

### Practice Phonology Problems

**Tojolabal (Mexico)** Consider the distribution of plain [k] and glottalized [k'] in Tojolabal. Are [k] and [k'] representatives of two distinct phonemes, or are they allophones of a single phoneme? Argue for your answer, either by citing (near-)minimal pairs from the data or by describing the distributions of the two sounds.

kisim	'my beard'	sak	'white'
sak'a	'chop it down'	k'ijin	'warm'
koktit	'our feet'	skut <sup>h</sup> u	'he is carrying it'
k'ak	'flea'	k'uutes	'to dress'
p'akan	'hanging'	snika	'he stirred it'
k'aʔem	'sugar cane'	ʔak'	'read'

**Palauan** Consider the distribution of [ð], [θ] and [d] in Palauan. Are [ð], [θ] and [d] representatives of distinct phonemes, or are any two or all three of them allophones of a single phoneme? Argue for your answer, either by citing (near-)minimal pairs from the data or by describing the distributions of the two sounds.

Examples of the type "X ~ Y" mean that the word can be pronounced either as X or as Y.

kəðə	'we (inclusive)'	bəðuk	'my stone'
ðiak ~ diak	'negative verb'	maθ	'eye'
tɲoθ	'tattoo needle'	ðe:l ~ de:l	'nail'
ðiosəʔ ~ diosəʔ	'place to bathe'	ðik ~ dik	'wedge'
kuθ	'louse'	ʔoðiŋəl	'visit'
koaθ	'visit'	eaŋəθ	'sky'
ŋərarəðə	'a village'	baθ	'stone'
ieðl	'mango'	ʔəðip	'ant'
kəðeb	'short'	məðəŋei	'knew'
uðouθ	'money'	olðak	'put together'

**German** Consider the distribution of the voiceless palatal fricative [ç] and the voiceless velar fricative [x] in German. Are [ç] and [x] representatives of two distinct phonemes, or are they allophones of a single phoneme? Argue for your answer, either by citing (near-)minimal pairs from the data or by describing the distributions of the two sounds.

axt	‘eight’	laxən	‘to laugh’	flox̩t	‘flight’
bu:x	‘book’	iç	‘I’	leçəl̩n	‘to smile’
lɔx	‘hole’	εçt	‘real’	ri:çən	‘to smell’
ho:x	‘high’	ʃpre:çə	‘would speak’	feçtən	‘to fence’

**Korean** Consider the distribution of [s] and [ʃ] in Korean. Are [s] and [ʃ] representatives of two distinct phonemes, or are they allophones of a single phoneme? Argue for your answer, either by citing (near-)minimal pairs from the data or by describing the distributions of the two sounds.

(Ignore the [ʃ] inside the affricate [tʃ].)

ʃi	‘poem’	sal	‘flesh’	so	‘cow’
ʃinmun	‘newspaper’	tʃasal	‘suicide’	kasu	‘singer’
paŋʃik	‘method’	ʃilsu	‘mistake’	kasəl	‘hypothesis’
oʃip	‘fifty’	tʃaʃin	‘self’	miso	‘smile’
susek	‘search’	sanmun	‘prose’	kaŋʃik	‘snack’
tapsa	‘exploration’	kaʃi	‘thorn’	miʃin	‘superstition’
tʃəŋsonjən	‘adolescents’	tʰfaksəŋʃikje	‘table clock’		