs come so close together that the movement of air between them can be heard, as in /f/, /v/, /θ/, /ð/, /s/, /z/, /ʃ/, /ʒ/, /h/, and the second element in /tʃ/ and /dʒ/. The consonants /s/, /z/, /ʃ/, and /ʒ/ have a sharper sound than the others, because they are made with a narrower groove in the tongue, and are often grouped together as *sibilants*.

CONSONANT COMBINATIONS

The 24 consonants found in RP and many other accents may be used singly or in combination in syllables and words – but only a fraction of the millions of possible combinations actually occur. The table shows the possibilities for three-consonant combinations at the beginning of a word, using data derived from the *English Pronouncing Dictionary*. These are:

s + p + l, r, j
s + t + r, j
s + k + l, r, j, w

In other words, the sequence is /s/ + a fortis plosive + one of the continuants (see above). Outside of this system, there is, in addition, a single example of /smj-/ – the name of a bird, the *smew*. However, of the 12 possible CCC sequences, three (/spw-, /stl-, /stw-/) do not occur, and /CCj/

and /skl-/ are highly restricted, appearing only with certain vowels.

It is the consonant–vowel combinations which make the table particularly interesting. Is there really no word in the language (using an RP accent) beginning with three consonants and followed by /ɔɪ/? No /splɔɪ-/? /sprɔɪ-/? /strɔɪ-/? Or again, is there no /splau-/? No /skwɔɪ/? It is fairly easy to check out the possibilities intuitively for short words, though even here it is surprising how many technical or rare words can be found with unusual initial clusters, such as *squamous* and *sclerosis*. Proper names also extend the range somewhat; for example, there seems to be nothing for /strau/ except *Stroud* (and thus *strouding*) and *Strauss*. The uncertain status of new loan words (p. 126) and the existence of mixed accents with variant pronunciations (§21) also make it difficult to be absolutely definite that a particular consonant combination does not exist.

(After A. C. Gimson, 1970, 2nd edn of Gimson 1962.)

	I	e	æ	ʌ	ɒ	ʊ	ə	i:	ɔ:	ɔɪ	u:	ɜ:	eɪ	aɪ	ɔɪ	əʊ	aʊ	ɪə	eə	ʊə
spl	+	+	+	+	+		+	+					+	+	+					
spr	+	+	+	+	+			+		+	+		+	+			+			
spj											+									+
str	+	+	+	+	+		+	+	+	+	+		+	+		+	+			
stj											+									+
skl			+	+			+											+		
skr	+		+	+	+			+		+	+		+	+		+	+			
skj											+									+
skw	+	+			+			+		+	+		+	+	+			+	+	
smj											+									

It is an interesting exercise to try to find examples of all the words marked as possible in the table. A crib is provided on p. 250.

GAPS? SCHMAPS!

Traditionally, there is no /jn-/ initial word cluster in English, but the situation has changed in recent years with the arrival of a number of loan words from German and American Yiddish, and several other /jC-/ combinations are now often heard.

schnapps	schlemiel
schnitzel	schmuck
schmorkel	schmaltz
schnauzer	schmo
schnozzle	schlock



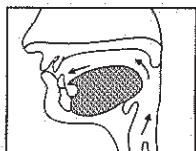
A Schnauzer

CONSONANT LOCATIONS AND VARIATIONS

This table gives a brief description of how each English consonant is articulated, using Received Pronunciation (RP, p. 365) as the reference model. To put this accent in perspective, the chief regional and social variations which

affect certain consonants are also listed. The diagrams show place of articulation only. As with vowels (p. 240), comments about regional variation are illustrative, not representative, and should be interpreted with caution. For further discussion of variation, see §20; historical developments are summarized on pp. 18, 42.

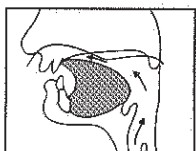
Plosives



/p, b/

Articulation: Bilabial plosives: soft palate raised; complete closure made by the upper and lower lip; /p/ voiceless, /b/ voiced (and devoiced in word-final position); /p/ fortis, /b/ lenis.

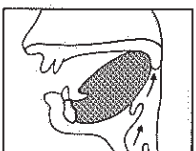
Some regional variants: No important regional variants, though the amount of aspiration (the force of air following the release of /p/) and the degree of voicing can vary.



/t, d/

Articulation: Alveolar plosives: soft palate raised; complete closure made by the tongue tip and rims against the alveolar ridge and side teeth; /t/ voiceless, /d/ voiced (and devoiced in word-final position); /t/ fortis, /d/ lenis; lip position influenced by adjacent vowel (spread for *tee*, *meat*; rounded for *too*, *foot*); tongue position influenced by a following consonant, becoming further back (post-alveolar) in *try*, dental in *eight*; when in final position in a syllable or word, they readily assimilate (p. 247) to /p, k/ or /b, g/ if followed by bilabial or velar consonants.

Some regional variants: In American, and often in informal speech generally, /t/ between vowels is a lenis, rapid tap, resembling [d]; dental in Irish; affricate release as [ts] or [dz] in some urban UK dialects (Liverpool, Cockney) and Irish; /t/ replaced by glottal stop [ʔ] between vowels and before /l/ (as in *bottle*) very noticeable in Cockney, Glasgow English, and urban speech generally; glottal stop increasingly heard in RP, especially replacing /t/ before /n/ (as in *button*) and in final position (as in *shut the gate*).

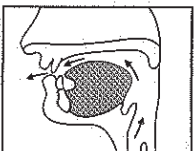


/k, g/

Articulation: Velar plosives: soft palate raised; complete closure made by the back of the tongue against the soft palate; /k/ voiceless, /g/ voiced (and devoiced in word-final position); /k/ fortis, /g/ lenis; lip position influenced by adjacent vowel (spread for *keen*, *meek*, rounded for *cool*, *book*); also, quality varies depending on the following vowel (/k/ in *keen* is much further forward, approaching the hard palate, than /k/ in *car*).

Some regional variants: No important regional variations, apart from some variation in aspiration and voicing (as with /p/ and /b/).

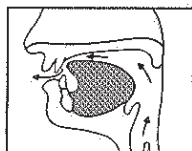
Fricatives



/f, v/

Articulation: Labio-dental fricatives: soft palate raised; light contact made by lower lip against upper teeth; /f/ voiceless, /v/ voiced (and devoiced in word-final position); /f/ fortis, /v/ lenis.

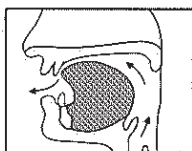
Some regional variants: UK West Country /f/ weakly articulated, approaching [v]; /f/ in *of* often omitted in informal speech (*cup o' tea*), as is the /v/ in auxiliary *have* (*could have*).



/θ, ð/

Articulation: Dental fricatives: soft palate raised; tongue tip and rims make light contact with edge and inner surface of upper incisors, and a firmer contact with upper side teeth; tip protrudes between teeth for some speakers; /θ/ voiceless, /ð/ voiced (and devoiced in word-final position); /θ/ fortis, /ð/ lenis; lip position depends on adjacent vowel (spread in *thief*, *heath*, rounded in *though*, *oath*).

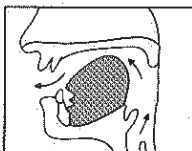
Some regional variants: In Cockney and London-influenced varieties, replaced by labio-dental /f/ and /v/; in Irish, replaced by a dental /t/ and /d/; often omitted in clusters in informal speech (e.g. /kləʊz/ for *clothes*).



/s, z/

Articulation: Alveolar fricatives: soft palate raised; tongue tip and blade make light contact with alveolar ridge, and rims make close contact with upper side teeth; air escapes along a narrow groove in the centre of the tongue; /s/ voiceless, /z/ voiced (and devoiced in word-final position); /s/ fortis, /z/ lenis; lip position depends on adjacent vowel (spread in *see*, *ease*, rounded in *soup*, *ooze*).

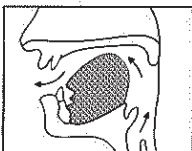
Some regional variants: UK West Country /s/ weakly articulated, approaching [z]; several deviant forms in speech pathology, especially the use of [θ] and [ð] for /s/ and /z/ respectively (an interdental lisp).



/ʃ, ʒ/

Articulation: Palato-alveolar fricatives: soft palate raised; tongue tip and blade make light contact with alveolar ridge, while front of tongue raised towards hard palate, and rims put in contact with upper side teeth; /ʃ/ voiceless, /ʒ/ voiced (and devoiced in word-final position); /ʃ/ fortis, /ʒ/ lenis, but both sounds laxer than /s/ and /z/; lip rounding influenced by adjacent vowel (spread in *she*, *beige*, rounded in *shoe*, *rouge*), but some speakers always round their lips for these sounds.

