Connected speech

11.1 Accent

Connected speech, i.e. an utterance consisting of more than one word, exhibits features of accentuation that are in many ways comparable with those found in polysyllabic words. Some parts of the connected utterance will be made to stand out from their environment, in the same way that certain syllables of a polysyllabic word are more prominent than others. But accentuation in connected speech differs from that in polysyllabic words because accenting in connected speech is determined largely by meaning in context. Nevertheless some words are predisposed by their function in the language to be accented. These LEXICAL words are typically main verbs, adverbs, nouns, adjectives and demonstrative pronouns. Other categories of words, such as auxiliary verbs, conjunctions, prepositions, pronouns, relative pronouns and articles (grammatical words or FUNCTION words) are more likely to be unaccented, although they, too, may be exceptionally accented if the meaning requires it.

The meaning of any utterance is largely conditioned by the situation and context in which it occurs. So freedom of accentual patterning and especially the placement of the primary accent is always curtailed by the constraints imposed by the context. In the case of an opening remark, or when a new topic is introduced into a conversation, there is very limited scope for variation of meaning produced by accentuation. Rather more accentual freedom is possible in responses; thus, in response to the statement *She came last WEEK*, an incredulous reaction might have the pattern *LAST week*? (i.e. 'Wasn't it the week before that?') or *Last WEEK?* (i.e. 'Don't you mean last month?'); or, in response to *What was the WEATHER like?*, the reply might be *It rained every DAY* (emphasising the continuous nature of the rain) or *It RAINED every day!* (where the fact of raining is emphasised). On the other hand much less accentual variation is possible in the following dialogue (potential accents marked by capitals):

Did you have a good HOLIDAY?
YES, VERY good
Was the WEATHER all right?

It was FINE for the FIRST part, but for the REST of the time it was pretty MIXED.
We ENJOYED ourselves though. We had the CAR, so we were able to do some SIGHT-SEEING, when it was too WET to go on the BEACH.

Function words are usually unaccented (as noted above) and when unaccented they usually contain reduced vowels, e.g. *can* in /kən ju: `kʌm/.[1] But most function words in final position keep a full vowel even when unaccented, e.g. *can* as in /ʃi: kæn/. Monosyllabic lexical words usually retain their full vowel value even in unaccented positions, e.g. in *We left the case in the hall*, *left*, *case* and *hall* will keep their full vowel wherever primary and secondary accents are placed.

More than one word in an utterance may receive a primary accent. A slow and careful style of speaking often exhibits a proliferation of primary accents; a more casual or rapid delivery is likely to show fewer primary accents. In an extended dialogue in a normal conversational style, the number of syllables with reduced vowels (or syllabic consonants) tends to exceed the number of those made prominent by an accent or by the presence of a full vowel.

11.2 Prominence, accent and rhythm

In most descriptions of English pronunciation over the last seventy years the notion of 'stress-timing' is invoked to explain English rhythm;[2] by such a theory 'stressed' syllables (including primary and secondary accents and other syllables made prominent by 'stress'[3] alone) govern the rhythm of English utterances, an equal amount of time being said to be taken between each two stressed syllables and between the last stressed syllable and the end of the utterance, e.g.

They | couldn't have | chosen a | better | time for their | holiday

However, all attempts to show such timing instrumentally have been unsuccessful,[4] and such groups are often clearly far from ISOCHRONOUS (i.e. equal in duration). For example, in the above example the group containing the two-syllabled word *better* will be shorter than the three-syllabled groups *couldn't have* and *chosen a* (though probably not in the ratio 2:3), while the group *time for their* (also containing three syllables) will be longer than all three if a full vowel is used on the word *their*.

The occurrence of full vowels[5] generally predicts the rhythm of English rather more usefully than any notion of stress (besides variation of the type exemplified above, there is often difficulty in deciding whether a syllable is 'stressed' or not, when no pitch accent is present. Some might judge the full vowel on *their* above as showing stress). For rhythmical purposes the reduced vowels are /ə/,

/ɪ/ (/i/ is regarded as a variant of /ɪ/) and /ʊ/ (/u/ is regarded as a variant of /ʊ/) when they occur without a pitch accent; all other vowels are counted as full vowels. The one simple rule of English rhythm is the BORROWING RULE[6] whereby a syllable with a reduced vowel 'borrows time' from any immediately preceding syllable containing a full vowel. By the predictions of the Borrowing Rule full-vowelled syllables each take approximately an equal amount of time (although in practice this will be somewhat affected by the innate length of the vowel and the consonants in the syllable). Each syllable containing a reduced vowel is much shorter and by the Borrowing Rule a full-vowelled syllable is itself shortened if immediately followed by a syllable with a reduced vowel.

The operation of rhythm based on full-vowel timing and the Borrowing Rule is illustrated in the following examples where a full stop marks the boundary between the syllables which are numbered and glossed as F (= Full Vowel) or R (= Reduced Vowel). Syllables with full vowels are long; those with reduced vowels are short.

Sparrows aren't common
/spa.rəʊz. ɑːnt. kɒm.ən/
1 2 3 4 5
F F F F R

Syllables 1–3 each take approximately an equal amount of time. Syllable 4 is shortened because the following Syllable 5 'borrows' time from it, i.e. Syllables 4–5 together take approximately the same time as each of Syllables 1–3. Compare this with an analysis based on stress timing: there would be pitch accents on /spa-/ and on /kɒm-/ which would count as rhythmical stresses; the two inter-stress groups reckoned to be equal in time would thus be /spa.rəʊz.ɑːnt/ and /kɒm.ən/ which seems exceedingly counter-intuitive. Alternatively stress timing might consider /ɑːnt/ to be stressed, in which case the three equal groups would be reckoned to be /spa.rəʊz/, /ɑːnt/ and /kɒm.ən/; this seems to capture timing somewhat better but still leaves the two-syllabled /spa.rəʊz/ sounding much longer than the other two groups. Here are some further examples:

Sparrows are plentiful
/spa.rəʊz.ɑː plen.tɪ.fʊl/
1 2 3 4 5 6
F F F F R R

In this example Syllables 1–3 are equal but Syllable 4 is shortened because Syllable 5 borrows time from it, i.e. Syllables 4 and 5 are together approximately equal to each of Syllable 1–3. But only one syllable can borrow time and Syllable 6 just adds an additional short amount. This is unlike the timing predicted by stress timing because additional reduced syllable(s) after the first one have no effect on syllables before it.

The dark blue pattern is the best
/ðə dɑːk bluː patn ɪz ðə best/
1 2 3 4 5 6 7 8
R F F F R R R F

Syllable 1 has a reduced vowel and is hence short. Syllables 2 and 3 have full vowels and are long. Syllable 4 has a full vowel but is shortened from long because Syllable 5 with a reduced vowel borrows time from it. Syllables 6 and 7 each take the short time of syllables with reduced vowels. Finally Syllable 8 has a full vowel and is long.[7]

11.3 Weak forms

Lexical words (both monosyllables and polysyllables) generally retain their full vowels in connected speech and hence have a level of prominence above that of syllables with reduced vowels, even when no pitch prominence is associated with them.

But many function words (pronouns, prepositions, auxiliary verbs, conjunctions, articles) have different patterns according to whether they are unaccented (as is usual) or accented (in special situations or when said in isolation). Compared with the accented (STRONG) forms, the unaccented WEAK forms of these words show reductions of the length of sounds, centralisation of vowels towards /ə,ɪ,ʊ/ and the elision of vowels and consonants. The following list of examples presents the most common of these words, first in their unaccented (normal) weak form and secondly in their less usual[8] accented strong form. More common weak forms are given first (C = any consonant, V = any vowel):

	Unaccented	*Accented*
a	/ə/	/eɪ/
am	/əm, m̩, m/	/am/
an	/ən, n̩, n/	/an/
and	/an, ən, n̩, n, ənd, n̩d/	/and/
any	C + /ni/	/eni/
(e.g. *Got any money?* /gɒt ni ˋmʌni/)		
are	/ə/	/ɑː/
as	/əz, z/	/az/
at	/ət/	/at/
be	/bi/	/biː/
because	/bɪkəz/, /bəkəz/, /kəz/	/bɪkɒz/
been	/bɪn/	/biːn/
but	C + /bət/, V + /bt/ + V	/bʌt/
can (aux.)	C + /kən/, V + /kn̩/	/kan/
could	C + /kəd/, V + /kd/	/kʊd/
do (aux.)	/də/ + C, /dw, du/ + V	/duː/
(e.g. *do that* /də ˋðat/, *do it* /dwɪt/)		

does (aux.)	/s, z, dəz/	/dʌz/
(e.g. *What's he do?* /wɒts iː ˋduː/, *When's he arrive?* /wenz iː əˋraɪv/)		
for	/fə/	/fɔː/
from	/frəm, frm̩, fm̩/	/frɒm/
(e.g. *The man from the . . .* /ðə man fm̩ ðə/		
had (aux.)	/həd, əd, d/	/had/
(e.g. *what he'd done, what John had done*)		
has (aux.)	/həz, əz, z, s/	/haz/
(e.g. *What's he got, When's he got time?*)		
have (aux.)	/həv, əv, v/	/hav/
(e.g. *What've you done, I've done it*)		
he	/hi, i/	/hiː/
her	/hə, ɜː, ə/	/hɜː/
herself	/həˋself, ɜːˋself, əˋself/	/hɜːˋself/
him	/ɪm/	/hɪm/
himself	/ɪmˋself, ɪzˋself/	/hɪmˋself
(*he did it himself* /hi dɪd ɪt ɪzˋself/)		
his	/ɪz/	/hɪz/
is	/s, z/	/ɪz/
(e.g. *it's not* /ɪts ˋnɒt, *he's coming* /hiːz ˋkʌmɪŋ/)		
just	/dʒəs, dʒəst/	/dʒʌst/
me	/mi/	/miː/
must	/məs, məst/	/mʌst/
not	/nt n̩/	/nɒt/
of	/əv, v, ə/	/ɒv/
(e.g. *one of my . . .* /ˋwʌn ə maɪ/)		
shall	/ʃəl, ʃl̩/	/ʃal/
she	/ʃi/	/ʃiː/
should	C + /ʃəd/, V + /ʃd/	/ʃʊd/
Sir	/sə/	/sɜː/
some (adj.)[9]	/səm, sm̩/	/sʌm/
than	/ðən, ðn̩/	/ðan/
that (conj. and rel. pron.)[10]	/ðət/	/ðat/
the	/ði/ + V,[11] /ðə/ + C	/ðiː/
them	/ðəm, ðm̩, əm, m̩, m/	/ðem/
(e.g. *Tell them to do it* /tel əm tə ˋduː ɪt/)		
themselves	/ðəmˋselvz/	/ðemˋselvz/
there (indef. adv.)[12]	/ðə/	/ðɛː/ (rare)
(e.g. *There were lots of them* /ðə wə ˋlɒts ə ðəm/		
to (and *into, onto, unto*)	/tə/ + C /tu, tw/ + V	/tuː/
us	/əs, s/	/ʌs/
was	/wəz/	/wɒz/

we	/wi/	/wiː/
were	/wə/	/wɜː/
who	/hu, u/[13]	/huː/
will	/əl, l̩, l/	/wɪl/
would	C + /wəd, əd/, V + /d/	/wʊd/
you	/ju/	/juː/
your	/jə/	/jɔː, jʊə/
yourself, yourselves	/jəˋself, jəˋselvz/	/jɔːˋself, jɔːˋselvz/

Particularly common uses of reduced forms involve auxiliary verb plus *not*. Auxiliary verb plus *not* are shown, for example, in the combinations *he, she, it + isn't* and *we, you, they + aren't* (note also the question form *aren't I?* /ˋɑːnt aɪ/); similarly *wasn't, weren't, can't* /kɑːnt/, *couldn't* /kədnt/, *doesn't, don't* /dəʊnt/ but note *don't know* /dəʊˋnəʊ, dəˋnəʊ/, *hasn't, haven't, shan't* /ʃɑːnt/, *shouldn't* /ˋʃədnt/, *won't* /wəʊnt/, *wouldn't* /ˋwədnt/. Additionally a final /t/ may be lost before a word beginning with a vowel (sometimes with assimilation), e.g. /kɑːn ˋliːv/, /dʌzn ˋʃəʊ/, /wəʊŋ ˋgəʊ/.

Reduced forms in pronoun plus auxiliary combinations are shown in *I'm, he's, she's, we're* /wɪə/, *you're* /jɔː/, *they're* /ðɛː/ and all subject pronouns plus *will, would, have, had*, e.g. /wiːl/, /juːd/, /ðeɪv/, plus sequences like *you would have* /ˋjuːdəv/. Note also the question forms: *do you* /dʒuː/ or /dʒə/, *don't you* /ˋdəʊntʃu/, *did you* /ˋdɪdʒu/, *didn't you* /ˋdɪdntʃu/, *ˋwould you* /ˋwʊdʒu/, *ˋwouldn't you* /ˋwʊdntʃu/. Note also the mild imperative *let us* /lets/.

The only weak forms which can end sentences are those of pronouns. Thus auxiliary verbs (and those main verb forms identical to auxiliaries) such as *am, are, be, can, could, do, does, had, has, have, is, must, shall, was, were, will, would* retain a strong form when they occur finally even though they are unaccented, e.g. *Who's got it? ˋI have* /ˋaɪ hav/; *he's not sure, but I am* /hiːz nɒt ˋʃʊə bət ˋaɪ am/.

Some prepositions, e.g. *to, from, at, for, of*, apart from having a strong form when receiving a primary accent, also keep a strong form when final and unaccented, e.g. *Where have they gone to?* (/tuː/, also /tu/, but not /tə/); *Where's he come from?* (/frɒm/ rather than /frəm/); *What are you laughing for, at?* (/fɔː, at/); *What were you thinking of?* (/ɒv/). This applies, too, when prepositions and auxiliary verbs occur finally in a rhythmic group including at a 'deletion site' where the following item is understood, e.g. *He looked at* /at/ *and solved the problem*; or *people who can afford to* /tuː/ (= 'do so'), *buy luxuries*, cf. *People who can afford to* /tə/ *buy luxuries, do so.*

Some function words, not normally possessing an alternative weak form for unaccented occurrences, may show such reductions in rapid or casual speech, e.g. *I* (/ə/) *don't know*; *I go by* (/bə/) *bus*; *Do you know my* (/mə/) *brother?*; *for love nor* (/nə/) *money*; *two or* (/ə/) *three*; *ever so* (/sə/) *many*; *Scotland or* (/ər/) *England*. These weak forms are often common only in a limited number of phrases, e.g. *What are you doing?* /wɒt ə jə ˋduɪŋ/ or even /wɒtʃə ˋduɪŋ/; and, in

the case of *or*, particularly occur in linking two numbers as in the example above. In the case of the disyllables *any*, *many*, a qualitative prominence may be retained on the first syllable, i.e. /eni, meni/, but fully reduced, unaccented, forms may be heard following a vowel in rapid speech, e.g. *Have any more come?* /havni `mɔː kʌm/; *How many do you want?* /haʊ mni dʒu `wɒnt/. Other monosyllabic function words normally retain their strong vowels in unaccented positions, e.g. *on, when, then, one, between*, but again, although rather less commonly, reduced vowel forms may be heard in rapid speech, especially when the word is adjacent to a strongly accented syllable, e.g. *What on* (/ən/ or /n̩/) *earth!*; *When* (/wən/) *all's said and done*; *Then* (/ðən/) *after a time*; *One* (/wən/) *always hopes*; *Between* (/twɪn/) *you and me*.

