

Problem 1: Turkish. Consider the following data from Turkish, a Turkic language of the Altaic family, spoken in Turkey:

[lokanta]	'a restaurant'	[lokantada]	'in/at a restaurant'
[taraf]	'a side'	[tarafta]	'in/at a side'
[akşam]	'an evening'	[akşamda]	'in/at evening'
[randevu]	'an appointment'	[randevuda]	'in/at an appointment'
[koltuk]	'an armchair'	[koltukta]	'in/at an armchair'
[kapı]	'a door'	[kapıda]	'in/at a door'
[baş]	'a head'	[başta]	'in/at a head'
[pul]	'a stamp'	[polda]	'in/at a stamp'
[sap]	'a stalk'	[sapta]	'in/at a stalk'
[kız]	'a daughter'	[kızda]	'in/at a daughter'

- What are the two allomorphs for the morpheme that means 'in/at'?
- Describe the phonetic environments of these two allomorphs with phonetic terminology. If the environments are equally complex, formalize them both with (minimal and sufficient) phonological features. If instead, one environment is more complex (and thus, legitimately the 'elsewhere' case), then just formalize the other one with (minimal and sufficient) phonological features.
- If [son], [kurt], [depo], and [manav] are the Turkish words for 'end', 'worm', 'tank', and 'greengrocer' (respectively), what are the Turkish words for 'in/at an end', 'in/at a worm', 'in/at a tank', and 'in/at a greengrocer'?

Problem 2: English. In English, there is a suffix *-er* that can be used with place names to express the concept 'person from', as in *Long Islander*, *Vermont*, etc. However, this suffix cannot be used with every place name. Using the following list as a guide (even if it doesn't match your own dialect!), explain with both phonetic terminology and (minimal and sufficient) phonological features what kinds of words allow this suffix and what kinds do not. (Be careful: this suffix is different from the suffix *-er* that means 'person who does', as in *discoverer*, *skier*, *rower*, etc. Do not confuse these two suffixes!)

<i>possible uses of -er</i>	<i>impossible uses of -er</i>
Long Islander	*Denverer
Vermont	*Philadelphiaer
New Yorker	*San Franciscoer
Newfoundlander	*Torontoer
Londoner	*Miami

Problem 3: Samoan. Consider the following data from Samoan, a Polynesian language of the Austronesian family, spoken in Samoa. Assume that adjacent vowels are pronounced in separate syllables, even when they are identical; for example, [taotoo] has four syllables: [ta.o.o.to].

[mate]	'he dies'	[mamate]	'they die'
[nofo]	'he stays'	[nonofo]	'they stay'
[galue]	'he works'	[galulue]	'they work'
[tanu]	'he buries'	[tatanu]	'they bury'
[alofa]	'he loves'	[alolofa]	'they love'
[taoto]	'he lies'	[taotoo]	'they lie'
[atamaʔi]	'he is intelligent'	[atamamaʔi]	'they are intelligent'

(continued on back)

- a. What is the name of the morphological process used in Samoan to form third-person plural verbs such as [mamate] ‘they die’?
- b. Describe precisely how this morphological process works in Samoan. Be sure your description is as simple as possible and explains all of the data in this problem.
- c. If [malosi], [ʔemo], [faʔatusa], and [lemafai] are the Samoan words for ‘he is strong’, ‘he winks’, ‘he compares’, and ‘he is unable’ (respectively), what are the Samoan words for ‘they are strong’, ‘they wink’, ‘they compare’, and ‘they are unable’?

Problem 4: Standard Arabic. Consider the following data from Standard Arabic, a Semitic language spoken in the Middle East and northern Africa. (Certain complications concerning masculine/feminine and dual/plural distinctions are ignored.)

[katabtu]	‘I wrote’	[katabna:]	‘we wrote’
[katabta]	‘you (SG) wrote’	[katabtum]	‘you (PL) wrote’
[kataba]	‘he wrote’	[katabu:]	‘they wrote’

- a. Assume that /katab/ is the morpheme for the past tense verb ‘wrote’. What are the morphemes for 1SG, 1PL, 2SG, 2PL, 3SG, and 3PL subjects?
- b. Consider the nouns [kita:bun] ‘a book’ and [alkita:bu] ‘the book’. What seem to be the morphemes for the noun ‘book’, the indefinite article ‘a’, and the definite article ‘the’? Why two reasons might we think this morpheme is related to /katab/ ‘wrote’?
- c. Consider the gerund [ka:tib] ‘writing’ and the imperative [uktub] ‘write!’. Assume that the past tense verb, the noun, the gerund, and the imperative all come from a single root morpheme. What must this morpheme look like? What do the morphemes look like that are used to create a past tense verb, a noun, a gerund, and an imperative from a given root? Carefully explain how these five morphemes are fundamentally different from the morphemes in (a).
- d. If [ʃa:rib] is the Standard Arabic word for ‘drinking’, what are the Standard Arabic words for ‘I drank’, ‘the drink’, and ‘drink!’?