

Chapter 3

The Consonants of English

The definition of “consonant”

In articulatory phonetics, a **consonant** is a sound in spoken language that is characterized by a **closure** or **stricture** of the **vocal tract** sufficient to cause audible turbulence. The word *consonant* comes from Latin and means "sounding with" or "sounding together," the idea being that consonants don't sound on their own, but occur only with a nearby vowel, which is the case in Latin.

This conception of consonants, however, does not reflect the modern linguistic understanding which defines consonants in terms of vocal tract constriction.

3. An overview of the English consonant

Manners of Articulation	Place of Articulation						
	Bilabial	Labiodental	Dental	Alveolar	Palatal	Velar	Glotal
Stop Voiceless Voiced	/p/ /b/			/t/ /d/		/k/ /g/	
Fricatives Voiceless Voiced		/f/ /v/	/θ/ /ð/	/s/ /z/	/ʃ/ /ʒ/		/h/
Affricate Voiceless Voiced					/tʃ/ /dʒ/		
Nasal-voiced	/m/			/n/		/ŋ/	
Liquid-voiced				/l/	/r/	[ɾ]	
Glide/Approximant Voiceless Voiced	/hw/ /w/				/j/	/hw/ /w/	

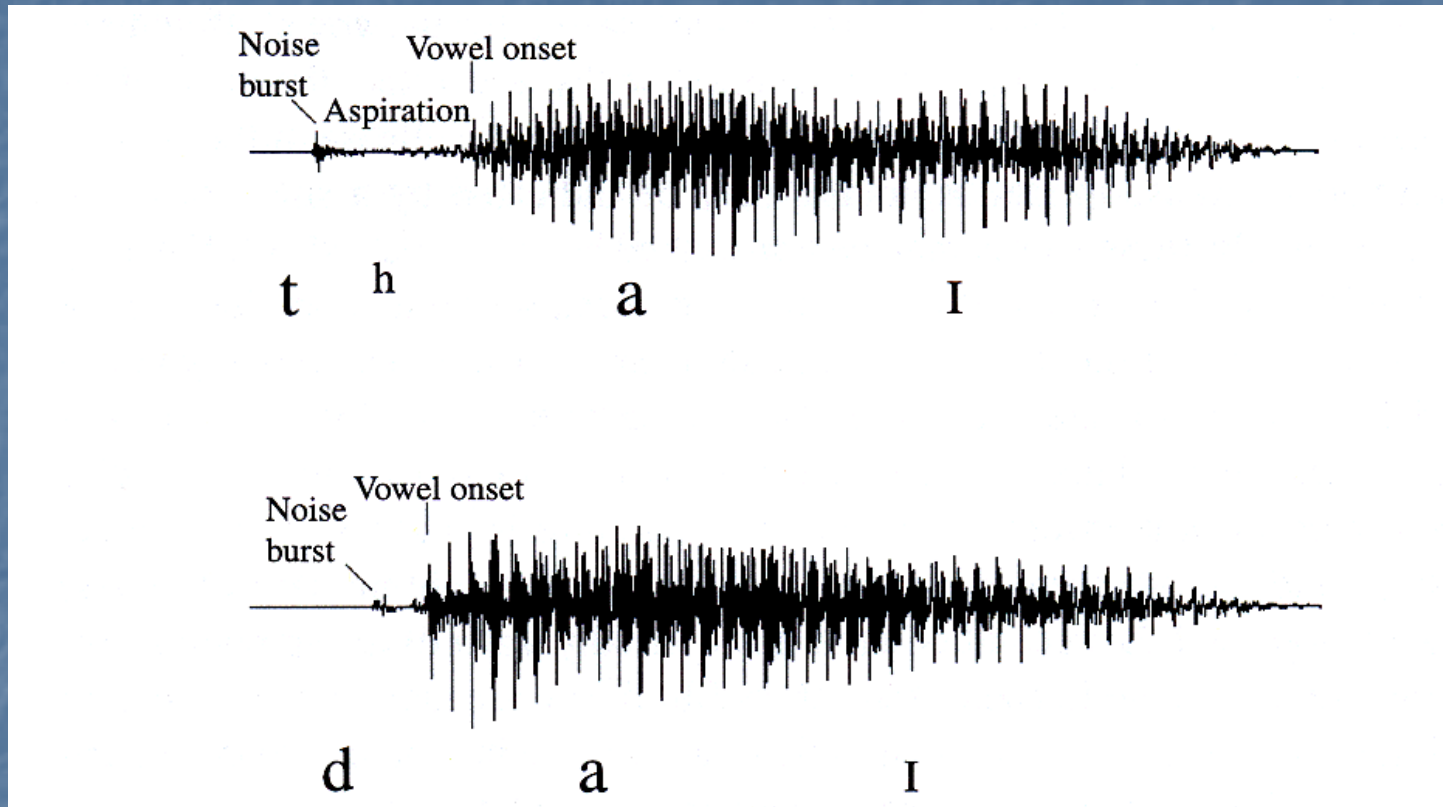
3.1 Stop Consonants

3.1.1 Aspiration