The more rapid the speech the greater the tendency to reduction and centralisation of unaccented words.[14] Even monosyllabic lexical words may be reduced in rapid speech, if they occur in a relatively unaccented positions adjacent to a primary accent and especially if they contain a short vowel, e.g. /ʌ/ in *He'll come back* /`hiːl kəm bak/ and /e/ in *Don't get lost* /dəʊnt gət `lɒst/. /ɪ/ and /ʊ/ may themselves be further reduced to /ə/, e.g. *You sit over here* /ju sət əʊvə `hɪə/, *He put it there* /hi pət ɪt `ðɛː/. The more prominent short vowels /a,ɒ/ are only occasionally liable to reduction, e.g. /a/ in *They all sat down on the floor* /ðeɪ ɔːl sət daʊn ən ðə `flɔː/, /ɒ/ in *We want to go* /`wiː wənt tə gəʊ/. Finally, the diphthong /əʊ/, with its dominant central [ə] element, is readily reducible to /ə/ under weak accent, e.g. *You can't go with him* /ju kaːnt gə `wɪð ɪm/; *He's going to do it* /hiːz gənə `duː ɪt/; *I don't know* /aɪ də`nəʊ/ (the last two often spelt *gonna and dunno* in the representation of rapid speech).

11.4 Acquisition of rhythm and weak forms by native learners

Such little evidence as there is suggests that some children often start off by using the strong forms of function words. They also tend towards a constant length for each syllable and do not apply the Borrowing Rule (see §11.2 above), or, in more traditional terms, they have a syllable-timed rhythm.

11.5 Rhythm and weak forms—advice to foreign learners

Rhythmical shortening of full vowels occurring before /ə,ɪ/ should be attended to; such shortenings can be practised in pairs like *short* vs *shorter*, *lead* vs *leading*, *bus* vs *buses*, *wet* vs *wetted*, *John* vs *John looked ill*, *one* vs *one for tea*, *John* vs *John'll go* etc. Those with a syllable-timed L1 like Cantonese, French, Hindi, Italian, Spanish and Bantu languages, must give particular attention to such shortenings.

Learners who aim at a native English accent (British or American) must learn[15] the weak forms of function words and regard them as the regular pronunciations, using the strong forms only on those limited occasions where they are used (e.g.

under special emphasis or contrast and in final positions). The reduction to /ə/ in these words will not automatically follow from the teaching of rhythm. Even advanced learners often do not use as many weak forms as native speakers.

11.6 Intonation[16,17]

The acoustic manifestation of intonation is fundamental frequency (see §3.2.1) which is perceived by listeners as pitch. Pitch changes in English have three principal functions: (i) they signal the division of utterances into INTONATIONAL PHRASES (besides pitch change, other phonetic cues often mark such boundaries, in particular, pause, final syllable lengthening and changes in the speed with which unaccented syllables are produced)—boundaries between intonational phrases generally correspond syntactically with clause and major syntactic phrase boundaries (see further in §11.6.1.1 below); (ii) they signal syllables with primary and secondary accent, both in the citation of isolated words as already mentioned in §§10.1–10.2 and in the longer utterances of speech; (iii) the shape of the tunes produced by pitch changes can carry various types of meaning, primarily discoursal (i.e. establishing the links between various parts of utterances) and attitudinal; particularly important is the pitch pattern beginning at the primary accent and ending at the end of the intonational phrase—often called the NUCLEAR TONE. It should be noted that, while the variation in intonation between languages (and between dialects of English) is not as great as that involved in segments, it is nonetheless sufficient to cause a strong foreign accent and in some cases lead to misunderstanding. The intonation of GB is described in the following sections. Differences between GB and GA are relatively limited; differences between GB and that of a number of northern British cities are considerable (see under §11.6.3 below).

11.6.1 The forms of intonation[18]

11.6.1.1 Intonational phrases

The boundaries between intonational phrases may be indicated by a combination of internal and external factors. Most obvious among the external ones is pause: in the following example pauses can occur at the points where boundaries are indicated by / (we omit standard punctuation marks but continue to use capitals at the beginning of sentences):

> In the past five years / the way that services are delivered to the public / from both state enterprises / and private companies / has changed almost out of recognition / If we wish to make an enquiry by telephone / we have to choose between a number of options / and then between a further series of options / and so on / Even after this series of choices / we may have to listen to canned music / for a short time / or a long time / or a very long

time / So we may ring off and try the internet / and look up a company's website / only to be told / that if we want more information / we should ring the number we have already tried.

Often, as an alternative to pause, speakers may lengthen the final syllable before the boundary: in the piece above, for example, *years*, *-ic*, *-ses*, *-nies* and *-tion* may be lengthened (such lengthening can apply both to accented and unaccented syllables and to full and reduced vowels). A boundary can also be marked by an increase in the speed of unaccented syllables following the boundary. So, for example, the intonational phrase beginnings *and then be-* and *that if we* are likely to be pronounced very rapidly and hence such syllables are also very likely to involve reduced vowels. These cues to boundaries of intonational phrases are not unambiguous: pause and final syllable lengthening may also be used as hesitations, for example when a speaker has a word-finding difficulty (see §11.7 below). The 'external' cues to boundaries are supported by internal factors: in particular (i) if one of the pitch patterns associated with a nuclear tone is completed at a certain point this in itself may indicate a boundary (see §11.6.1.3 below) and (ii) a jump up in the pitch height of unaccented syllables will generally only occur at boundaries. Thus the syllables *So we may* above are not only likely to be said at a rapid tempo but will be said at a higher level than the pitch of the preceding *very long time.* This is part of the tendency for intonational phrases to be susceptible to a DECLINATION effect, i.e. to decline in pitch from their beginning to their end, so that what are felt to be low-pitched syllables at the beginning of an intonational phrase will in fact be higher than low-pitched syllables at the end.

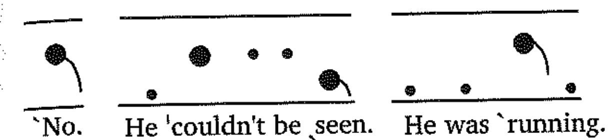
11.6.1.2 Primary accents

The pronunciation of single words and of longer intonational phrases are both described in terms of an obligatory PRIMARY ACCENT and an optional SECONDARY ACCENT. The realisation of primary accent has already been discussed in §10.2 in relation to single words. There it was stated that the final pitch accent in a word is usually the most prominent (and hence is referred to as the primary accent) while a pitch accent on an earlier syllable is referred to as a secondary accent. The same sequence of secondary accents and primary accents applies to intonational phrases. The final pitch accent identifies the syllable which is called the NUCLEUS and begins one of a number of pitch patterns known as NUCLEAR TONES.

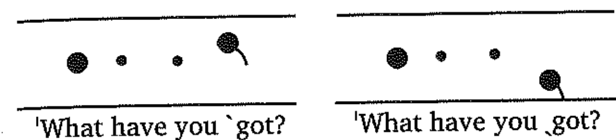
11.6.1.3 Types of nuclear tone

(1) *Falling nuclear tones* (ˋ ˎ)—A falling glide may start from the highest pitch of the speaking voice and fall to the lowest pitch, marked ˋ (a HIGH FALL) or from a mid pitch to the lowest pitch, marked ˎ (a LOW FALL). Where there are high syllables before the primary accent, a high fall will involve a step-up

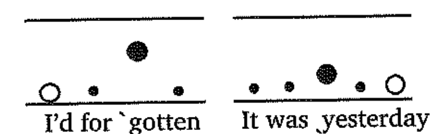
and the low fall a step-down. The falling glide is most perceptible when it takes place on a syllable containing a long vowel or diphthong or a sonorant (e.g. /m,n,ŋ,l,r,w,j/) (ˈindicates a high-level secondary accent—see §11.6.1.4 below), e.g.[19]



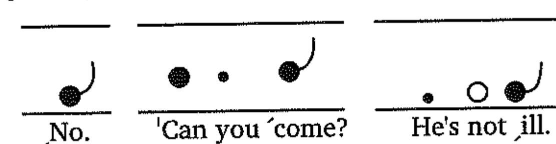
When a fall occurs on a syllable containing a short vowel followed by a voiceless consonant (especially the plosives /p,t,k/), the glide is often truncated and so rapid that it is not easily perceptible, e.g.



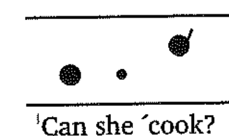
When syllables, collectively called the TAIL, follow the nucleus, the fall may be spread over a relatively high pitch on the nuclear syllable and low pitches on the syllables of the tail, e.g.



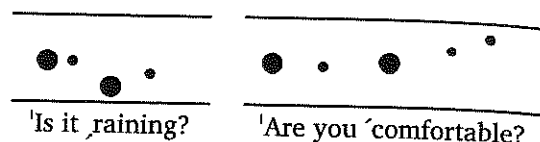
(2) *Rising nuclear tones* (ˊ ˏ)—Rising glides may extend from low to mid, or from low or mid to high. When the rise ends at a high point, it is marked by ˊ (a HIGH RISE); when it ends at a mid point, it is marked by ˏ (a LOW RISE). Rising glides are more easily perceptible when they occur on a syllable containing a long vowel or diphthong or a sonorant, e.g.



When a rise occurs on short syllables, particularly where the vowel is followed by a voiceless consonant (especially the plosives /p,t,k/), it must necessarily be accomplished much more rapidly, e.g.

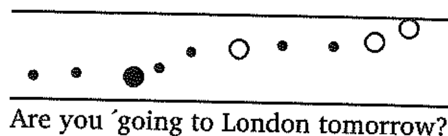


With a tail, the rise is achieved by means of a lower pitch on the nuclear syllable with an ascending scale on the following syllables, e.g.



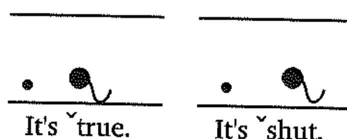
ˈIs it ˏraining? ˈAre you ˊcomfortable?

When the tail is a long one, the ascending sequence of syllables of a high rise may be interrupted by a middle level plateau before a final upward kick e.g.



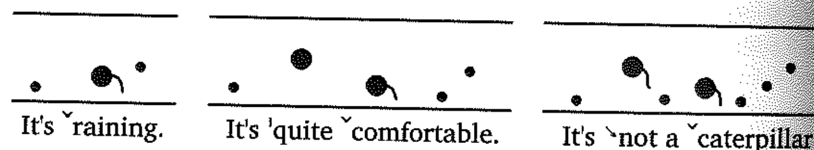
Are you ˊgoing to London tomorrow?

(3) *Falling-rising nuclear tones* (FALL-RISE) (ˇ)—The fall and rise may be confined within one syllable, the glide beginning at about mid level and ending at the same level (or slightly above or below); in the case of a short syllable, the dip in pitch is made extremely rapidly, e.g.



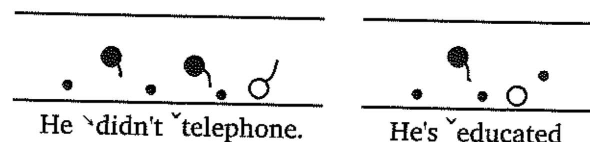
It's ˇtrue. It's ˇshut.

When unaccented syllables follow the nucleus, the fall occurs on the nuclear syllable and the rise is spread over the tail (ˋindicates a falling secondary accent—see the section on secondary accents in §11.6.1.4 below), e.g.

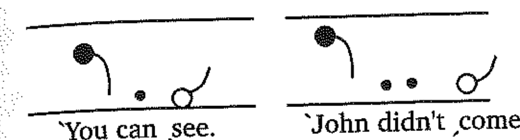


It's ˇraining. It's ˈquite ˇcomfortable. It's ˋnot a ˇcaterpillar

When full vowels occur in tails, the fall takes place on the nuclear syllable and the rise is initiated on the last syllable carrying a full vowel. Where the fall and the rise are on separate words, the fall-rise is indicated by a fall mark followed by a rise mark (i.e. ˋ and ˏ), e.g.

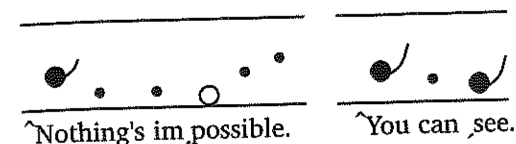


He ˋdidn't ˇtelephone. He's ˇeducated



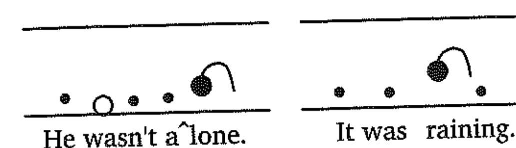
ˋYou can ˏsee. ˋJohn didn't ˏcome.

Sometimes a fall-rise is accompanied by an added initial rise, giving a RISE-FALL-RISE variant of the tone, e.g.



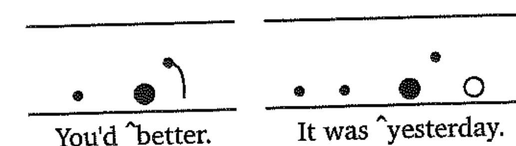
ˆNothing's imˏpossible. ˆYou can ˏsee.

(4) *Rising-falling nuclear tones* (RISE-FALL) (ˆ)—A fall may be reinforced by an introductory rise, being realised as a continuous glide on a long syllable (which may be given extra length), e.g.



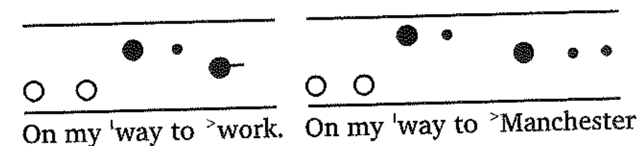
He wasn't aˆlone. It was raining.

A rise-fall on a short syllable followed by a tail may be realised as a low accented nuclear syllable followed by a fall on the tail, e.g.



You'd ˆbetter. It was ˆyesterday.

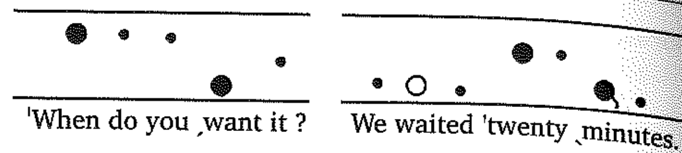
(5) *Level nuclear tones* (˃)—The most common level tone is a MID LEVEL, which is a very frequent tone in intonational phrases which are non-final in a sentence. If it occurs on a single syllable that syllable will be lengthened; if a tail follows the nucleus, then the unaccented syllables remain on the same level, e.g.



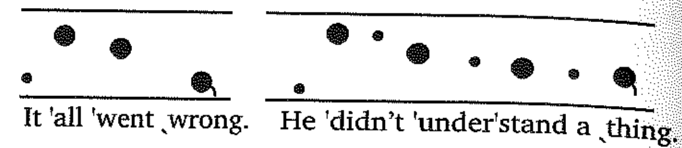
On my ˈway to ˃work. On my ˈway to ˃Manchester

11.6.1.4 Secondary accents

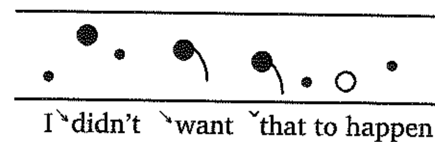
A secondary accent occurs in the pre-nuclear section of an intonational phrase. It usually involves a high-level pitch prominence, marked [ˈ] e.g.



More than one secondary accent may occur in the pre-nuclear position, marked with a series of [ˈ]. To achieve prominence each succeeding secondary accent involves a slightly lower level, e.g.

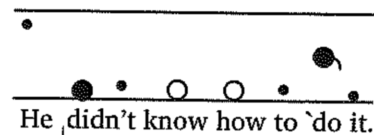


A variant of high level(s) uses one or a series of glides-down, marked [ˋ], rather than levels, e.g.

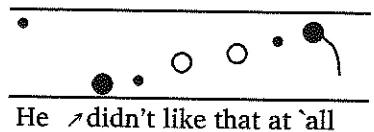


Glides-down of this sort are more prominent than steps.

A pitch prominence (and hence a secondary accent) may also be achieved by a step down to low pitch(es), marked [ˌ], following initial high unaccented syllables, e.g.



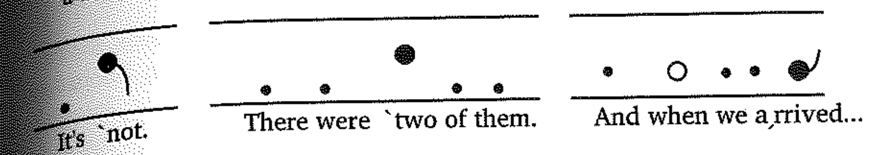
Sometimes the low-level pitch is replaced by a glide-up, marked [↗]. This is particularly common before falling nuclear tones, e.g.



