

Seventeenth International Linguistics Olympiad

Yongin (Republic of Korea), July 29–August 2, 2019

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. If you do not do this, your work may be mislaid or misattributed.

Unless stated differently, you should describe any patterns or rules that you identified in the data. Otherwise your solution will not be awarded full marks.

Problem 1 (20 points). Here are some sentences in Yonggom and their English translations:

- | | |
|--|---|
| 1. Meneni karuwa anona wedmaan. | <i>I came and saw the man and the dog.</i> |
| 2. Wingkeewa yeediriin. | <i>You(sg) sing and I get up.</i> |
| 3. Ambib wedmoona awon baan. | <i>He saw the house and I took the pig.</i> |
| 4. Yeederenu om banuun. | <i>She will get up and will take the bread.</i> |
| 5. Wenenub wingkanuub. | <i>We will go away and will sing.</i> |
| 6. Oma oka aniib. | <i>They eat the bread and drink the water.</i> |
| 7. Anon ye weng wengambaranuwa awon ye weng wengambaraneen. | <i>We will hear the dog and he will hear the pig.</i> |
| 8. Ok anaana oon wedmeen. | <i>I drank the water and she saw the fish.</i> |
| 9. Yeederenib miniib. | <i>They get up and come.</i> |
| 10. Wingkenu wunuun. | <i>She sings and goes away.</i> |
| 11. Om bene aneen. | <i>He takes the bread and eats it.</i> |

(a) Translate into English:

12. **Om benu aneen.**
13. **Munuuna wunuub.**
14. **Wingkiiwa wengamburuun.**
15. **Anon ye weng wengamberenib yedaraniib.**
16. **Oon wedmaniina karub wedmaneeb.**
17. **Ok wedmeena aniin.**

(b) Translate into Yonggom:

18. *We will go away and they will come.*
19. *I take the pig and he takes the fish.*
20. *He saw the water and the house and heard the dog.*
21. *You(sg) eat the bread and sing.*

⚠ Yonggom belongs to the Ok group of the Trans-New Guinea family. It is spoken by approx. 6,000 people in Papua New Guinea. —Ivan Derzhanski

Problem 2 (20 points). Here are some word combinations in Yurok and their English translations in arbitrary order:

- | | |
|---------------------------------------|--------------------------------|
| 1. muencherh rohkuen | A. <i>brown dog</i> |
| 2. perkeryerh holeehl 'wernerh | B. <i>black shoe</i> |
| 3. muencherh nerhpery | C. <i>black bear</i> |
| 4. s'erkter'ery ch'eeshah | D. <i>white berry</i> |
| 5. muenchar' pyaap' | E. <i>brown shoe</i> |
| 6. pekoyar' tepoo | F. <i>white dog</i> |
| 7. luuehlson' nerhpery | G. <i>white ball</i> |
| 8. muenchey cheek'war | H. <i>white manzanita bush</i> |
| 9. muent'er'ery ch'eeshah | I. <i>white chair</i> |
| 10. ler'ergery cher'ery | J. <i>orange bear</i> |
| 11. 'errwerhson' slekwoh | K. <i>red tree</i> |
| 12. muent'er'ery puuek | L. <i>grass-green shirt</i> |
| 13. lo'ogey slekwoh | M. <i>red hazelnut</i> |
| 14. s'oktoy no'oy | N. <i>purple berry</i> |
| 15. 'wer'errgerchson' cher'ery | O. <i>black shirt</i> |
| 16. lo'ogey no'oy | P. <i>white deer</i> |
| 17. tegee'n nerhpery | Q. <i>blue ball</i> |
| 18. skoyon rohkuen | R. <i>yellow berry</i> |

(a) Determine the correct correspondences.

(b) Determine the correct correspondences:

- | | |
|--------------------------|-----------------------|
| 19. muencherhl | S. <i>canary</i> |
| 20. 'wer'errgerch | T. <i>coffee bean</i> |
| 21. luuehl | U. <i>blood</i> |
| 22. ler'ergerh | V. <i>milk</i> |
| 23. pekoyek | W. <i>alder tree</i> |
| 24. skoyon | X. <i>wild iris</i> |
| 25. tegee'n | Y. <i>sky</i> |

(c) Translate into English:

26. **'errwerh**
27. **ler'ergerh rohkuen**
28. **perkeryer'ery ch'eeshah**
29. **pyerrp't'ery ch'eeshah**

(d) Translate into Yurok:

30. *purple deer*
31. *white shoe*
32. *yellow ball*
33. *black tree*

(!) No additional explanation besides the answers is required, nor will be marked.

