

Problem #5: Komnzo

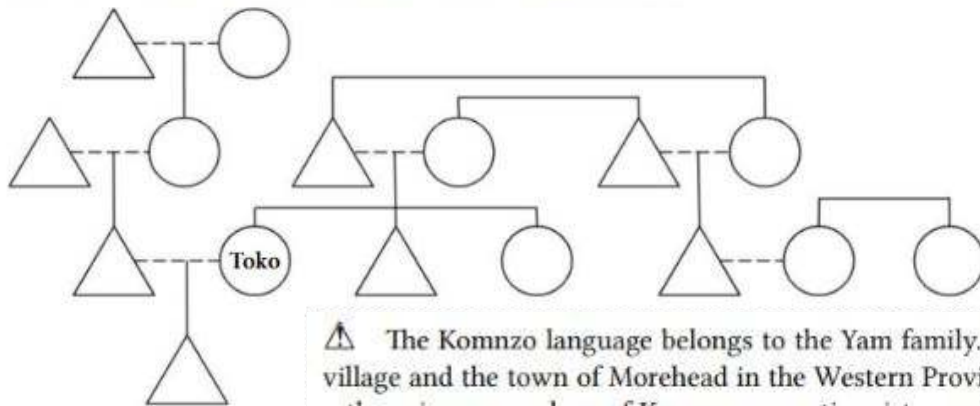
by Vesko Milev
Consultant: Christian Döhler

A little throwback...

Twenty-first International Linguistics Olympiad (2024)
Individual Contest Problems

4

Problem 3 (20 points). You are given the family tree of a Komnzo-speaking family and statements describing the family members' relation to each other. Siblings are displayed in descending age order from left to right. The position of one family member, **Toko**, is known.



⚠ The Komnzo language belongs to the Yam family. It is spoken by approx. 250 people in Rouku village and the town of Morehead in the Western Province of Papua New Guinea. The Farem people – the primary speakers of Komnzo – practice sister exchange, whereby two men from different clans marry each other's sisters (as seen in the family tree).

ä = a in cat. ŋ = ng in hang. th = th in leather. z = ts in cats.

—Aida Davletova

Komnzo

Linguistic background

Komnzo (“komnjo”) is a Yam language, spoken by ~200–250 people in Papua–New Guinea.

komnzo = ‘just, only, still’

The problem is based on **A grammar of Komnzo**



Yam counting ritual in the village of Rouku,
from the archives of Christian Döhler

IOL 2026

1.	<i>I met them yesterday.</i>	kayé thewafé
2.	<i>You_{pl} were calling me a week ago.</i>	nümä wobräknwath
3.	<i>We were holding them a week ago.</i>	nümä efathwake
4.	<i>We held you_{pl} a week ago.</i>	nümä thefafake
5.	<i>You_{pl} are meeting us now.</i>	zena nwagrwrth
6.	<i>We are seeing you_{pl} now.</i>	zena emarwe
7.	<i>I am calling them now.</i>	zena ebräknwé
8.	<i>They returned you_{pl} a week ago.</i>	nümä thäbrimath
9.	<i>You_{pl} were holding us a week ago.</i>	nümä nfathwath
10.	<i>We returned them yesterday.</i>	kayé thäbrime
11.	<i>You_{pl} saw me a week ago.</i>	nümä zwemarath
12.	<i>They called us yesterday.</i>	kayé nznästh
13.	<i>They called me a week ago.</i>	nümä zwäsath
14.	<i>I was meeting them a week ago.</i>	nümä ewagrwa

IOL 2026

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14.	<i>I was meeting them a week ago.</i>	nümä ewagrwa

One of the most famous songs in the local language of IOL 2026 :)

Grading team :)

- Przemysław Podleśny
- Milena Veneva
- Aleksejs Peguševs (team leader)
- Aida Davletova
- Daniel Rucki
- Jan Petr



The author



Approaching the problem

1.	<i>I met them yesterday.</i>	kayé thewafé
5.	<i>You_{pl} are meeting us now.</i>	zena nwagrwrtth
14.	<i>I was meeting them a week ago.</i>	nümä ewagrwa
2.	<i>You_{pl} were calling me a week ago.</i>	nümä wobräknwath
7.	<i>I am calling them now.</i>	zena ebräknwé
12.	<i>They called us yesterday.</i>	kayé nznästh
13.	<i>They called me a week ago.</i>	nümä zwäsath
3.	<i>We were holding them a week ago.</i>	nümä efathwake
4.	<i>We held you_{pl} a week ago.</i>	nümä thefafake
9.	<i>You_{pl} were holding us a week ago.</i>	nümä nfathwath
6.	<i>We are seeing you_{pl} now.</i>	zena emarwe
11.	<i>You_{pl} saw me a week ago.</i>	nümä zweimarath
8.	<i>They returned you_{pl} a week ago.</i>	nümä thäbrimath
10.	<i>We returned them yesterday.</i>	kayé thäbrime

