Tenth International Olympiad in Linguistics

Ljubljana (Slovenia), 30 July – 3 August 2012

Individual Contest Solutions

Problem #1. The word order is $\boxed{\text{OSV}}$ (O: object, S: subject, V: verb), $\boxed{\text{NA}}$ (N: noun, A: adjective).

A → V ('make A'): **A-man**.

V → A:

V	'that is always being Ved'	'that is always Ving Ns'
-n	**-l-muŋa**	**N-…-l-ŋay-muŋa**
-ɲu	**-y-muŋa**	**N-…-nay-muŋa**

Every noun is preceded by an article:

O	S	
balan	**baŋgun**	women, dangerous animals and objects
bayi	**baŋgul**	men, animals
bala	**baŋgu**	all other things

The subject and its attributes get the ending

- **-ŋgu**, if the word ends in a vowel and has two syllables;

- **-gu**, if the word ends in a vowel and has more than two syllables;

- **-Du**, if the word ends in a consonant; **D** is a stop articulated in the same place in the mouth as the final sound of the word.

(a) The grasshopper is neither a woman nor a dangerous animal, but takes the same article, so it must be the "old woman" from the myth. The linguist thought that **baŋgun bundiɲɟu** in example (14) was an error.

(b) 17. **balan ɲalŋga baŋgul ŋumaŋgu guniymuŋagu bambunman.**
The father that is always being searched for is healing the girl.

18. **bala diban bilmbalmuŋa baŋgun biɲɟiriɲɟu guniɲu.**
The lizard is searching for the stone that is always being pushed.

19. **bayi bargan baŋgul yaɽaŋgu gubimbuluŋunɟanaymuŋagu banɟan.**
The man that is always blaming doctors is following the wallaby.

(c) 20. The little wallaby is looking at the dragonfly.
bayi yiriɲɟila baŋgul bargandu wuraŋgu buɽan.

21. The aunt that is always being followed is bending the feather.
bala yila baŋgun mugunanɟagu banɟalmuŋagu waɽuman.

22. The sleeping possum is ignoring the loud noise.
bala muŋga baŋgul midindu ɟagundu ŋaɟin.

23. The caterpillar is searching for the man that is always carrying stones.
bayi yaɽa dibandimbanaymuŋa baŋgul bayimbambu guniɲu.

Problem #2.

	Umbu-Ungu			Umbu-Ungu
1	*telu*	24		*tokapu*
2	*talu*	$48 = 24 \times 2$		*tokapu talu*
3	*yepoko*	$72 = 24 \times 3$		*tokapu yepoko*
12	*rurepo*	$\alpha \neg \beta := (\alpha - 4) + \beta,$		*α-**nga** β*
16	*malapu*	$\alpha \in \{12, 16, 20, 24, 28, 32\},$		
20	*supu*	$\beta \in \{1, 2, 3\}$		
24	*tokapu*	$\gamma + \delta,$		*γ δ*
28	*alapu*	$\gamma = 24k, k \in \{1, 2, 3\},$		
32	*polangipu*	$9 \leq \delta \leq 32, \delta \neq 24$		

(a)   ***tokapu polangipu*** $= 24 + 32 = 56,$
     tokapu talu rureponga telu $= 24 \times 2 + 12 \neg 3 = 57,$
     tokapu yepoko malapunga talu $= 24 \times 3 + 16 \neg 2 = 86,$
     tokapu yepoko polangipunga telu $= 24 \times 3 + 32 \neg 1 = 101.$

(b) $13 = 16 \neg 1 = $ ***malapunga telu***,
     $66 = 24 \times 2 + 20 \neg 2 = $ ***tokapu talu supunga talu***,
     $72 = 24 \times 3 = $ ***tokapu yepoko***,
     $76 = 24 \times 2 + 28 = $ ***tokapu talu alapu***,
     $95 = 24 \times 3 + 24 \neg 3 = $ ***tokapu yepoko tokapunga yepoko***.

Problem #3.

	1st person sg	1st person pl	2nd person sg	2nd person pl	3rd person sg	3rd person pl
A	*nau-*				*du-*	*ditu-*
B	*natzai-*	*gatzaizki-*			*zai-*	*zaizki-*
Z	*-t*	*-gu*	*-zu*	*-zue*		*-te*

	A	B	Z	
ahaztu	— about whom —		who	forgot
hurbildu		who	whom	approached
lagundu	whom		who	helped
mintzatu		who	to whom	talked
ukitu	whom		who	touched

(a)

ahaztu ditut	} I forgot them	***lagundu dute***	they helped him
ahaztu zaizkit		***lagundu nauzue***	you(pl) helped me
ahaztu zaizu	you(sg) forgot him	***mintzatu natzaizu***	I talked to you(sg)
hurbildu natzaizue	I approached you(pl)	***mintzatu gatzaizkizue***	we talked to you(pl)
hurbildu zait	he approached me	***mintzatu zaizkigu***	they talked to us
lagundu ditugu	we helped them	***ukitu ditugu***	we touched them
lagundu dituzu	you(sg) helped them	***ukitu naute***	they touched me

(b) you(sg) touched me — ***ukitu nauzu***, they approached me — ***hurbildu zaizkit***.