Some regional variants: No important regional variation; some speakers vary between these sounds and /s/ or /z/ in the middle of such words as *issue*, *casual*; also usage variation with /s/ or /z/ as in *appreciate*, *ratio*; /ʃ/ and /ʒ/ are themselves alternatives in *version*, *Asia*, and several other words; /ʒ/ often replaced by /dʒ/ in word-final position (e.g. *garage*, *rouge*).

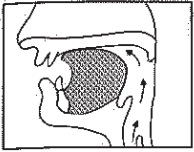


/h/ (followed by [i] vowel)

Articulation: Glottal fricative: soft palate raised; air from lungs causes audible friction as it passes through the open glottis, and resonates through the vocal tract with a quality determined chiefly by the position of the tongue taken up for the following vowel; voiceless with some voicing when surrounded by vowels (*aha*).

Some regional variants: Occurs only in syllable initial position, before a vowel; omitted in many regional accents, and widely considered the chief sign of 'uneducated' British speech; usage variation in initial unaccented syllable (e.g. *an hotel* vs *a hotel*).

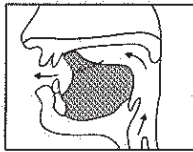
Affricates



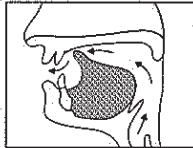
/tʃ, dʒ/ (stop phase only)

Articulation: Palato-alveolar affricates: soft palate raised; for the first element, closure made by the tongue tip, blade, and rims against the alveolar ridge and side teeth; at the same time, front of the tongue is raised towards the hard palate, so that when the closure is released the air escapes to give a palato-alveolar quality: /tʃ/ voiceless, /dʒ/ voiced; /tʃ/ fortis, /dʒ/ lenis; lip position influenced by following vowel (spread for *cheap*, rounded for *choose*), though some speakers always round their lips for these sounds.

Some regional variants: No important regional variation; some RP speakers replace them by /tj/ and /dj/ (in such words as *statue*, *tune*, *due*).



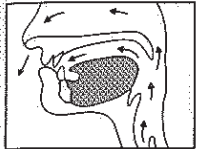
/ɫ/ (dark [ɫ])



/ɹ/

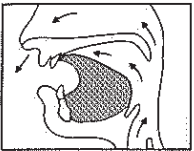
Articulation: Bilabial nasal: soft palate lowered; a total closure made by the upper and lower lip; voiced, with only occasional devoicing (notably, after [s], as in *smile*); labio-dental closure when followed by /f/ or /v/, as in *comfort*; vowel-like nature allows /m/ to be used with a syllabic function (p. 246), in such words as *bottom* /bɒtəm/.

Some regional variants: No important regional or social variations.



/m/

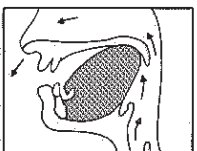
Nasals



/n/

Articulation: Bilabial nasal: soft palate lowered; closure made by tongue tip and rims against the alveolar ridge and upper side teeth; voiced, with only occasional devoicing (notably, after [s], as in *snap*); lip position influenced by adjacent vowel (spread in *neat*, rounded in *noon*); much affected by the place of articulation of the following consonant (e.g. often labio-dental closure when followed by /f/ or /v/ (as in *infant*), bilabial when followed by /p/ or /b/); vowel-like nature allows /n/ to be used with a syllabic function in such words as *button* /bʌtn̩/.

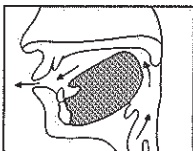
Some regional variants: No important regional or social variations.



/ŋ/

Articulation: Velar nasal: soft palate lowered; closure formed between the back of the tongue and the soft palate; further forward if preceded by front vowel (*sing*, compared with *bang*); lip position depends on preceding vowel (spread in *sing*, rounded in *song*); this is the normal nasal sound before /k/ or /g/ in such words as *sink* and *angry*, despite having only an *n* in the spelling.

Some regional variants: Heard as [ŋɡ] in Midlands and N England (*singing* as /sɪŋɡŋɡ/); ending *-ing* replaced by /ɪn/ in conservative RP (*huntin'* and *shootin'*) and widely in regional speech (now perceived as uneducated in the UK).



/w/

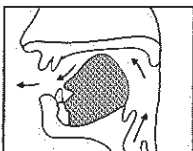
Some regional variants: In RP, clear /l/ occurs before a vowel or /j/, and dark /l/ in other places, but there is much variation; dark /l/ often becomes a back vowel in Cockney, especially with lip rounding, so that *peel* becomes more like [pi:ə], and this is also heard in some RP, especially London-influenced speech (as in *careful*, *beautiful*); dark /l/ in all positions in some Scots and much American; clear /l/ in all positions in some Irish; American uses syllabic /l/ where RP has a noticeable vowel (e.g. in *fertile*, *missile*).

Articulation: Post-alveolar approximant (or frictionless continuant): soft palate raised; tongue tip held close to (but not touching) the back of the alveolar ridge; back rims touch the upper molars; central part of tongue lowered; lip position influenced by following vowel (spread in *reach*, rounded in *room*); becomes a fricative when preceded by /d/ (as in *drive*); becomes a tap between vowels and after some consonants (as in *very*, *sorry*, *three*); voiced, with devoicing after /p/, /t/, /k/ (as in *pry*); lip position influenced by following vowel (spread in *reed*, rounded in *rude*), but some speakers always give /r/ some rounding.

Some regional variants: More variants than any other consonant; major division (p. 305) into accents which use /r/ after vowels (*rhotic accents*) and those which do not (*non-rhotic accents*); tongue tip curled back (*retroflexed*) in much American, South Asian, SW England, the /r/ articulation colouring the preceding vowel (in *bird*, *girl*); lingual trill or roll against the alveolar ridge in some Scots, Welsh, and may be heard in stylized speech anywhere (as in dramatic declamation); uvular trill or fricative in NE England and some Scots; replacement by /w/ (*red/wed*) fashionable in England in early 19th century; use as a linking or intrusive sound may attract social criticism (p. 366).

Articulation: Labio-velar semi-vowel: soft palate raised; tongue in the position of a close back vowel; lips rounded, with greater tension than for [u:] (compare *woos* and *ooze*); voiced, with some devoicing after fortis consonants (*twice*, *sweet*).

Some regional variants: Several dialects (such as Scottish), and also conservative RP, have a voiceless variant [hw] or [ʍ] in such words as *while*, and this may be contrastive (*Wales* vs *whales*); also common regionally (very noticeable in Cockney) is a strong [w] element replacing a vowel in such words as *door* [dɔwə]; forms such as *flower* [flawə] may also be heard in modified RP.

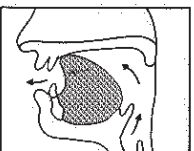


/j/

Articulation: Palatal semi-vowel; soft palate raised; tongue in the position of a front close vowel; lip position influenced by following vowel (spread in *year*, rounded in *you*); greater tension than for [i:] (compare *yeast* and *east*); voiced, with some devoicing after fortis consonants (*pure*, *huge*).

Some regional variants: Variation between /ju:/ and /u:/ in RP after certain consonants, especially /l/ and /s/ (*suit* as /sju:t/ and /su:t/; *salute* as /salju:t/ and /salu:t/); /j/ variant now less common, and absent in most regional accents; variation between /sj/, /zj/, /tj/, /dj/ and /ʃ/, /ʒ/, /tʃ/, /dʒ/ in such words as *issue*, *usual*, *statue*, and *educate*; also common regionally is a strong [j] element replacing a vowel in such words as *where* [wejə].

Oral continuants



/l/ (clear [l])

Articulation: Lateral: soft palate raised; closure made by tongue tip against centre of alveolar ridge, and air escapes round either or both sides; voiced, with devoicing chiefly after fortis consonants (as in *please*, *sleep*); front of tongue simultaneously raised in direction of hard palate, giving a front-vowel resonance in such words as RP *leap* ('clear l'); back of tongue raised in direction of soft palate, giving a back vowel resonance in such words as RP *pool* ('dark l'); lip position depends on adjacent vowel (spread in *leap*, *peel*, rounded in *loop*, *pool*); vowel-like nature allows /l/ to be used with a syllabic function in such words as *bottle* /bɒtl̩/.

CONNECTED SPEECH

Vowel and consonant segments combine into syllables; syllables combine into words; and words combine into phrases and sentences. But the process of producing connected speech affects the pronunciation of several of these segments in a number of interesting ways. Certain segments have a tendency to run together; extra segments may be added to ensure smoothness of speech; some segments adopt a less clearly defined phonetic form; and some completely disappear. Each of these possibilities has an associated technical label from the domain of phonetics. (Pronunciations shown are those of Received Pronunciation, or RP, p. 365.)

ASSIMILATION

Adjacent sounds often influence each other so that they become more alike, or *assimilate*. These effects are more common in rapid speech, but some degree of assimilation will be found in all spoken styles.

