



ROUND ONE

February 2016
2 hours

PROBLEM BOOK

*Answer as many of the questions as you can.
Write your answers in the answer books provided.*

Questions and credits

A.	I found and I was happy	Harold Somers	15
B.	Read and write Nepali	Lauren Gawne	20
C.	Adam Peterson's grandmother	Simona Klemenčič	15
D.	Trilingual characters	James Hyett *	20
E.	The house can't eat you	Alex Wade *	30

* Both these authors are recent competitors in the International Linguistics Olympiad

Question A: I found and I was happy

15 points

Somali is a Cushitic language spoken by approximately 16.6 million speakers, of which about half live in Somalia, the remainder living in Djibouti (where it is an official language), Ethiopia, and in the Somali diaspora.

In the table below are given the inflected forms of 1st conjugation verbs in the 1st person and 3rd person singular ('he/she/it') past tense. Fill in the gaps.

<i>akhriyay</i>	I read	<i>akhriday</i>	He read
<i>aragay</i>	I saw	<i>aragtay</i>	He saw
(a)	I taught	<i>bartay</i>	He taught
<i>ba'ay</i>	I was destroyed	<i>ba'day</i>	He was destroyed
<i>baajiyay</i>	I prevented	(b)	He prevented
<i>baaqay</i>	I announced	<i>baaqday</i>	He announced
<i>baxay</i>	I left	<i>baxday</i>	He left
<i>bi'iyay</i>	I destroyed	(c)	He destroyed
<i>bilaabay</i>	I began	(d)	He began
(e)	I ate	<i>cuntay</i>	He ate
<i>cabay</i>	I drank	<i>cabtay</i>	He drank
<i>cararay</i>	I ran away	<i>carartay</i>	He ran away
<i>daaqay</i>	I grazed	(f)	He grazed
<i>dhacay</i>	I fell	(g)	He fell
<i>dhisay</i>	I built	<i>dhistay</i>	He built
<i>diiday</i>	I refused	<i>diiday</i>	He refused
<i>dilay</i>	I killed	<i>dishay</i>	He killed
<i>faraxay</i>	I was happy	(h)	He was happy
<i>gaadhay</i>	I reached	<i>gaadhay</i>	He reached
<i>galay</i>	I entered	(i)	He entered
<i>go'ay</i>	I cut	(j)	He cut
(k)	I found	<i>heshay</i>	He found
<i>horjeeday</i>	I opposed	<i>horjeeday</i>	He opposed
<i>kacay</i>	I rose	(l)	He rose
<i>keenay</i>	I brought	<i>keentay</i>	He brought
<i>korodhay</i>	I increased	<i>korodhay</i>	He increased
<i>qaaday</i>	I took	(m)	He took
<i>tagay</i>	I went	<i>tagtay</i>	He went
<i>xidhay</i>	I closed	(n)	He closed
<i>walaaqay</i>	I stirred	(o)	He stirred

Pronunciation: Vowel sounds are much like in English. A double vowel indicates that the vowel is long. Consonants are also as in English except as follows:

dh: a retroflex 'd' like the 'dr' in *drive* (IPA d̪)

q: a voiced uvular plosive, like a 'g' but pronounced at the back of the throat (IPA ɢ)

kh: a bit like the 'ch' in Scottish *loch* but pronounced at the back of the throat (IPA χ)

x: a voiceless pharyngeal fricative, hard to describe, but a bit like a heavy 'h' (IPA ħ)

c: same as x, but voiced (IPA ʕ)

r: a rolled 'r' as in Italian ' : a glottal stop, like the sound in the middle of *uh-oh* (IPA ʔ)

Question B: Read and write Nepali

20 points

Devanagari is a writing script used for a range of languages in South Asia – including Hindi and Nepali. Nepali is an Indo-Aryan language spoken by around 18 million people.

Below is a collection of Nepali words using a very limited number of letters. In the left column are words written in Devanagari (labelled 1-14), in the right column are the transliterations (labelled A-N) – that is, an indication how to pronounce them – but not in the same order. The English meaning is also given with the transliteration, just for your information. The sequence 'kh' represents a single letter. Be warned: there is one word in each column that doesn't match up!

