1 Tibetian

Data

The following data is from Halle and Clements (1983).

\[
\begin{align*}
\text{dʒu} & \quad \text{‘ten’} \\
\text{dʒig} & \quad \text{‘one’} \\
\text{dʒugdʒig} & \quad \text{‘eleven’} \\
\text{ʃi} & \quad \text{‘four’} \\
\text{dʒubʃi} & \quad \text{‘fourteen’} \\
\text{ʃibdʒu} & \quad \text{‘forty’} \\
\text{ɡu} & \quad \text{‘nine’} \\
\text{dʒurgu} & \quad \text{‘nineteen’} \\
\text{ɡubdʒu} & \quad \text{‘ninety’} \\
\text{ŋa} & \quad \text{‘five’} \\
\text{dʒupa} & \quad \text{‘fifteen’} \\
\text{ɡabdʒu} & \quad \text{‘fifty’}
\end{align*}
\]

2 Instructions

This is a “long” assignment where you what you will turn is a mini-paper. It should have a beginning, a middle and end, like any other paper. “Long” does not mean you should write as much as possible! It only means that this assignment does not consist of a series of short questions, but rather has a more singular focus.

Your paper should provide a phonological analysis of the above data.

When writing a phonological analysis, it is a good idea to initially separate the generalizations that you believe are correct from any particular formal analysis. In this
assignment, this would mean that you address the following points prior to introducing any formal apparatus (e.g. formal statements of rules and/or constraints).

- What are the allomorphs and what alternations do you observe?
- Explain the morpheme order. How does Tibetan form the -teen \((X+10)\) and -ty \((X \times 10)\) numbers?
- What are the underlying forms for each morpheme (ten, one, four, nine, five)?
- How are the surface forms derived? When answering this questions, it is fine to refer to processes, environments etc. In fact you will probably have to. However, you do not at this stage need to present a formal analysis of these processes with rules and/or OT constraints.

Once you have identified the relevant phonological generalizations, the next parts of your paper should provide TWO formal analyses: one terms of rules and one in terms of OT.

For the rule based analysis, make sure you
- define each rule you need
- relate each rule to the generalizations you identified above
- give each rule a name
- illustrate each rule with a derivation table (the name can be used here), as we have done in class.
- If you have more than one rule and they need to apply in a particular order, please explain why.
- summarize your overall analysis

For the OT analysis, make sure you
- define each constraint you are using
- relate each constraint to the generalizations you identified above.
- Like the rules, you may give the constraints names that are short and can be substituted later
- establish constraint rankings and relate them to the generalizations you identified above
- illustrate crucial aspects of this analysis with one or more OT tableaux.
- Consider some other constraints

When defining OT markedness constraints, I recommend using two sentences. The first one states the generalization to be captured and the second states how violations are assigned. For example:
 *[sonorant, α voice] *[sonorant, -α voice]. Adjacent obstruents do not disagree in voice. Assign one violation for each pair of adjacent obstruents which disagree in voice.

Defining faithfulness constraints is trickier because both the underlying and surface levels are involved. Rather than giving specific instructions here, just make sure your definitions are clear and precise so that anyone could decide how many violations are assigned to any underlying form paired with any surface form.

For example:

**DEP:** There is no epenthesis. Assign one violation for each phone in the surface form which does not correspond to any phoneme in the underlying form.

When you have completed both formal analyses, don’t forget the ending! A paper that abruptly ends after the OT section for example is not a complete paper. The best conclusions ought to compare the merits of the formal analyses. How well did they capture the generalizations? What were difficulties or problems that were present in one analysis or the other? And so on.

Finally, this assignment is about alternations. It is not about phonemic analysis or distinctive feature theory. Therefore, for this assignment you do not need to try to identify the distinctive features for the phonemes in Tibetan. Instead assume that the phonemes and phones are fully specified for every feature in Hayes’ (2009) feature chart.