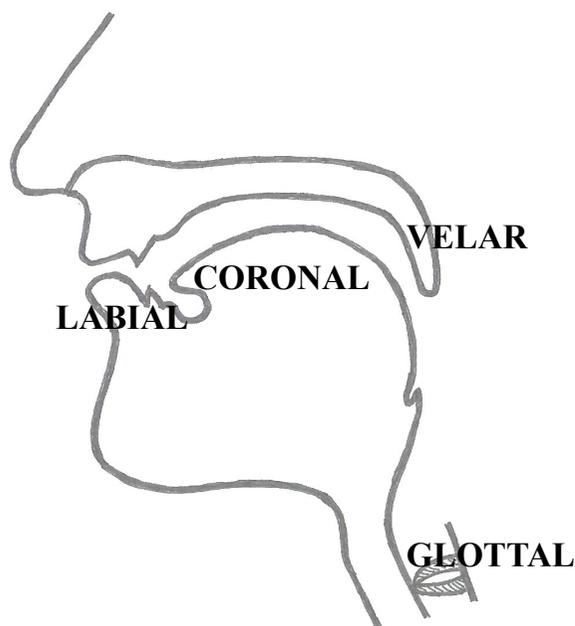


2. The phonology of English consonants: an introduction

Before you study this chapter, check whether you are familiar with the following terms: allophone, compound, deletion, free variation, GA, homophone, larynx, morpheme, nasal cavity, oral cavity, orthography, RP, schwa, soft palate (velum), stress, suffix, syllable, vocal cords

In this chapter we take a brief look at what phonological processes affect the consonants of English, especially those of RP and GA, and which aspect of sound structure determines their behaviour. Since we assume a knowledge of the basics of phonetics, the articulatory classification of consonants will only be touched upon and not discussed in great detail.

According to their articulation, the consonants of English can be classified along three terms: voicing, the place of articulation, and the manner of articulation. **Voicing** results from vocal cord vibration, and it is dealt with in considerable detail in Chapter 6. For the present purposes it is sufficient to say that when the vocal cords vibrate, we get voiced sounds, and when they do not, we get voiceless sounds. The place and manner of articulation refer to where and how the airflow is obstructed during the production of the consonant. There are four major **places of articulation**: **labial** (involving a lip or both lips), **coronal** (involving the blade of the tongue called the corona), **velar** (the back of the tongue moving towards the soft palate or velum), and **glottal** (involving some kind of manipulation of the opening between the vocal cords in the larynx called glottis), which are illustrated in the following diagram showing the cross-section of the head.



These places of articulation can be further divided into subcases, e.g., whether a labial makes use of both lips (bilabial) or just the lower one plus the upper teeth (labiodental). These are included in the consonant chart below.

According to the **manner of articulation**, there are several possible divisions of consonants. For example, some consonants are **oral** (the air escapes through the oral cavity and the mouth), others are **nasal** (the air escapes through the nasal cavity, i.e., the nose). If the articulation involves a total obstruction of the air in the larynx or the oral cavity, that is, if the air is stopped for a short period, we get **stops**, or, in other words, **noncontinuant** sounds. Otherwise the sound is **continuant**. One consonant, /l/, is special: although the tip of the tongue touches the alveolar ridge, which normally results in noncontinuant articulation, in this case the air is able to escape along the sides of the tongue (the name of this manner is **lateral**), and therefore it is generally assumed to belong to the continuants.

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The major subclasses of consonants, however, stem from a further aspect of the manner of articulation: the degree of openness of the vocal tract, with the resulting relative loudness of sounds called **sonority**. The more open the vocal tract (that is, the smaller the degree of obstruction), the more sonorous the sound is. Accordingly, the following classes can be set up.

degree of sonority

—————→
oral stops (plosives) and affricates – fricatives – nasal stops – liquids – glides (semivowels) (– vowels)

As you can see, sonority increases from left to right, and this order of sound classes constitutes a **sonority scale**. That is, **oral stops** and **affricates** are the least sonorous as their production involves complete obstruction to the airflow. The most sonorous consonants are the **glides**, but the most sonorous sounds are the vowels. From **plosives** up to (and including) **fricatives** the obstruction is considerable; these consonants are called **obstruents**. The remaining classes (**nasals**, **liquids**, **glides**) are the **sonorant** consonants because they are dominated by sonority.

