

Sixteenth International Linguistics Olympiad

Prague (Czechia), 26–30 July 2018

Individual Contest Solutions

Problem 1.

$$\text{word} = \left\{ \begin{array}{c} \text{0 or more times} \\ \circ \circ \\ \circ \bullet \\ \bullet \end{array} \right\} \left\{ \begin{array}{c} \downarrow \\ \circ \circ \\ \circ \bullet \\ \bullet \end{array} \right\} [o], \quad \begin{array}{l} \circ = (C)V \\ \bullet = \begin{cases} (C)V: \\ (C)VC' \\ (C)V:C' \end{cases} \end{array} \quad \begin{array}{l} C, C' \text{ are consonants} \\ V \text{ is a vowel} \end{array}$$

[ifá]	dog	[ifó.ci]	puppy
[nâ:..nakí]	things	[sâ:.....sák.wa]	goose
[ak..topá]	bridge	[hok....takí]	women
[wana.yitá]	to tie	[awa....nayí.ta]	to tie to
[isis..kitó.ci]	little drinking vessel	[a:tami.homá]	bonnet (car hood)
[honan.tá:ki]	men	[ili . toh . taí.ta]	to cross legs

Problem 2. The sentences have the following structure:

$$\frac{S}{S \left\{ \begin{array}{ll} \text{-bə} & (S = 1st \text{ person sg, 2nd person sg}) \\ \text{kəmə} & (S = 3rd \text{ person sg, plural}) \end{array} \right\} \frac{O}{V} X \text{ ne},$$

S: subject, O: object, V: predicate,

$$X: \begin{array}{|c|c|c|} \hline 1st > 2nd > 3rd & past & present \\ \hline S \rightarrow (O) & t-? & k- \\ \hline O \leftarrow S & t^h- & r- \\ \hline \end{array} + \left\{ \begin{array}{l} 1st \text{ person sg} \in \{S, O\} : \text{-r} \\ 1st \text{ person pl} \in \{S, O\} : \text{-i} \\ 1st \notin \{S, O\} : \\ \quad \left\{ \begin{array}{l} 2nd \text{ person sg} \in \{S, O\} : \text{-u} \\ 2nd \text{ person pl} \in \{S, O\} : \text{-an} \end{array} \right. \end{array} \right.$$

- (a)
1. nɾ ʒip ku ne — *Do you_{sg} sleep?*
 2. ati kəmə nirum lapk^hi t^hi ne — *Did he see us?*
 3. tarum kəmə nuʔrum c^ham ran ne — *Do they know you_{pl}?*
 4. nirum kəmə tarum lan ki ne — *Do we beat them?*
 5. nirum kəmə nɾ c^ham tiʔ ne — *Did we know you_{sg}?*
 6. nirum ka tiʔ ne — *Did we go?*
- (b)
7. *Did I beat you_{sg}?* — ɳabə nɾ lan tɾʔ ne
 8. *Did they see me?* — tarum kəmə ɳa lapk^hi t^hɾ ne
 9. *Does he know you_{sg}?* — ati kəmə nɾ c^ham ru ne
 10. *Do you_{pl} sleep?* — nuʔrum ʒip kan ne