CHAPTER III

3. GENERATIVE PHONOLOGY OF ENGLISH

3.1. Introduction

The discussions on the Generative phonology of English presented in this chapter are primarily based on Chomsky and Halle's monumental book 'The Sound Pattern of English'. The researcher regrets that due to physical constraints he could not collect his data on English phonology from the native speakers of English and had to depend on authoritative books on English phonology - both Taxonomic as well as Generative. Besides, 'The Sound Pattern of English' materials discussed in Liles (1971, 1972) have also been used in the preparation of this chapter. All the aspects of English Generative phonology, however, have not been treated in this chapter. Only those aspects which seemed relevant to a contrastive analysis have been brought into focus.

3.1.1. General American English

A number of acceptable or standard ways of pronunciation exists in the English-speaking world. Educated Southern British (also known as Received Pronunciation-R.P.), Educated General American English, Educated Australian English — all these are now-a-days accepted as standard varieties. In India due to historical reasons, R.P. still now continues to serve as a model though the American variety of English speech is also accepted as a standard one. But due to the growing influence of American mass-media General Americ
can English is fast replacing R.P. as a standard model. For the purpose of the present study General American English has been accepted as the standard model. This preference of General American English to Received Pronunciation is mainly due to the fact that all the books on Generative phonology available to the researcher discuss the American variety of English speech and the researcher thought it convenient to base his discussion on this variety.

3.2. Distinctive feature composition of English segments

The total number of distinctive features used in this work is 13 and they include the following: consonantal, vocalic, sonorant, continuant, nasal, anterior, coronal, high, low, back, tense, voice, strident. For the classificatory purposes of English vowels, besides other features, only two degrees of backness are recognised: \(+\text{back}\) and \(-\text{back}\). Vowels termed as central vowels in Taxonomic phonology are classified in this description as \(+\text{back}\) vowels as central vowels are perceptually similar to back unrounded ones. The feature \(+\text{tense}\) is pertinent to English vowels as English vowels can be classified as \(+\text{tense}\) or \(-\text{tense}\). But this feature is not pertinent to English consonants. The glides /y/ and /w/ are, of course, both \(-\text{tense}\). In English all unstressed lax vowels are reduced to /ə/ called schwa. As this schwa which is \(-\text{consonantal, } +\text{vocalic, -stress, -tense}\) is a generalised form of all vowels that are lax and unstressed it is not listed in the inventory of vowels discussed in this chapter.
Chomsky and Halle classified labial, dental, palatoalveolar and velar — the four principal places for consonant articulation — according to whether the constriction is at the extreme forward region of the oral cavity or more retracted and whether the articulator is the blade of the tongue or some other articulator. Thus, they used two parameters — \( \text{[anterior]} \) and \( \text{[coronal]} \) for the classification of consonants. In English, \( p, b, t, d, v, z, s, z, s, l, \) are \( \text{[anterior]} \) while others are \( \text{[anterior]} \). Again, \( t, d, z, j, e, o, c, g, \) \( \hat{a}, \hat{z}, n, r, l \) are \( \text{[coronal]} \) and the rest are \( \text{[coronal]} \). As the segments \( f, v, \theta, \phi, s, z, \hat{a}, \hat{z}, r, l, h \) have continuous friction, they are classified as \( \text{[continuant]} \) while others are termed as \( \text{[continuant]} \). The segments \( \hat{c}, j, f, v, s, z, \hat{a}, \hat{z} \) are \( \text{[strident]} \) and others are \( \text{[strident]} \). There are three nasal segments in English — \( z, n, n. \) The two glides \( /y/ \) and \( /w/ \) are \( \text{[consonantal, -vocalic, +high]} \).