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5.	<i>You_{pl} are meeting us now.</i>	zena n wagr w rth
14.	<i>I was meeting them a week ago.</i>	nümä e wagr w a
2.	<i>You_{pl} were calling me a week ago.</i>	nümä w bräkn w ath
7.	<i>I am calling them now.</i>	zena e bräkn w é
12.	<i>They called us yesterday.</i>	kayé nzn äs th
13.	<i>They called me a week ago.</i>	nümä zw äs sath
3.	<i>We were holding them a week ago.</i>	nümä e fath w ake
4.	<i>We held you_{pl} a week ago.</i>	nümä thefafake
9.	<i>You_{pl} were holding us a week ago.</i>	nümä n fath w ath
6.	<i>We are seeing you_{pl} now.</i>	zena e mar w e
11.	<i>You_{pl} saw me a week ago.</i>	nümä zw e mar ath
8.	<i>They returned you_{pl} a week ago.</i>	nümä thäbrimath
10.	<i>We returned them yesterday.</i>	kayé thäbrime

20. kayé thefafé

21. nümä emar **w**a

19. nümä n **brig** **w**ath

22. kayé nznäbrimth

1.	<i>I met them yesterday.</i>	kayé thewafé
5.	<i>You_{pl} <u>are meeting</u> us now.</i>	zena n wagr w rth
14.	<i>I <u>was meeting</u> them a week ago.</i>	nümä e wagr w a
2.	<i>You_{pl} <u>were calling</u> me a week ago.</i>	nümä w bräkn w ath
7.	<i>I <u>am calling</u> them now.</i>	zena e bräkn w é
12.	<i>They <u>called</u> us yesterday.</i>	kayé nzn äs th
13.	<i>They <u>called</u> me a week ago.</i>	nümä zw äs sath
3.	<i>We <u>were holding</u> them a week ago.</i>	nümä e fath w ake
4.	<i>We held you_{pl} a week ago.</i>	nümä thefafake
9.	<i>You_{pl} <u>were holding</u> us a week ago.</i>	nümä n fath w ath
6.	<i>We are seeing you_{pl} now.</i>	zena e mar w e
11.	<i>You_{pl} saw me a week ago.</i>	nümä zw e mar ath
8.	<i>They returned you_{pl} a week ago.</i>	nümä thäbrimath
10.	<i>We returned them yesterday.</i>	kayé thäbrime

Roots, as it turns out,
depend on the aspect.

20. kayé thefafé

21. nümä e **mar** **w**a

19. nümä n **brig** **w**ath

22. kayé nznäbrimth

1.	<i>I met them yesterday.</i>	kayé thewafé
5.	<i>You_{pl} <u>are meeting</u> us now.</i>	zena n wagr w rth
14.	<i>I <u>was meeting</u> them a week ago.</i>	nüma e wagr w a
2.	<i>You_{pl} <u>were calling</u> me a week ago.</i>	nüma wo bräkn w ath
7.	<i>I <u>am calling</u> them now.</i>	zena e bräkn w é
12.	<i>They <u>called</u> us yesterday.</i>	kayé nzn äs th
13.	<i>They <u>called</u> me a week ago.</i>	nüma zw äs ath
3.	<i>We <u>were holding</u> them a week ago.</i>	nüma e fath w ake
4.	<i>We held you_{pl} a week ago.</i>	nüma thefafake
9.	<i>You_{pl} <u>were holding</u> us a week ago.</i>	nüma n fath w ath
6.	<i>We are seeing you_{pl} now.</i>	zena e mar w e
11.	<i>You_{pl} saw me a week ago.</i>	nüma zwe mar ath
8.	<i>They returned you_{pl} a week ago.</i>	nüma thäbrimath
10.	<i>We returned them yesterday.</i>	kayé thäbrime

Roots, as it turns out,
depend on the aspect.

...and maybe not just the
roots...

