

# Sixteenth International Linguistics Olympiad

Prague (Czechia), 26–30 July 2018

Individual Contest Problems

## Rules for writing out the solutions

Do not copy the problems. Write down your solution to each problem on a separate sheet or sheets. On each sheet indicate the number of the problem, the number of your seat and your surname. Otherwise your work may be mislaid or misattributed.

Your answers must be well-supported by argument. Even a perfectly correct answer will be given a low score unless accompanied by an explanation.

---

**Problem 1 (20 points).** Here are some words in Creek and their English translations. The mark ['] indicates stress:

[cokó]	<i>house</i>	[imahicítá]	<i>to look out for</i>
[cá:lo]	<i>trout</i>	[inkosapitá]	<i>to implore</i>
[sókca]	<i>sack</i>	[tapassó:la]	<i>daddy longlegs</i>
[wa:kocí]	<i>calf</i>	[akkopánka]	<i>playing</i>
[pocóswa]	<i>axe</i>	[cokpilâ:pilá]	<i>whippoorwill</i>
[famí:ca]	<i>muskmelon</i>	[tokna:photí]	<i>wallet</i>
[yanásá]	<i>bison // buffalo</i>	[co:kakiɬítá]	<i>learning</i>
[iyanawá]	<i>his/her cheek</i>	[ɬafotaháya]	<i>pumpkin // winter squash</i>
[hí:spákwa]	<i>robin</i>	[itiwanayipítá]	<i>to tie each other</i>
[aklowahí:]	<i>mud</i>	[ipahankatítá]	<i>to count us</i>
		[pokkoɬakkoakkopankacóko]	<i>basketball gym</i>

Mark the stress:

[ifa]	<i>dog</i>	[ifoci]	<i>puppy</i>
[nâ:naki]	<i>things</i>	[sâ:sakwa]	<i>goose</i>
[aktopa]	<i>bridge</i>	[hoktaki]	<i>women</i>
[wanayita]	<i>to tie</i>	[awanayita]	<i>to tie to</i>
[isiskitoci]	<i>little drinking vessel</i>	[a:tamihomá]	<i>bonnet (car hood)</i>
[honanta:ki]	<i>men</i>	[ilitohtaɬita]	<i>to cross legs</i>

⚠ Creek (Muskrat) belongs to the Muskogean family. It is spoken by approx. 4,500 people in the state of Oklahoma, USA.

[ɬ] is a consonant. The mark [^] indicates falling tone. The mark [:] indicates that the preceding vowel is long.

—Aleksejs Peguševs

**Problem 2 (20 points).** Here are some sentences in Hakhun and their English translations:

1. **ŋa ka kꝫ ne** — *Do I go?*
2. **nꝫ ʒip tu? ne** — *Did you<sub>sg</sub> sleep?*
3. **ŋabə ati lapk<sup>hi</sup> tꝫ? ne** — *Did I see him?*
4. **nirum kəmə nu?rum c<sup>ham</sup> ki ne** — *Do we know you<sub>pl</sub>?*
5. **nꝫbə ŋa lapk<sup>hi</sup> rꝫ ne** — *Do you<sub>sg</sub> see me?*
6. **tarum kəmə nꝫ lan t<sup>hu</sup> ne** — *Did they beat you<sub>sg</sub>?*
7. **nu?rum kəmə ati lapk<sup>hi</sup> kan ne** — *Do you<sub>pl</sub> see him?*
8. **nꝫbə ati c<sup>ham</sup> tu? ne** — *Did you<sub>sg</sub> know him?*
9. **tarum kəmə nirum lapk<sup>hi</sup> ri ne** — *Do they see us?*
10. **ati kəmə ŋa lapk<sup>hi</sup> t<sup>h</sup>ꝫ ne** — *Did he see me?*

(a) Translate into English:

1. **nꝫ ʒip ku ne**
2. **ati kəmə nirum lapk<sup>hi</sup> t<sup>hi</sup> ne**
3. **tarum kəmə nu?rum c<sup>ham</sup> ran ne**
4. **nirum kəmə tarum lan ki ne**
5. **nirum kəmə nꝫ c<sup>ham</sup> ti? ne**
6. **nirum ka ti? ne**

(b) Translate into Hakhun:

7. *Did I beat you<sub>sg</sub>?*
8. *Did they see me?*
9. *Does he know you<sub>sg</sub>?*
10. *Do you<sub>pl</sub> sleep?*

⚠ Hakhun belongs to the Sal branch of the Sino-Tibetan family. It is spoken by approx. 10,000 people in the extreme East of India and the neighbouring districts of Myanmar.

ə and ꝫ are vowels. c<sup>h</sup>, k<sup>h</sup>, ŋ, t<sup>h</sup>, ʒ and ? are consonants.

—Peter Arkadiev

**Problem 3 (20 points).** Here are some words in Terêna in two grammatical forms (1st person sg, *my ... or I ...*; 2nd person sg, *your<sub>sg</sub> ... or you<sub>sg</sub> ...*) and their English translations. Some forms are missing.