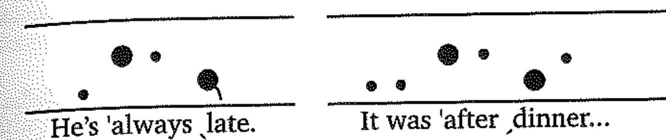
11.6.1.5 The pitch of unaccented syllables

Unaccented syllables, in addition to the fact that they are said very quickly and usually undergo some reduction, do not normally have any pitch prominence. They may occur before the first accent (primary or secondary), between accents, or after the last (primary) accent (the nucleus).

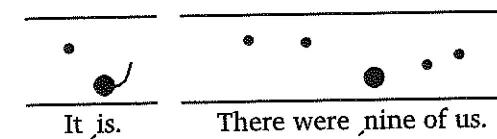
(1) *Pre-nuclear*—Unaccented syllables occurring before a nucleus (where there is no secondary accent) are normally relatively low, whether the nucleus is a fall or a rise, e.g.



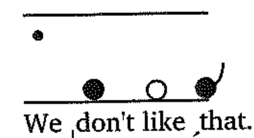
Unaccented syllables before a secondary accent are also usually said on a relatively low pitch, the accent having prominence in relation to them, e.g.



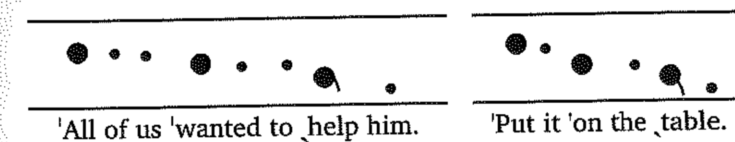
If pre-nuclear unaccented syllables, their weak quality remaining, are said on a relatively high pitch, the effect is more emphatic and animated than if they are low in pitch, particularly if they are followed by a low nuclear tone, e.g.

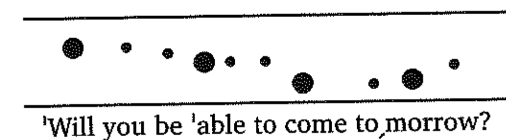


And, as mentioned under §11.6.1.4 above, high unaccented syllables may sometimes be used to give pitch prominence to a low accented syllable,[20] e.g.

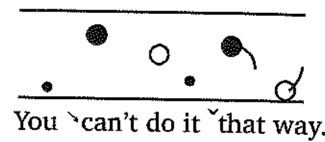


(2) *After syllables with secondary accent*—Unaccented syllables usually remain on almost the same pitch as a preceding syllable with secondary accent, e.g.

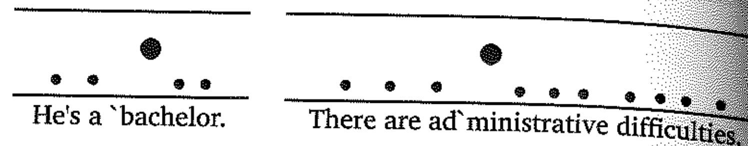




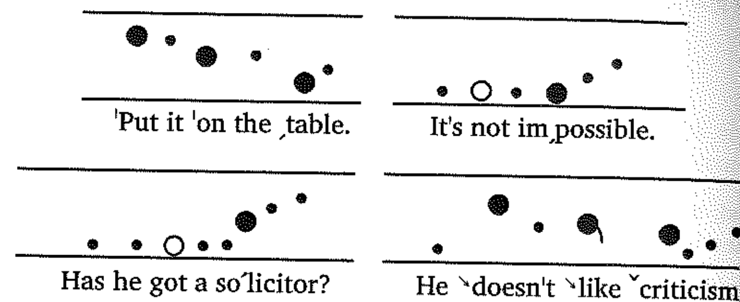
Additional prominence is often given to secondary accents by having a descending rather than a level series of unaccented syllables following; this is particularly common before a fall-rise nuclear tone, e.g.



(3) *Post-nuclear*—Unaccented syllables following a falling nucleus remain on a low level, e.g.



After a rising nucleus, unaccented syllables continue (or effect) the rise; similarly the rise of a falling-rising nucleus may be spread over the following unaccented syllables, e.g.



11.6.2 The functions of intonation

11.6.2.1 Intonational phrasing

Most commonly intonational phrases correspond with clauses. The clause may constitute a simple sentence or it may be part of a compound or complex one (a forward slash / marks the boundary between two intonational phrases), e.g.

He usually comes at ten o'clock.
He worked hard / and passed the exam.
Because he worked hard / he passed the exam.
It's nice / isn't it?

But often intonational phrases correspond with smaller syntactic constituents than the clause. The subject of a clause may receive a separate intonational phrase of its own, e.g.

The workers / have got a rising standard of living.
A competitive society / is defensible.
A lot of industry's profits / go in taxation.

Sentence adverbials and adverbials of time and place often receive separate intonational phrases, particularly when they occur at the beginnings and ends of clauses, e.g.

I go to London / regularly.
The government's got to give in / apparently / to every pressure from the City.
In my view / the argument should be / how to build a partnership / between public and private sectors.
Seriously / it seems to me / that the crucial issue / is . . .

Only in rare cases is it obligatory for subjects and sentence adverbials to take a separate intonational phrase; but it is an option which is often taken up, particularly when the subject is long or its status as a new topic is highlighted, or when the speaker wishes to make an adverbial prominent.

Other, less common, types of structure which commonly form a separate intonational phrase are parentheticals (including vocatives and appositives) and parallel constructions, e.g.

Lucy / will you please stop making that noise.
Professor Bull / the Head of the Department / declared his support.
John / this will really amaze you / actually got the highest marks.
This will be achieved by hard work / by brainpower / by interactive subtlety / and by keeping to deadlines.

Non-restrictive relative clauses, which are of course semantically similar to parentheticals, also regularly take a separate phrase, while restrictive relatives do not, e.g.

The old man / who was clearly very upset / denied the charge.
The man who appeared in the dock / looked very ill.

Although there are tendencies, and some obligations, in the assignment of intonational phrases, there remains considerable flexibility. Where clauses are short, they may be combined into one group, e.g.

/I don't think he will/

While subjects are often separate phrases, objects are generally not. Nevertheless a fronted object or an object in a parallel structure may be so phrased, e.g.

This / you really ought to see.
I like him / but I loathe / and detest / his wife.

Besides the probabilistic correlations with grammatical units there also seems to be a length constraint; studies have suggested that in conversation and in lectures around half the intonational phrases will be 3–4 words in length and only in under 10 per cent of cases will they be over 8 words in length.[21] In reading aloud from prepared texts, intonational phrases are likely to be longer and are likely to be at least partly governed by punctuation.

11.6.2.2 Primary accents and new information

In previous sections intonational phrases were said to have one primary accent (= nucleus), at which point begins one of a number of nuclear tones. In very general terms the nucleus falls on the most prominent syllable (and hence the most prominent word) in an intonational phrase. In more particular terms the nucleus marks the end of the NEW INFORMATION. Old (sometimes referred to as 'given') information is that which has either been mentioned before in the preceding intonational phrases or which is in the listener's consciousness because of its presence in the surrounding physical environment.

Sometimes intonational phrases consist wholly of new information. Very often such phrases occur out-of-the-blue or in response to 'What happened?' In cases where the intonational phrase is wholly new the nucleus falls on the relevant syllable of the last lexical item[22] (lexical item here means nouns, verbs, adjectives, adverbs and the word 'item' rather than 'word' has been used because sometimes lexical phrases like *wind up* and *child abuse* are involved), e.g.

> Jane's had a `baby.
> Something happened on Sunday which was quite un`usual.
> I don't really want to at`tend.
> He was accused of `dividend stripping.

There are some exceptions to the rule of the last lexical item. One group of exceptions concerns intonational phrases having an intransitive verb or verb phrase whose subject is non-human or which loosely involves (dis)appearance, e.g.

> That `building's falling down.
> A `doberman's on the prowl.
> The `dog barked. (cf. The man `swore.)
> I heard a `bird sing.

Another group of exceptions concerns certain types of adverbial in final position. Sentence adverbials (i.e. those which modify the whole sentence) and adverbials of time usually do not take the nucleus in this position, e.g.

> I go to `Manchester usually.
> It wasn't a very nice `day unfortunately.
> There's been a `mix-up possibly.
> He didn't suc`ceed however.

An alternative in some cases to having the adverb at the end of a sentence without an accent is to divide the sentence into two intonational phrases with the adverb getting a separate phrase on its own, e.g.

> I go to `Manchester / ˏusually.
> It was a very nice `day / unˏfortunately.

Those sentence adverbials which are usually classified as conjuncts, e.g. *incidentally, therefore*, cannot take a sole nucleus in this way, but must have a separate nucleus of their own or are non-nuclear, i.e.

> I go to Manchester inciˏdentally. (not possible)
> Inci`dentally I go to Manchester. (not possible)
> Inci`dentally / I `go to Manchester. (possible)
> I went to `Manchester incidentally. (possible)

Some other types of expression, which are similar to adverbials in that they are in the nature of afterthoughts, are also common in final position with no accent; for example, vocatives and direct speech markers, e.g.

> Don't you a`gree, Peter?
> Don't be a `fool, he said.

When old information occurs at the end of the sentence, then this will be unaccented, e.g.

> (Why don't you invite John to the party?)
> Because I don't `like John.

> (We had a long `wait.)
> You mean we had a `very long wait.

In the last example there is obviously some element of contrast present—between *long* and *very long*. Sometimes the nucleus may fall on a contrasted item even though a later item in the intonational phrase is new, e.g.

> John is quite a `tall man / but his brother's very `short.

In certain, very limited, cases, the whole of an intonational phrase comprises old information. One such case concerns ECHOES, i.e. where a second speaker echoes something a first speaker has just said; and the accentuation of the second speaker will follow that of the first, e.g.

> (I couldn't `do it). You couldn't ´do it?
> (This time we went to `Ireland). Oh you went to `Ireland / ˏdid you?

11.6.2.3 *Primary accents on function words*

At the beginning of this section it was noted that the primary accent usually falls on a lexical item (nouns, verbs, adjectives, adverbs). There are, however, some special cases when the primary accent falls on a function word; this [illegible] commonly applies to auxiliary verbs and prepositions. Sometimes an auxiliary word highlights a contrast of tense or negation (sometimes the negation is just presupposed):

(Why haven't you `phoned me?) But I `have phoned you.
(Why don't you `love me?) But I `do love you.
(I wish I was in ˇEngland.) But we `are in England.
(This book ought to be re`printed.) But it's `been reprinted.

Preposition accenting is another way of giving special emphasis. There is usually an alternative accenting which is much less emphatic; in the following examples compare the accents on *to*, *or*, *with* and *of* with more unmarked accenting on *sensible*, *name*, *belongings* and *many*:

(Why are you doing `that?) It's the only sensible thing `to do.
`Acted a lot / ˏdid you? / Can't say I remember your `face / `or your name.
[*Announcement*] Please make ˏsure / you have all your belongings `with you.
The mistakes you made were not ˇbig / but there were a great many `of them.
(I a`greed with the decision.) But do you accept that there were special aspects `to the case?

In question word questions extra emphasis (showing greater interest or urgency) is often produced by putting the nucleus on the verb *be* or an auxiliary verb, e.g.

(We can't let ˇthat happen.) What `should be done?
(That's a very expensive `ring.) How much `is it?
(I expect the `family to come toˏnight.) How `is your wife?
[*Thinking you recognise someone*] Who `is that man over there?

11.6.2.4 *Focusing adverbs*

There are a number of focusing particles (i.e. those which FOCUS or highlight particular words or group of words) which govern where the nucleus occurs, either taking the nucleus themselves or projecting it onto a following item.

(1) Nucleus on *too* and *as well* in their meaning 'in addition'
Too with the meaning 'in addition' takes the nucleus and often takes a separate intonational phrase (IP), particularly when final in the IP. In its own IP, *too* will copy the tone of the preceding IP. *As well* (with virtually the same meaning) also occurs in final position and must take a nucleus (on *well*).

I'm a vege`tarian / `too.
I'm a vegetarian / `too.
I discovered ˇtoo / that no `women were coming.
I think John's going `too.
Quite right `too.
Did ˏyou live in that area / ˏtoo?
In Africa `too they do that.
In this area `too he showed his mettle.
John `too agreed to come.
`I'm a vegetarian / as `well.

As well also occurs in the verb phrases *might/may as well* where it can be non-nuclear

He might as well have done it `anyway.
I may as well finish `now.

(Note that *too* also functions as an intensifier as in *too hard*)

(2) *Either*
Either is used rather than *too* following a negative:

`I'm not a vegetarian / `either.
I'm not a vege`tarian / `either.

(Note that *either* may also occur as a conjunction, e.g. *Either you can do ˇthis / or you can do `that*)

(3) *Even*, *not even* (inclusive adverbs)
Even focuses on all that occurs between *even* and a following nucleus (which may be immediate or at a distance):

Even `John agreed.
Not even `John agreed.
He didn't even say good`bye.
He even pawned his wife's `jewels.
Not even a hundred `pounds would make me do that.
He didn't even say he was `sorry.
I'm not even `slightly amused.

(4) *Not . . . at all* (emphatic negative)
Not . . . at all can be non-nuclear or nuclear but, if it is nuclear, the nucleus falls on *all* rather than *not*:

It's not like that at `all.
He's not at `all friendly.

(5) *Only, not only, if only, only because* (as restricting adverbs)
Only and *only* phrases are commonly non-nuclear and forward-looking; the scope of focus stretches from the *only* up to the nucleus:

Only `three.
Only `I know how to do that.
Only ten of them turned `up.
He only did it for `your sake.
It's not only `John who said that.
If only we'd thought of that be`fore.
I'll a`gree / but only because it's `you that's putting it forward.

On the other hand *only* can be nuclear and backward-looking, e.g.

We were allowed two tickets `only.

(6) *Also* (additive)
Like *only*, *also* is commonly non-nuclear and the scope of focus stretches up to the nucleus whereas a nucleus on *also* is backward-looking, i.e. it focuses on the matter that precedes:

He's also written to the `chairman.
Also under scrutiny was the `president of the company.
He also passed the e`xam.
He `also passed the exam.

(7) *Enough* (reinforcing adverb or adjective)
In initial position *enough* often follows a sentence adverb (most commonly *strangely, curiously* and *oddly*) and takes the nucleus, whereas in other positions it is usually non-nuclear:

Strangely eˇnough / it doesn't `work like that.
Oddly eˇnough / I a`gree with you.
He wasn't big enough to `reach it.
He be`haves nicely enough.
There wasn't enough `space.

(Note that *enough* may also be a pronoun, *I've had `more than enough. That's e`nough.*)

11.6.2.5 Some special accentings

In cleft sentences the nucleus may fall on the focused item but it may also fall post- or pre-focally, cf.

It was `Tom who suggested it.
It was Tom who su`ggested it.
It's `always Tom who suggests things.

A related type of focusing puts the nucleus on a pronoun, e.g.

The real IRA said that `they planted the bomb.
The TUC said `it was responsible.

Reflexive pronouns are commonly nuclear:

The gears on my bike shift them`selves.
Honda—the car that sells it`self.

There are a number of generally vague words (which may nevertheless be precise in a particular context) which commonly take the primary accent when it might be expected to be placed on a more specific (preceding) word. Chief among these is *thing*, e.g.

I don't as a regular ˇthing.
Get your `things.

Thing accenting also shows up in the phrases *that's the `thing, a close-run `thing, do the right `thing*. Similar accenting commonly occurs on *stuff, matter, person, creature* and *place* in phrases like *where's my `stuff, what's the `matter, she's a very nice `person.*

Ordinal numerals are also commonly accented and take precedence over the vague words just mentioned, e.g. *the `first thing to do, the `next time you come.*

11.6.2.6 The meanings of tones

Almost all primary accents in words and longer utterances have up to now been exemplified using the high fall nuclear tone (marked `). This is the way in which individual words are usually cited in isolation. Moreover, in all styles of English speech, simple falls in pitch (whether from a high or mid starting-point) account for the majority of nuclear tones (generally estimated around 50 per cent).[23] Simple rises and fall-rises are generally estimated to account for a further 40 per cent of tones. The preponderance of falls is usually slightly higher in conversation than in other types of speech, e.g. in scripted reading. Since rises and fall-rises are often used as a cohesive device signalling more to follow, it is not surprising that they are more frequently used in reading where they will often indicate that a sentence is not yet finished.

