CHAPTER IV

PHONOLOGY OF ENGLISH (SEGMENTALS)

4.1 Preview

Phonology of English has been analysed and described by many eminent linguists. As stated earlier, RP is the model chosen for this thesis. Keeping in view the model, the phonological description as presented in this chapter has been based on the description of RP sound system as provided by Gimson (1980). In addition to this, the description given here is derived from different sources quoted in the Bibliography.

4.2 Description and Classification of Phonemes

There are forty-four segmental phonemes in RP. Of these, twenty-four are consonantal phonemes and twenty are vowel phonemes. The consonantal phonemes are classified into seven contrastive groups: plosives, affricates, fricatives, nasals, lateral, frictionless continuant and semi-vowels. The twenty vowels are classified as monophthongs and diphthongs. These segmental phonemes will be discussed in the present chapter, whereas the suprasegmentals like stress, intonation and syllable structure will be discussed in the next chapter.

4.3 Description of Consonantal Phonemes

There are six plosives, two affricates, nine fricatives, three nasals, one lateral and three approximants
(one frictionless continuant and two semi-vowels). The description of consonantal phonemes consists of four sections: (i) establishment of contrast, (ii) brief account of the general allophonic features, (iii) detailed description of individual consonantal phonemes, (iv) brief statement about the distributional characteristics.

4.4 Establishment of Contrast for Consonantal Phonemes

In this section, the consonantal phonemes are contrasted under three major criteria: (i) place of articulation, (ii) voicing, (iii) manner of articulation.

A. Plosives

There are six plosive phonemes in RP. Words illustrating oppositions in word initial position are given below. These oppositions may be affected by means of one or several of the following phonetic features.

Place of Articulation:

- Bilabial /p, b/
- Alveolar /t, d/
- Velar /k, g/

The following words illustrate contrast between plosive consonantal phonemes:
### Voicing:

The plosive phonemes can be grouped into three voiceless and voiced pairs. The following words illustrate contrast:

<table>
<thead>
<tr>
<th>Voiceless</th>
<th>Voiced</th>
</tr>
</thead>
<tbody>
<tr>
<td>/p/</td>
<td>/b/</td>
</tr>
<tr>
<td>/plin/</td>
<td>/bin/</td>
</tr>
<tr>
<td>/t/</td>
<td>/d/</td>
</tr>
<tr>
<td>/tin/</td>
<td>/din/</td>
</tr>
<tr>
<td>/k/</td>
<td>/g/</td>
</tr>
<tr>
<td>/kin/</td>
<td>/ginn/</td>
</tr>
</tbody>
</table>

### B. Affricates

There are two affricate phonemes /tʃ, ɗʒ/. The following words illustrate contrast between them:

<table>
<thead>
<tr>
<th>Voiceless</th>
<th>Voiced</th>
</tr>
</thead>
<tbody>
<tr>
<td>/tʃ/</td>
<td>/ɗʒ/</td>
</tr>
<tr>
<td>/tʃin/</td>
<td>/ɗʒin/</td>
</tr>
</tbody>
</table>
C. Nasals

There are three nasal phonemes in RP. The contrast can be established with the help of following words:

- Bilabial /m/ /sʌm/ some
- Alveolar /n/ /sʌn/ son
- Velar /ŋ/ /sʌŋ/ sung

D. Fricatives

The RP fricative phonemes comprise four pairs /f,v/, /θ,ð/, /s,z/, /ʃ,ʒ/ and /h/. The fricative phonemes can be grouped into the following pairs as regards their place of articulation.

Place of Articulation:

- Labio-dental /f,v/
- Dental /θ,ð/
- Alveolar /s,z/
- Palato-alveolar /ʃ,ʒ/
- Glottal /h/

The contrast can be established with the help of following examples:

- Labio-dental
  - /f/ /θ/
  - /fIn/ fin /θIn/ thin
Voicing:

The fricative phonemes can be grouped into following pairs as regards voicing. The contrast can be established with the help of following minimal pairs:

Dental

/θ/  Alveolar
 /s/

/θIk/ thick /sIk/ sick

Alveolar

/s/ /ʃ/

/səIn/ sign /ʃəIn/ shine

Labio-dental

/f/ /h/

/f æt/ fat /h æt/ hat

Labio-dental

/v/ /ð/

/vəIn/ vine /ðəIn/ thine

Labio-dental

/v/ /z/

/viːl/ veal /ziːl/ zeal

Alveolar

/s/ /ʒ/

/əluːsIv/ allusive /əluːʒn/ allusion

Palato-alveolar

Voicing:

The fricative phonemes can be grouped into following pairs as regards voicing. The contrast can be established with the help of following minimal pairs:
<table>
<thead>
<tr>
<th>Voiceless</th>
<th>Voiced</th>
</tr>
</thead>
<tbody>
<tr>
<td>/f/</td>
<td>/v/</td>
</tr>
<tr>
<td>/faIn/</td>
<td>fine</td>
</tr>
<tr>
<td>/θ/</td>
<td>/ð/</td>
</tr>
<tr>
<td>/θai/</td>
<td>thigh</td>
</tr>
<tr>
<td>/s/</td>
<td>/z/</td>
</tr>
<tr>
<td>/si:l/</td>
<td>seal</td>
</tr>
<tr>
<td>/ʃ/</td>
<td>/ʒ/</td>
</tr>
<tr>
<td>/alju:n/</td>
<td>Aleutian</td>
</tr>
<tr>
<td>/h/</td>
<td>-</td>
</tr>
<tr>
<td>/hi:t/</td>
<td>heat</td>
</tr>
</tbody>
</table>

**E. Lateral**

There is one lateral consonant in RP. The following words illustrate contrast between the lateral and the frictionless continuant.

Lateral   | /l/   | /li:d/     | lead |
Frictionless continuant | /r/   | /ri:d/     | read |

**F. Semi-Vowels**

There are two semi-vowels /j,w/ in RP. They contrast with each other with reference to their place of articulation.
Bilabial: /w/
Palatal /j/

The following words illustrate the contrast:

/jpt/ yacht
/wpt/ wot

4.5 General Allophonic Features

(i) The pairs /p,b/; /t,d/; /k,g/; /tʃ,dʒ/; /s,z/; /ʃ,ʒ/ are distinguished by the fortis/lenis correlation. The duration of both stops and fricatives is greater for the fortis than for the lenis ones.

(ii) In RP allophones of /p,t,k/ are voiceless, those of /b,d,g/ may be and often are voiced but do not always have full voicing.

(iii) /b,d,g/ never have aspirated allophones, but /p,t,k/ are aspirated.

(iv) The fortis series of plosives /p,t,k/, when initial in an accented syllable, are usually aspirated.

(v) When /l,r,j,w/ are preceded by /p,t,k/ in such a case, the aspiration is manifested in the devoicing of /l,r,j,w/.
(vi) The lenis series of consonant /b,d,g,d, v,ð, z,ʒ/ are fully voiced during their second stage when they occur in positions between voiced sounds.

(vii) Initially and finally, they are only partially voiced or completely voiceless.

(viii) In RP syllables closed by fortis consonants are shorter than those which are open, or closed by a lenis consonant.

(ix) In final positions, the release of the plosives is being achieved by a gentle, delayed and relatively inaudible opening of oral closure.

(x) In stop clusters (plosives or plosive + affricate), either within a word or at word boundaries, the first plosive has no audible release.

(xi) Whenever a plosive is followed by any nasal the explosion takes place nasally.

(xii) The plosives are released laterally when they are immediately followed by /l/.

(xiii) The plosive phonemes /p,t,k/ are frequently glottalized before pause or consonants.

(xiv) The phonemes /m,n/ are partially devoiced when /s/ precedes them.
(xv) The phonemes /m,n/ and /*)/ may function as syllabics.

(xvi) The allophones of /m/ are bilabial unless /f/ or /v/ follows, in which the allophone is the labio-dental nasal [n].

(xvii) Most allophones of /n/ are alveolar, but when /n/ is followed by the dental fricatives /θ/ or /ð/, the allophone may be dental [ŋ]. Similarly, when /n/ is followed by post-alveolar [ɾ], the allophone is also post-alveolar.

