BBN–ANG–141 Foundations of phonology
3. The consonant phonemes of English

Péter Szigetvári

Dept of English Linguistics, Eötvös Loránd University

outline

phonemic analysis
- n and ŋ in English
- technical terms
- n and ŋ in ME
- n and ŋ in LE
- two kinds of transcription

consonant phonemes of Standard Southern British English

a comparison of English and Hungarian

sample exam questions

some questions

does London English have the sound [ŋ]?

yes, for example, in the word *thing* [θɪŋ]

some questions

does London English have the sound [ŋ]?

yes, for example, in the word *thing* [θɪŋ]

does Manchester English have the sound [ŋ]?

yes, for example, in the word *thing* [θɪŋg]

some questions

does London English have the sound [ŋ]?

yes, for example, in the word *thing* [θɪŋ]

does Manchester English have the sound [ŋ]?

yes, for example, in the word *thing* [θɪŋg]

but (despite appearances) there is a huge difference!

some questions

does London English have the sound [ŋ]?

yes, for example, in the word *thing* [θɪŋ]

does Manchester English have the sound [ŋ]?

yes, for example, in the word *thing* [θɪŋg]

but (despite appearances) there is a huge difference!

LE thin [θɪn] vs thing [θɪŋ]

some questions

does London English have the sound [ŋ]?

yes, for example, in the word *thing* [θɪŋ]

does Manchester English have the sound [ŋ]?

yes, for example, in the word *thing* [θɪŋg]

but (despite appearances) there is a huge difference!

LE	thin [θɪn]	vs thing [θɪŋ]
ME	thin [θɪn]	vs thing [θɪŋg]

some questions

does London English have the sound [ŋ]?

yes, for example, in the word *thing* [θɪŋ]

does Manchester English have the sound [ŋ]?

yes, for example, in the word *thing* [θɪŋg]

but (despite appearances) there is a huge difference!

LE	thin [θɪn]	vs thing [θɪŋ]
ME	thin [θɪn]	vs thing [θɪŋg]

the [n] vs [ŋ] contrast distinguishes words in LE, but does not distinguish anything in ME: pronouncing [n] instead of [ŋ] would cause no confusion

some technical terms

minimal pair

two words (ie with different meaning) of equal length that differ in one sound, eg *thing* and *thin* in LE ([θɪŋ] and [θɪn])

some technical terms

minimal pair

two words (ie with different meaning) of equal length that differ in one sound, eg *thing* and *thin* in LE ([θɪŋ] and [θɪn])

free variation

a word with several possible pronunciations

some technical terms

minimal pair

two words (ie with different meaning) of equal length that differ in one sound, eg *thing* and *thin* in LE ([θɪŋ] and [θɪn])

free variation

a word with several possible pronunciations,
eg *unkind* [ənkɑjnd] and [əŋkɑjnd], *either* [ɑjðə] and [ɪjðə]

some technical terms

minimal pair

two words (ie with different meaning) of equal length that differ in one sound, eg *thing* and *thin* in LE ([θɪŋ] and [θɪn])

free variation

a word with several possible pronunciations,
eg *unkind* [ənkɑjnd] and [əŋkɑjnd], *either* [ɑjðə] and [ɪjðə]

environment

the context in which a (linguistic) element occurs

some technical terms

minimal pair

two words (ie with different meaning) of equal length that differ in one sound, eg *thing* and *thin* in LE ([θɪŋ] and [θɪn])

free variation

a word with several possible pronunciations,
eg *unkind* [ənkɑjnd] and [əŋkɑjnd], *either* [ɑjðə] and [ɪjðə]

environment

the context in which a (linguistic) element occurs,
eg [θɪ__] is an environment of [ŋ] and [n] in LE

some technical terms

minimal pair

two words (ie with different meaning) of equal length that differ in one sound, eg *thing* and *thin* in LE ([θɪŋ] and [θɪn])

free variation

a word with several possible pronunciations,
eg *unkind* [ənkɑjnd] and [əŋkɑjnd], *either* [ɑjðə] and [ɪjðə]

environment

the context in which a (linguistic) element occurs,
eg [θɪ__] is an environment of [ŋ] and [n] in LE,
[ə__kɑjnd] is an environment of [ŋ] and [n]