The meanings of nuclear tones are sometimes more DISCOURSAL in nature (e.g. they indicate links or the absence of links between successive intonational phrases), sometimes more ATTITUDINAL (e.g. they indicate the speaker's doubt or certainty about what he is saying) and sometimes more SEMANTIC (e.g. they co-occur with lexical meanings which are reinforcing or limiting—this is particularly the case with adverbials). In general the meanings of tones are not directly grammatical, but grammar may indirectly be involved in two ways: (i) some

attitudes are inherently more associated with questions; in particular, high rise, which often has a meaning of surprise, frequently marks an echo question (see also previous section); and (ii) the attitudinal and discoursal meanings conveyed will vary somewhat according to the syntactic sentence-type (e.g. declarative, wh-interrogative, yes/no-interrogative) with which the intonational phrase co-occurs.

Because of the variation in meaning according to sentence-type just mentioned, the description of the meanings of nuclear tones[24] which follows is divided according to the following categories: (1) major declaratives, (2) minor declaratives, (3) yes/no-interrogatives, (4) wh-interrogatives, (5) tag-interrogatives, (6) imperatives, (7) exclamatives, (8) social formulas. In general falling nuclear tones (whether ˎlow fall, ˋhigh fall, or ˆrise-fall) are separative, matter-of-fact and assertive; whereas ˏlow rise, ˊhigh rise and ˇfall-rise are continuative, implicative and non-assertive. Level tones (most common among these being the mid level) belong with the rising tones in the sorts of meanings they convey.

The examples are given as isolated utterances or preceded by a bracketed 'setting'. It should be remembered that the attitudinal meaning of an utterance must always be interpreted within a context, both of the situation and also of the speaker's personality. It may well happen that an intonation which is polite in one set of circumstances might, for instance, be offensive or patronising when used by another person or in other circumstances.

(1) *Major declaratives*

Major declarative refers to those cases where the intonational phrase correlates with an independent clause, with the main clause in complex sentences, with the last clause in compound sentences, and with that part of any of these which is remaindered when a separate intonational phrase is given to an adverbial or a subject or some other part of the clause, e.g.

He didn't go.
I took an overcoat / because it was raining.
I took the car / *and drove to London.*
The first man on the moon / *was Neil Armstrong.*
Usually / *we do it this way.*
We do it this way / usually.

In major declaratives falling tones are the least attitudinally marked of the tones with the high fall expressing more liveliness and involvement than the low fall, cf.

It's a very nice ˋgarden.
Of ˋcourse it is.
It's a very dull ˎbook.
The parcel arrived on ˎThursday.

Fall-rise is common on major declaratives with a variety of meanings, in particular, reservation, contradiction, contrast and warning as in:

I like his ˇwife / even if I don't like him.
(It's the twenty fifth today, isn't it?) Twenty ˇsixth.
John didn't succeed / but ˇPhilip did.
If you don't do it / John'll be very ˇcross.

High rises are common on echoes (as already mentioned at the end of the previous section) and on declarative questions:

(I did it in blue.) You did it in ˊblue?
So you didn't ˊgo?

Other tones are less common. The low rise with only other low syllables before it (i.e. with no preceding pitch accent) is complaining:

You mustn't go aˏway.

Whereas, with a high pitch before it, it is encouraging or even patronising (this sequence is very common in speech to children):

You'll ˈonly overˏdo things.
There's ˈno point in ˏrushing.

This sequence is frequent on imperatives (see below) with a similar sort of meaning. Finally, the least common nuclear tone[25] is the rise-fall. Its meaning usually involves an element of being very impressed, or, conversely, being very unimpressed and hence indignant or even sarcastic:

He's the head of a big firm in ˆLondon.
Oh inˆdeed / How ˆnice for you.

Rise-fall is often used for gossip:

Have you heard? / Jill's ˆpregnant.

(2) *Minor declaratives*

Under minor declaratives are included all those parts of declarative sentences which were excluded under (1) above. Most of these occur in sentence non-final positions, e.g. subjects, adverbials, the first clause of compound sentences and often the subordinate clause of complex sentences.

The tones used on these intonational phrases are usually from the rising group: fall-rise, low rise and mid level. Fall-rise again carries its common meaning of 'contrast'. The difference between the other two tones in non-final position has to do with style: low rise is the most oratorical and is also typical of reading aloud, whereas the mid level carries no other meaning other than that of non-finality, which is perhaps why it alone of these three tones occurs only in non-final position:

What I'd ˇlike / is a drink of tea.
The ˇbest person to do it / would be Bill Bailey.
The ˇcrucial issue / is that . . .
We took the ˏcar / and drove to Birmingham.
On my way to ˃work / it started to rain.
Un˃fortunately / it doesn't work like that.
(cf. Unˇfortunately / it doesn't work like that.)

Most adverbials which have a separate intonational phrase will take a rising tone but there are a number of adverbials of a particularly assertive kind which more commonly take a falling tone (e.g. *literally, certainly, honestly, by the way, of course, besides*):

Be`sides / he's had time to think about it.
By the `way / what do you think of the new chap?

As indicated by the last example, some adverbials can occur before interrogatives as well as declaratives. Adverbials also frequently occur following the main clause; in these cases the rise which occurs is almost always low rise (but the falling type again takes a fall):

I went to Canada / last ˏyear.
It didn't work / unˏfortunately.
He turned bright red / `literally.

In the case of final subordinate clauses two sequences of tones are possible. If the previous main clause has a fall, then the subordinate clause will take a low rise. Alternatively the main clause may take a fall-rise and the subordinate clause the fall, cf.

I began to feel `ill / because I hadn't had enough to ˏeat.
I began to feel ˇill / because I hadn't had enough to `eat.

(3) *Yes/no-interrogatives*
In GB the more usual and more polite way of asking yes/no questions is with the low rise (although a high rise is more frequent in General American); if a potentially accented syllable is available before the nucleus, then this will take a high pitch:

(It's going to rain I'm afraid.) Do you 'really ˏthink so?
(I'm really enjoying myself.) Is 'this your ˏfirst visit to London?
(The large size costs a pound.) Is 'that the ˏnew price?

A falling tone (high fall or low fall) on a yes/no-interrogative marks it as gently pressing:

(Can you remember where I left my new shoes?) Are they in the `wardrobe?
(Tom explained it all to me.) But do you under`stand it?
(I can't find my pen anywhere.) Are you sure you brought it `with you?

A rise-fall is often used to mark a yes/no-interrogative as an exclamation:

(He didn't even leave a message.) Now isn't that peˆculiar!
(I'm going to Spain tomorrow.) Aren't you ˆlucky!
(He refused to help me.) Would you beˆlieve it!

(4) *Wh-interrogatives*
The usual tone on wh-interrogatives is falling (low fall or high fall):

(She wants you to send an apology.) What's it got to do with `her?
(You mustn't tell her.) Why `not?
(She didn't get the job.) How do you ˏknow?

The alternative tone on such interrogatives is the low rise (like yes/no interrogatives, it is more likely to be a high rise in General American). The use of the rise is more tentative:

(We're off on Thursday.) What time do you ˏstart?
(I'm afraid it didn't work.) Why did you do it ˏthat way?

Wh-interrogatives can be used with high rise to ask for repetition:

(He's completely irresponsible.) ´What did you say?
(Her name was Pettigrew before she was married.) ´What did you say she was called?

(5) *Tag-interrogatives*
Tag-interrogatives consist of a sequence of an auxiliary verb and a pronoun appended to a preceding declarative. They are most commonly negative if a preceding statement is positive, and *vice versa* (called 'reversed polarity' tags). Such tags have two common alternatives; a falling tone (high fall or low fall) or a rising tone (usually low rise). Both types of tone expect agreement, the fall inviting or demanding it, the rise leaving open the possibility of disagreement:

(It's a long way from the shops.) It's right on the outskirts / `isn't it?
(I had a lovely time.) Yes / The day did go well / `didn't it?
(Lend me your copy of Shakespeare.) You will look after it / `won't you?
(Where did I put my golf clubs?) You left them in the garage / ˏdidn't you?
(He asked me to drive him there.) But you won't be able to go / ˏwill you?
(Who was that woman he was with?) It was his sister / ˏwasn't it?

Another type of tag has constant polarity. This type only has low rise (falling tones are impossible). The meaning conveyed is in the nature of a thoughtful echo of a statement from the preceding speaker:

(I think he's going to emigrate.) So he won't marry her / ˏwon't he?
(Rachel's gone away with John.) She's still seeing him / ˏis she?

A variation on this type involves a pronoun and auxiliary verb omitted from the previous main clause (it is heard on TV or radio as a detective's interrogation technique), e.g.

Watch a lot of television / ˏdo you?
Come on his bike / ˏdid he?
Didn't give it any thought / ˏdidn't you?

(6) *Imperatives*
Abrupt imperatives have a falling tone. Polite imperatives, which are at least suggesting that the listener has a right to refuse, are said with a rising tone (most frequently low rise and sometimes fall-rise):

(I've decided to lend him my car.) Don't be such a silly ˋfool.
(What should I do now?) Go and wash the ˋcar.
(You shouldn't have spent all that money.) Don't be ˏangry about it.
(I'm afraid I've had enough of you.) Give me another ˏchance.
(I have a very delicate job to do here.) Be ˇcareful.

The use of a rising tone rather than a falling tone softens the imperative. Sometimes the rising tone is combined with a tag:

(Can I have some more wine?) Help yourˋself / ˏwon't you?
(Her nerves are terrible.) See if you can ˋhelp / ˏwill you?
(I'm doing my best.) ˃Well / hurry ˋup / ˏcan't you?

(7) *Exclamatives*
Exclamatives (i.e. those sentences having the syntactic form of an exclamative, i.e. an initial question word and no verb) take a falling tone (including rise-fall):

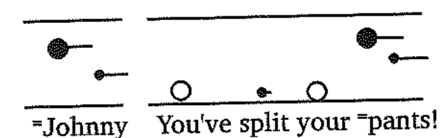
What a beautiful ˋday! How ˋstupid he is! What a very silly thing to ˋdo! What a paˆlaver!

Similarly individual words, particularly nouns and adjectives, can be given exclamatory force by the use of a falling tone, e.g.

ˋNonsense! You ˋidiot! ˋMarvellous!

(8) *Social formulas*
It is difficult to give rules for the intonation of social formulas because it is an area where native speakers of English often have idiosyncratic habits. It is, however, generally true that falling tones generally show sincerity, while rising ones are used in situations where a formulaic pleasantry is appropriate. Thus *thank you* is appropriately said with a rise on being given a ticket, while a high fall is more likely if a genuine favour has been done, and a low fall if the matter in hand is boring. *Good morning* with a high fall is sincere-sounding (and sometimes inappropriately so!), with a low fall is brusque and with a low rise is polite (and possibly overly so!). This greeting (and many others) can also be said with the 'stylised' tone which involves a step from high level to mid level beginning on the accented syllable, thus;

This tone is a special one often used on vocatives and on jocular sentences,[26] e.g.



(9) *Tonal sequences*
In the preceding subsections it has become apparent that some tonal sequences are very common in successive intonational phrases, particularly those within one sentence. The most common sequence involves a tone from the rising group (low rise, fall-rise or mid level) followed by a fall (high fall or low fall); and the syntactic sequences are sentence adverbial or noun-clause subject followed by a clause remainder and an initial subordinate or co-ordinate clause:

Un˃fortunately / it didn't ˋwork.
The ˇusual excuse / is that there's not enough ˋtime.
Because he gave up too ˇearly / he lost two thousand ˋpounds.
He staked everything on ˏwinning / and ended up with ˋnothing.

A second sequence involves a falling tone (high fall or low fall) followed by a rising tone (almost always low rise, occasionally fall-rise): the syntactic sequences are main clause plus adverbial or main clause plus 'open' tag:

I deny the whole ˋthing / ˏusually.
That's the best way to ˋdo it / ˏisn't it?

A third common sequence is a falling tone (low fall, high fall) plus another falling tone (low fall, high fall); this is common with sentence adverbials of the reinforcing type, with 'closed' tags, and with co-ordinate clauses which are very independent of one another:

> I go to `London / `regularly.
> It was a beautiful `day / `wasn't it?
> (What should I do?) Take up `singing / write a `book / do an `evening class / buy a `bicycle / `anything!

11.6.2.7 The use of secondary accents

Secondary accents are produced by pitch prominences which occur before the nucleus, i.e. they are pre-nuclear accents. As the name implies they contribute less to meaning than primary accents. The first secondary accent in an intonational phrase often serves to mark the beginning of the new information, e.g. *We 'ran all the 'way to the `station.* Where there is a series of secondary accents (prominence being achieved by 'stepping' the pitch—see §11.6.1.4 above), the later accent(s), like that on *way* in the example above, serve only to divide the new information into chunks. This sequence of secondary accents which steps down is the most common type of pre-nuclear accenting in GB and can occur before all nuclear tones. The other most frequent type of sequence involves one or a series of slides (see §11.6.1.4 above); this gives more emphasis to the words taking the accents and is particularly common before the fall-rise nuclear tone, e.g. *It `wasn't `really like ˇthat.*

11.6.3 Regional variation in intonation

Within the UK the most marked variation compared with GB concerns the more extensive use of rising tones in many northern cities (sometimes referred to as URBAN NORTH BRITISH); it is reported for Belfast, Birmingham, Glasgow, Liverpool, Manchester and Newcastle.[27] Rises in these cities are more frequent on declaratives than in GB and indeed in some of them may typically be the most frequent tone on declaratives. The rise may be a continuous one or may consist of a rise followed by a plateau (with an optional downdrift at the end). Belfast[28] (and Derry)[29] has both types and has the most regular use of rises of all the cities, falling tones being much less frequent than rising ones in speakers of all educational classes (where in the other cities the typical rising tones may be lost in more educated speakers). In the south of England, intonation does not vary much from GB, but one type of tag intonation usage, particularly common in popular London, concerns the use of a falling tag purely as a response, as in

> (A: What's all this `mess?) B: I've been doing the `cleaning / `haven't I
> (A: Why did you get up so early?) B: Because the `postman came banging on the door / `didn't he
> (A: [Pointing to a bottle] What's all this?) B: I use it for cleaning the silver / `don't I?

General American has less difference from GB than that in northern British cities mentioned above; one notable difference is the increased use of high rise as opposed to low rise, particularly for yes/no-interrogatives. Australia and New Zealand are most notable for the intonational change whereby a high rise is increasingly used on declaratives;[30] it seems to be used as a check (hence 'checking tone') by the speaker that the listener is paying attention and understanding, particularly when the speaker is presenting information. This usage is now commonly heard in England:[31] often high rises are used when falls might be expected, e.g. *I met ´Sonia in town yesterday / and she didn't look very ´well / and she told me she had ´shingles.*

11.6.4 Pitch range

In preceding sections §11.6.1.3 and §11.6.2.3 falls were divided into high falls and low falls and rises were divided into low rises and high rises. This sort of variation in the height of tones concerns accent range. However, there is another sort of variation in height which refers to the pitch of the whole intonational phrase, measured as the interval between the lowest and highest pitches. Speakers may increase the width of the normal pitch range of their intonational phrases by raising the pitch of the highest pitches. Such variation in the width of the pitch range of intonational phrases is often referred to as KEY. The most common use of key concerns the delimitation of PARATONES (the spoken equivalent of written paragraphs), a new paratone being marked by a wide key in the first IP and the end of a paratone by a narrow key in the last IP[32] (and often followed by an extended pause). Paratones often correspond with topics (defined in the widest sense); the most obvious use of such differences of key, paratones and topics, is in newsreading.

