

1 Phonemes or allophones

For each problem, identify whether the sounds:

- form a minimal pair or not,
- are in contrastive or complementary distribution,
- are allophones of the same phoneme or separate phonemes.

I. Kazakh [ɢ] and [g]:

- [ɢ] occurs when there's a back vowel immediately before or after:
[sæɳ] 'fashion', [sæŋgiə] 'to fashion'
- [g] occurs when there's a front vowel immediately before or after:
[san] 'number', [saŋga] 'to a number'

II. Kazakh [g] and [k]:

- [gʌl] 'flower'
- [kʌl] 'ashes'

III. Italian [l] and [ll]:

- [pala] 'shovel'
- [palla] 'ball'

IV. Quebec French [i] and [ɪ]:

- [i] occurs in syllables that aren't ended in a consonant:
[pətsi] 'small (m.)'
- [ɪ] occurs in syllables that are ended in a consonant:
[pətsɪt] 'small (f.)'

V. German [t] and [tʰ] in final position:

- Bett [bɛt] or [bɛtʰ] 'bed'

VI. Kazakh [ɣ] and [g]:

- [ɢ] occurs after nasals:
[san] 'number', [saŋga] 'to a number'
- [ɣ] occurs in all other contexts:
[tal] 'willow tree' [talɣa] 'to a willow tree'