20. kayé thefafé

21. nüma emar **w**a

19. nüma n **brig** **w**ath

22. kayé nznäbrimth

1.	I met <u>them</u> yesterday.	kayé <u>th</u> ewafé
5.	You _{pl} <u>are meeting</u> <u>us</u> now.	zena <u>n</u> wagr <u>w</u> rth
14.	I <u>was meeting</u> <u>them</u> a week ago.	nümä <u>e</u> wagr <u>w</u> a
2.	You _{pl} <u>were calling</u> <u>me</u> a week ago.	nümä <u>w</u> obräkn <u>w</u> ath
7.	I <u>am calling</u> <u>them</u> now.	zena <u>e</u> bräkn <u>w</u> é
12.	They <u>called</u> <u>us</u> yesterday.	kayé <u>nzn</u> ästh
13.	They <u>called</u> <u>me</u> a week ago.	nümä <u>zw</u> äsath
3.	We <u>were holding</u> <u>them</u> a week ago.	nümä <u>e</u> fath <u>w</u> ake
4.	We held <u>you_{pl}</u> a week ago.	nümä <u>th</u> efafake
9.	You _{pl} <u>were holding</u> <u>us</u> a week ago.	nümä <u>n</u> fath <u>w</u> ath
6.	We are seeing <u>you_{pl}</u> now.	zena <u>e</u> mar <u>w</u> e
11.	You _{pl} saw <u>me</u> a week ago.	nümä <u>zw</u> emarath
8.	They returned <u>you_{pl}</u> a week ago.	nümä <u>th</u> äbrimath
10.	We returned <u>them</u> yesterday.	kayé <u>th</u> äbrime

Roots, as it turns out,
depend on the aspect.

...and maybe not just the
roots...

20. kayé thefafé

21. nümä emarwa

19. nümä nbrigwath

22. kayé nznäbrimth

Ways to distinguish aspect

Lexically

3. root:

aspect	imperfective	perfective
<i>see</i>	-mar-	-mar-
<i>return</i>	-brig-	-brim-
<i>hold</i>	-fath-	-faf-
<i>meet</i>	-wagr-	-waf-
<i>call</i>	-bräkn-	-s-

Morphologically

1. object:

aspect	imperfective	perfective
1st person sg.	wo-	zw-
1st person pl.	n-	nzn-
2nd person pl. 3rd person pl. }	e-	th-

2. aspect = perfective: -ä- (-äCa- > -eCa-;
C is a consonant)

4. aspect = imperfective: -w-

- Komnzo, how many aspect markers do you want?



Person merger



Subject

not a week ago

a week ago (+a)



1st person sg.	-é	(-aé > -a)
1st person pl.	-e	(-ae > -ake)
2nd person pl. = 3rd person pl.	-th	(-wth > -wrth)

Anatomy of a Komnzo verb

O.(I)PFV-[PFV]-ROOT.(I)PFV-[IPFV]-[a week ago]-S

You_{pl} were calling me a week ago. wo-bräkn-w-a-th
We held you_{pl} a week ago. th-e-faf-a-k-e

äCa → eCa

a + e → ake

Task (a)

- (a)
16. *You_{pl} held me yesterday.*
 17. *I called you_{pl} a week ago.*
 18. *You_{pl} are holding me now.*
 19. *They met us a week ago.*

Task (a)

- | | | | |
|-----|-----|--|-----------------|
| (a) | 16. | <i>You_{pl} held me yesterday.</i> | kayé zwefafth |
| | 17. | <i>I called you_{pl} a week ago.</i> | nümä thäsa |
| | 18. | <i>You_{pl} are holding me now.</i> | zena wofathwrth |
| | 19. | <i>They met us a week ago.</i> | nümä nznewafath |

Task (b)

