

# Fourth Asia Pacific Linguistics Olympiad

10 – 24 April 2022

## Problems

- Listen carefully to the invigilators and follow their instructions.
- The contest lasts five hours. The problem set consists of seven pages and it contains five problems. You may solve the problems in any order.
- You are not allowed to use any electronic devices, written or printed material or other external sources of information during the contest.
- If you have a question about any of the problems, put up your hand and ask an invigilator. The invigilator will consult with the jury before answering.
- Rules for writing out solutions:
  - Do not copy the statements of the problems.
  - Write down your solution to each problem on a separate sheet or sheets.
  - Use only the front side of the answer sheet.
  - On each sheet, indicate your name, the number of the problem, and the page sequence of that sheet within the problem, e.g.:

Name	...	Name	...	Name	...
Problem #	5	Problem #	5	Problem #	5
Page #	1 / 3	Page #	2 / 3	Page #	3 / 3

(meaning first, second, and third sheet of three for the fifth problem.)

Otherwise, 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.

**The contest problems must be kept confidential until they are published on the official APLO website <https://aplo.asia>. Do not disclose nor discuss the problems online until that date.**

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

fêsãw jysy	<i>The bean is ripe.</i>
îkôrãkritira jymêkuarãpio	<i>The two watermelons are warm.</i>
mõsy jysypiã	<i>The corn has grown.</i>
mara jyrãprã	<i>He is painted.</i>
prîra kamêrãpio	<i>The two children will be sick.</i>
nãkôwsia jykuatê	<i>The orange has fallen.</i>
îkjê hê rikukã kwati	<i>I have cut the inajã.</i>
ka hê kamêkã yôritira	<i>You<sub>(SG)</sub> have cut the two peccaries.</i>
îkjêrã karimêasa	<i>We two will bite you<sub>(SG)</sub>.</i>
prîrã timêramêsa	<i>The two children have bitten us two.</i>
yôriti hê tisysa mõsy	<i>The peccary has bitten the corn.</i>
ka hê kakasytõpy fêsãw	<i>You<sub>(SG)</sub> will buy the bean.</i>
îkjêrã karimêakã	<i>We two will cut you<sub>(SG)</sub>.</i>
mara hê katikuasa îkôrãkriti	<i>He will bite the watermelon.</i>
kara jyamêtê	(1)
piutî jykuã	(2)
karã kamêsysa kiorîpê	(3)
_____ (4)	<i>They two have bought the inajã.</i>
_____ (5)	<i>The child has cut the rice.</i>
_____ (6)	<i>The two corns are red.</i>
_____ (7)	<i>The peccary has bitten the two genipaps.</i>
_____ (8)	<i>I will grow.</i>

Fill in the blanks (1–8).

△ Panará belongs to the Macro-Jê family. It is spoken by approx. 500 people in the Brazilian states of Mato Grosso and Pará.

One of the main customs of Panará people is body painting, usually done with extracts from the achiote fruit, which has a bright-red colour.

*Inajã* is a type of coconut. *Genipap* (right) is the fruit of the *Genipa americana* tree. A *peccary* is a type of wild boar.

â, ê, ô and y are vowels. A tilde above a vowel (e.g., ã) denotes nasalisation.

SG = singular; PL = plural.



*genipaps*

— João Henrique Fontes

**Problem 2 (20 points).** Here are some words in Wayuu and their English translations:

<b>we'mia</b>	<i>our food for the trip</i>	<b>na'paʔa</b>	<i>their surface</i>
<b>hi'hijou</b>	<i>your (PL) visit</i>	<b>nu'satʃiralu</b>	<i>his cow</i>
<b>'no:ʔuliwoʔu</b>	$\left\{ \begin{array}{l} \text{his descendant} \\ \text{their descendant} \end{array} \right.$	<b>wa'ʃija:ʃi</b>	<i>our stepfather</i>
<b>wa'hapki:</b>	<i>our puppet</i>	<b>teʔe'huu</b>	<i>my flavour</i>
<b>'pe:ʔiraka</b>	<i>your (SG) substitute</i>	<b>no'hujala</b>	<i>their debt</i>
<b>ni'peʔe</b>	<i>his left hand</i>	<b>'neija:su</b>	<i>their stepmother</i>
<b>'nu:ʃu</b>	<i>his grandma</i>	<b>pu'ʃoʔo</b>	<i>your (SG) knot</i>
<b>taʔu'nu:</b>	<i>my enemy</i>	<b>pu'tuhuna</b>	<i>your (SG) beam</i>
<b>ta'ʃunu:</b>	<i>my younger sister</i>	<b>teʔi'ruku</b>	<i>my meat</i>
		<b>wa'sula</b>	<i>our tendon</i>

(a) Mark the stress:

<b>nemeʔerainpala</b>	<i>their laughing stock</i>	<b>waseʔeruʔu</b>	<i>our half</i>
<b>tososo</b>	<i>my lung</i>	<b>nepihana</b>	<i>their noise</i>
<b>haʔalain</b>	<i>your (PL) lie</i>	<b>pu:li:hana</b>	<i>your (SG) necklace</i>
<b>numuuliala</b>	<i>his suffering</i>	<b>huʃeʔin</b>	<i>your (PL) cloth</i>
<b>hwtouta</b>	<i>your (PL) skin</i>	<b>no:ʔui</b>	$\left\{ \begin{array}{l} \text{his tyre} \\ \text{their tyre} \end{array} \right.$

(b) Below are some additional words in Wayuu:

<b>pu'mane:</b>	<i>your (SG) kindness</i>	<b>hehe'ru</b>	<i>your (PL) chord</i>
<b>wu'satʃiralu</b>	<i>our cow</i>	<b>to'noʔu</b>	<i>my design</i>

Out of the four words above, two are correct and each of the other two contains a single mistake. Correct the mistakes.

(c) Translate into English:

- pimia**
- huʃija:ʃi**
- toufu**
- naʔalain**
- namuuliala**

One of the words 1–5 has two possible translations.

(d) Translate into Wayuu and mark the stress:

- our substitute*
- their skin*
- his stepmother*
- my left hand*
- my necklace*
- your (PL) younger sister*

△ Wayuu belongs to the Arawakan family. It is spoken by approx. 420,000 people in Venezuela and Colombia.

ʔ represents the glottal stop, it is similar to the sound in the middle of *uh-oh*. **u** is pronounced similar to **u**, but with spread lips. The mark   shows that the following syllable is stressed.

SG = singular; PL = plural.

— Vlad A. Neacşu

**Problem 3 (20 points).** Here are some sentences in Jarawara and their English translations:

- |                                    |   |
|------------------------------------|---|
| 1. <b>okaki jomee katomaro</b>     | <i>My grandmother fought the jaguar.</i>                    |
| 2. <b>okiti jaka nebona</b>        | <i>My grandfather intends to walk.</i>                      |
| 3. <b>okomi jaka naro</b>          | <i>My mother walked.</i>                                    |
| 4. <b>maki fana siba neri</b>      | <i>The man found the woman.</i>                             |
| 5. <b>tikatao tiwa hijareri</b>    | <i>Your<sub>(SG)</sub> son spoke to you<sub>(SG)</sub>.</i> |
| 6. <b>maki tera kakatomehibona</b> | <i>The man intends to look at you<sub>(PL)</sub>.</i>       |
| 7. <b>kerewe jifari kaba</b>       | <i>The sloth eats the banana.</i>                           |
| 8. <b>sami owataro</b>             | <i>I grabbed the pineapple.</i>                             |
| 9. <b>okatao bijo karawato</b>     | <i>My son waits for the spider monkey.</i>                  |

(a) Translate into English:

10. **maki kerewe kabe**
11. **jomee tikatao katomeri**
12. **fana okaki hijara**
13. **okatao sami kabehibona**

Some syllables in Jarawara words are stressed. Below are some additional sentences in Jarawara and their English translations. Here, stressed syllables are marked with an acute accent over the vowel (e.g., **á**).

- |                                     |  |
|-------------------------------------|--|
| 14. <b>okóbi keréwe kíjohíri</b>    | <i>My father chased the sloth.</i>                   |
| 15. <b>tikóto méra kárawátóháro</b> | <i>Your<sub>(SG)</sub> daughter waited for them.</i> |
| 16. <b>tíwa síba onáhabóne</b>      | <i>I intend to find you<sub>(SG)</sub>.</i>          |
| 17. <b>méra tíhijáraháro</b>        | <i>You<sub>(SG)</sub> spoke to them.</i>             |
| 18. <b>bíjo ówa wátehíri</b>        | <i>The spider monkey grabbed me.</i>                 |
| 19. <b>okómi ówa kakátomáhabóne</b> | <i>My mother intends to look at me.</i>              |
| 20. <b>jifári okábabóne</b>         | <i>I intend to eat the banana.</i>                   |

(b) Translate into Jarawara and mark the stressed syllables:

21. *You<sub>(SG)</sub> walked.*
22. *I looked at you<sub>(PL)</sub>.*
23. *The sloth intends to grab me.*
24. *The spider monkey intends to fight them.*

△ Jarawara is a dialect of the Madí language, which belongs to the Arawan language family. It is spoken by approx. 170 people in Amazonas, Brazil.

