

English Phonetics-II

5. English monophthongs

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Overview

- RP monophthongs: Main phonological characteristics.
- Vowel length and orthography
- RP monophthongs: their allophones. A comparison with Spanish.
- Vowel inventory
 - E. vowels in the IPA chart
 - Articulatory features of E. monophthongs
- Articulatory and allophonic variants of RP monophthongs.
Neutralization
 - High front phonemes.
 - Mid front phonemes.
 - Low phonemes.
 - Mid back phonemes
 - High back phonemes
 - Central phonemes

Are [ʊ] and [ə] real phonemes?

A-MONOPHTHONGS: ARTICULATORY FEATURES

V	Description	V	Description
Strong vowel system			
/i:/ eat, feel	long close front unrounded	/ɔ:/ court, door	long half-close back rounded
/ɪ/ it, fill	short half-close front unrounded	/ʊ/ good, could	short half-close central to back rounded
/e/ met, any	short half-open to half-close front unrounded	/u:/ you, tool	long close central to back rounded
/æ/ cat, fat	short open to half-open front unrounded	/ɑ:/ car, heart	long open back unrounded
Weak vowel system			
/ɜ:/ burn, earn	long half-open central unrounded	/ə/ later, bonus	short half-open central unrounded
/ʌ/ sun, some	short open central unrounded	/ɪ/ happy, react	short close front unrounded
/ɒ/ cot, wash	short open to half-open back rounded	/ʊ/ influence, situation	short close central to back rounded

B- THE STANDARD RP VOWEL INVENTORY

i:	ɪ	ʊ	u:	ɪə	eɪ	
READ	SIT	BOOK	TOO	HERE	DAY	
e	ə	ɜ:	ɔ:	ʊə	ɔɪ	aʊ
MEN	AMERICA	WORD	SORT	TOUR	BOY	GO
æ	ʌ	ɑ:	ɒ	eə	aɪ	aʊ
CAT	BUT	PART	NOT	WEAR	MY	HOW

1. VOWEL CLASSIFICATION IN ENGLISH

■ Different inventories

- Monophthongs, diphthongs, triphthongs (e.g. Roach). Others (e.g. Wells, no triphthongs)
- Long vs. Short? Yes Jones, Gimson but not others (in the States, Bloch & Trager use short Vs + glides, therefore very economical)
- Status of /j/ -/w/: not vowels, otherwise "very uneconomical" (Gimson).
- Cases like 'seer', 'higher' are mono- or biphonematic?
 - "statements are made to only one variety of one language" (Gimson, *An Intro.*, p.54)

2. MAIN CHARACTERISTICS OF E. MONOPHTHONGS

- **1. Variation in quality** (diff. subsyst. (in North, no ʌ, ʊ, or æ.)
- **2. Variation in length** (although phonologically E. monophthongs are either long or short V, phonetically their length depends on:
 - Intrinsic vs. Extrinsic dur.: a low vowel always longer than a high vowel
 - Sentence stress: yeeees
 - word stress (environment): responsible for full long-long-longish-short, etc. V Vs:

seen	least	sit	(219 – 175- 120 msc.)
word	wed		(247- 136 msc)
card (271)	cad (196)	cut (139)	
caR (319)	caN (233)	caT (165 msc)	

Monophthongs (average values):

■ /ɪ/	120 mscs.	■ /i/	219 mscs
■ /ʊ/	135 mscs	■ /u/	206 mscs
■ /e/	136 "	■ /ə/	247 "
■ /ɒ/	145 "	■ /ɔ/	271 "
■ /ʌ/	139 "	■ /ɑ/	271 "

- /æ/ (196)

2.1 MAIN CHARACTERISTICS OF E. VOWELS (CONT'D)

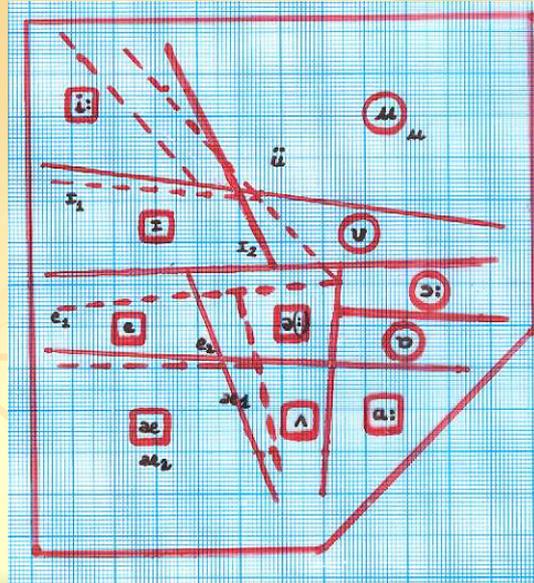
- 3. Considerable **overlapping** in terms of length (particularly in polysyllabic words).
- 4. **Rarely pure and neat** (“relatively pure vowels” Gimson – Cruttenden, 8.9), not “steady-state” as Collins & Mees call them). “Not a significant function in English” (Cohen, 1958).
- 5. **Allophony (allophonic variation (effect of /l/))**.
- 6. **Phonemic neutralization (e.g. happy V, e/æ), free variation (e.g. fetid) (alternation (e.g. i-kə'nomiks),**