The following chart includes all places and manners of articulation relevant to the description of English consonants. When consonants appear in pairs, the one on the right is voiced, the one on the left is voiceless. Unpaired obstruents are voiceless; all sonorants are voiced.

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Place of articulation →		LABIAL		CORONAL				Velar	Glottal	
		Bilabial	Labio-dental	(Inter)-dental	Alveolar	Palato-alveolar	Palatal			
		Two lips together	Lower lip and upper teeth	Blade of tongue against upper teeth / between teeth	Tip of tongue against alveolar ridge	Midway between palatals and alveolars	Tongue blade towards (hard) palate			Tongue body against velum
Manner of articulation ↓										
OBSTRUENTS	Obstruction to airflow	Plosives (oral stops)	p b			t d			k g	ʔ
		Fricatives	Narrow opening, friction	f v	θ ð	s z	ʃ ʒ			h
		Affricates	Begin as plosives, end as fricatives				tʃ dʒ			
SONORANTS	Greater degree of resonance, all voiced	Nasals		m			n			ŋ
		Liquids (approximants)					l	r		
		Obstruction insufficient to cause closure or friction	w						j	(w)

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The obstruents in the shaded cells (s z ʃ ʒ tʃ dʒ) are the hissing and hushing sounds called **sibilants**. The consonant /w/ is produced with two important articulatory gestures, and consequently appears in the chart twice: it involves considerable lip rounding on the one hand, and a velar gesture on the other. For this reason, it is sometimes termed **labio-velar**.

After this brief introduction to the phonetics of consonants, we turn to their phonology, that is, what processes they undergo and trigger. First, let us see one of the most salient differences between RP and GA: the pronunciation of orthographic <r>. Consider a pair of rhymes in the song *An Englishman in New York* by British pop musician Sting, with the rhyming words underlined:

You can hear it in my accent when I talk

I'm an Englishman in New York

The two words, *talk* and *York*, rhyme because Sting (along with millions of English speakers) does not pronounce the <r> in *York*, which is not true for, e.g., the speakers of GA. (Notice that the <l> in *talk* is not pronounced in any accent of English, therefore this word contains three sound segments only.) The result is /tɔ:k/ for *talk* and, more importantly, /jɔ:k/ for *York*. The process whereby certain spelt <r>'s are not pronounced, that is, are deleted in certain accents of English is traditionally called **R-dropping**. Those accents of English whose speakers pronounce all orthographic <r>'s are referred to as **rhotic accents** (after the name of the corresponding letter in the Greek alphabet, *rho*). These include GA, Canadian English, British English in North and South-West England, Scottish English, and Irish English. In contrast, RP, Southern British English (including Cockney and London English), Welsh English, Australian English, New Zealand English, South African English, and American English in New England and parts of Southern US are **non-rhotic**, that is, their speakers drop the <r> when it is followed by a consonant

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or a pause (i.e., nothing in speech), and they only pronounce it when it is followed by a vowel. The following chart illustrates this with a few examples.

no /r/				pronounced /r/		
before a consonant		before a pause		before a vowel		
(a)	(b)	(c)	(d)	(e)	(f)	(g)
<i>Yor<u>k</u></i>	<i>tire<u>d</u></i>	<i>you<u>r</u></i>	<i>tire</i>	<i>ri<u>ng</u></i>	<i>cro<u>w</u></i>	<i>tiri<u>ng</u></i>
<i>part<u>y</u></i>	<i>iron</i>	<i>car</i>	<i>bore</i>	<i>rou<u>tine</u></i>	<i>pra<u>y</u></i>	<i>bori<u>ng</u></i>
<i>bird</i>	<i>are<u>n't</u></i>	<i>er<u>r</u></i>	<i>care</i>	<i>rh<u>yme</u></i>	<i>trib<u>ute</u></i>	<i>er<u>ror</u></i>
<i>allerg<u>y</u></i>	<i>feare<u>d</u></i>	<i>refer</i>	<i>lyre</i>	<i>re<u>fer</u></i>	<i>shri<u>mp</u></i>	<i>refere<u>ee</u></i>
<i>leopard</i>	<i>retire<u>ment</u></i>	<i>teache<u>r</u></i>	<i>restore</i>	<i>re<u>store</u></i>	<i>Afri<u>ca</u></i>	<i>fi<u>ery</u></i>
<i>particula<u>r</u></i>	<i>fi<u>res</u></i>	<i>particula<u>r</u></i>	<i>mo<u>re</u></i>	<i>retire<u>ment</u></i>	<i>poetry</i>	<i>furi<u>ng</u></i>
<i>bear<u>s</u></i>	<i>rare<u>ly</u></i>	<i>bea<u>r</u></i>	<i>cent<u>re</u></i>	<i>rare<u>ly</u></i>	<i>arri<u>ve</u></i>	<i>rare<u>st</u></i>

