

<1> Ik Language Problem¹ 20 points

The data in this problem are drawn from Ik, the native language of the Ik people who live on a narrow swath of land in the northeastern corner of Uganda, East Africa. The people call their language Icétoḁ, which means ‘Ik-speech’ or ‘Ik-talk’ and is pronounced ee-CHAY-TOad or [ĩtʃétôḁ] in phonetic symbols. Approximately 7,500 people are native speakers of Ik.

The Ik phrases and sentences below are written in the commonly used orthography.

- The digraph *ts* and the trigraph *ts'* represent *different consonant sounds* in Ik.
- The small ring below a letter signals that the sound represented orthographically is unvoiced, that is pronounced without the vocal folds vibrating; in less technical terms, it is whispered.²
- Notice there are 3 distinct ‘N’ sounds written *n*, *ŋ* and *ɲ* respectively.

Below are IK sentences and phrases (1-19) and their English translations (A-S) in a scrambled order.

1.	<i>Kaa bee abañq.</i>	A.	<i>My dog is sleeping in the shade.</i>
2.	<i>Atsq.</i>	B.	<i>These two huts of mine that are bad</i>
3.	<i>Epa ŋoka na bets'q.</i>	C.	<i>We came from Ethiopia.</i>
4.	<i>Minia ŋecayq.</i>	D.	<i>The dog is sleeping in the nice shade.</i>
5.	<i>Ats'a ŋoka əkakq.</i>	E.	<i>The dog slept in the hut.</i>
6.	<i>Kae zekwq.</i>	F.	<i>Come.</i>
7.	<i>Atsia hoq.</i>	G.	<i>S/he loves coffee.</i>
8.	<i>Epa ŋoka ŋcie kuruq.</i>	H.	<i>Father is coming from Ethiopia.</i>
9.	<i>Atsima bee Isopiaq.</i>	I.	<i>These huts of mine</i>
10.	<i>Mina cekia ntsiq.</i>	J.	<i>The white dog is sleeping.</i>
11.	<i>hoika ŋcie dii lebetse ni gaang</i>	K.	<i>I love tea.</i>
12.	<i>Kaa oŋorq.</i>	L.	<i>Go sit.</i>
13.	<i>Epa ŋoka kuruo na daq.</i>	M.	<i>The elephant is sleeping.</i>
14.	<i>hoikq</i>	N.	<i>He loves his wife.</i>
15.	<i>Epa bee ŋoka hoq.</i>	O.	<i>The huts</i>
16.	<i>Atsa abañq Isopiaq.</i>	P.	<i>Father went.</i>
17.	<i>Epa oŋorq.</i>	Q.	<i>I am coming from the hut.</i>
18.	<i>Mina ŋakawakq.</i>	R.	<i>The dog is chewing the bone.</i>
19.	<i>hoika ŋcie dii</i>	S.	<i>S/he is going with the elephant.</i>

¹ Created by Aleka Blackwell (NACLO); based on *The Ik Language: Dictionary and Grammar Sketch* by Terrill B. Schrock; Figure by Monica Feinen.

² Something similar happens in English when native speakers pronounce words like *potato* [pʰə'teɪtəʊ] and *peculiar* [pʰə'kju:liə] where the vowel in the first syllable becomes voiceless. To appreciate how this phonetic process works, try saying the word *peculiar* and *potato* with a pause between the first and second syllable of the word, and notice that your vocal folds do not begin vibrating until you pronounce the second syllable of the word. In the case of English, the vowel in the first syllable of words with this phonological structure is *devoiced*, which means it is pronounced without vocal fold vibration.

<1> Ik Language Problem (2/2) Task 1. Match the Ik sentences and phrases to their English translations.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
P	F	J	K	R	L	Q	A	C	N	B	S	D	O	E	H	M	G	I

0.5 x 19 = 9.5 points

Task 2. You matched the two Ik sentences below to their well-formed English translations above. Your new task is to translate them word-for-word into English in a way that reveals the meaning of each Ik word, as we have started doing for (i).