Aspiration is a period of voicelessness after the stop articulation and before the start of the voicing for the vowel. If you put a sheet of thin paper in front of your lips while saying “pie,” you can feel the burst of air that comes out during the period of voicelessness after the release of the stop.

In a narrow transcription, aspiration may be indicated by a small raised *h*, [^h]. Accordingly, these words may be transcribed as [p^haɪ, t^h aɪ, k^h aɪ]. You may not be able to feel the burst of air in “tie, kye” because these stop closures are made well inside the mouth cavity.

3.1.2 Vowel onset and aspiration

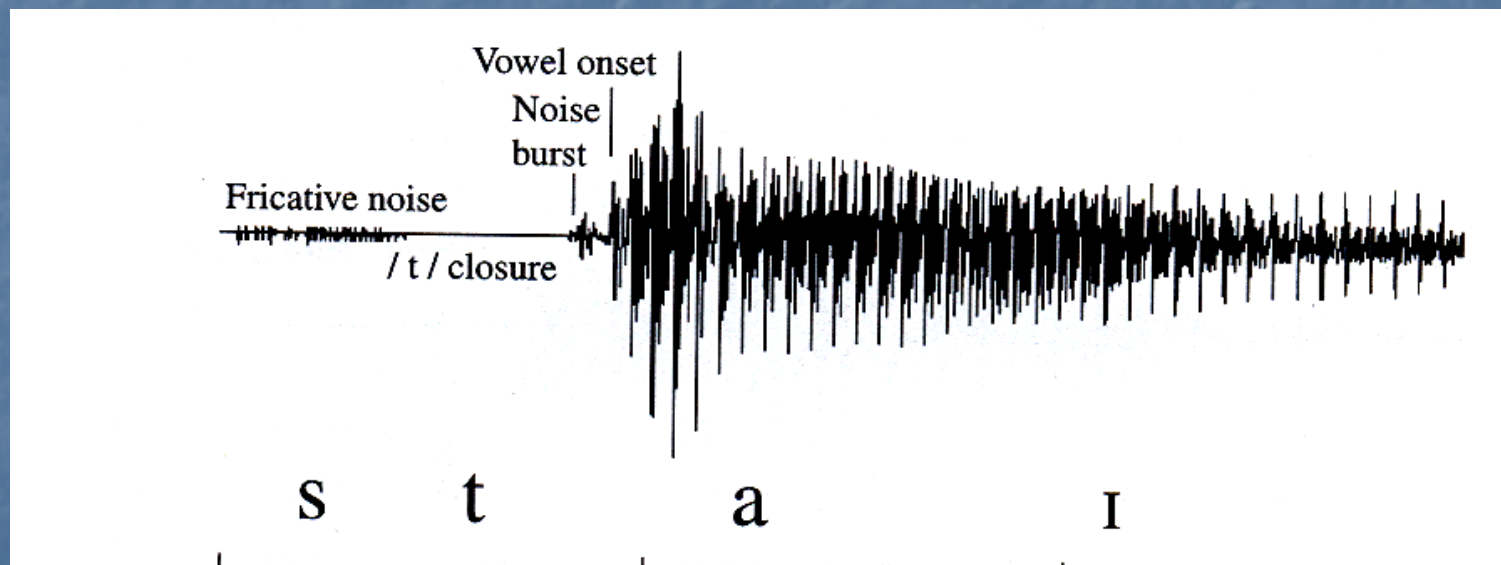


Try the following set of sounds and examine the VOT:

tie sty die pie spy buy kye sky guy

What may happen if /s/ is clustered with /t/, /k/, and /p/? Figure 3.1 shows that two things are to happen for any stop consonant before vowels.

1. If the stop consonant is voiceless, there will be a period of “aspiration” before the VOT (vowel onset time).
2. If the stop consonant is voiced, there will not be a period of “aspiration” before the VOT.
3. Figure 3.1 shows that the “aspiration” simply does not exist.