- In *anticipatory* (or *regressive*) assimilation, a sound is influenced by the sound which follows it. In the phrase *ten balloons*, /ten/ is likely to be pronounced /tem/, anticipating the following bilabial consonant. In the greeting *good night*, /gud/ is usually pronounced /gun/, as sometimes shown in writing: *g'night*.
- In *progressive* assimilation, a sound is influenced by the sound which precedes it. The second word in *bridge score* would typically emerge (in RP) as /'brɪdʒsɔ:/, because of the influence of the palatal element in the preceding affricate (p. 245). Similarly, the second word in *Church Street* would be found as /'tʃɜ:rtʃ/.
- A third possibility is *coalescence* – a reciprocal influence, where two sounds fuse into a single new segment. In *won't she*, the final /t/ and initial /ʃ/ mutually assimilate to produce /tʃ/, resulting in the fused unit, /wʊn'tʃi/.

ELISION

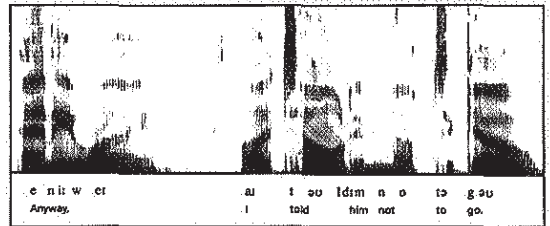
As speech speeds up, sounds are likely to be left out, or *elided*. This is especially so when clusters of consonants occur. Indeed, some sequences are impossible to articulate naturally without elision. Try *Henry the Sixth's three advisers*. Tongue twisters capitalize on these difficulties.

- Vowels in weak syllables are often elided in informal speech. It is unusual to hear the first vowel in such words as *police*, *tomato*, and *correct*, which routinely appear as *p'lice*, etc. A tip for novice public speakers is to give extra weight to the vowels of their unstressed syllables.
- Consonants in clusters are commonly simplified. We are unlikely to hear all three consonants articulated at the end of the first word in *Acts of Parliament*: /'æks/ is normal. Similarly, we will find *next day* /'neks deɪ/, *government* /gʌvənmənt/, and *mashed potatoes* /mæʃ pətetəʊz/.
- Whole syllables may be elided, especially when there is a repeated consonant, as in British English pronunciations of *library* and *particularly*: /laɪbrɪ:/, /pə'tɪkjʊli:/.
- Some words are especially prone to elision, such as *of* before consonants (*cup o' tea*, *lots o' people*). Other examples include *gonna* (=going to), *wanna* (=want to), and the weak forms of auxiliary verbs (p. 212).

ACOUSTIC EVIDENCE

Several features of connected speech can be seen in this acoustic display of a sentence, using a machine known as a speech spectrograph. Time is displayed horizontally: the utterance lasts for just over two seconds.

The acoustic frequency of the speech sounds is displayed vertically, and their intensity is shown by the relative darkness of the marks. The vowels and vowel-like sounds are darkest, and the different vowel qualities can be clearly seen in the changing pattern of black bands (*formants*), which represent varying concentrations of acoustic energy in the vocal tract.



- There is a perceptible pause after *anyway*, but otherwise the words have no silences between them. This is *connected* speech.
- There is elision of /h/ in *him*, and a very rapid running together of sounds at that point. It is difficult to see any vowel in *him*.
- The two /t/ sounds of *not* and *to* have fused into one.
- The vowel of *to* is very short and weak.

STRONG AND WEAK FORMS

Nearly 50 words in English can be pronounced in two distinct ways, depending on the degree of force with which they are uttered. They are all words which perform a grammatical function – determiners, pronouns, auxiliary verbs, prepositions, conjunctions, and particles. *Strong* (or *full*) forms are used when the word is said in isolation or is being emphasized. *Weak* forms are normal in connected speech: peripheral vowels (those which are articulated towards the edge of the vowel area in the mouth, p. 238) are replaced by those of a more central quality, and some consonants may be elided. Weak forms are sometimes represented in writing, though not usually very accurately (*bacon 'n eggs*, *cup o' coffee*).

In the following examples, the strong forms are given on the left and the weak forms on the right.

and	ænd	ən, n
that	ðæt	ðət
his	hɪz	ɪz
from	fɹɒm	fɹəm
of	ɒv	əv, v, ə
to	tʊ:	tʊ, tə
some	səm	səm, sm
there	ðeə	ðə
have	hæv	əv, v, ə
were	wɜ:	wə
do	du:	də, du
must	mʌst	məs, məst

In many cases, we need to take note of context. For example, *there* as an adverb of place (*Look over there*) is always strong; but at the beginning of an existential sentence (p. 231) it is always weak (*There's no place like home*). Also, different forms may appear before consonants and before vowels: compare *I must go* (/məsg/) and *I must eat* (/məst/), or *for tea* (/fə/) and *for Ann* (/fər/).

LIAISON

A sound may be introduced between words or syllables to help them run together more smoothly. The chief example of this in English is the pronunciation of word-final /r/ in RP (and other non-rhotic accents, p. 245). RP speakers pronounce the /r/ in such words as *clear* and *mother* only when there is a following vowel: we find /kliə/ in *clear question* but /kliər/ in *clear answer*. This is usually called *linking r*.

Similarly, RP speakers regularly link adjacent vowels with an /r/ even when there is no r in the spelling, as in *India(r)* and *Pakistan* or *media(r) interest*. This *intrusive r* can attract ferocious criticism from conservative RP speakers, when they notice it, on the grounds that there is nothing in the spelling to justify its use (p. 366). It is especially disliked after an open back vowel, as in *law(r)* and *order*, *flaw(r)* in the argument, or *draw(r)ing*. (It is hardly ever noticed after a schwa vowel, as in the other examples above, and even the most tub-thumping

critic will be heard using an intrusive r in such cases.) The BBC is one of several institutions which have become so sensitive about public reaction to the usage that it warns its presenters of the risks of liaising with *Laura Norder*.

Got one

In Robert Burchfield's *The Spoken Word: A BBC Guide* (1981), there is a clear recommendation about r liaison:

In the formal presentation of the news or of other scripted speech:

Avoid the intrusive r.

Some presenters evidently took this advice very seriously, as is seen in this extract from a radio script, where the reader has spotted a case in advance, and has marked his copy of the script so that he does not forget about it.

PRESENTER: One of the questions we'll be dealing with in today's programme is the future of martial law in Poland. The issue facing the Poles is complex, and to help us debate it we have in the studio two people who have

PROSODY

The sound system enables us to express meaning in speech in both verbal and non-verbal ways. *Verbal meaning* ('what we say') relies on vowels and consonants to construct words, phrases, and sentences. *Non-verbal meaning* ('the way that we say it') makes use of such factors as intonation, rhythm, and tone of voice to provide speech with much of its structure and expressiveness. As the old song wisely says, 'it ain't what you say, it's the way that you say it'. So often, it is the non-verbal meaning which is the critical element in a communication.

Prosodic features

How many 'ways' are there to say things? The chief possibilities are dictated by the main auditory properties of sound: *pitch*, *loudness*, and *speed*. These properties, used singly or in combination (in the form of *rhythm*), and accompanied by the distinctive use of silence (in the form of *pause*), make up the *prosody* or *prosodic features* of the language. This is a much broader sense of 'prosody' than is to be found in poetry, where it refers only to the study of metrical patterning (p. 415).

- The most important prosodic effects are those conveyed by the linguistic use of pitch movement, or melody – the *intonation* system. Different pitch levels (*tones*) are used in particular sequences (*contours*) to express a wide range of meanings. Some of these meanings can be shown in writing, such as the opposition between statement (*They're ready.*) and question (*They're ready?*), but most intonational effects have no equivalents in punctuation, and can be written down only through a special transcription.

- Loudness is used in a variety of ways. Gross differences of meaning (such as anger, menace, excitement) can be conveyed by using an overall loudness level. More intricately, English uses variations in loudness to define the difference between strong and weak (*stressed* and *unstressed*) syllables. The stress pattern of a word is an important feature of the word's spoken identity: thus we find *nation*, not *nation*; *nationality*, not *nationality*. There may even be contrasts of meaning partly conveyed by stress pattern, as with *record* (the noun) and *record* (the verb). Stress patterns make an important contribution to spoken intelligibility, and foreigners who unwittingly alter word stress can have great difficulty in making themselves understood (p. 249).

- Varying the *speed* (or *tempo*) of speech is an important but less systematic communicative feature. By speeding up or slowing down the rate at which we say syllables, words, phrases, and sentences, we can convey several kinds of meaning, such as (speeding up) excite-

ment and impatience, or (slowing down) emphasis and thoughtfulness. There is a great deal of difference between *No* said in a clipped, definite tone ('Nope') and *No* said in a drawled, meditative tone ('No-o-o'). And grammatical boundaries can often be signalled by tempo variation, as when a whole phrase is speeded up to show that it is functioning as a single word (*a take-it-or-leave-it situation*).

