

Seventeenth International Linguistics Olympiad

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

Individual Contest Solutions

Problem 1. Word order:

- (O) V- l_5 (S = subject; O = object; V = predicate)
- $(O_1) V_1-l_5^= (O_2) V_2-l_5$
- $(O_1) V_1-l_{S_1}-a (O_2) V_2-l_{S_2} (S_1 \neq S_2)$
- $N_1-a N_2-a$ ‘ N_1 and N_2 ’ (N = noun)

before a vowel: **b** > **w**

In some verbs the vowel in the last syllable of the root assimilates to the vowel of the first syllable of the ending.

S	$l_5^=$ ($S_1 = S_2$)	l_5		
		past	present	future
1st person sg	-en-i	-aan	-iin	-an-iin
2nd person sg	-en-eb		-eeb	-an-eeb
3rd person sg m	-en-e	-oon	-een	-an-een
3rd person sg f	-en-u	-een	-uun	-an-uun
1st person pl	-en-ub		-uub	-an-uub
3rd person pl	-en-ib		-iib	-an-iib

- (a) 12. **Om benu aneen.** *She took the bread and ate it.*
 13. **Munuuna wunuub.** *She comes and we go away.*
 14. **Wingkiiwa wengamburuun.** *They sing and she hears.*
 15. **Anon ye weng wengamberenib yeedaraniib.** *They will hear the dog and will get up.*
 16. **Oon wedmaniina karub wedmaneeb.** *I will see the fish and you(sg) will see the man.*
 17. **Ok wedmeena aniin.** *He sees the water and I drink it.*
- (b) 18. *We will go away and they will come.* **Wananuuwa mananiib.**
 19. *I take the pig and he takes the fish.* **Awon biina oon been.**
 20. *He saw the water and the house and heard the dog.* **Oka ambiwa wedmene anon ye weng wengamboroon.**
 21. *You(sg) eat the bread and sing.* **Om aneneb wingkeeb.**

Problem 2. Word order: A N (A = adjective, N = noun).

Colours:	#FFFFFF	#FF0000	#964B00	#000000
animals	muent-er'ery		s'erkt-er'ery	ler'erg-ery
trees		pekoy-ar'		lo'og-ar'
round things	muench-erh	perkery-erh		
everything	muench-ey		s'okt-oy	lo'og-ey

- (a)
- | | |
|---------------------------------------|--------------------------------|
| 1. muencherh rohkuen | G. <i>white ball</i> |
| 2. perkeryerh holeehl 'wernerh | M. <i>red hazelnut</i> |
| 3. muencherh nerhpery | D. <i>white berry</i> |
| 4. s'erkt-er'ery ch'eeshah | A. <i>brown dog</i> |
| 5. muenchar' pyaap' | H. <i>white manzanita bush</i> |
| 6. pekoyar' tepoo | K. <i>red tree</i> |
| 7. luuehlson' nerhpery | N. <i>purple berry</i> |
| 8. muenchey cheek'war | I. <i>white chair</i> |
| 9. muent-er'ery ch'eeshah | F. <i>white dog</i> |
| 10. ler'ergery cher'ery | C. <i>black bear</i> |
| 11. 'errwerhson' slekwoh | L. <i>grass-green shirt</i> |
| 12. muent-er'ery puuek | P. <i>white deer</i> |
| 13. lo'ogey slekwoh | O. <i>black shirt</i> |
| 14. s'oktoy no'oy | E. <i>brown shoe</i> |
| 15. 'wer'errgerchson' cher'ery | J. <i>orange bear</i> |
| 16. lo'ogey no'oy | B. <i>black shoe</i> |
| 17. tegee'n nerhpery | R. <i>yellow berry</i> |
| 18. skoyon rohkuen | Q. <i>blue ball</i> |
- (b)
- | | |
|--------------------------|-----------------------|
| 19. muencherhl | V. <i>milk</i> |
| 20. 'wer'errgerch | W. <i>alder tree</i> |
| 21. luuehl | X. <i>wild iris</i> |
| 22. ler'engerh | T. <i>coffee bean</i> |
| 23. pekoyek | U. <i>blood</i> |
| 24. skoyon | Y. <i>sky</i> |
| 25. tegee'n | S. <i>canary</i> |
- (c)
- | | |
|------------------------------------|----------------------------|
| 26. 'errwerh | — <i>grass</i> |
| 27. ler'engerh rohkuen | — <i>black ball</i> |
| 28. perkeryer'ery ch'eeshah | — <i>red dog</i> |
| 29. pyerrp't'ery ch'eeshah | — <i>reddish-brown dog</i> |
- (d)
- | | |
|------------------------|---------------------------|
| 30. <i>purple deer</i> | — luuehlson' puuek |
| 31. <i>white shoe</i> | — muenchey no'oy |
| 32. <i>yellow ball</i> | — tegee'n rohkuen |
| 33. <i>black tree</i> | — lo'ogar' tepoo |

Problem 3. The direction of writing is from right to left.

