Eleventh International Olympiad in Linguistics

Manchester (Great Britain), July 22–26, 2013

Individual Contest Solutions

Problem #1. Rules:

1. If the number of syllables in the word (= stem + ending) is even, all syllables are short. If the number of syllables in the word is odd, the last even-numbered syllable of the stem is lengthened.

$2 = 2 + 0$:	**bu**$_1$**ɲa**^{2}**-∅**	$3 = 2 + 1$:	**ba**$_1$**m<u>a:</u>**^{2} **-gu**$_3$
$4 = 2 + 2$:	**bu**$_1$**ɲa**^{2}**-gi**$_3$**mbal**^{4}	$3 = 3 + 0$:	**gu**$_1$**d<u>a:</u>**^{2}**ga**$_3$**-∅**
$4 = 3 + 1$:	**gu**$_1$**da**^{2}**ga**$_3$**-bi**^{4}	$5 = 3 + 2$:	**ɟu**$_1$**d<u>u:</u>**^{2}**lu**$_3$ **-mu**^{4}**ɟay**$_5$
$4 = 4 + 0$:	**mu**$_1$**yu**^{2}**ba**$_3$**ra**^{4}**-∅**	$5 = 4 + 1$:	**ga**$_1$**ɟa**^{2}**gi**$_3$**m<u>ba:</u>**^{4} **-gu**$_5$

2. If the ending **-ni** or **-mu** immediately follows a long vowel, it loses its own vowel.

(a) **mugaɭumu**, **waŋa:lgu**.

(b) **bama:n** — of a person, **buɲa:bi** — another woman, **maɟurmuɟay** — with a frog, **muɟa:mni** — of a mother.

(c) of a stranger — **muyubara:n**, for a fishing net — **mugaɭugu**, father — **bimbi**, from a frog — **maɟu:rmu**, without a man — **wagu:ɟagimbal**, of a pigeon — **ɟuduluni**, tortoise — **baɟi:gal**, without a boomerang — **waŋalgimbal**.

Problem #2. The compound noun has the following structure:

[modifier (***-l*** is lost)] + { ***-d-*** (before a vowel) / ***-n-*** (before a consonant) } + [modified].

	ilennime	herd of deer ("house of deer")	***møŋer***	thunder
	joqonnime	wooden house ("Yakut house")	***ciremennime***	nest
	saancohoje	wooden knife	***joqoncohoje***	Yakut knife
	johudawur	nose case	***saadoŋoj***	wooden box
(a)	***ilenlegul***	deer feed	***uoduo***	grandchild
	cireme	bird	***oŋoj***	bag
	johul	nose	***aariinjohul***	rifle's muzzle
	aariinmøŋer	gunshot ("rifle thunder")	***uodawur***	cradle
	joqodile	horse ("Yakut deer")	***joqol***	Yakut person

(b) ***aarii*** — rifle, ***aariidoŋoj*** — rifle case, ***ciremedawur*** — nest (= ***ciremennime***), ***ile*** — deer, ***johudewce*** — tip of nose, ***legul*** — food, ***saal*** — wood, ***saannime*** — wooden house (= ***joqonnime***), ***uo*** — child.

(c) iron bird — ***cuoncireme***, snoring — ***johunmøŋer***, tip of knife's blade — ***cohojedewce***, sack for provisions — ***legudoŋoj***.

Problem #3. Rules:

1. ***x*** [ʔ].
2. A noun and a following modifier are pronounced as one word, but at the end of the first word of the phrase [i] after a vowel is lost and in the beginning of the second word [ʔ] is lost.

   xisitai xagai [ʔisitai͡ʔagai] → [ʔisitaagai]

3. 1 syllable = CVV, CV or VV (C = consonant, V = vowel). The syllabification starts from the end of the word.

   xiiaapisi → [ʔiiaapisi] → [ʔiiaapi.si] → [ʔiiaa.pi.si] → [ʔii.aa.pi.si]
   hixi xitaixi [hiʔi͡ʔitaiʔi] → [hiʔiitaiʔi] → … → [hi.ʔii.tai.ʔi]

