

24.900: Fieldwork Component of Homework 7
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Task 1

I compiled a list of 50 words from Urdu to build up some knowledge of what it sounds like. My main difficulty was in identifying sounds that I had never heard before, in particular the retroflex stop /ʈ/ and the retroflex liquid /ɭ/. As I speak Arabic, I was attentive to familiar sounds such as the voiced velar fricative /ɣ/ and the voiceless pharyngeal fricative /ħ/. However, I was surprised that many sounds from Arabic were missing, in particular some emphatic consonants. In addition, some words sounded close to their Arabic counterpart, though I was surprised that sometimes a sound was systematically pronounced differently: for example, in the word /hava/ ‘air’, the Arabic voiced labial glide /w/ is replaced by the Urdu voiced labiodental /v/ which doesn’t exist in Arabic. This made me suspect that the voiced labiodental /v/ and the voiced labial glide /w/ are allophones of each other in Urdu.

1. /ejk/	‘one’	26. /mez/	‘table’
2. /ðo/	‘two’	27. /kursi/	‘chair’
3. /tin/	‘three’	28. /qʌlam/	‘pencil’
4. /ʈʈar/	‘four’	29. /gʰʌɽi/	‘clock’
5. /paŋʈʈ/	‘five’	30. /bɪstər/	‘bed’
6. /ʈʈeh/	‘six’	31. /namak/	‘salt’
7. /sat/	‘seven’	32. /mɪɾʈʈ/	‘pepper’
8. /aʈʰ/	‘eight’	33. /ʃadi/	‘wedding’
9. /nə/	‘nine’	34. /ʃohər/	‘husband’
10. /ðʌs/	‘ten’	35. /bivi/	‘wife’
11. /mã/	‘mother’	36. /mʌza/	‘fun’
12. /bap/	‘father’	37. /basta/	‘bag’
13. /bejʈa/	‘son’	38. /hava/	‘air’
14. /bejʈi/	‘daughter’	39. /kanʈa/	‘fork’
15. /behen/	‘sister’	40. /ʈʈuri/	‘knife’
16. /bʰaji/	‘brother’	41. /ʈʈamʈʈa/	‘spoon’
17. /billi/	‘cat’	42. /piala/	‘bowl’
18. /kuta/	‘dog’	43. /piali/	‘cup’
19. /muryi/	‘chicken’	44. /lal/	‘red’
20. /gaj/	‘cow’	45. /nila/	‘blue’
21. /gʰoɽa/	‘horse’	46. /sabz/	‘green’
22. /ʈʈiɽia/	‘bird’	47. /pila/	‘yellow’
23. /mor/	‘peacock’	48. /gʌrmi/	‘heat’
24. /bʰalu/	‘bear’	49. /sʌrdi/	‘cold’
25. /ʰatʰi/	‘elephant’	50. /barɪʃ/	‘rain’

Task 2

I determined, as best as I could, the vowels of Urdu, based on my experience gathering the word list. I made sure with my speaker that I wasn't missing any vowels. My speaker then gave me an example using the low back tense vowel /ɑ/. I must say it first escaped my attention that Urdu had nasalized vowels because my word list only had one such example in /mã/ 'mother', and I couldn't quite hear the difference between the nasalized central low tense vowel /ã/ and its un-nasalized counterpart /a/. In order to complete my list of vowels, I questioned my speaker to get more examples of nasalized vowels, systematically asking whether each vowel had a nasalized counterpart.

/i/	unround front high tense	/tin/ 'three'
/ɪ/	unround front high lax	/billi/ 'cat'
/e/	unround front mid tense	/mez/ 'table'
/ɛ/	unround front mid lax	/bɛhɛn/ 'sister'
/ə/	unround central mid lax	/bɪstər/ 'bed'
/ʌ/	unround central mid lax	/ðʌs/ 'ten'
/a/	unround central low tense	/tʃar/ 'four'
/u/	round back high tense	/b ^h alu/ 'bear'
/ʊ/	round back high lax	/kursi/ 'chair'
/o/	round back mid tense	/ðo/ 'two'
/ɔ/	round back mid lax	/no/ 'nine'
/ɑ/	unround back low tense	/ɣɑr/ 'concentration'
/ĩ/	nasalized unround front high tense	/kʌhĩ/ 'somewhere'
/ẽ/	nasalized unround front mid tense	/mẽ/ 'in'
/ã/	nasalized unround central low tense	/mã/ 'mother'
/ũ/	nasalized round back high tense	/kʌhũ/ 'to say'
/õ/	nasalized round back mid tense	/bʌrsõ/ 'years'

Task 3

As I gathered the consonants based on my word list, I suspected many missing consonants by comparing with Arabic and by looking for obvious counterparts (for example, if I found a voiceless consonant, I would guess that its voiced counterpart should probably be present too). I was surprised that even though Urdu has an emphatic voiceless alveolar stop /T/, it doesn't have the voiced counterpart. Lacking evidence despite pressing my speaker, I am assuming the voiceless glottal stop /ʔ/ doesn't exist in Urdu. I didn't include the voiced labial glide /w/ in my list, because it seems to be an infrequently occurring allophone of the voiced labiodental fricative /v/ (more on this in Task 4). For each stop, I systematically elicited two examples: one where the stop is aspirated and one where it is unaspirated. I listed aspirated and unaspirated stops separately, since they are distinct phonemes in Urdu. I am omitting the voiceless uvular stop aspirated /q^h/ because my speaker couldn't think of an example with it and she found that it sounded "unnatural".