(b) 20. nümä nbrigwath

21. kayé thefagé

22. nümä emarwa

23. kayé nznäbrimth

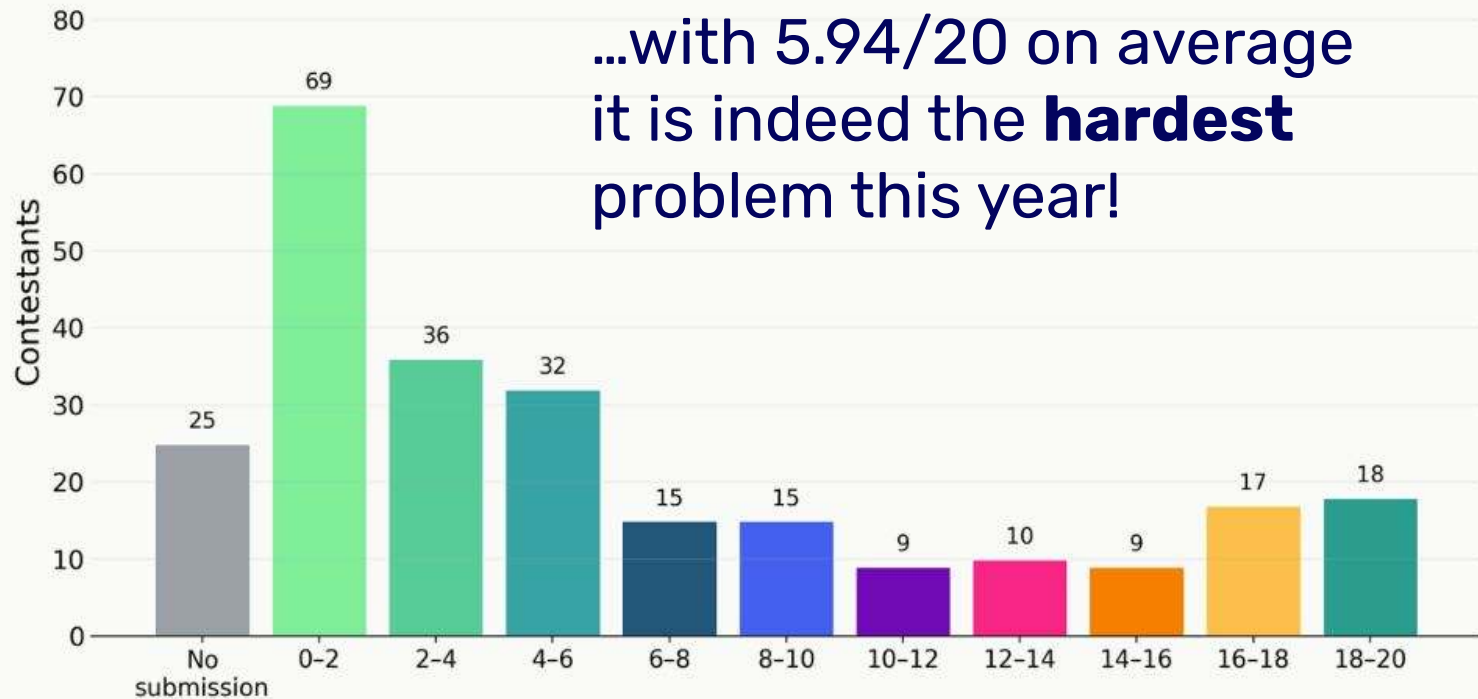
Task (b)

- (b)
- | | | |
|-----|-----------------|--|
| 20. | nümä nbrigwath | <i>You_{pl} were returning us a week ago.</i>
<i>They were returning us a week ago.</i> |
| 21. | kayé thefafé | <i>I held you_{pl} yesterday.</i>
<i>I held them yesterday.</i> |
| 22. | nümä emarwa | <i>I was seeing you_{pl} a week ago.</i>
<i>I was seeing them a week ago.</i> |
| 23. | kayé nznäbrimth | <i>You_{pl} returned us yesterday.</i>
<i>They returned us yesterday.</i> |

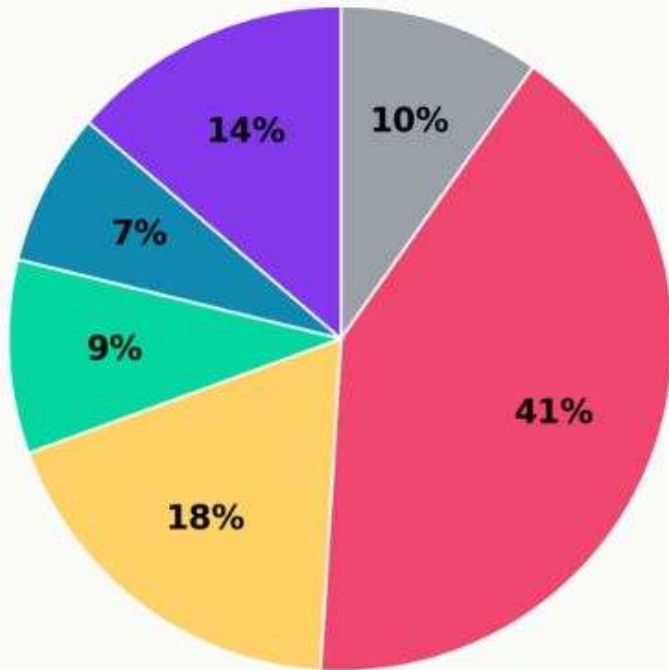
Stats

- ~75 of you voted for this problem as the hardest
- 34 of you voted for this problem as the easiest
- making it the **hardest** and only the **4th easiest** in the solvers' opinion...

Stats



Stats



- No submission (25)
- 0-4 (105)
- 4-8 (47)
- 8-12 (24)
- 12-16 (19)
- 16-20 (35)

**And the Best
Solution goes to...**

Tănăsescu Radu-Gheorghe



România Doină

Multumesc!
Eso kafar!