ARE THERE DIPHTHONGS IN ENGLISH?

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outline

1. the vowel inventory of (British) English
2. categorization of vowels
3. why diphthongs must be VC
4. why diphthongs are thought to be VV
5. long vowels as VC

vowel categories by distribution

	_C	_#	_V	
1. KIT, DRESS, TRAP, STRUT, LOT, FOOT	✓	✗	✗	→ **checked**
2. NEAR, SQUARE, START, NURSE, FORCE, CURE	✓	✓	✗	→ **R**
3. FLEECE, FACE, PRICE, MOUTH, GOAT, CHOICE, GOOSE	✓	✓	✓	→ **free**

systems that miscategorize

Gimson 1962

1. checked vowels: `ɪ e æ ʌ ɒ ʊ` = short vowels
2. R vowels: `ɪə eə ɑ: ɜ: ɔ: ʊə` = long vowels and centring diphthongs
3. free vowels: `i: eɪ aɪ aʊ əʊ ɔɪ u:` = long vowels and closing diphthongs

Giegerich 1992 (≈ Gimson without :)

1. checked vowels `ɪ ɛ a ʌ ɒ ʊ` = lax(?) vowels
2. R vowels: `ɪə ɛə ɑ ɜ ɔ ʊə` = lax(?) vowels and centring diphthongs
3. free vowels: `i e aɪ aʊ o ɔɪ u` = tense vowels and closing diphthongs

a properly categorizing system

Lindsey 2012

1. checked vowels: `ɪ ɛ a ə ɔ ʉ` = short vowels
2. R vowels: `ɪː ɛː ɑː əː oː ʉː` = long vowels
3. free vowels: `ɪj ɛj ɑj aw əw oj ʉw` = diphthongs

notes

- Sweet 1900 has FLEECE `ij` and GOOSE `uw`
- FORCE `oə` and NORTH `oː` have merged “between” Sweet 1900 and Jones 1918
- SQUARE `eə` has also monophthongized, but there was no merger
- CURE `uə` has monophthongized and merged with FORCE for many
- NEAR `iə` is intensively monophthongizing

the inventory

checked		R		free	
KIT	`i`	NEAR	`i:`	FLEECE	`ij`
DRESS	`e`	SQUARE	`e:`	FACE	`ej`
TRAP	`a`	START	`a:`	PRICE	`aj`
				MOUTH	`aw`
STRUT	`ə`	NURSE	`ə:`	GOAT	`əw`
LOT	`o`	FORCE	`o:`	CHOICE	`oj`
FOOT	`u`	CURE	`u:`	GOOSE	`uw`

why free vowels must be VC

1. epenthesis
2. hiatus filling
3. vowel + glide sequences
4. the distribution of weak vowels

epenthesis in English

`simp<ə>l` ~ `simplə`, `rið<ə>m` ~ `riðmik`, `fit<ə>d`, `fiʃ<ə>z`, `g<ə>nuw`, `aθ<ə>lijt`

`fij<ə>l` ~ `fijliŋ`, `pej<ə>l` ~ `pejlə`, `maj<ə>l` ~ `majlidʒ`, `foj<ə>l` ~ `fojlidʒ`

`waj<ə>ř` ~ `vajrəs`, `koj<ə>ř` ~ `mojrə`, `flaw<ə>ř` ~ `dawrij` (`ř` is lost in nonrhotic E)

other accents: `fil<ə>m`, `gər<ə>l`, `nəw<ə>n`, `faw<ə>l`, `fəw<ə>l`, `fuw<ə>l`

⟹ free vowels pattern with **vowel** + **consonant** sequences

simple(r), rhythm(ic), fitted, fishes, gnu, athlete
feel(ing), pale(r), mile(age), foil(age)
wire~virus, coir~Moira, flour~dowry;
film, girl, known, foul, foal, fool

hiatus filling

checked vowels

do not occur word finally

R vowels (and unstressed `ə`)

boring `bo:` + `iŋ` ⟶ `bo:riŋ`
drawing `dro:` + `iŋ` ⟶ `dro:riŋ`
picturesque `piktʃə` + `esk` ⟶ `piktʃəresk`
Kafkaesque `kafkə` + `esk` ⟶ `kafkəresk`