⚠ Yurok belongs to the Algic family. It is spoken by 20–100 people in Northwestern California. **ch, hl, sh, y, '** are consonants. **ee, er, err, ue, uue** are vowels.

The bark from alder trees is sometimes used to make orange dye. Manzanita is a small tree or bush with reddish-brown bark found in Western North America. The wild iris is a light purple flower.

—Boris Iomdin, Samuel Ahmed

Problem 3 (20 points). Here are some words in Middle Persian written in the Book Pahlavi script:

𐭮𐭲𐭮𐭲	A	𐭫𐭮𐭲	B	𐭮𐭲	C	𐭮𐭲𐭮𐭲	D	𐭮𐭲𐭮𐭲	E	𐭮𐭲𐭮𐭲	F
𐭮𐭲𐭮𐭲	G	𐭮𐭲𐭮𐭲	H	𐭮𐭲𐭮𐭲	I	𐭮𐭲	J	𐭮𐭲𐭮𐭲	K	𐭮𐭲	L
𐭮𐭲𐭮𐭲	M	𐭮𐭲𐭮𐭲	N	𐭮𐭲𐭮𐭲	O	𐭮𐭲𐭮𐭲	P	𐭮𐭲𐭮𐭲	Q	𐭮𐭲𐭮𐭲	R
𐭮𐭲	S	𐭮𐭲	T	𐭮𐭲	U	𐭮𐭲	V	𐭮𐭲𐭮𐭲	W	𐭮𐭲𐭮𐭲	X
𐭮𐭲𐭮𐭲	Y	𐭮𐭲	Z	𐭮𐭲	AA	𐭮𐭲	BB	𐭮𐭲𐭮𐭲	CC	𐭮𐭲𐭮𐭲	DD

Scholars employ two systems of rendering Middle Persian words using Roman characters. The system that reflects the Pahlavi spelling is called *scientific transliteration*. In turn, the system that represents the tentative pronunciation of the words is called *transcription*.

Some words could be spelt in multiple ways in the Pahlavi script. For example, the word *dīdan* ‘to see’ could be alternatively spelt as 𐭮𐭲𐭮𐭲𐭮𐭲 (scientific transliteration: **HZYTNW-tn**) or as 𐭮𐭲𐭮𐭲 (scientific transliteration: **dytn**).

(a) Match each word above with its scientific transliteration and transcription. Note that the words written in the Pahlavi script may correspond to multiple Middle Persian words.

- | | | | | | |
|------------|---------|----------|---------------|-----------|--------------------------|
| 1. 𐭮𐭲𐭮𐭲 | āsrōn | priest | 18. whʔl | wahār | spring (season) |
| 2. sydʔ | syā | black | 19. APLA | xāk | earth, dust |
| 3. DMYA | xōn | blood | 20. gwnʔ | gōn | color |
| 4. AHTE | xwah | sister | 21. LCDrʔ | tar | over, through, across |
| 5. blbwʔ | barbut | lyre | 22. mng | mang | henbane (type of plant) |
| 6. gyʔh | giyāh | grass | 23. lwlkʔ | rūrag | medicinal plant, herb |
| 7. ALBA | čāhār | four | 24. ZWZNʔ | drahm | drachm (unit of weight) |
| 8. dwtʔ | dūd | smoke | 25. dlmnkʔ | dramanag | wormwood (type of plant) |
| 9. mwd | mōy | hair | 26. NKSWN-tnʔ | kuštan | to kill |
| 10. gdkʔ | gēg | thief | 27. ʔwzmbwltʔ | uzumburd | emerald |
| 11. hmyškʔ | hamēšag | always | 28. glmwkʔ | garmōg | warm, hot |
| 12. LK | tō | thou | 29. ʔhlmnʔ | Ahremen | the evil spirit |
| 13. gwklʔ | gōgird | sulfur | 30. ʔylʔnštrʔ | Ērān-šahr | land of the Aryans |
| 14. wʔcʔl | wāzār | market | 31. ywdtʔkʔ | judāg | separate, different |
| 15. MLKTA | bāmbišn | queen | 32. dhškʔ | daxšag | mark, sign; memory |
| 16. HZWLYA | hūg | pig | 33. nhʔl | nihāl | sapling, young tree |
| 17. zwzkʔ | zūzag | hedgehog | 34. lwcynkʔ | lawzēnag | almond sweetmeat |

(b) In Book Pahlavi, one Middle Persian word is usually written with a certain graphic peculiarity. Identify this word.