There is yet another sort of variation in pitch range which involves raising or lowering both low and high pitches, so that the pitch overall is lower or higher but not wider. A low register is used for parentheticals (marked here by doubling the boundary marker), e.g.

> I ran into Jane last week // by the way / did you know she has three children? // and she said. . . .

High register is in general associated with greater emotional tension but nevertheless has to some extent become conventionalised. For example, the adoption of a 'little girl voice' may be used to signal helplessness.

11.6.5 Intonation and punctuation

Punctuational usage is generally prescribed in manuals of punctuation (particularly those put out by publishing houses) according to grammar rather than intonation. Indeed in some cases a punctuation mark has no correlate in intonation, e.g. the apostrophe marking possession or elision, and the use of spaces between words. However, in many cases punctuation is as related to intonation as to grammar.

Punctuation marks serve both to delimit, e.g. to mark the end of a sentence, or to specify, e.g. that a sentence is a question. In both areas there are clear correlations between punctuation and intonation. The use of any of the six marks, comma, semi-colon, colon, full stop, question mark and exclamation mark, always correlates with a boundary between intonational phrases. However, there are syntactic positions where such an intonational break is very common but where the use of a punctuation mark (especially the comma) is generally proscribed. This applies particularly to the position between subject and verb. As remarked in §11.6.2.1 above, this is a very common position for an intonational break if the subject is either particularly long or contrastive. Hence, although a comma in this position is generally proscribed by manuals of punctuation, there will nevertheless be the tendency to insert a comma here because of the writer's intuition about intonational-punctuational correlations, e.g.

The best way to do this, would be to ask him first.

Specification concerns the marking of a sentence-type as a question, or an exclamation (the use of the full stop marks the sentence as a non-question and non-exclamation, but may be used for different sentence-types, e.g. statement, command and request). Such specifiers have poor correlations with nuclear tones. The full stop usually correlates with a fall but by no means always. The question mark correlates regularly with a high rise in the case of 'declarative questions' (§11.6.2.6(1)), frequently with a low rise in yes/no-questions and approximately half the time in tag-questions and frequently with a falling tone in wh-questions. Only in the case of the exclamation mark is there a regular correlation with at least an overall category of tone—it always correlates with a falling tone (usually high fall or rise-fall).

11.6.6 Acquisition of intonation by native learners[33]

Many babies are excellent mimics of intonation and may produce English-sounding intonation patterns on nonsense syllables (often called 'jargon intonation') in the late stages of their pre-linguistic babbling.[34] At this same time they may also have a distinction of meaning in their use of a fall versus a rise on single syllables—typically the fall is naming while the rise is requesting. Even those children who do not have this distinction during the babbling period will generally acquire it during the period of one-word utterances (which typically lasts for six to nine months during a child's second year). At the two-word stage children are capable of varying nucleus placement, although whether this is already signalling new and old information or whether it is more rigidly tied to different types of sentence is not clear. (It is, for example often the case that possessives have the accent on the possessor while locatives have it on the location, cf. *`Daddy car* 'Daddy's car' vs *Daddy `car* 'Daddy's in the car'). Little is known about the later acquisition of intonation, although it is likely that some uses of the fall-rise tone are learnt early. But a full mastery of the more subtle nuances of intonational meaning may not be acquired until the age of ten or even later.[35]

11.6.7 Intonation—advice to foreign learners

The foreign learner should pay particular attention to:

(1) Achieving a better style in reading aloud by appropriately dividing his speech into intonational phrases. Such division may be done in English in ways very similar to his native language (especially in the case of most other European languages) but nevertheless the learner should note the frequency with which sentence adverbials and the subjects of sentences are given their own intonational phrases.

(2) Putting the nucleus on the focal point in the sentence. Some languages (like French, Italian and Spanish) more regularly have the nucleus on the last word in the intonational phrase. This may sometimes mean accenting old information occurring at the end of a phrase, which is incorrect in English, e.g.

A: Would you like to come to London with me tomorrow?
B: No/I don't like LONdon.

(3) Using appropriate nuclear tones. Learners should note that the fall-rise (especially on a single word) is rare in most languages but very frequent in English for a range of attitudinal meanings on declaratives and for subjects with their own intonational phrase. Fall-rise is also frequent on sentence adverbials in initial position, although low rise is the usual tone in final position (but those exceptional falling adverbs, like *definitely*, which take low fall or high fall in any position must also be noted).

An overuse of simple falling tones (especially high falls), together with an overuse of glides-down in pre-nuclear positions, will produce an excessively aggressive effect, while conversely an overuse of simple rising tones (including fall-rises and glides-up in pre-nuclear position, which are uncommon in GB) will sound excessively tentative. The overuse of falls is typical of north Germans while an overuse of rises is typical of Scandinavians.

11.7 Hesitations

Pause was stated in §11.6.1.1 to be one of a number of phonetic features which are used to mark boundaries between intonational phrases. But pause can also occur in other positions: (a) before words of high lexical content or which have a low probability of occurrence in a particular context (and where the speaker is often searching for the right word); and (b) after the first word in an intonational phrase, where it appears to be a pause for planning, i.e. the speaker has decided that he has something to say but has not yet planned it in detail.[36] Both (a) and (b) may be also used more deliberately as ways of attempting to prevent interruption. Both differ from pauses at intonational phrase boundaries in frequently being filled rather than unfilled (i.e. silent) pauses. In GB filled pauses are generally filled with [ə] or [m] or a combination of the two, e.g.

> I don't agree with that / I [əː] think it would be better if . . .
> You see / the myth is / and I'm [əː] I can see from the applause . . .
> Well [əmː] I don't think I will.

This type of filled pause used in GB is not necessarily the type of filled pause used in other dialects of English or in other languages. Scottish English uses [eː], French uses [øː] and Russian uses [nː]. A quite dramatic change can be produced in the degree to which a person's speech sounds native-like by adopting the correct type of filled hesitations.

11.8 Voice quality[37]

The area of voice quality has very little scientific work associated with it, particularly on a cross-linguistic basis and this section is perforce not very systematic. Some reference has already been made to the topic under §5.8 above. The term 'voice quality' refers to positions of the vocal organs which characterise speakers' voices on a long-term basis. Long-term tendencies in positioning the tongue and the soft palate are referred to as ARTICULATORY SETTINGS; those referring to positions of the vocal cords are called PHONATION TYPES. In some tone languages a phonation type may co-occur with a lexical tone (e.g. two tones may be distinguished in some varieties of Vietnamese, one simple high rise and one high rise with accompanying creak). But more generally a particular voice quality may be characteristic of an individual, of a particular language or dialect, or may be used within a language to convey a particular attitude or emotion.

The articulatory setting of a language or dialect may differ from GB. So some languages like Spanish may have a tendency to hold the tongue more forward in the mouth, while others like Russian may have a tendency to hold it further back in the mouth. Nasalisation may be characteristic of many speakers of American English, while denasal voice (which may lead to a low-grade nasal resonance in nasal consonants) is frequently said to occur in Liverpool. Tense and lax are labels which apply to the muscular tension in the whole of the vocal

tract.[38] GB is generally said to be lax (making it sound 'mellow'), while French and German are said to be tense (making them sound 'metallic' or 'strident').

The most commonly described phonation types are creaky voice, breathy voice, ventricular voice (sometimes called harsh voice and involving the false vocal cords just above the vocal cords), whispery voice, falsetto (dividing the vocal cords into two halves and hence raising the pitch by an octave), and raised-larynx and lowered-larynx voices. Breathy voice is said to be used by many speakers of Danish and Dutch, creaky voice is used by many speakers of GB and particularly by speakers of CGB, while ventricular voice is a characteristic of many speakers of Scottish English and speakers of Cockney. Within GB (and possibly wider in English) some phonation types are associated with certain styles of speech and emotions: breathy voice is often called 'bedroom voice', whispery voice is sometimes called 'stage whisper' or 'library voice', ventricular voice is associated with anger and lowered-larynx is called sepulchral or 'vicar's voice'.

Notes

1 Note that the sign ` here and throughout the book shows the place of the primary accent. As the symbol ` implies, in the citation forms of words this is usually a falling accent. In this chapter a falling accent becomes one of a number of different tones forming the intonational system. See §11.6.1 and note 16.
2 Pike (1945), Abercrombie (1967), Halliday (1967) and numerous TESOL textbooks.
3 Syllables made prominent by stress alone refers to a subset of full-vowelled syllables judged to be prominent rhythmically.
4 Thompson (1980), Roach (1982) and Dauer (1983).
5 Full vowel rhythm has affinities with Metrical Phonology (Liberman & Prince, 1977; Hayes, 1995) which has a level of strong and weak syllables and extrametricality.
6 Full-vowelled rhythm and the Borrowing Rule were first put forward in Bolinger (1981) and applied to TESOL in Faber (1986). Instrumental confirmation is given in Thompson (1980).
7 Some varieties of English, notably Caribbean English as an L1 and Indian English as an L2, are marked by a much lesser use of reduced syllables and hence the rhythm is nearer to that traditionally labelled 'syllable-timed'.
8 All the words listed with weak forms above occur in the two hundred most frequent words in the spoken part of the British National Corpus (Leech *et al.*, 2001).
9 *Some* does not occur in a weak form when used as a pronoun, e.g. /sʌm maɪt `seɪ/, /aɪd `laɪk sʌm/.
10 *That* as a demonstrative adjective or pronoun takes a full vowel, e.g. *that man* /ðat `man/, *that's the one* /ðats ðə `wʌn/.
11 There may be new tendency to use /ðə/ before vowels among younger speakers. This was first reported for American speech in Todaka (1992). Windsor Lewis (2013: §3.7.I.3) discusses its possibility of occurrence but only with an obligatory [ʔ] before the vowel.
12 As a demonstrative adverb, *there* will have a full vowel, e.g. *there's the book* /ðɛːz ðə `bʊk/.
13 A weak form with /h/ would normally be used when unaccented but following a pause.
14 See Shockey (2003) for many instances of hyperreductions in casual or rapid speech.
15 See Windsor Lewis (2013: §4.7) for priorities for foreign learners in the learning of function words.

16 Much recent work on the form of English intonation has been done in an American tradition represented by Pierrehumbert (1980/87) and Pierrehumbert & Hirschberg (1990), which decomposes pitch contours into sequences of high and low tones and also detaches phrase tones and terminal tones at the end of intonational phrases. However, the treatment of intonational meaning in this newer framework has remained at a general level and the nuclear tone approach is retained here because it remains easier to treat in this setting the local meanings produced by associations between tones and syntactic types.

17 Refer to the companion website for a reading of all the examples in this section.

18 When combined with text, tones are marked using what are usually called 'tonetic-stress marks', though in this book they are more accurately called 'tonetic-accent marks'. All marks indicate a following accented syllable. Individual marks (which are iconic) indicate pitch patterns starting at the accent. For a more complete treatment of the intonation of GB, see O'Connor & Arnold (1973), Cruttenden (1997) and Wells (2006).

19 The type of transcription used in the diagrams is called 'interlinear tonetic'. Each ring indicates a syllable. A large filled dot indicates a pitch accent, either primary or secondary. A filled ring sometimes has a tail indicating pitch movement on the accented syllable itself. A large unfilled ring indicates a syllable made prominent by having an unreduced vowel. Small rings indicate unaccented syllables.

20 These high unaccented syllables are sometimes marked with a high-level mark. We have not used this mark because we prefer to preserve the general rule that the tone marks in the text always apply to accented syllables.

21 Quirk *et al.* (1964: 683), Crystal (1969: 256) and Altenberg (1987: 25).

22 Altenberg (1987: 174) found the nucleus occurring on the last lexical item in 78 per cent of cases.

23 Quirk *et al.* (1964: 681), Crystal (1969: 225) and Altenberg (1987: 36). But see also the somewhat higher figure reported in §12.5(1).

24 For further information on the meanings of tones, see Halliday (1967), O'Connor & Arnold (1973), Cruttenden (1997) and Wells (2006).

25 For the frequency of nuclear tones, see Quirk *et al.* (1964: 681), Crystal (1969: 225) and Altenberg (1987: 37).

26 For details of this tone in English, see Ladd (1978b).

27 Cruttenden (1995, 2001, 2007).

28 Lowry (2002).

29 McElholm (1986).

30 Guy *et al.* (1986), Britain (1992).

31 Bradford (1997), Shobbrook & House (2003).

32 See, in particular, Brazil (1975, 1978, 1985).

33 Crystal (1986).

34 Peters (1977).

35 Cruttenden (1974, 1985).

36 Cruttenden (1997: 30–32).

37 See Laver (1980) and Henton & Bladon (1988).

38 The terms are also often used to distinguish between the short and long vowels of English (see §8.4.1(9) above and Chomsky & Halle (1968)).

Chapter 12

Words in connected speech

12.1 Citation forms and connected speech

Words as separable linguistic units are recognised in the sophisticated written form of English by the use of spaces between words. Although in the continuous stream of speech there are no pauses between words corresponding to such written spaces, words nevertheless show their independence by their ability to stand alone, e.g. as replies to questions and when being referred to or cited. Differences often exist between the pronunciation of words in their cited, isolate forms and their pronunciation in connected speech, when they are subject to influences from other, surrounding sounds and from larger accentual and rhythmic patterns. The differences may concern the word as a whole, e.g. weak forms in an unaccented situation; or they may concern a word's accentual pattern, e.g. loss or movement of an accent due to its position in a larger accentual pattern; or they may involve the sounds used at word boundaries as in ASSIMILATIONS, ELISIONS and LIAISONS. This variation between isolate forms and context-influenced forms often depends on the style of speech. The style generally described in this book is slow but casual, i.e. it is not rapid and it is not careful. A rapid style will produce many more changes from citation forms than are described in this chapter (although they are sometimes mentioned as such) while a careful style will produce fewer changes than are described.

12.2 Neutralisation of weak forms

We have seen already (§11.3) that a number of function words may have different pronunciations when they are accented (or said in isolation) and when, more typically, they are unaccented. Such is the reduction in the unaccented forms that words which are distinct when said in isolation may be neutralised (see §5.3.4 above) when unaccented. Such neutralisation generally causes no problem to listeners because of the high rate of redundancy (see §1.3.1) of meaningful cues; only rarely does the context allow a variety of interpretations of an unaccented form. The examples of neutralisation which follow might occur in casual speech and are almost certain to occur in speech which is both casual and rapid.

/ə/ = unaccented *are*, *a* (and, in rapid speech, *her*, *or*, *of*)

The 'plays *are* `poor
He 'plays *a* `poor man
She 'wants *a* `dog
She 'wants *her* `dog
'One *or* 'two *of* them *are* `coming
'Two 'books *are* `mine
'Two 'books *of* `mine

/əv/ = unaccented *have* (aux.), *of*[1]

'Some *of* ,one (piece) . . .
'Some *have* ,won . . .
The 'boys *of* 'Eton `fish
The 'boys *have* 'eaten `fish

/ər/ = unaccented *are*, *or*

'Ten *or* `under
'Ten *are* `under

/ðə/ = unaccented *the* (and, in rapid speech, *there*)

The 'seams are `crooked
There 'seems a `chance

/s/ = unaccented *is*, *has*, *does*

'What's ('s = *does* or *is*) he `like?
'What's ('s = *has*) he `lost?

/z/ = unaccented *is*, *has*, *does*

'Where's ('s = *has*) he `put it?
'Where's ('s = *is*) he `going?
'Where's ('s = *does*) it `go? (rapid speech)

/əz/ = unaccented *as*, *has*

'How 'much *has* he `done?
As 'much *as* he `can

/ən/ = unaccented *and*, *an*

'On *and* `off
'On *an* `off-chance

/n/ = unaccented *and*, *not*

'Didn't he ,do it? /'dɪdn i ,duː ɪt/
He 'did and he `didn't /hi 'dɪdn i`dɪdnt/

/d/ = unaccented *had*, *would*

I'd ('d = *had*, *would*) 'put it `there

12.3 Variation in the accentual patterns of words

When a word (simple or compound) pattern consists in isolation of a primary accent preceded by a secondary accent, the primary accent may be lost completely, if, in connected speech, another primary accent follows closely in the next word, e.g.

