en

Third Asia Pacific Linguistics Olympiad

March 28 – April 11, 2021

Solutions

Problem 1.

1. Sentence structure:
   - S (B) V — 'S V-*s*/-*ed* (*for* B)'
   - A (B) O V — 'A V-*s*/-*ed* O (*for* B)'
   - S B V — 'S *likes* / *liked* B'
2. Possession: Poss N (Poss: possessor; N: possessee)
3. Noun/pronoun suffixes:

	A	S	O	B / Poss
common noun	**-ŋŋu**	∅		**-ku**
proper noun	**-lu**	**-ɲa**		
pronoun	∅		**-ɲa**	**-mma**

4. Verb endings:

	like	*see* *give* *come*	*eat* *kill* *run*
past	**-ŋu**		**-nu**
present	**-ŋaɲi**	**-ɲi**	**-naɲi**

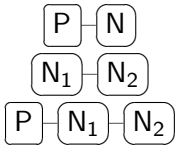
(a) 16. *Emanuel comes.*
17. *Our*(PL) *child likes Naomi's egg.*

(b) 18. *They*(DU) *saw your*(SG) *father's dog;*
They(DU) *saw the father's dog for you*(SG)*;*
They(DU) *saw the dog for your*(SG) *father.*

(c) 19. **naomiɲa emanuelku pica-ɲi**
20. **ɲura ŋananɳamma paka-nu**
21. **ɲuntu ŋalimma mukuri-ŋaɲi**
22. **papa emanuelku mukuri-ŋu**
23. **papaku maɭuŋŋu ɲuraɲa ɲa-ɲi**
24. **marialu papaku ɲuntumma ŋammu u-ŋu**

Problem 2.

1. Word structure:



P N	
N_1*'s* N_2	
P N_1*'s* N_2	

P =

my	$\begin{cases}\mathbf{t\!\int\!o^1} & \text{(before (ʔ)}\mathbf{C_{lab}}\text{)} \\ \mathbf{t\!\int\!au^1} & \text{(otherwise)}\end{cases}$
your	$\mathbf{ku^{43}}$
other one's	$\mathbf{to^1}$

	X = ∅	X = **ʔɨ^5 tʃi^1**	X = **ʔɨ^1 ra^1**
N X	N	*really* N	—
na^4 A X	*it is* A	*it is really* A	*it is sort of* A
na^4 A N X	*its* N *is* A	*its* N *is really* A	*its* N *is sort of* A

2. Stress

(**na^4**) [ˈσ] σ (σ ⋯)

⇓

after ˈ**o**(**ʔ**) :	**a**	→	**o**
after ˈ**V**(**ʔ**) :	**ɨ**	→	**V**
before (**C**)**V^1** :	ˈ**V̲^{1}**	→	ˈ**V^5**

Abbreviations	
A	adjective
N	noun
σ	syllable
V	vowel
C	consonant
$\mathbf{C_{lab}}$	labials {**p, b, m**}

(a) ŋo^3 ʔo̲^{1} *('s) garden*

(b)
1. ka̲^{1} *tree trunk*
2. *its leaves are white*
3. *really a* ŋo^3 ʔo̲^{1}
4. *other one's garden*
5. *owl monkey's entire body*
6. *my tree trunk*

(c)
7. **na^4 ˈtʃi^5 ʔi^1 ra^1**
8. **na^4 ˈtʃo̲^{1} ʔtʃi^5 ru^1 ʔɨ^5 tʃi^1**
9. **ˈtʃau^1 te^4 ʔɨ^4 ne^1**
10. **ˈtʃo^1 bɨ^2**

Problem 3.

	1	2	3	4	5
X	**koow***	**labo**	**saddex**	**afar**	**shan**
10 X	**toban**	**labaatan**	**soddon**	**afartan**	**konton**
	6	7	8	9	100
X	**lix**	**toddoba**	**siddeed**	**sagaal**	**boqol**
10 X	**lixdan**	**toddobaatan**	**siddeetan**	**sagaashan**	**kun**

rug $= 0$ $\quad 100\ \mathsf{X} = \mathsf{X}$ **boqol** $\quad 1000\ \mathsf{X} = \mathsf{X}$ **kun** $\quad (2 \le \mathsf{X} \le 9)$

$$\begin{cases} 10\ \mathsf{Y} + \mathsf{Z} = \mathsf{Z}\ \textbf{iyo}\ 10\ \mathsf{Y} & (1 \le \mathsf{Y} \le 9,\ 1 \le \mathsf{Z} \le 9) \\ 100\ \mathsf{Y} + \mathsf{Z} = 100\ \mathsf{Y}\ \textbf{iyo}\ \mathsf{Z} & (1 \le \mathsf{Y} \le 9,\ 1 \le \mathsf{Z} \le 99) \\ 1000\ \mathsf{Y} + \mathsf{Z} = 1000\ \mathsf{Y}\ \textbf{iyo}\ \mathsf{Z} & (1 \le \mathsf{Y} \le 9,\ 1 \le \mathsf{Z} \le 999) \end{cases}$$

* **koow iyo** $\rightarrow$ **koob iyo**

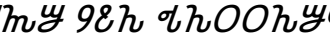
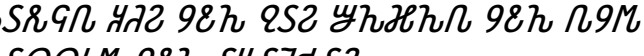
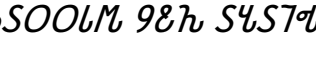
a	**e**	**i**	**o**	**u**	**aa**	**ee**	**oo**
							
b	**d**	**f**	**g**	**k**	**l**	**n**	**q**
							
r	**s**	**sh**	**t**	**w**	**x**	**y**	
							

0	1	2	3	4
				
5	6	7	8	9
				

(a) A.  (125) B.  (18) C. (19) D. (2021)

(b)
[1] $3 + 7 = 10$
[2] $8 \times 800 = 6400$
[3] $11 \times 11 = 121$
[4] $1 + 99 = 100$
[5] $25 \times 40 = 8 \times 125$
[6] $3 \times 18 = 54$
[7] $485 \times 0 = 0$
[8] $9 \times 19 = 100 + 71$
[9] $860 = 259 + 601$

(c)
E. **afar boqol iyo koow**
F. **siddeed kun iyo saddex iyo afartan**
G. **kun iyo boqol iyo soddon**

(d)
H. 
I. 
J. 