some technical terms

minimal pair

two words (ie with different meaning) of equal length that differ in one sound, eg *thing* and *thin* in LE ([θɪŋ] and [θɪn])

free variation

a word with several possible pronunciations,
eg *unkind* [ənkɑjnd] and [əŋkɑjnd], *either* [ɑjðə] and [ɪjðə]

environment

the context in which a (linguistic) element occurs,
eg [θɪ__] is an environment of [ŋ] and [n] in LE,
[ə__kɑjnd] is an environment of [ŋ] and [n],
[__ðə] is an environment of [ɑj] and [ɪj]

some technical terms

distribution

the set of all the evironments of an element

some technical terms

distribution

the set of all the evironments of an element, a long list, but it can be generalized: instead of [θɪ__], [lɔ__], [sa__], [rə__], we can say V__# (after a vowel, at the end of the word)

some technical terms

distribution

the set of all the evironments of an element, a long list, but it can be generalized: instead of [θɪ__], [lɔ__], [sa__], [rə__], we can say V__# (after a vowel, at the end of the word)

complementary distribution

two distributions are complementary if none of their elements are common, ie they do not overlap, eg $A = \{a, b, c\}, B = \{d, e, f\}$

some technical terms

distribution

the set of all the evironments of an element, a long list, but it can be generalized: instead of [θɪ__], [lɔ__], [sa__], [rə__], we can say V__# (after a vowel, at the end of the word)

complementary distribution

two distributions are complementary if none of their elements are common, ie they do not overlap, eg $A = \{a, b, c\}, B = \{d, e, f\}$

overlapping distribution

two distributions are overlapping if some (or all) of their elements are common, ie they are not complementary,
$A = \{a, b, c\}, B_1 = \{c, d, e\}, B_2 = \{b, c\}, B_3 = \{a, b, c\}$

[n] and [ŋ] in ME

the distribution of [ŋ] in ME

[n] and [ŋ] in ME

the distribution of [ŋ] in ME

$$- \begin{Bmatrix} k \\ g \end{Bmatrix}$$

[n] and [ŋ] in ME

the distribution of [ŋ] in ME

$$— \begin{Bmatrix} k \\ g \end{Bmatrix}$$

that is, [ŋ] occurs before [k] or [g] **only,**
eg *ink* [ɪŋk], *king* [kɪŋg]

[n] and [ŋ] in ME

the distribution of [ŋ] in ME

$$_ \begin{Bmatrix} k \\ g \end{Bmatrix}$$

that is, [ŋ] occurs before [k] or [g] **only,**
eg *ink* [ɪŋk], *king* [kɪŋg]

the distribution of [n] in ME

[n] and [ŋ] in ME

the distribution of [ŋ] in ME

$$— \begin{Bmatrix} k \\ g \end{Bmatrix}$$

that is, [ŋ] occurs before [k] or [g] **only,**
eg *ink* [ɪŋk], *king* [kɪŋg]

the distribution of [n] in ME

$$— \begin{Bmatrix} t \\ d \\ \# \\ \dots \end{Bmatrix}$$

[n] and [ŋ] in ME

the distribution of [ŋ] in ME

$$_ \begin{Bmatrix} k \\ g \end{Bmatrix}$$

that is, [ŋ] occurs before [k] or [g] **only,**
eg *ink* [ɪŋk], *king* [kɪŋg]

the distribution of [n] in ME

$$_ \begin{Bmatrix} t \\ d \\ \# \\ \ldots \end{Bmatrix}$$

that is, [n] occurs before [t] or [d] or # (word boundary, ie at the end of the word) or in several other environments (eg before vowels, [s], [r], [l], etc.), but **not** before [k] or [g], eg *tent, bend, ten, name, tense, Henry, only*