In non-rhotic accents like RP, then, no /r/ is pronounced before a consonant, as in the examples in column (a). Sometimes the consonant is a suffix, e.g., *bears*. Very often the letter <r> is immediately followed by a vowel letter which is not pronounced, as in column (b) – in such cases the <r> really *is* before a consonant and behaves accordingly. The most frequent silent letter is <e>, so it can be misleading when some other vowel letter, e.g., the <o> in *iron*, is unpronounced. (You may be able to recall a Bob Marley song entitled *Iron Lion Zion*, which makes good use of those three rhyming words. Notice that Jamaican English is also non-rhotic.) The <r>'s in (c) and (d) are in final position – again, silent letters (in (d)) do not count.

When the <r> is followed by a vowel, however, it is pronounced even in non-rhotic accents, be it at the beginning (column (e)) or the middle (column (f)) of the word. In the word *rhyme* in (e), the letter <h> is not pronounced, so the /r/ is followed by a vowel, /ai/. In (g), the following vowel, which enables the <r> to be pronounced, is part of a suffix. Notice

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that word-final <r>'s are like ghosts: sometimes you see them, sometimes you do not. You "see" them when they are followed by a vowel-initial morpheme like *-ing*, *-er/-or*, *-ee*, *-y*, etc. (those /r/'s are often called **Linking-R**), but they disappear when they are final or when they are followed by a consonant-initial morpheme like *-(e)d* (the <e> is mostly silent), *-ment*, *-ly*, etc., as in *retirement* and *rarely* in column (e) above. Hence the difference between *tire/tired* vs *tiring*, *bore* vs *boring*, *err* vs *error*, *refer* vs *referee*, and *fur* vs *furry*.

Note that it never matters whether the /r/ is spelt as a single letter <r> or double <rr>. Also, remember that non-rhotic accents are named so not because they do not pronounce *any* /r/ sounds, but because they do not pronounce *certain* orthographic <r>'s, as opposed to rhotic accents, which pronounce all <r>'s that are present in spelling. In fact, there are some cases when rhotic speakers do not pronounce an /r/, and there is no <r> in spelling, however, most non-rhotic speakers (perhaps except only for conservative RP, i.e., RP spoken by older generations) pronounce one, e.g., in *sawing* /'sɔ:ɹɪŋ/, *gnawing* /'nɔ:ɹɪŋ/, *rumbaing* /'rʌmbəɹɪŋ/, *subpoenaing* /sə'pi:nəɹɪŋ/ 'summoning sy to appear in a lawcourt', *guffawing* /gʊ'fɔ:ɹɪŋ/ 'giving a noisy laugh', *baahing* /'bɑ:ɹɪŋ/ (*of sheep*), *blaher* /'blɑ:ɹə/ 'more mediocre'. This is called **Intrusive-R**. Intrusive-R is only found in non-rhotic accents, and it only appears at (certain) morpheme boundaries, after certain vowels. We learn more about this in Chapter 7.

An interesting consequence of R-dropping in non-rhotic accents is that new homophones emerge, so *sore* sounds the same as *saw*, *pour* sounds the same as *paw*, *aren't* sounds the same as *aunt*. Further examples include *farther* – *father*, *fort* – *fought*, *source* – *sauce*, *more* – *maw*, *tuner* – *tuna*, *sort* – *sought*, *court* – *caught*, *spar* – *spa*, *career* – *Korea*.

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When a word ends in an <r>, it can not only "escape" being dropped when a vowel-initial suffix is attached to the word as in the examples in column (g) in the chart above, but in fact any vowel-initial morpheme following the word is able to produce the same effect, even a following vowel-initial word. Therefore, Linking-R is heard in phrases like *more exciting*, *your eyes*, *(to) err is (human)*, *care about*, *centre of*, *tire us*, etc. This can even happen between two sentences, e.g., *He doesn't care. I do* or *There's a spider. I'm scared*. Similarly, under the same conditions as between a word and a suffix, Intrusive-R appears between the two words in *visa application*, *(the) idea is*, *(the) Shah of (Persia)*, *schwa insertion*, *law and (order)*, *Gloria Estefan*, *(cats) claw at (the furniture)*, *(the giant) panda is (an endangered species)*, etc., and between the two sentences in *Try that sofa. It's softer* or *Call Maria. I need her*. Further homophones arise, e.g., *vanilla ice – vanilla rice*, *Amanda Avon – Amanda Raven*, *the spa is broken – the spar is broken*, *put the tuna in the box – put the tuner in the box*. Such homophones are only possible in the non-rhotic accents of English exhibiting Intrusive-R.