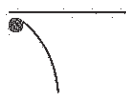
NINE WAYS OF SAYING YES

No one has yet described all the nuances of meaning which can be conveyed by the intonation system. Even if we restrict the example to a single word (*yes*), and a single context (*Will you marry me?*), it proves difficult to capture everything that is involved. (The accent represented here is RP, p. 365. The direction of pitch movement is shown between two parallel lines, which represent the upper and lower limits of the speaker's pitch range. The commentary indicates the tone's general meaning, and parenthetically remarks on the likelihood of its use in nuptial circumstances.)



low fall

The most neutral tone; a detached, unemotional statement of fact. (Unlikely, though it could be quite a dramatic answer, after tempestuous preliminaries.)



full fall

Emotionally involved; the higher the onset of the tone, the more involved the speaker; choice of emotion (surprise, excitement, irritation) depends on the speaker's facial expression. (Possible, especially if accompanied by other tones of voice, such as breathiness.)



mid fall

Routine, uncommitted comment; detached and unexcited. ('I'm thinking about it.' Wedding bells seem unlikely.)



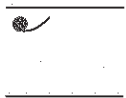
low rise

Facial expression important; with a 'happy' face, the tone is sympathetic and friendly; with a 'grim' face, it is guarded and ominous. (Neither makes particular sense, in this context, though the speaker might be thinking, 'What's the catch?')



full rise

Emotionally involved, often disbelief or shock, the extent of the emotion depending on the width of the tone. (Unlikely, though it might be used afterwards by the person popping the question, if he/she was not expecting to get a positive answer 'I don't believe you've said yes'.)



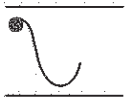
high rise

Mild query or puzzlement; often used in echoing what has just been said. (Unlikely, though it might be used to convey 'Are you sure you know what you're saying?')



level

Bored, sarcastic, ironic. (Unlikely. If used, it would have to mean something like 'If I really must' or 'I give up', or possibly, 'Here we go again, the same old routine'.)



fall-rise

A strongly emotional tone; a straight or 'negative' face conveys uncertainty, doubt, or tentativeness; a positive face conveys encouragement or urgency. (The latter is rather more likely than the former, which would be distinctly cagey, in this context. Maybe there are some conditions to be met.)



rise-fall

Strong emotional involvement; depending on the face, the attitude might be delighted, challenging, or complacent. (Very likely. With a bit of breathiness, the speaker can't wait.)

A REALLY INTERESTING HIGH RISE INTONATION[†]

Prosody, and especially intonation, is an important feature of sociolinguistic identity (§§20–21). A well-known example is the way some regional English accents routinely use a rising tone at the end of statements, instead of the falling tone found there in most parts of the English-speaking world. Rising-tone accents, often described as 'musical' or 'lilting', include those typical of Northern Ireland, Wales, and parts of NE England.

In recent years, attention has been drawn to the increasing use of a particular type of rising statement intonation in what are traditionally known to be falling-tone accents. This is the use of the *high rising* contour. Here are some examples of its use, adapted from a recent study of New Zealand English intonation (S. Allan, 1990). The high rising contour is shown by †.

It just saves on the wear and tear of all the other clothes[†]
 ...and it's very rarely we get traffic round here?[†]
 ...the next day we went into Paddy's Market[†]

Although this usage has been noted in several other parts of the English-speaking world, it has certainly been a very noticeable feature of Australian and New Zealand English, at least since the 1960s, and its greater frequency in the latter country suggests that it may well have originated there.

Why is it used? Why should a statement end with an intonation pattern which would normally

be associated with the function of a question? Any explanation needs to take into account the descriptive findings of several recent linguistic studies. One such study found:

- Women used it twice as much as men.
- Teenagers used it ten times more often than people over 20, and people in the 20–30 age group used it five times as much as those over 70.
- Working-class people used it three times as much as middle-class people.
- Ethnic minorities used it two to three times more often than members of the majority group. Maori speakers, for example, used up to 50 per cent more such tones than Europeans.

Broadly speaking, two kinds of explanation have been proposed for the phenomenon.

- One hypothesis focuses on the social differences, and suggests that the tone is preferred by the less powerful members of society. It acts as an (unconscious) expression of uncertainty and lack of confidence, perhaps even of subservience and deference. This viewpoint has been particularly debated by linguists in relation to gender: one view argues that women have come to use the tone because of their subservience to men. It is also a widely held view in relation to nationhood. In a Perth (Western Australia) radio programme in 1980, several members of a studio audience expressed the view that Australians used the tone because of their uncertain and still evolving national identity. In 1993 one Australian republican pundit went so far as to predict that the tone would disappear once



the country's new status had been achieved.

- An alternative explanation is that the high rising tone is used as a natural and widespread feature of conversational interaction. A speaker might introduce it for any of several discourse reasons – as an informal check to see if the listener has understood, as a request for empathy or some other form of feedback, or even as an indication that the speaker has not yet finished speaking. One recent phonetic study found that the tone was actually not very common in speech situations of uncertainty, such as the giving of opinions (arguing against the first hypothesis). Rather, it was particularly associated with narratives, especially with those parts of a story where the speaker wished to heighten the interest of the listener. If this explanation is correct, the social trends could be explained by variations in interactive awareness and narrative skills. It will be interesting to see what future, post-republican studies reveal. (After D. Britain & J. Newman, 1992.)

THE FUNCTIONS OF INTONATION

- **Emotional** Intonation's most obvious role is to express attitudinal meaning – sarcasm, surprise, reserve, impatience, delight, shock, anger, interest, and thousands of other semantic nuances.
- **Grammatical** Intonation helps to identify grammatical structure in speech, performing a role similar to punctuation. Units such as clause and sentence (§16) often depend on intonation for their spoken identity, and several specific contrasts, such as question/statement, make systematic use of it.
- **Informational** Intonation helps draw attention to what meaning is given and what is new in an utterance. The word carrying the most prominent tone in a contour signals the part of an utterance that the speaker is treating as new information: *I've got a new pen, I bought three books.*
- **Textual** Intonation helps larger units of meaning than the sentence to contrast and cohere. In radio news-reading, paragraphs of information can be shaped through the use of pitch. In sports commentary, changes in prosody reflect the progress of the action.
- **Psychological** Intonation helps us to organize speech into units that are easier to perceive and memorize. Most people would find a sequence of ten numbers (4, 7, 3, 8, 2, 6, 4, 8, 1, 5) difficult to recall; the task is made easier by using intonation to chunk the sequence into two units (4, 7, 3, 8, 2 / 6, 4, 8, 1, 5).
- **Indexical** Intonation, along with other prosodic features, is an important marker of personal or social identity. Lawyers, preachers, newscasters, sports commentators, army sergeants, and several other occupations are readily identified through their distinctive prosody.

RHYTHM

Features of pitch, loudness, speed, and silence combine to produce the effect known as speech *rhythm*. Our sense of rhythm is a perception that there are prominent units occurring at regular intervals as we speak. In the main tradition of English poetry, this regularity is very clear, in the form of the metrical patterns used in lines of verse. The iambic pentameter, in particular, with its familiar five-fold *te-tum* pattern (*The curfew tolls the knell of parting day*), has given the language its poetic heartbeat for centuries (p. 415).

All forms of spoken English have their rhythm, though in spontaneous speech it is often difficult to hear, because hesitations interfere with the smooth flow of the words. In fluent speech, however, there is a clear underlying rhythm. This is often called a *stress-timed* (or *isochronous*) rhythm – one based on the use of stressed syllables which occur at roughly regular intervals in the stream of speech. It contrasts with the *syllable-timed* rhythm of a language such as French, where the syllables have equal force, giving a marked *rat-a-tat-a-tat* effect.

The history of English is one of stress-timing, though there are signs of the alternative rhythm emerging in parts of the world where English has been in contact with syllable-timed languages, such as India and South Africa. Syllable-timed English, however, is difficult for outsiders to follow, because it reduces the pattern of stress contrast which adds so much to a word's spoken identity. If it is increasing, as some observers suggest, there will be extra problems for the growth of an internationally intelligible standard spoken English (p. 360).

PARALINGUISTIC FEATURES

Prosody does not exhaust all the non-verbal vocal effects available in English. The various cavities of the throat, mouth, and nose can each be used to produce 'tones of voice' that alter the meaning of what is being said. These effects are often called *paralinguistic* – a term which suggests that they play a less central role in the sound system than prosodic features do.

The following examples of paralinguistic effects are accompanied by a gloss indicating the context in which they commonly occur.

- **whisper** – secrecy or conspiracy.
- **breathiness** – deep emotion or sexual desire.
- **huskiness** – unimportance or disparagement.
- **nasality** – anxiety.
- **extra lip-rounding** – intimacy (especially to animals and babies).