(c) ***lagundu dut*** — I helped him, ***hurbildu gatzaizkizu*** — we approached you(sg).

(d) you(sg) forgot him (***ahaztu zaizu***) — ***ahaztu duzu***.

Problem #4. The sentences have the following structure: $\boxed{\text{S } \textit{paa} \text{ V O } [\text{O}']}$ (S: subject, V: verb, O: object, O': another object).

	give	call	strike, kill
O	to whom	whom	whom
O'	what	what	with what

Every noun is preceded by an article, which is **a** if this is the first third person in the sentence and **bona** otherwise. The form of the 3rd person sg pronoun **e** or **bona** is chosen in the same way.

Personal pronouns:

	1st person sg	1st person pl	2nd person sg	2nd person pl	3rd person sg	3rd person pl
S	*enaa*	*enam*	*ean*	*eam*	*eove*	*eori*
O, O'	*anaa*		*vuan*	*ameam*	*e, bona*	

(a) 13. ***Eam paa ani a overe.*** — You(pl) ate the coconut.

    14. ***Ean paa tasu a oraoraa bona kae.*** — You (sg.) struck the sorcerer with the bag.

    15. ***Eove paa tara ameam.*** — He saw you (pl.).

(b) 16. We gave the food to you (sg.). — ***Enam paa hee vuan a taba'ani.***

    17. He called me a child. — ***Eove paa dao anaa bona beiko.***

    18. I killed him with it. — ***Enaa paa asun e bona.***

    19. The sorcerer gave the fish to the boy. — ***A oraoraa paa hee bona visoasi bona iana.***

What was mentioned in the context is moved to the first place and takes the article **a**. If thereby a pronominal subject moves after the verb, it loses its initial **e-**. If the moving subject is a noun, it preserves its article **a**.

$$\text{S } \textit{paa} \text{ V O } [\text{O}'] \rightarrow \underline{\text{S}} \ \textit{paa} \text{ V O } [\text{O}']$$
$$\text{S } \textit{paa} \text{ V } \underline{\text{O}} \ [\text{O}'] \rightarrow \underline{\text{O}} \ \textit{paa} \text{ V S } [\text{O}']$$
$$\text{S } \textit{paa} \text{ V O } \underline{\text{O}'} \rightarrow \underline{\text{O}'} \ \textit{paa} \text{ V S O}$$

(c) 20. (Why was the sorcerer offended?) They called the sorcerer a woman.
    — ***A oraoraa paa dao ori bona moon.***

    21. (Why is this axe wet?) The boy killed the fish with the axe.
    — ***A toraara paa asun a visoasi bona iana.***

Problem #5. When two words constitute a phrase, the form of the first word undergoes the following change:

$$
\left|
\begin{array}{l}
\text{-VCV} \rightarrow \text{-VC} \\
\text{-VC}u \rightarrow \text{-VC} \\
\text{-VC}i \rightarrow \text{-V̈C} \\
\text{-VC}a \rightarrow \text{-V}a\text{C}
\end{array}
\right.
\qquad \text{(V: vowel, C: consonant).}
$$

The same thing happens when an adjective is formed by doubling a noun or a verb: **'ele + 'ele → 'el'ele** 'to be near × 2 = shallow'.

The word order is

- $\boxed{\text{N}_1 \ \text{N}_2}$ (N$_1$: modified, N$_2$: modifier);

- $\boxed{\text{N A}}$ (also with the meaning 'one who has A N': **huag 'el'ele** 'heart + shallow = impatient');

- $\boxed{\text{V O}}$ (the resulting compound word can be a noun or a verb: **a'öf fau** 'to exhaust + year = year's end', **hül hạfu** 'to turn over + rock = to blow (of a hurricane)').

- **(a)** **'u'u** — arm/hand, **isu** — nose, **kia** — neck, **leva** — hair, **mafa** — eye, **susu** — breast, **huga** — heart.

- **(b)** **tiro** — glass (stuff),
  poga — hole,
  huag lala — patient,
  hạf puhrạki — volcanic rock,
  maf pogi = **maf pala** — blind.

- **(c)** round — **kạlkạlu**; to cut copra — **'ol niu**; curly hair — **leav pirpiri**; sticky — **pulpulu**; to flash — **rima**; rubbish — **mofa**.

- **(d)**
  - word: **fäega** (or **fäeaga, fäeagu**).
  - to exhaust: **a'ofi** (or **a'öfi, a'öfö, a'öfu, a'öfü, a'ofü**).