

Seventeenth International Linguistics Olympiad

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

Individual Contest Solutions

Problem 1. Word order:

- (O) V- l_5 (S = subject; O = object; V = predicate)
- $(O_1) V_1-l_5^{\bar{}} (O_2) V_2-l_5$
- $(O_1) V_1-l_{S_1}-a (O_2) V_2-l_{S_2} (S_1 \neq S_2)$
- $N_1-a N_2-a$ ‘ 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	$l_5^{\bar{}}$ ($S_1 = S_2$)	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'ergerh | 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** — *grass*
 27. **ler'ergerh rohkuen** — *black ball*
 28. **perkeryer'ery ch'eeshah** — *red dog*
 29. **pyerrp't'ery ch'eeshah** — *reddish-brown dog*
- (d)
30. *purple deer* — **luuehlson' puuek**
 31. *white shoe* — **muenchey no'oy**
 32. *yellow ball* — **tegee'n rohkuen**
 33. *black tree* — **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, ' (with hook)	𐭢	s
𐭣	b	𐭤	z	𐭥	c, p
𐭦	d, g, y, Z	𐭧	k	𐭨	š
𐭩	E	𐭪	l	𐭫	t
		𐭬	m		

- [[ligatures]]:

𐭠𐭠 ← 𐭠+𐭠	𐭠𐭡 ← 𐭠+𐭡	𐭠𐭢 ← 𐭠+𐭢	𐭠𐭣 ← 𐭠+𐭣
𐭠𐭤 ← 𐭠+𐭤	𐭠𐭥 ← 𐭠+𐭥	𐭠𐭦 ← 𐭠+𐭦	𐭠𐭧 ← 𐭠+𐭧
𐭠𐭨 ← 𐭠+𐭨	𐭠𐭩 ← 𐭠+𐭩	𐭠𐭪 ← 𐭠+𐭪	𐭠𐭫 ← 𐭠+𐭫
𐭠𐭬 ← 𐭠+𐭬	𐭠𐭭 ← 𐭠+𐭭	𐭠𐭮 ← 𐭠+𐭮	𐭠𐭯 ← 𐭠+𐭯
𐭠𐭰 ← 𐭠+𐭰	𐭠𐭱 ← 𐭠+𐭱	𐭠𐭲 ← 𐭠+𐭲	𐭠𐭳 ← 𐭠+𐭳

- [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. 𐭠𐭡𐭢𐭣 = 𐭠𐭡𐭢𐭣 'hlmn' Ahreman 'the evil spirit'.

- (c) EE. 𐭠𐭡𐭢𐭣 b^onbšn' bāmbišn queen
 FF. 𐭠𐭡𐭢𐭣 ch^ol čahār four
 GG. 𐭠𐭡𐭢𐭣 tl tar over, through, across
 HH. 𐭠𐭡𐭢𐭣 h^ok' xāk earth, dust
 II. 𐭠𐭡𐭢𐭣 hwn' xōn blood
 JJ. 𐭠𐭡𐭢𐭣 hwk' hūg pig

(d)

KK. DKRA 𐭠𐭡𐭢𐭣 LL. dlwnd 𐭠𐭡𐭢𐭣 MM. stwl 𐭠𐭡𐭢𐭣 NN. cmbll 𐭠𐭡𐭢𐭣

Problem 4. $\overset{R}{\downarrow}C_1VC_2$ (V is the stressed vowel)

- North dialect: $R = C_1\acute{V}C_2$, but
 - $C_1 = C_2 \Rightarrow R = C_1V$
 - there is a vowel before $C_1 \Rightarrow R = C_2$
- Coast dialect: $R = C_1\acute{V}_1C_2V_2$, but
 - $\neg\exists V_2 \Rightarrow R = C_1V_1C_2$
 - $\exists V_2 \wedge C_2 \in \{C_1, \mathbf{k}, \mathbf{g}, \mathbf{\eta}, \mathbf{w}\} \Rightarrow R = C_1V_1$

(C_1, C_2 are consonants; V, V_1, V_2 are vowels)

Answers:	North dialect	Coast dialect
etaleŋa	etaŋleŋa	etaleleŋa
jaga	jagjaga	jajaga
gasírana	garsírana	gasirasírana
daramota	daratmota	daramotamota
pɔwna	pɔwpɔwna	pɔwpɔwna
ertɔpa	ertɔptɔpa	ertɔpatɔpa
dabuka	dakbuka	dabubuka
ŋuŋim	ŋuŋuŋim	ŋuŋuŋim
igónŋ	iŋgónŋ	igónŋgɔŋ

Problem 5. Rules:

- word order:

– $A(T) \text{ n\u00fa } B$ (‘A is B’/‘A was B’, T = tense: $\begin{cases} \text{c\u00ed} & \text{(past)} \\ \emptyset & \text{(future)} \end{cases}$)

– $S \text{ T } V \text{ O (l\u00e9) } L \text{ D}$

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

* ‘to see’ = y\u00e9n (O) l\u00e9

* after a consonant: l\u00e9 > \u00e9

- tense:

tense		‘just now’/‘be about to ...’	today	< 3 days	> 3 days
past (V̄)	n\u00f4:		b\u00e9:	c\u00ed n\u00f4:	t\u00f4 n\u00f4:
future (V)	n\u00fa		n\u00fa g\u00e9:	n\u00fa b\u00f3y	n\u00fa y\u00fa:

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

– nb > mb

– nk/ng > \u03b7k/\u03b7g

– nn > n

- after \u00e1, \u00e2, \u00e3: \u00e4 > \u00e5

Answers:

- (a) 16. bv\u00fas\u00f2w n\u00fa f\u00f4 sh\u00e9 ntf\u00fa. *Bvus\u00f2w is the day after tomorrow.*
 17. me n\u00fa \u03b7g\u00e9: ny\u00e9n k\u00e8\u03b7kf\u00fa l\u00e9 \u00e8b\u00e8n. *Today, I will see the yam.*
 18. wv\u00fa t\u00f4 n\u00f4: y\u00e9n b\u00e8s\u00e8n \u00e9 bv\u00famb\u00f4n. *On Bvumbon, he saw us.*
 19. b\u00e8s\u00e8n n\u00fa b\u00f3y t\u00f4 f\u00f4w\u00e6y bv\u00fazh\u00ed:d\u00e8n. *On Bvuzhiden, we will come to the market.*

- (b) Bvutfu, Bvu\u03b7ka, Bvuzhi, Bvukema, Bvu\u03b7kaden, Bvuzhiden, Bvus\u00f2w, Bvumbon.

- (c) 20. On *Bvus\u00f2w*, I helped the man. me nc\u00ed n\u00f4: nf\u00ed di\u00e8ms\u00e9n bv\u00fas\u00f2w.
 21. The thief stole the yam just now. c\u00f3\u03b7 n\u00f4: c\u00f3\u03b7 k\u00e8\u03b7kf\u00fa.
 22. On *Bvu\u03b7kaden*, I will hear the car. me n\u00fa ny\u00fa: ny\u00f4w mut\u00fa bv\u00f7nk\u00e1:d\u00e8n.
 23. Today, the woman will kill the man. kw\u00f4:n n\u00fa g\u00e9: y\u00f4 di\u00e8ms\u00e9n \u00e8b\u00e8n.
 24. Today, the man saw you(sg). di\u00e8ms\u00e9n b\u00e9: y\u00e9n w\u00f4 l\u00e9 \u00e8b\u00e8n.