20.	<i>Epa ŋoka kuruo na daq.</i>	Sleeps <u>dog</u> in-shade <u>which/that (is) nice</u> .
21.	<i>Epa ŋoka na bets 'a.</i>	Sleeps dog which/that (is) white.

0.5 for each correct word 'dog' and 'sleeps' in (20 & 21): and 'nice' in (20) and 'white' (in 21), ignoring presence of (is) plus 0.5 if 'which/that is' is included in answers = **2.5 (ignore hyphen in 'in-shade')**

Task 3. Translate into Ik.

22.	these huts	hoika dii
23.	my huts	hoika ŋcie
24.	I love my wife.	Mina cekia ŋcie.
25.	Father is coming from the nice hut.	Atsa abaŋa hoo na daq.

0.5 point for each correct word in correct order: 0.5 x 12 = 6 points

Task 4. Translate into English.

26.	<i>Zekwata oŋorika kuruo.</i>	<i>The elephants are sitting in the shade</i>
27.	<i>Mina ŋoka akaka ntsie.</i>	<i>The dog loves his bone</i>
28.	<i>Minima oŋorika ni epa.</i>	<i>We love sleeping elephants/We love elephants who/that sleep</i>

1 point for each correct translation. Also allow 'sit' in place of 'are sitting' in 26. = **3 points**

Task 5. Select the best option regarding the Ik phrases 29 and 30, by placing 'X' in cell to right of your answer. **1 point**

29.	<i>hoika ŋcie dii lebetse</i>
30.	<i>hoika ŋcie dii ni lebetse</i>

- Only 29. is grammatical.
- Only 30. is grammatical.
- Both 29. and 30. are grammatical.
- Neither 29. nor 30. is grammatical.

Task 6. Some argue that Ik does not have adjectives as a grammatical category of words in the same way that English does. Give the numbers of two sentences that would make people think this. **2 of: 3, 11, 13**

0.5 point for each correct example. = **1**

<3> TZELTAL⁴ (1/2) 15 pts

Tzeltal is a Mayan language spoken by about 450,000 people in the Mexican state of Chiapas.

Below are some Tzeltal responses to the question **Binti ya a?tun?** ‘What are you eating?’, along with an English translation.

Note: a chicken comb is the crest on top of a chicken’s head, and a tamale is a traditional Mesoamerican dish, made of dough which is steamed in a corn husk or banana leaf.

	Tzeltal	English
1	ya hti? sehk'ub	<i>I am eating a liver</i>
2	ya hti?tik k'in	<i>We are eating a kidney</i>
3	ya hk'ushtik ?isim	<i>We are eating corn</i>
4	ya hlo? kulish	<i>I am eating a boiled cabbage</i>
5	ya hk'ush kisim	<i>I am eating my corn</i>
6	ya hk'ush hmantzana	<i>I am eating my apple</i>
7	ya hlo?tik chinam	<i>We are eating a brain</i>
8	ya hk'ush tush?ak	<i>I am eating an onion</i>
9	ya hwe?tik hpatz'tik	<i>We are eating our tamale</i>
10	ya hk'ushtik kulish	<i>We are eating a raw cabbage</i>
11	ya hk'ush ?askal	<i>I am eating a chunk of brown sugar</i>
12	ya hti? hchalub	<i>I am eating my chicken comb</i>
13	ya hlo?tik kontik	<i>We are eating our avocado</i>
14	ya hlo?tik hlo?baltik	<i>We are eating our banana</i>
15	ya hk'ush kaskal	<i>I am eating my chunk of brown sugar</i>
16	ya kti?tik ?ot'an	<i>We are eating a heart</i>
17	ya hk'ushtik hmantzanatik	<i>We are eating our apple</i>
18	ya hlo? hchab	<i>I am eating my honey</i>
19	ya hwe? kashlan wah	<i>I am eating bread</i>
20	ya hk'ush hmankotik	<i>I am eating our unripe mango</i>
21	ya hti?tik ?ich	<i>We are eating a chili pepper</i>
22	ya hwe? hwah	<i>I am eating my tortilla</i>
23	ya hti?tik kot'antik	<i>We are eating our heart</i>
24	ya hk'ush nues	<i>I am eating a nut</i>
25	ya hlo? manko	<i>I am eating a ripe mango</i>
26	ya hlo? ?on	<i>I am eating an avocado</i>

Task 1. Which Tzeltal word does not behave as would be expected? **?ich** (*chili pepper is classified as a meat*) = 2 pts

Task 2. Explain the choice of ‘eat’ verb in each of these sentences: 2 x 2 = 4 (for answers that include correct nature of object eaten)

“Ya hlo? manko.” a ripe mango has soft flesh that does not require chewing.

