

Cross-linguistic Phonetics

http:

[//www-rohan.sdsu.edu/~gawron/functions_of_language](http://www-rohan.sdsu.edu/~gawron/functions_of_language)

Jean Mark Gawron

San Diego State University, Department of Linguistics

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Outline

- 1 UCLA Language Tour
- 2 Phonation types
- 3 Nonpulmonic consonants
- 4 Places
- 5 Clusters

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UCLA Phonetics lab language index

UCLA Language Tour

Ladefoged and Maddieson (1996)

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Phonation types

Type	Description	Language
Voicing		
Breathy consonants	slack but not open vocal cords	Gujarati, Hindi
Breathy vowels	increased aspiration noise	Gujarati
Laryngealization	Constricting of glottis while making sound	Mixtec, Burmese, Caddo
Glottalization	Creaky consonants Creaky vowels, tone	Vietnamese
Pharyngealization	Pharynx or epiglottis constricted	!χóõ
Strident	Breathy voice plus pharyngealization	

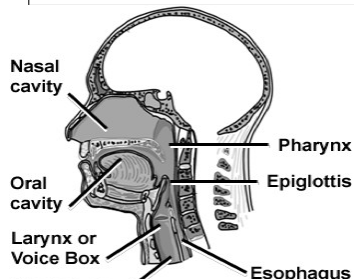
Full closure of glottis: Implosives or ejectives (non pulmonic) Greenberg (1970). Mixtec: Gerfen and Baker (2005)

!χóõ

The examples below include clicks (common in Khoisan languages) and a uvular stop, but the focus here is on the vowels

4 Way phonemic vowel contrast

Constriction in pharynx	Pharyngealized	qáʔa
Constriction in epiglottis	Epiglottalized	k!ao
Constricted vocal cords	Voiced	k áa
Loosely constricted vocal cords	Breathy	k!aḥ



Breathy consonants: Gujarati

Gujarati

VOICED	BREATHY	VOICED
VOWEL	VOWEL	ASPIRATED
		STOP
bar	ba̤r	b ^h ar

Voiced aspirated are also called breathy stops.

Mixtec: Normal creaky voice

Gerfen and Baker (2005)

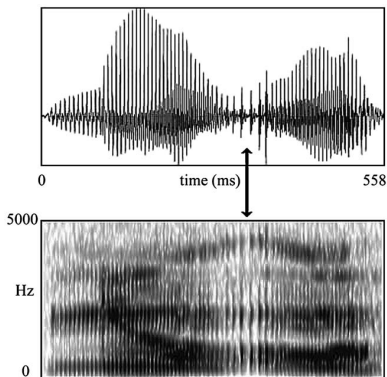


Fig. 2. An example of vowel laryngealization with audible creak in the form [ɲu:] 'ground', produced by TO, a male in his mid-twenties.

Mixtec: Subtle laryngealizations

Gerfen and Baker (2005)

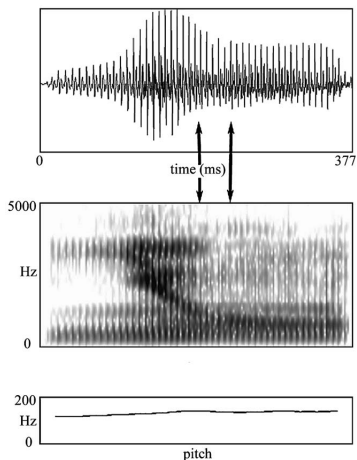


Fig. 3. An example of subtle vowel laryngealization without audible creak in the form [ɲu:] 'ground', produced by BE, a male in his mid-twenties.

