



All Ireland Linguistics Olympiad
The Problem Solvers' Challenge

National Final 2025

Wednesday 12th March 2025, 10.00-12.30
Dublin City University

Answer as many of the questions as you can. All questions carry equal weight. Write your answers in the answer-book provided.

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Question A: Sakata

David Hellsten

Sakata (Kisakata) is a Bantu language spoken in the Democratic Republic of Congo. It consists of several quite distinct dialects; this problem features the dialect spoken in the village of Bosobe, Bandundu province.

Here are some Sakata sentences, with their English translations (ə and ū are both vowels):



Banka balülū bamwi bebil benini	The good women saw the big fields
Banjir babibə badzo ibat lelülū	The bad men killed the good duck
Keto ketita kejo ntaw ne banjir	The long snake heard the men's goat
Mabat masinxunə ola moka mo munjir	The ducks wanted to eat the man's book
Mva nekikə ne banka nejao otang	The women's little dog learnt to read
Nə ala ipe le ibat lenini?	Who ate the big duck's wing?
Munkar nejo nko ne bang	The woman heard the children's chicken
Nko ibibə ila ncher i bang	The bad chickens ate the children's peanuts
Bande bachunga ntaw ilülū	The white men bought the good goats
Ntaw i banka ikwi o kebil ke munde	The women's goats went to the white man's field
Nə amwi bena be bande?	Who saw the white men's things?
Ngombe nekikə nemwi lecher lenini	The little cow saw the big peanut

A1. One noun is slightly irregular – which one?

A2. Translate into English:

- (a) **Mva nemwi ntaw nebibə**
- (b) **Bang basinxunə ochunga ngombe nenini**
- (c) **Munjir nekikə netang mekan melülū**
- (d) **Nə adzo keto ke munkar?**

A3. Translate into Sakata:

- (a) The cows heard the big dogs
- (b) The white man learnt to eat wings
- (c) Who bought the children's little thing?
- (d) The snakes of the field read the big book [past tense]

Here are a few numerical phrases:

ledze lemo	one finger
ipyao lemo	one shoulder
nchungə ipə	two pigs
befwa besa	three bones
mete meni	four trees

A4. Translate into Sakata:

- (a) one pig
- (b) one tree
- (c) one bone
- (d) two shoulders
- (e) three fingers

Sources: the data are based on the author's field work in the 1980s. Image from Wikipedia.

Question B: Egyptian hieroglyphs

Evan Hochstein

The Ancient Egyptian language is most known for one of its writing systems, the hieroglyphic script, which was deciphered in the 1820s after the discovery of the Rosetta stone. The writing system is partly logographic (symbols represent whole words), and partly phonetic (symbols represent syllables or individual sounds). Although the ancient Egyptian language, Coptic, is still used in the Coptic Orthodox church, the ancient Egyptians were not Christians, but had gods like Ra the sun god, and Zeker the god of death.

On the right is a hieroglyphic inscription of the regnal of pharaoh

Ramses the Great. Scholars use two systems for representing Egyptian inscriptions in the Latin alphabet. The system that reflects the

hieroglyphic 'spelling' is called transliteration. The system that is used

to indicate how the inscriptions are pronounced is called Egyptological pronunciation. The transliteration of the hieroglyph shown here is **r'-wsr-m't-r':stp:n**, and the Egyptological pronunciation **User Maat Ra, setep en Ra**.



In 1861, an ancient stone carving was discovered in Saqqara, in Egypt. It features a list of Egyptian pharaohs' names. On the next page are 15 of the inscriptions from the tablet, followed by their transliteration and corresponding Egyptological pronunciation but in a different order. There are some gaps (1-7) and some transliterations (d, i and m) are not given.

Note that **d, h, j, w, x, y, ' , and }** are consonants. **Ø** denotes a hieroglyph that is not pronounced. Hyphen - and colon : indicate the placement of hieroglyphs relative to each other. In some of the names, the hieroglyphs come in a different order to what you might expect given the transliteration and Egyptological pronunciation.

B1. Determine the correspondences between 1-15 and a-o.