SOUND SYMBOLISM

It is a fundamental principle of linguistic enquiry that individual sounds do not have meanings. It does not seem to make sense to ask such questions as 'What does [t] mean?' or 'What does [a] mean?' Consonants and vowels are used only to give a distinctive shape to words, and it is these – the words themselves, along with their component morphemes, such as *un-* and *-ness* (p. 128) – which express a meaning. However, there are an interesting number of apparent exceptions to this general rule – cases where native speakers feel that there *is* some kind of meaningful connection between a sound, or cluster of sounds, and properties of the outside world. The phenomenon is known as *sound symbolism*, also called *phonaesthesia* (when focusing on the aesthetic values of sounds) or *onomatopoeia* (when focusing on the use of sound in poetry).

Sound symbolic effects can be studied from various points of view. Which sounds or combinations of sound are most often involved? Some of the most frequently occurring types are illustrated below (the phonetic terminology is explained on pp. 238–43): initial consonant clusters (especially involving /s-/), lateral sounds (either alone, or in a cluster), and plosives (especially in final position) are notable. Then there is the question of how clearly we can identify a symbolic meaning. This is sometimes fairly easy to state, especially when there is a noise to copy in the outside world: *bang*, *clip-clop*, *cough*, *cuckoo*, *knock*, *murmur*, *rat-a-tat*, *whoosh*, *yackety-yack*, *zoom*. But sometimes we can do no more than express a vague feeling that the word is somehow appropriate to the thing, without being able to say why:

- Do *dimple*, *pimple*, and *wimple* carry over an association from *simple*?
- Is there something in initial /v/ which can reinforce a 'snarling' meaning, as in *venomous*, *vicious*, *vile*, *vindictive*, and *vitriolic*?
- Is there a feeling of shortness in /-nt/, as suggested by *blunt*, *dent*, *grunt*, *pant*, *runt*, and *stunt* (but not by *front*, *hunt*, *mint*, *pint*, *rant*, and *tent*)?
- Is there a smallness associated with close vowels and a largeness with open vowels, as suggested by *slit* vs *slot*, *chip* vs *chop*, *wrinkle* vs *rumple*, and *wee*, *titch*, and *little* vs *vast*, *large*, and *grand* (but not by *big* vs *small* or *huge* vs *dwarf*)?

COMIC ONOMATOPOEIA

Sound symbolic items are of two main kinds: those which are everyday words in the language (see opposite), and those which are special coinages – nonsense words (p. 130) and semi-phonetic renditions of ongoing noises. The latter are particularly common in comic books (for children or adults), where words (usually in full capitals and followed by exclamation marks) identify a remarkable range of noises. The illustration, from a UK children's annual based on an imaginary US character, shows some of these items. As a minor contribution to academic research in this field, the following lines comprise a complete

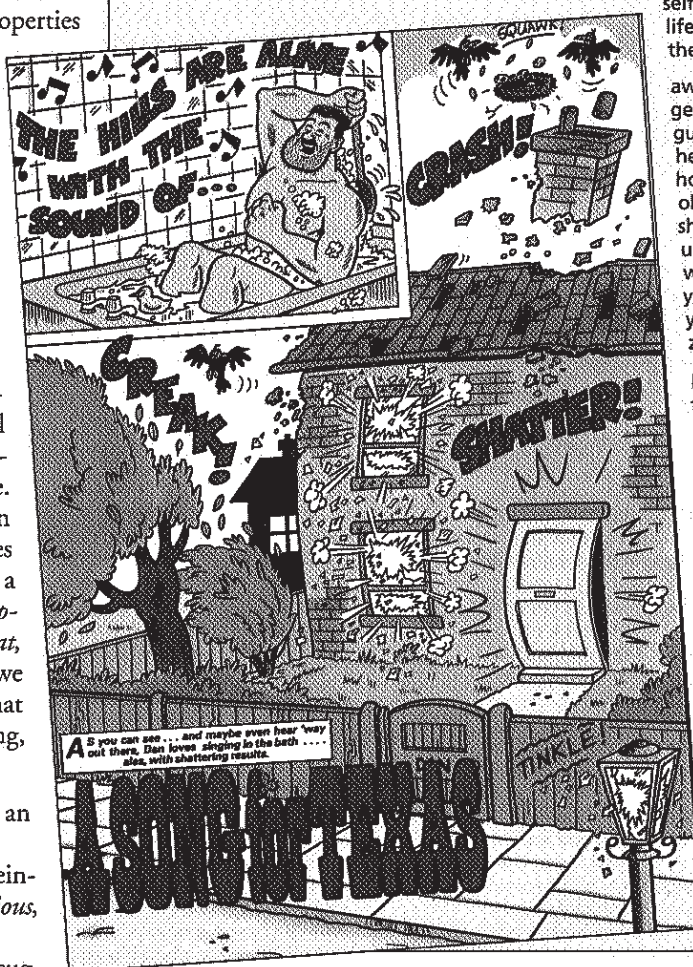
corpus of onomatopoeic exclamatory expressions emanating from objects or events encountered by Desperate Dan in 1990.

bang, blam, blow, boing, boom, bop, chew, chomp, clunk, crack, crash, creak, crump, crunch, heave, hop, kerack, kerash, leap, niff, phft, phlit, phsst, phut, ping, plop, pong, pop, rasp, r-r-ring, roar, rumble, scrub, shatter, slam, slurp, snatch, sparks, splash, split, splooosh, spludge, splurge, squawk, swipe, tear (vb.), tinkle, tug, whiff, whirr, whizz, whoosh, whump, yank, yarf, yelp.

This list excludes the following emotional vocalizations used by Desperate Dan himself, on his journey through life, or by other characters in the stories.

aw, bah, blargh, blurb, eek, gee, giggle, glub, glumph, guffaw, gulp, har, haw-haw, hee-hee, hee-hee-hee, ho-ho, huh, mmm, mumph, oh-oh, oof, ooyah, ouch, shucks, snort, ssshh, sssshhh, ulp, urrr, waah, wayhay, wow, yah, yahoo, yeeha, yeow, yeuch, yeurgh, yikes, yip-yip, yipes, yowch, yup, zowiee.

In traditional grammar, these would be classified as a separate part of speech – interjections (p. 213). However, conventional lists of interjections tend to concentrate on the more genteel examples (such as *oh*, *ow*, and *tut-tut*), and fail to include the range of bizarre emotional expressions which any comic provides. But then, the characters who make up the various corpora of conversational English (p. 438) tend not to get into such scrapes as those experienced by Desperate Dan.



CRIB TO THE THREE-CONSONANT COMBINATIONS TABLE (p. 243)

split, splendid, splash, splutter, splosh, splenic, spleen, splurge, splay, splice, sprig, spread, sprat, sprung, sprocket, spree, sprawl, spruce, sprain, sprite, sprout, spume, spurious, strict, strength, strap, structure, strong, strabismus, street, strata, straw, strew, straight, strike, strove, Stroud, stew, Stuart.

sclerotin, sclaff (in golf), sclerosis, scleroid, script, scratch, scrump, scrofula, scream, scrawny, screw, scrape, scribe, scroll, scrounge, skew, skewer, squish, squelch, squat, squeeze, squaw, squirm, squamous, squire, Squeers, square, smew

Attempts at seeing a symbolic meaning running through a cluster of lexical items carry different levels of plausibility. Much depends on which sense and which word class an item represents. *Hush*, for example, carries an implication of suddenness only in its verb use; quite the reverse, as a noun. *Swamp*, likewise, conveys movement only in its use as a verb. To the extent that we have to qualify items in this way, identifying particular senses or word classes, the case for sound symbolism weakens. If a sound is credited with a certain intrinsic meaning, the meaning should exist wherever the sound appears. There are no totally convincing cases of this

sort in English, and in each of the categories listed below, the evidence for and against sound symbolism must be carefully weighed. The lists are not comprehensive: a selection has been made from a dictionary, focusing on monosyllabic words but ignoring derived forms (e.g. *floppy* from *flop*), idioms (e.g. *get the chop*), and multiple meanings (e.g. the different meanings of *club*). And in each category, before reaching a conclusion, it is essential to consider the existence of words with the same phonetic shape which do *not* convey the range of meaning suggested. (For other examples of sound symbolism in practice, see pp. 134, 147, 153.)

SOUNDS AND SENSES

Initial consonant clusters with /s-/

- /sl-/ conveys downward movement, direction, or position: *slack, slalom, slant, slash, slaughter, slave, slender, slice, slide, slight, slim, slip, slit, slither, slope, slot, slouch, slow, sluggish, sluice, slump*; often a generally negative association: *slag, slander, slang, slap, sleazy, slime, slink, slob, slop, slosh, sloth, slovenly, sludge, slum, slur, slurp, slush, slut, sly*; words which seem to lack these associations: *slab, slake, slam, sledge, sleek, sleep, sleeve, slick, slogan, slumber*.
- /sn-/ conveys unpleasantness: *snaffle, snafu, snag, snail, snake, snare, snarl, snatch, sneak, sneer, sneeze,*

snide, sniff, snigger, snipe, snitch, snivel, snob, snoop, snooty, snort, snot, snout, snub, snuffle; words which seem to lack this association: *snack, snap, snip, snooker, snore, snorkel, snow, snuff, snug*.