(xviii) In intervocalic positions /h/ gets voiced.

(xix) The lateral consonant /l/ is partially devoiced when it is preceded by an unaspirated voiceless plosive or by /s,f, / or /ʃ/. The dental lateral occurs before /θ/ and /ð/. /l/ is often syllabic following consonants.

(xx) /h/ is frequently glottalized before pause, consonants, and vowels.

(xxi) The fortis fricatives /f,θ,s,ʃ/ are longer in all contexts than their lenis counterparts.

(xxii) Like /h/ nasals /m,n,ŋ/ do not participate in the fortis/lenis correlation, and mostly the allophones are voiced.
4.6 Detailed Description of Consonantal Phonemes

A. Plosives

In RP plosive phonemes comprise three pairs: /p, b/; /t, d/; /k, g/.

Bilabial Plosives /p, b/

1. Voiceless Bilabial Plosive /p/

/p/ has eight allophonic variants [ph, p, p, p, p, p, p, p].

(i) [ph] is a voiceless aspirated bilabial plosive. It occurs initially in stressed syllables, as in

post [ph]aust
paper ['ph]eIpə
appear æ[ph]Iə
depend dI[ph]end
disapproval dİsə[ph]ru:vl

(ii) [p] is a voiceless accented unaspirated bilabial plosive. It occurs after /s/ in accented syllables, as in

spelling 's[p]eIlɪŋ
sparklet 's[p]a:klɪt
spectacle 's[p]ektəkl
spectrogram 's[p]ektrəugrəm
spiritual 's[p]Irɪtjʊəl
(iii) \([p]\) is a weakly accented, relatively unaspirated plosive. It occurs in weakly accented syllables, as in

\[
\begin{align*}
\text{upper} & \quad \hat{\text{a}}[p]\hat{\text{a}} \\
gospel & \quad '\text{gospel}'[p]l \\
simply & \quad '\text{simply}'[p]lI \\
champion & \quad '\text{champion}'[p]J\text{n}
\end{align*}
\]

(iv) \([\beta]\) is a voiceless bilabial plosive with no audible release. It occurs in the following positions:

(a) When /p/ occurs in syllable final positions, its release is inaudible, as in

\[
\begin{align*}
\text{map} & \quad m\text{ae}[\beta] \\
\text{cheap} & \quad t\text{j}i:[\beta] \\
\text{upright} & \quad \hat{\text{r}}[\beta]\text{r}\text{It} \\
\text{chaplain} & \quad t\text{J}\text{ae}[\beta]\text{lIn}
\end{align*}
\]

(b) When /p/ occurs before another plosive or affricate either within a word or at word boundaries, it has no audible release, as in

\[
\begin{align*}
\text{apt} & \quad \text{ae}[\beta]t \\
\text{wiped} & \quad \text{waI}[\beta]t \\
\text{captain} & \quad k\text{ae}[\beta]\text{tn} \\
\text{top girl} & \quad '\text{to}[\beta]\text{g}\text{rl}1 \\
\text{ripe cheese} & \quad \text{rai}[\beta]t\text{j}i:z
\end{align*}
\]
(v) $[p^N]$ is a nasally released allophone of /p/. When /p/ is followed by the homorganic nasal consonant, the release takes place nasally, as in

- topmost $\text{'tɒ[p^N]mʌst}$
- happen $\text{'h æ[p^N]n}$

(vi) $[p^l]$ is a laterally released allophone of /p/. It occurs before a lateral consonant /l/, as in

- couple $\text{'kʌ[p^l]l}$
- apple $\text{'æ[p^l]l}$

(vii) $[p^{\#}]$ is a voiceless affricated plosive. It occurs when the release of the closure of /p/ is made slowly, as in

- pine $[p^{\#}]\text{ain}$
- past $[p^{\#}]\text{ast}$

(viii) $[?p]$ is a voiceless bilabial glottalized plosive. It occurs in the final position when the oral closure is reinforced by a glottal closure $[?]$, as in

- sleep $\text{sli:[?p]}$
- shop $\text{[b[?p]}$

2. Voiced Bilabial Plosive /b/

/b/ has six allophonic variants $[b, ̃b, b, b^N, b^l, ̃b^\bar{b}]$. 

(i) \([\beta]\) is a partially devoiced bilabial plosive and it occurs initially. In final positions it may be only partially voiced or completely voiceless, as in:

- bank: \([\text{b}]\text{nk}\)
- begin: \([\text{b}]\text{In}\)
- tub: \([\text{t}]\text{b}\)
- club: \([\text{k}l\text{b}]\)

(ii) \([\beta^*]\) is a bilabial plosive with no audible release. It occurs when /b/ is followed by another plosive or affricate either within a word or at word boundaries, as in:

- rubbed: \([\text{r}]\text{b}^*\text{d}\)
- obtain: \([\text{a}]\text{b}^*\text{tIn}\)
- object: \([\text{a}]\text{b}^*\text{ekt}\)

(iii) \([\beta]\) is a fully voiced bilabial plosive. It occurs between two voiced sounds, as in:

- number: \('\text{n}\text{m}[\beta]\text{e}\)
- labour: \('\text{l}\text{eI}[\beta]\text{e}\)

(iv) \([\beta^N]\) is a nasally released allophone of /b/. It occurs before a nasal consonant, as in:

- submit: \([\text{s}\text{e}][\beta^N]\text{mIt}\)
- abnormal: \([\text{a}][\beta^N]\text{m}\text{i}\text{mal}\)
- ribbon: \([\text{r}][\beta^N]\text{n}\)
(v) \([b^l]\) is a laterally released allophone of /b/. It occurs before a lateral consonant /l/, as in

- bubble: \(b\l[b^l]\l\)
- dabble: \(d\l[b^l]\l\)

(vi) \([b^\beta]\) is a voiced bilabial affricated plosive. It occurs when the release of the closure of /b/ is made slowly, as in

- ball: \([b^\beta]\l\)
- rubber: \(r\l[b^\beta]\\)

**Alveolar Plosives /t,d/**

3. **Voiceless Alveolar Plosive /t/**

/t/ has ten allophonic variants \([t^h], t, \tilde{t}, \acute{t}, \check{t}, t, t^N, t^l, t^s, ?t]\).

(i) \([t^h]\) is a voiceless aspirated alveolar plosive. It occurs initially in stressed syllables, as in

- talking: \(t^h\l\)
- table: \(t^h\l\)
- attack: \(a[t^h]\l\)
- intend: \(In[t^h]\l\)

(ii) \([\tilde{t}]\) is a voiceless accented unaspirated alveolar plosive. It occurs after /s/ in accented syllables, as in
(iii) \([t]\) is a voiceless weakly accented relatively unaspirated alveolar plosive. It occurs in weakly accented syllables, as in

<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>butter</td>
<td>ˈbʌːtər</td>
</tr>
<tr>
<td>quantity</td>
<td>ˈkwɒntɪtɪ</td>
</tr>
<tr>
<td>letter</td>
<td>ˈleɪtər</td>
</tr>
<tr>
<td>after</td>
<td>ˈɑːftər</td>
</tr>
</tbody>
</table>

(iv) \([t^o]\) is a voiceless alveolar plosive with no audible release. It occurs in the following positions:

(a) When \(/t/\) occurs in syllable-final positions, its release is inaudible, as in

<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>right</td>
<td>ˈraɪt ([t^o])</td>
</tr>
<tr>
<td>wait</td>
<td>ˈweɪt ([t^o])</td>
</tr>
<tr>
<td>basket</td>
<td>ˈbaːskɪt ([t^o])</td>
</tr>
<tr>
<td>biscuit</td>
<td>ˈbɪskɪt ([t^o])</td>
</tr>
</tbody>
</table>

(b) When \(/t/\) is followed by another plosive or affricate either within a word or at work boundaries, it has no audible release, as in
outpost          au[tʰ]pəust
football        fu[tʰ]bɔ:1
great joke      greI[tʰ]  dʒəuk
that church     ə[ˈtʃətʃ] tʃətʃ