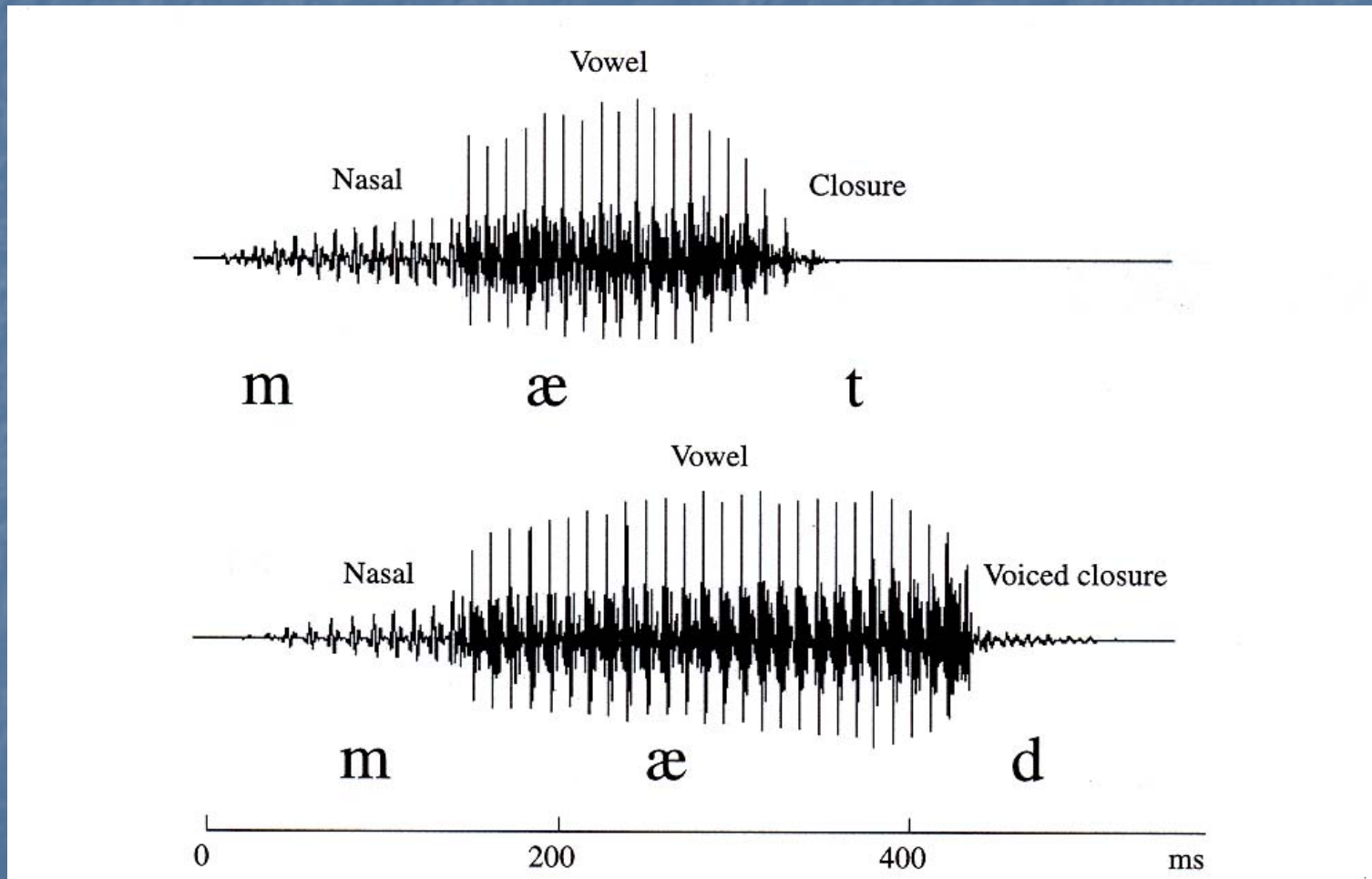
3.1.3 Identify the following terms

1. Noise burst:


2. Vowel onset:


3. Closure:


3.1.4 the ending consonants



3.1.5 The length difference of vowels (How the ending consonants affect the vowel)

 1. a. advocate
b. action
c. acknowledge

 2. a. bead
b. beak
c. because

 3. a. figment
b. fixture
c. fixation

3.1.6 The diacritic [̚]: no audible release

1. advocate
action
[ˈæk̚t̚ʃn̚]