[n] and [ŋ] in ME

the distribution of [ŋ] in ME

$$_ \begin{Bmatrix} k \\ g \end{Bmatrix}$$

that is, [ŋ] occurs before [k] or [g] **only,**
eg *ink* [ɪŋk], *king* [kɪŋg]

the distribution of [n] in ME

$$_ \begin{Bmatrix} t \\ d \\ \# \\ \ldots \end{Bmatrix}$$

that is, [n] occurs before [t] or [d] or # (word boundary, ie at the end of the word) or in several other environments (eg before vowels, [s], [r], [l], etc.), but **not** before [k] or [g], eg *tent, bend, ten, name, tense, Henry, only*

the distribution of [n] and [ŋ] in ME

is complementary, the two distributions do not overlap: [ŋ] occurs only where [n] does not occur (or if they do cooccur (eg in *unkind*) there's free variation)

allophones of a phoneme

if two elements are in complementary distribution

allophones of a phoneme

if two elements are in complementary distribution

- they cannot contrast

allophones of a phoneme

if two elements are in complementary distribution

- they cannot contrast
- there exist no minimal pairs (eg with [n] vs [ŋ] in ME)

allophones of a phoneme

if two elements are in complementary distribution

- they cannot contrast
- there exist no minimal pairs (eg with [n] vs [ŋ] in ME)
- their difference has no linguistic function

allophones of a phoneme

if two elements are in complementary distribution

- they cannot contrast
- there exist no minimal pairs (eg with [n] vs [ŋ] in ME)
- their difference has no linguistic function
- they are considered the same "sound" by native speakers

allophones of a phoneme

if two elements are in complementary distribution

- they cannot contrast
- there exist no minimal pairs (eg with [n] vs [ŋ] in ME)
- their difference has no linguistic function
- they are considered the same "sound" by native speakers
- it can usually be predicted which of the two occurs in a given environment (eg before [k] or [g], it will be [ŋ], elsewhere [n])

allophones of a phoneme

if two elements are in complementary distribution

- they cannot contrast
- there exist no minimal pairs (eg with [n] vs [ŋ] in ME)
- their difference has no linguistic function
- they are considered the same "sound" by native speakers
- it can usually be predicted which of the two occurs in a given environment (eg before [k] or [g], it will be [ŋ], elsewhere [n])

two such sounds

are **allophones** of the same **phoneme**

allophones of a phoneme

if two elements are in complementary distribution

- they cannot contrast
- there exist no minimal pairs (eg with [n] vs [ŋ] in ME)
- their difference has no linguistic function
- they are considered the same "sound" by native speakers
- it can usually be predicted which of the two occurs in a given environment (eg before [k] or [g], it will be [ŋ], elsewhere [n])

two such sounds

are **allophones** of the same **phoneme;** [n] and [ŋ] are allophones of /n/

allophones of a phoneme

if two elements are in complementary distribution

- they cannot contrast
- there exist no minimal pairs (eg with [n] vs [ŋ] in ME)
- their difference has no linguistic function
- they are considered the same "sound" by native speakers
- it can usually be predicted which of the two occurs in a given environment (eg before [k] or [g], it will be [ŋ], elsewhere [n])

two such sounds

are **allophones** of the same **phoneme;** [n] and [ŋ] are allophones of /n/ (or /ŋ/ or /✾/, the symbol is arbitrary, but it is useful to select one that is easily recognized)

allophones of a phoneme

if two elements are in complementary distribution

- they cannot contrast
- there exist no minimal pairs (eg with [n] vs [ŋ] in ME)
- their difference has no linguistic function
- they are considered the same "sound" by native speakers
- it can usually be predicted which of the two occurs in a given environment (eg before [k] or [g], it will be [ŋ], elsewhere [n])

two such sounds

are **allophones** of the same **phoneme;** [n] and [ŋ] are allophones of /n/ (or /ŋ/ or /✾/, the symbol is arbitrary, but it is useful to select one that is easily recognized); this is true for ME, not necessarily in any other language

allophones of a phoneme

if two elements are in complementary distribution

- they cannot contrast
- there exist no minimal pairs (eg with [n] vs [ŋ] in ME)
- their difference has no linguistic function
- they are considered the same "sound" by native speakers
- it can usually be predicted which of the two occurs in a given environment (eg before [k] or [g], it will be [ŋ], elsewhere [n])

two such sounds

are **allophones** of the same **phoneme;** [n] and [ŋ] are allophones of /n/ (or /ŋ/ or /✾/, the symbol is arbitrary, but it is useful to select one that is easily recognized); this is true for ME, not necessarily in any other language (incidentally it is also true for Hungarian)

the father of the modern theory of phonemes



Jan Ignacy Niecisław Baudouin de Courtenay (1845–1929)
(a.k.a. Ivan Aleksandrovich Boduen de Kurtene)