(v)  [t] is a voiceless unaspirated dental plosive. It occurs before dental phonemes /θ/ or /ð/, as in

eighth          eI[t]θ
look at this     ə[t]  ðIs

(vi)  [t] is a voiceless unaspirated post-alveolar plosive. It occurs before post-alveolar /r/, as in

train           [t]reIn
rest-room       res[t] rum
try             [t]raI

(vii)  [tN] is a nasally released allophone of /t/. It occurs before a nasal consonant, as in

cotton          'ktNn
mutton          'mtNn
utmost          'ʌtNməust
nutmeg          'nʌtNmeg

(viii)  [t₁] is a laterally released allophone of /t/. It occurs before a lateral consonant /l/, as in

cattle          ʌkə[t]l
little \text{'lI[t^l]l}
bottle \text{bb[t^l]l}
subtle \text{'s^t[t^l]l}

(ix) \text{[t^s]} is a voiceless alveolar affricated plosive. It occurs when the release of the closure of /t/ is made slowly, as in

tank \text{[t^s]æŋk}
butter \text{'b^t[s]ə}

(x) \text{[ʔt]} is a voiceless bilabial glottalized plosive. It occurs in the final position when the oral closure is reinforced by a glottal closure [ʔ], as in

seat \text{siː[ʔt]}
shoot \text{ʃuː[ʔt]}

4. Voiced Alveolar Plosive /d/

/d/ has eight allophonic variants [\text{d}, \text{d}, \text{d}^2, \text{d}^N, \text{d}^I, \text{d}^2, \text{d}, \text{d}].

(i) \text{[d]} is a partially devoiced alveolar plosive and it occurs initially. In final positions it may be only partially voiced or completely voiceless, as in

dark \text{[d]aːk}
diet \text{[d]aɪt}
raised \( \text{reIz}[\ddot{d}] \)
leopard \( \text{lepə}[\ddot{d}] \)

(ii) \([d]\) is a fully voiced alveolar plosive. It occurs between two voiced sounds, as in

leader \( \text{li:s}[\ddot{d}]\)  
older \( \text{oul}[\ddot{d}]\)  

(iii) \([\ddot{d}]\) is an alveolar plosive with no audible release. It occurs when /d/ is followed by another plosive or affricate, as in

bad pain \( \text{bæ}[\ddot{d}] \) peIn  
good joke \( \text{ɡu}[\ddot{d}] \) dʒɔuk  
bed time \( \text{bæ}[\ddot{d}] \) tɑIm  
good cheese \( \text{ɡu}[\ddot{d}] \) tʃi:z  

(iv) \([d^N]\) is a nasally released allophone of /d/. It occurs before a nasal consonant, as in

sudden \( \text{'s}[^N]\text{n} \)  
admit \( \text{ə}[d^N]\text{mIt} \)  
road map \( \text{rəu}[d^N] \) mæp  

(v) \([d^l]\) is a laterally released allophone of /d/. It occurs before a lateral consonant /l/, as in

middle \( \text{'mI}[d^l]l \)  
saddle \( \text{ˈæ}[d^l]l \)
(vi) \([d^2]\) is a voiced alveolar affricated plosive. It occurs when the release of the closure of /d/ is made slowly, as in:

dumb [d^2]m
reading ['ri:[d^2]I]

(vii) \([d]\) is a voiced dental plosive. It occurs before a dental fricative, as in:

width [d]θ
read this ['ri:[d] IIs

(viii) \([d]\) is a voiced post-alveolar plosive. It occurs before /r/, as in:

dry [d]rai
bedroom be[d]rum

Velar Plosives /k, g/

5. Voiceless Velar Plosive /k/

/k/ has ten allophonic variants [\(k^h\), \(k\), \(k\), \(k\), \(k^N\), \(k^1\), \(k^x\), \(k\), \(k\), \(k\)].

(i) \([k^h]\) is a voiceless aspirated velar plosive. It occurs initially in accented syllables, as in:

kind [k^h]aInd
cook [k^h] uk
(ii) \( [k^\tilde{a}] \) is a voiceless accented unaspirated velar plosive. It occurs after /s/ in accented syllables, as in

<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>skin</td>
<td>s([k^\tilde{a}])In</td>
</tr>
<tr>
<td>schooling</td>
<td>s([k^\tilde{a}])u:lI(\tilde{a})</td>
</tr>
<tr>
<td>skylight</td>
<td>s([k^\tilde{a}])aIl(\tilde{a})It</td>
</tr>
<tr>
<td>skipping</td>
<td>s([k^\tilde{a}])IpI(\tilde{a})</td>
</tr>
</tbody>
</table>

(iii) \([k]\) is a voiceless weakly accented unaspirated velar plosive. It occurs in weakly accented syllables, as in

<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>income</td>
<td>I(\tilde{a})[k](\tilde{a})m</td>
</tr>
<tr>
<td>biscuit</td>
<td>bIs([k])It</td>
</tr>
<tr>
<td>walking</td>
<td>wo:(\tilde{a})[k]I(\tilde{a})</td>
</tr>
<tr>
<td>occur</td>
<td>(\tilde{a}) [k](\tilde{a})</td>
</tr>
</tbody>
</table>

(iv) \([k^o]\) is a voiceless velar plosive with no audible release. It occurs in the following positions:

(a) When /k/ occurs in syllable final positions, its release is inaudible, as in

<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>park</td>
<td>pa:([k^o])</td>
</tr>
<tr>
<td>domestic</td>
<td>d(\tilde{a})um(\tilde{a})estI([k^o])</td>
</tr>
<tr>
<td>graphic</td>
<td>gr(\tilde{a})efI([k^o])</td>
</tr>
</tbody>
</table>
(b) When /k/ occurs before another plosive or affricate either within a word or at word boundaries, it has no audible release, as in

looked \( \text{lu}[k^\theta]t \)
booked \( \text{bu}[k^\theta]t \)
picture \( \text{pl}[k^\theta]\text{tj} \)
dark grey \( \text{da}: [k^\text{NR}] \text{greI} \)
black Jew \( \text{bl} \text{æ}[k^\theta] \text{dju}: \)

(v) \([k^N]\) is nasally released allophone of /k/. It occurs before a nasal consonant, as in

bacon \( \text{beI}[k^N] \)
thicken \( \text{'θI}[k^N]n \)
acne \( \text{'æk}[k^N]nI \)

(vi) \([k^l]\) is a laterally released allophone of /k/. It occurs before a lateral consonant /l/, as in

pickle \( \text{'pl}[k^l]l \)
sickle \( \text{'sl}[k^l]l \)
debacle \( \text{deIba}: [k^l]l \)

(vii) \([k^\text{XR}]\) is a voiceless velar affricated plosive. It occurs when the release of the closure of /k/ is made slowly, as in

come \( [k^\text{XR}]^m \)
(viii) \[\text{k}\] is a voiceless velar glottalized plosive. It occurs in the final position when the oral closure is reinforced by a glottal closure \[\text{?}\], as in

- weak \[\text{w}\]k\]
- shock \[\text{?}\]

(ix) \[\text{k}\] is a voiceless pre-velar plosive. It occurs initially before a front vowel, as in

- keep \[\text{k}\]i\p
- key \[\text{k}\]i:

(x) \[\text{k}\] is a voiceless post-velar plosive. It occurs before a back vowel, as in

- cottage \[\text{k}\]pt\D\D
- cushion \[\text{k}\]u\n
6. Voiced Velar Plosive /g/

/g/ has eight allophonic variants \[g, g, \dot{g}, g^N, g^1, g^v, g^r, g^t]\n
(i) \[\text{g}\] is a partially devoiced velar plosive and it occurs initially. In final positions it may be only partially voiced or completely voiceless, as in
(ii) [g] is a fully voiced velar plosive. It occurs between voiced sounds, as in

- finger: 'fɪŋgə
- beggar: 'beɡə
- eager: 'i:ɡə

(iii) [ɹ] is a voiced velar plosive with no audible release. It occurs when /g/ is followed by another plosive or affricate either within a word or at word boundaries, as in

- begged: beɡd
- big church: bɪɡ tʃɜːtʃ
- bagpipes: bæɡpəɪps
- big jail: bɪɡ dʒeɪl

(iv) [ŋ] is a nasally released allophone of /g/. It occurs before a nasal consonant, as in