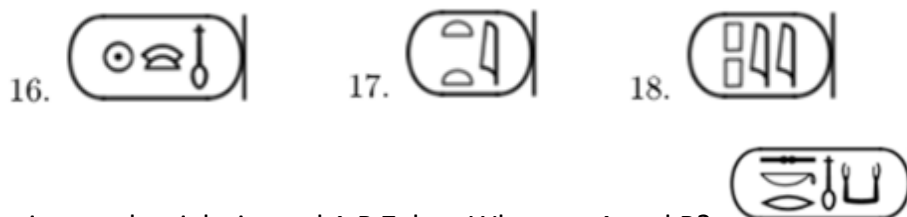
B2. Fill in the gaps (1) – (7). Note that some gaps may correspond to more than one hieroglyph.

B3. *Khufu* usually has a different inscription. What does it look like? (Do not stack hieroglyphs on top of each other. Your hieroglyphs do not have to be perfect, so long as it is clear what is meant.)



- | | | | |
|------------------------------------|---------------|--------------------------|---------------|
| a.(1)..... | Neb ka Ra | i. | Khufu |
| b. ... (2)... -'nx-k} | Sankh ka Ra | j. h-hw- ... (6)... :y:Ø | Huni |
| c. r'-h}pt-nb | Neb hapet Ra | k. r'-dd-dd-f | Djedef Ra |
| d. | Sehetep ib Ra | l. r'-nbw-k} | Nebu ka Ra |
| e. b-b-Ø-j-j | Beby | m. | Kheper ka Ra |
| f. ... (3)... -nfr-f:r- ... (4)... | Seneferu | n. r'-x'-xpr | Kha kheper Ra |
| g.(5)..... | Djeser | o. dsr- ... (7)... | Djeser Teti |
| h. r'-x'-k} | Kha ka Ra | | |

B4. Give the transliterations of the following inscriptions. For 16 and 17, also give the Egyptological pronunciations.



B5. The inscription on the right is read A B Zeker. What are A and B?

Question C: SENĆOŦEN

Eimear McKnight

SENĆOŦEN (pronounced Sunchathen), also known as Saanich, is a dialect of North Straits Salish, and the native language of the WSÁNEĆ people. As of 2014 it had six native speakers on the Saanich Peninsula of Vancouver Island, Canada. Its distinctive all-caps alphabet was developed in 1978 by Dave Elliott, a member of the Saanich community, and is used extensively in writing, teaching and revitalisation efforts. Notice that several letters have adapted forms with accents, bars, crossings out (!) and (pay special attention) underlining.



SENĆOŦEN has a fairly complex sound system, at least as far as consonants are concerned. The following information is important for the solution:

- The set of consonants can be divided into sonorants and obstruents. Sonorants are the following consonants: lateral **L**, nasals **M N Ŋ** (=ng as in *finger*) all as in English,

plus **U** (= w). Obstruents (stops and fricatives involving an obstruction in the airway) are all the other consonant sounds: **Č Ǿ K Ǿ Ł P S Š T ʦ X**.

- Some consonants can be glottalized (accompanied by a very brief "catch" or "stop" in the throat, almost like a tiny pause between sounds). For the sonorants, this is marked by this symbol **ˀ** (cedilla) following the letter. For the obstruents, a different letter is used: the following shows the non-glottalized and glottalized letter pairs:

Ǿ > Q Č > J K > K Ǿ > K P > B T > D

In addition, **ʦ** and **ʦ** are both glottalized sounds with no non-glottalized equivalent.

The following are vowel symbols: **Á E I** and **O** ... the language has other vowels that happen not to feature here. Remember that **U** is a consonant!

There are also a few other consonant letters which don't appear in this problem.

In the table below are some verbs in SENĆOŦEN in two grammatical forms, "non-actual" '(he) Ved' and "actual" '(he) is V-ing'. For example, **SXET** could be translated as '(he) pushed it', while **SEXT** means '(he) is pushing it'.

Your task is to fill in the missing forms (a)-(m). For one answer there should be two possible options: just give either one of them.

Non-actual	Actual	meaning		Non-actual	Actual	meaning
SXET	SEXT	push it		JTENˀ	JETENˀ	crawl
TPEX	TPEX	scatter		ǾLEET	ǾEL,T	splash it
DEMˀET	DEMˀT	hit it		ǾÁL	(a)	hide
QSEN	QSENˀ	count		(b)	ʦELQ	pinch
KPET	KEPT	collect it		KELEN	(c)	cook
KÁU	KÁKEUˀ	rest		(d)	XELENˀ	(e)
QSET	QEST	count it		(f)	ʦEʦEQ	startle
MELEJ	MELˀJ	roll over		(g)	(h)	collect
TIUˀ	TITEUˀ	run away		JENET	(i)	bury it
ǾELˀET	ǾELˀT	pour it out		ŠTEN	(j)	walk
XŁET	XELT	hurt it		(k)	(l)	cook it
ŁOB	ŁOLEB	eat		(m)	TEKT	tighten it

Picture source: WSÁNEĆ Leadership Council <https://wsanec.com/>

Question D: Nganasan

Nganasan is a Uralic language spoken by the Nganasan people. Traditionally they were said to be the northernmost people in Eurasia, living in the Taimyr Peninsula, northern Siberia, although today only around 470 Nganasan remain there, and fewer still speak the language.

