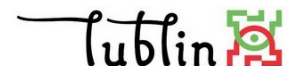


THE STRESSABILITY HIERARCHY FOR ENGLISH

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outline

- the vowel system of British English (BE)
- the historical provenance of long vowels in BE
- the stressability hierarchy (SH)
- maintaining the SH

the distribution of stressed vowels in BE

| vowels | _C | _# | _V | strictest environment where they occur |
|---|-----------|-----------|-----------|---|
| KIT, STRUT, FOOT, DRESS, TRAP, LOT | ✓ | ✗ | ✗ | _C |
| NEAR, NURSE, CURE, SQUARE, START, FORCE | ✓ | ✓ | ✗ | _# |
| FLEECE, GOAT, GOOSE, FACE, PRICE, MOUTH, CHOICE | ✓ | ✓ | ✓ | _V |

traditions that miscategorize the BE vowel system

(Jones 1917,) Gimson 1962, Wells 1990

1. **_C**: ɪ ʌ ʊ e æ ɒ = short vowels
2. **_#**: ɪə ɜː ʊə eə ɑː ɔː = **nonhigh** long vowels and centring diphthongs (**nonhigh** offglide)
3. **_V**: iː əʊ uː eɪ aɪ aʊ ɔɪ = **high** long vowels and closing diphthongs (**high** offglide)

(Windsor Lewis 1972,) Giegerich 1992

1. **_C**: ɪ ʌ ʊ ε ɑ ɒ = some lax vowels
2. **_#**: ɪə ɜ ʊə εə ɑ ɔ = some lax vowels and centring diphthongs
3. **_V**: i ɔ u e aɪ aʊ ɔɪ = tense vowels and closing diphthongs

the stressed vowel system of BE (based on Lindsey 2012)

| | | | | | | _C | _# | _V | category |
|----|----|----|----|-------|----|-----------|-----------|-----------|-----------------|
| i | ə | u | e | a | o | ✓ | ✗ | ✗ | short vowels |
| iː | əː | uː | eː | aː | oː | ✓ | ✓ | ✗ | long vowels |
| ij | əw | uw | ej | aj aw | oj | ✓ | ✓ | ✓ | diphthongs |

STRUT is ə (Fabricius 2007, Szigetvári 2018); NEAR iː, CURE uː, SQUARE eː, and FORCE oː have all monophthongized during the 20th c (Jones 1918, Upton 1995, Lindsey 2012, 2019, Cruttenden 2014); FLEECE ij and GOOSE uw are ‘diphthongs’ (Sweet 1900, Jones 1918, Lindsey 2012, Cruttenden 2014); ‘diphthongs’ are short vowel + glide sequences (Batchelor 1809, Trager & Bloch 1941)
⇒ **BE has 6 vowels** (the standard quintet + ə), **short and long**

a note on transcription symbols

| system | KIT, NEAR, FLEECE | DRESS, SQUARE, FACE | TRAP, START, PRICE, MOUTH | STRUT, NURSE, GOAT | LOT, FORCE, CHOICE | FOOT, CURE, GOOSE |
|---------|----------------------|------------------------|------------------------------|-----------------------|-----------------------|----------------------|
| Lindsey | ɪ, ɪː, ɪj | ɛ, ɛː, ɛj | ɑ, ɑː, ɑj, ɑw | ə, əː, əw | ɔ, ɔː, ɔj | ʊ, ʊː, ʊw |
| me | i* | e* | a* | ə* | o* | u* |

Lindsey's phonetically precise symbols do not encode any contrast

'The *shapes* of the graphic symbols scarcely deserve discussion. The reader who prefers the symbol [æ] where I use [ɛ] does not need any factual basis to justify his preference.'

(Bloomfield 1935: 98)

the distribution of unstressed ‘diphthongs’

| | _C (glide is moraic) | _# (glide is not moraic) | _V (glide is not moraic) |
|-----------|--|---------------------------------|----------------------------------|
| <i>ij</i> | – | <i>valley</i> váli <i>ij</i> | <i>atrium</i> éjtri <i>ij</i> əm |
| <i>əw</i> | <i>obey</i> əw <i>béj</i> > ə <i>béj</i> | <i>yellow</i> jéləw | <i>Genoa</i> ʤénəwə |
| <i>uw</i> | <i>volume</i> vóljuw <i>m</i> > vólju <i>m</i> | <i>value</i> váljuw | <i>usual</i> júwʒuwəl |

although all stressed vowels occur _C, unstressed *ij əw uw* do not or are lost here

explanations for the distribution of unstressed vowels

| vowels | _C | _# | _V | comments |
|--------|----------------|----------------|----|-----------------------|
| i u | ✓ | ✗ | ✗ | like all short vowels |
| ə | ✓ | ✓ ¹ | ✗ | the only short V# |
| ij | ✗ ² | ✓ | ✓ | ∅ → j / i_{#,V} |
| əw uw | % ³ | ✓ | ✓ | w → ∅ / {ə,u}_C |