[n] and [ŋ] in LE

the distribution of [ŋ] in LE

[n] and [ŋ] in LE

the distribution of [ŋ] in LE

$$_ \left\{ \begin{matrix} k \\ g \\ \# \end{matrix} \right\}$$

[n] and [ŋ] in LE

the distribution of [ŋ] in LE

$$ - \left\{ \begin{matrix} k \\ g \\ \# \end{matrix} \right\} $$

that is, [ŋ] occurs before [k] or [g] or #
eg *ink* [ɪŋk], *younger* [jəŋgə], *young* [jəŋ]

[n] and [ŋ] in LE

the distribution of [ŋ] in LE

$$ - \left\{ \begin{matrix} k \\ g \\ \# \end{matrix} \right\} $$

that is, [ŋ] occurs before [k] or [g] or #
eg *ink* [ɪŋk], *younger* [jəŋgə], *young* [jəŋ]

the distribution of [n] in LE

[n] and [ŋ] in LE

the distribution of [ŋ] in LE

$$ — \left\{ \begin{array}{c} k \\ g \\ \# \end{array} \right\} $$

that is, [ŋ] occurs before [k] or [g] or #
eg *ink* [ɪŋk], *younger* [jəŋgə], *young* [jəŋ]

the distribution of [n] in LE

$$ — \left\{ \begin{array}{c} t \\ d \\ \# \\ \ldots \end{array} \right\} $$

[n] and [ŋ] in LE

the distribution of [ŋ] in LE

$$ — \left\{ \begin{matrix} k \\ g \\ \# \end{matrix} \right\} $$

that is, [ŋ] occurs before [k] or [g] or #
eg *ink* [ɪŋk], *younger* [jəŋgə], *young* [jəŋ]

the distribution of [n] in LE

$$ — \left\{ \begin{matrix} t \\ d \\ \# \\ \ldots \end{matrix} \right\} $$

that is, [n] occurs before [t] or [d] or # or in several other environments, just like in ME

[n] and [ŋ] in LE

the distribution of [ŋ] in LE

$$_ \left\{ \begin{matrix} k \\ g \\ \# \end{matrix} \right\}$$

that is, [ŋ] occurs before [k] or [g] or #
eg *ink* [ɪŋk], *younger* [jəŋgə], *young* [jəŋ]

the distribution of [n] in LE

$$_ \left\{ \begin{matrix} t \\ d \\ \# \\ \ldots \end{matrix} \right\}$$

that is, [n] occurs before [t] or [d] or # or in several other environments, just like in ME

the distribution of [n] and [ŋ] in LE

is not complementary, the two distributions overlap, **both** [n] and [ŋ] occur word finally (__#)

separate phonemes

if two elements are in overlapping distribution

separate phonemes

if two elements are in overlapping distribution

- there exist environments in which both occur (both [n] and [ŋ] occur in __#)

separate phonemes

if two elements are in overlapping distribution

- there exist environments in which both occur (both [n] and [ŋ] occur in __#)
- they may contrast (if they don't we have free variation), if they do

separate phonemes

if two elements are in overlapping distribution

- there exist environments in which both occur (both [n] and [ŋ] occur in _#)
- they may contrast (if they don't we have free variation), if they do
  - there exist minimal pairs (eg *thin* /θɪn/ and *thing* /θɪŋ/)

separate phonemes

if two elements are in overlapping distribution

- there exist environments in which both occur (both [n] and [ŋ] occur in _#)
- they may contrast (if they don't we have free variation), if they do
  - there exist minimal pairs (eg *thin* /θɪn/ and *thing* /θɪŋ/)
  - the difference has a function (eg distinguishing *thin* and *thing*)

separate phonemes

if two elements are in overlapping distribution

- there exist environments in which both occur (both [n] and [ŋ] occur in __#)
- they may contrast (if they don't we have free variation), if they do
  - there exist minimal pairs (eg *thin* /θɪn/ and *thing* /θɪŋ/)
  - the difference has a function (eg distinguishing *thin* and *thing*)
- which of the two occurs in a given environment is often unpredictable: one cannot tell whether /n/ or /ŋ/ occurs in the environment /θɪ__/; this is a lexical property of the word (it is an irregularity)