Problem 4.

1. Verb stems:
   - $\mathsf{V_i}$ (intransitive): **ɓadza-** *get spoiled*, **dɗa-** *fall*, **sna-** *know*
   - $\mathsf{V_t}$ (transitive): **ɗifa-** *hide*, **kata-** *help*, **ksa-** *catch*, **ghala-** *steal*, **ya-** *give birth to*
2. Verb structure:

	present	past
$\mathsf{V_i}$	[STEM]–[S] 'S $\mathsf{V_i}$-*s*'	[STEM]–[STEM]–[S] 'S $\mathsf{V_i}$-*ed*'
$\mathsf{V_t}$	[STEM]–[S] 'S $\mathsf{V_t}$-*s it/them*'	[STEM]–[O]–[STEM]–[S] 'S $\mathsf{V_t}$-*ed* O'

	1st person	2nd person	3rd person
singular	**-a** → **i**	**-ka** (S) **-gha** (O)	∅
plural	**-mu**	**-kuni** (S) **-ghuni** (O)	**-xən** (S, $\mathsf{V_t}$) ∅ (otherwise)

$$\begin{bmatrix} \mathsf{V_i},\ \mathsf{S} = \text{plural} \\ \mathsf{V_t},\ \mathsf{O} = \text{plural} \end{bmatrix}: \quad [\text{STEM}] \Rightarrow \begin{cases} \mathbf{CV}(\cdots) \to \mathbf{CVCV}(\cdots) \\ \mathbf{C}_1\mathbf{C}_2\mathbf{V}(\cdots) \to \mathbf{C}_1\mathbf{a}\mathbf{C}_2\mathbf{V}(\cdots) \end{cases}$$

(**C**: consonant; **V**: vowel.)

(a)
1. *I caught you* (SG)
2. *we helped you* (PL)
3. *they helped it*
4. *it gets spoiled*

(b)
5. **kasaghunikasa**
6. **ɗifamu**
7. **daɗadaɗa**
8. **yayayayaxən**
9. **ghaghalaghaghalaka**
10. **snasni**

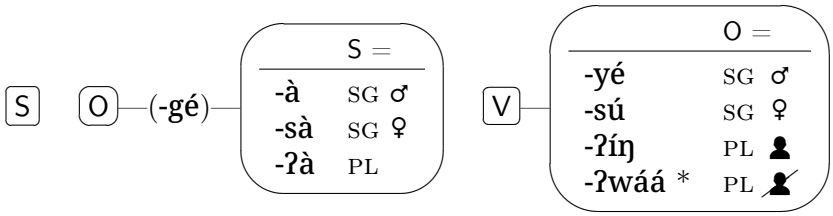
Problem 5.

1. Nouns:

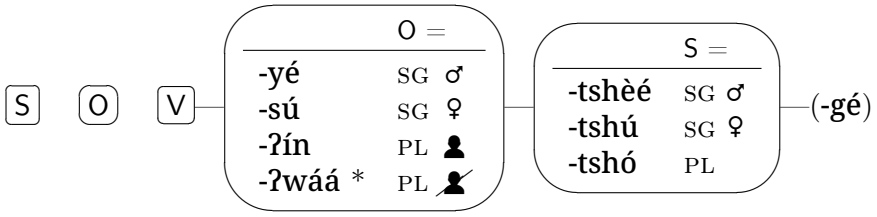
👤:			👤:		🐄🐂	🐓🐔	🐆
	-∅	SG ♂		♂	k'ámbà	kòŋkórì	théká
	-sù	SG ♀		♀	múk'ùmè	kókó	
	-sò	PL					

2. Sentence structure:

- Affirmative:



- Negative (*'not ...'*):



* $\boxed{1}\bar{V}\acute{V}$ + -ʔwáá → $\boxed{2}\bar{V}ʔ\underset{\cdot}{\acute{V}}$wáá $\boxed{2} = \begin{cases} \text{high}, & \boxed{1} = \text{high} \\ \text{rising}, & \boxed{1} = \text{low} \end{cases}$

3. -gé — *'Apparently, ...'*

Abbreviations			
👤	human nouns		
🐾	animals		
♂	male	SG	singular
♀	female	PL	plural

(a) 15. *Apparently, a cook*(M) *skinned a rooster.*
16. *A blacksmith*(F) *brought a cook*(F).
17. *Apparently, bulls didn't hit a leopard*(F).
18. *A cow herded hunters.*

(b) 19. **thíméỳsò kókóʔà báló ʔo̱wáá**
20. **ŋǃàméỳsù théká ǁ'ěʔe̱wáátshúgé**
21. **théká kòŋkórì bálóóyétshú**
22. **k'ámbà thíméỳsò xééʔíntshèégé**
23. **ǃ'ìnéỳ ŋǃàméỳsògéà xééʔíŋ**