Now we turn to another consonant, /l/. As exemplified by the word *talk* mentioned above, the letter <l> is also sometimes not pronounced, but this time we are only concerned with the sound /l/, that is, when the <l> is pronounced. In several dialects of English, it has two possible pronunciations, i.e., two allophones. In certain positions, the /l/ is the same alveolar lateral as in Hungarian; the traditional name of this sound is **clear-L** (or light-L). In other positions, however, it becomes **velarized**, that is, its articulation involves the movement of the tongue towards the soft palate (velum); this is usually called **dark-L**. Roughly, in RP the /l/ is only pronounced clear when followed by a vowel, and it becomes dark (the IPA

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symbol of dark-L is [ɫ]) when a consonant or pause follows. This is the rule of **L-darkening**. The following chart shows the details.

dark-L		clear-L		
bef. a cons.	bef. a pause	before a vowel		before /j/
(a)	(b)	(c)	(d)	(e)
<i>sp<u>il</u>t</i>	<i>pi<u>ll</u></i>	<i>li<u>p</u></i>	<i>sl<u>i</u>p</i>	<i>va<u>l</u>ue</i>
<i>be<u>l</u>ch</i>	<i>be<u>ll</u></i>	<i>loo<u>k</u></i>	<i>sp<u>l</u>endid</i>	<i>ce<u>ll</u>ular</i>
<i>Al<u>b</u>ert</i>	<i>re<u>b</u>el</i>	<i>Li<u>n</u>da</i>	<i>A<u>sh</u>ley</i>	<i>mi<u>ll</u>ion</i>
<i>e<u>l</u>se</i>	<i>sta<u>l</u>e</i>	<i>la<u>l</u>ateral</i>	<i>co<u>l</u>on</i>	<i>eva<u>l</u>uate</i>
<i>ki<u>ll</u>ed</i>	<i>ki<u>ll</u></i>	<i>li<u>b</u>ido</i>	<i>ki<u>ll</u>ing</i>	<i>vo<u>l</u>ume</i>
<i>ta<u>ll</u>ness</i>	<i>ta<u>ll</u></i>	<i>lu<u>ll</u>aby</i>	<i>ta<u>ll</u>er</i>	<i>sch<u>oo</u>lyard</i>

As you can see above, the /l/ is dark when it is followed by a consonant sound (column (a)) or when final in the word (column (b)). Spelling does not count, so <l> and <ll> behave identically since they are both pronounced in the same way: short /l/. Do not let silent letters (e.g., *killed*, *stale*) mislead you. In the three columns on the right, the /l/ is clear because it is prevocalic, either word-initially (column (c)) or medially (column (d)), or it precedes a /j/ sound (column (e)), which may be part of the complex vowel /ju:/ or its reduced counterparts /jʊ, jə/, or may result from the reduction of an unstressed /l/ (e.g., *million* /^lmɪljən/). If we compare the examples *killed* – *kill* – *killing* and *tallness* – *tall* – *taller*, we find that word-final /l/ is only dark when followed by a consonant or a pause, but it becomes clear when a vowel-initial suffix follows. In *schoolyard*, the /l/ is at the end of the word *school*, but it is followed by a /j/ in the compound, and therefore it is clear.

Within and across sentences, the pronunciation of word-final /l/ is determined by the following segment in the same way. While it is dark in *feel* and *feel me*, it is clear in *feel at home*; dark in *spell* and *spell this word* but

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clear in *spell it*. Compare *kill* and *kill Bill* with *kill you*, *smile* and *smile back* with *smile at me*. There is one type of word-final /l/, however, which is always dark and which no following vowel can "rescue". In words like *cycle* ['saɪkəl], *martial* ['ma:ʃəl], or *channel* ['tʃænl], the /l/ is found in a syllable that lacks a vowel: notice that in the second syllables of these examples, the /l/ constitutes the syllable along with another consonant. Since in such cases the /l/ is considered to take up the role of the vowel and constitute the syllable, it is usually referred to as a **syllabic** /l/, and is transcribed [ɫ] (syllabicity is indicated in the IPA by a short vertical line under the main symbol). For some reason, syllabic /l/ is always dark, even if it is followed by a vowel sound in the next syllable, so it is also dark in *cycling* ['saɪkəlɪŋ], *martial arts* ['ma:ʃəl 'ɑ:ts], or *Channel Islands* ['tʃænl 'aɪləndz].