- dogma: dɒɡnmə
- ignore: ɪɡnɔː
(v) \( [g^l] \) is a laterally released allophone of /g/. It occurs before a lateral consonant, as in

\begin{tabular}{ll}
buggle & 'b\k[g^l]l \\
struggle & 'str\l[g^l]l \\
\end{tabular}

(vi) \( [g^\gamma] \) is a voiced velar affricated plosive. It occurs when the release of the closure of /g/ is made slowly, as in

\begin{tabular}{ll}
game & [g^\gamma]eIm \\
good & [g^\gamma]ud \\
daggerger & 'd\ae [g^\gamma]s \\
\end{tabular}

(vii) \( [g^\zeta] \) is a voiced pre-velar plosive. It occurs initially before a front vowel, as in

\begin{tabular}{ll}
geese & [g^\zeta]i:s \\
geezer & [g^\zeta]i:z \\
\end{tabular}

(viii) \( [g^\eta] \) is a voiced post-velar plosive. It occurs initially before a back vowel, as in

\begin{tabular}{ll}
got & [g^\eta]Ot \\
goose & [g^\eta]u:s \\
\end{tabular}

B. Affricates

In RP there are two affricate phonemes /t\j , 33/.
7. Voiceless Palato-alveolar Affricate /tʃ/

/tʃ/ has two allophonic variants [ʔtʃ, tʃ].

(i) [ʔtʃ] is a voiceless palato-alveolar glottalized affricate. It occurs before pause, consonants and vowels when the oral closure is reinforced by a glottal closure [ʔ], as in

<table>
<thead>
<tr>
<th>Word</th>
<th>allophonic form</th>
</tr>
</thead>
<tbody>
<tr>
<td>catch</td>
<td>kəʔ[ʔtʃ]</td>
</tr>
<tr>
<td>rich</td>
<td>rɪʔ[ʔtʃ]</td>
</tr>
<tr>
<td>watched</td>
<td>wəd[tʃ]t</td>
</tr>
<tr>
<td>watching</td>
<td>'wəd[tʃ]ɪŋ</td>
</tr>
</tbody>
</table>

(ii) [tʃ] is a voiceless palato-alveolar affricate. It occurs elsewhere.

<table>
<thead>
<tr>
<th>Word</th>
<th>allophonic form</th>
</tr>
</thead>
<tbody>
<tr>
<td>charge</td>
<td>[tʃ]ədʒ</td>
</tr>
<tr>
<td>chicken</td>
<td>[tʃ]ɪkɪn</td>
</tr>
<tr>
<td>riches</td>
<td>rɪ[tʃ]ɪz</td>
</tr>
<tr>
<td>actual</td>
<td>ək[tʃ]uəl</td>
</tr>
</tbody>
</table>

8. Voiced Palato-alveolar Affricate /dʒ/ 

/dʒ/ has two allophonic variants [dʒ, ʤ]

(i) [dʒ] is a partially devoiced palato-alveolar affricate and it occurs initially. In final positions it may be partially voiced or completely voiceless, as in
(ii) \([d_3]\) is a voiced palato-alveolar affricate. It occurs elsewhere.

subject \(\text{'s}\_\text{ub}\[/d_3]/\text{ikt}\)
urgent \(\text{'d}\_\text{s}\_/\text{ant}\)
major \(\text{'meI}/\text{[d_3]}_\text{e}\)
engine \(\text{'en}/\text{[d_3]}/\text{In}\)

Some occurrences of /t/ and /d/ have developed from earlier sequences of /t + j/ and /d + j/. In some words there is fluctuation, e.g. substitution of /tj/ or /tj/ and /d3/ for /dj/ is possible. To quote Gimson, 'In the case of /t,d/ + u, both the palato-alveolar affricate and /t/ or /d/ + /j/ may be heard, e.g. in actual, punctual, mutual, obituary, individual, gradual, educate. Some speakers omit stop element in the clusters /nt/, nd3/ in word final positions as in pinch, French, lunch, branch, paunch, hinge, revenge, callenge, strange, scrounge, etc., and also medially as in pinching, luncheon, avenger, danger, etc.'

---

C. Fricatives

There are nine fricative phonemes in RP.

9. Voiceless Labio-dental Fricative /f/

/f/ occurs in all the three positions. No important allophonic variants of /f/ occur except those involving lip-rounding.

10. Voiced Labio-dental Fricative /v/

/v/ has two allophonic variants [v̪, v̺].

(i) [v̪] is a partially devoiced labio-dental fricative and it occurs initially. In final positions it may be partially voiced or completely voiceless, as in

valley [v̪]ælI
vote [v̪]aut
hive haI[v̪]
leave li:v̪]

(ii) [v̺] is a fully voiced labio-dental fricative. It occurs elsewhere.

cover 'k-[:v̺]ə
loving 'l-[:v̺]Iŋ
Alveolar Fricatives /s, z/

11. Voiceless Alveolar Fricative /s/

/s/ occurs in all the three positions. It has no allophonic variants except those involving lip-rounding.

12. Voiced Alveolar Fricative /z/

/z/ has two allophonic variants [z̞, z̠]

(i) [z̞] is a partially devoiced alveolar fricative and it occurs initially. In final positions it may be only partially voiced or completely voiceless, as in

- zest [z̞]est
- zoo [z̞][uː]
- rose [rʊə][z̞]
- please [pliː][z̞]

(ii) [z̠] is a fully voiced alveolar fricative. It occurs between two voiced sounds, as in

- easy 'iː[ z̠]I
- thousand 'θau[z̠]nd

Dental Fricatives /θ, ð/

13. Voiceless Dental Fricative /θ/

/θ/ has no important allophonic variants except those involving lip-rounding.
14. Voiced Dental Fricative /ḍ/

/ḍ/ has two allophonic variants [ḍ, ʒ]

(i) [ḍ] is partially devoiced dental fricative and it occurs initially, as in

there [ḍ]eə

does

In final positions it may be only partially voiced or completely voiceless, as in

bathe [beɪ[ḍ]

clothe [kləu[ḍ]

(ii) [ʒ] is a fully voiced dental fricative. It occurs between voiced sounds, as in

leather ['leɪ[ʒ]ə

mother ['mʌ[ʒ]ə

Palato-alveolar Fricatives /ʃ, ʒ/

15. Voiceless Palato-alveolar Fricative /ʃ/ 

/ʃ/ has no important allophonic variants except those involving lip-rounding. In the speech of some speakers there is some lip-protrusion irrespective of the vowel that follows.
16. Voiced Palato-alveolar Fricative /ʒ/

/ʒ/ has two allophonic variants [ʒ, ʃ]

(i) [ʒ] is a partially devoiced palato-alveolar fricative. It occurs in final positions (in French loan-words),* as in

rouge  ruː[ʒ]
beige  beɪ[ʒ]

(ii) [ʃ] is a fully voiced palato-alveolar fricative. It occurs between voiced sounds, as in

leisure  'le[ʃ]ə
pleasure  'ple[ʃ]ə

Glottal Fricative /h/

17. Voiceless Glottal Fricative /h/

/h/ has two allophonic variants [h, ɦ ].

(i) [h] is a voiced glottal fricative. It occurs between two voiced sounds, as in

behind  bɪ[h]aɪnd
anyhow  ˈenɪ[h]au

(ii) [ɦ] is a voiceless glottal fricative and it occurs glottal.

* An alternative pronunciation with /dʒ/ is possible.
D. Nasals

In RP there are three nasal phonemes /m, n, ñ/.

Bilabial Nasal /m/

18. Voiced Bilabial Nasal /m/

/m/ has four allophonic variants [m, ñ, m, m]

(i) [m] is a partially devoiced bilabial nasal. It occurs after /s/, as in

- smoke: s[m]aʊk
- smart: s[m]aːt

(ii) [ñ] is a voiced labio-dental nasal when /m/ is immediately followed by a labio-dental fricative, as in

- nymph: nɪ[m]f
- comfort: ˈkʌ[m]fət
- triumph: træ[m]f
- circumvent: sɪzmːkə[m]vɛnt

(iii) [m] is a voiced bilabial syllabic nasal. It occurs as a syllabic consonant, as in

- rhythm: ˈrɪð[m]
- prism: prɪzm[m] ~ [prɪzəm]
In the examples the second syllable may or may not have the vowel /a/. In addition to these allophonic variants, sometimes /m/ is a realization of word final /ən/ or /n/ following /p/ or /b/, as in

- happen: \textsuperscript{ˈ}hæp[m]
- ribbon: \textsuperscript{ˈ}rɪb[m]

(iv) [m] is a voiced bilabial nasal. It occurs elsewhere.