1. no glide to insert after ə word finally in a nonrhotic accent, where *r#
2. historically ij < i (no j inserted where (i) i is okay and (ii) j would be moraic)
3. historically əw/uw were 'long' (w is lost where moraic)

the vowel system of BE (that's all, really)

| | nonlow | nonhigh |
|-------|----------|----------|
| short | i ə u | e a o |
| long | iː əː uː | eː aː oː |

the orange vowels occur both stressed and unstressed,
the dark slate grey ones only occur stressed

the two main sources of long vowels in BE

1. loss of nonprevocalic R after short vowel and compensatory lengthening
2. (schwa epenthesis after diphthong,) glide loss and vowel + schwa coalescence

compensatory lengthening (CL)

| | NURSE | START | NORTH |
|-------------|--------------|--------------|--------------|
| input | əɹ | ɑr | ɔr |
| R loss + CL | əː | ɑː | ɔː |

glide loss and vowel + schwa coalescence (= smoothing)

| | FORCE | SQUARE | CURE | NEAR | FIRE | SOUR | COIR |
|---------------------------|--------------|---------------|-------------|-------------|-------------|-------------|-------------|
| input | owr | ejr | uwr | ijr | ajr | awr | ojr |
| epenthesis (& R deletion) | owə | ejə | uwə | ijə | ajə | awə | ojə |
| glide loss | oə | eə | uə | iə | aə | aə | — |
| coalescence | oɪ | eɪ | uɪ | iɪ | aɪ | aɪ | — |

this process is more advanced with vowels to the left than with those to the right

notes on VGə

- epenthesis also occurs before l: *feel* fíjəl, *mail* méjəl, *wild* wájəld, *boil* bójəl (marginally even before n: *known* nəwən, *kind* kájənd)
- smoothing is not restricted to VGə created by (presonorant) epenthesis
 - *lion* lájən%lá:n, *Himalaya* himələjə%himələ:, *vowel* vávəl%vá:l
 - *diamond* dáj(ə)mənd%dá:mənd (syncope bleeds smoothing)
 - *theatre* θíjətə%θí:tə, but *θíjtə (obstruents block syncope)
 - *violence* váj(ə)ləns%vá:ləns, but *violate* váj*(ə)lejt (stress blocks syncope)

stressability

1. weight: $V\grave{\text{z}} \geq VC \geq V$ (Hayes 1995)

2. sonority: $a \geq e \ o \geq i \ u$ (Kenstowicz 1997) $\Rightarrow V \geq C$

3. moraicity and syllabicity are also related to sonority (Zec 1995)

(note, any 'full' vowel is here taken to be stressed, ie 'tertiary' stress too; Szigetvári 2020)

the stressability (& syllabicity & moraicity) hierarchy (SH)

| set | members | moraic | syllabic | stressed |
|------------------|----------------------------------|--------|----------|----------|
| long vowels | eː aː oː iː əː uː | ✓ | ✓ | ✓ |
| nonhigh vowels | e a o | ✓ | ✓ | ✓ |
| schwa | ə | ✓ | ✓ | % |
| high Vs = glides | i=j u=w | % | % | % |
| liquids, nasals | r l m n ŋ | % | % | ✗ |
| obstruents | v ð z ʒ f θ s ʃ b d ɟ g p t tʃ k | % | ✗ | ✗ |

maintaining the SH, case 1: no CL in unstressed position

| CL applies | no CL |
|------------------------|-----------------------------|
| <i>defer</i> diféː | <i>differ</i> dífə(*ː) |
| <i>bombard</i> bombáːd | <i>standard</i> stándə(*ː)d |
| <i>concern</i> kənséːn | <i>modern</i> módə(*ː)n |
| <i>desert</i> dizéːt | <i>desert</i> dézə(*ː)t |
| <i>merger</i> méːʤə | <i>merger</i> méːʤə(*ː) |

⇒ CL does not produce a long vowel in unstressed position

case 2: no smoothing in unstressed position

| smoothing possible | smoothing impossible |
|--|--|
| <i>idea</i> ajdíjə%ajdiː | <i>India</i> índijə (*-diː) |
| <i>career</i> kərijə%kəriː | <i>linear</i> línijə (*-niː) |
| <i>revere</i> rəvíjə%rəvíː | <i>Xavier</i> zéjviə (*-viː) |
| <i>secure</i> sikjúwə%sikjúː | <i>jaguar</i> ʤágjuwə (*-juː) |
| <i>sulfuric</i> sɛlfjúwərik%sɛlfjúːrik | <i>sulfuret</i> sɛlfjuwəret%-jur-%-jər- (*-juː-) |

⇒ smoothing does not produce a long vowel in unstressed position

case 3: no syllabic C formation (SCF) in stressed position

| SCF possible | SCF impossible |
|----------------------------------|--------------------------------|
| <i>tunnel</i> ténəɪ%tənɪ | <i>anull</i> ənəl (*-nɪ) |
| <i>doctoral</i> dóktərəɪ%dóktɹəl | <i>immoral</i> imórəl (*-mɹ-) |
| <i>Axel</i> áksəl%áksɪ | <i>Maxell</i> máksəl (*-sɪ) |
| <i>camel</i> káməl%kámɪ | <i>Intel</i> íntel (*-tɪ) |
| <i>Dixon</i> díksən%díksn | <i>Exxon</i> ékson (*-sn) |
| <i>caramel</i> kárəməl%kárəmɪ | <i>philomel</i> fíləməɪ (*-mɪ) |

⇒ SCF does not produce a consonant in stressed position

conclusions

- moraic/syllabic/stressable and nonmoraic/nonsyllabic/nonstressable segments occupy contiguous ranges on the sonority scale with a zone of variation for each property
- phenomena that respect the stressability hierarchy:
 - CL does not apply in unstressed position (no unstressed long V)
 - smoothing does not apply in unstressed position (no unstressed long V)
 - SCF does not apply in stressed position (no stressed C)

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references

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