Let us emphasize at this point that the discussion of L-darkening refers to RP only. In other accents of English, the distinction between clear and dark-L may not be present at all (as in GA, where /l/ is usually dark in all positions), or may have slightly different conditions. In several non-standard varieties of English, dark-L is often articulated as an [o]-like vowel, e.g., *milk* [mɪok], *shelf* [ʃeɒf], *feel* [fi:ɔ]. This is called **L-vocalization**, as the consonant /l/ is replaced by a vowel.

Finally, we take a look at plosives in English, especially voiceless plosives, since they exhibit a wide range of allophones. Word-initially and before a stressed vowel, the voiceless plosives (= /p t k/) are followed by a short [h]-like sound. This phenomenon is referred to as **aspiration**, and a detailed description of its articulatory basis is given in Chapter 6. Phonetically, i.e., in physical reality, there are various degrees of aspiration, with word-initial pre-stress plosives having the strongest possible aspiration, word-medial pre-

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stress plosives and unstressed initial plosives having somewhat less, and other word-internal ones and those in word-final position having even less. In one case, however, they are definitely unaspirated: after an /s/. This is illustrated in the chart below. The accents on top of vowel letters in the example words denote stress (the acute accent <'> means stronger stress than the grave accent <`> – see Chapter 8 for the degrees of stress in English).

aspirated				unaspirated 1			unaspirated 2
(a)	(b)	(c)	(d)	(e)	(f)	→	
<i>pát</i>	<i>repéat</i>	<i>potáto</i>	<i>léopard</i>	<i>ráp</i>	<i>spíll</i>		
<i>póker</i>	<i>suppórt</i>	<i>pólíce</i>	<i>clípper</i>	<i>gállop</i>	<i>wásp</i>		
<i>tén</i>	<i>retúrn</i>	<i>tomáto</i>	<i>tomáto</i>	<i>cút</i>	<i>stóp</i>		
<i>tíger</i>	<i>detér</i>	<i>todáy</i>	<i>vánity</i>	<i>suppórt</i>	<i>stándard</i>		
<i>kíll</i>	<i>índicáte</i>	<i>cajóle</i>	<i>quáker</i>	<i>póke</i>	<i>scúll</i>		
<i>cút</i>	<i>raccóon</i>	<i>collápsé</i>	<i>póker</i>	<i>láck</i>	<i>skín</i>		

The columns (a)-(f) give examples of the degrees of aspiration from strong in (a) to zero in (f). The chart also shows that on the basis of the behaviour, i.e., the possible pronunciations, of the plosives, we can identify a phonologically relevant binary distinction between aspirated and unaspirated. In (a)-(c), only aspirated plosives are pronounced by speakers of English, and it is just the degree of the aspiration which distinguishes the subcases. The other columns, however, differ in that aspiration is either optional ("unaspirated 1" in (d)-(e)) or impossible ("unaspirated 2" in (f)). The optionality of aspiration in (d)-(e) means that in the positions in question other allophones can also appear. Besides a plain unaspirated plosive, in GA or informal-colloquial British English /t/ is frequently realized as a so-called **tap** (or **flap**) in the cases in (d) (i.e., before an unstressed vowel), the IPA symbol of which is [ɾ], and the

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process is referred to as **tapping** (or **flapping**). (In fact, this is also true for /d/, which is, of course, not a voiceless plosive but a voiced one, so it does not undergo aspiration.) Examples include *tomato* [tʰə'meɪrəʊ], *vanity* ['vænrɪ], *matter* ['mætə(r)], *butterfly* ['bʌrəflaɪ], *nobody* ['nəʊbɔɪ], *little* ['lɪrɪ]. In (e), that is, word-finally, the voiceless plosives /p t k/ (and also /tʃ/) are usually unreleased and/or are accompanied by a short closure of the vocal cords called the glottal stop (symbolized by [ʔ] in the IPA), and the phenomenon is accordingly dubbed **glottalization**. E.g., *sleep* [sliʔp], *match* [mætʃʔ], *not* [nɒʔt]. (See Chapter 6.)