- mat: [m]æt
- market: \textsuperscript{ˈ}mɑːkɪt
- among: \textsuperscript{ə}məŋ
- camel: \textsuperscript{ˈ}kælm

Alveolar Nasal

19. Voiced Alveolar Nasal /n/

/n/ has six allophonic variants \([n, ɲ, ŋ, ˯n, ˯n, n]\)

(i) \([n]\) is a partially devoiced alveolar nasal. It occurs when it is preceded by /s/, as in

- snake: s[˯n]eɪk
- snow: s[˯n]əʊn

(ii) \([ŋ]\) is a voiced labio-dental nasal. It occurs when /m/ is immediately followed by a labio-dental fricative, as in
(iii) \[\text{n}\] is a voiced alveolar syllabic nasal. It occurs as a syllabic consonant, as in

- button \(\text{b\text{at}[n]}\)
- sudden \(\text{s\text{ad}[n]}\)
- cotton \(\text{k\text{ot}[n]}\)
- ridden \(\text{r\text{Id}[n]}\)

(iv) \[\text{n}\] is a voiced dental nasal. It occurs before dental fricatives and sometimes after /\theta, \delta/, as in

- tenth \(\text{te}[\text{n}\theta]\)
- in there \(\text{I}[\text{n}\text{\varepsilon}\text{\varepsilon}]\)
- earthen \(\text{\varepsilon}[\text{n}\text{\varepsilon}]\)
- southern \(\text{s}[\text{n}\text{\varepsilon}]\)

(v) \[\text{n}\] is a voiced post-alveolar nasal. It occurs when it is followed by /\text{r}/, as in

- unrest \(\text{\text{n}\text{r}[n]\text{rest}}\)
- Henry \(\text{he[n]ri}\)

(vi) \[\text{n}\] is a voiced alveolar nasal. It occurs elsewhere.

- knave \(\text{[n]\text{e}\text{i}\text{v}}\)
- sinner \(\text{\text{s}\text{I}[n]\text{\varepsilon}}\)
In addition to these allophonic variants, in context, word final /n/ frequently assimilates to a following word initial bilabial or velar consonant, being realized as /m/ or /ŋ/, as in

- ten people    te[m]piːpl
- ten guards    te[ŋ]gaːdz

**Velar Nasal**

20. **Voiced Velar Nasal** /ŋ/

/ŋ/ has three allophonic variants [%ŋ%, ɣ%, ɣ%]

(i) [%ŋ%] is a voiceless pre-velar nasal. It occurs after a front vowel, as in

- sing    si[ŋ³]
- bring   brI[ŋ³]

(ii) [ɣ%] is a voiced post-velar nasal. It occurs after a back vowel, as in

- long    lɔ[ɣ³]
- wrong   rɔ[ɣ³]

(iii) [ɣ] is a voiced velar syllabic nasal. /ŋ/ is occasionally syllabic, as in

scene  siː[n]
painting  peɪ[n]tɪŋ
As stated earlier, word final /$\theta$/ may result in context from the isolate word final from /$n$/, as in:

- ten coats: $te[\emptyset] k\_u^t_s$
- ten girls: $te[\emptyset] g\_3:l_z$

E. Lateral

There is only one lateral phoneme in RP. There is no opposition between fortis and lenis, voiced and voiceless, or fricative and non-fricative.

Alveolar Lateral

21. Voiced Alveolar Lateral /$l$/

/l/ has six allophonic variants $[\_l, \_l, \_l, \_l, \_l]$.

(i) $[\_l]$ is a devoiced alveolar lateral. It occurs after accented (aspirated) /$p,t,k$/.

playing: $'p[l]eI[I]$n$

neatly: $'n_i:t[l]I$

clean: $k[l]i:n$

flask: $f[l]u:sk$

slow: $s[l]\_au$
pathless  
Ashley  

(ii) \[ l \] is a voiced dental lateral. It occurs before a dental fricative, as in

health  
tell them

(iii) \[ l \] is a voiced post-alveolar lateral. It occurs before /r/, as in

already  
bell-ringer

(iv) \[ t \] is a voiced alveolar (dark) lateral. It occurs when it is word final after vowels or after a vowel before a consonant, as in

fool  
tell  
film  
bulp

(v) \[ l \] is a voiced alveolar syllabic lateral. It occurs as a syllabic consonant, as in

apple  
little  
buckle
(vi) \[ \hat{l} \] is a voiced alveolar (clear) lateral. It occurs elsewhere.

late \[ \hat{l}\]eIt
glad \[g[\hat{l}]\]æd
collar \[k0[\hat{l}]\]ə

F. Frictionless Continuant (Approximant)

There is only one frictionless continuant in RP.

Post-Alveolar Frictionless Continuant

22. Voiced Post-alveolar Frictionless Continuant /\r/

/\r/ has four main allophonic variants \[\hat{\imath}, \hat{i}, \hat{\epsilon}, \hat{\imath} \]

(i) \[\hat{\imath}\] is a voiced post-alveolar fricative, when it is preceded by /d/, as in

drive \[d[\hat{\imath}]\]aIv
tawdry \[t\d[\hat{\imath}]\]I
bedroom \[b\d[\hat{\imath}]\]um
wide road \[w\d[\hat{\imath}]\]aud

(ii) \[\hat{\imath}\] is a partially devoiced post-alveolar fricative. It occurs in the following positions:
(a) Partially devoiced variety of /r/ occurs when it is preceded by a voiceless consonant, as in

fry $\theta[\text{I}]\text{aI}$

thrive $\theta[\text{I}]\text{aIV}$

(b) Partially voiced or completely voiceless variety of /r/ occurs when it is preceded by an aspirated /p,t,k/, as in

price $p[\text{I}]\text{aIs}$

private $p[\text{I}]\text{aIVIt}$

attract $\text{a}^t[\text{I}]\text{ækt}$

across $\text{æk}[\text{I}]=\text{s}$

(iii) [ɛ] is a voiced post-alveolar tap (one-tap trill). It occurs between two vowels or after /θ/, as in

very $\text{\text{'}ve}[\text{I}]\text{I}$

marry $\text{\text{'}mæ}[\text{I}]\text{I}$

three $\theta[\text{I}]\text{I}$

thrill $\theta[\text{I}]\text{Il}$

(iv) [ɪ] is a voiced post-alveolar frictionless continuant (approximant). It occurs elsewhere.

red $[\text{I}]\text{ed}$

rain $[\text{I}]\text{eIn}$
In addition to the above mentioned allophonic variants, a lingual roll [r] may also be heard among RP speakers but usually only in highly stylized speech - in declamatory verse speaking.

G. Semi-Vowels

Palatal Semi-Vowel

23. Unrounded Palatal Semi-Vowel /j/

/j/ has three allophonic variants [ ʄ, Ɂ, j ]

(i) [ʄ] is a voiceless palatal fricative. It occurs after accented /p,t,k/ and /h/, as in

<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>pure</td>
<td>p[ʄ]uə</td>
</tr>
<tr>
<td>tune</td>
<td>t[ʄ]uːn</td>
</tr>
<tr>
<td>cure</td>
<td>k[ʄ]uə</td>
</tr>
<tr>
<td>accuse</td>
<td>Ɂk[ʄ]uːz</td>
</tr>
<tr>
<td>attuned</td>
<td>Ʉt[ʄ]uːnd</td>
</tr>
<tr>
<td>huge</td>
<td>h[ʄ]uːdʒ</td>
</tr>
</tbody>
</table>

(ii) [Ɂ] is a partially devoiced palatal frictionless continuant. It occurs afterunaspirated /p,t,k/ and fortis fricatives, as in

<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>spurieus</td>
<td>'sp[Ɂ]uərIəs</td>
</tr>
<tr>
<td>stew</td>
<td>st[Ɂ]uː</td>
</tr>
<tr>
<td>askew</td>
<td>æ sk[Ɂ]uː</td>
</tr>
</tbody>
</table>
refuse  rɪf[d]uːz
enthusiasm  I n[ʃ]uːzIæzəm

(iii)  [j] voiced frictionless continuant (approximant).

