

Monday, September 22nd

While most of these features from O'Grady et al. are standard, in more complex and modern phonological theories, different features and feature definitions might be used. For the purposes of this course, however, these features are sufficient.

### Major class features

feature	abbr.	+	-
[consonantal]	[cons]	major obstruction above the glottis	no such obstruction
[sonorant]	[son]	relatively open path for airflow	relatively narrow
[syllabic]	[syl] or V,C	syllable peak (nucleus = V)	syllable margin (onset, coda = C)

  

	[cons]	[son]	[syl]	
glottal consonants	-	-	-	[ʔ h]
obstruents	+	-	-	[p b f v θ ð t d s z ʃ ʒ tʃ dʒ k g]
nasals, liquids	+	+	-	[m n ŋ ɹ l]
syllabic nasals/liquids	+	+	+	[m̩ n̩ ŋ̩ ɹ̩ l̩]
glides	-	+	-	[j w]
vowels	-	+	+	[i ɪ e ε æ a ʌ ə ɔ o u]

Whether the glottal consonants [ʔ h] should be classified as obstruents or not is an open question in linguistics, and it depends in part on how the feature [consonantal] is defined. The textbook defines [+consonantal] sounds in such a way that excludes glottal consonants, so they cannot be obstruents under this classification.

While English does not have any syllabic obstruents [-cons, -son, +syl], some languages do, such as Tashlehiyt Berber.

### Manner of articulation

feature	abbr.	+	-
[continuant]	[cont]	continuous oral airflow	no such airflow
[delayed release]	[DR]	affrication	no affrication
[nasal]	[nas]	lowered velum to allow airflow through the nasal cavity	raised velum to block airflow through the nasal cavity
[lateral]	[lat]	airflow across the sides of the tongue	no such airflow

  

	[cont]	[DR]	[nas]	[lat]	
stops	-	-	-	-	[p b t d k g ʔ]
fricatives, non-lateral liquids, glides, vowels	+	-	-	-	[f v θ ð s z ʃ ʒ h ɹ j w i e ε æ a ʌ ə ɔ o u]
affricates	-	+	-	-	[tʃ dʒ]
nasals	-	-	+	-	[m n ŋ]
lateral liquids	+	-	-	+	[l]

## Glottal state

feature	abbr.	+	-
[voice]	[voi]	vocal cord vibration	no vocal cord vibration
[spread glottis]	[SG]	aspiration	no aspiration
[constricted glottis]	[CG]	glottal closure	no glottal closure

By definition, no sound can be [+SG,+CG], since the vocal cords cannot be both spread and constricted at the same time.

	[voi]	[SG]	[CG]	
voiced sounds	+	-	-	[b v ð d z ʒ dʒ g m n ŋ ɹ l j w i ɪ e ε æ ʌ ə ɔ ʊ u]
murmured (breathy voice) sounds	+	+	-	[h] as in <i>ahead</i>
implosives	+	-	+	<i>none in English</i>
voiceless sounds	-	-	-	[p f θ t s ʃ tʃ k ɹ̥ l̥ j̥ ʌ]
aspirated sounds	-	+	-	[p <sup>h</sup> t <sup>h</sup> k <sup>h</sup> h]
[ʔ], ejectives, and clicks	-	-	+	[ʔ]

## Place of articulation

Primary place features [LABIAL], [CORONAL], and [DORSAL] indicate which parts of the mouth are used in making a sound. If the part is not used, the feature is not present (rather than being given a minus value). If the feature is not present, then its subfeatures are not accessible.