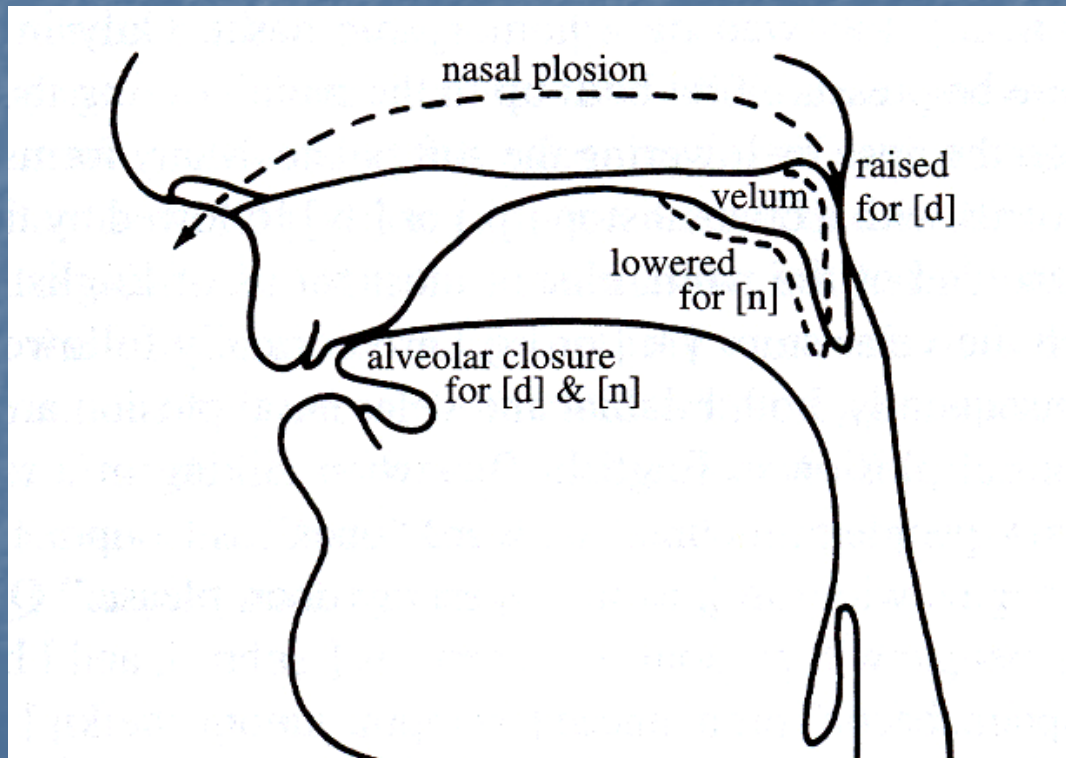
2. “It’s a big day.”

3.1.7 The glottal [ʔ] sound

1. [ʔʌʔʌ]
2. rap, rat, rack
3. beaten, kitten, fatten

3.1.8 The nasal plosion

1. What is “homorganic”?
2. hidden [ˈhɪdŋ]
3. beaten, kitten, fatten [ˈfæʔŋ]



3.1.9 The [r] sound

1. What is “lateral plosion”?
2. little [ˈlɪrəl]
3. city [ˈsɪrɪ]

3.2 Fricatives

1. What is “fricative”?
2. What’s the difference between “rice” & “rise”?
3. What is “obstruents”?

Obstruents is referred to as a natural class of sounds consisting of stops, fricatives, and affricates.

3.3 Affricates

1. What is “affricate”?

An affricate is a sequence of stop followed by a homorganic fricative.

2. What are the affricates in English?

3. Are /ts/, /tʃ/ affricates? Why?

3.4 Nasals

1. Compare the following sounds

sin

sing

sink

2. Try to read

Jack and me

Jack and Kate

3.5 Approximants

1. What are approximants?
2. What are the sound qualities of these approximants?
3. What are the functions of these approximants?

3.6 Rules for English consonant allophones

(1)

Consonants are longer when at the end of a phrase.

Examples

bib, did, don, nod

3.6 Rules for English consonant allophones

(2)

Voiceless stops /p, t, k/ are aspirated when they are syllable initial.

Examples

pip, test, kick
[p^hɪp, t^hɛst, k^hɪk].

