

## Third Asia Pacific Linguistics Olympiad

March 28 – April 11, 2021

## Solutions

## Problem 1.

1. Sentence structure:  $\begin{cases} S (B) & V & - & \text{'S V-s/-ed (for B)'} \\ A (B) & O & V & - & \text{'A V-s/-ed O (for B)'} \\ S & B & & V & - & \text{'S likes / liked B'}$

2. Possession: 

Poss	N
------	---

 (Poss: possessor; N: possessee)

3. Noun/pronoun suffixes:

	A	S	O	B / Poss
common noun	<b>-ŋŋu</b>	∅		<b>-ku</b>
proper noun	<b>-lu</b>	<b>-ŋa</b>		
pronoun	∅		<b>-ŋa</b>	<b>-mma</b>

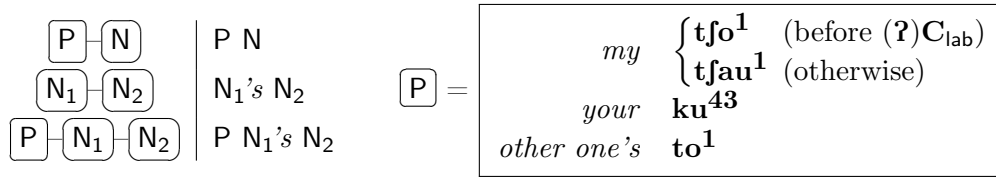
4. Verb endings:

		<i>see</i>	<i>eat</i>
	<i>like</i>	<i>give</i>	<i>kill</i>
		<i>come</i>	<i>run</i>
past	<b>-ŋu</b>		<b>-nu</b>
present	<b>-ŋaŋi</b>	<b>-ŋi</b>	<b>-naŋi</b>

- (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. **naomiŋa emanuelku pica-ŋi**  
20. **ŋura ŋanaŋamma paka-nu**  
21. **ŋuntu ŋalimma mukuri-ŋaŋi**  
22. **papa emanuelku mukuri-ŋu**  
23. **papaku maŋuŋu ŋurapa ŋa-ŋi**  
24. **marialu papaku ŋuntumma ŋammu u-ŋu**

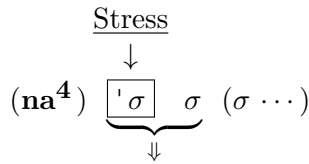
**Problem 2.**

1. Word structure:



N	X		X = ∅	X = ʔi <sup>5</sup> tʃi <sup>1</sup>	X = ʔi <sup>1</sup> ra <sup>1</sup>		
na <sup>4</sup>	A	X		N	<i>really</i> N	—	
na <sup>4</sup>	A	N	X		<i>it is</i> A	<i>it is really</i> A	<i>it is sort of</i> A
na <sup>4</sup>	A	N	X		<i>its N is</i> A	<i>its N is really</i> A	<i>its N is sort of</i> A

2.



after 'o(ʔ) :	a	→	o
after 'V(ʔ) :	i	→	V
before (C)V <sup>1</sup> :	'V <sup>1</sup>	→	'V <sup>5</sup>

Abbreviations	
A	adjective
N	noun
σ	syllable
V	vowel
C	consonant
C <sub>lab</sub>	labials {p, b, m}

- (a) ηo<sup>3</sup> ʔo<sup>1</sup> ('s) garden
- (b) 1. ka<sup>1</sup> tree trunk  
 2. its leaves are white  
 3. really a ηo<sup>3</sup> ʔo<sup>1</sup>  
 4. other one's garden  
 5. owl monkey's entire body  
 6. my tree trunk
- (c) 7. na<sup>4</sup> 'tʃi<sup>5</sup> ʔi<sup>1</sup> ra<sup>1</sup>  
 8. na<sup>4</sup> 'tʃo<sup>1</sup> ʔtʃi<sup>5</sup> ru<sup>1</sup> ʔi<sup>5</sup> tʃi<sup>1</sup>  
 9. 'tʃau<sup>1</sup> te<sup>4</sup> ʔi<sup>4</sup> ne<sup>1</sup>  
 10. 'tʃo<sup>1</sup> bi<sup>2</sup>

**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

$\text{rug} = 0 \quad 100 X = X \text{ boqol} \quad 1000 X = X \text{ kun} \quad (2 \leq X \leq 9)$

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

\* koow iyo  $\rightarrow$  koob iyo

a	e	i	o	u	aa	ee	oo
ሪ	ሪ	ዓ	ከ	ሰ	ሩ	ሀ	ከ
b	d	f	g	k	l	n	q
ቃ	ዐ	ሩ	ከ	ዘ	ቢ	ሪ	ዘ
r	s	sh	t	w	x	y	
ገ	ፅ	ቂ	ቃ	ካ	ጠ	፩	