Column A	Column B
1 पानी	A ras (juice)
2 सेखी	B raanii (queen)
3 रस	C ratna (gem)
4 कालो	D saano (little)
5 पाना	E pani (also)
6 रानी	F kaalo (black)
7 खाना	G paanii (water)
8 पनि	H kalaa (art)
9 रिस	I kaali (goddess Kali)
10 कला	J khaanaa (food)
11 राङ्को	K sekhii (pride)
12 खानी	L ris (anger)
13 रत्न	M raanko (flame)
14 काली	N khaanii (mine)

B1. Match up the numbers in Column A with the letters corresponding to the transliterations in column B. One number will be blank, and one letter will be unused. *(7 points)*

B2. (a) For the item written in Devanagari in column A which does not match up with an English transliteration, provide your own transliteration. *(1 point)*

(b) Similarly, for the unmatched item written in transliteration in column B write the word in Devanagari. (2 points)

B3. Write the following words in English transliteration: (4 points)

(a) रे (b) साख (c) सोली (d) लक्का

B4. Write the following words in Devanagari: (6 points)

(a) la (b) seno (c) panir (d) nirantar

Question C: Adam Peterson's grandmother

15 points

Slovenian is a South Slavic language spoken by approximately 2.5 million speakers worldwide, the majority of whom live in Slovenia.

Approximate pronunciation guide: this is for your information only and does not contribute to the solution.

č, š, ž are pronounced like ch, sh and the 's' in 'measure' [IPA tʃ, ʃ, ʒ], j is pronounced like 'y' in 'yes', [IPA j], c = ts, h is pronounced like 'ch' in 'loch' [IPA x], v is pronounced somewhat like a w [IPA v]

C1. Study the following data which shows some word derivations. In your answerbook, fill in the gaps. (11 points)

<i>Adam</i>	Adam	<i>Adamič</i>	Adams
<i>baba</i>	woman	<i>babica</i>	grandmother, little old lady
(a)	buffalo	<i>bivolica</i>	female buffalo
<i>boben</i>	drum	<i>bobnič</i>	small drum, eardrum
<i>bog</i>	god	(b)	small god
<i>čokolada</i>	chocolate	<i>čokoladica</i>	small chocolate
<i>dekla</i>	maid	<i>deklica</i>	young girl
<i>Gregor</i>	Gregory	<i>Gregorič</i>	Gregson
<i>grm</i>	bush	(c)	small bush
<i>jama</i>	cave	<i>jamica</i>	hole
<i>knjiga</i>	book	(d)	booklet
<i>koklja</i>	hen	<i>kokljica</i>	chicken
<i>menih</i>	monk	<i>menišič</i>	young monk
<i>muha</i>	fly	(e)	midge
<i>noga</i>	leg	<i>nožica</i>	small leg
<i>ogenj</i>	fire	<i>ognjič</i>	small fire

<i>orel</i>	eagle	<i>orlica</i> (f)	female eagle eaglet
<i>osel</i>	donkey	<i>oslič</i> (g)	donkey foal jenny (i.e. she-donkey)
<i>otrok</i>	child	(h)	baby
<i>oven</i>	sheep	(i)	lamb
<i>Pavel</i>	Paul	(j)	Paulson
<i>Peter</i>	Peter	<i>Petrič</i>	Peterson
<i>pob</i>	boy	<i>pobič</i>	small boy
<i>Primož</i>	Primus	<i>Primožič</i>	Primusson
(k)	crab	<i>račič</i>	baby crab
<i>roka</i>	arm	<i>ročica</i>	small arm
(l)	Stephen	<i>Štefanič</i>	Stephenson
<i>šapa</i>	paw	<i>šapica</i>	small paw
<i>Tomaž</i>	Thomas	(m)	Thomson
(n)	thorn	<i>trnič</i>	small thorn
<i>Urh</i>	Ulrik	<i>Uršič</i>	Ulrikson
<i>veter</i>	wind	(o)	draught
<i>volk</i>	wolf	<i>volčič</i>	wolf cub
<i>vrh</i>	peak	(p)	small peak
<i>zid</i>	wall	(q)	small wall
<i>žep</i>	pocket	(r)	small pocket

C2. If *rožič* means ‘small horn’, give the TWO possible words for ‘horn’ from which it might be derived. (2 points)

C3. If *čolnič* means ‘small boat’, give the TWO possible words for ‘boat’ from which it might be derived. (2 points)

Question D: Trilingual characters

20 points

Japanese and Korean both use (or used) the Chinese writing system, and in the process borrowed some words from Chinese. But the sound systems of the three languages (Chinese, Japanese, Korean) are somewhat different, so when the words got borrowed, they got adapted to the host pronunciation system ... in a systematic way.