Turning back to aspiration, it actually has two realizations. One is the short [h]-like sound following the plosive, mentioned above. The other manifestation of aspiration is the **devoicing** of a following sonorant consonant. In *pray* [preɪ], *plug* [plʌg], *simplicity*, *attract*, *queen* [kwɪn], *cube* [kju:b], *liqueur*, *twist*, the underlined sonorant consonants are voiceless. In /tr/ sequences, the /t/ is aspirated and therefore the /r/ is devoiced, and the resulting [tr̥] sounds very much like a /tʃ/, as if it was an affricate. Notice how minimal the difference is between *train* and *chain*.

If we take consonant sequences (called **clusters**) under closer scrutiny, we make an interesting observation. In words like *attractive*, *betray*, the /t/ is aspirated and thus the /r/ is devoiced. In contrast, in examples such as *Atlantic*, *Scotland*, the /t/ is glottalized and the /l/ is fully voiced. In both cases the voiceless plosive is followed by a sonorant consonant. Where can the difference come from? Notice that, crucially, thousands of English words start with a /tr/ cluster (*tray*, *trip*, *trombone*, etc.), but there are no such examples with /tl/. This cannot be an accident. In addition, most native speakers of English would insist that the /t/ in *attractive* belongs to the

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second syllable of the word along with the /r/, whereas in *Atlantic* there is a syllable division (or **syllable boundary**, customarily indicated by a dot) between the /t/ and the /l/. This yields *a.ttrac.tive* (the double <t> in spelling stands for a single /t/ sound) but *At.lan.tic*. In conclusion, /tr/ is a frequent syllable-initial cluster, while in /tl/ the /t/ is at the end of one syllable and the /l/ is at the beginning of the next one. This also explains why /tr/ is possible at the beginning of words (after all, the beginning of the word is, at the same time, the beginning of the (first) syllable), and why /tl/ never occurs in that position (the /t/ is at the end of a syllable and not at the beginning). Now, it appears that the pronunciation of the /t/ (and the other voiceless plosives as well) depends on its position within the syllable: it is aspirated when syllable-initial but glottalized when syllable-final. If we (or rather: native speakers of English) syllabify the example words given above and repeated here for convenience (only the relevant syllable divisions are indicated), we identify a syllable boundary to the left of all the "aspirated" cases: in (a) and (c), the plosive is at the beginning of the word, while in (b) there is a unanimous agreement among speakers as to the syllable boundary. In (e) and (f), this clearly does not hold: the plosive is either word- (that is, syllable-) final or medial but certainly not initial.

aspirated			unaspirated 1	unaspirated 2
(a) <i>pát</i>	(b) <i>re.péat</i>	(c) <i>potáto</i>	(d) <i>léo.p.ard</i>	(e) <i>ráp</i>
(f) <i>póker</i>	(g) <i>su.ppórt</i>	(h) <i>políce</i>	(i) <i>clí.pp.er</i>	(j) <i>gállop</i>
(k) <i>tén</i>	(l) <i>re.túrn</i>	(m) <i>tomáto</i>	(n) <i>tomá.t.o</i>	(o) <i>cút</i>
(p) <i>tíger</i>	(q) <i>de.tér</i>	(r) <i>today</i>	(s) <i>váni.t.y</i>	(t) <i>suppórt</i>
(u) <i>kíll</i>	(v) <i>indi.càte</i>	(w) <i>cajóle</i>	(x) <i>quá.k.er</i>	(y) <i>póke</i>
(z) <i>cút</i>	(aa) <i>ra.ccóon</i>	(ab) <i>colláapse</i>	(ac) <i>pó.k.er</i>	(ad) <i>láck</i>
				(ae) <i>stáandard</i>
				(af) <i>scúll</i>
				(ag) <i>skín</i>

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Column (d) is, however, problematic. When a single consonant is followed by an unstressed vowel, native intuition fails to make unambiguous judgments: some speakers would opt for *leop.ard*, others for *leo.pard*, yet others "feel" as if the /p/ belonged to both syllables – i.e., the syllabification of such consonants is ambivalent. (In the chart, we have indicated this hesitation by dots assigned to both possible locations.) For this reason, phonologists often refer to such a situation as **ambisyllabicity**, and to such consonants as **ambisyllabic**. We can conclude, then, that ambisyllabic voiceless plosives can be plain or weakly aspirated, ambisyllabic /t/ and /d/ may even be tapped. Our findings are summarized in the following table.