1st person sg	2nd person sg		1st person sg	2nd person sg	
<b>îmam</b>	<b>îme</b>	<i>husband</i>	<b>enjóvi</b>	<b>yexóvi</b>	<i>elder sibling</i>
<b>mbího</b>	..... <sub>1</sub>	<i>to go</i>	<b>noínjoa</b>	..... <sub>8</sub>	<i>to see it</i>
<b>yónom</b>	<b>yéno</b>	<i>to walk</i>	<b>vanénjo</b>	..... <sub>9</sub>	<i>to buy</i>
<b>mbôro</b>	<b>peôro</b>	<i>pants</i>	<b>mbepékena</b>	<b>pipíkina</b>	<i>drum</i>
<b>ndûti</b>	<b>tiûti</b>	<i>head</i>	<b>ongóvo</b>	<b>yokóvo</b>	<i>stomach, soul</i>
<b>âyom</b>	<b>yâyo</b>	<i>brother of a woman</i>	<b>rembéno</b>	<b>ripíno</b>	<i>shirt</i>
..... <sub>2</sub>	<b>pîyo</b>	<i>animal</i>	<b>nje'ëxa</b>	<b>xi'íxa</b>	<i>son/daughter</i>
<b>yênom</b>	..... <sub>3</sub>	<i>wife</i>	<b>ivândako</b>	<b>ivétako</b>	<i>to sit</i>
<b>mbûyu</b>	<b>piûyu</b>	<i>knee</i>	<b>mbirítauna</b>	<b>piríteuna</b>	<i>knife</i>
<b>njûpa</b>	<b>xiûpa</b>	<i>manioc</i>	<b>mómindi</b>	..... <sub>10</sub>	<i>to be tired</i>
..... <sub>4</sub>	<b>yêno</b>	<i>mother</i>	<b>njovó'i</b>	<b>xevó'i</b>	<i>hat</i>
<b>nênem</b>	<b>nîni</b>	<i>tongue</i>	<b>ngónokoa</b>	<b>kénokoa</b>	<i>to need it</i>
<b>mbâho</b>	<b>peâho</b>	<i>mouth</i>	<b>ínzikaxovoku</b>	..... <sub>11</sub>	<i>school</i>
<b>ndâki</b>	<b>teâki</b>	<i>arm</i>	..... <sub>12</sub>	<b>yôxu</b>	<i>grandfather</i>
<b>vô'um</b>	<b>veô'u</b>	<i>hand</i>	<b>íningone</b>	<b>ínikene</b>	<i>friend</i>
<b>ngásaxo</b>	..... <sub>5</sub>	<i>to feel cold</i>	<b>vandékena</b>	<b>vetékena</b>	<i>canoe</i>
<b>njérere</b>	..... <sub>6</sub>	<i>side</i>	<b>óvongu</b>	<b>yóvoku</b>	<i>house</i>
<b>mônzi</b>	<b>meôhi</b>	<i>toy</i>	..... <sub>13</sub>	<b>nîwo</b>	<i>nephew</i>
<b>ndôko</b>	..... <sub>7</sub>	<i>nappe</i>	<b>ánzarana</b>	..... <sub>14</sub>	<i>hoe</i>
<b>ímbovo</b>	<b>ípevo</b>	<i>clothes</i>	<b>nzapátuna</b>	<b>hepátuna</b>	<i>shoe</i>

- (a) Fill in the gaps.
- (b) Some Terena words are borrowed from Portuguese, the national language of Brazil. One example is the word ‘shoe’ above ( $\leftarrow$  Portuguese *sapato*). Sometimes Portuguese borrowings behave in an unusual way in Terena.

1st person sg	2nd person sg	
<b>lámmina</b>	<b>leápina</b>	<i>pencil</i> ( $\leftarrow$ Portuguese <i>lápis</i> )
	<b>leátana</b>	<i>tin can</i> ( $\leftarrow$ Portuguese <i>lata</i> )
	<b>keápana</b>	<i>cloak</i> ( $\leftarrow$ Portuguese <i>capa</i> )

1. In what way are these words different from native Terena words?
2. Translate into Terêna: *my tin can, my cloak*.

$\Delta$  Terêna belongs to the Bolivia-Paraná branch of the Arawakan family. It is spoken by approx. 15,000 people in Brazil.

' is a consonant (known as the glottal stop). **x** = sh in *sheesh*. **y** = y in *yum*. **nj** = n + si in *vision*. Word-final **m** indicates the nasal pronunciation of the whole word. The mark ^ indicates that the vowel is lengthened and pronounced with a falling pitch. The mark ' indicates that the following consonant is lengthened.