- /sw-/ conveys smooth or wide-reaching movement: *swaddle, swagger, swallow, swamp (vb.), swan (vb.), swarm, swat, swathe, sway, sweep, swell, swerve, swift, swill, swing, swipe, swirl, swish, swivel, swoop*; words which seem to lack these associations: *swear, sweat, sweet, swim, swine, switch, swot*.

Laterals

- /-ɜ:(r)l/ conveys roundness: *curl, furl, gnarl, pearl, purl, swirl, whirl, and whorl*; also /-r-l/ in *barrel,*

roll, spiral; words which seem to lack this association: *earl, girl, hurl, snarl*.

- /gl-/ conveys brightness and light: *glamour, glare, glass, glaze, gleam, glimmer, glimpse, glint, glisten, glitter, globe, glossy, glow*; other 'bright' words: *glad, glee, glib, glide, glory*; words which seem to lack or contradict these associations: *gland, gloom, glove, glue, glum, glutton*.
- /-l/ (preceded by a short vowel and single consonant) conveys uncertain or repeated movement, or lack of size, structure, or importance: *babble, bubble, chuckle, couple, cuddle, dabble, dapple, diddle, doodle, dribble, fiddle, freckle, gabble, giggle, gobble, haggie, huddle, joggle, juggle, muddle,*

nibble, niggle, pebble, piddle, piffle, puddle, pummel, rabble, raffle, rubble, rustle, shuffle, snaffle, sniffle, snuffle, snuggle, speckle, squiggle, stubble, tippie, toddle, topple, trickle, twiddle, waffle, waggle, wiggle, wobble, wriggle; words which seem to lack these associations: *knuckle, riddle, saddle, supple*.

Final consonants

- /-ʃ/ conveys swift or strong movement: *bash, brush, cash, clash, crash, crush, dash, dish (vb.), flash, gash, gnash, gush, lash, mash, push, rash, rush, splash, whoosh*; other forceful words: *brash, fresh, harsh, hush (vb.), posh, swish*; words which seem to lack these associations: *blush, bush, fish, flesh, marsh, wash, ?Welsh*.

- /-p/ (preceded by a short vowel) conveys suddenness or shortness: *blip, bop, chop, clap, clip, dip, drip, flap, flip, flop, gap, hop, lop, nap, nip, pip, plop, pup, quip, rip, slap, skip, slip, snap, snip, stop, tap, trap, trip, whip, yap, zap, zip*; words which seem to lack these associations: *cap, cup, grip, hip, lap, lip, map, mop, ship, shop, swap, top, wrap*.
- /-b/ (preceded by a short vowel) conveys largeness, or lack of shape or direction: *blab, blob, clobber, club, dab, flab, glob, gob, grab, grub, jab, lob, mob, rub, slab, slob, stab, tub, yob*; words which seem to lack these associations: *bib, cab, crab, crib, cub, fib, hub, job, lab, pub, rib, rob, rub, snob, snub, sob, stub, web*.

THE SOUND OF SWEARING

Given the nature of swearing, and of invective in general (p. 172), we would expect the words involved to be short, sharp, and to the point. Gentle sounds, such as long vowels, nasals, and sonorants (p. 242) are unlikely to be much used, whereas the harsher impact of short vowels, plosives, and high-pitched fricatives should be of great value to anyone wishing to express an insult or curse. Try calling someone a *meem* or a *rahl* as viciously as you can – then compare the result with calling them a *gack* or a *krot*.

The language provides a genuine contrast of this kind in the form of the dual pronunciation of *bastard*: with a

short first vowel, the effect can only be vicious; with a long first vowel, it can lose its unpleasantness, and become jocular. Similarly, the use of a long central vowel produces a notable softening of force, in such words as *berk* and *jerk*, as does the use of a nasal before a final /-k/, as in *bonk, bonkers, conk, hunk, and lunk*.

The really important sounds are the velar consonants, especially the voiceless ones, and especially when these are used in final position within a word. Also notable is the use of central vowels, such as /ə/, and those at the extremes of the vowel area, such as /ɪ/ and /a/. It is unusual to hear mid vowels, such as /e/ and /ɔ:/, in lexical invective, and front vowels are preferred to back.

Velars

Final /-k/: *bohunk, chink, crook, dick, dink, dork, dreck, dyke, fink, fuck, hick, honk, lunk, mick, prick, puke, punk, schmuck, spick, wank, wick*.

Initial /k-/: *clap, clod, clot, crap, creep, cretin, crone, crud, cunt, kraut*.

Initial and final velar in same word: *cack, cluck, cock, geek, gink, gook, kike, kook, quack, skunk*.

Final /-g/: *fag, frig, hag, hog, lug, mug, nig, pig, shag, slag, wog*.

Medial /g-/: *bugger, dago, nigger*.

Bilabials

Final /-p/: *chump, clap, crap, creep, dope, drip, goop, pimp, poop, sap, twerp, wimp, wop, zip*.

Final /-b/: *boob, slob*.

Initial /p-/: *pig, pimp, piss, poof, poop, prat, prick, puke, punk*.

Initial /-b/: *bitch, bloody, bohunk, bozo, brat, bugger, bum*.

Alveolars

Final /-t/: *brat, clot, dolt, fart, git, nit, nut, prat, shit, slut, tart, tit, twat*.

Final /-d/: *clod, crud, sod, turd, yid*.

Initial /-d/: *damn, dick, dink, dolt, dope, dork, dreck, dyke*.

Fricatives

Final /-s/: *ass/larse, piss*.

Final /-f/: *oaf, poof*.

(Data from popular intuition, supplemented by H. Rawson, 1991.)

LONE WORDS

Forlorn! the very word is like a bell
To toll me back from thee to my sole self!

Apart from raising the tone of the end of this page, these lines from John Keats's *Ode to a Nightingale* (1820) act as a reminder that there are many individual words containing elements about which we have phonetic intuitions, but which defy any simple categorization. It is an interesting linguistic exercise to look for words whose constituent sounds convey semantic associations in this way – such as *ragged, spiky, dawdle, fawning, and scrumptious*.

SOUND SYMBOLISM IN PRACTICE

ADVERTISING

In commercial advertising (p. 388), the sound a product makes, and the emotion it is claimed to generate in the user, are often given onomatopoeic expression (p. 250): a particular make of car might go *Vr-o-o-m*; a smell of perfume or gravy might evoke *M-m-m-m*. Brand names commonly use sound (or letter) symbolism, as the world of breakfast cereals crisply demonstrates, with its *crunchies*, *puffs*, *pops*, and *smacks*. And slogans often rely on it too.

Polo, the mint with the hole.

Taste the tang in Tango.
Tingling tang, bubbles –
sparkles. New Sparkling
Tango.

Bubble Yum. It's so much
yum, yum, yum. It's number
yum, yum, yum in bubble
gum.

Cap'n Crunch [cereal]:
the crunch always gives
you away.



Who ever heard of a kangaroo with travel sickness?
You'll have to admit, it's not all that common. Wild animals bouncing around, wishing they had something to calm a queasy, travel sick offspring. Proof that, when it comes to motion sickness, Nature really does provide the best defenses. And, when you need something to calm your kids' tumblers before or during that long journey, why not try a natural, homeopathic medicine. One whose active ingredients are perfectly safe for everyone and completely without side effects. Like Nelson's homeopathic Travel Sickness Tablets. They're available from Boots, Sainsbury's, Holland & Bonnet, and all good chemists and health stores. So, next time you're off on an individual take the natural answer to travel sickness. Take Nelson's.

PRIMITIVE POETRY

In some approaches to the teaching of poetry, particular attention is paid to helping children appreciate the sound-symbolic power of words. In the illustrations, a 12-year-old has made up a sound-pattern using invented names for sweets, and a 7-year-old has put down some impressions about the arrival of a fair.

Putting up the fair

Glunk glunk glunk glunk
Lock lock lock lock

Buzz Buzz Buzz Buzz
rolla clatter rolla clatter

tip tip tip
Wing Wang wing wang

bang bang
clatter clatter

Squeek Squeek
clug clug clug

bong

Home-Made Sweets

1. Bangles,
Flix, Slix,
Tom-Toms, Truffles,
Popic, Huffies.
2. Flaxies,
Nix, Nax,
Quaff, Quaff, Quaffies,
Butter Buffles.
3. Nurleys,
Todd-Todd,
Lamprey's, Luddles,
Lemon Squaddies

(From R. James
& R.G. Gregory, 1966.)

