

en

Sixteenth International Linguistics Olympiad

Prague (Czechia), 26–30 July 2018

Individual Contest Solutions

Problem 1.

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

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

Problem 2.

The sentences have the following structure:

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

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

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

- (a) 1. **nꝝ ʒip ku ne** — *Do you_{sg} sleep?*
 2. **ati kəmə nirum lapk^{hi} t^{hi} ne** — *Did he see us?*
 3. **tarum kəmə nu?rum c^{ham} ran ne** — *Do they know you_{pl}?*
 4. **nirum kəmə tarum lan ki ne** — *Do we beat them?*
 5. **nirum kəmə nꝝ c^{ham} ti? ne** — *Did we know you_{sg}?*
 6. **nirum ka ti? ne** — *Did we go?*
- (b) 7. *Did I beat you_{sg}?* — **ŋabə nꝝ lan tꝝ? ne**
 8. *Did they see me?* — **tarum kəmə ŋa lapk^{hi} t^{hꝝ} ne**
 9. *Does he know you_{sg}?* — **ati kəmə nꝝ c^{ham} ru ne**
 10. *Do you_{pl} sleep?* — **nu?rum ʒip kan ne**