

Nineteenth International Linguistics Olympiad

Castletown (Isle of Man), 25–29 July 2022

Individual Contest Solutions

Problem 1. $Sb \xrightarrow{\text{Ob}_{\text{dir}}} \text{Ob}_{\text{obl}}$:

	Ob _{dir}	Ob _{obl}	Sb
1st person sg	s-		
1st person pl	š'-		
2nd person sg	w-		
2nd person pl	š^w-		
3rd person sg	a-	∅-	n-
3rd person pl	a-		na-

$$+ \mathbf{t^w} + \left\{ \begin{array}{l} \left[\begin{array}{l} \text{Ob}_{\text{dir}} = \text{pl} \\ \text{2nd person pl} \in \{\text{Ob}_{\text{dir}}, \text{Ob}_{\text{obl}}, \text{Sb}\} \end{array} \right] : \mathbf{a} \\ \text{otherwise} \quad \mathbf{ə} \end{array} \right\} + \mathbf{n}$$

$C_1 C_2 \rightarrow C_1 \mathbf{ə} C_2$ (C_1 and C_2 are consonants)

- (a) **aš^wəst^wan** — *I give them to you_{pl}.*
- (b) 1. **aš'ənt^wən** — *he gives him to us*
 2. **səš^wt^wan** — *you_{pl} give me to him*
 3. **š'əwənət^wan** — *they give us to you_{sg}*
- (c) 4. *they give you_{pl} to me* — **š^wəsənət^wan**
 5. *you_{pl} give him to me* — **asəš^wt^wan**
 6. *you_{sg} give us to him* — **š'əwt^wan**
 7. *we give you_{sg} to them* — **was't^wən**
 8. *he gives them to us* — **aš'ənt^wan**

Problem 2.

- | | | |
|--------|-----------------------------|----------------|
| | 1 | many |
| state | xéxx<ex èe>-ka | xèex-ka |
| action | xex<ex èe>-li | xex-li |

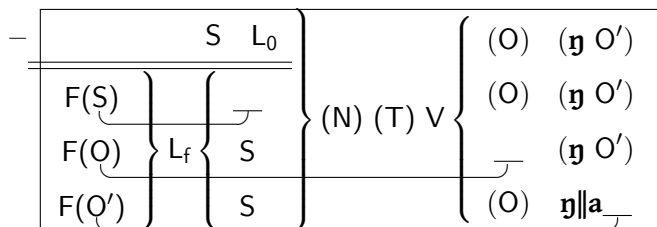
- **l** → C | C __ (C ∈ {**b**, **f**, **ɸ**, **n**})

- **b** → **m** | __ C (C denotes any consonant)

- (a)
1. **achánnàaka** — G. *it leans against something*
 2. **achanni** — N. *he leans them against something*
 3. **ahamatli** — R. *he scatters it, he scatters them*
 4. **ahámmatka** — M. *it is scattered, they are scattered*
 5. **apòotka** — S. *they are next to something*
 6. **apotòoli** — D. *he puts it next to something*
 7. **apóttòoka** — I. *it is next to something*
 8. **atanayli** — Z. *he wraps it*
 9. **atánnayka** — K. *it is wrapped*
 10. **atanni** — C. *he wraps them*
 11. **bàalka** — L. *they lie, are lying down*
 12. **balàali** — V. *he lays it down*
 13. **balli** — B. *he lays them down*
 14. **incháffaaka** — U. *he has one*
 15. **kawattfi** — A. *he breaks it in two*
 16. **ɸilka** — F. *it is torn in several places, they are torn*
 17. **ɸiipka** — H. *they are turned upside down*
 18. **ɸilaffi** — T. *he tears it in two*
 19. **ɸipli** — E. *he turns them upside down*
 20. **ɸippìika** — Q. *it is turned upside down*
 21. **ɸobaffi** — P. *he makes a hole*
 22. **ɸómbafka** — W. *it has a hole*
 23. **ɸombi** — O. *he makes holes*
 24. **ɸòomka** — J. *it has holes, they have holes*
 25. **sibapli** — Y. *he peels a strip off*
 26. **simbi** — X. *he peels the bark off*
- (b)
27. **bállàaka** — *he/it lies, is lying down*
 28. **inchafaali** — *he gets one*
 29. **kawwi** — *he breaks it in several places, he breaks them*
- (c)
30. *he tears it in several places* — **ɸilli**
 31. *it is torn in two* — **ɸillafka**
 32. *he turns it upside down* — **ɸipìili**
 33. *he leans it against something* — **achanàali**
- (d) **ɸilli** — *he tears them.*

Problem 3.

- Word order:



*

L ₀	L _f	
ke	kee	declarative main clause
∅	xae	interrogative sentence; subordinate clause

* S = subject; V = verb; O = object; F = focus

* N = ||u (negation); T = si (future)

– S **ke kacuu?i ŋ X S** asks if X.