separate phonemes

if two elements are in overlapping distribution

- there exist environments in which both occur (both [n] and [ŋ] occur in __#)
- they may contrast (if they don't we have free variation), if they do
  - there exist minimal pairs (eg *thin* /θɪn/ and *thing* /θɪŋ/)
  - the difference has a function (eg distinguishing *thin* and *thing*)
- which of the two occurs in a given environment is often unpredictable: one cannot tell whether /n/ or /ŋ/ occurs in the environment /θɪ__/; this is a lexical property of the word (it is an irregularity)

two such sounds

are two separate **phonemes;** /n/ and /ŋ/ are two separate phonemes in LE

two kinds of transcription

narrow/phonetic transcription

two kinds of transcription

narrow/phonetic transcription

- includes subphonemic detail, predictable information, allophones

two kinds of transcription

narrow/phonetic transcription

- includes subphonemic detail, predictable information, allophones
- usually concentrates on a particular aspect of the pronunciation

two kinds of transcription

narrow/phonetic transcription

- includes subphonemic detail, predictable information, allophones
- usually concentrates on a particular aspect of the pronunciation
- totally narrow transcription is impossible

two kinds of transcription

narrow/phonetic transcription

- includes subphonemic detail, predictable information, allophones
- usually concentrates on a particular aspect of the pronunciation
- totally narrow transcription is impossible
- is enclosed in brackets (square brackets)

two kinds of transcription

narrow/phonetic transcription

- includes subphonemic detail, predictable information, allophones
- usually concentrates on a particular aspect of the pronunciation
- totally narrow transcription is impossible
- is enclosed in brackets (square brackets)

eg *cap* [kʰaˀp], *twenty* [tw̥ɛ̃nˀti]

two kinds of transcription

narrow/phonetic transcription

- includes subphonemic detail, predictable information, allophones
- usually concentrates on a particular aspect of the pronunciation
- totally narrow transcription is impossible
- is enclosed in brackets (square brackets)

eg *cap* [kʰaˀp], *twenty* [tw̥ɛ̃nˀti]

broad/phonemic/phonological transcription

two kinds of transcription

narrow/phonetic transcription

- includes subphonemic detail, predictable information, allophones
- usually concentrates on a particular aspect of the pronunciation
- totally narrow transcription is impossible
- is enclosed in brackets (square brackets)

eg *cap* [kʰaˀp], *twenty* [tw̥ɛ̃nˀti]

broad/phonemic/phonological transcription

- includes only phonemes, unpredictable information

two kinds of transcription

narrow/phonetic transcription

- includes subphonemic detail, predictable information, allophones
- usually concentrates on a particular aspect of the pronunciation
- totally narrow transcription is impossible
- is enclosed in brackets (square brackets)

eg *cap* [$k^h a^ʔ p$], *twenty* [$tw̥ɛ̃n^ʔ ti$]

broad/phonemic/phonological transcription

- includes only phonemes, unpredictable information
- is enclosed by slashes (a.k.a. virgules)

two kinds of transcription

narrow/phonetic transcription

- includes subphonemic detail, predictable information, allophones
- usually concentrates on a particular aspect of the pronunciation
- totally narrow transcription is impossible
- is enclosed in brackets (square brackets)

eg *cap* [kʰaˀp], *twenty* [tw̥ɛ̃nˀti]

broad/phonemic/phonological transcription

- includes only phonemes, unpredictable information
- is enclosed by slashes (a.k.a. virgules)

eg *cap* /kap/, *twenty* /twɛntɪj/, *thing* LE /θɪŋ/, ME /θɪng/

two kinds of transcription

narrow/phonetic transcription

- includes subphonemic detail, predictable information, allophones
- usually concentrates on a particular aspect of the pronunciation
- totally narrow transcription is impossible
- is enclosed in brackets (square brackets)

eg *cap* [kʰaˀp], *twenty* [tw̥ɛ̃nˀti]

broad/phonemic/phonological transcription

- includes only phonemes, unpredictable information
- is enclosed by slashes (a.k.a. virgules)

