

Q1. Phonology of the plural marker in Turkish

Turkish plural marker has two allomorphs: /lar/ and /ler/. If the last vowel of a word is [-back], then /lar/ is used; if the last vowel of a word is [+back] then /ler/ is used. Examples:

Back vowels: anı → anılar, dağ → dağlar, ot → otlar, kuş → kuşlar

Front vowels: im → imler, kül → küller, serçe → serçeler, göl → göller

To come up with the underlying form of the plural marker, I have tried to answer the question “is it /lar/ that is being altered to /ler/, or is it the other way around?” I did not find any conclusive evidence to support one over the other.¹ I chose to use /lar/ as the underlying form of the Turkish plural marker.

Every Turkish plural marker is of the form:

-l [+syl -high -round] r/

I propose the following phonological rule:

[+syl] → [α back] / [+ syl, α back] [-syl]₀ ____ (1)

This rule essentially implements the backness harmony in Turkish. Roundness harmony is not significant for the phonological production of plural words since there are no plural marker allomorphs *lür, *lör, *lor, *lur.

I also found that this rule is not powerful enough to cover some loanwords, such as “kalp”, “kontrol”, “santral”, etc.

Q2. Phonology of the “-lı” suffix² in Turkish

I have been able to identify four different allomorphs of the “lı” suffix, presented below with examples:

/li/ form: ceviz → cevizli, renk → renkli

/lü/ form: süs → süslü, öz → özlü

/lı/ form: zırh → zırhlı, fark → farklı

/lu/ form: palto → paltolu, sucuk → sucuklu

¹ While researching this, I've also noticed that this phonological process also existed way back in Old Turkic, based on Orkhon inscriptions.

² This is the “-lı” suffix that forms adjectives from nouns, e.g. akıl → akıllı.

All variants of this suffix follow the following pattern:

/l [+syl, +high, -low]/

I've found that two phonological rules are at play here: first is the (1) rule formulated in Q1 that assimilates backness, and the second involves roundness: the roundness of the vowel in the “-li” suffix is determined by the roundness of the vowel that most immediately precedes it. Here is the formulation:

[+syl] → [α round] / [+syl, α round] [-syl]₀ ____ (2)

This rule converts /i/ and /ɪ/ to /ü/ and /u/ respectively, when placed after rounded vowels. Combined with backness harmony, this rule is sufficient for determining the correct form of the suffix.

Q3. Phonology of the third person possessive suffix in Turkish

There are at least three different phonological processes involved in constructing third person possessives in Turkish, the first two are backness harmony and roundness harmony, and are presented in Q1 and Q2 respectively. The third process is final devoicing.³

The third person possessive suffix comes in four variants similar to the “-li” suffix discussed above. They are: “-i”, “-ı”, “-u” and “-ü”. These can be generalized as follows:

/[+syl, +high, +low]/

First we must apply the rules (1) and (2) to determine the correct suffix variant. Then, we need to accommodate the cases where “**ünsüz yumuşaması**” occurs:

çorap → çorabı, ağaç → ağacı, dert → derdi, gözlük → gözlüğü

The consonants which undergo this change are /p/, /ç/, /t/ and /k/. Since Turkish has no voiced terminal obstruents, words with voiced terminal obstruents become voiceless. For example, the underlying form of “çorap” is /tʃorab/, but it surfaces as /tʃorap/ as a root.

Voiced fricatives (/m/, /n/, /v/, /z/) or sonorants do not undergo final devoicing in Turkish, so I will formulate the rule as follows:

[-son, -cont, +voi] → [-voi] / ____# (3)

³ I am not entirely sure that this is the correct usage of terminology.

This rule captures most instances of final devoicing, except for the /k/ → /ğ/ conversion for which I failed to find a reasonable enough formulation.

Q4. Phonology of the accusative marker in Turkish

I was unable to find any distinctive properties between Q3 and this question that warrants a new phonological rule, but I may be mistaken. Here are all of the rules and underlying forms I formulated within course of this assignment:

Plural marker underlying form	-l [+syl -high -round] r/
“-li” suffix underlying form	/l [+syl, +high, -low]/
Backness harmony	[+syl] → [α back] / [+ syl, α back] [-syl] ₀ ____
Roundness harmony	[+syl] → [α round] / [+ syl, α round] [-syl] ₀ ____
Final devoicing	[-son, -cont, +voi] → [-voi] / ____#