'thir`teen, *but* 'thirteen `pounds
'West`minster, *but* 'Westminster `Abbey
'full-`grown, *but* a 'full-grown `man
'after`noon, *but* 'afternoon `tea

The secondary accent in the word rather than the primary may be lost when another word with a secondary accent immediately precedes, e.g.

'eight thir`teen; 'near West`minster; 'not full `grown; 'Friday after`noon

Such examples, and the others in this section, confirm the tendency in English to avoid adjacent accented syllables.

It is in order to avoid accents on adjacent syllables that 'accent shift' occurs in phrases such as '*Chinese* `*restaurant* (but *Chi`nese*), '*outside* `*world* (but *out`side*). Where the accents are separated by unaccented syllables, the accent shift is variable (though pronunciations with the shift are probably more common than those without), e.g. *diplo`matic*, *diplo'matic* `*incident* or '*diplomatic* `*incident*; *aquama`rine*, *aquama'rine ti`ara*, '*aquamarine ti`ara*.

This tendency to the alternation of accented and unaccented syllables is so strong that the accent may be shifted in the case of certain words whose citation form contains only one, later, accent but where a full vowel occurs in the preceding syllable, e.g. *or`nate* but '*ornate* `*carvings*; *u`nique* but '*unique* `*features*; and *di`rect* but '*direct* `*access*. The alternation tendency extends into longer utterances and may be seen in examples such as *i`dea* but *The* '*idea* `*pleases me*; '*recom`mend* but *I can* '*recommend* `*several*; and in phrasal verbs such as '*come* `*out*, '*get* `*in*, e.g. *The* '*pictures* '*didn't come* `*out*, but *They* '*came out* `*well* and '*What* '*time will* '*you get* `*in?* but '*What* '*time will you* '*get in from* `*work?*

12.4 Phonetic variations within words and at boundaries

Our phonological units, the phonemes, represent abstractions from actual phonetic reality. If the phoneme /t/ is given a convenient, generalised label—a voiceless alveolar plosive—it is nevertheless true that the actual phonetic realisation of this consonant depends on the nature of the context, e.g. /t/ is aspirated when before a vowel (except after /s/) as in [tʰen]; it is dental, rather than alveolar, when adjacent to /θ/ as in [wɪt̪θ]. Besides these variations within words, such variation also occurs at word boundaries (and at morpheme boundaries in compound and complex words) where tendencies towards co-articulation or ASSIMILATION have to be noted.

Assimilations at boundaries, like those within words, may be merely of an allophonic kind; or they may be of such an extent that a change of phoneme is involved, when comparing the pronunciation of a word in isolation with its pronunciation in a particular context. Influence at word and morpheme boundaries functions predominantly in a REGRESSIVE or anticipatory direction, i.e. features of one sound are anticipated in the articulation of the preceding sound; less frequently it is PROGRESSIVE or perseverative, i.e. one sound influences the following sound, or it is COALESCENT, i.e. a fusion of forms takes place.

12.4.1 Allophonic variations

Since the actual realisation of any phoneme is at least slightly different in every context, it is necessary to give examples only of those variants which exhibit striking changes. The same types of allophonic variation, involving a change of place of articulation, voicing, lip position, or position of the soft palate, may be found within the word and also at word boundaries:

(1) *Place of articulation*

(a) *within word*:
/t/—dental in *eighth* (influence of [θ])
/k/—advanced (pre-velar) in *key* (influence of [iː])
/n/—dental in *tenth* (influence of [θ])
/m/—labiodental in *nymph, infant* (influence of [f])
/ʌ/—retracted in *result* (influence of [ɫ])

(b) *at word boundaries:*
/t/—dental in *not that* (influence of [ð])
/d/—dental in *hide them* (influence of [ð])
/m/—labiodental in *ten forks, come for me* (influence of [f])

(2) *Voice*—devoicing of continuants following a voiceless consonant.

(a) *within word:*
/l,r,w,j/—devoiced following voiceless consonants, e.g *cry, plight, quite, queue*
/m,n,ŋ/—slightly devoiced following voiceless consonants, e.g. *smoke, snow, mutton, open* /ˈəʊpm̩/, *bacon* /ˈbeɪkŋ̩/

(b) *at word boundaries* (only in close-knit sequences):
/l,r,w,j/—devoiced following voiceless consonants, e.g. *at last* [əˈtl̥ɑːst], *at rest* [əˈtr̥est], *at once* [əˈtw̥ʌns], *see to it* [ˈsiːtw̥ɪt], *thank you* [ˈθaŋkj̊uː].

Note also the devoicing of word-final voiced plosive or fricative consonants before silence, and of fricatives when followed by a voiceless consonant; and of word-initial voiced fricative or plosive consonants when preceded by silence, e.g. in *What can you give?* ([v̥]); *Can you breathe?* ([ð̥]); *It's his* ([z̥]); *near the bridge* ([d̥ʒ̊]); *They've* ([v̥]) *come*; *with* ([ð̥]) *some*; *He's* ([z̥]) *seen it*; *George* ([d̥ʒ̊]) *can*; ([v̥]) *very good* ([d̥]); ([ð̥]) *there*; ([z̥]) *Zinc does* ([z̥]).

(3) *Lip position*—under the influence of adjacent vowels or semi-vowels.

(a) *within word*:

	lip-spread	lip-rounded[2]
/p/	*pea, heap*	*pool, hoop, upward*
/t/	*tea, beat*	*two, boot, twice, outward*
/k/	*keep, speak*	*cool, spook, quite, backward*
/m/	*mean, seem*	*moon, loom, somewhat*
/n/	*knee, seen*	*noon, onward*
/l/	*leave, feel*	*bloom, fool, always*
/r/[3]	*read*	*rude, route*
/f/	*feel, leaf*	*fool, roof*
/s/	*seat, geese*	*soon, goose, sweep*
/ʃ/	*sheet, leash*	*shoot, douche, dishwasher*
/h/	*he, heat*	*who, whom, hoot*

(b) *at word boundaries*, e.g. /t,k,n,ŋ,l,s/ are somewhat labialised in such cases as *that one, thick one, thin one, wrong one, shall we, this way*; a rounded vowel (as opposed to semi-vowel) in an adjacent word does not seem to exert the same labialising influence, e.g. /uː/ does not labialise /s/ markedly in *Who said that?* nor does /ɔː/ in *this ought to.*

(4) *Nasal resonance*[4]—resulting particularly from regressive but also from progressive lowering of the soft palate in the vicinity of a nasal consonant.

(a) *within word*: nasalisation of vowel preceding /m/ in *ham* and /n/ in *and*, of vowel between nasal consonants in *man, men, innermost*, and of short vowels on each side of the nasal consonant in *any, sunny, summer, singer*; also /l/ in such situations as in *helmet, wrongly*; and possible slight nasalisation of vowel following /m,n/, as in *meal, now*.

(b) *at word boundaries*: vowels may sometimes be nasalised somewhat by the boundary nasal consonant of an adjacent word, especially when an adjacent nasal consonant also occurs in the word containing the vowel,

e.g. the first /ə/ in *bring another*, or /ɪ/ in *come in*, but sometimes also with no adjacent nasal consonant in the word containing the vowel (usually unaccented), e.g. /ə/ in *come along*, *wait for me*, /ɪ/ in *every night*. Approximants may also be nasalised by a nasal in an adjacent word, e.g. /l/ in *tell me*.

12.4.2 Phonemic variations

Different phoneme selection within the same word may occur (either between two speakers or between different styles of speech in the same speaker) depending on the degree of assimilatory pressure felt by the speaker, e.g. *length* may be /leŋθ/, /leŋkθ/, or /lenθ/, *encounter* may have /ɪn/ or /ɪŋ/ in the first syllable, *disgrace* may have final /s/ or /z/ in the first syllable, *absolutely* may have final /b/ or /p/ in the first syllable and *issue* may have medial /sj/ or a coalesced form /ʃ/. Historically a phonemic change within a word can sometimes be due to assimilation to surrounding sounds, e.g. by labialisation /wa(ː)/ → /wɒ/ or /wɔː/ (*swan*, *water*) or by coalescence /ɪr,er,ʊr/ → /ər/ → /ɜː/ under the influence of the post-vocalic /r/ (*first*, *earth*, *curse*) and /sj,zj/ → /ʃ,ʒ/ (*mansion*, *vision*).

Many phonemic changes occur in connected speech at word boundaries (i.e. changes as compared with the phonemic pattern of words' citation forms). Such phonemic variation is found in changes within the pairs of voiced/voiceless phonemes and especially in changes involving modification of the place of articulation.

12.4.3 Voiced/voiceless variations

Word-final voiced fricatives followed by a word-initial voiceless consonant may with some speakers be realised as the corresponding voiceless fricative, if the two words form part of a close-knit group. Thus the final /ð/ of *with* may be replaced by /θ/ in *with thanks*; the final /z/ of *was* by /s/ in *He was sent*; and the final /v/ of *of*, *we've*, by /f/ in *of course*, *We've found it*. Such a change to a voiceless fricative is an extension of the allophonic devoicing of such consonants mentioned in §12.4.1(2). The phonemic change in such examples will be complete in that a preceding long vowel or diphthong will be realised in the reduced form appropriate to a syllable closed by a voiceless consonant (See §8.4.1 Notes (4)–(8), 9.2.1(5), 9.4(4)).

The weak form of *is* or *has* is /s/ or /z/ according to the final consonant of the preceding word, cf. *the cat's paw*, *the cat's gone* /kats/ vs *the dog's paw*, *the dog's gone* /dɒgz/.

It is unusual in GB for word-final /b,d,g/ to be influenced in the same way by following voiceless consonants, though voiceless forms may be heard in such contexts in the speech of some parts of northern England, e.g. the /d/ of *good time* and the /g/ of *big case* may be realised as /t,k/.

It is to be noted that word- or morpheme-final voiceless consonants in English do not assimilate to their voiced counterparts: such pronunciations of *nice boy*, *black dress*, *half-done*, *they both do*, *wishbone*, *birthday*, as /ˈnaɪz ˋbɔɪ, ˈblag ˋdres, ˈhaːv ˋdʌn, ðeɪ ˈbəʊð ˋduː, ˋwɪʒbəʊn, ˋbɜːðdeɪ/ do not occur in GB.

12.4.4 Nasality and labialisation

Phonemic assimilations involving nasality (i.e. anticipation or continuation of the lowered soft palate position) would be likely to show /b/ (or /v/) → /m/, /d/ (or /z/ or /ð/) → /n/, /g/ → /ŋ/, such changes being based on roughly homorganic mouth articulations; nasalisation of other sounds, e.g. /l/ or vowels, is never phonemic, there being no nasalised counterparts with approximately homorganic mouth articulation. Such phonemic nasalisation as does occur concerns mainly the alveolars, especially adjacent to the negative *not* often written *n't*. A preceding voiced consonant, most commonly a plosive, becomes a nasal (and at the same time the final /t/ may be elided). These changes are characteristic only of rapid speech, e.g.

/d/ → /n/—*He wouldn't do it* /hi ˈwʊnn(t) ˋduː ɪt/, *good news* /ˈgʊn ˋnjuːz/
/d/ → /g/ → /ŋ/—*He couldn't go* /hi ˈkʊŋŋ(k) ˋgəʊ/
/d/ → /b/ → /m/—*Good morning* /gʊm ˋmɔːnɪŋ/
/v/ → /m/—*You can have mine* /jʊ kŋ ham ˋmaɪn/
/z/ → /n/—*He doesn't know* /hi ˈdʌnn(t) ˋnəʊ/
/ð/ → /n/—*He wasn't there* /hi ˈwɒnn(t) ˋnɛː/

The nasalised assimilated form may itself be elided, giving /ˈgʊ ˋnjuːz, gʊ ˋmɔːnɪŋ, hi ˈwɒn ˋnɛː/ etc. Note also *I don't know* /aɪ dəˋnəʊ/, sometimes written *I dunno*.

The extension of labialisation produces no changes of a phonemic kind, since lip-position is not a distinctive feature opposing any two phonemes in GB. /ɒ/ and /ɑː/ come nearest to having an opposition of lip action, but the lip-rounding for /ɒ/ is very slight and open and, in any case, there is some difference of tongue position and a considerable difference of length. Where /w/ precedes a vowel of the /ɑː/ type (and, therefore, might be expected to exert a rounding influence), either labialisation has become established at an earlier stage of the development of the language (e.g. in *was*, *what*, *war*, *water*) or two pronunciations are today permitted, e.g. *qualm* /kwɑːm/ or /kwɔːm/, *quaff* /kwɑːf/ or /kwɒf/. Labialisation of /ɑː/ involving a phonemic change to /ɒ/ or /ɔː/ does not extend beyond word boundaries, e.g. in *two arms* or *The car won't go*. But some confusion may occur between a strongly centralised form of /əʊ/ and /ɜː/ in a labial context, cf. *They weren't wanted* and *They won't want it*. Such confusion may also occur when speakers used a labialised form of /r/ (see §9.7.2) in *They weren't right* vs *They won't write*.

12.4.5 Variations of place

The most common phonemic changes at word boundaries concern changes of place of articulation, particularly involving de-alveolarisation. Though such changes are normal in casual speech, speakers are usually unaware that they are being made. The phenomenon is essentially the same as that resulting in non-phonemic assimilation of place. Electropalatographic research[5] shows that phonemic assimilations of place are rarely complete, e.g. in an assimilation involving an apparent change from alveolar to labial, as in *bad boy* → /bab bɔɪ/, some residual articulation on the teeth ridge may accompany the labial articulation. (See §9.2.6(2), 9.6.2(2).)

(1) *Regressive (or anticipatory) assimilation: instability of final alveolars*
Word-final /t,d,n,s,z/ readily assimilate to the place of the following word-initial consonant while retaining the original voicing. /t,d,n/ are replaced by bilabials before bilabial consonants and by velars before velar consonants; /s,z/ are replaced by palato-alveolars before consonants containing a palatal feature:[6]

/t/ → /p/ before /p,b,m/, e.g. *that pen, that boy, that man* /ðap `pen, ðap `bɔɪ, ðap `man/
→ /k/ before /k,g/, e.g. *that cup, that girl* /ðak `kʌp, ðak `gɜːl/
/d/ → /b/ before /p,b,m/, e.g. *good pen, good boy, good man* /gʊb `pen, gʊb `bɔɪ, gʊb `man/
→ /g/ before /k,g/, e.g. *good concert, good girl* /gʊg `kɒnsət, gʊg `gɜːl/
/n/ → /m/ before /p,b,m/, e.g. *ten players, ten boys, ten men* /tem `pleɪəz, tem `bɔɪz, tem `men/
/n/ → /ŋ/ before /k,g/, e.g. *ten cups, ten girls* /teŋ `kʌps, teŋ `gɜːlz/

(As a result of word-final assimilations, /ŋ/ may be preceded by vowels other than /ɪ,e,a,ɒ,ʌ/. Thus /ŋ/ can occur after long vowels as a result of assimilation, e.g. *I've been* /biːŋ/ *gardening*, *She'll soon* /suːŋ/ *come*, *his own* /əʊŋ/ *car*, etc.)

Assimilations to alveolars and between labials and velars may sometimes be heard in rapid speech, e.g. *same night* /seɪn `naɪt/, *king Charles* /kɪn `ʧɑːlz/, *same kind* /seɪŋ `kaɪnd/, *blackmail* /`blapmeɪl/.

/s/ → /ʃ/[7] before /ʃ,ʧ,ʤ,j/, e.g. *this shop, cross channel, this judge, this year* /ðɪʃ `ʃɒp, krɒʃ `ʧanəl, ðɪʃ `ʤʌʤ, ðɪʃ `jɪə/.
/z/ → /ʒ/ before /ʃ,ʧ,ʤ,j/, e.g. *those young men* /ðəʊʒ ˈjʌŋ `men/, *cheese shop* /`ʧiːʒ ʃɒp/, *those churches* /ðəʊʒ `ʧɜːʧɪz/, *has she?* /`haʒ ʃi/ or /`haʃ ʃi/.

