

**Problem Set #7b: Moraic inconsistency in OT**

Broselow (1995) discusses a phenomenon called **moraic inconsistency**, which refers to the failure of a language to treat the same kinds of segments as moraic for all weight-sensitive phenomena. One example that Broselow mentions is Lithuanian. As we know from reading Zec (1988), Lithuanian treats  $CVC_{[+son]}$  as heavy and  $CVC_{[-son]}$  as light for most purposes. However, no word in Lithuanian can be shorter than two moras, and, surprisingly,  $CVC_{[-son]}$  words are allowed — these facts make it look like, in this case only, a coda obstruent gets its own mora. Thus, Lithuanian shows moraic inconsistency with respect to whether or not obstruents are moraic.

As we saw in class, an OT implementation can be developed for Zec's (1988) theory about sonority level and moraic status (Zec herself does this in a later paper). We can propose a set of constraints of the form  $*\mu/X$ , where 'X' represents an individual step on the sonority scale. For the purposes of this problem set, let's pretend that the sonority scale has exactly two steps: obstruent consonants < sonorant consonants (we'll ignore vowels for now, since we're interested in codas). This means that there are two relevant  $*\mu/X$  constraints:

$*\mu/OBSTC$                       No mora has an obstruent consonant as its most sonorous segment.

$*\mu/SONC$                         No mora has a sonorant consonant as its most sonorous segment.

Your job is to consider the predictions that are made when  $*\mu/OBSTC$  and  $*\mu/SONC$  interact with another mora-related constraint.

MINIMALWORD (MINWD)      A word contains at least two moras.  
(This constraint is responsible for languages, like English, Lithuanian, Arabic and many others, that do not tolerate monomoraic words.)

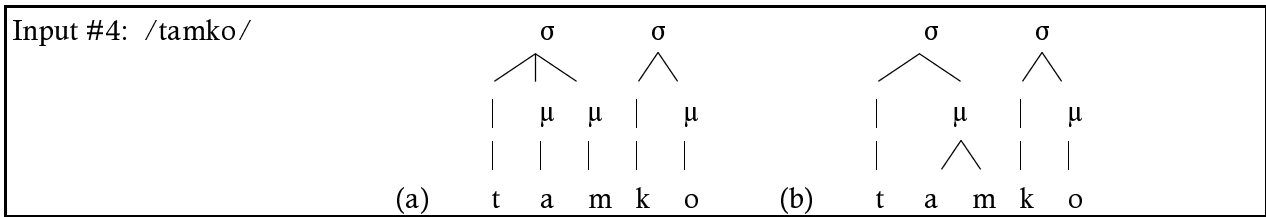
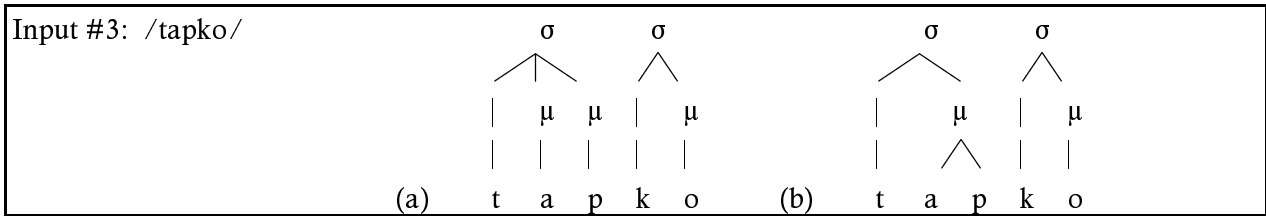
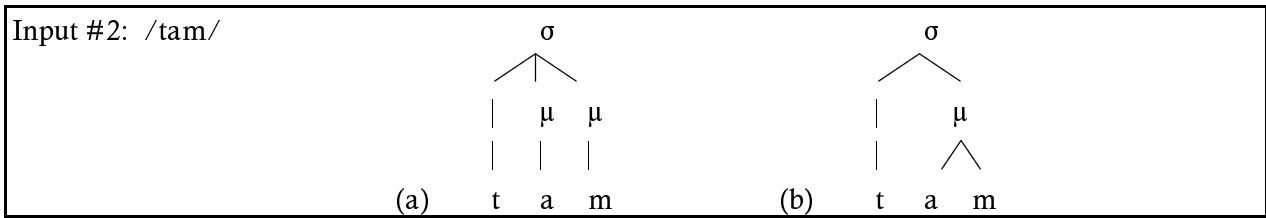
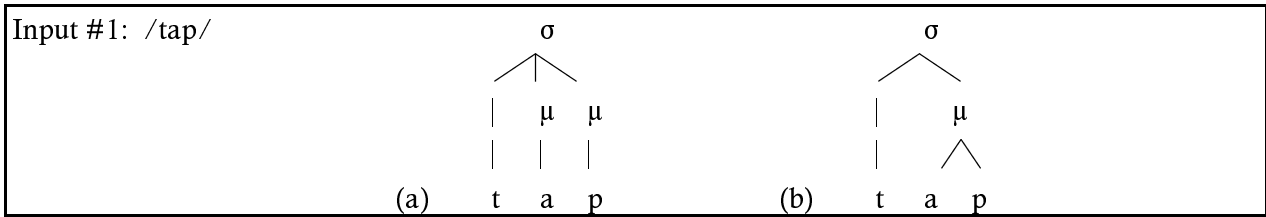
**Part I. Possible rankings**

- Determine how many distinct rankings of these four constraints are possible, and list them all. (Hint...Discuss the following question in your write-up: Do  $*\mu/OBSTC$  and  $*\mu/SONC$  have a universally fixed ranking, or are they freely rankable? Why? If they do have a fixed ranking, what is it, and why?) Number the individual rankings that you list, so that you can refer back to them in Part II.

**Part II. Predicted language types**

For this part of the problem, you will determine what general type of language is predicted by each of the different rankings you have identified in Part I. You will do this by seeing which of the following two outputs each ranking will choose for the sample inputs /tap/, /tam/, /tapko/, and /tamko/. (For example, you might find that there is one ranking that will produce a language in which both obstruent and sonorant codas always bear their own mora, and two other rankings, although not identical, that will each produce a language in which no coda consonants ever bear their own mora.)

**Input:** *Two competing output candidates: Which will win?*



**Note:** Looking only at these two candidates, (a) and (b), for each case means that we are considering only languages where PARSE (or MAX), FILL (or DEP), and IDENT[F] are ranked very high. That is, none of the languages we are examining will use epenthesis or deletion, nor will they change the features of any segments (i.e., change their sonority). Finally, we are assuming that another high-ranking constraint prevents these languages from lengthening vowels. This set of simplifying assumptions lets us focus in on the main point of interest: whether or not coda consonants are moraic.

- Take each of your rankings from Part I and determine which of the two candidates is preferred by that ranking for each kind of input shown above. Then give a prose description of the language pattern: what does the language produced by this ranking do with obstruent and sonorant codas, under what circumstances? If multiple rankings lead to the same language type, what is the crucial characteristic that those rankings have in common?
- Are there any logically possible language types that are not produced by any of the rankings you have found? Why are these language types predicted to be impossible?
- Does the type of moraic inconsistency found in Lithuanian (described in the introduction on page 1) pose a problem for your OT analysis of moraic codas? Discuss.