- [in the Book Pahlavi script] ↔ [scientific transliteration]:

𐭠	ʾ, A, h	𐭡	n, r, w, '	𐭢	s
𐭣	b	𐭤	z	𐭥	c, p
𐭦	d, g, y, <u>z</u>	𐭧	k	𐭨	š
𐭩	E	𐭪	l	𐭫	t
		𐭬	m		

- [[ligatures]]:

𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	
𐭠𐭣	←	𐭠𐭣	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣
𐭠𐭣	←	𐭠𐭣	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣
𐭠𐭣	←	𐭠𐭣	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣
𐭠𐭣	←	𐭠𐭣	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣	𐭠𐭣	←	𐭠𐭣

- [scientific transliteration] ↔ [transcription]:

𐭠	∅, ā	k	k, -g	t	t, -d, h
b	b	l	l, r	w	w, ō, u, ū
c	č, -z	m	m	y	ǰ, -y, ī
d	d, -y, ē	n	n	z	z
g	g	r	r	'	-∅
h	h, x	s	s	—	a, e, i
		š	š		

(a)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
E	CC	G	Y	D	CC	K	S	V	L	I	Z	P	DD	O	M	B
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
F	X	C	BB	V	AA	J	T	Q	H	T	U	W	R	A	F	N

(b) U. 𐭠𐭣 = 𐭠𐭣 'hlmn' Ahreman 'the evil spirit'.

EE.	𐭠𐭣	b'nbšn'	bāmbišn	queen
FF.	𐭠𐭣	ch'l	čahār	four
GG.	𐭠𐭣	tl	tar	over, through, across
HH.	𐭠𐭣	h'k'	xāk	earth, dust
II.	𐭠𐭣	hwn'	xōn	blood
JJ.	𐭠𐭣	hwk'	hūg	pig

(d)

KK. DKRA	𐭠𐭣	LL. dlwnd	𐭠𐭣	MM. stwl	𐭠𐭣	NN. cmbll	𐭠𐭣
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Problem 4. $\overset{\text{R}}{\downarrow} \text{C}_1 \text{V} \text{C}_2$ (V is the stressed vowel)

- North dialect: $\text{R} = \text{C}_1 \text{V} \text{C}_2$, but
 - $\text{C}_1 = \text{C}_2 \Rightarrow \text{R} = \text{C}_1 \text{V}$
 - there is a vowel before $\text{C}_1 \Rightarrow \text{R} = \text{C}_2$
- Coast dialect: $\text{R} = \text{C}_1 \text{V}_1 \text{C}_2 \text{V}_2$, but
 - $\neg \exists \text{V}_2 \Rightarrow \text{R} = \text{C}_1 \text{V}_1 \text{C}_2$
 - $\exists \text{V}_2 \wedge \text{C}_2 \in \{\text{C}_1, \text{k}, \text{g}, \text{ŋ}, \text{w}\} \Rightarrow \text{R} = \text{C}_1 \text{V}_1$

(C_1, C_2 are consonants; $\text{V}, \text{V}_1, \text{V}_2$ are vowels)

Answers:	North dialect	Coast dialect
ɛtaleŋa	ɛtaŋleŋa	ɛtaleleŋa
jaga	jaɡjaga	jaɹaga
gasírana	ɡarsírana	ɡasirasírana
daramota	darat̪mota	daramotamota
pɔwna	pɔwpɔwna	pɔwpɔwna
ertɔpa	ertɔptɔpa	ertɔpatɔpa
dabuka	daɓbuka	daɓubuka
ŋuŋim	ŋuŋuŋim	ŋuŋuŋim
igónŋ	igónŋ	igónŋgɔŋ

Problem 5. Rules:

- word order:

$$- \boxed{A (T) \text{ nú } B} \left(\begin{array}{l} \text{'A is B'/'A was B', } T = \text{tense: } \begin{cases} \text{cí} & (\text{past}) \\ \emptyset & (\text{future}) \end{cases} \end{array} \right)$$

$$- \boxed{S \text{ } T \text{ } V \text{ } O \text{ (lé)} \text{ } L \text{ } D}$$

(S = subject, V = predicate, O = object, L = place, D = day)

* 'to see' = yɛn (O) lé

* after a consonant: lé > é

	tense	'just now'/'be about to ...'	today	< 3 days	> 3 days
• tense:	past (V)	nô:	bê:	cí nô:	tò nô:
	future (V)	nú	nú gé:	nú bóy	nú yú:

- 1st person sg: n- + T/V

– nb > mb

– nk/ng > ŋk/ŋg

– nn > n

- after ʔ, ɲ, ɛ: ʔ > ɲ

Answers:

- (a) 16. bvúsòw nú fò shě ntfũ. *Bvusɔw is the day after tomorrow.*
 17. me nú ngé: nyén kɛŋkfũ lé èbèn. *Today, I will see the yam.*
 18. wvù tò nô: yèn bèsèn ẽ bvúmbòn. *On Bvumbon, he saw us.*
 19. bèsèn nú bóy tó fòwǎy bvúzhí:dèn. *On Bvuzhiden, we will come to the market.*

(b)

Bvutfu, Bvuŋka, Bvuzhi, Bvukema, Bvuŋkaden, Bvuzhiden, Bvusɔw, Bvumbon.

- (c) 20. On *Bvusɔw*, I helped the man. me ncí nô: nfí dièmsɛn bvúsòw.
 21. The thief stole the yam just now. cǝŋ nô: cǝŋ kɛŋkfũ.
 22. On *Bvuŋkaden*, I will hear the car. me nú nyú: nyów mutù bvûŋkâ:dèn.
 23. Today, the woman will kill the man. kwɔ:n nú gé: yó dièmsɛn èbèn.
 24. Today, the man saw you(sg). dièmsɛn bê: yèn wò lě èbèn.