“Ya hk'ushtik kulish.” raw cabbage is hard and requires chewing or biting into

⁴ Created by Simi Hellsten (UKLO).

<3> TZELTAL (2/2)

Here are some more words in Tzeltal:

ti?bal = *meat* **chin bak** = *marrow (a type of vegetable)* **sakil** = *pumpkin seeds*
k'oshosh = *roasted tortilla*

Task 3. Translate into Tzeltal:

27	<i>We are eating meat.</i>	Ya hti?-tik ti?bal.
28	<i>I am eating a marrow.</i>	Ya hlo? chin bak.
29	<i>I am eating my pumpkin seeds.</i>	Ya hk'ush h-sakil.
30	<i>We are eating our chili pepper.</i>	Ya hti?-tik k-ich-tik.

The hyphens in 27 & 30 are not required in answers -- they show division between stem and subject agreement suffix. This is essentially about the verb: why is it chosen and what is its form. Give 1 for correct verb and another 0.5 if correct form of the correct verb. = 6 points

Task 4. Someone learning Tzeltal translates "*I am eating a roasted tortilla*" as **Ya hwe? k'oshosh.**

(i) Suggest why they think this an appropriate translation.

hwe? is the correct verb for bread-stuffs. =1 point

(ii) Later, they are told that was in fact *not* the correct translation. Suggest a different possible translation, and explain why you think it is correct.

Suggested translation: **Ya hk'ush k'oshosh = 1 point**

Explanation: **Because they (roasted tortillas) are hard. = 1 point**

<4> SUMERIAN⁵ (1/1) 25 points

Sumerian was the language of the ancient civilization of Sumer, in modern-day Iraq. Written texts date from c. 3200 BCE and continue up to mid 19th century BCE. Like Latin in more recent times, the prestige of Sumerian civilisation was such that the language continued to be written and read long after it ceased to be spoken.

Below are some words and phrases in Sumerian, and their translations in a random order. Note that **ḡ** is the *ng* in *sing*, and **š** is the *sh* in *ship*.

1	igi bar
2	šu
3	šu ḡar
4	su zi
5	guza
6	ḡiri ḡar
7	gu ḡar
8	sugu
9	bar
10	ḡar
11	gu kud
12	ḡiri
13	suzi
14	šu bar
15	gu

A	<i>foot</i>
B	<i>skin disease</i>
C	<i>to look at</i>
D	<i>to open</i>
E	<i>to be afraid</i>
F	<i>to release</i>
G	<i>to set down</i>
H	<i>necklace</i>
I	<i>to decapitate</i>
J	<i>to submit</i>
K	<i>neck</i>
L	<i>to step forwards</i>
M	<i>hand</i>
N	<i>to cease, stop doing</i>
O	<i>fear</i>

Task 1. Match the Sumerian phrases to their English translations. **15 points (1 x 15)**

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
12	8	1	9	4	14	10	5	11	7	15	6	2	3	13

Task 2. Fill in the gaps in the table below. **6 points (2pts x 3)**

Sumerian	English
igi	<i>eye</i>
kud	<i>to cut (accept similar)</i>
zi	<i>to raise</i>

Task 3:

- (a) Suggest what phenomenon the phrase **su zi** refers to. (lit. 'to raise skin' so refers to) **goosebumps 2 points**
- (b) Give a literal translation of **gu zi** to have success. **to raise/lift (your/one's) neck**
(Accept as correct answer if 'to' is missing from English answers with verb.) **2 points**

⁵. Created by Simi Hellsten (UKLO).