eg *cap* /kap/, *twenty* /twɛntɪj/, *thing* LE /θɪŋ/, ME /θɪng/,
but *think* is /θɪŋk/ (not /θɪnk/) in LE, although it predictably has /ŋ/

two kinds of transcription

narrow/phonetic transcription

- includes subphonemic detail, predictable information, allophones
- usually concentrates on a particular aspect of the pronunciation
- totally narrow transcription is impossible
- is enclosed in brackets (square brackets)

eg *cap* [kʰaˀp], *twenty* [tw̥ɛ̃nˀti]

broad/phonemic/phonological transcription

- includes only phonemes, unpredictable information
- is enclosed by slashes (a.k.a. virgules)

eg *cap* /kap/, *twenty* /twɛntɪj/, *thing* LE /θɪŋ/, ME /θɪng/,
but *think* is /θɪŋk/ (not /θɪnk/) in LE, although it predictably has /ŋ/:
once a phoneme always a phoneme!

recall nasalized vowels (from last week)

both French and English have nasalized vowels

sept [sɛt] vs *sainte* [sɛ̃t] *set* [sɛt] vs *sent* [sɛ̃nt]

beau [bɔ] vs *bon* [bɔ̃] *pod* [pɔd] vs *pond* [pɔ̃nd]

recall nasalized vowels (from last week)

both French and English have nasalized vowels

sept [sɛt] vs *sainte* [sɛ̃t] *set* [sɛt] vs *sent* [sɛ̃nt]
beau [bɔ] vs *bon* [bɔ̃] *pod* [pɔd] vs *pond* [pɔ̃nd]

- but in English we know why the vowel is nasalized: there is a nasal consonant right after it

recall nasalized vowels (from last week)

both French and English have nasalized vowels

sept [sɛt] vs *sainte* [sɛ̃t] *set* [sɛt] vs *sent* [sɛ̃nt]
beau [bɔ] vs *bon* [bɔ̃] *pod* [pɔd] vs *pond* [pɔ̃nd]

- but in English we know why the vowel is nasalized: there is a nasal consonant right after it
- while in French that nasal consonant has been lost (still shown in spelling!)

recall nasalized vowels (from last week)

both French and English have nasalized vowels

sept [sɛt] vs *sainte* [sɛ̃t] *set* [sɛt] vs *sent* [sɛ̃nt]
beau [bɔ] vs *bon* [bɔ̃] *pod* [pɔd] vs *pond* [pɔ̃nd]

- but in English we know why the vowel is nasalized: there is a nasal consonant right after it
- while in French that nasal consonant has been lost (still shown in spelling!)

so [ɛ̃], [ɔ̃] in E is not phonemic: missing in broad transcription

sept /sɛt/ vs *sainte* /sɛ̃t/ *set* /sɛt/ vs *sent* /sɛnt/
beau /bɔ/ vs *bon* /bɔ̃/ *pod* /pɔd/ vs *pont* /pɔnd/

the consonant inventory of (Southern) British English

		LABIAL			CORONAL				BACK	
		BIL	L-D	L-V	DEN	ALV	P-A	PAL	VEL	GLO
OBS	PLO	p b				t d			k g	
	AFF						ʧ ʤ			
	FRI		f v		θ ð	s z	ʃ ʒ			
SON	NAS	m				n			ŋ	
	LIQ					l	r			
	GLI			w				j		h

note 1: "LIQ" = liquid (for the other categories, check topic #1)
note 2: /h/ is often considered a fricative

the consonant inventory of (Southern) British English

		LABIAL			CORONAL				BACK	
		~~BIL~~	~~L–D~~	~~L–V~~	DEN	ALV	~~P–A~~	PAL	~~VEL~~	~~GLO~~
OBS	PLO	p b				t d			k g	
	AFF						ʧ ʤ			
	FRI		f v		θ ð	s z	ʃ ʒ			
SON	NAS	m				n			ŋ	
	LIQ					l	r			
	GLI			w				j		h

note 1: "LIQ" = liquid (for the other categories, check topic #1)
note 2: /h/ is often considered a fricative

the consonant inventory of BE: pruning place

		LABIAL	CORONAL			BACK
			DEN	ALV	PAL	
OBS	PLO	p b		t d		k g
	AFF				ʧ ʤ	
	FRI	f v	θ ð	s z	ʃ ʒ	
SON	NAS	m		n		ŋ
	LIQ			l	r	
	GLI	w			j	h