/p/	voiceless bilabial stop unaspirated	/bap/ 'father'
/p ^h /	voiceless bilabial stop aspirated	/p ^h ul/ 'flower'
/b/	voiced bilabial stop unaspirated	/bap/ 'father'
/b ^h /	voiced bilabial stop aspirated	/b ^h alu/ 'bear'
/t/	voiceless alveolar stop unaspirated	/tin/ 'three'
/t ^h /	voiceless alveolar stop aspirated	/ħat ^h i/ 'elephant'
/d/	voiced alveolar stop unaspirated	/ʃadi/ 'wedding'
/d ^h /	voiced alveolar stop aspirated	/d ^h Λmaka/ 'blast'
/T/	emphatic voiceless alveolar stop unaspirated	/ToTa/ 'parrot'
/T ^h /	emphatic voiceless alveolar stop aspirated	/T ^h uk/ 'spit'
/ʈ/	voiceless retroflex stop unaspirated	/bejʈa/ 'son'
/ʈ ^h /	voiceless retroflex stop aspirated	/aʈ ^h / 'eight'
/ɖ/	voiced retroflex stop unaspirated	/p ^h Λɖa/ 'fight'
/ɖ ^h /	voiced retroflex stop aspirated	/ɖ ^h ΛkkΛn/ 'bottle cap'
/k/	voiceless velar stop unaspirated	/kuta/ 'dog'
/k ^h /	voiceless velar stop aspirated	/k ^h ana/ 'food'
/g/	voiced velar stop unaspirated	/gaj/ 'cow'
/g ^h /	voiced velar stop aspirated	/g ^h oʀa/ 'horse'
/q/	voiceless uvular stop unaspirated	/qΛlam/ 'pencil'
/f/	voiceless labiodental fricative	/fajda/ 'benefit'
/v/	voiced labiodental fricative	/bivi/ 'wife'
/θ/	voiceless interdental fricative	/θ ^h Λk/ 'to tire'
/ð/	voiced interdental fricative	/ðo/ 'two'
/s/	voiceless alveolar fricative	/sat/ 'seven'
/z/	voiced alveolar fricative	/mez/ 'table'
/ʃ/	voiceless alveopalatal fricative	/ʃadi/ 'wedding'
/tʃ/	voiceless alveopalatal affricate	/tʃɪpak/ 'to stick'

/ɕ/	voiced alveopalatal affricate	/ɕala/ ‘rainstorm’
/x/	voiceless velar fricative	/xala/ ‘maternal aunt’
/ɣ/	voiced velar fricative	/mɔɣi/ ‘chicken’
/ħ/	voiceless pharyngeal fricative	/ħat ^h i/ ‘elephant’
/ʕ/	voiced pharyngeal fricative	/ʕɛnɔk/ ‘glasses’
/h/	voiceless glottal fricative	/bɛhɛn/ ‘sister’
/m/	bilabial nasal	/mã/ ‘mother’
/n/	alveolar nasal	/tin/ ‘three’
/ŋ/	velar nasal	/b ^h ang/ ‘cocaine’
/r/	trill	/mor/ ‘peacock’
/ɽ/	retroflex trill	/g ^h oɽa/ ‘horse’
/j/	voiced palatal approximant	/je/ ‘this’
/l/	voiced lateral approximant	/piala/ ‘bowl’

Task 4

- a. In Urdu, /l/ and /r/ are distinct phonemes, as demonstrated by the minimal pair /log/ ‘people’ vs. /rog/ ‘melancholy’.
- b. Urdu distinguishes voiced and unvoiced stops. For example, here is a minimal pair for /p/ and /b/: /pal/ ‘to raise up’ vs. /bal/ ‘hair’.

Urdu distinguishes aspirated from unaspirated consonants. For example, here is a minimal pair for /t/ and /t^h/: /sat/ ‘seven’ vs. /sat^h/ ‘togetherness’.

- c. Urdu has both /s/ and /ʃ/. /s/ and /ʃ/ are clearly separate phonemes. For example, here is a minimal pair for /s/ and /ʃ/: /sal/ ‘year’ vs. /ʃal/ ‘scarf’.

Extra credit

I guess that [v] and [w] are allophones of each other. The underlying form of the phoneme is /v/ and the rule is: $v \rightarrow w: u_$ (/v/ becomes [w] when preceded by /u/). Because /u/ and [w] are so close, another way to look at it is that /v/ is deleted when preceded by /u/. The revealing examples are [huwa] or [hua] ‘he’ vs. [hava] ‘air’. The examples [vo] ‘that’ and [mehev] ‘to be consumed by’ tend to confirm that /v/ is the underlying form.

I suspected that /o/ and /a/ were allophones in Urdu, but my speaker found near-minimal pairs that convinced me to the contrary. The near-minimal pair /mor/ ‘peacock’ vs. /yar/ ‘concentration’ shows that a complementary distribution could not involve the following consonant only, while the near-minimal pair /tʃori/ ‘theft’ vs. /tʃari/ ‘wide’ shows that it could not involve the preceding consonant only.