2.2 VOWEL LENGTH AND ORTHOGRAPHY

Acc. To Wells, 2000: 699)

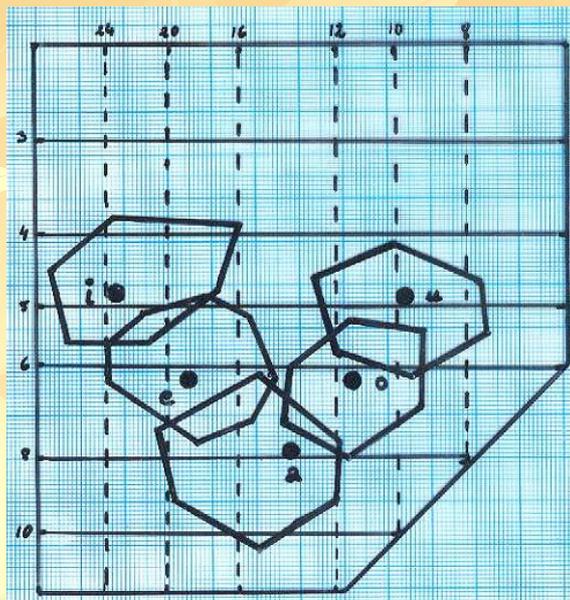
- **A single V generally counts as short if**
 - In monosyllables, a single C follows (e.g. *tip, tell, bad*, etc.)
 - In a stressed penultimate syllable where the vowel is followed by two or more consonants (e.g. *better, system, question*, etc.).
- **But it counts as long if**
 - Follows a single C + e (e.g. *time, rape, complete*, etc.), although there are many exceptions: *give, love*, etc.
 - We have a monosyllabic word ending in a vowel: *go, me, flu*...etc.
 - The penultimate stressed syllable is followed by a C: *potato, thesis*, ... but plenty of exceptions: *important, cathedral*, etc.

2.3 RP MONOPHTHONGS: THEIR ALLOPHONES



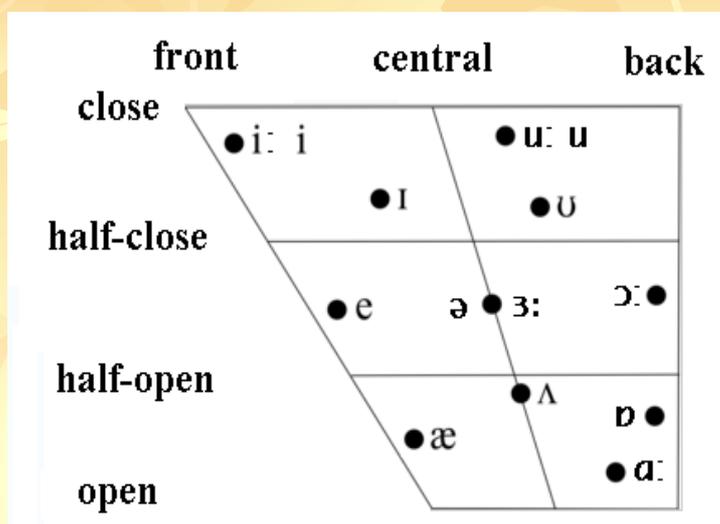
Monroy, 1989

2.4 SPANISH MONOPHTHONGS



Monroy, 1989

2.5 RP MONOPHTONGS: THEIR POSITION IN THE IPA CHART



3. PHONEMES /i:/ - /ɪ/

- Phoneme /i:/

- Allophonic variants

[i:] (*see*, but *seer*)

[i] (*reiterate*, *been*, *me*, *vehicle...*, *oblique*, *seat*, *city*)

[i:] (*carrying*, *conveying...*)

[i:°] (*feel*, *seal...*) (i.e. +/l/). **Note: reel-real**

- Phoneme /ɪ/ ("a centralised C [e]" G-Crutt.)