hiatus filling

free vowels

seeing `sij` + `iŋ` ⟶ `sijiŋ` (* `sijjiŋ`)
payee `pej` + `ij` ⟶ `pejij` (* `pejjij`)
higher `haj` + `ə` ⟶ `hajə` (* `hajjə`) (= *hire*)
boyish `boj` + `iʃ` ⟶ `bojiʃ` (* `bojjiʃ`)
Taoist `taw` + `ist` ⟶ `tawist` (* `tawwist`)
lower `ləw` + `ə` ⟶ `ləwə` (* `ləwwə`)
gluey `gluw` + `ij` ⟶ `gluwij` (* `gluwwij`)

no hiatus filling after diphthongs ⟹ no hiatus after diphthongs, ie these words do **not** end in a vowel, but in a consonant

VG(lide) sequences that exist

weak (=short) vowel + glide

beyond `bijónd`, *reward* `riwó:d`, *away* `əwéj`, *Mallorca* `məjó:kə`

R vowel + glide

narwhal `ná:wəl`, *Gerwig* `gə́:wig`, *Norway* `nó:wej`, *fedayeen* `fədá:jijn`, *lawyer* `lo:jə` ~ `lojə`

free vowel (= diphthong) + glide

Taiwan `tájwón`, *Ewok* `íjwok`, *kiwi* `kíjwij`, *alleluia* `álilúwjə`, *oyez* `əwjéz`

VG sequences that do not exist (= are very rare)

checked vowel + glide

Dewi `déwij`

`ij` / `ej` / `aj` / `oj` + `j`, `aw` / `əw` / `uw` + `w`

sukiyaki `súwkijjá:kij`, *Beowulf* `béjəwwulf` (compounds or `-ijá:-`, `-əwu-`?)

why are some vowel + glide sequences missing?

checked vowel + glide sequences are analysed as diphthongs

neon `níjon`, *crayon* `kréjon`, *lion* `lájən`, *vowel* `váwəl`, *royal* `rojəl`, *poem* `pə́wəm`, *fuel* `fjúwəl`

`ij`/`ej`/`aj`/`oj` + `j`, `aw`/`əw`/`uw` + `w` do not exist

because they would constitute a **geminate consonant**

are these meaningfully different?

beyond `bijónd` and *Sion* `sijón`
(LPD `bɪˈjɒnd` also `biːˈɒnd` (!) vs `siˈɒ̃` = `siˈɒn`)

Ottawa `ótəwə` and *Genoa* `dʒénəwə`
(LPD `ˈɒtəwə` vs `ˈdʒenəʊə`)

put it away, sis `-əwéjsis` and *this is an oasis* `-əwéjsis`
(LPD `əˈweɪsɪs` vs `əʊˈeɪsɪs`)

weak (= unstressed) vowels

`i` as in *intent* `intént`, *vanish* `vániʃ`
`ə` as in *offend* `əfénd`, *Venus* `víjnəs`, *vicar* `víkə`
`u` as in *volume* `vóljum` (also `vóljuwm`)

`ij` as in *create* `krijéjt`, *happy* `hápij`
`əw` as in *obey* `əwbéj` (also `əbéj`), *Genoa* `dʒénəwə`, *NATO* `néjtəw`
`uw` as in *unite* `juwnájt` (also `junájt`), *jaguar* `dʒágjuwə`, *value* `váljuw`

other vowels may **not be weak:**

- checked `e`, `a`, `o`
- free `ej`, `aj`, `aw`, `oj`
- R `i:`, `e:`, `a:`, `ə:`, `o:`, `u:`

vowel unstressability: quality

“nonlow”	`i`	`ə`	`u`
“nonhigh”	`e`	`a`	`o`

the unstressability of a vowel is related to sonority (= vowel height, cf Kenstowicz 1997)