The muddy, mucky, murky Mouch

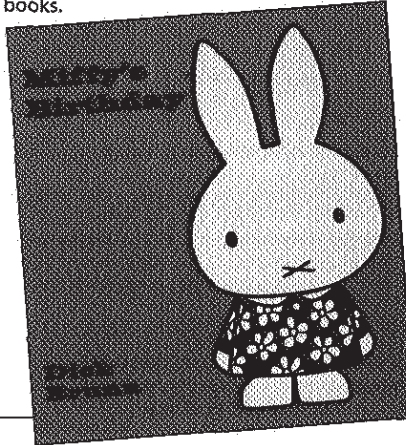
On a small asteroid
in the terrible void
dwells a filthy old slouch,
the vile m-m-m-Mouch.
He sleeps in spaghetti,
looks just like a yeti,
and his grotty green wig
would embarrass a pig.
He enjoys a good splosh
in tomato juice squash,
while from swimming in sludge
he's the colour of fudge.
He gobbles green grotties
swigs pond ooze from bottles
and the stench of his breath
scares all known germs to death.
He's a jumbo-sized pest
falls asleep fully dressed,
and far, far out in Space
he's the last of his race.
The vile m-m-m-Mouch
doesn't run, jump, or crouch,
but squats, gnarled as a gnome,
on his asteroid home.

Wes Magee (1985)

CHILDREN'S LITERATURE

Children's literature is full of sound symbolic words, as these poems illustrate. Onomatopoeic nonsense names also abound. Some rely on 'dark' sounds, full of voiced plosives, nasals, and laterals, such as Spike Milligan's *Bumbley Boo*, Tolkien's *Bilbo Baggins*, or Jonathan Swift's giants, the *Brobdingnagians*. Others rely on 'light' sounds, full of short high vowels and voiceless consonants, such as Dick Bruna's *Miffy* and *Snuffy*, or Swift's midgits, the *Lilliputians*.

The cover of one of Dick Bruna's *Miffy* books.



Huffer and Cuffer

Huffer, a giant ungainly and gruff encountered a giant called Cuffer. said Cuffer to Huffer, I'M ROUGH AND I'M TOUGH said Huffer to Cuffer, I'M TOUGHER.

they shouted such insults as BOOB and BUFFOON and OVERBLOWN BLOWHARD and BLIMP and BLUSTERING BLUBBER and BLOATED BALLOON and SHATTERBRAIN, SHORTY and SHRIMP.

then Huffer and Cuffer exchanged mighty blows, they basted and battered and belted, they chopped to the neck and they bopped in the nose and they pounded and pummelled and pelted.

they pinched and they punched and they smacked and they whacked and they rocked and they socked and they smashed, and they rapped and they slapped and they throttled and thwacked and they thumped and they bumped and they bashed.

they cudgelled each other on top of the head with swipes of the awfulest sort, and now they are no longer giants, instead they both are exceedingly short.

Jack Prelutsky (1982)

The poetic tradition

In literature, especially in poetry and poetic prose, the phonaesthetic values of sound segments (p. 414) have characterized the genre throughout its history. A short selection of extracts is illustrative:

Batter my heart, three-personed God, for you

As yet but knock, breathe, shine, and seek to mend;
That I may rise and stand, o'erthrow me and bend
Your force to break, blow, burn, and make me new...

John Donne, *Holy Sonnets*, 1633

Yet let me flap this bug with gilded wings,
This painted child of dirt, that stinks and stings;
Whose buzz the witty and the fair annoys,
Yet wit ne'er tastes, and beauty ne'er enjoys...

Alexander Pope, *Epistle to Dr Arbuthnot*, 1735

His broad clear brow in sunlight glowed;
On burnished hooves his war-horse trode;
From underneath his helmet flowed
His coal-black curls as on he rode,
As he rode down to Camelot.

From the bank and from the river
He flashed into the crystal mirror,
'Tirra lirra' by the river

Sang Sir Lancelot.

Lord Tennyson, 'The Lady of Shalott', 1832

When men were all asleep the snow came flying,
In large white flakes falling on the city brown,
Stealthily and perpetually settling and loosely lying,
Hushing the latest traffic of the drowsy town;

Deadening, muffling, stifling its murmurs failing;
Lazily and incessantly floating down and down:

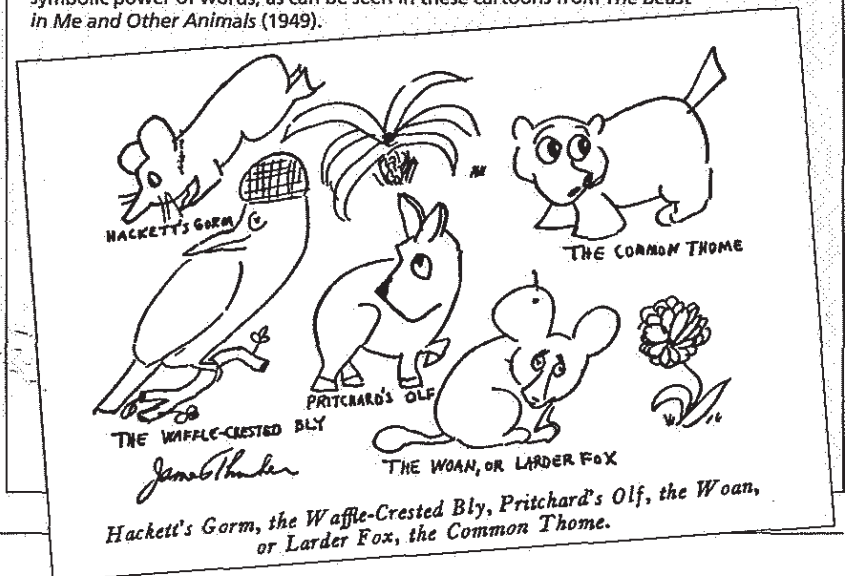
Silently sifting and veiling road, roof and railing;
Hiding difference, making unevenness even,
Into angles and crevices softly drifting and sailing.

Robert Bridges, 'London Snow', 1880

CHARACTER NAMES

In adult humorous literature, personal names and place names are often chosen on the basis of their sound pattern. Comic writers rely greatly on such effects (pp. 89, 147): famous examples include the headmaster Mr Creakle in Charles Dickens's *David Copperfield*, the 'hideous fat boy' Uggug in Lewis Carroll's *Sylvie and Bruno*, the tutor Mr Thwackum in Henry Fielding's *A History of Tom Jones*, the quack physician Dr Slop in Laurence Sterne's *Tristram Shandy*, and US academic Morris Zapp in David Lodge's *Changing Places*. (For other examples, see pp. 153, 414.)

Much of James Thurber's humour relied on the incongruous use of the sound symbolic power of words, as can be seen in these cartoons from *The Beast in Me and Other Animals* (1949).



Hackett's Gorm, the Waffle-Crested Bly, Pritchard's Olf, the Woan, or Larder Fox, the Common Thome.

PRONUNCIATION IN PRACTICE

The study of the sound system of English is in principle no more difficult than the study of its writing system, but two factors complicate the task. Most people are unfamiliar with the phonetic terminology required to describe vocal effects; and even after this terminology is understood it is not always easy to relate these descriptions to recognizable sound qualities. Matters are not helped by the fact that we have little conscious recollection of how we learned to talk (unlike the tasks of reading and writing, p. 236), so that the process of speaking and listening seems totally natural and unproblematic. We tend to take pronunciation completely for granted, and notice it only when it becomes distinctive in some way, or when something goes wrong.

One way of sharpening our phonetic sense is to pay

particular attention to the special cases where features of pronunciation are drawn to our attention. There are several areas where this is likely to happen. We may notice a child with immature articulation, an adult with a speech handicap, a foreign learner with a marked accent, or a native speaker with a pronunciation idiosyncrasy. A great deal of spoken humour relies on our ability to hear or manipulate sound effects, both verbal and non-verbal (p. 248). We may also find ourselves able to identify specific changes which are taking place in the pronunciation of words, and we will regularly hear letters read out on the radio from people who have made it their responsibility to complain about them. We may also see distinctive pronunciations reflected in the written language, especially when an author has tried to convey the regional or idiosyncratic speech of a character. The examples on this and the facing page illustrate a range of contexts which focus on pronunciation in this way.

CHANGING HABITS

It is curious how fashion changes pronunciation. In my youth everybody said 'Lonnon' not 'London'.... The now fashionable pronunciation of several words is to me at least very offensive: *contemplate* – is bad enough; but *balcony* makes me sick. (Samuel Rogers, 1763–1855.)

The earlier pronunciation had the stress on the second syllable in each case.

For other illustrations of pronunciation in practice, see pp. 86, 91, 406, and 414.