Explanation

- All* compounds are N+V, where N is a body part noun and V is a verb
gu+za (5) is actually *neck+jewel*, but that is not relevant to the problem.
- If the compound is a noun, it is written as one word; if it a verb, then it is written as two.

Source: Sumerian Lexicon, Version 3.0, John A. Halloran, [Sumerian.PDF](#).

How to solve it

We notice that the English translations seem split between nouns and verbs. There is also a heavy emphasis on body-parts, so they are likely to be relevant to the solution. Hence, we count and see that there are 9 verbs, 3 body-part nouns and 3 other nouns.

We now look at the Sumerian phrases. There are 7 two-word phrases, 3 compounds, and 5 single words. This suggests that the two-word phrases are verbs, and that the compounds are nouns. We are then given 2 root verbs and 3 body-parts as single words.

We can actually split the Sumerian words into two types:

Type A: **igi**, **šu**, **su**, **ġiri**, **gu**

Type B : **bar**, **ġar**, **zi**, **kud**

Unknown: **za**

Underlined words appear on their own. Two-word phrases are of the form A+B. The first part of a compound is of type A, but the second can be either. This now suggests that words of type A are body-parts, while words of type B are verbs. This is confirmed by assignment (b), and tells us that **šu**, **ġiri** and **gu** are *foot*, *hand* and *neck* in some order.

We now notice that both **suzi** and **su zi** appear. Presumably then, **su zi** means *to be afraid* while **suzi** means *fear*. This then means that **guza** and **sugu** translate to *necklace* and *skin disease* in some order. Looking at the English phrases, it seems as though the other body-parts we need are *eye* and *skin*, which must be **igi** and **su** in some order. Recalling that the first part of a compound must be a body-part, it seems as though one of **gu** and **su** is *neck*, while the other is *skin*. Overall then, we learn that: **su** = *skin*, **gu** = *neck*, **igi** = *eye*, and {**šu**, **ġiri**} = {*hand*, *foot*}.

We then check assignments (b) and (c). We can answer (b): **su zi** literally translates as *to raise skin* so refers to goosebumps. Similarly, **sugu skin disease** could literally translate as *skin eater*, meaning **gu** could mean *to eat* as a verb and *neck* as a noun. This confirms that our deductions and guesses so far are likely correct.

Being the only verb phrase to contain **igi**, **igi bar** must be *to look at*. This only makes sense if **bar** means *to open*. The only other phrase containing **bar** is **šu bar**, which then means either *to open your hand* or *to open your foot*. The former is a sensible translation of *to release*, so **šu** means *hand* and **ġiri** means *foot*. In turn, **ġiri** only appears in **ġiri ġar**, which must then mean *to step forwards = to set down your foot*.

The remaining Sumerian phrases are **šu ġar** = *hand + set down*, **gu ġar** = *neck + set down* and **gu kud** = *neck + ___*. The remaining English phrases are *to cease*, *to submit* and *to decapitate*. It then seems sensible that *neck + set down = to submit*, especially in light of (d) saying that *to have success = neck + to raise*. Then surely **gu kud** means *to decapitate*, so **kud** likely means *cut*. Finally, *to cease = hand + set down* seems sensible, so we have a full solution.

<5> IYO'AWUJWA'⁶ (1/2) 30 points

The Chorote Iyo'awujwa' are a Matacoan people living in the Chaco region of Argentina and Paraguay. A linguist working with one of the varieties of Iyo'awujwa' obtains the following data:

a.	a'wen	I see you (one person), I see him/her/them
b.	a'wenel	I see you (many people)
c.	si'wen	you (one person) see me, he/she/they see me
d.	hi'wen	you (one person) see him/her/them
e.	kasi'wen	you (one person) see us, he/she/they see us
f.	in'wen	he/she/they see you (one person)
g.	i'wen	he/she/they see him/her/them
h.	in'wenel	he/she/they see you (many people)
i.	a'wena	we see you (one person), we see him/her/them
j.	a'wenahał	we see you (many people)
k.	si'wenel	you (many people) see me
l.	hi'wenel	you (many people) see him/her/them
m.	kasi'wenel	you (many people) see us

NOTE: The apostrophe symbol in a word represents a consonant sound.