(c) The following words are alternative spellings of some of the words above.

EE. 𐭮𐭲𐭮𐭲 FF. 𐭮𐭲𐭮𐭲 GG. 𐭮𐭲 HH. 𐭮𐭲 II. 𐭮𐭲 JJ. 𐭮𐭲

Identify them and provide their scientific transliterations.

(d) Write in the Book Pahlavi script:

KK.	DKRA	<i>muy</i>	<i>date-palm</i>
LL.	dlwnd	<i>druwand</i>	<i>evil, sinful, unrighteous</i>
MM.	stwl	<i>stōr</i>	<i>horse</i>
NN.	cmbl	<i>čambar</i>	<i>circle, hoop</i>

(!) No additional explanation besides the answers is required, nor will be marked.

⚠ Middle Persian belongs to the Iranian branch of the Indo-European family. It was spoken in the Sasanian Empire and survived through centuries as a written language, especially in translations of the Zoroastrian canon.

The transcription used here corresponds to the reconstructed pronunciation of the 3rd century CE. The mark $\bar{}$ indicates that the vowel is long. $\check{}$ = *ch* in *church*; *h* = *h* in *hat*; $\check{}$ = *j* in *judge*; $\check{}$ = *sh* in *sheesh*; *w* = *w* in *win*; $x \approx$ *ch* in Scottish *loch*; γ like *x* but voiced; *y* = *y* in *yum*; *z* = *z* in *zigzag*.

Knowledge of Modern Iranian languages is irrelevant for solving this problem.

—*André Nikulin (consultant: Miguel Ángel Andrés Toledo)*

Problem 4 (20 points). Here are some words and verb roots in West Tarangan. Each is also given in its so-called reduplicated form in two dialects of the language. The reduplicated form is used as a participle or adjective.

		North dialect	Coast dialect
dakeru	<i>they scrape</i>	darkeru	dakerukeru
rɔbik	<i>it is blunt</i>	rɔbrɔbik	rɔbirɔbik
alema	<i>on the right</i>	amlema	alemalema
makay	<i>you climb</i>	makmakay	mamakay
apúk	<i>other</i>	akpuk	apukpuk
lɔpay	<i>cold</i>	lɔplɔpay	lɔpalɔpay
payláwana	<i>he is talkative</i>	paylawlawana	paylalawana
kalpaŋir	<i>it is obstinate</i>	kalpaŋpaŋir	kalpapaŋir
garków	<i>to be orphaned</i>	garkówków	garkówków
ɛyleka	<i>he plays</i>	ɛylekleka	ɛyleleka
dubemna	<i>he is seventh</i>	dumbemna	dubembemna
maylewa	<i>(a species of) tree</i>	maylewelewa	maylelewa
matay	<i>his eye</i>	matmatay	matamatay
mɔna	<i>in front</i>	mɔnmɔna	mɔnamɔna
bɛbar	<i>to be scared</i>	bɛbɛbar	bɛbebar
jaŋil	<i>it is rotten</i>	jaŋjaŋil	jajaŋil
letna	<i>he is male</i>	letletna	letletna
ernɔnaw	<i>he crawls</i>	ernɔnɔnaw	ernɔnɔnaw

Fill in the gaps:

		North dialect	Coast dialect
etaleŋa	he hears	?	?
jaga	to guard	?	?
gasírana	she is old	?	?
daramota	they vomit	?	?
pɔwna	he is smelly	?	?
ertɔpa	he washes	?	?
dabuka	they dream	?	?
ŋuŋim	it is damp	?	?
igóŋ	he sells	?	?