the consonant inventory of BE: pruning place

		LABIAL	CORONAL			BACK
			DEN	ALV	PAL	
OBS	PLO	p b		t d		k g
	~~AFF~~				ʧ ʤ	
	FRI	f v	θ ð	s z	ʃ ʒ	
SON	NAS	m		n		ŋ
	~~LIQ~~			l	r	
	~~GLI~~	w			j	h

the consonant inventory of BE: pruning manner

		LABIAL	CORONAL			BACK
			DEN	ALV	PAL	
OBS	PLO	p b		t d	ʧ ʤ	k g
	FRI	f v	θ ð	s z	ʃ ʒ	
SON	NAS	m		n		ŋ
	APP	w		l	r j	h

the consonant inventory of BE: pruning manner

		LABIAL	CORONAL			BACK
			DEN	ALV	PAL	
OBS	PLO	p b		t d	ʧ ʤ	k g
	FRI	f v	θ ð	s z	ʃ ʒ	
SON	NAS	m		n		ŋ
	APP	w		l	r j	h

- outliers: /θ ð/ (note that younger speakers replace them with /f v/)

the consonant inventory of BE: pruning manner

		LABIAL	CORONAL			BACK
			DEN	ALV	PAL	
OBS	PLO	p b		t d	ʧ ʤ	k g
	FRI	f v	θ ð	s z	ʃ ʒ	
SON	NAS	m		n	*	ŋ
	APP	w		l	r j	h

- outliers: /θ ð/ (note that younger speakers replace them with /f v/)
- gaps:
  - no palatal nasal

the consonant inventory of BE: pruning manner

		LABIAL	CORONAL			BACK
			DEN	ALV	PAL	
OBS	PLO	p b		t d	ʧ ʤ	k g
	FRI	f v	θ ð	s z	ʃ ʒ	*
SON	NAS	m		n		ŋ
	APP	w		l	r j	h

- outliers: /θ ð/ (note that younger speakers replace them with /f v/)
- gaps:
  - no palatal nasal
  - no "back" fricative (note that some consider /h/ a fricative)

the unique consonants of English and Hungarian

		LABIAL	CORONAL			BACK
			DEN	ALV	PAL	
OBS	PLO	p b		t d	c ɟ	k g
	AFF			t͡s	t͡ʃ d͡ʒ	
	FRI	f v	θ ð	s z	ʃ ʒ	
SON	NAS	m		n	ɲ	ŋ
	APP	w		l r	r j	h

sample exam questions

if [seɸ] and [sef] are a minimal pair, then which of the following statements is true?

1. [ɸ] and [f] are in complementary distribution
2. [ɸ] and [f] are in free variation
3. [ɸ] and [f] are allophones of the same phoneme
4. [ɸ] and [f] are two phonemes

sample exam questions

if [seɸ] and [sef] are a minimal pair, then which of the following statements is true?

1. [ɸ] and [f] are in complementary distribution
2. [ɸ] and [f] are in free variation
3. [ɸ] and [f] are allophones of the same phoneme
4. [ɸ] and [f] are two phonemes

sample exam questions

if [seɸ] and [sef] are a minimal pair, then which of the following statements is true?

1. [ɸ] and [f] are in complementary distribution
2. [ɸ] and [f] are in free variation
3. [ɸ] and [f] are allophones of the same phoneme
4. [ɸ] and [f] are two phonemes

why is vowel nasalization not marked in English?

1. because vowels are never nasalized in English
2. because all vowels are nasalized in English
3. because vowel nasalization is predictable in English
4. because diacritic symbols are not used in English

sample exam questions

if [seɸ] and [sef] are a minimal pair, then which of the following statements is true?

1. [ɸ] and [f] are in complementary distribution
2. [ɸ] and [f] are in free variation
3. [ɸ] and [f] are allophones of the same phoneme
4. [ɸ] and [f] are two phonemes

why is vowel nasalization not marked in English?

1. because vowels are never nasalized in English
2. because all vowels are nasalized in English
3. because vowel nasalization is predictable in English
4. because diacritic symbols are not used in English