



National Final 2021

Wednesday 10th March 2021
5 Questions, 14:30-17:00 Online Invigilation

Answer as many of the questions as you can. Write your answers in the answer-book provided or on a sheet of ordinary paper.

Make sure your name appears on every separate sheet.

At 17:00, each sheet should be photographed or scanned, and sent, ideally together in a single e-mail, to ailo@adaptcentre.ie



Question A: Old Chinese Sound Changes

Ethan Chi

The Chinese language was first spoken in a small area in Henan, China around 1,000 BCE, during the Zhou Dynasty. However, by the time of the Tang Dynasty (700 AD), many words had changed significantly. For example, the sound *-aj* lost its final *-j*.¹

Here are some words in Chinese. Each word has two pronunciations, those of the Zhou era (Old Chinese) and those of the Tang era (Middle Chinese). However, some pronunciations are missing. The English translations are given for information, but are not relevant to the solution.

Zhou	Tang	English	Zhou	Tang	English
(a)	<i>dó</i>	‘to come to’	<i>k^ʰe</i>	<i>kē</i>	‘chicken’
<i>m^ʰə</i>	<i>mō</i>	‘soot’	<i>nəʔ</i>	<i>ní</i>	‘ear’
<i>rajs</i>	<i>ljè</i>	‘to revile’	<i>gres</i>	<i>gjè</i>	‘water-chestnut’
<i>p^ʰək</i>	(b)	‘north’	<i>prəʔ</i>	<i>pí</i>	‘border town’
<i>p^ʰat</i>	(c)	‘to stop in the open’	<i>gə</i>	<i>gī</i>	‘his’
<i>l^ʰep</i>	<i>děp</i>	‘butterfly’	<i>l^ʰaj</i>	(f)	‘to flow’
(d)	<i>bāk</i>	‘calm, still’	<i>grajʔ</i>	<i>gjé</i>	‘to stand’
<i>dzak</i>	<i>dzjēk</i>	‘stone’	<i>tək</i>	<i>tīk</i>	‘to go to’
<i>braj</i>	<i>bjē</i>	‘to exhaust’	<i>s^ʰəks</i>	<i>sò</i>	‘frontier’
<i>ŋ^ʰajs</i>	<i>ŋà</i>	‘hungry’	<i>mrajʔ</i>	<i>mjé</i>	‘to share with’
<i>p^ʰeks</i>	<i>pè</i>	‘favourite (noun)’	<i>beʔ</i>	<i>bjé</i>	‘female servant’
<i>p^ʰaj</i>	<i>pā</i>	‘wave (noun)’	<i>raj</i>	<i>ljē</i>	‘to drag into’
<i>dz^ʰə</i>	(e)	‘wealth’	(g)	<i>sī</i>	‘silk’
<i>t^ʰep</i>	<i>tēp</i>	‘paralyzed’	<i>l^ʰek</i>	<i>dēk</i>	(name of tribe)

Pronunciation notes:

^ʰ marks pharyngealization of the preceding consonant (constriction of the throat).

j is pronounced like ‘y’ in English ‘yes’.

ʔ is the glottal stop (the sound between the two syllables of ‘uh-oh’).

ə is the first vowel of English ‘again’.

ŋ is the ‘ng’ sound in English ‘hang’.

The diacritics $\bar{\quad}$, $\acute{\quad}$, $\grave{\quad}$ and $\tilde{\quad}$ mark the level, rising, departing, and entering tones of Middle Chinese.

A1. Fill in the missing pronunciations from the following choices:

- (1) *dā* (2) *dzō* (3) *sə* (4) *pōk* (5) *l^ʰəʔ* (6) *b^ʰak* (7) *pāt*

¹ Source: Baxter, William H., and Laurent Sagart. 2014. *Old Chinese: a new reconstruction*. New York: Oxford University Press. Some aspects of the Baxter-Sagart orthography have been simplified.

A2. In the following, match the Old Chinese (Zhou) words on the left to the Middle Chinese (Tang) words given on the right in a random order. Again, the English translation is for your information only.