Other assimilations involving fricatives may occur in rapid speech: /θ,ð/ may assimilate to /s,z/, e.g. *I loathe singing* /aɪ ləʊz `sɪŋɪŋ/, *What's the time?* /wɒts zə `taɪm/, *Has the post come?* /haz zə ˌpəʊs kʌm/.

Alveolars have a high frequency of occurrence in word-final position, especially when inflexional, and so their assimilation leads to many neutralisations in connected speech, e.g. /raŋ `kwɪkli/ (*ran* or *rang quickly*), /raɪp `pɛːz/ (*right* or *ripe pears or pairs*), /laɪk `kriːm/ (*like* or *light cream*), /`hɒp mənjʊə/ (*hot* or *hop manure*), /parɪʃ `ʃəʊ/ (*Paris Show* or *parish show*), /wɒʧ ʃɔː `weɪt/ (*What's* or *Watch your weight*), or, with a neutralisation to a labiodental articulation, /`greɪp vaɪn/ (*great* or *grape vine*), [rʌɱ fə jɔː `mʌni] (*run* or *rum for your money*).

When alveolar consonants /t,d,n/ are adjacent in clusters or sequences susceptible to assimilation, all (or none) of them will undergo the assimilation, e.g. *Don't* /dəʊmp/ *be late*, *He won't* /wəʊŋk/ *come*, *I didn't* /dɪgŋk/ *go*, *He found* /faʊmb/ *both*, *a kind* /kaɪŋg/ *gift*, *red and black* /reb m `blak/. Elision may also reduce these clusters (see §12.4.6 below).

(2) *Coalescence of* /t,d,s,z/ *with* /j/
The process which has led historically to earlier /t,d,s,z/ + /j/ giving /ʧ,ʤ,ʃ,ʒ/ medially in a word (*nature, grandeur, mission, vision*—§9.3.1) may operate in casual speech at word boundaries, e.g.

/t/ + /j/—*what you want* /wɒʧu `wɒnt/
/d/ + /j/—*Would you?* /`wʊʤu/
/s/ + /j/—*in case you need it* /ɪŋ keɪʃu `niːd ɪt/
/z/ + /j/—*Has your letter come?* /haʒɔː `letə kʌm/, *as yet* /ə`ʒet/

The coalescence is more complete in the case of /t,d/ + /j/ (especially in question tags, e.g. *didn't you?*, *could you?*); in the case of /s,z/ + /j/, the coalescence into /ʃ,ʒ/ may be marked by extra length of friction, e.g. *Don't miss your train* /`dəʊmp mɪʃʃɔː `treɪn/.

In careful speech, some GB speakers may use somewhat artificial, uncoalesced, forms within words, e.g. *nature, question, unfortunate, soldier* /`neɪtjə, `kwestjən, ʌn`fɔːtjʊnət, `səʊldjə/. Such speakers will also avoid coalescences at word boundaries; yet other careful speakers, who use the normal coalesced forms within words, may consciously avoid them at word boundaries. (See also §12.5 below.)

(3) *Progressive (or perseverative)*
Progressive assimilation is relatively uncommon. It may occur when a plosive is followed by a syllabic nasal and the nasal undergoes assimilation to the same place of articulation as the preceding plosive, e.g. /n/ → /m/ after /p,b/, *happen, urban* /`hapm, `ɜːbm/; and /n/ → /ŋ/ after /k,g/ in *second chance, organ* as /sekŋ `ʧɑːns, `ɔːgŋ/.

12.4.6 Elision

Apart from word-internal elisions (see §10.8) and those associated with weak forms, other ELISION of sounds occurs in rapid speech, especially at or in the vicinity of word boundaries.

(1) *Vowels*

(a) *Allophonic variation*—When one syllable ends with a closing diphthong (i.e. one whose second element is closer than its first, in GB /eɪ,aɪ,ɔɪ,əʊ,aʊ/) and the next syllable begins with a vowel, the second element of the diphthong may be elided. Word-internal examples of the type discussed in §8.11 (e.g. *hyaena* /haɪˋiːnə/ smoothed to [haˋiːnə]) may result in neutralisation, thus *layer* /ˋleɪə/ with smoothing is the same as *lair* /leː/, *mower* /ˋməʊə/ with smoothing is the same as *myrrh* /mɜː/. Similar smoothing occurs across word boundaries, e.g. *go away* /gɜː ˋweɪ/, *may as well* /aɪ mɛːz ˋwel/, *I enjoy it* /aɪ ɪnˋdʒɔː ɪt/, *try again* [tra ə ˋgen] or [traː ˋgen].

(b) *Phonemic elision*—Initial /ə/ is often elided particularly when followed by a continuant and preceded by a word-final consonant (compensation for the loss of /ə/ frequently being made by the syllabicity of the continuant), e.g. *not alone* [nɒt ˋl̩əʊn], *get another* [get n̩ ˋʌðə], *run along* [rʌn l̩ ˋɒŋ], *he was annoyed* [hi wəz ˋn̩ɔɪd]. When final /ə/ occurs with following linking /r/ (see §12.4.7) and word-initial vowel, /ə/ may be elided, e.g. *after a while* /ɑːftrə ˋwaɪl/, *as a matter of fact* /əz ə mætrəv ˋfakt/, *father and son* /fɑːðrən ˋsʌn/, *over and above* /əʊvrən əˋbʌv/. When *any* is unaccented /e/ may be elided following a previous consonant, e.g. *don't put any* . . . /ˋpʊtn̩i/ or /ˋpʊtni/. Word-initially whole syllables containing /ə/ may be elided, e.g. *before I go* . . . /fɔːr aɪ ˋgəʊ/, *between you and me* /twiːn ju əm ˋmi/.

(2) *Consonants*—In addition to the loss of /h/ in pronominal weak forms and other consonantal elisions typical of weak forms (see §11.3), the alveolar plosives are apt to be elided. Such elision appears to take place most readily when /t/ or /d/ is the middle one of three consonants. Any consonant may appear in third position, though elision of the alveolar plosive is relatively rare before /h/ and /j/. Thus elision is common in the sequence voiceless continuant + /t/, or voiced continuant + /d/ (e.g. /-st, -ft, -ʃt, -nd, -ld, -zd, -ðd, -vd/) followed by a word with an initial consonant,[8] e.g. *next day, raced back, last chance, first light, west region, just one*; *left turn, soft centres, left wheel, drift by, soft roes*; *mashed potatoes, finished now, finished late, pushed them*; *bend back, tinned meat, lend-lease, found five, send round, dined well, hold tight, old man, cold lunch, bold face, world religion*; *refused both, gazed past, caused losses, raised gently*; *loathed beer*; *moved back, loved flowers, saved runs, served sherry*. Similarly, word-final clusters of voiceless plosive or affricate + /t/ or voiced plosive or affricate + /d/ (e.g. /-pt, -kt, -ʧt, -bd, -gd, -ʤd/) may lose the final alveolar stop when the following word has an initial consonant, e.g. *kept quiet, helped me, stopped speaking, jumped well*; *liked jam, thanked me, looked like, looked fine, picked one*; *reached Paris, fetched me, reached Rome, parched throat*; *robbed both, rubbed gently, grabbed them*; *lagged behind, dragged down, begged one*; *changed colour, urged them, arranged roses, judged fairly*. (In the sequence /-skt/, /k/ rather than /t/ is often elided, e.g. *risked prison, asked them*.) The final clusters /-nt, -lt/, which are the only alveolar sequences which involve a change of voicing, are less prone to elision, the /t/ often remaining as [ʔ] e.g. *went down*. Elision of a plosive medial in three or more is to be expected, since, because of the normal lack of release of a stop in such a situation, the only cue to its presence is likely to be the total duration of closure. It will be seen that in many cases, e.g. in *I walked back, They seemed glad*, elision of word-final /t/ or /d/ eliminates the phonetic cue to past tense, compensation for which is made by the general context.

Elision of final /t/ or /d/ is rarer before initial /h/, e.g. the alveolar stops are more regularly retained in *kept hold, worked hard, East Ham, reached home, gift horse, rushed home, grabbed hold, round here, bald head, jugged hare, changed horses, raised hands, moved house*. Final /t,d/ followed by a word beginning with /j/ are usually kept in a coalesced form, i.e. as /ʧ/ and /ʤ/, e.g. *helped you, liked you, lost you, left you, grabbed you, first use, lost youth*.

The /t/ of the negative /-nt/ is often elided (see also §12.4.4), particularly in disyllables, before a following consonant, e.g. *You mustn't lose it* /jʊ mʌsn ˋluːz ɪt/, *Doesn't she know?* /dʌzn ʃi ˋnəʊ/, and sometimes before a vowel, e.g. *Wouldn't he come?* /wʊdn i ˋkʌm/, *You mustn't over-eat* /jʊ mʌsn əʊvərˋiːt/. Less common is the omission of the stops in the negative /-nt/ component of monosyllables, e.g. *He won't do it* /hi wəʊn ˋduː ɪt/.

Clusters of word-final /t/ and word-initial /t/ or /d/ are sometimes simplified in rapid speech, e.g. *I've got to go* /aɪv gɒtə ˋgəʊ/, *What do you want?* /wɒdə ju ˋwɒnt/ or /wɒʤu ˋwɒnt/, and less commonly /d/ before /t/ or /d/, e.g. *We could try* /wi kʊ ˋtraɪ/, *They should do it* /ðeɪ ʃə ˋduː ɪt/.

The elision of one of a boundary cluster of only two consonants sometimes occurs in rapid speech, e.g. *He went away* /hi wen əˋweɪ/, *I want to come* /aɪ ˋwɒnə kʌm/ (< /aɪ ˋwɒntə kʌm/, which frequently occurs), *Give me a cake* /gɪ mi ə ˋkeɪk/, *Let me come in* /lemi kʌm ˋɪn/, *Get me some paper* /gemi sm ˋpeɪpə/, as well as the very reduced forms of *I'm going to* /ˋaɪm gənə, ˋaɪŋənə, ˋaɪŋnə/. The /v/ in *of* can be elided in rapid speech before a consonant, e.g. *a piece of cake* /ə piːs ə ˋkeɪk/, (see also note 41 to §9.4.3(2)). Clusters in adverbs formed with *-ly* are also liable to reduction in casual speech, e.g. *stupidly* /ˋstjuːpɪli/, *openly* /ˋəʊpəni/, *certainly* /ˋsɜːtni/.

12.4.7 Liaison

(1) *Linking* /r/—As has been mentioned in §9.7.2(2)(a), GB introduces word-final post-vocalic /r/ as a linking form when the following word begins with a vowel (and in a some cases in morpheme-final position before a suffix as in *bore* /bɔː/ *boring* /bɔːrɪŋ/). The vowel endings to which an /r/ link may be added are /ɛː,ɑː,ɔː/ and those single or complex vowels which may

have a final [ə] (/ə,ɛː,ɜː,ɪə,ʊə/), e.g. in *far off*, *four aces*, *answer it*, *wear out*, *fur inside*, *near it*, *secure everything*. Prescriptivists seek to limit the use of linking /r/ to those cases where there is an <r> in the spelling; nevertheless many examples of linking /r/ occur where there is no <r> in the spelling, such /r/s being labelled as 'intrusive'. Such /r/s are to be heard particularly in the case of [ə] endings, e.g. *Russia and China* /rʌʃər ən ˋʧaɪnə/, *drama and music* /drɑːmər əm ˋmjuːzɪk/, *idea of* /aɪˋdɪər əv/, *India and Pakistan* /ɪndɪər ən pɑːkɪˋstɑːn/, *area of agreement* /ˈɛːrɪər əv əˋgriːmənt/, and rather less frequently after final /ɑː,ɔː/ e.g. *law and order* /lɔːr ənd ˋɔːdə/, *awe-inspiring* /ˋɔːr ɪnspaɪərɪŋ/, *raw onion* /rɔːr ˋʌnjən/. Spelling consciousness remains an inhibiting factor in the use of linking /r/, but the present general tendency among GB speakers is to use /r/ links, even—unconsciously—among those who object most strongly.[9] The comparative rarity of potential contexts for 'intrusive' /r/s following /ɑː,ɔː/ tends to make speakers more aware of the 'correct' forms; thus *I saw it* /aɪ ˋsɔːr ɪt/, *drawing* /ˋdrɔːrɪŋ/, are generally disapproved of, though those who avoid such pronunciations have to make a conscious effort to do so. The focusing of attention on 'intrusive' /r/s as an undesirable speech habit has led to the use by some speakers of a pause or glottal stop in such cases of vowel hiatus, with the result that, in avoiding 'intrusive' /r/s, they have also abandoned other linking /r/s in favour of a glottal stop or a glide between the abutting vowels, e.g. in *secure it* [siːˋkjʊə ʔɪt], *War and Peace* [wɔː ʔənd ˋpiːs]. As might be expected, in those regions where post-vocalic /r/ is pronounced and *pour*, *paw* are identified as separate word forms in isolation, the tendency to introduce intrusive /r/s is less marked than in GB or in GB-influenced types of speech.

The same process is in operation whether the /r/ link inserted is historically justified (linking) or not (intrusive). The examples below demonstrate that the environment is phonetically comparable whether the /r/ link is inserted before a suffix or before a separate word and whether it is linking or 'intrusive'.

stir	*stirring*	*stir it in*		
/stɜː	ˋstɜːrɪŋ	ˈstɜːr ɪt ˋɪn/		
dear	*dearer*	*my dear Anna*	*idea of it*	
/dɪə	ˋdɪərə	maɪ dɪər ˋanə	aɪˋdɪər əv ɪt/	
roar	*roaring*	*roar angrily*	*raw egg*	*strawy*
/rɔː	ˋrɔːrɪŋ	rɔːr ˋaŋgrəli	rɔːr ˋeg	ˋstrɔːri/
star	*starry*	*a star in the sky*	*the spa at Bath*	*schwaish*
/stɑː	ˋstɑːri	ə stɑːr ɪn ðə ˋskaɪ	ðə spɑːr ət ˋbɑːθ	ˋʃwɑːrɪʃ/

There appears to be some graduation in the likelihood of occurrence of inserted /r/, as follows:

(a) The insertion of /r/ is obligatory before a suffix beginning with a vowel, where the /r/ is historical, e.g. *boring*.

(b) The insertion of /r/ is optional, though generally present, before an immediately following word beginning with a vowel, where the /r/ is historical, e.g. *pour it*, *over and over again* /əʊvər ənd əʊvər əˋgen/.

(c) After [ə] an inserted /r/, even though not historical, is generally used before a following word beginning with a vowel, e.g. *vanilla essence* /vənɪlər ˋesəns/, *vodka and tonic* /vɒdkər ən ˋtɒnɪk/.

(d) After /ɑː/ and /ɔː/ an inserted /r/, when not historical, is often avoided before a following vowel, e.g. *nougat and chocolate* /nuːgɑːr ən ˋʧɒklɪt/, *straw in the wind* /strɔːr ɪn ðə ˋwɪnd/.

(e) The insertion of /r/ before a suffix, where the /r/ is not historical, is often strongly stigmatised, e.g. *strawy* /ˋstrɔːri/, *gnawing* /nɔːrɪŋ/.

Phonetically (as well as historically) the resulting /r/ closes the syllable rather than being initial in the next, e.g. the /r/ of *more ice* /mɔːr ˋaɪs/ is shorter than that of *more rice* /mɔː ˋraɪs/, the latter also being associated with accent onset and possible pitch change (see further in §12.4.8 below).