△ West Tarangan belongs to the Austronesian family. It is spoken by 7,000 people in the Aru Islands in Indonesia. **ŋ** = *ng* in *hang*. **j, r, w, y** are consonants. **ɛ, ɔ** are vowels. The mark ´ indicates stress; if there is no such mark, the stress is on the penultimate syllable.
—Elysia Warner (consultant: Richard Nivens)

Problem 5 (20 points). Here are some sentences in Noonni that were spoken on different days of the Noonni “week” and their English translations:

spoken on **Bvutfu**

1. fɔgò cí nú bvúmbòn.
me ncí nò: ntɔ́ fɔwǎy bvúmbòn.
2. wò nú yú: cóŋ kèŋkfũ bvúsòw.
3. kwɔ:n nú báy fí me bvúzhí.

Yesterday was **Bvumbon**.
On **Bvumbon**, I came to the market.
On **Bvusɔw**, you(sg) will steal the yam.
On **Bvuzhi**, the woman will help me.

spoken on **Bvusɔw**

4. wvù tò nò: bǔŋ ŋwà bvũŋkà:.
5. fò shě ntfũ: nú bvútfũ.
me nú mbóy ncáw mutù bvútfũ.
6. wvù bē: yǔ kwɔ:n èbèn.
7. wò tò nò: yǔw cóŋ.

On **Bvuŋka**, he found the book.
The day after tomorrow is **Bvutfu**.
On **Bvutfu**, I will choose the car.
Today, he killed the woman.
You(sg) heard the thief a long time ago.

spoken on **Bvukema**

8. ntfũ: nú bvũŋkà:dèn.
cóŋ nú báy bóŋ bèsèn bvũŋkà:dèn.
9. me mbē: ncáw ŋwà èbèn.
10. dièmsěŋ nú yén wvù lě.
11. kefwé cí nú bvũŋkà:.

Tomorrow is **Bvuŋkaden**.
On **Bvuŋkaden**, the thief will find us.
Today, I chose the book.
The man is about to see him.
The day before yesterday was **Bvuŋka**.

spoken on **Bvuŋka**

12. me nú nfí dièmsěŋ.
13. kwɔ:n cí nò: yén wáy é bvútfũ.
14. bèsèn nú gé: cóŋ mutù èbèn.
15. bó nò: yén me lé fɔwǎy.

I am about to help the man.
On **Bvutfu**, the woman saw the market.
Today, we will steal the car.
They saw me at the market just now.

(a) Translate into English:

spoken on **Bvun̄kaden**

16. bvúsòw nǔ fò shě ntfũ.

17. me nú ɲgé: nyén kèn̄kfũ lé èbèn.

18. wvù tò nô: yèn bèsèn ẽ bvúmbòn.

19. bèsèn nǔ bóy tó fòwǎy bvúzhí:dèn.

(b) The first day of the Noonni week is **Bvutfu**. What is the order of the Noonni days?

(c) Translate into Noonni:

spoken on **Bvumbon**

20. On ***Bvusɔw***, I helped the man.

21. The thief stole the yam just now.

22. On ***Bvun̄kaden***, I will hear the car.

23. Today, the woman will kill the man.

24. Today, the man saw you(*sg*).

⚠ Noonni belongs to the Beboïd group of the Atlantic-Congo family. It is spoken by approx. 40,000 people in Cameroon.

ɛ and ɔ are vowels. ɲ, sh, y and zh are consonants. The mark : indicates that the vowel is long. The superscript marks denote tones: ˊ high, ˆ falling (high ↘ low), ˜ falling (middle ↘ low), ˋ low, ˊˊ rising (low ↗ middle), ˊˊˊ rising (low ↗ high); if none are present, the syllable has middle tone.

Yam is the edible tuber of the tropical plant of the same name.

—*Samuel Ahmed*

Editors: Samuel Ahmed, Bozhidar Bozhanov, Ivan Derzhanski (technical editor),
Hugh Dobbs, Dmitry Gerasimov, Shinjini Ghosh, Ksenia Gilyarova, Stanislav Gurevich,
Gabrijela Hladnik, Boris Iomdin, Bruno L'Astorina, Tae Hun Lee (editor-in-chief),
Tom McCoy, André Nikulin, Miina Norvik, Tung-Le Pan, Aleksejs Peguševs,
Alexander Piperski, Maria Rubinstein, Daniel Rucki, Artūrs Semeņuks, Nathan Somers,
Milena Veneva, Elysia Warner.

English text: Samuel Ahmed, Ivan Derzhanski, Boris Iomdin, André Nikulin, Elysia Warner.

Good luck!