3.3. Segment Structure Matrices and Blank-filling Rules:

3.3.1. Fully Specified Matrices

The fully specified distinctive feature composition constituting the Systematic Phonological Matrices of English is given in Table I and Table II.
## Fully Specified Systematic Phonological Matrices of English

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English vowels are presented in this table. Consonants and the glides are presented in the next table. As already mentioned in Sec. 3.2, in English all unstressed lax vowels are reduced to /ə/ and hence this segment is not presented in this table. Diphthongs such as /au/, /ai/ and /oi/ are also not presented in the matrices as they are not single segments.

|               | p  | b  | t  | d  | k  | g  | j | v | θ | s | ž | š | m | n | ň | ř | l | h | ř | w |
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| consonantal   | +  | +  | +  | +  | +  | +  | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| vocalic       | -  | -  | -  | -  | -  | -  | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| sonorant      | -  | -  | -  | -  | -  | -  | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| continuant    | -  | -  | -  | -  | -  | -  | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| nasal         | -  | -  | -  | -  | -  | -  | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| anterior      | +  | +  | +  | -  | -  | -  | - | - | - | + | + | + | + | - | - | - | - | - | - | - |
| coronal       | -  | -  | -  | +  | +  | +  | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| high          | -  | -  | -  | +  | +  | +  | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| low           | -  | -  | -  | -  | -  | -  | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| back          | -  | -  | -  | -  | -  | -  | - | - | - | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| tense         | -  | -  | -  | -  | -  | -  | - | - | - | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| voice         | -  | -  | -  | +  | +  | +  | + | + | + | +  | +  | +  | +  | +  | +  | +  | +  | +  | +  | +  | +  |
| strident      | -  | -  | -  | +  | +  | +  | + | + | + | +  | +  | +  | +  | +  | +  | +  | +  | +  | +  | +  | +  |
### Minimally Specified Matrices

The matrices presented in Sec. 3.3.1. have a number of redundant specifications which could be eliminated to construct minimally specified phonological matrices of English segmental phonemes. Of the 455 specifications shown in Table I and II of the previous section 296 are actually redundant and hence in the minimally specified matrices presented in Table III and IV a '0' mark has been put in the places of redundant specifications.

#### Minimally specified Systematic Phonological Matrices of English

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3.3.2.1. Description of English segments with reference to features

For the convenience of ready reference English sound segments are described below with reference to features. They are as follows:

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\begin{align*}
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&+\text{vocalic} \\
&+\text{high} \\
&-\text{low} \\
&-\text{back} \\
&+\text{tense}
\end{align*}
\]

\[
\begin{align*}
&\text{-consonantal} \\
&+\text{vocalic} \\
&+\text{high} \\
&-\text{low} \\
&-\text{back} \\
&-\text{tense}
\end{align*}
\]

\[
\begin{align*}
&\text{-consonantal} \\
&+\text{vocalic} \\
&-\text{high} \\
&-\text{low} \\
&-\text{back} \\
&+\text{tense}
\end{align*}
\]
/ʊ/

- consonantal
+ vocalic
+ high
- low
+ back
- tense

/o/

- consonantal
+ vocalic
+ high
- low
+ back
+ tense

/ʌ/

- consonantal
+ vocalic
+ high
- low
+ back
- tense
\[
\begin{align*}
/a/ & \quad \text{consonantal} \\
& \quad + \text{vocalic} \\
& \quad - \text{high} \\
& \quad + \text{low} \\
& \quad + \text{back} \\
& \quad + \text{tense} \\
\end{align*}
\]

\[
\begin{align*}
/\partial/ & \quad \text{consonantal} \\
& \quad + \text{vocalic} \\
& \quad - \text{high} \\
& \quad + \text{low} \\
& \quad + \text{back} \\
& \quad + \text{tense} \\
\end{align*}
\]

\[
\begin{align*}
/p/ & \quad \text{continuant} \\
& \quad - \text{nasal} \\
& \quad + \text{anterior} \\
& \quad - \text{coronal} \\
& \quad - \text{voice} \\
\end{align*}
\]
/b/
- continuant
- nasal
+ anterior
- coronal
+ voice

/z/
- continuant
- nasal
+ anterior
+ coronal
- voice

/a/
- continuant
- nasal
+ anterior
+ coronal
+ voice
\[ /i/ \]
- strident
+ continuant
+ anterior
- coronal
- nasal
- voice

\[ /v/ \]
- strident
+ continuant
+ anterior
- coronal
- nasal
+ voice
/r/
+ consonantal
+ vocalic
+ sonorant
+ continuant
- nasal
- anterior
+ coronal
+ voice
- strident