(2) *Linking* [ʲ,ʷ]—In vocalic junctures where the first word ends in /iː/, /ɪ/, /i/, /eɪ/, /aɪ/, or /ɔɪ/, a slight linking [ʲ] may be heard between the two vowels, e.g. *my arms* [maɪ ˋʲɑːmz], *may ask* [meɪ ˋʲɑːsk], *he ought* [hi ˋjɔːt], *annoy Arthur* [ənɔɪ ˋʲɑːθə], *beauty and* [bjuːti ˋʲənd]. But this is not sufficient to be equated with phonemic /j/; indeed there are minimal pairs which illustrate the difference between linking [ʲ] and phonemic /j/, *my ears* [maɪ ˋʲɪəz] vs *my years* [maɪ ˋjɪəz], and *I earn* [aɪ ˋʲɜːn] vs *I yearn* [aɪ ˋjɜːn]. Similarly a linking [ʷ] may be heard between a final /uː/, /əʊ/ and /aʊ/ and a following vowel, e.g. *window open* [windəʊ ˋʷəʊpən], *now and then* [naʊ ʷənd ˋðen], *you aren't* [juː ˋʷɑːnt]; and minimal pairs illustrating linking [ʷ] and phonemic /w/ can be found, e.g. *two-eyed* [tuː ˋʷaɪd] vs *too wide* [tuː ˋwaɪd]. Alternative pronunciations, more frequent in rapid speech, in the case of the sequences of diphthong plus following vowel, involve the absorption of the second element of the diphthong, i.e. of the [ɪ] in the case of /eɪ,aɪ,ɔɪ/ and of the [ʊ] in the case of /əʊ,aʊ/, giving renderings like *annoy Arthur* /ənɔː ˋɑːðə/, *my ears* /mɑː ˋɪəz/, *window open* /ˋwɪndə əʊpən/ or / ˋwɪndər əʊpən/ (see further under §8.11(8) above).

In yet another possibility, the linking [ʲ] or [ʷ] may be replaced by a glottal stop. This is most common before a vowel beginning an accented syllable, e.g. *very angry* [veri ˋʔaŋgri] (see further §9.2.8). However, a glottal stop in such cases is not so often used as in some other languages, e.g. German, and is usually associated in English with some degree of emphasis.

(3) *Other boundaries*—It is unusual for a word-final consonant to be carried over as initial in a word beginning with an accented vowel, the identity of the words being retained (see §12.4.8). Thus, *run off, give in, less often* are rarely /rʌˋnɒf, gɪˋvɪn, leˋsɒfn/ (shown because the nuclear tone, usually high fall in citation, does not begin on the consonant); and *get up, look out, stop arguing* are not usually [ge ˋtʰʌp, lʊ ˋkʰaʊt, stɒ ˋpʰɑːgjʊɪŋ] (the plosives lacking the strong aspiration characteristic of an accented syllable-initial position). One or two phrases in common use do, however, show such transference, e.g. *at home, not at all* are often pronounced [ə ˋtʰəʊm, nɒt ə ˋtʰɔːɫ]; they may be considered as constituting, in effect, composite word forms.

12.4.8 *Juncture*

As we have seen in the previous sections words may be considerably modified at boundaries by factors like assimilation and elision. Nevertheless some phonetic features may be retained which mark word or morpheme boundaries (generally referred to as JUNCTURE). Thus, the phonemic sequence /piːstɔːks/ may mean *peace talks* or *pea stalks* according to the different word boundaries (i.e. /piːs + tɔːks/ or /piː + stɔːks/). In this case, if the boundary occurs between /s/ and /t/, the words *peace* and *talks* are established by the reduced /iː/ (in a syllable closed by a voiceless consonant) and by the aspiration of /t/; on the other hand, if the boundary occurs between /iː/ and /s/, this may be signalled by the relatively full length of /iː/ (in an open word-final syllable) and by the unaspirated allophone of /t/ (following /s/ in the same syllable) as well as a stronger /s/ word-initially than word-finally.

The following examples illustrate various ways in which phonetic cues may mark word boundaries:

(a)	*I scream*	/aɪ skriːm/	: long /aɪ/, strong /s/, little devoicing of /r/
	ice cream	/aɪs kriːm/	: reduced /aɪ/, weak /s/, devoiced /r/
(b)	*why choose*	/waɪ ʧuːz/	: long /aɪ/, short [ʃ] as element of /ʧ/
	white shoes	/waɪt ʃuːz/	: reduced /aɪ/, long /ʃ/
(c)	*a name*	/ə neɪm/	: relatively long /n/ word-initially
	an aim	/ən eɪm/	: relatively short /n/ word-finally possibility of glottal stop before /eɪ/

The glottal stop before a vowel beginning an accented syllable in the last example is optional and generally not used unless emphasis is required (see §9.2.8).

Similarly, a sequence of words may be distinguished from a single word:

(a)	nitrate	/naɪtreɪt/	: devoiced /r/
	night-rate	/naɪt reɪt/	: little devoicing of /r/
(b)	illegal	/ɪliːgl/	: clear [l] before vowel
	ill eagle	/ɪl iːgl/	: dark [ɫ] in word-final position possibility of glottal stop before /iː/

Junctural cues are only potentially distinctive and may not be present in connected (particularly rapid) speech or may have only slight phonetic value. In any case, such cues to word identification are merely additional to the large number provided by the context.

12.5 Stylistic variation[10]

All the features of connected speech discussed in this chapter are common in the casual speech of native speakers of English and the lack of such features would be abnormal. But GB is not a monolithic accent and displays considerable variation even within the speech of one speaker, particularly in the use of the features detailed here. Many factors influence this variation and a major factor is style of discourse, e.g. whether a speaker is being careful or casual, slow or rapid. Moreover the average rate of delivery[11] differs from speaker to speaker regardless of discourse style.

(1) *Intonation*
In all styles of speech, simple falls in pitch (whether from a high or a mid starting-point) account for the majority of nuclear tones, between 60 per cent and 70 per cent in most conversations.[12] The falling-rising nuclear tone accounts on average for roughly 20 per cent. Thus it may be seen that speech exhibiting a large number of rises or rise-falls is conspicuous in this respect. Casual speech has longer intonational phrases and contains fewer accented syllables than careful speech. Careful speech often shows a concentration of fall-rises or simple rises, e.g. *If you pull them ˏoff | and put them in a glass of ˏwater | they grow little ˋroots | and ˏthen | you plant them in ˏsoil | and they ˏgrow | and then you've got aˋnother spider plant.*

(2) *Weak forms*
The use of strong and weak forms does not appear to be a matter of style except insofar as the more frequent occurrence of strong forms in more careful speech results from additional accents. The use of strong and weak forms is entirely regular in both careful and casual styles of speech: weak forms occur unless the grammatical word is accented. Since IPs are shorter in careful speech, there will be more accents and hence more strong forms.

(3) *Linking /r/*
As with weak forms, linking /r/ is frequent in all styles of speech, though an /r/ link is not necessarily used on every occasion where such an insertion would be possible. (See §12.4.7.) Its occurrence is of no stylistic significance. (The avoidance of so-called intrusive /r/ results from a deliberate carefulness shown by some speakers.)

(4) *Assimilation*
Assimilations occur in all styles of speech. But unassimilated forms generally occur more often than assimilated forms, which tend to increase in frequency in the more casual style of speech. But rate of utterance on its

own does not govern the use of assimilation. One speaker who had /ʃʌtɪŋ/ for *just shutting* when speaking carefully, nevertheless had /ˈhɔːʃ ʃəʊ/ for *horse show* when speaking rapidly. Speakers use palato-alveolar assimilations (of the kind /ˈspeɪʃ ʃʌtl/ for *space shuttle*) and bilabial assimilations (of the kind /ðap ˈpɜːsn/ for *that person*) less commonly than they use velar assimilations (of the kind /ʃɔːk ˈkʌt/ for *short cut*). Such velar assimilation is also more common than coalescent assimilations (such as /d/ + /j/→/dʒ/ as in /nəʊtɪˈdʒɒtsmən/ for *noted yachtsman* or /z/ + /j/→/ʒ/ as in /bɪˈkɒʒu/ for *because you*). But coalescence is frequent in common phrases such as the auxiliary plus pronoun of phrases like *did you*, *can't you* /ˈdɪdʒu, ˈkɑːntʃu/ and may occur even in careful speaking, e.g. *Would you like a cup of tea?* /ˈwʊdʒu ˈlaɪk ə ˈkʌp əv ˌtiː/.

(5) *Elision*

Elisions do show some correlation with rate of delivery. In all styles they become more frequent as the rate of utterance increases; but, whereas in careful speech they are almost entirely regular (e.g. alveolar plosives may be elided interconsonantally, /ə/ in pre-nuclear unaccented syllables and /h/ in unaccented non-initial grammatical words—see §12.4.6), in casual speech they are less rule-bound and may contain unpredictable elisions such as those of /l/ and /ð/ in *Well, that's all right* /we ˈats ɔː ˌraɪt/.

(6) *Co-occurrence of phonemic features of connected speech*

The occurrence of /r/ links, elisions and assimilations is optional in the sense that when the appropriate phonetic environments occur, these processes may or may not operate. If such processes do operate, they will follow the regular patterns described in §§12.4.5–12.4.7. Utterances often contain both assimilation and elision in conjunction together. In word-final position, after the elision of a final /t/ or /d/ the remaining fricative or nasal may be assimilated to the initial consonant of the following word, e.g. *closed shop* /kləʊzd ˈʃɒp → kləʊz ˈʃɒp → kləʊʒ ˈʃɒp/, *hand made* /hand ˈmeɪd → han ˈmeɪd → ham ˈmeɪd/ and *just shutting* /dʒʌst ˈʃʌtɪŋ → dʒʌs ˈʃʌtɪŋ → dʒʌʃ ˈʃʌtɪŋ/.

(7) *Plosive release*

An important type of (non-phonemic) variation concerns the release of plosives, particularly the voiceless series. As noted in §9.2.4(2), a plosive usually has an inaudible release when followed by another stop consonant. But in careful speech, there is a marked increase in the number of audibly released plosives, e.g. *I looked quizzical* [aɪ lʊktʰ ˈkwɪzɪkəl]. Women release their final stops more than men.[13]

12.6 Frequency of occurrence of monosyllabic and polysyllabic words

The following percentages of occurrence of words with different numbers of syllables were found in one corpus of conversations:[14] 1 syllable—82 per cent; 2 syllables—15 per cent; 3 syllables—2.7 per cent; 4 syllables—0.3 per cent, 5 or more syllables—0.03 per cent. When the 1,000 most common words used were examined,[15] it was calculated that some 15 per cent admit of the kind of phonemic variability mentioned in §10.9 and §11.3. Half of such words permitting phonemic variation were monosyllables whose phonemic structure depended upon the degree of accent placed upon them, i.e. most words with phonemic variability were function words.

12.7 Advice to foreign learners

Foreign learners need not attempt to reproduce in their speech all the special context forms of words mentioned in the foregoing sections. But those aiming at native speaker competence should observe the rules concerning weak forms, should cultivate the correct variations of word accentual patterns and should make a proper use of liaison forms, avoiding in particular an excess of pre-vocalic glottal stops. In addition, they should be aware of the English assimilatory tendencies governing words in context, so as to avoid un-English assimilations such as *I like that* /aɪ ˈlaɪɡ ˌðat/ (incorrect voicing) or *I was there* /aɪ wəð ˈðɛː/ (incorrect dental modification of the place of articulation). In listening to native speakers, they should be aware of the types of assimilation and elision which have been described above; otherwise they will find it difficult to understand much of ordinary colloquial English. This knowledge is particularly important because a second language is often learned on a basis of isolate word forms whereas in conversation these will be frequently modified.

The foreign learner is recommended to aim at a relatively careful pronunciation of English in his own speech but to be aware of the features which characterise more casual pronunciation, particularly by native speakers. The following dialogue illustrates some of the differences which may be found between a more careful and a more casual pronunciation:

A.	What	do	you	think	we	should	do	this	evening?
(1)	ˈwɒt	duː	juː	ˈθɪŋk	wiː	ʃʊd	ˋduː	ðɪs	iːvnɪŋ
(2)	ˈwɒdʒu			ˈθɪŋk	wi	ʃəd	ˋduː	ðəs	iːvnɪŋ

B.	How	many	of	us	will	there	be?
(1)	ˈhaʊ	meni	ˈɒv	ʌs	wɪl	ðɛː	ˋbiː
(2)	ˈhaʊ	mni	əv	əs	l	ðə	ˋbiː

A.	There	are	the	two	of	us,	and	probably	the	two
(1)	ðer	ə	ðə	ˈtuː	əv	ˌʌs/	ənd	ˈprɒbəbli	ðə	ˈtuː
(2)	ðər	ə	ðə	ˈtuː	əv	ˌʌs/	m	ˈprɒbbli	ðə	ˈtuː

	girls	from	next	door.	That'll	be	four	of	us/	already
(1)	ˈɡɜːlz	frəm	ˈnekst	ˋdɔː/	ðatl	bi	ˇfɔːr	əv	əs/	ɔːlˋredi
(2)	ɡɜːlz	frm	neks	ˋdɔː/	ðatl	bi	ˇfɔːr	əv	əs/	ɔːˋredi

	I	think	they'	re	a	nice	young	couple,	don't	you?
(1)	aɪ	'θɪŋk	ðeɪ	ər	ə	`naɪs	jʌŋ	ˌkʌpl/	'dəʊnt	juː
(2)	a(ɪ)	θɪŋk	ðɛːr		ə	`naɪʃ	ʃʌŋ	ˌkʌpl/	'dəʊn	ʃuː

B.

	I've	only	talked	to	them	once,	but	they	seemed	nice
(1)	aiv	əʊnli	`tɔːkt	tə	ðəm	ˌwʌns/	bət	ðeɪ	`siːmd	ˌnaɪs
(2)	a(ɪ)v	əʊni	`tɔːk	tə	ðm	ˌwʌns/	bət	ðe(ɪ)	`siːm	ˌnaɪs

	I	wonder	if	we	should	go	to	the	theatre
(1)	aɪ	'wʌndər	ɪf	wiː	ʃʊd	'gəʊ	tə	ðə	θi`etə
(2)	a(ɪ)	'wʌndr	ɪf	wi	ʃg	'gəʊ	tə	ðə	θi`etə

	I	can	try	and	book	some	seats	round	the	corner
(1)	aɪ	kən	'traɪ	ən	'bʊk	səm	ˌsiːts/	'raʊnd	ðə	`kɔːnə
(2)	a(ɪ)	kŋ	`traː	m	'bʊk	sm	ˌsiːts/	raʊn	ðə	`kɔːnə

Notes

1 Native speakers often make written mistakes of the sort 'I could of gone' illustrating this neutralisation.
2 This will apply only for those speakers who have appreciable rounding of the vowels and semi-vowels. See §8.9.11 for the development of unrounding of /uː/.
3 For some speakers /r/ has inherent labialisation and will not be lip-spread even before a lip-spread vowel.
4 See Cohn (1990). See nasopharynx opening **videos 6.5–10, 8.11. 9.25, 10.11** on the companion website.
5 See Nolan & Kerswill (1990). They also found girls less likely to assimilate than boys and /n/ more likely to assimilate than /d/.
6 See also §12.5 for stylistic variation in the frequency of assimilation.
7 Byrd (1992b) found around 78 per cent of sequences of /s,z/ plus /ʃ/ reduced to a palato-alveolar articulation only (in the TIMIT database of American English), with no effect from syntax, sex, or dialect.
8 Deterding (2005) in a study of newsreaders on the BBC World Service found deletion common in both suffix and stem-final /t,d/ and most common before initial plosives, fricatives and nasals.
9 Noted as long ago as Sweet (1890: ix): 'Thus I know as a fact that most educated speakers of Southern English insert an /r/ in idea(r) of, India(r) Office . . . all obstinately deny it'. A century earlier Sheridan deplored intrusive /r/: 'Another vice . . . adding the letter r to all proper names ending in *a* unaccented, as Belindar, Dorindar, for Belinda, Dorinda' (1762: 46).
10 The information on speech in this section is based on Ramsaran (1978) who used data drawn from twenty hours of recorded conversation involving six GB speakers.
11 The slowest rate of utterance recorded in conversation in Ramsaran (1978) was 189 sylls/min (3.1 sylls/sec, 7.6 segs/sec) and the fastest was 324 sylls/min (5.4 sylls/sec, 13.4 segs/sec). Byrd (1992a) found men speaking 6.2 per cent faster than women.
12 These figures, taken from Ramsaran (1978) are slightly higher than those given in §11.6.2.6.
13 Byrd (1992c).
14 Berry (1953).
15 Gimson (1969).

Part IV

Language teaching and learning