“nonlow”	`ij`	`əw`	`uw`
“nonhigh”	`ej`	`aj`, `aw`	`oj`

the unstressability of `ij`, `əw`, `uw` follows from the unstressability of `i`, `ə`, `u`
(especially if `ij` = `i` + `j`, etc)

vowel unstressability more generally

“nonhigh V”	“nonlow V”	consonant
stressable	stressable	**not stressable**
not unstressable	unstressable	unstressable
`a`, `e`, `o`	`ə`, `i`, `u`	`r`, `l`, `m`, `n`, …

variation in weak position

`i` ~ `ə`, `u` ~ `ə`

- *ticket* `tíkit` ~ `tikət`, *purchase* `pə́:tʃis` ~ `pə́:tʃəs`
- *accurate* `ákjurət` ~ `ákjərət`, *fortune* `fó:tʃu(w)n` ~ `fó:tʃən`

`i` is retained before palatal and velar C

- *manage* `mánidʒ`, *ostrich* `óstritʃ`, *punish* `pə́niʃ`, *panic* `pánik`, *happy* `hápij` (!)

`u` is retained before labial C

- *volume* `vóljuwm`, `vóljum`; *value* `váljuw` (!) (weakly supported by data)

vowel unstressability: quantity

V$ > VC$, VV$

taboo `təbúw` vs *bamboo* `bámbúw`, *Corfu* `kó:fúw`; *begin* `bigín` vs *Berlin* `bə́:lín`

bámboo fúrniture, Córfu Prótocol; Bérlin Wáll

platoon `plətúwn` vs *pontoon* `póntúwn`, *cartoon* `ká:túwn`

póntoon brídge, Cártoon Nétwork

VC$ > VV$

contend `kənténd` vs *quartet* `kwó:tét`, *torment* `tó:mént`

quártet táble, tórment míce

V$ > VC$ > VV$ (cf Hayes 1995)

weak “diphthongs”

`juw` (> `ju` > `jə` / C)

stimulate `stímjuwlèjt` ~ `-mju-` ~ `-mjə-` ; *stimulus* * `stímjuwləs` ~ `-mju-` ~ `-mjə-`

`əw` (> `ə` / C)

advocaat `ádvəwkà:` ~ `ádvəkà:` ; *advocate* `ádvə*(w)kət`

`ij` (< `i` / {V,#}), * `ij` C!

create `krijéjt` ; *happy* `hápij`

HAPPY tensing is an odd development if `ij` is a diphthong: **fortition in weak position**

the distribution of weak “diphthongs”

	_CC	_Cv	_C#	_CV	_#	_V	history
`ij`	✗	✗	✗	✗	✓	✓	`i` > `ij` (HAPPY tensing)
`əw`	✗	✗	✗	%	✓	✓	`əw` > `ə`
`uw`	✗	✗	%	%	✓	✓	`uw` > `u`

- v = weak vowel, V = strong vowel
- if C# is extrametrical, `j` and `w` adds to the weight of the syllable only _C

btw, “high vowel gliding” is a case of syncope

syncope	high vowel gliding	
separate$_{a}$ `sép(ə)rət`	recipient `risíp(i)jənt`	✓
temperate `témp(ə)rət`	champion `tʃámp(i)jən`	✓
ignorant `ígn*(ə)rənt`	igneous `ígn*(i)jəs`	✗
sandarac `sánd*(ə)ràk`	zodiac `zə́wd*(i)jàk`	✗

interim summary

1. V epenthesis between free V and C ⟹ free V = VC
2. no hiatus filling after free V ⟹ free V = VC
3. no checked V + glide ⟹ free V *is* checked V+glide
4. * `ij` / `ej` …+ `j` , * `uw` / `aw` …+ `w` = *geminate ⟹ free V = VC
5. unstressed `ij` / `əw` / `uw` is unstressed `i` / `ə` / `u` + `j` / `w`
6. HAPPY tensing only where `j` does not add to weight ⟹ weak `ij` is VC (checked vowels must be followed by C)

