A comment about the Friulian problem

Friulian has, of course, the final devoicing rule in (1), seen before in Turkish, Russian, and so on.

(1) Final obstruents devoice.
    \[ [+\text{cons}] \rightarrow [-\text{voice}] / \_\_\_ \# \]

For question 3, many people wrote something along the lines of the rule shown in (2).

(2) A vowel becomes long before a consonant that changed from voiced to voiceless.

This gives a derivation as follows:

(3) UR /lad/  
    rule 1 (devoicing) lat  
    rule 2 (vowel length) lat  
    surface form [lat]

What’s wrong with this derivation?

The problem here is that the vowel-lengthening rule above involves looking back at the history of the derivation. A phonological rule should only be able to look at the current form it’s affecting. In other words, using the rule above—

(4) UR /lad/ /lat/  
    rule 1 (devoicing) lat lat  
    rule 2 (vowel length) … …

The input to the rule of vowel lengthening is the same (‘lat’) in both forms. The rule, looking at its input, has no way of determining what happened before in the derivation.

What can be done? Instead of the rule in (2), use the rule in (5):

(5) A vowel becomes long before a final voiced consonant.
    \[ [+\text{vowel}] \rightarrow [+\text{long}] / \_\_\_ [+\text{cons}, +\text{voice}] \# \]

Order this before devoicing. This works for both /lad/ and /lat/.

(6) UR /lad/ /lat/  
    rule 5 (vowel length) la:d lat  
    rule 1 (devoicing) lat lat  
    surface form [lat] [lat]