/l/
+ consonantal
+ vocalic
+ sonorant
+ continuant
- nasal
+ anterior
+ coronal
+ voice
- strident

/h/
- consonantal
- vocalic
- high
- back
+ voice
3.3.3. Segment Structure Conditions

A comparison of the tables given in Section 3.3.1. and the tables presented in Section 3.3.2. suggests that a set of Redundancy Rules are to be formulated which may map the tables at 3.3.2. onto the tables at 3.3.1. by filling in the predictable blanks. These redundancy rules are referred to here as Segment Structure Conditions. But it may be mentioned here that some of these Segment Structure Conditions
(henceforth, SgSc) actually belong to Language Universals rather than forming parts of English phonology. However, for the sake of convenience, no distinction has been made in this discussion between Language Universals and SgSc that actually form parts of English phonology. The SgSc are written in the format of "If-Then" rules, the top line marked \( I(c) \) means "If condition" and the bottom line marked \( T(o) \) means "Then condition". There are twenty three Redundancy Rules that explain all the blanks in the tables presented in Section 3.3.2.

<table>
<thead>
<tr>
<th>SgSc I</th>
<th>( I(c) )</th>
<th>( \Gamma^{+\text{high}} )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( T(o) )</td>
<td>( \Gamma^{-\text{low}} )</td>
</tr>
</tbody>
</table>

This condition states that if a segment is \( \Gamma^{+\text{high}} \) it must be \( \Gamma^{-\text{low}} \). This condition actually belongs to Language Universals because it is applicable to all languages including English.

<table>
<thead>
<tr>
<th>SgSc II</th>
<th>( I(c) )</th>
<th>( \Gamma^{+\text{low}} )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( T(o) )</td>
<td>( \Gamma^{-\text{high}} )</td>
</tr>
</tbody>
</table>

This condition states that \( \Gamma^{+\text{low}} \) segments are automatically \( \Gamma^{-\text{high}} \).
This condition states that all vowels are [+vocalic, +sonorant, +continuant, -anterior, -coronal, -strident].

This condition states that all English vowels are [+vocalic, -nasal].

This condition is a language specific Segment Structure Condition.
This condition states that the three English nasals /a/, /o/, /u/ are [+consonantal, -vocalic, +sonorant, -continuant, -low, +voice, -strident].

This condition states that all English vowels are voiced.
This condition states that English sound segment /ni/ which is \( [+\text{nasal}, -\text{anterior} ] \) is \( [-\text{coronal} ] \).

This condition states that English sound segment /u/ which is \( [+\text{coronal} ] \) is also \( [+\text{anterior} ] \).
This condition states that in English /r/ and /l/ are:
+sonorant, +continuant, -nasal, +coronal, -high, -low, -back, +voice, -strident.

\[ +\text{sonorant}, +\text{continuant}, -\text{nasal}, +\text{coronal}, -\text{high}, -\text{low}, -\text{back}, +\text{voice}, -\text{strident} \]
This condition states that all [+anterior] segments are
[-high, -low, -back].

SgSc XI I(c) [+coronal] 

T(c) [-back]

This condition states that [+coronal] segments must
be [-back].

SgSc XII I(c) [+consonantal]
[-vocalic]
[-anterior]

T(c) [+high]

This condition states that /k, g, ʧ, j, s, z, ʍ/ are
 [+high]
This Segment Structure Condition states that /x, g, m/ which are [+consonantal, -vocalic, -anterior, -coronal] are also [+back].

This condition states that [+strident] segments /b, j, f, v, s, z, ð, ð/ are automatically [+consonantal, -vocalic, -sonorant, -nasal].
According to this Segment Structure Condition /θ, ɔ/ are:

[+consonantal, -vocalic, -sonorant, -nasal].

This condition states that /θ/ and /ɔ/ which are [+strident, -coronal] are also [+continuant].
SgSc XVII  I(c)  
[ +strident ]  
[ +anterior ]  
[ +coronal ]  

T(c)  
[ +continuant ]

This SgSc states that /e/ and /s/ which are +strident, +anterior, +coronal must be +continuant as well.