Syllabic position	Pronunciation
initial	strongly aspirated
ambisyllabic	weakly aspirated or tapped
final	unaspirated glottalized

For the sake of experiment, let us revisit the allophonies discussed earlier, and investigate into syllable boundaries in the examples. The chart illustrating R-dropping is repeated presently.

no /r/				pronounced /r/		
before a consonant		before a pause		before a vowel		
(a)	(b)	(c)	(d)	(e)	(f)	(g)
<i>Yor<u>k</u></i>	<i>tire<u>d</u></i>	<i>you<u>r</u></i>	<i>tire</i>	<i>ri<u>ng</u></i>	<i>cro<u>w</u></i>	<i>ti<u>r</u>ing</i>
<i>par<u>t</u>y</i>	<i>ir<u>o</u>n</i>	<i>car<u>r</u></i>	<i>bo<u>r</u>e</i>	<i>rou<u>t</u>ine</i>	<i>pr<u>a</u>y</i>	<i>bo<u>r</u>ing</i>
<i>bir<u>d</u></i>	<i>are<u>n</u>'t</i>	<i>err<u>r</u></i>	<i>care</i>	<i>rh<u>y</u>me</i>	<i>tr<u>i</u>bute</i>	<i>e<u>r</u>r.or</i>
<i>aller<u>g</u>y</i>	<i>feare<u>d</u></i>	<i>refer</i>	<i>ly<u>r</u>e</i>	<i>re<u>f</u>er</i>	<i>shr<u>i</u>mp</i>	<i>refe<u>r</u>ee</i>
<i>leop<u>a</u>rd</i>	<i>retire<u>.</u>ment</i>	<i>teach<u>e</u>r</i>	<i>resto<u>r</u>e</i>	<i>re<u>s</u>tore</i>	<i>A<u>f</u>rica</i>	<i>fi<u>e</u>.ry</i>
<i>par<u>t</u>icular</i>	<i>fi<u>r</u>es</i>	<i>particula<u>r</u></i>	<i>mo<u>r</u>e</i>	<i>retire<u>m</u>ent</i>	<i>po<u>e</u>.try</i>	<i>fu<u>r</u>.ry</i>
<i>bear<u>s</u></i>	<i>rare<u>.</u>ly</i>	<i>bea<u>r</u></i>	<i>cent<u>r</u>e</i>	<i>rare<u>l</u>y</i>	<i>a<u>r</u>rive</i>	<i>ra<u>r</u>.est</i>

The phonology of English consonants: an introduction

The position of the relevant syllable divisions reveal that R-dropping affects syllable-final /r/, which can be absolute final (as in, e.g., *party* in (a), and all the example words in (c)-(d)) or part of a final cluster (as in, e.g., *leopard*). Syllable-initial /r/, whether absolute initial (in (e) and in *arrive* and *referee*) or part of an initial cluster (in (f)), escapes being dropped, and so does ambisyllabic /r/ (in (g)).

Syllabic position	Pronunciation
initial	pronounced
ambisyllabic	pronounced
final	dropped

Notice that initial and ambisyllabic consonants have something in common: they (can) occupy the beginning of the syllable.

Now here is the chart for L-darkening.

dark-L		clear-L		
bef. a cons.	bef. a pause	before a vowel		before /j/
(a)	(b)	(c)	(d)	(e)
<i>sp<u>l</u>it</i>	<i>pi<u>ll</u></i>	<i>li<u>p</u></i>	<i>sl<u>i</u>p</i>	<i>va.<u>l</u>.ue</i>
<i>be<u>l</u>ch</i>	<i>be<u>ll</u></i>	<i>loo<u>k</u></i>	<i>spl<u>e</u>ndid</i>	<i>ce.<u>ll</u>.ular</i>
<i>A<u>l</u>.bert</i>	<i>can<u>ce</u>l</i>	<i><u>L</u>inda</i>	<i>A.<u>sh</u>ley</i>	<i>mi.<u>ll</u>.ion</i>
<i>e<u>l</u>se</i>	<i>sta<u>l</u>e</i>	<i>la<u>te</u>ral</i>	<i>co.<u>l</u>on</i>	<i>eva.<u>l</u>.uate</i>
<i>ki<u>ll</u>ed</i>	<i>ki<u>ll</u></i>	<i>li<u>b</u>ido</i>	<i>ki.<u>ll</u>.ing</i>	<i>vo.<u>l</u>.ume</i>
<i>ill.<u>n</u>ess</i>	<i>ill<u>l</u></i>	<i>lu<u>ll</u>aby</i>	<i>i.<u>ll</u>.er</i>	<i>schoo.<u>l</u>.yard</i>