Below are some Nganasan words, with their English translations given in alphabetical order. Nganasan is normally written in an adapted Cyrillic alphabet, but here the words are given in phonetic transcription. Note that **Ǿ** = *th* in *this*, **d'** ≈ *j* in *judge*, **j** = *y* in *yes*; **č**, **ŋ** and **ʔ** are consonants, and **ə**, **ü**, and **ɨ** are vowels.

Simi Hellsten



1	bad'ačimi	A	aeroplane
2	bad'aʔbəbə	B	boat
3	biʔ	C	branches
4	čimiʔ	D	churches
5	d'üðübad'aʔ	E	earring
6	d'üəbəbə	F	fire
7	d'ütü	G	gunpowder sack
8	huaad'ütüʔ	H	hand
9	kojkəʔ	I	hook
10	kojküʔmaðəʔ	J	idols
11	koubasa	K	purse
12	maðəʔ	L	rings (for your fingers)
13	ɲənduj	M	steamboats
14	təiriəɲənduj	N	teeth
15	tuj	O	tents
16	tuubitiðəʔ	P	vodka
17	tuubiʔ	Q	water
18	tuuɲəntuʔ	R	weapons

D1. Determine the correct correspondences.

D2. Translate into English:

(a) **bəbəʔ** (b) **kojkə** (c) **kouʔ**

D3. Translate into Nganasan:

(a) boats (b) (piece of) metal

D4. Suggest a Nganasan translation of the phrase *forest fire*.

Image source: arctic-megapedia.com

Question E: Kavalan

Different languages use different strategies to emphasize particular words in the sentence. For example, English speakers change their tone of voice: “Mary drank the water” and “Mary drank the water” have different meanings. Or you can use extraposition: “It was Mary who drank the water”. In each case, the underlined word is being emphasised. Other languages have different strategies, however.

Ethan Chi



Kavalan is a language spoken in Hualien, Taiwan by around 24 people. Unlike English, Kavalan uses the structure of sentences to emphasize different words. On the next page are some sentences in Kavalan in a simplified transcription, along with their English translations. Emphasized words or phrases are underlined.

qasirr ya tiapzangawcia
 temaytaiku tu rrutung
 qanan na sumisku ya liuqay qamasimna
 ipirisu ni
 ipiransu ya taquzay damuku
 tikiskisku tu tarreb ya sarriqsu
 qemalina tu rasung ta manaykuan
 qeman tu kitutay taquq ya asucia ta Kalinkuan
 liuq ya qamasim
 tipukun na sumiscia tu taquq ya tunun
 qalan na asuku ya rasung
 mngemil tu krisiwcia ya tazungan ni
 rrasaansu ya rrutungcia ni
 taytaanna ya busarray asuta
 busarr ya manay ta Taypakan ni
 titaytasu tu kitutay damu ya matasu

That crab is fast.
 I see the monkey.
 My child eats his rotten sour orange.
 Do you hear?
 You hear my sleeping village.
 I cut the box with your knife.
He digs the well in my sand.
That dog eats the small chicken in Hualien.
The sour orange is rotten.
 That child hits the chicken with a stick.
 My dog digs the well.
 Does the girl like that money?
 Do you buy that monkey?
 He sees our white dog.
 Is the sand white in Taipei?
 You see the small village with your eyes.

E1. Translate the following sentences into English, underlining the emphasized element.

- (a) **taquz ya rrutungna**
- (b) **mngilan na tazungan ya Taypak ni**
- (c) **tirrasana tu taquqku ya krisiwta**
- (d) **kemiskisita tu kitutay qamasim ta damuciaan**

E2. Translate the following sentences into Kavalan.

- (a) *Am I small?*
- (b) *Does our crab sleep in that box?*
- (c) *We dig the well with my knife.*
- (d) *His child sees that monkey in the well.*

E3. Explain the rules of Kavalan grammar as illustrated here.

Image source: *Taipei Times*

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