—André Nikulin

**Problem 4 (20 points).** Here are some word combinations in Mountain Arapesh and their English translations:

1. <b>biaruh atuh araruh</b>	3 sugar canes
2. <b>nybat biabys juhurubys</b>	6 eggs
3. <b>anowip biabys bøbys</b>	8 betel nuts
4. <b>biogu nybat atuh araruh</b>	9 sugar canes
5. <b>anowip biagas atugas atug baigas</b>	10 sheets of sago bark
6. <b>biogu atut atub juhurubys</b>	13 eggs
7. <b>wiwis atug baigas</b>	13 sheets of sago bark
8. <b>wiwis biabys bøbys</b>	14 betel nuts
9. <b>biogu atugu biogu biaruh atuh araruh</b>	23 sugar canes
10. <b>araman biabys bøbys</b>	26 betel nuts
11. <b>anowip biabys juhurubys</b>	26 eggs

(a) A linguist who was examining the data first thought that the word *X* was missing in three of the examples above. However, studying the language further, the linguist went on to realize that no word is missing, as the word *X* is usually not used but implied by the context. Name the word *X*. In which three examples did the linguist think it was missing? How is it implied by the context?

(b) Translate into English:

12. **biabys atub bøbys**
13. **atub juhurub**
14. **nybat atuh araruh**
15. **biagas atugas biagas baigas**
16. **wiwis baigas**

(c) Translate into Mountain Arapesh:

17. 4 betel nuts
18. 11 eggs
19. 20 eggs
20. 25 sheets of sago bark

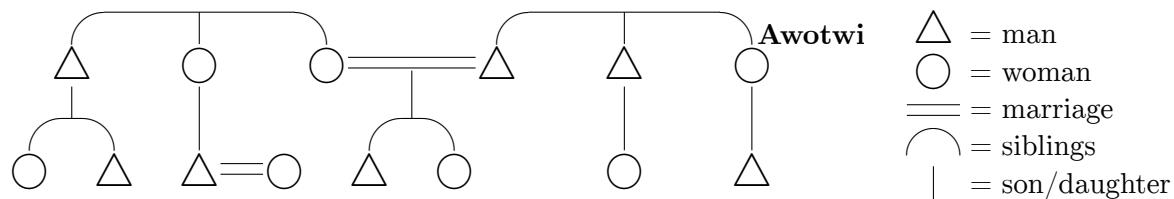
⚠ Mountain Arapesh (Bukiyip) belongs to the Torricelli family. It is spoken by approx. 15,000 people in Papua New Guinea.

Betel nuts are actually seeds of a certain kind of palm.

—Aleksejs Peguševs

**Problem 5 (20 points).** Below three Akan men who belong to one family introduce themselves and some members of their family (see the family tree):

1. Yefre me Enu. Yefre me banom Thema ne Yaw ne Ama. Yefre me yere Kunto. Yefre me nuanom Awotwi ne Nsia. Yefre me wɔfaase Berko.
2. Yefre me Kofi. Yefre me nua Esi. Yefre me agya Ofori. Yefre me sewaanom Dubaku ne Kunto. Yefre me sewaabonam Yaw ne Ama ne Kobina.
3. Yefre me Kobina. Yefre me εnanom Dubaku ne Kunto. Yefre me nuanom Yaw ne Ama. Yefre me wɔfa Ofori. Yefre me yere Efua.



(a) Supply the family tree with names.

(b) Here are some more statements by two other men from this family:

1. Yefre me Yaw. Yefre me εnanom \_\_\_\_\_. Yefre me \_\_\_\_\_ Nsia ne \_\_\_\_\_. Yefre me nuanom Thema ne \_\_\_\_\_. Yefre me \_\_\_\_\_ Awotwi. Yefre me \_\_\_\_\_ Ofori. Yefre me \_\_\_\_\_ Esi ne \_\_\_\_\_. Yefre me \_\_\_\_\_ Berko.
2. Yefre me \_\_\_\_\_. Yefre me banom Kofi ne \_\_\_\_\_. Yefre me \_\_\_\_\_ Yaw ne \_\_\_\_\_. Yefre me \_\_\_\_\_ Kunto ne \_\_\_\_\_.

Fill in the gaps. (Some gaps contain more than one word.)

▲ Akan belongs to the Kwa group of the Atlantic-Congo family. It is spoken by approx. 8,000,000 people in Ghana.  
—Ksenia Gilyarova

**Editors:** Samuel Ahmed, Bozhidar Bozhanov, Qitong Cao, Ivan Derzhanski (technical editor), Hugh Dobbs, Dmitry Gerasimov, Ksenia Gilyarova, Stanislav Gurevich, Gabrijela Hladnik, Boris Iomdin, Tsuyoshi Kobayashi, Bruno L'Astorina, Tae Hun Lee, André Nikulin, Miina Norvik, Aleksejs Peguševs, Alexander Piperski, Maria Rubinstein (editor-in-chief), Daniel Rucki, Artūrs Semenjuks, Pavel Sofroniev, Milena Veneva.

**English text:** Ksenia Gilyarova, André Nikulin, Aleksejs Peguševs.

Good luck!