It occurs elsewhere.

yes  [j]es
beauty  b[d]uːtI
music  m[d]uːzIk
onion  n[ʃ]ən

Labio-Velar Semi-Vowel

24.  Voiced Labio-Velar Semi-Vowel /w/

/w/ has two allophonic variants [ w or[ʍ]w ]

(i)  [w] or [ʍ] voiceless labio-velar fricative. It occurs after accented /t,k/, as in

twig  t[ʍ]Ig
quick  k[ʍ]Ik

However, a partially devoiced variety occurs after other voiceless consonants, as in

sweet  s[w]I:t
square  sk[w]eə
thwart  θ[w]ɔ:t
squirrel  sk[w]Irəl
(ii) \[ w \] voiced labio-velar approximant. It occurs elsewhere.

wait \[ w \]eIt
away \[ a [w] eI
doing \[ du [w] I \]

4.7 Vowel Phonemes and their Classification

In RP there are twenty vowel phonemes of which twelve are pure vowels or monophthongs and the remaining eight are diphthongs or diphthongal glides.*

4.7.1 Pure Vowels (Monophthongs)

Pure vowels are the vowels in the production of which the quality remains relatively constant, though it is not possible for the quality of a vowel to remain absolutely constant. In the words of Gimson, '... Nevertheless, we may distinguish between those vowels which are relatively pure (or unchanging), such as the vowel in learn, and those which have a considerable and voluntary glide, such as the gliding vowel in line'.

* Relatively few RP speakers make a contrast between /ɔː:/ and /oʊ/ in paw and pour respectively. Hence, for this study /oʊ/ has not been included in the inventory of vowel phonemes.

2 A.C. Gimson, An Introduction to the Pronunciation of English, op.cit., p.43.
Pure vowels are classified into short and long vowels as regards their length in addition to their qualitative differences. Out of the twelve pure vowels seven of them are short and the remaining five are long. The long and short vowels are listed below:

**Short Vowels /i, e, æ, ə, ɔ, u/**

**Long Vowels /iː, aː, ɔː, ɔː, uː/**

Vowel quality chiefly depends on the position of the tongue. The most satisfactory scheme of vowel description is devised by Daniel Jones and known as Cardinal Vowel system or scale. With the help of Cardinal Vowel scale, vowel qualities may be described. Vertically, the vowels have a four-fold classification, taking into account the height of the tongue namely, close, half-close, half-open and open vowels. Horizontally, vowels are classified into three categories, taking into account the part of the tongue raised: front, central and back. A third criteria for the classification is the position of the lips - rounded, neutral and unrounded. Daniel Jones adds a fourth parameter to this classification i.e. opening between the jaws. The vowel diagram (Fig. 4.1) shows the pure vowels of English and an assessment of quality in relation to the Cardinal vowels. However, the lip-position and opening between the jaws have to be indicated separately.
Fig. 4.1 Vowel Diagram showing the relations of RP pure vowels to the Cardinal Vowels.

- Represents Cardinal Vowels.
- Represents Pure Vowels of RP.

(p. 226)
4.7.2 Diphthongs (Diphthongal Glides)

In the words of Gimson, 'The sequences of vocalic elements included under the term 'diphthong' are those which form a glide within one syllable. They may be said to have a 1st element (the starting point) and a 2nd element (the point in the direction of which the glide is made).'

In RP there are eight diphthongs of which five are closing and the remaining three are centring. Since most of the length (duration) and stress are associated with the first element of the glide, the second element is only lightly sounded. In the production of those diphthong where the first element is more prominent than the second, the diphthongs are known as 'falling diphthongs'. The falling diphthongs are /eI, ai, OI, au, ou, and ea/. However, when the first element is weaker than the second element, the diphthongs are termed as 'rising diphthongs'. The vowel diagram (Fig.4.2) shows the diphthongs of RP.

4.8 Description of Vowel Phonemes

The description of vowel phonemes consists of three sub-sections : (i) establishment of contrast, (ii) brief account of general phonetic qualities of vowels, (iii) detailed description of individual vowel phonemes.

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3 A.C. Gimson, An Introduction to the Pronunciation of English, Ibid., p.128.
Fig. 4.2  Vowel Diagram showing RP Diphthongal Glides (p. 228)
4.8.1 Establishment of Contrast for Vowel Phonemes

Words illustrating oppositions in word medial positions are given below:

A. Pure Vowels:

/i:/ heed /hiːd/ bead /biːd/
/I/ hid /hɪd/ bid /bɪd/
/e/ head /hed/ bed /bed/
/æ/ had /hæd/ bad /bæd/
/ʌ/ bud /bʌd/ upper /ˈʌpər/
/a:/ hard /hɑːd/ bard /bɑːd/
/ɑ/ hod /hɑd/
/ɔ:/ hoard /hɔːd/ board /bɔːd/
/ʊ/ hood /hʊd/
/u:/ booed /buːd/
/ɔː/ heard /hɔːd/ bird /bɔːd/
/

/account /ˈakaunt/

B. Diphthongs

/eɪ/ fail /faɪl/ /eə/ peers /piəz/
/æɪ/ file /faɪl/ /ɛə/ pairs /piəz/
/ɔɪ/ foil /faɪl/ /ʊə/ poorer /ˈpoʊər/
/əʊ/ foal /faʊl/ 
/ɒʊ/ foul /faʊl/
4.8.2 General Phonetic Assessment of Vowel Quality

A general phonetic assessment of the qualities of syllabic vowels, in terms of the Cardinal values, may be made from the following examples, in word final and non-final positions. This description is based on Gimson's analysis (Gimson: 93-94).

<table>
<thead>
<tr>
<th>Final</th>
<th>Non-final</th>
<th>Quality</th>
<th>Notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Short</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>city</td>
<td>bid</td>
<td>retracted, raised [e]</td>
<td>i</td>
</tr>
<tr>
<td>— bed</td>
<td>between [e] and [ɛ]</td>
<td>e</td>
<td></td>
</tr>
<tr>
<td>— had</td>
<td>between [ɛ] and [a]</td>
<td>æ</td>
<td></td>
</tr>
<tr>
<td>— hod</td>
<td>[o]</td>
<td>o</td>
<td></td>
</tr>
<tr>
<td>— hood</td>
<td>advanced, raised [o]</td>
<td>u</td>
<td></td>
</tr>
<tr>
<td>— bud</td>
<td>centralized, raised [a]</td>
<td>a</td>
<td></td>
</tr>
<tr>
<td>sitter</td>
<td>accept</td>
<td>central</td>
<td>a</td>
</tr>
</tbody>
</table>

II. Long (relatively pure)

| pea | bead | lowered [i] or [II] or [ij] | i: |
| do | food | lowered [u] or [UU] or [uw] | u: |
| par | bard | fronted [a] | a: |
| paw | board | raised [o] | o: |
| purr | bird | mid central | 3: |

III. Long (diphthongal glides, with prominent 1st element)

(a) glide to [I]

pay paid lowered [e] → [I] eI
### 4.8.3 Detailed Description of Vowel Phonemes

A. Pure Vowels:

Front Vowels /i:, I, e, æ/ 

1. Front Close Unrounded Vowel /i:/

   /i:/ has three allophonic variants [i, i:, ïi].