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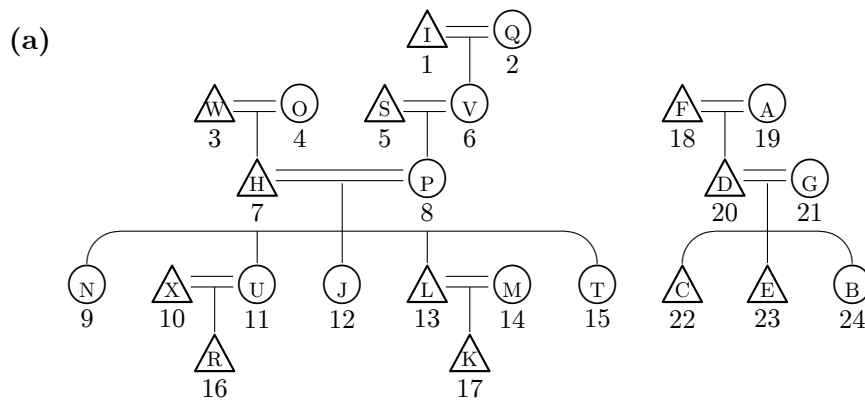
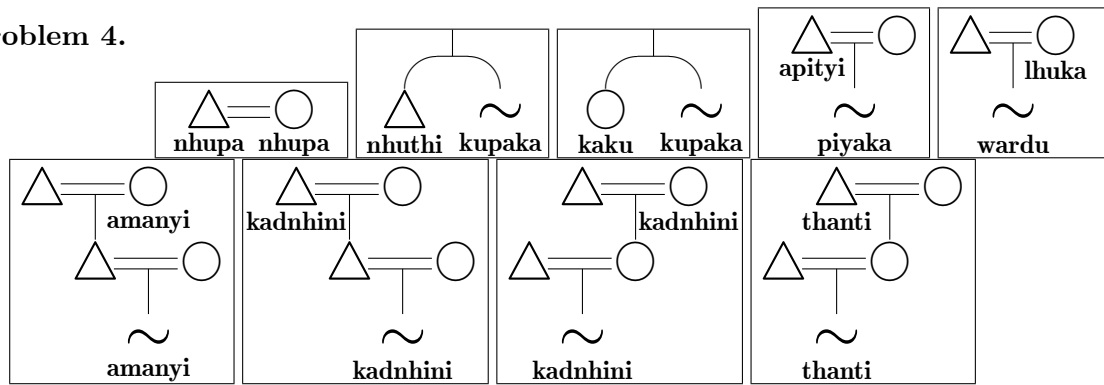
possessor		possessed
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		at the beginning of a question; after the preposition ŋ	
1st person sg	ŋ*	ŋ ŋ	* ŋ + ke → na
2nd person sg	a	g a	
1st person pl	i	g i	
2nd person pl	u	g u	

- (a) 17. **na kacuu?i ŋ g|u xae ŋ !uu !?ai** — I ask if it is you_{pl} whom my grandfather calls.
 18. **na ||u si siisen ŋ g!ari** — I will not work in Upington.
 19. **|eeki ke !aukea ŋ ŋ|ŋ †hun** — The woman is afraid of my dog.
 20. **ŋ kee si !?ai a** — It is I who will call you_{sg}.
 21. **cuu xae u ŋ|i** — Whom do you_{pl} see?
 22. **cuu xae ts'aa?a ŋ** — Who likes me?
- (b) 23. *Our mother will not call your_{sg} brother.* — **i xan̄ki ke ||u si !?ai a ||ãu**
 24. *It is you_{sg} whom my dog is afraid of.* — **a kee ŋ †hun !aukea ŋ|a**
 25. *Where will you_{pl} sing?* — **kija xae u si †qheeke ŋ|a**
 26. *I ask if it is our grandfather whom you_{sg} think about.* — **na kacuu?i ŋ g|i !uu xae a †?ii ŋ|a**
 27. *Who will dance tomorrow?* — **cuu xae si |qhōso ŋ !haeke**
 28. *Do you_{pl} see us?* — **g|u ŋ|i i**

Problem 4.



- (b)
- (i) nhupa
 - (ii) piyaka
 - (iii) lhuka
 - (iv) apityi
 - (v) kupaka
 - (vi) amanyi
 - (vii) thanti
 - (viii) wardu
 - (ix) lhuka

Problem 5.

Phan Rang Cham:

(...)	D (V L)	V	(C)
		V̄	

- both syllables
 - {***b, *d, *g, *j**} > {**p, t, k, c**}
 - NV > Ni
 - V: > V
- penultimate syllable
 - *ʔV > V
 - *lV > li
 - *bV(h)L > piL
 - otherwise CV(V) > Ca
 - -h > ∅
- final syllable
 - *s > th
 - {***p, *t, *k**} > ?

Tsat:

... h	... ay	... aN
∅ ⁵⁵	a:iʔ ⁴²	a:nʔ ⁴²
Proto-Chamic	... T	...({N, w, y})
+D	ʔ ⁴²	11
-D	ʔ ²⁴	33

- {***b, *p, *g**} (V) {***l, *r**} > {**ph, p, kh**}i
- otherwise the penultimate syllable is lost
- final syllable
 - {***b, *d, *g**}- > {**ph, th, kh**}-
 - *r- > z-
 - {***ow, *ey**} > {**ə, ai**}

V is a vowel. C is a consonant. D is a voiced consonant (**b, d, j**). T is a voiceless consonant (**k, t, ʔ**). N is a nasal consonant (**m, n, ŋ**). L ∈ {**l, r**}.

(a) ***phia**¹¹.

(b)

Proto-Chamic	Phan Rang Cham	Tsat	meaning
*kulit	kaliʔ	(1) liʔ ²⁴	skin
*hitam	hatam	(2) ta:nʔ ⁴²	black
*bubah	papàh	(3) pha ⁵⁵	mouth
*ʔikat	(4) ikaʔ	(5) kaʔ ²⁴	to tie
*dəpa	(6) tapa	(7) pa ¹¹	fathom
*matay	(8) mitay	(9) tai:ʔ ⁴²	to die
*dalam	(10) talàm	(11) la:nʔ ⁴²	inside
*labuh	(12) lipùh	(13) phu ⁵⁵	to fall down
*bula:n	(14) pilàn	(15) phia:n ¹¹	moon
	pala	(16) pia ³³	to plant
	tapùh	(17) phu ⁵⁵	to ransom
	tatà	(18) tha ¹¹	chest