In the first two columns, the /l/ is always at the end of a syllable: it is either absolute final (as in, e.g., *Albert*, *illness*, and the examples in column (b)) or part of a final cluster (as in the rest of the words in (a)). Notice that *killed* goes under exactly the same rubric as *spilt*, *belch* or *else*: the <e> in the -ed suffix is silent, so the /l/ is immediately followed by the final consonant /d/.

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In the remaining three columns, however, the /l/ is syllable-initial (including cases when it is part of an initial cluster) or ambisyllabic. In column (e), it is always ambisyllabic since it may end the syllable to the left, but it may as well form an initial cluster with the following /j/ – words like *lucid* /'ljʊ:sɪd/, *lucrative* /'ljʊ:krətɪv/, *ludicrous* /'ljʊ:dɪkrəs/ exemplify /lj/, at least in one possible pronunciation (the other alternative does not contain the /j/ – see Yod-dropping in Chapter 5). Therefore, we can conclude the following.

Syllabic position	Pronunciation
initial	clear
ambisyllabic	clear
final	dark

Careful readers must have noticed that in L-darkening, just like in the allophony of plosives and in R-dropping, the ambisyllabic situation patterns with the initial rather than the final position. The only exception is tapping, which is possible when the /t/ or /d/ is ambisyllabic but impossible when it is clearly initial. Apparently, /l/ is clear and /r/ is pronounced in *at least partial* initial position, whereas for a plosive to be (considerably) aspirated it must *exclusively* occupy the beginning of the syllable.

When we look at the "fate" of word-final consonants (e.g., the /r/ in *more*, the /l/ in *feel*, or the /t/ in *get*) in phrases and sentences, things become particularly exciting. In isolation or at the end of an **utterance** (i.e., a stretch of speech uttered without a pause), they are, obviously, syllable-final. But how are strings like *more exciting*, *your eyes*, *feel at home*, *spell it* and *get up* syllabified? As we have just stated, the underlined consonants *can* be syllable-final, but notice that they can also start the following syllable – after all, there are a whole lot of English words beginning with /r/, /l/ and /t/. Consequently, the syllabification of such consonants is not unambiguous –

they are ambisyllabic. (This is also reflected by the fact that phrases like *a nice cream* and *an ice-cream* are indistinguishable. In fact, this phenomenon is not only observable in English but in other languages, e.g., Hungarian, as well: the native intuition concerning the position of, e.g., the /z/ in *az* 'the' is readily illustrated by the title of a Miklós Vámos book, *Zenga zének* 'the song resounds', or the Hungarian translation of *Heffalump*, *Zelefánt*, in the cartoon *Micimackó és a Zelefánt*, *Pooh's Heffalump Movie*). Therefore, the relevant syllable boundaries can be located as *mo.re. exciting, you.r. eyes, fee.l. at home, spe.ll. it*. (Remember to ignore the silent <e> at the end of *more*.) This straightforwardly explains why such /r/'s are pronounced and such /l/'s are clear. The same is not true, however, of phrases like *more beautiful* and *feel me*, where ambisyllabicity is ruled out, and as a result, such /r/'s are dropped and such /l/'s are dark. As far as syllabic consonants are concerned, they are necessarily always syllable-final, since no English syllable can start with one (that is why no English word starts with one). It follows, then, that syllabic /l/, as in *Channel Islands*, is always dark.

In light of the above discussion, you could have guessed by now what happens to a final /t/ in a phrase like *get up*: since it is ambisyllabic, it can only be moderately aspirated, what is more, it must be tapped in the so-called tapping dialects like GA or informal-colloquial British English. This prediction is supported by the facts: in GA, for example, the underlined /t/ in *rightt away, nott a joke, gett up, att all* is usually pronounced as a tap.

In sum, this chapter has shown what major phonological processes affect the consonants of English, and how these processes are driven by the position the consonants occupy within the syllable. The next two chapters introduce the phonology of English vowels, but in Chapter 5 we take up the discussion of syllable structure again, and discover some of its further aspects.