A *spider monkey* is a kind of monkey found in the rainforests of Central and South America.  
SG = singular; PL = plural. — Hoju Cha, Jaeyong Yang

**Problem 4 (20 points).** Here are some Ngkolmpu numbers:

- 1 **aempy**
- 8 **ynaoaempy ptae**
- 17 **tamp tarwmpao**
- 21 **ylla ntamnao**
- 35 **tamp ptae wramaekr**
- 64 **eser wramaekr ptae**
- 167 **tamp ntamnao ptae eser**
- 294 **tarwmpao ptae ptae ynaoaempy**
- 504 **tarwmpao ynaoaempy ptae ynaoaempy**

- (a) Two of the Ngkolmpu numbers above can each be interpreted one additional way not given.
- Which are these numbers?
  - What are their alternative interpretations?

- (b) Below are some arithmetic equalities expressed in Ngkolmpu. All numbers that appear in the equalities are positive integers.

[ 1 ] **tamp ptae wramaekr ptae tamp – eser ntamnao** = \_\_\_\_\_ (A)

[ 2 ] **ylla ptae ylla** + \_\_\_\_\_ (B) = **tarwmpao**

[ 3 ] **ntamnao ptae** × **eser wramaekr** = **ntamnao ntamnao** + \_\_\_\_\_ (C)

Fill in the blanks (A–C) and write the equalities in numerals.

⚠ (C) < 200

- (c) Give all possible interpretations of the following number:

**tarwmpao ylla ptae**

⚠ Ngkolmpu belongs to the Yam family. It is spoken by approx. 100 people in Papua province, Indonesia. — *Ji Hun Wang, Minkyu Kim*

*The remainder of this page is intentionally left blank.*

**Problem 5 (20 points).** In 1–5, all possible English translations for each Miskito sentence are given:

1. <b>ai kaiki banghwras kaisma</b>	→ <i>You<sub>(PL)</sub> won't see me.</i> → <i>You<sub>(PL)</sub> won't see us<sub>(1+3)</sub>.</i>
2. <b>yawan man nani playkam kaikisa</b>	→ <i>We<sub>(1+2)</sub> see your<sub>(PL)</sub> post.</i>
3. <b>pulisna</b>	→ <i>I play.</i> → <i>We<sub>(1+3)</sub> play.</i>
4. <b>yawan ini banghwaisa</b>	→ <i>We<sub>(1+2)</sub> will cry.</i>
5. <b>araskam playa prukisa</b>	→ <i>Your<sub>(SG)</sub> horse hits the post.</i> → <i>Your<sub>(PL)</sub> horse hits the post.</i>

In 6–8, some or all possible English translations for each Miskito sentence are given:

6. <b>batana piakras</b>	→ <i>I don't cook the grease.</i> → <i>You<sub>(PL)</sub> won't cook the grease.</i>
7. <b>yang araski wan prukisa</b>	→ <i>My horse hits us<sub>(1+2)</sub>.</i>
8. <b>aibipka pliki banghwaisna</b>	→ <i>We<sub>(1+3)</sub> will look for his cow.</i> → <i>We<sub>(1+3)</sub> will look for their cow.</i>

In 9–11, some or all possible Miskito translations for each English sentence are given:

9. <i>You<sub>(PL)</sub> cook his snake.</i>	→ <b>man nani aipyutka piaki banghwisma</b> → <b>aipyutka piaki banghwisma</b> → <b>witin aipyutka piakisma</b>
10. <i>They don't cry.</i>	→ <b>witin nani ini banghwras</b> → <b>witin nani ini banghwras sa</b> → <b>inras sa</b>
11. <i>You<sub>(SG)</sub> will look for our<sub>(1+2)</sub> post.</i>	→ <b>man wanplayka plikaisma</b>

In 12–13, all possible Miskito translations for each English sentence are given:

12. <i>He detests you<sub>(PL)</sub>.</i>	→ <b>mai kulkisa</b> → <b>witin mai kulkisa</b>
13. <i>We<sub>(1+3)</sub> will hit him.</i>	→ <b>prukaisna</b> → <b>yang nani prukaisna</b> → <b>pruki banghwaisna</b> → <b>yang nani pruki banghwaisna</b>

(continued on next page)

(a) Translate into English in all possible ways:

14. **man wanaraska piakras sma**
15. **witin aiaraska kaikaisa**
16. **pyuta kulki banghwras kaisa**

(b) For each of the sentences below write out all Miskito translations that contain the word given in brackets:

17. *I don't look for you* (SG). (yang)
18. *We* (1+3) *will not see them*. (nani)
19. *We* (1+2) *will detest your* (PL) *snake*. (man)
20. *You* (PL) *hit [present tense] our* (1+2) *grease*. (yawan)

△ Miskito belongs to the Misumalpan family. It is spoken by approx. 700,000 people along the eastern coasts of Honduras and Nicaragua.

*We* (1+2) = *you* (PL) *and I*; *We* (1+3) = *they and I*; SG = singular; PL = plural.

— Chih-Chun Wang, Vlad A. Neacșu (consultant: Elmor Wood)

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Good luck!