On the next page there are some Chinese characters with their pronunciation in Mandarin Chinese, Japanese and Korean. Note that Chinese is a tone language, which means that each syllable has a distinct and meaningful tone, shown here by the accent mark: ´ for a rising tone, ¯ for a level tone, ` for a falling tone and ~ for a fall-rise. The tones are significant. Treat vowel sequences (uo, eu and so on) as single vowels. The

Chinese characters and their English meanings are given only for your interest, and have no bearing on the problem: the character is (was) not necessarily used with the same meaning in Japanese and Korean.

char		C	J	K
福	fortune	fú	huku	bog
室	chamber	shì	shitsu	sil
各	each	gè	kaku	gag
則	then	zé	soku	jeug
托	care	tuō	taku	tag
浴	bath	yù	yoku	yog
北	north	běi	hoku	bug
目	eye	mù	moku/boku	mog
決	decide	jué	ketsu	gyeol

In your answerbook, fill in the gaps in this table.

char		C	J	K
木	tree	mù	(a)	mog
屈	bend	qū	kutsu	(b)
昨	last	zuó	(c)	jag
幕	screen	mù	maku/baku	(d)
膜	film	mò	maku	(e)
錄	record	lù	(f)	rog
託	trust	tuō	taku	(g)
閣	cabinet	gé	(h)	gag
藥	drug	yaò	(i)	yag
特	special	(j)	(k)	teug
密	dense	mì	mitsu	(l)
撥	dial	bō	(m)	bal

Question E: The house can't eat you

30 points

This problem involves the Nung language of northeastern Vietnam, spoken by about a million people and related to the Thai, Lao, Isan, Shan, and Zhuang languages of Southeast Asia in the Tai-Kadai family. It is not related to Chinese, Vietnamese, Khmer, Hmong, Malay, or Burmese, so far as we know. In this problem, the Nùng Phạn Slinh variety of Nung will be used. Note that in this language, word order is fairly fixed.

Study the following sentences in Nung with their corresponding English translations.

For your information, the marks above vowels indicate tone and the length of the vowel. The hook on the u and o (u̅ and o̅) indicates a central vowel, while đ is pronounced like a 'd' (ordinary d is pronounced 'z!'). However, you do not need to know how to pronounce Nung in order to solve the problem, but you should reproduce the diacritic marks accurately in your answers.

Cáu ca vừhn nahng kíhn.	I was about to continue to eat it.
Cáu cháhn slờng páy mi?	Do I truly want to go?
Cáu mi slày kíhn.	I don't have to eat it.
Cáu ngám hẻt pehn tẻ.	I did it like that just now.
Cáu tan đohc háhn mừhg.	I only saw you.
Cáu vừhn nahng bô sạhm tẻhg hẻt hơn.	I also continue to build the house alone.
Da kíhn!	Don't eat it!
Da khẻi hơn!	Don't sell the house!
Mừhn chớng ca cháhn fẻi khẻi.	Then she truly was about to have to sell it.
Mừhn mi cháhn đày non.	She truly can't sleep.
Mừhn náhc-thày chớng bô sạhm kíhn.	Then she also just previously ate it.
Mừhg náhc-thày slờng tẻhg páy.	You wanted to go alone just previously.

E1. Translate the following into English: (12 points)

- (a) Cáu cháhn đày non. (2)
- (b) Da páy non! (2)
- (c) Mừhn bô sạhm mi slờng hẻt hơn mi? (4)
- (d) Mừhn ngám bô sạhm páy hơn. (4)

E2. Translate the following into Nung. (18 points)

- (a) I wasn't about to eat it just previously. (4)
- (b) She didn't have to eat it alone like that just now. (5)
- (c) The house truly can't eat you. (4)
- (d) Then were you also about to go just previously? (5)