TONGUE-SLIPPING

Analysing slips of the tongue can sharpen our sense of syllable structure (p. 246) and sound categories. The sounds which 'slip' are usually from the same part of the syllable: an onset consonant swaps with another onset consonant in *mell wade* (for *well made*); coda consonants are involved in *wish a brush* (for *with*); nuclei are affected in *fool the pill* (for *fill the pool*). Several other such effects can be seen in this children's poem by Rod Hull (1989). They are often referred to as *Spoonerisms*, after William Archibald Spooner (1844–1930), Warden of New College, Oxford, who had many such tongue slips attributed to him (such as *you have hissed all my mystery lessons*).

Ronald/Donald

Ronald Derds (or was it Donald Rerds?)
Was a boy who always wixed up his merds.
If anyone asked him: 'What's the time?'
He'd look at his watch and say, 'Norter past quine.'
He'd spoken like that ever since he was two.
His parents at first didn't know what to do.
In order to understand what he'd said,
His father would get him to stand on his head.
But this didn't work, something had to be done,
So Pa and Ma Derds learnt to speak like their son.
'Mood gorning,' he'd cry, as he chat in his sair.
'Gorning,' they'd answer, without hurning a tair.
And Ron's Mum would say, 'Get a nice brofe of fed,'
For Ron to return with a loaf of fresh bread.
Then one special day, young Ronald's voice broke.
He found it affected the way that he spoke.
'Good morning,' he said as he sat in his chair.
'Gorning,' said the others and started to stare.
From that moment on, things just got worse.
The harder they tried, they just couldn't converse.
Ron said to his parents, after a week,
'It's driving me mad, the way that you speak.
I can't understand a word that you say.
You leave me no option, I'm leaving to-day.'
So Ron joined the Navy and sailed to the Barents,
To get as far away as he could from his parents.
And although this story all seems rather sad,
Ron occasionally visits his Dum and his Mad.

ORDERING WORDS

The prosody of the drill sergeant is ingeniously captured in this poem for children by Ray Mather (1989).

Attention all
you words,

GET INTO LINE!
I've had enough of you
Doing what you w
ill,

STAND STILL!
There are going to be a few changes
Around here.

From now on
You will do
What I want.
THAT WORD!

You heard,
Stay put.
You come out too fast
Or perulate
amb

GET IT STRAIGHT!
You are here to serve me.
You are not at ease

To do as you please.
Whenever I attempt to be serious
You make a weak joke.
Always you have to poke
fun.

AS YOU WERE!
Don't stir.
If ever I try to express
My feelings for someone
You refuse to come out
Or come out all wrong
So sense make none they can of it,
Yet you're so good once they've gone!
Well,
I'm in charge now
And you will say what I tell you to say.
No more cursing
Or sarcasm,
Just state my thoughts clearly
Speak what's on my mind.
Got it?
Right,
F
A
L
L OUT.

PRONUNCIATION IN PRINT

The novels of Charles Dickens (p. 89) provide the best literary collection of data for anyone wishing to examine pronunciation idiosyncrasy. In *Pickwick Papers* (1836–7, Ch. 16), Mr Pickwick describes the speech of Sam Weller as 'somewhat homely and occasionally incomprehensible'. The homeliness can be illustrated from his use of *Wellerisms*, as they have been called – everyday phrases applied to imaginary situations. The incomprehensibility is largely a result of his idiosyncratic use of bilabial and labio-dental consonants.

He wants you particklar; and no one else'll do, as the Devil's private secretary said ven he fetched away Doctor Faustus. (Ch. 15)

Werry sorry to 'casion any personal inconvenience, ma'am, as the house-breaker said to the old lady when he put her on the fire. (Ch. 26)

Weller also has an interesting prosodic characteristic (which several other Dickensian characters share) of delaying a syllable in a polysyllabic word: *col-lecting*, *hex-traordinary* (both Ch. 13). The hyphen probably represents a lengthened consonant or vowel, but could also be marking a brief pause.

CROSSING ACCENT BOUNDARIES

The fact that people speak in different accents means that, from time to time, there will be ambiguity. A word in one accent will be perceived as a quite different word in another. Usually, context sorts things out – but not always, as the following examples show.

A PEA-SIZED ISSUE

On 10 October 1992, BBC presenter Dave Lee Travis (DLT) was hosting an edition of the Radio 1 competition programme, *Darts*, played between teams from two public houses in different parts of the UK. He asked a team from a pub in Tyrone (Northern Ireland) the following question:

What's the name of the piece of architecture which goes over the top of a door?

The team conferred, and their spokesman (who had a Southern English accent) said what sounded like *lentil*, then paused and corrected it to *lintel*. The incongruity of the first response led to much mirth in the studio, but DLT could not accept the correction, as the rules of the competition allowed only the first answer to be accepted.

The complaints then started to pour in to the BBC, and by the end of the programme DLT had to issue an apology, and allow the Tyrone pub (which had gone on to lose) another chance to enter the competition at a later date. What had happened?

lɪ is widely pronounced in Northern Ireland as a more open and centralized vowel, which to outsiders could easily be heard as *e* / *i*. Presumably, while the team was conferring, one of the members with a local accent had proposed the correct answer, but pronounced *lintel* as [lɪntl]. The spokesman (from a different dialect background) at first misheard this as *lentil*, and in the heat of the moment spontaneously



said it aloud. As soon as it was out of his mouth, though, he realized his mistake and corrected it – but by then it was too late. His team had in effect been penalized for giving an answer using a Northern Ireland vowel value spoken in a Southern English accent – though it is hardly surprising that the presenter was unable to recognize it for what it was. Fortunately the production team in the Radio 1 studio recognized the validity of the complaints, as they started to come in from Northern Ireland – otherwise the matter might well have ended up at the European Court of Justice!

HERE TERDAY, GONE TERMORRER

Robert Bridges, in his tract *On the Present State of English Pronunciation* (1913), tells a story to illustrate his disapproval of the standards of English speech current at the time. He is particularly angry at the phonetician Daniel Jones (p. 239), who had drawn attention to the way such words as *for*, *of*, and *to* were normally pronounced with an unstressed vowel [ə] (which Bridges transcribes as *er*):

My friend, the late Dr. Gee, going his round of the hospital wards one day, came to the bedside of a newly-admitted patient. After examining him carefully, and finding little the matter with him, he called for the bed-card, and in his deliberate manner prescribed thereon a diet with a *placebo* to be taken three times a day. The man, frightened by his gravity and silence, feared the worst...and was no sooner left alone than he snatched down the board, and seeing cabalistic signs, and at the foot of them the awful words *ter die*,

and reading them...he saw as he thought his death-warrant; so he whipped out of bed, and fled for his life; to add, no doubt, a new tale to the terrors of the hospital.

The point of the story relies on the consequences of the patient's failure to recognize that the two words are written in Latin. He assumes that they are a nonstandard spelling of the English phrase *to die*, and interprets this according to the norms of informal Received Pronunciation. To appreciate the joke, of course, one



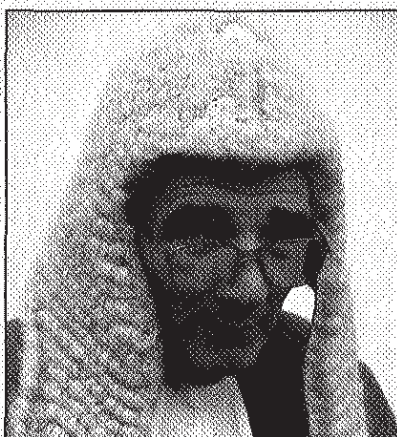
must know that the medical Latin for 'three times a day' is *ter die*.

FAXING UP A JUDGMENT

Even the bar is not sacrosanct. Presumably the increased number of accents in the SE of England in which the [æ] and [ʌ] of Received Pronunciation have been pulled in the direction of [a], under the influence of Cockney, explains this story, reported in *The Spectator* on 12 September 1992.

Ever on the search for legal jokes not necessarily connected with the death penalty, I consulted a friend who is still practising. She said a member of her chambers was in court one Monday morning when the judge said, 'I'm afraid we'll have to adjourn this case, I have written my judgment out, but I left it in my cottage in Devon and I can't get it sent here until tomorrow.' 'Fax it up, my Lord,' the helpful barrister suggested, to which his Lordship replied, 'Yes, it does rather.'

The barrister must have pronounced *fax* as [faks] instead of [fæks]. The judge then



interpreted this as a version of [faks], with the vowel receiving a more open quality. The whole exchange seems to have taken place using the most judicious of tones.

This cartoon relies on a combination of two accent mismatches. The clerk's RP *now* uses the diphthong /aʊ/, which is phonetically very close to the diphthong used by Cockney speakers in such words as *know*. And his pronunciation of *due*, whether as /dju:/ or /dʒu:/, 'Arriet interprets as the assimilation of *do* + *you* (p. 247), which would be a normal feature of her conversational style.



'ARRIET: "Wot toime his the next troine fer 'Ammersmith?" CLERK: "Due Now."
'ARRIET: "'Course Oi dawn't now, stoopid, or I wouldn't be harskin' yer!"