(i) [i] is a front close, tense reduced (short) unrounded vowel. It occurs before a fortis consonant, as in

   - deep  d[i]p
   - seat  s[i]t
(ii) [iː] is a front close tense long unrounded vowel. It occurs in the final position (in an open syllable) and, before a lenis consonant, as in

- bee b[iː]
- sea s[iː]
- lead l[iː]d
- seize s[iː]z
- wreath r[iː]θ

(iii) [ɪː]:/iː/ is often noticeably diphthongized. The glide begins with an open variety of [i] and moves to closer position. It occurs especially in word final positions, as in

- bee b[ɪː]
- see s[ɪː]

2. Centralized Front just above Half-close Position
Unrounded Vowel /ɪ/

/ɪ/ has three allophonic variants [ɪ̯, ɨ, ɪ ]

(i) [ɪ̯] The vowel /ɪ/ is sometimes diphthongized. The glide begins with half-close [ɪ] and moves towards /a/. It occurs in accented monosyllables closed by a lenis consonant, as in
(ii) \[\varepsilon\] is a front centralized between half-close and half-open positions short lax unrounded vowel. It occurs in unaccented syllables,* as in

<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ladies</td>
<td>leId[e]z</td>
</tr>
<tr>
<td>goodness</td>
<td>gUin[e]s</td>
</tr>
<tr>
<td>become</td>
<td>b[e]kAm</td>
</tr>
<tr>
<td>village</td>
<td>vil[e]d3</td>
</tr>
<tr>
<td>heavy</td>
<td>hev[e]</td>
</tr>
<tr>
<td>city</td>
<td>sIt[e]</td>
</tr>
</tbody>
</table>

(iii) \[I\] is a front centralized just above half-close position, short lax unrounded vowel. It occurs elsewhere.**

<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>live</td>
<td>l[I]v</td>
</tr>
<tr>
<td>bid</td>
<td>b[I]d</td>
</tr>
<tr>
<td>bit</td>
<td>b[I]t</td>
</tr>
<tr>
<td>sin</td>
<td>s[I]n</td>
</tr>
<tr>
<td>kill</td>
<td>k[I]l</td>
</tr>
</tbody>
</table>

In unaccented syllables of certain words there is free variation between /I/ and /\varepsilon/.* e.g., problem, possible, believe, etc.

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* Some RP speakers use the central vowel /\varepsilon/, in suffixes such as -less, -ness, -ate, -age, -et (as in useless, goodness, private, village, pocket).

** When /I/ is followed by a voiceless consonant as well as a lateral or a nasal the length is reduced.
3. Front between Half-open and Half-close Unrounded Vowel /e/

It occurs only initially and medially, it does not occur finally in a word.

/e/ has three allophonic variants [e1, e2, e3].

(i) [e1] is a front half-open and half-close short unrounded vowel slightly diphthongized towards [ε]. It occurs in monosyllabic words closed by a lenis consonant, as in

- bed  b[e1]d
- leg  l[e1]g

(ii) [e2] is a front half-open and half-close short unrounded vowel diphthongized towards [ə]. It occurs in a few words, as in

- men  m[e2]n
- said  s[e2]d
- get  g[e2]t

(iii) [e3] is a front half-open and half-close short unrounded vowel. It occurs elsewhere.

- egg  [e]g
- desk  d[e]sk
- bell  b[e]l
4. Front just below the Half-open Position
Unrounded Vowel /æ/

It occurs initially and medially, it does not occur finally in a word.

/æ/ has three allophonic variants [æː, æ̃, æ]

(i) [æː] is a front just below half-open lengthened vowel. It occurs before a lenis consonant, as in

- cab \( k[æː]b \)
- bad \( b[æː]d \)
- badge \( b[æː]dʒ \)
- jam \( dʒ[æː]m \)
- man \( m[æː]n \)

(ii) [æ̃] is a front just below half-open short unrounded vowel diphthongized towards /a/. It occurs in monosyllables closed by an alveolar plosive, as in

- cat \( k[æ̃]t \)
- bad \( b[æ̃]d \)

(iii) [æ] is a front just above half-open short unrounded vowel. It occurs elsewhere.

- ash \( [æ]ʃ \)
- apple \( [æ]pl \)
- bat \( b[æ]t \)
- cash \( k[æ]ʃ \)
Back Vowels /a:, ɔ:, ɑ:, ɒ:, u:, u:/

5. Back Open Unrounded Vowel /a:/

It occurs initially, medially and finally in a word.

/a:/ has two allophonic variants [a, aː]

(i) [a] is a back open reduced (short) tense unrounded vowel. It occurs in a syllable closed by a fortis consonant, as in

clerk  kl[aː]k

calf  k[a]f

pass  ð[a]s

moustache  mɒst[aː]ʃ

heart  h[aː]t

(ii) [aː] is a back open long tense unrounded vowel.

It occurs elsewhere.

car  k[aː]

card  k[aː]d

father  'f[aː]ðə

barrage  bær[aː]ʤ

6. Back just above the Open position Vowel with Open Lip-rounding /ɒ/

It occurs initially and medially in a word. It
does not occur finally in a word.
/ɒ/ has two allophonic variants [ɒ, ɒ]

(i) [ɒ] is a slightly longer variety of /ɒ/. It occurs before a lenis consonant, as in

cod
dog

(ii) [ɒ] is a back just above the open position slightly founded vowel. It occurs elsewhere.

cot
dock
often
cough

Words containing /ɒ/ + /f,θ,s/ have an alternative pronunciation with /ɔː/, e.g. off, cloth, cross, etc.

7. Back between Half-open and Half-close Vowel with Medium Lip-rounding /ɔː/

It can occur initially, medially and finally in a word.

/ɔː/ has three allophonic variants [ɔ, ɒʊ, ɔː]

(i) [ɔ] is a back half-open and half-close tense relatively short (reduced) slightly rounded vowel. It occurs before a fortis consonant, as in
(ii) [ʌ] is a half-open and half-close slightly rounded vowel, slightly diphthongized towards [u]. It occurs in the following words:

caught k[ʌ]t
daughter ′d[ʌ]tə
talk t[ʌ]k
board b[ʌ]d
ball b[ʌ]l
fall f[ʌ]l
born b[ʌ]n

(iii) [ɔː] is a back half-open and half-close long slightly rounded vowel. It occurs elsewhere.

dawn d[ɔː]n
saw s[ɔː]
war w[ɔː]

8. Back just above Half-close Rounded Vowel /ʊ/

It occurs only in medial position. In final position it occurs only in the unaccented form of preposition to. It does not occur in initial position.
/U/ has three allophonic variants [Y, u, U]

(i) [Y] is a slightly opener variety of /U/ with less lip-rounding. It occurs in the following common words:

- good [g[Y]d]
- should [ʃ[Y]d]
- could [k[Y]d]
- would [w[Y]d]

(ii) [u] is a back above half-close lax rounded slightly lengthened vowel. It occurs before a lenis consonant, as in

- wool [w[u.]l]
- bosom [b[u.]zəm]
- wood [w[u.]d]
- wolf [w[u.]lf]

(iii) [U] is a back above half-close lax with fairly close lip-rounding short vowel. It occurs elsewhere.

- bush [b[U]ʃ]
- look [l[U]k]
- butcher [b[U]tə]
- Worcester [w[U]stə]

* In the unaccented forms of the last three examples /ə/ is used rather than /U/.
9. Back Close Rounded Vowel /u:/

It occurs in initial, medial and final positions.

/u:/ has four allophonic variants [ ü:, u, Uu, u: ]

(i) [ü:] is a back long rounded vowel slightly central­lized (an advanced variety of u:). It occurs only after /j/, as in

music mj[ü:]zIk
tube tj[ü:]b

(ii) [u] is a reduced variety of /u:/. It occurs before a fortis consonant, as in

fruit fr[u]t
soup s[u]p
loose l[u]s
douche d[u]d

(iii) [Uu] The vowel /u/ is usually diphthongized. It occurs especially in the final position, as in

shoe ([Uu]
few fj[Uu]
who h[Uu]
do d[Uu]

(iv) [u:] is back close long tense rounded vowel. It occurs elsewhere.
Central Vowels /ʌ, æː, ə/  

10. Central just above Open Unrounded Vowel /ʌ/  

It occurs initially and medially in a word. It does not occur in word-final position.  