The linguist then starts asking for other tenses: "How do you say 'you (one person) are going to see me'" and gets the form *si'wehnayi'* from her consultant.

She says to herself: "I've got this." And asks: "Is 'you (many people) are going to see him/her/them' *hi'wehnyiwel'?*"

To her surprise, the form she gets is *in'wehnyiwel*, and the consultant adds the following explanation: "It can also mean 'he/she/they are going to see you (many people)'; and *si'wehnayi'* can also mean a few other things, by the way: 'I am going to see you (one person)', 'I am going to see him/her/them', and 'he/she/they are going to see me'."

Following this conversation the linguist tabulates this additional information:

Iyo'awujwa'	Possible English equivalents
<i>si'wehnayi'</i>	you (one person) are going to see me; I am going to see you (one person)/him/her/them; he/she/they are going to see me
<i>in'wehnyiwel</i>	you (many people) are going to see him/her/them; he/she/they are going to see you (many people)

NOTE: You may assume that in *all* cases, *all* the possible translations of a certain form are given.

6. Authored by Andr_es Pablo Salanova. Source of data is a personal communication from Javier Carol.

<5> IYO'AWUJWA' (2/2)

Task: Can you find how the following are said in Iyo'awujwa'?

n.	you (one person) are going to see him/her/them	in'wehnayi'
o.	he/she/they are going to see you (one person)	in'wehnayi'
p.	you (one person) are going to see us	kasi'wehnayi'
q.	you (many people) are going to see us	kasi'wehnayiwel
r.	we are going to see you (many people)	kasi'wehnayiwel

5 pts x 6 = 30 points

To help you solve this type of problem it is useful to make a table showing the combination of subject (I, we, you, he, she, they) and object forms (me, us, you, him, her, them). In the table below the subject (one who sees) values are listed in the left-most column and the object (one who is seen) values are listed in the top row. Since the tense of the verb is one of the variables that determines which prefix is used when the subject is first person (I, we) present tense forms are written above future tense forms where these differ.

object	1 (me)	1pl (us)	2 (you 1)	2 pl (you)	3 (him/her)	3 pl (them)
subject						
1 (I)			a' si'-	a'...-eł	a'- si'-	a'- si'-
1pl (we)			a'-...-a	a'-...-a-hał	a'-...-a	a'-...-a
2 (you 1)	si'- si'-	ka-si'			hi'-	hi'-
2pl (you)	si'-...-eł	ka-si'-...-eł			hi'-...-eł in'-...-wel	hi'-...-eł in'-...-wel
3 (he/she)	si'- si'-	ka-si'	in'	in'-... -eł in'-...-wel	i'-	i'- i'-
3pl (they)	si'- si'-	ka-si'	in'-	in'-... -eł in'-...-wel	i'-	i'-

NUMBER MARKING: We notice that plural (pl) is only distinguished from singular reference for first (we/us) and second person (you) pronouns.

If 1pl > 2/3 with present tense verb add suffix -a to stem

If 1/3 > 2 pl OR 2pl > 1/3 add suffix to stem (> = acts on)

- -eł where stem is consonant final as in *a'-wen-eł*
- stem final /' / is replaced by /w/ following /i/ before addition of plural suffix -eł as in *in'wehnayi-w-eł*
- -hał following stem final /a/ as in *a'-wen-a-hał*

PERSON MARKING:

If 1 > 2/3 with present tense verb add prefix a- to verb stem

If 1 > 2/3 with future tense verb add prefix si- to verb stem

If 2/3 > 1 add prefix si' - to verb stem

If 2pl > 1pl OR 1pl > 2pl add prefix ka- to stem with si' - prefix, e.g. *ka-si'-wen-eł*

If 2 > 3 add prefix *hi*'- to present tense verb stem, otherwise add *in*'-

If 3 > 2 add prefix *in*'-

If 3 > 3 add prefix *i*'-

We notice that in some cases the form marking $X > Y = Y > X$ (e.g., 1pl \leftrightarrow 2pl and if verb not in present tense form 1 \leftrightarrow 2/3, 2 \leftrightarrow 3)