0	1	2	3	4
ዐ	ሪ	፩	ከ	ዘ
5	6	7	8	9
፩	ዓ	ገ	ሪ	ሀ

- (a) A. *ሪ፩፩* (125)    B. *ሪሪ* (18)    C. *ሪሀ* (19)    D. *፩ዐ፩ሪ* (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. *ዘከቃ ዓ፩ከ ቃከዐዐከቃሩሪሪ*  
 I. *ፅሪ፩ሩቢ ዘገፅ ዓ፩ከ ፩ሪሪ ዣከፅከቢ ዓ፩ከ ቢዓጤ*  
 J. *ፅሪዐዐጤ ዓ፩ከ ሪሪሪሪሪሪ*

**Problem 4.**

1. Verb stems:

- $V_i$  (intransitive): **bʔadža-** *get spoiled*, **ddʔa-** *fall*, **šna-** *know*
- $V_t$  (transitive): **dʔifa-** *hide*, **kata-** *help*, **kša-** *catch*, **chala-** *steal*, **ya-** *give birth to*

2. Verb structure:

	present	past
$V_i$	<div style="border: 1px solid black; padding: 2px; display: inline-block;">STEM</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 5px;">S</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">STEM</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 5px;">STEM</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 5px;">S</div>
	‘S $V_i$ -s’	‘S $V_i$ -ed’
$V_t$	<div style="border: 1px solid black; padding: 2px; display: inline-block;">STEM</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 5px;">S</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">STEM</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 5px;">O</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 5px;">STEM</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 5px;">S</div>
	‘S $V_t$ -s it/them’	‘S $V_t$ -ed O’

	1st person	2nd person	3rd person
singular	-aʔ → i	-ka (S) -cha (O)	∅
plural	-mu	-kuni (S) -chuni (O)	-xən (S, $V_t$ ) ∅ (otherwise)

$$\left[ \begin{array}{l} V_i, S = \text{plural} \\ V_t, O = \text{plural} \end{array} \right] : \quad \boxed{\text{STEM}} \Rightarrow \begin{cases} \text{CV}(\dots) \rightarrow \text{CVCV}(\dots) \\ \text{C}_1\text{C}_2\text{V}(\dots) \rightarrow \text{C}_1\text{aC}_2\text{V}(\dots) \end{cases}$$

(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. **kašachunikaša**
  6. **dʔifamu**
  7. **dadʔadadʔa**
  8. **yayayaxən**
  9. **chachalachalaka**
  10. **šnašni**

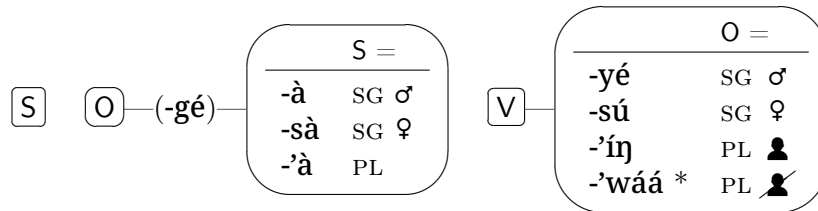
**Problem 5.**

1. Nouns:

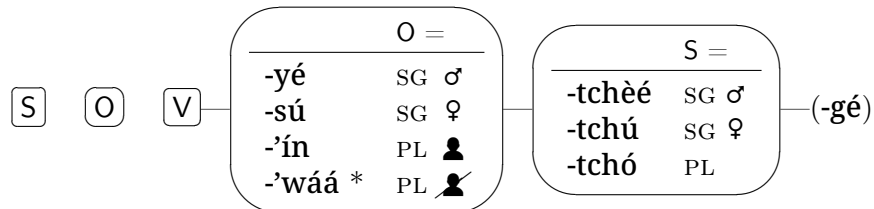
$\begin{matrix} \text{person icon} : \\ \left\{ \begin{array}{l} -\emptyset \quad \text{SG } \sigma \\ -\text{sù} \quad \text{SG } \text{♀} \\ -\text{sò} \quad \text{PL} \end{array} \right. \end{matrix}$	$\begin{matrix} \text{person icon} : \\ \begin{array}{l} \sigma \\ \text{♀} \end{array} \end{matrix}$			
		$\sigma$	$\sigma$	$\text{♀}$
		$\text{♀}$	$\text{♀}$	$\text{♀}$
		kkámbà	gkòngkòrì	tégká
		$\text{♀}$	múkkùmè	gkógkó

2. Sentence structure:

• Affirmative:



• Negative (‘not ...’):



$$* \overset{\boxed{1}}{\text{V}}\overset{\boxed{1}}{\text{V}} + \text{-’wáá} \rightarrow \overset{\boxed{2}}{\text{V}}\overset{\boxed{2}}{\text{V}}\text{’wáá} \quad \boxed{2} = \begin{cases} \text{high,} & \boxed{1} = \text{high} \\ \text{rising,} & \boxed{1} = \text{low} \end{cases}$$

3. -gé — ‘Apparently, ...’

Abbreviations			
	human nouns		
	animals		
$\sigma$	male	SG	singular
$\text{♀}$	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. **tíméysò gkógkó’á báló’ówáá**  
 20. **nqàméysù tégká x’ě’éwáátchúgé**  
 21. **tégká gkòngkòrì bálóoyétchú**  
 22. **kkámbà tíméysò khéé’íntchèégé**  
 23. **q’ìnèy nqàméysògèà khéé’ín**