/ʌ/ has two allophonic variants [ʌ, ʌ]  

(i) [ʌ] is a central just above open lax unrounded slightly lengthened vowel. It occurs before a lenis consonant, as in  

bud b[ʌ]d  
number 'n[ʌ]mbə  
mother 'm[ʌ]ðə

(ii) [ʌ] is a central just above open lax unrounded vowel. It occurs elsewhere.  

utter [ʌ]tə  
cup k[ʌ]p  
much m[ʌ]tʃ  
tough t[ʌ]f
11. Central between Half-close and Half-open Unrounded Vowel /3:/

It occurs in all the three positions - initial, medial and final.

/3:/ has two allophonic variants [3, 3:]

(i) [3] is a central between half-close and half-open unrounded tense relatively short (reduced) vowel. It occurs before a fortis consonant, as in

birth \( b[3]\theta \)
first \( f[3]st \)
church \( t[3]f \)

(ii) [3:] is a central between half-close and half-open tense long unrounded vowel. It occurs elsewhere.

fur \( f[3:] \)
bird \( b[3:]d \)
urge \( [3:]\delta\gamma \)
burn \( b[3:]n \)

12. Central just below Half-open Unrounded (with neutral lip position) Vowel /\textalpha/ 

It is the most frequently occurring vowel. It can occur in initial, medial and final positions. /\textalpha/ does not occur in accented syllables.
/ə/ has four allophonic variants [ə₁, ə₂, ə₃, ə]

(i) [ə₁] is a central vowel very near to /aː/ in tamber but it is extremely short. Its variants are the members of the same diaphone. It occurs in the following words:

- along [ə₁]lɔŋ
- attempt [ə₁]tempt
- Thomas təm[ə₁]s
- famous 'feɪm[ə₁]s
- cupboard 'kʌb[ə₁]d

(ii) [ə₂] is a higher and more retracted variety of /ə/. It occurs adjoining a velar consonant, as in

- hypocrite hɪp[ə₂]krɪt
- condemn k[ə₂]ndem
- to go t[ə₂]gəu
- back again bæk [ə₂]geɪn
- the ground d[ə₂]ˈɡraʊnd

The /ə/ in these words is almost equivalent to a very short u (kʊndem, twʊgou, bæk ʊgeɪn, dʊɡraʊnd, etc.).

(iii) [ə₃] is an opener and more /ʌ/ like half-open or in the most open region of the central area. Unlike [ə₁] and [ə₂] it occurs in final positions, as in
(iv) [ə] is a central between half-close and half-open short lax vowel. It occurs elsewhere.

aback [ə]baek
adieu [ə].dju:

B. Diphthongs

Closing Diphthongs /ei, ai, oi, ou, au/

13. /ei/ is a diphthong in the production of which the glide begins from a front unrounded vowel just below half-close /e/ and moves in the direction of a centralized front unrounded vowel just above half-close /I/. It occurs in all the three positions - initial, medial and final in a word.

/el/ has two allophonic variants [e:I, eI]

(i) [e:I] is a diphthong relatively long. It occurs word finally or before a lenis consonant, as in

play pl[e:I]
played pl[e:I]d
(ii) [eI] is a diphthong relatively short (reduced). It occurs before a fortis consonant, as in

- eight [eI]t
- face [eI]s
- safe [eI]f

14. /aI/ is a diphthong in the production of which the glide begins at a point slightly behind the front open position, i.e. C [a], and moves in the direction of RP /I/. It occurs word initially, medially and finally.

/aI/ has two allophonic variants [ a:I, aI ]

(i) [a:I] is a diphthong relatively long. It occurs word finally and before a lenis consonant, as in

- die [a:I]
- fly [a:I]
- high [a:I]
- mine [a:I]n
- hide [a:I]d
- eyes [a:I]z
(ii) [aɪ] is a diphthong relatively short (reduced). It occurs before a fortis consonant, as in

nice n[aɪ]s
pipe p[aɪ]p
sight s[aɪ]t
life l[aɪ]f
ice [aɪ]s

15. /ɔɪ/ is a diphthong in the production of which the glide begins at a point between the back half-open and open position and moves in the direction of RP /I/. It occurs initially, medially and finally in a word.

/ɔɪ/ has two allophonic variants [ɔːɪ, ɔɪ]

(i) [ɔːɪ] is a diphthong relatively long. It occurs word finally and before a lenis consonant, as in

boy b[ɔːɪ]
toy t[ɔːɪ]
noise n[ɔːɪ]z
coin k[ɔːɪ]n

(ii) [ɔɪ] is a diphthong relatively short (reduced)

voice v[ɔɪ]s
choice tʃ[ɔɪ]s
hoist n[ɔɪ]st
16. /æU/ is a diphthong in the production of which the glide begins at a central position between half-close and half-open position and moves in the direction of RP /u/.

/æU/ has two allophonic variants \[æ:U, æU\]

(i) \[æ:U\] is a diphthong relatively long. It occurs word finally and before a lenis consonant, as in:

- know: n[æ:U]
- go: g[æ:U]
- showed: [æ:U]d
- home: h[æ:U]m

(ii) \[æU\] is a diphthong relatively short (reduced). It occurs before a fortis consonant, as in:

- wrote: r[æU]t
- goat: g[æU]t
- post: p[æU]st
- both: b[æU]θ

17. /ɑU/ is a diphthong in the production of which the glide begins at a point between the back and front open positions i.e. ɔ [ɔ] and moves in the direction of RP /u/.

It represents a diaphone with several members. It occurs in word initial, medial and final positions.

/ɑU/ has two allophonic variants \[ɑ:U, ɑU\]
(i) \([\text{a:u}]\) is a diphthong relatively long. It occurs word finally and before a lenis consonant, as in

- how  \(\text{h[\text{a:u}]}\)
- now  \(\text{n[\text{a:u}]}\)
- proud  \(\text{pr[\text{a:u}]}\)
- cows  \(\text{k[\text{a:u}]}\)
- brown  \(\text{br[\text{a:u}]}\)

(ii) \([\text{au}]\) is a diphthong relatively short (reduced). It occurs before a fortis consonant, as in

- shout  \(\text{[au]}\)
- house  \(\text{h[au]}\)
- south  \(\text{s[au]}\)

Centring Diphthongs /\text{ia, ea, au} /

18. /\text{ia}/ is a centring diphthong in the production of which the glide begins with RP /\text{i}/, i.e. centralized front half-close vowel and moves in the direction of RP /\text{a}/. There exist diaphonic variants of /\text{ia}/. It occurs in all the three positions of a word.

/\text{ia}/ has three allophonic variants [\text{i:a, i,a, y:a}]

(i) [\text{i:a}] is a diphthong relatively long. It occurs word finally and before a lenis consonant, as in

- fear  \(\text{f[i:a]}\)
- board  \(\text{b[i:a]}\)
(ii) [ɪə] is a diphthong relatively short (reduced). It occurs before a fricative consonant, as in

pierce     p[ɪə]s
fierce     f[ɪə]s

(iii) [ɪə] is a rising diphthong in the production of which the first element of the glide i.e. /I/ may be weaker of the two elements and the second element /ə/ is stronger. It occurs in unaccented syllables, as in

period     'pɪə[rɪə]d
serious     'sɪə[rɪə]s
happier     'hæp[rɪə]
realistic   r[ɪə]lɪstɪk
theological θ[rɪə]lədɪkl

19. /əə/ is a centring diphthong in the production of which the glide begins in the half-open front position, i.e. approximately C [ɛ], and moves in the direction of the more open variety of /ə/, especially when it occurs in the final position. It occurs in initial, medial and final positions in a word.

/əə/ has two allophonic variants [ eə, əə ]

(i) [eə] is a diphthong relatively long. It occurs word finally and before a lenis consonant, as in

there     ə[eə]
chair     tʃ[əə]
(ii) [εə] is diphthong relatively short (reduced). It occurs before a fortis consonant, as in

scarce
staircase

/UA/ is a centring diphthong in the production of which the glide begins from /U/ and moves in the direction of /a/. It occurs word medially and finally. It does not occur initially in a word.

/UA/ has two allophonic variants [ Ua, Úa ]

(i) [Uə] is a centring diphthong and it occurs in the following words:

poor
moor
guard

(ii) [Üa] is a rising diphthong, like that of [İa] the sequence of [U] + [ə] may constitute a rising diphthong in unaccented syllables, as in

influence
vacuum
valuable