SgSc XVIII  I(c)  
[ -continuant ]  
[ -nasal ]  

T(c)  
[ +consonantal ]  
[ -vocalic ]  
[ -sonorant ]

This condition states that /p, b, t, d, k, g, ʃ, ʒ/ are +consonantal, -vocalic, -sonorant.

This condition states that /p, b, t, d/ are
$\neg$-strident $\nearrow$.

This condition states that /k/ and /g/ are also
$\neg$-strident $\nearrow$. 
This condition states that the segment /h/ is + voice, + back, + voice.

This condition states that the three engage states are: + consonantal, + vocalic, - high.

The condition states that the segment /h/ is + voice, - back, - voice.
This condition states that the two glides /y/ and /w/ are [-tense, +voice].

3.4. Sequence Structure

Due to restrictions on permitted sequences of phonemes, we get redundancies across segments and hence Sequence redundancies state the set of possible shapes of morphemes (See Sec. 2.2.3.2 of Chapter II). Sequence Structure Conditions (henceforth SqSc) of English are stated in the following section in the format of "If-then" condition, the top line being marked by I(c) and the bottom T(c). I(c) means "If-condition" and T(c) means "Then-condition."
3.4.1. Sequence Structure Conditions

SqSc I  I(c)  \# [\text{-vocalic}] [-continuant, \text{+consonantal}]

\[\text{T(c)}\]

\[\text{+anterior, +coronal, +strident, -voice}\]

This condition states that if a word initial true consonant is followed by a [-continuant] segment then the former must be /\text{d}/ which is [\text{+anterior, +coronal, +strident, -voice}]. Examples:

/sp-/  space  spoon  speak

/st-/  state  staff  stay

/sk-/  school  sky  scale
This condition states that when a \( -\text{delayed release} \) segment follows a true consonant occurring word-initially the former must be voiceless. Words cited with reference to SqSe I illustrate this condition also. This condition further implies that combinations such as the following are not allowed in English:

- shit
- edit
- sgit
This condition states that when a nasal element follows a true
c consonant occurring word initially the former must be /n/ or /m/. This
condition implies that /n/ cannot follow a true consonant occurring word-
initially. Examples:

/nm-/ small

smile

sneeze

/sn-/ snatch

snort

snake

SqSc IV I(c)  #[ +consonantal ]^[ +consonantal ]^[ +consonantal ]

\downarrow

Δ(c)  [ -delayed release ]

[ -voice ]
This condition states that if a word begins with three consonants the second one must be one of the segments /p, t, k/. Examples of this condition are given along with SqSo V that follows.

\[ \text{SqSo V} \quad I(c) \quad \#\text{[+consonantal]+consonantal]+consonantal]} \]
\[ \downarrow \]
\[ T(c) \quad \text{[+vocalic]} \quad \text{[+consonantal]} \]

This condition states that if a word begins with three consonants the third one must be either /r/ or /l/. Examples:

/spl-/  
split  
splash  
splendid

/spr-/  
spring  
spread  
sprain

/str-/  
straight  
strength  
strain
This condition states that if a word begins with three consonants and the second one happens to be /t/ the third one must be /r/. (Illustrations given with reference to SqSc V prove this condition.) This SqSc makes the following combination impossible:

*stl

SqSc VII  I(o)  \[+\text{consonantal}\]  \[-\text{voice}\]  \[-\text{anterior}\]  \[+\text{consonantal}\]  \\
T(o)
This condition states that if a word begins with three consonants
and the second one happens to be /k/ the third one must be /r/. This
condition makes the following combination impossible:

```
  ski
```

This Sequence Structure Condition states that if a morpheme
begins with a nasal segment it must be [+anterior]. Examples:

- noon
- mark
- noon
- nil

This condition negates the possibility of /N/ occurring
morpheme-initially.
This condition states that if a morpheme begins with /r/ or /l/ the next segment must be a vowel. Examples:

risk
rail
leap
lull
This condition states that if a morpheme begins with /ʃ/ the next segment must be a vowel. Examples:

- chair
- chip
- choice
- cherry

SQSC XI

I(ʃ) \[ -\text{delayed release} \quad -\text{delayed release} \quad -\text{voiced} \]