[ɪ:] (*conveying...*)

[ɪ₁] (*sit*)

[ɪ₂] (*hill*)

[ɪ] (final <y>: *pretty* –free variation with /i:/)

[ɪ°] (*refined* –G+Crutt- , *wish*, *did*, *thin...*)

Phoneme alternation (see below): /ɪ/-/ə/ : *-ity*, *-itive*, *-ily*, *-ible* (but opposition maintained in *offices*, *chatted* /ɪ/-*officers*, *chattered* /ə/). In Aust-E, weak /ɪ/ = /ə/: *valid*, *boxes...*

Notice: *Greenwich* /e-ɪ/, and *been* = [ɪ] in USA, also in UK.

3.1 PHONEMES /i:/ - /ɪ/: CASES OF NEUTRALIZATION

- In word-final position: *easy, pretty, easier...*
- In the case of the personal pronouns *me, he, she, we*, the forms *be* and *the* when followed by a vowel
- In suffixes such as *-ial, -iate, -ious, etc.*, when followed by a vowel with which the high vowel does not constitute a diphthong: *humiliation, appreciate...*
- In prefixes like *re-, de-, pre-* when a vowel follows: *reorganize, deactivate, prearrange, etc.*
- Drift from /ɪ/ to /ə/ in endings like: *-ible, -ate, -less, -ness, -ity, -ily*. (a XXth c. phenomenon)

4. PHONEME /e/ (closer to [ɛ] than to [e]-G-C)

- Allophonic variants
 - [e₁] (*bed, went, cleanse...*)
 - [e₂] (*bell, tell, well...*)
 - [e^ə] (*men, get, said.....* –affected)
 - Alternation
 - /i: -e/: *please-pleasant; penal –penalty; declare-declaration...*
 - /e - ɪ/: *economy-economic; eject-ejection; (enigma-enigmatic, review /ɪ-e/)* .
 - /e - ə/: *'compliment (V-N); 'supple'ment, ex'periment...*
 - Free variation: [e-i:]: *amenity, fetid, tenable, homogeneous...*
 - Spellings for /e/
 - <a>: *ate, many, any, Thames*. <ea>: *bread, read...*
 - <eo>: *leopard, jeopardy,..* <ai>: *said, says*
- Notice: Latin/Greek <e>=[ɪ] / [i:] *hyperbole, epitome...*, and the forms: *Clerk, Derby* and some others, in UK= [ɑ:].

5. PHONEME /æ/

- [æ₁] (*sad, mad, can*, "almost equivalent to long vowels" (G-Cr, 111). In fact, some talk of a short vs long 'æ' in cases like *jam (to eat)-jam (of traffic), land –to land*, etc.
- [æ₂] (*shall, Pall Mall...*(in Refined and Conservative RP as well as Cockney and Australian [ɛə])
- [a] : Young RP speakers neutralise /æ-ʌ/ (G-Crut, 103 and 111). Upton et al. = /a/. Acc. To G-Cr "only tradition justifies... the symbol æ"

Neutralization

- *apparent /æ- eə/ , barbarian /eə-e/ , Mary , Maryland /eə-e/ (cf marry), Marylebone...* (W: æ), (Upton et al. use [ɛ:] (they transcribe *Marylebone* and *Maryland* with [a] –[ɛ:] respectively). (Compare with Murray=[ʌ])
- /æ-ɑ:/: *catholic, elastic, blasphemy, massage...* as well as words in –APH (*photograph, cenotaph...*but NOT in derivative words: *photographic [æ], telegraphic...*
- **Alternation:** *drama-dramatist [ɑ:-æ]*

6. PHONEME /ʌ/

("...is kept partly for traditional reasons" (G-Cr, 113). Articulatory, "considerable separation of the jaws"(G-Cr, 113). Better to use /a/ but then collision with /æ/.

VARIANTS

- [ʌ] (spelling <u>: *cut, just, ..-except bury, busy, push, etc.*
Spelling <o(o)>: *stomach, blood, comfort...* Note: no fronting in the North (*come, love, etc.*). **NOTE: <a> is never pronounced [ʌ]**
- a) ALTERNATION: /ʌ-ɒ/+ nasal: young use the former, old people use the latter: *frontier, accomplish, comrade, etc.*
- b) FREE VARIATION: /ʌ-ə/, *hiccup, hubbub, but*. **Many E. speakers "regards these two vowels as being in allophonic relationship" (Collins & Mees, 2008: 99).**

7. PHONEME /ɑ:/

- **Allophonic variants**

[ɑ:] (retracted. In refined RP may fall on /ɔ:/: *glass-gloss*. In Scotland [æ] if [f,n,θ,s] follow: *glass, bath, France, laugh...*).