Zhou	English	Tang
1. <i>pʰajʔs</i>	‘humble’	A. <i>pjē</i>
2. <i>pʰajʔ</i>	‘to winnow’	B. <i>pà</i>
3. <i>pajʔ</i>	‘rice gruel’	C. <i>mjē</i>
4. <i>pe</i>	‘wall (of a house)’	D. <i>pěk</i>
5. <i>pʰek</i>	‘that’	E. <i>pjé</i>
6. <i>mraj</i>	‘to limp’	F. <i>pá</i>

A3. Give the Middle Chinese (Tang) pronunciations of the following Old Chinese (Zhou) words.

- (a) *grajʔ* ‘to stand’
- (b) *nʰə* ‘violent’
- (c) *rak* ‘female servant’
- (d) *pre* ‘upright pole of stone’
- (e) *bʰəʔ* ‘double’
- (f) *mʰajs* ‘dust’

A4. Give the Old Chinese (Zhou) pronunciations of the following Middle Chinese (Tang) words. If there are multiple possibilities, give them all.

- (a) *ŋjē* ‘to make a sacrifice to the deity of the soil’
- (b) *tōk* ‘to obtain’

Question B: **Mandombe script**

Ryan Chi

Mandombe is a script created in 1978 by Wabeladio Payi. Today, it is used to write the Democratic Republic of the Congo’s four national languages, Kongo, Lingala, Tshiluba, and Swahili. According to legend, the script was revealed to Payi by Congolese prophet Simon Kimbangu in a dream. At one point, the script landed its creator in trouble with the authorities. The problem was related to the fact that in traditional Kongo culture, mirrors are powerful, magical devices. Clearly, something about the script was too mirror-like.

On the next page are 22 words in Kongo transcribed into the Latin alphabet, and the same words in Mandombe, but not in the same order. Your task is to match them up, and then answer the supplementary question. The English equivalents are given for information, but are not relevant to the solution.

A. 	L. 
B. 	M. 
C. 	N. 
D. 	O. 
E. 	P. 
F. 	Q. 
G. 	R. 
H. 	S. 
I. 	T. 
J. 	U. 
K. 	V. 

1. wonso 'at all'	8. tiya 'fire'	16. zenga 'to cut'
2. tewa 'bang'	9. mfinda 'forest'	17. zuba 'to hit'
3. tuti 'cloud'	10. mpunda 'horse'	18. samba 'to hold'
4. mfumvu 'cord'	11. lumonso 'left'	19. yimbila 'to sit'
5. ngombe 'cow'	12. mongo 'mountain'	20. venza 'to strike'
6. fumbuka 'dead'	13. mpuku 'mouse'	21. maza 'water'
7. kutu 'ear'	14. mwisi 'smoke'	22. nani 'who'
	15. fula 'to blow'	

B2. Given the numerals 1, 2, 3, and 4, below, how would you write '5' in Mandombe?

1	2	3	4
᠎	᠎᠎	᠎᠎᠎	᠎᠎᠎᠎

Question C: Indonesian cognates

Evan Hochstein

Hawu (with around 110,000 speakers in five dialects) and Dhao (with around 5,000 speakers) are spoken on three islands in the southernmost province of Indonesia. Similarities between the vocabulary and phonology of Hawu and Dhao led some writers to conclude that Dhao is a dialect of Hawu. For example:

Hawu	Dhao	
<i>ana telora</i>	<i>ana talora</i>	middle child
<i>bèj'i</i>	<i>bhèj'i</i>	sleep, lie down
<i>b'èhi</i>	<i>bèsi</i>	iron, steel
<i>do</i>	<i>dhu</i>	relativizer 'which'
<i>d'ida</i>	<i>dedha</i>	above
<i>d'ue</i>	<i>dua</i>	two
<i>hupa</i>	<i>subha</i>	swear an oath
<i>pedutu</i>	_____	follow
<i>pepuru</i>	<i>papuru</i>	lower (something)
<i>puru</i>	<i>puru</i>	descend

Here are some sentences in Hawu and Dhao (1)-(12) in arbitrary order and their English translations (a)-(f). The Hawu and Dhao sentences are mixed together. Each English translation corresponds to one sentence in Hawu and one sentence in Dhao.