<off> the development of R vowels

short → long by compensatory lengthening (CL)

park `park` → `pa:k`, *pork* `pork` → `po:k`, *perk* `pərk` → `pə:k`

“diphthong” → long by schwa epenthesis, glide loss, coalescence=CL

peer `pijr` → `pijər` → `pijə` → `piə` → `pi:`
pear `pejr` → `pejər` → `pejə` → `peə` → `pe:`
pyre `pajr` → `pajər` → `pajə` → `paə` → `pa:`
sour `sawr` → `sawər` → `sawə` → `saə` → `sa:`
pore `powr` → `powər` → `powə` → `poə` → `po:`
poor `puwr` → `puwər` → `puwə` → `puə` → `po:`
pure `pjuwr` → `pjuwər` → `pjuwə` → `pjuə` → `pju:` / `pjo:`

CL only in stressed position

prefer `prifə́:`	vs	*differ* `dífə`
guitar `gitá:`	vs	*vicar* `víkə`
grantor `grántó:`	vs	*mirror* `mírə`
idea `ajdíjə` ⟶ `ajdí:`	vs	*India* `índijə` ⟶ * `índi:`
secure `sikjúwə` ⟶ `sikjú:`	vs	*jaguar* `ʤágjuwə` ⟶ * `ʤágju:`

since R/long vowels cannot occur unstressed

</off>

standard counterarguments against free V = VC

- constraints on V and G cooccurrence
- tradition, history, spelling, pandialectalism, lexical alternations
  - many current diphthongs are reflexes of ME long vowels (`ej` is “long A”)
  - `ej` is often spelled *A*
  - BrE `ej` vs SSE `e`
  - *shade~shadow*

constraints on VG

V	_ː	_j	_w
i	iː	ij	
e	eː	ej	
a	aː	aj	aw
ə	əː		əw
o	oː	oj	
u	uː		uw

similar constraints on CC

_ j	_ w	_ j	_ w
kj	kw	aj	aw
* tj	tw	* əj	əw
pj	* pw	ej	* ew

this does not entail that `kj`, `kw`, `tw`, `pj` are “diphthongs”

current trend in BrE 1: L “vocalization”

_j	_w	
ij	iw	*bill*
ej	ew	*bell*
aj	aw	
	əw	
oj	ow	*ball*
	uw	

current trend in BrE 2: glide fronting

_ j	_ w
ij	iw *bill*
ej	ew *bell*
aj	aw
əj *go*	əw *null*
oj	ow *ball*
uj *two*	uw *fool*

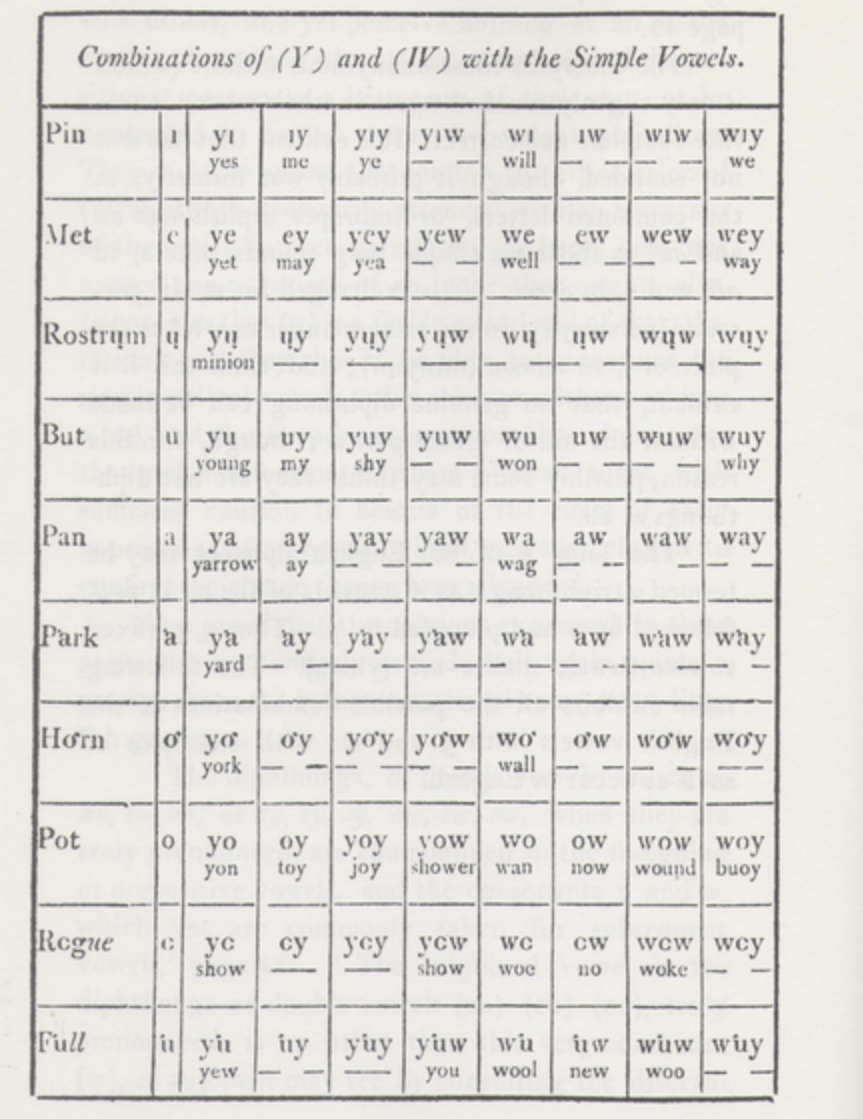
Altendorf & Watt 2004:191; Geoff Lindsey *voce*