[a] if unstressed: *artistic, articulatory ...*

- **SPELLING <a>** (French origin)

- [ɑ:] if C+e: *morale, façade, moustache...*(also Spanish place names irrespective of what may follow: *Barcelona, Marbella*. Notice *Alhambra*.)

- [eɪ] if C+e: *tornado, decade, parade...*

- [ɒ] if +N: *fiancée, restaurant, genre...* (also [ɑ:] as 2nd)

- **NOTICE:** <er>=[ɑ:] in a few words: *Berkshire, clerk, Berkeley* (British pron.!!)

ALTERNATION

- /æ-ɑ:/: *trans-* ("[æ] is acceptable in all contexts...a substantial minority use [ɑ:] -LPD): *transmission, transform, transalpine.. '....'....*

- [ɔ:-ɑ:] in *Marlborough* (the former in Wiltshire; the latter in USA and N.Z.

8. PHONEMES /ɔ:-ɒ/ (the latter, "extremely open" -Gimson, 112.

SPELLING REALIZATIONS

- <o>=[ʌ] *compass, borough, conjure, cover...*(about 50 terms)

- <o>[ʊ]: *bosom, wolf, woman, Worcester.*

- <o>[u:]: *tomb, womb, whose, lose.*

- <o>[ɒ]: *cod, dog, not...*(in Scottish=[ɔ:r])

- <wa>[ɒ]: *water, watch, war...*(but if a velar follows, then [æ] (*waggon, swagger, twang...*, Notice: if 'u' before then [ɒ] (*quantity, quarrel...*))

- <o> [əʊ]-[ə]: In unstressed syllables. The first, usually in careful speech or in **learned** terms: *phonetics, zoology, cooperate, etc.*

- [ə]: *method, Oxford,*

8.1 PHONEMES /ɔ:-ɒ/ (cont.)

□ ALTERNATIONS:

- /ɒ - ɔ:/ if <f,l,θ,s>: *fault, loss, froth, cross* (Upton only gives 1st).
- /ɒ - ɔ:/ if <au+s>: *Austria, austerity, Australia*...but change in preference if <au+C no -s>: *audience, August, authority*... (Notice: *aunt*)
- /ɔ:-ɑ:/ if <au+N>: *launch, gaunt, saunders, jaundice, Taunton*...

9. PHONEMES /u:-ʊ/

- /u:/ VARIANTS ([ju:] a phoneme? -a uniform)
 - [ʊu]: *who, do, you*... (young people: [u:] [i:])
 - [u]: *fluidity, Eudora, tuition*...
 - [y /ʊ:]: *university, July, union*, .. Cf. Greek *Perseus, Orpheus*.../i-ə/ (older people may confuse *two-tea*).
 - [ju:] *assume, news, duty*... ([u:] after R, S, L, Z,C+I, : *rule, sugar, lucrative, glue*, but variation after S, N: *suitable, enthusiasm, news*... (NOTE: u+CC=[ʌ]: *ulcer, uncle, under*... and after R= [jʊə -jɔ:] *pure, cure*...
 - [jʊə] <eu>: *Europe, european*
- /ʊ/ VARIANTS
 - [ʊ] : *pull, full, look*...(in Scotland: *pool= pull, fool= full*...)
 - [ɹ]: *good, should, could*...

9.1 PHONEMES /u:- ʊ/ (cont'd)

FREE VARIATION

- /u:- ʊ/: *room, groom, broom, tooth.*
- / ʊ-ə/: *helpful, should, could...* (strong-weak forms)
- [ju-jə]: (unstressed): *regular, particular, stimulous, (but tense in stimulate)*
- Before a vowel with which these high phonemes do not form a diphthong or a triphthong: *evaluation, throughout, punctuation, etc.*
- In *who* and *through*
- In the words *to, into, you* and *do* when a vowel follows: *to ask, to arrange, etc.*

9.2 IS [ʊ] A PHONEME?

- **NO:**
 - Very few words have it
 - It never appears word-initially (Krusinga)
 - Distributionally, it is not on a par with the other Vowel phonemes.
- **YES:**
 - *putt –put, tuck-took, etc.* (note that in these and similar cases, “it can be objected that one of the two forms is either a declined form or a word of very limited application” J.Swart (*Some remarks on the phonology of English, Neophilologus*,II, 1951).
 - NOTE: *busy, business, bury* (not pronounced [ʊ]).

