Palatalization/Velar Softening, p. 1

Palatalization

Notice what happens when a [coronal] obstruent is followed by /y/:

Don't you → /dOːnt yu/ → [downčə]
I bet you → /Iː bEt yu/ → [aybɛčə]

The obstruent becomes [−ant] under the influence of the [−ant] /y/. The rule is called Palatalization. We can state it as follows:

$$\begin{bmatrix} -\text{son} \\ \text{coronal} \end{bmatrix} \rightarrow \begin{bmatrix} -\text{ant} \\ +\text{strid} \end{bmatrix} \Big/ \underline{\quad\quad} \begin{bmatrix} -\text{cons} \\ -\text{syll} \\ +\text{hi} \\ -\text{ant} \end{bmatrix}$$

(The /y/ itself also deletes; we won't be worrying about that here.)

Unlike the other rules we have been looking at, this rule applies across words. But it also applies within a word:

digestion	/dIːǰEst+yVn/	[dəǰɛsčən] (or [dayǰɛsčən])
nomination	/nOmInAːt+yVn/	[naməneyšən]
presidential	/prEzIdEnt+y+Al/	[prɛzɪdɛnšl̩]
habitual	/hAbIt+yu+Al/	[həbɪčuəl]
Egyptian	/EːǰIpt+y+An/	[iyǰɪpšən]
sensual	/sEns+yu+Al/	[sɛnšuəl]

We will not address the question of why /t/ sometimes palatalizes to [š] instead of [č].

Palatalization/Velar Softening, p. 2

Velar Softening

electricity	/VlEktrIk+ItI/	[əlɛktrɪsɪti]
criticize	/krItIk+I:z/	[krɪtəsayz]
criticism	/krItIk+Izm/	[krɪtəsɪzm̩]
romanticize	/rO:mAnt+Ik+I:z/	[rəmæntəsayz]

These words exemplify the "softening" of the velar /k/ to [s] before long and short /I/ (i.e. [ay] and [ɪ]). There are more details to the rule, but we will limit our attention to this part.

k → s / ___ I(:)

Note: Velar Softening has to apply before Vowel Spellout.

Velar Softening + Palatalization

Since [y] is related to [ɪ], we might expect /k/ to soften before /y/ as well; and it does. But /s/ before /y/ undergoes Palatalization. So:

$$k \xrightarrow{\text{Velar Softening}} s \xrightarrow{\text{Palatalization}} \check{s}$$

As in:

electrician	/VlEktrIk+yAn/	[əlɛktrɪšən]
phonetician	/fO:n+Et+Ik+yAn/	[fownətɪšən]

This shows that Velar Softening applies before Palatalization.