long vowels

- Trager & Bloch (1941) and Trager & Smith (1957) argue that long vowels are `Vh`
- indeed, `h` (also `r`) and `:` are in complementary distribution (`h` and `r` only _V, `:` only _C and _#)
- but `:h` (geminate) in *maharaja* `má:hərá:dʒə`, *parhelia* `pa:híjlijə`, *yahoo* `já:huw`, etc; `:r` in *Amhara* `amhá:rə`, *glory* `gló:rij`, *hero* `hí:rəw`, etc
- `:` is a C with a peculiar distribution (like `ŋ`)
- "representationalist" proposal: `h` is "empty" C followed by V, `:` is empty C not followed by V

so the six vowels may be followed by all kinds of C

	_ː	_j	_w	_n	_θ	_s	etc.
i	iː here	ij see	iw sill	in sin	iθ myth	is hiss	…
e	eː care	ej say	ew sell	en hen	eθ meth	es mess	…
a	aː car	aj sigh	aw sow	an scan	aθ math	as gas	…
ə	əː fir	əj so?	əw sulk	ən sun	əθ ?	əs bus	…
o	oː four	oj soy	ow salt	on swan	oθ moth	os loss	…
u	uː sure	uj sue?	uw school	un ?	uθ ?	us puss	…



Combinations of (Y) and (IV) with the Simple Vowels.

Pin	ɪ	yɪ yes	ɪy me	yɪy ye	yɪw — —	wɪ will	ɪw — —	wɪw — —	wɪy we
Met	e	ye yet	ey may	yey yea	yew — —	we well	ew — —	wew — —	wey way
Rostrum	ɥ	yɥ minion	ɥy — —	yɥy — —	yɥw — —	wɥ — —	ɥw — —	wɥw — —	wɥy — —
But	u	yu young	uy my	yuy shy	yuw — —	wu won	uw — —	wuw — —	wuy why
Pan	a	ya yarrow	ay ay	yay — —	yaw — —	wa wag	aw — —	waw — —	way — —
Park	ȧ	yȧ yard	ȧy — —	yȧy — —	yȧw — —	wȧ — —	ȧw — —	wȧw — —	wȧy — —
Horn	o	yo york	oy — —	yoy — —	yow — —	wo wall	ow — —	wow — —	woy — —
Pot	o	yo yon	oy toy	yoy joy	yow shower	wo wan	ow now	wow wound	woy buoy
Rogue	c	yc show	cy — —	ycy — —	ycw show	wc woe	cw no	wcw woke	wcy — —
Full	u	yu yew	uy — —	yuy — —	yuw you	wu wool	uw new	wuw woo	wuy — —

Batchelor 1809

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