4. Syllable weight hierarchy: TVV > DVV > VV > TV > DV (T = voiceless consonant ([h, k, p, s, t, ʔ]), D = voiced consonant ([b, g])). The rightmost syllable of the heaviest type among the last three syllables of the word receives primary stress.

   giopai sabi [giopai͡sabi] → [gio…pa . sa . bi] (TV=TV>DV) → [gio.pa.^{1}sa.bi]

5. A phrase has a secondary stress if the last three syllables of the phrase don't contain any part of the first word. It is placed according to the same rules as the primary stress, but disregarding the last three syllables.

   giopai sabi [giopai͡sabi] → [$\overbrace{\text{gio…pa}}^{1}$. $\overbrace{\text{sa.bi}}^{2}$] → [gio.pa.^{1}sa.bi]
   giopai xaibogi [giopai͡ʔaibogi] → [$\underbrace{\text{gio.pa}}_{1}$ … $\underbrace{\text{ai.bo.gi}}_{2}$] → [$_{2}$gio.pa.^{1}ai.bo.gi]

Answers:

xaaibi	ʔa.^{1}ai.bi	thin
xaapisi	^{1}ʔaa.pi.si	arm
xitiixisi	ʔi.^{1}tii.ʔi.si	fish
bigi	bi.^{1}gi	ground
kagahoaogii	ka.ga.ho.ao.^{1}gii	papaya
kaibai	^{1}kai.bai	monkey
kapiigaiitoii	ka.pii.ga.ii.to.^{1}ii	pencil
poogaihiai toio	poo.gai.^{1}hia.to.io	old banana
xabagi kapioxio	$_{2}$ʔa.ba.gi.ka.pio.^{1}ʔio	another toucan
xabagi xogiai	ʔa.ba.^{1}gio.gi.ai	big toucan

Problem #4. The word order is [subject] [verb] [object]. If the subject is neither possessed nor a proper name, it is preceded by the article ***a***.

Noun: [root] + [***-hi*** plural] + [***-ku*** 1st person sg; ***-no*** 3rd person sg; ***-ndo*** 3rd person pl].

Proper name: ***a*** + [the first root syllable] + ***a*** + [root].

Possession:

[possessed] ***-no*** [possessor (singular)], [possessed] ***-ndo*** [possessor (plural)].

Verb: {***d-*** anim and plural; ***n-*** inan or singular} + {***o-*** present; ***a-*** future} + [root].

Future: if the first sound of the root is ***f-***, it is replaced by ***m-***, otherwise ***-um-*** is inserted after the first consonant.

The preposition ***we*** indicates the direction of motion.

(a)

1. ***andoandoke nogholi lagahiku.***
   The Monkey is buying my ants.
2. ***a dhinihi dasumuli we murindo robhinehi.***
   The demons will return to the women's pupil.

(b)

3. The Ant will climb the pupil's stone.
   a-la-a-laga na-moni we kontu-no muri.
4. The ants are going to the Demon.
   a laga-hi do-kala we a-dhi-a-dhini.
5. My women's monkeys will cut my bananas.
   ndoke-hi-ndo robhine-hi-ku da-dumodo kalei-hi-ku.
6. The monkey's mountains are far.
   molo-hi-no ndoke no-kodoho.

Problem #5. Location A is activated by the idea of shelter. Location B is activated by the idea of manipulation. Location C is activated by the idea of eating. Location D is activated by long words. The researchers claim that the first three factors have high ecological validity (i. e., the results of the experiment conform to the data on human behaviour in real life) and survival value, and that Location D is responsible for a low-level visual representation of the printed word.

Word	Translation	Location A (shelter)	Location B (manipulation)	Location C (eating)	Location D (long words)
refrigerator	'refrigerator'	low	low	high	high
cow	'cow'	low	low	high	low
bed	'bed'	high	low	low	low
butterfly	'butterfly'	low	low	low	high
spoon	'spoon'	low	high	high	low
cat	'cat'	low	low	low	low