10. PHONEMES /ɜ:/- /ə/

- Similar but not identical sounds (length difference)
- /ə/ is **the only English phoneme which does not occur in stressed position.**
 - It contributes decisively to English rhythmic structure.
 - Three allophonic variants (high, mid, low), the last one overlapping the area of /ʌ/ (*drinka pinta milka day*) and even of /ɑ:/ (*my deah fellah*)

SPELLING:

- /ɜ:/ (<ER>: *fern, merchant*, but also /ɑ/: *clerk, Berkshire*..)
- /ə/ is the only phoneme that can replace all the rest of the phonemes when they occur in weak position.

10.1 IS /ə/ A PHONEME?

- ❖ **NO** (Vachek, Martinet...). Reasons:
 - /ə/ is a phonetic variant of other phonemes (the weak variant of the strong forms: *are, at, should...*) with no significant difference,
 - it can only stand in opposition to /ɪ/ (*city-sitter, fatty-fatter...*), is it a phoneme?
- ❖ **YES** (Trager, Bloch, Cohen, Firth). Reasons:
 - E.g. *summer vs. some, exercise-exorcise.../ə-ɔ/*,
- ❖ **BUT** its function is not identical with the rest of the Vowel phonemes, so strictly speaking it **cannot be included** within the 'system' of short V phonemes. It is a **neutral** or reduced **vowel**. Or an allophone of /ʌ/ as Collins & Mees suggest? (2008: 99)

10.2 SCHWA REALIZATIONS

I. Ward, *The Ph.of E.*, 108

/e/ en <i>pence</i>	→→→→	[ə] en <i>sixpence</i>
/æ/ en <i>valid</i>	→→→→	[ə] en <i>validity</i>
/ɑ:/ en <i>particle</i>	→→→→	[ə] en <i>particular</i>
/ɒ/ en <i>conduct</i>	→→→→	[ə] en <i>conduct</i>
/ɔ:/ en <i>ward</i>	→→→→	[ə] en <i>backward</i>
/ʊ/ en <i>set to</i>	→→→→	[ə] en <i>today</i>
/ʌ/ en <i>some</i>	→→→→	[ə] en <i>handsome</i>
/ɜ:/ en <i>Bert</i>	→→→→	[ə] en <i>Herbert</i>
/eɪ/ en <i>face</i>	→→→→	[ə] en <i>preface</i>
/əʊ/ en <i>most</i>	→→→→	[ə] en <i>topmost</i>
/aʊ/ en <i>mouth</i>	→→→→	[ə] en <i>Plymouth</i>
/eə/ en <i>there</i>	→→→→	[ə] en <i>there is...</i>
/aɪə/ en <i>shire</i>	→→→→	[ə] en <i>Yorkshire</i>

REFERENCES

■ Compulsory readings:

- Cruttenden, A. 2001 [1994]. *Gimson's Pronunciation of English*. London: Edward Arnold. 2nd ed. Chapter 8 "The English Vowels".
- <http://www.phon.ucl.ac.uk/home/wells/rphappened.htm>

■ Recommended readings:

- Collins, B., & Mees, I. 2003. *Practical Phonetics and Phonology*. London: Routledge. Pp. 93-100.
- Roach, P. J. 2001 [1983]. *English Phonetics and Phonology. A Practical Course*. Cambridge: Cambridge University Press. Chapter 2, Section 2.3. "English short vowels" and Chapter 3 "Long vowels, diphthongs and triphthongs".

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REFERENCES (CONT'D)

- **CHRISTOPHERSEN, P.** 1956. *An English Phonetics Course*. Ch.II and ch. IV.
- **FINCH & ORTIZ,** 1982 *A Course in English Phonetics...* Ch.6.
- **FUDGE, E.** 1977. "Long and short /æ/ in one Southern British speaker's Eng." *J.I.Ph.A.*, 7.
- **GIMSON, A.C.** 1945-49 "Implications of the phonemic/chronemic groupings of English vowels". *Acta Linguistica*, IV, p.1-10.
- **JONES, D.** 1918. *An Outline..*, ch. XIV.
- **KREIDLER, CH.W.** 'Vowels and glides'. In *The pronunciation of English. A course book in phonology*. B. Blackwell.
- **MONROY, R.** *La pronunciación del inglés RP..*, ch. 5.
- **O'CONNOR, J. D.** *Phonetics*. Ch. 5 ("Vowels").
- **PETERSON, G.E & I. LEHISTE.** 1960. In I. Lehiste (ed.) *Readings in Acoustic Phonetics*. Ch. 17.
- **W.LEWIS.** 1991. 'Happy land reconnoitred: the unstressed word-final-y vowel in General British pronunciation'. In S.Ramsaran (ed.) *S.P.E.* 159-167.
- **WARD, I.** 1967. *The Phonetics of English*. Ch. XI.