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Complete glottal closure

A change in air pressure created

Description	Type	Language
Glottis raised	Ejective	Hausa, Montana, Salish, Quechua
Glottis lowered	Implosive	Sindhi
Tongue lowered	Click	Zulu, Xhosa

Ejectives

“Spat” consonants (glottalic egressives) [▶ Ejectives Wikipedia page](#): Sound demo

*Glottis raised while stop closure is held, **increasing** air pressure. Stop released: dramatic burst of air.*

Quite common (20% of the world's languages)

Hausa

▶ Hausa sound demo

ka:ra:	'put near'	k'a:ra:	'increase'
k ^w a:ra:	'pour'	k ^w 'a:ra:	'shea nut'
sa:ra:	'cut'	s'a:ra:	'arrange'

Implosives

▶ [Wikipedia IPA page](#)

*Glottis lowered while stop closure is held, **decreasing** air pressure. Stop released: air rushes **in** .*

Usually glottis only partially closed, because usually voiced. The bigger the oral cavity the easier to make: ɓ common: ɗ rare. Overall: seem to be rarer than ejectives. ▶ [Wikipedia implosives page](#)

Sindhi: A language that pulls out...

▶ ... all the stops

What are the places of the 3rd and 4th implosives?

ɓ ɗ ɗ̥ ɗ̥̥ ɗ̥̥̥ ɗ̥̥̥̥

Clicks

Clicking consonants [▶ Clicks Wikipedia page](#): Sound demo

Two points of articulation: air pressure drop created by increasing size of the air cavity by lowering a portion of the tongue.

Clicks: Zulu

▶ Zulu clicks

	Dental	Post-alveolar	alveolopalatal
unvoiced unasp. velar	k	k!	k
unvoiced asp. velar	k h	k! ^h	k ^h

!Xóõ clicks

Bilabial	Dental	Alveolar	Palatal	Lateral
⊙	k	k!	k‡	k

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IPA chart

Pulmonic consonants

	Lab.	Dnt	Alv.	AvPAv	Retr.	Pal.	Vel.	Uvu.	Phar.	Glott.
stop	p b		t d		ʈ ɖ	c ɟ	k ɡ	q ɢ		ʔ
nasal	m	ɱ	n		ɳ	ɲ	ŋ	ɴ		
trill	ʙ		r					ʀ		
flap			ɾ		ɽ					
fric.	ɸ β/f v θ ð		s z	ʃ ʒ/ʝ ʎ	ʂ ʐ	ç ʝ	x ɣ	χ ʁ	ħ ʕ	h ɦ
l. fric			ɬ ɮ							
app			ɹ		ɻ	j	ɥ			
lat			l		ɭ					

Fricatives: Polish

▶ Polish consonants

	Alveolar	alveolopalatal	Post-alveolar
Initial	s	ʃ	ʂ
	z	ʒ	ʐ

Distinction between postalveolar and retroflex (nearest place) not made in official IPA.

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Polish consonant clusters

► Polish consonants

usztknie	'he will nibble'	zastępstwo	'replacement'
wymsknąć	'to sneak out'	zmarści	'wrinkles'
krnobrajny	'unruly'	westchnienie	'a sigh.'
wątpliwy	'doubtful'	bazględny	'absolute'
dżdżysty	'rainy'	mnogi	'multiple'
chcieć	'to want'	płciowy	'sexual'
szczekać	'to bark'	bzdura	bzdura
wzdłuż	'along'	wskrzeszać	'resurrect'
źdźbło	'blade of grass'	czczy	'idle'
łsznić	'shimmer'		

Fun Polish phrases

zmierzch mglisty	misty dusk
wojsk czczy	a little bit of the army
kunst wdłużał	art prolonged
tekst bzdurny	silly text
warstw pstrych	guady layers (gen. pl)
miejsc wzglęnych	respective places

Gerfen, Chip, and Kirk Baker. 2005.

The production and perception of laryngealized vowels in coatzospan mixtec.

Journal of Phonetics 33(3):311–334.

Greenberg, Joseph H. 1970.

Some generalizations concerning glottalic consonants, especially implosives.

International journal of American linguistics 36(2):123–145.

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Oxford: Blackwell.