- | | |
|---|--|
| 1. <i>Na èra titu-kèna.</i> | |
| 2. <i>Pebèlo noo ri roo.</i> | |
| 3. <i>Ra kako taruu asa Sèba.</i> | |
| 4. <i>Ladhe ama na bhèlu, baku nasa.</i> | a. She is walking along the edge of the sea. |
| 5. <i>Ta nèru ke noo oro ngidi dahi.</i> | b. They keep walking to Seba. |
| 6. <i>D'ai-tèra noo ne rui.</i> | c. They see her head. |
| 7. <i>Ra pabhèlu na.</i> | d. They made her forget. |
| 8. <i>Na kako madhutu sebhe dhasi.</i> | e. If her father forgets, don't be angry. |
| 9. <i>Ki bèlo ama no, b'ole bubu.</i> | f. She was incredibly strong. |
| 10. <i>Ta ngède ke ri roo ne kètu no.</i> | |
| 11. <i>Ta nèru ke roo teruu la Hèb'a.</i> | |
| 12. <i>Ra nèdhi kètu na.</i> | |

C1. For each sentence, indicate whether it is in Hawu or in Dhao. Then match it to the corresponding English translation.

C2. Translate the following into English, indicating whether the original is Hawu or Dhao:

- a. *Ra pa'èra ama.*
- b. *Ki pedutu roo ri ama no, pedute noo ri roo.*
- c. *Pebèlu roo ri noo.*
- d. *Ladhe na puru, na nèdhi sebhe.*
- e. *B'ole bèj'i.*

C3. Translate into both Hawu and Dhao:

- a. Don't walk to the sea.
- b. They keep forgetting their father.

C4. In the list of cognates at the beginning of the problem, the Dhao word cognate with the Hawu word *pedutu* was given as a blank. Fill in the blank with the Dhao cognate (it is somewhere in the problem!). The list of cognates is alphabetised by Hawu words, not Dhao words.

Question D: **Dagaare**

Ethan Chi

The Dagaare language is spoken by around 1.1 million Dagaaba people in Ghana and Burkina Faso. The Dagaaba are a farming people noted for their sophisticated music, usually performed in the form of xylophone (*gyil*) duets accompanied by drums (*il*); another common form is solo melodies performed on bamboo flute (*wul*). The duiker is a small antelope native to Sub-Saharan Africa famous for its antisocial nature.

On the next page are some nouns in Dagaare in their singular, plural, and interrogative forms, together with their meanings. Where entries have been left blank, you must provide the correct forms.

As is quickly obvious from the data, one of the forms tells you the “root” for each word. The other two forms can be regarded as “marked” and “unmarked”, where the marked form is derived from the unmarked form. However, which is which differs from case to case according to certain “rules”, which you must figure out.

Regarding pronunciation, ‘ŋ’ is the ‘ng’ sound as in English ‘king’; ‘kp’ and ‘gb’ should be regarded as single consonants.

Although Dagaare is a tonal language, for simplicity all tones have been omitted. The data have been adapted slightly to make the problem easier.