3.6 Rules for English consonant allophones

(3)

Obstruents—stops and fricatives—classified as voiced (that is, /b, d, g, v, ð, z, ʒ/) are voiced through only a small part of the articulation when they occur at the end of an utterance or before a voiceless sound.

Examples

Listen to the /v/ in "Try to improve." and to the /d/ in "Add two."

3.6 Rules for English consonant allophones

(4)

So-called voiced stops and affricates /b, d, g, dʒ/ are **voiceless when syllable initial**, except when immediately preceded by a voiced sound.

Examples

As in **a** day

Cf. this day

3.6 Rules for English consonant allophones

(5)

Voiceless stops /p, t, k/ are unaspirated if immediately preceded by an /s/.

Examples

spew, stew, skew

3.6 Rules for English consonant allophones

(6)

Voiceless obstruents (stops and affricates) /p, t, k, tʃ/ are longer than the corresponding voiced obstruents /b, d, g, dʒ/ when at the end of a syllable.

Examples

cap, cab

back, bag

3.6 Rules for English consonant allophones

(7)

The approximants /w, r, j, l/ are at least partially voiceless when they occur after initial /p, t, k/.

Examples

play, twin, cue
[p^hleɪ, tw^hɪn, kju].

3.6 Rules for English consonant allophones

(8)

Stops are unexploded when they occur before another stop in words such as

Examples

apt rubbed

[æp^ht] [rʌb^hd]

3.6 Rules for English consonant allophones

(9)

In many accents of English, syllable final /p, t, k/ are accompanied by a glottal stop.

Examples

tip, pit, kick
[tɪʔp, pɪʔt, kɪʔk]

3.6 Rules for English consonant allophones

(10)

In many accents of English, /t/ is replaced by a glottal stop when it occurs before an alveolar nasal in the same word.

Examples

beaten

[^h'biʔn]

3.6 Rules for English consonant allophones

(11)

Nasals are syllabic at the end of a word when immediately after an obstruent.

Examples

leaden,

chasm

['ledn̩,

'kæzm̩]

3.6 Rules for English consonant allophones

(12)

The lateral /l/ is syllabic at the end of a word when immediately after a consonant.

Examples

paddle,	whistle
['pæd _l],	'wɪs _l]

3.6 Rules for English consonant allophones

(12a)

The liquids /l, r/ are syllabic at the end of a word when immediately after a consonant.

Examples

sabre,	razor,	hammer,	tailor
['seɪbr̩],	'reɪzr̩,	'hæmɹ̩,	'teɪlɹ̩]

3.6 Rules for English consonant allophones

(13)

Alveolar stops become voiced taps when they occur between two vowels, the second of which is unstressed.

Examples

winter, winner

Panting, panning

3.6 Rules for English consonant allophones

(13a)

Alveolar stops and alveolar nasal plus stop sequences become voiced taps when they occur between two vowels, the second of which is unstressed.

Examples

auntie

Dante

3.6 Rules for English consonant allophones

(14)

Alveolar consonants become dentals before dental consonants.

Note that this rule applies to all alveolar consonants, not just stops, and it often applies across word boundaries.

Examples

eighth, tenth, wealth
[eɪt̪θ, tɛn̪θ, wɛl̪θ].

at this

[æt̪ ðɪs]

3.6 Rules for English consonant allophones

(15)

Alveolar stops are reduced or omitted when between two consonants.

Examples

most people

['mɔ: 'pi:pəl] or ['mɔ:st 'pi:pəl]

best game

3.6 Rules for English consonant allophones

(16)

A homorganic voiceless stop may be inserted after a nasal before a voiceless fricative followed by an unstressed vowel in the same word.

Examples

something youngster

[ˈsʌmpθɪŋ] [ˈjʌŋkstər]

concert agency

3.6 Rules for English consonant allophones

(17)

A consonant is shortened when it is before an identical consonant.

Examples

big game, top post

stray tissue, straight issue, straight tissue

3.6 Rules for English consonant allophones

(18)

Velar stops become more front as the following vowel in the same syllable becomes more front.

Examples

/k/ in "cap, kept, kit, key"
[kæp, kɛpt, kɪt, ki]

/g/ in "gap, get, give, geese"
[gæp, gɛt, gɪv, gɪs].

3.6 Rules for English consonant allophones

(19)

The lateral /l/ is velarized when after a vowel or before a consonant at the end of a word.

Examples

life	file	clap	talc
[laɪf]	[faɪl̩]	[klæp]	[tælk̩]

feeling	feel
[fiːlɪŋ]	[fiːl̩]