T(ʃ) \[ -\text{voiced} \]

This condition states that if a morpheme ends with two \[ -\text{delayed release} \] segments and the first one happens to be voiceless then the second one also must be voiceless. Examples:

- /-pt/ except adopt
- /-kt/ fact act
This condition states that if a morpheme ends with two [-delayed release] segments and the first one happens to be [+voice], then the second one also must be [+voice]. Examples:

/-bd/       robbed
           subbed
/-gd/       begged
           lagged
This condition states that if a morpheme ends with three consonantal nasal true consonants the last two must be [voice]. Examples:

/-ptæ/ adopts
/-pæs/ depths
/-tæs/ eights
/-dæt/ midst
/-kæs/ acts
/-fæs/ lifts
/-fæs/ fifths
/-æps/ clasps
/-æks/ asks
/-ækt/ fixed
/-æpt/ clasped
/-ækt/ asked
/-æsə/ sixth

SqSc XIV

I(c) [+consonantal] [+consonantal] [+consonantal] [+vocalic] [+vocalic] [+vocalic]

-voTJionantal

[nasal] [nasal] [nasal] [+nasal]

[voice] [voice] [voice] [+voice]

T(c) [+delayed release] [+coronal]
This condition states that if a morpheme ends with three non-nasal true consonants and the first one happens to be [+voice] then this first segment must be /d/. This condition negates the possibility of /b, g, j, v, ð, z, ð/ occurring as the first member of a morpheme-final cluster of three non-nasal segments. Example:

\[
/\text{-dist}/ \quad \text{midst}
\]

This condition states that if a morpheme ends with four consonants the last three must be voiceless. Examples:

\[
/\text{-kats}/ \quad \text{texts}
/\text{-kese}/ \quad \text{sixths}
/\text{-fges}/ \quad \text{twelfths}
/\text{-apte}/ \quad \text{prompts}
/\text{-apst}/ \quad \text{glimpsed}
\]

### 3.5. Phonological Processes

(c) The voiced strident /v/ becomes devoiced when it occurs before a voiceless sound. The rule is as follows:
Examples:

- twelve ________ twelfth
- five ________ fifth

(b) The nasals assimilate in both coronality and anteriority to a following tautosyllabic obstruant. The rule is as follows:

\[
\begin{align*}
\text{[+nasal]} & \rightarrow \left[ \text{coronal} \right]_{\text{anterior}} \quad / -\text{sonorant} \\
\end{align*}
\]

Examples:

- indiscrete
- implausible
- inconceivable
- camp
- bombard
- finger

(c) Velar consonants /k/, /g/, /h/ are fronted either before or after a front vowel. The rule is as follows:
(d) Sonorants are nasalized when they occur directly before a nasal segment. The rule is as follows:

\[ [+\text{sonorant}] \rightarrow [+\text{nasal}] \]

Examples:

- hand \( \rightarrow [h\text{\v{a}nd}] \)
- pen \( \rightarrow [p\text{\v{e}n}] \)
- string \( \rightarrow [s\text{tr\v{e}n}] \)
- form \( \rightarrow [f\text{\v{e}rn}] \)

(e) Nasals are optionally dropped when they occur before voiceless obstruants. The rule is as follows:

\[ [+\text{nasal}] \rightarrow [-\text{nasal}] \]
 Examples : damp /dɔmp/  can’t /kænt/  rank /ræk/

(f) The velar voiced stop /g/ is deleted when it occurs before a final nasal consonant. The rule is as follows:

\[
\begin{array}{c}
\text{-continuant} \\
\text{-anterior} \\
\text{-coronal} \\
\text{-voice}
\end{array} \rightarrow \phi / -\text{nasal} \]

Examples :

design  
resign  
paradigm

(g) The voiced stop /b/ is deleted when it occurs word-finally being preceded by the nasal segment /m/. The rule is as follows:

\[
\begin{array}{c}
\text{-sonorant} \\
\text{-voice}
\end{array} \]
Examples:

- bomb $[\text{ba}m]$nn
- crumb $[\text{kra}m]$

(h) A voiceless stop is aspirated when it occurs in the beginning of a word before a stressed vowel. The rule is as follows:

Examples:

- paper
- temper
- king

(i) Post-nasal voiced velar stop is deleted before a word boundary. The rule is as follows:
Examples:

sing /s I r → sit

(j) The lateral segment /l/ becomes valorized when it occurs before back vowels, low vowels or at the end of a word. The rule is stated in the following manner:

\[
\begin{array}{c}
\text{+lateral} \\
\rightarrow \\
\text{+valorized}
\end{array}
\]

\[
\begin{array}{c}
\{+\text{vocalic}\} \\
\{+\text{back}\} \\
\{+\text{vocalic}\} \\
\{+\text{low}\} \\
\#
\end{array}
\]

Examples:

ailk \quad \{aIkk\}

mill \quad \{nlt\}

class \quad \{ktəs\}

(k) The vowels /i/ and /u/ occurring in the underlying abstract form are deleted in the surface representations when they occur as stem forming vowels in final positions. The rule is as follows:

\[
\begin{array}{c}
\{+\text{vocalic}\} \\
\{+\text{high}\} \\
\rightarrow \emptyset \\
+ \\
\#
\end{array}
\]
Examples:

professor professoorial

(The underlying form of /professor/is /prəsəˈɔrɪəl/

reptile reptilian

(The underlying form of /reptile/is /rɛptɪli/)

president presidential

(The underlying form of /president/is /preˈzɪdənt/)

(1) Alveolar obstruents /t, d, s, z/ become palatale [θ, ð, ʃ, ʒ] respectively when they are followed by the glide /y/ and an unstressed vowel. The rule is as follows:

\[
\begin{array}{c}
\text{[-sonorant]} \rightarrow \text{[-ant} \text{terior]} \rightarrow \text{[-back]} \text{[-consonantal]} \\
\text{[+coronal]} \rightarrow \text{[-strident]} \rightarrow \text{[-vocalic]} \rightarrow \text{[-stressed]}
\end{array}
\]

Examples:

right righteous

grade gradual

press pressure

The palatalization rule mentioned above does not operate if the alveolar obstruents are followed by /i/ instead of /y/ i. e. the underlying form. Words like 'odious, medium' and 'piteous' have
underlying /i/ instead of /y/ and hence these are exceptions to the palatalization rule.

(a) Epenthetic consonants occur between nasals and following voiceless continuant obstruants. The following rule states that /y/ is inserted between /m/ and /t/:

\[
\begin{array}{c}
\text{-continuant} \\
+\text{anterior} \\
-\text{coronal} \\
-\text{nasal} \\
-\text{voice}
\end{array}
\]
\[
\begin{array}{c}
\phi \\
+\text{coronal} \\
+\text{nasal}
\end{array}
\]
\[
\begin{array}{c}
-\text{continuant} \\
-\text{nasal} \\
+\text{anterior} \\
+\text{coronal} \\
-\text{voice}
\end{array}
\]

Examples:

- consume  consumption
- resume  resumption
- presume  presumption

(b) Dental stops /t/ and /d/ change to /s/ when they occur before a suffix beginning with a high front vowel or a glide. The rule is as follows:

\[
\begin{array}{c}
-\text{sonorant} \\
+\text{anterior} \\
+\text{coronal}
\end{array}
\]
\[
\begin{array}{c}
+\text{continuant} \\
-\text{voice} \\
+\text{strident}
\end{array}
\]
\[
\begin{array}{c}
-\text{sonorant} \\
-\text{back} \\
-\text{stress}
\end{array}
\]
\[
\begin{array}{c}
+\text{voice} \\
+y \\
+\text{strident}
\end{array}
\]
Examples:

<table>
<thead>
<tr>
<th>Example</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>corrode</td>
<td>corrosive</td>
</tr>
<tr>
<td>evade</td>
<td>evasive</td>
</tr>
<tr>
<td>part</td>
<td>partiality</td>
</tr>
<tr>
<td>ingrate</td>
<td>ingratiate</td>
</tr>
<tr>
<td>democrat</td>
<td>democracy</td>
</tr>
<tr>
<td>president</td>
<td>presidency</td>
</tr>
<tr>
<td>contrite</td>
<td>contrition</td>
</tr>
<tr>
<td>divide</td>
<td>deviation</td>
</tr>
</tbody>
</table>

The rule mentioned above is called the Spirantization rule.