Singular	Plural	Interrogative	Meaning
biri	(a)	bi-bo	<i>seed</i>
boŋo	bonni	boŋ-bo	<i>lizard</i>
dere	derri	(b)	<i>ladder</i>
dunduli	dundulo	dundul-bo	<i>maggot</i>
(c)	(d)	foloŋfug-bo	<i>lung</i>
ganda	gandari	ganda-bo	<i>solitary hero</i>
(e)	(f)	gbe-bo	<i>forehead</i>
(g)	(h)	gbe-bo	<i>leg</i>
gbebiri	gbebie	gbebi-bo	<i>toe</i>
gbekpoŋo	gbekponni	gbekpoŋ-bo	<i>thigh</i>
guo	guri	gu-bo	<i>thorn</i>
gyili	gyile	gyil-bo	<i>xylophone</i>
(i)	(j)	ir-bo	<i>duiker</i>
ili	ile	il-bo	<i>drum</i>
kpankpaŋbieli	kpankpaŋbiele	kpankpaŋbiel-bo	<i>elbow</i>
nimiri	nimie	nimi-bo	<i>eye</i>
nimisugo	nimisugri	nimisug-bo	<i>face</i>
(k)	(l)	noti-bo	<i>shoe</i>
nyagri	nyaga	nyag-bo	<i>intestine</i>
(m)	(n)	ŋmar-bo	<i>moon</i>
pie	piri	pi-bo	<i>roof</i>
pogsara	pogsarri	pogsar-bo	<i>girl</i>
(o)	pori	po-bo	<i>stomach</i>
sebiri	sebie	sebi-bo	<i>bee</i>
sie	seri	se-bo	<i>waist</i>
sori	suo	so-bo	<i>locust</i>
(p)	(q)	taŋ-bo	<i>mountain</i>
valenɣvo	valenɣvuri	valenɣvu-bo	<i>a kind of solitary wasp</i>
(r)	(s)	wul-bo	<i>bamboo flute</i>
(t)	yaga	yag-bo	<i>cheek</i>

Question E: **Waama**

Aleka Blackwell

Waama (also called Yoabu) is a member of the Gur branch of Niger-Congo languages, spoken by about 50,000 people in the northwest of Benin, in West Africa. Waama uses the Latin alphabet with a few extra symbols, but the exact pronunciation of them is not relevant to the solution of this problem. Some of the data has been adapted slightly for the purposes of this problem.

E1. Each Waama sentence appearing in the column on the left has its English translation somewhere in the column on the right, but the translations are in a scrambled order. Match each Waama entry to its English translation.

Waama	
1	<i>Cando kpento kpi, o ñ fai o suka.</i>
2	<i>Tando dori.</i>
3	<i>N pe saaki ti yete.</i>
4	<i>Bika kɔɔsi kɔɔka.</i>
5	<i>Soosada kaate.</i>
6	<i>Suka kpi.</i>
7	<i>Ba kaate tiibu band.</i>
8	<i>N yeentira n daaso.</i>
9	<i>Bisu yɔkɔɔte.</i>
10	<i>Tiibu dori puŋa mii.</i>
11	<i>N taka n daaso yete.</i>
12	<i>Maari dikiti fa pei, fa ñ piisi.</i>
13	<i>Suka miiki pɔmpɔmma.</i>
14	<i>Bika dori.</i>
15	<i>N kɔɔka taki Yooto yete.</i>

English	
A	The tree fell in the forest.
B	A car passed by earlier.
C	I went to my friend's house.
D	The child fell.
E	Marie lost her money, but she found it.
F	It rained.
G	My hen went to Yooto's.
H	My wife swept our house.
I	The children had fun.
J	Tchando's father died, and he inherited his car.
K	They gathered under the tree.
L	I hurt my friend.
M	The soldiers assembled.
N	The car broke down.
O	The child sold the hen.

E2. One of the Waama verbs you encountered in the sentences above is extremely versatile. This verb would be used by Waama speakers in all four sentences below. Which Waama verb is it?

Waama	English
(a) <i>N tokore <u>verb</u>.</i>	My shirt is torn.
(b) <i>Yaama <u>verb</u>.</i>	The matter is settled.
(c) <i>O beere <u>verb</u>.</i>	His fame declined.
(d) <i>Yima <u>verb</u>.</i>	The water froze / is frozen.

E3. Translate into Waama:

- The children gathered under the house.
- I sold my car.
- Her friend played in the rain.
- I lost his shirt, but they found it.

E4. Translate into English:

- Ba kɔɔse kɔɔsu.*
- N susu kpi.*
- Maari daaso fai fa kpento pei.*
- Ti saake tando yima yete band.*

E5. Write down everything you have discovered about Waama grammar. This task carries the same points as the matching task, so try to be thorough and systematic. Describe what you discovered, not how you discovered it.

END OF PAPER