[LABIAL] sounds involve an articulation with one or both lips. The [LABIAL] feature has one subfeature:

feature	abbr.	+	-
[round]	[rd]	lips are rounded	lips are not rounded

  

	[rd]	
unrounded labial consonants	-	[p b f v m]
rounded consonants/vowels	+	[w u ʊ o ɔ]

[CORONAL] sounds involve an articulation with tip or blade of the tongue. The [CORONAL] feature has two subfeatures:

feature	abbr.	+	-
[anterior]	[ant]	tongue tip is on the alveolar ridge or teeth	tongue tip is behind the alveolar ridge
[strident]	[str]	“noisy” airflow across the tongue tip	no such noisy airflow

  

	[ant]	[str]	
alveolar stops/sonorants and dentals	+	-	[t d n ɹ l θ ð]
alveolar fricatives/affricates	+	+	[s z]
alveopalatal/retroflex stops/sonorants	-	-	<i>none in English</i>
alveopalatal/retroflex fricatives/affricates	-	+	[ʃ ʒ tʃ dʒ]

[DORSAL] sounds involve an articulation with the body of the tongue. The [DORSAL] feature has three subfeatures:

feature	abbr.	+	-
[high]	[hi]	tongue body is raised	tongue body is not raised
[low]	[lo]	tongue body is lowered	tongue body is not lowered
[back]	[bk]	tongue body is behind the hard palate	tongue body is at the hard palate

By definition, no sound can be [+hi,+lo], since the tongue body cannot be both raised and lowered at the same time.

	[hi]	[lo]	[bk]	
palatal consonants and high front vowels	+	-	-	[j i ɪ]
velar consonants and high back/central vowels	+	-	+	[k g ŋ w u ʊ]
mid front vowels	-	-	-	[e ε]
uvular consonants and mid back/central vowels	-	-	+	[o ɔ ʌ ə]
low front vowels	-	+	-	[æ]
pharyngeal consonants and low back/central vowels	-	+	+	[ɑ]

The [DORSAL] feature also has two additional subfeatures that are generally only used for vowels:

feature	abbr.	+	-
[tense]	[tns]	tongue body is tensed	tongue body is not tensed
[reduced]	[red]	tongue body is relaxed	tongue body is not relaxed

By definition, no vowel can be [+tns,+red], since the tongue body cannot be both tensed and relaxed at the same time.

	[tns]	[red]	
tense vowels	+	-	[i e a o u]
unreduced lax vowels	-	-	[ɪ ε æ ɔ ʊ ʌ]
reduced vowels	-	+	[ə]

### English vowels: [+syl]

		[-bk]	[+bk]	
		[-rd]	[-rd]	[+rd]
[+hi]	[-lo]	i ɪ		u ʊ
[-hi]	[-lo]	e ε	ʌ ə	o ɔ
	[+lo]	æ	ɑ	

In each cell, a symbol to the left is [+tense] and a symbol to the right is [-tense].

All vowels are [-reduced], except [ə], which is [+reduced], but otherwise featurally identical to [ʌ].

There are no extra features for diphthongs; they are just treated as a sequence of a vowel and a glide.

## Ordinary English consonants: [+cons, -syl]

		[LAB]	[COR]			[DOR]
			[+ant]		[-ant]	[+hi]
		[-rd]	[-str]	[+str]	[+str]	[+bk]
[-son]	[-cont]	p b	t d		tʃ dʒ	k g
	[+cont]	f v	θ ð	s z	ʃ ʒ	
[+son]	[-cont]	m	n			ŋ
	[+cont]		ɹ l			

In each cell, a symbol to the left is [-voi] and a symbol to the right is [+voi].

All ordinary consonants are [-SG], except [p<sup>h</sup> t<sup>h</sup> k<sup>h</sup>], which are [+SG], but otherwise featurally identical to [p t k].

All sounds are [-DR], except [tʃ dʒ], which are [+DR].

All sounds are [-nas], except [m n ŋ], which are [+nas].

All sounds are [-lat], except [l], which is [+lat], but otherwise featurally identical to [ɹ].

## English glides and glottal consonants: [-cons, -syl]

The glides [j w] are featurally identical to the vowels [i u], except for being [-syl].

The glottal consonants [ʔ h] have no place features at all, so they only have the features [-cons, -son, -syl, -DR, -nas, -lat], and either [-cont, +CG, -SG] for [ʔ] or [+cont, -CG, +SG] for [h].