(o) The two velars /k/ and /g/ undergo softening before non-low non-back vowels. This velar softening means that /k/ becomes /ʃ/ and /g/ becomes /ʒ/ before non-low non-back vowels. The rule is as follows:

\[
\begin{align*}
\text{[delayed release]} & \rightarrow \text{[+coronal]} \quad \text{[+vocalic]} \\
\text{[+anterior]} & \rightarrow \text{[+strident]} \\
\langle \text{voice} \rangle & \rightarrow \langle \text{anterior} \rangle \quad \text{[+anterior]} \\
\text{[low]} & \quad \text{[low]} \\
\text{[back]} & \quad \text{[back]}
\end{align*}
\]

Examples:

<table>
<thead>
<tr>
<th>Example</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>critical</td>
<td>criticiana</td>
</tr>
<tr>
<td>medicate</td>
<td>medicine</td>
</tr>
<tr>
<td>rigor</td>
<td>rigid</td>
</tr>
</tbody>
</table>


3. Tables I and II could be presented in the same table but due to the constraint of space vowels are presented in one table and consonants and glides in the other.

4. There are three true diphthongs in English. They are /ai/, /au/, and /oi/. Examples are as follows:

   /ai/  nice, right, kite, rise
   /au/  house, mouth, plow, about
   /oi/  boy, oil, soy, point

5. Instead of specifying /p, b, t, d, k, g/ as [-continuant, -strident] the feature specification [-delayed release] is used here to refer to these segments as a means of economy in capturing redundancy.
6. Palatalization is noticed not only in words, the processes of palatalization is found in larger structures also. Examples are as follows:

- pass you \( [\text{p\text{\text{a}l\text{a\text{t\text{a\text{l\text{a\text{t\text{a\text{a\text{a}}}}}}}}]}]} \)
- his youth \( [\text{h\text{\text{a}l\text{\text{a\text{t\text{a\text{a\text{a}}}}}}}}]} \)
- can't you \( [\text{\text{a}l\text{\text{a\text{t\text{a\text{a\text{a}}}}}}}}]} \)

7. In some dialects epenthetic consonants are noticed in the following words:

- \( \text{p} \) in between \( [\text{m} \text{a} \text{f} \text{e}] \) and \( [\text{s} \text{e}] \) \( [\text{s\text{\text{a}l\text{\text{a\text{t\text{a\text{a\text{a}}}}}}}}]} \)
- \( \text{p} \) in between \( [\text{m} \text{a} \text{f} \text{e}] \) and \( [\text{f} \text{e}] \) \( [\text{k\text{\text{a}n\text{\text{a\text{t\text{a\text{a\text{a}}}}}}}}]} \)
- \( \text{p} \) in between \( [\text{m} \text{a} \text{f} \text{e}] \) and \( [\text{e} \text{e}] \) \( [\text{w\text{\text{a}r\text{\text{a\text{t\text{a\text{a\text{a}}}}}}}}]} \)
- \( \text{t} \) in between \( [\text{n} \text{e} \text{e}] \) and \( [\text{e} \text{e}] \) \( [\text{w\text{\text{a}n\text{\text{a\text{t\text{a\text{a\text{a}}}}}}}}]} \)
- \( \text{t} \) in between \( [\text{n} \text{e} \text{e}] \) and \( [\text{e} \text{e}] \) \( [\text{\text{a\text{n\text{t\text{a\text{a\text{a\text{a}}}}}}}}]} \)

8. This \( [\text{c} \text{c}] \) is a dental affricate. This \( [\text{c} \text{c}] \) becomes \( [\text{\text{s\text{\text{a}l\text{\text{a\text{t\text{a\text{a\text{a}}}}}}}}]} \) by the operation of Spirantization rule. Velar stops which undergo velar softening are generally represented as \( /\text{\text{k}}/ \) and \( /\text{\text{g}}/ \).