Nineteenth International Linguistics Olympiad
Castletown (Isle of Man), 25–29 July 2022
Answer sheet

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<th>Team:</th>
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Nineteenth International Linguistics Olympiad
Castletown (Isle of Man), 25–29 July 2022
Team Contest Problem

Part I (25 points)

Ch’ŏngŏ Nogŏltae is a 17th-century Manchu textbook published by the Chosŏn dynasty government of Korea. It features fictional dialogues between a Korean merchant Kim and a Chinese man Wang.

Here is an excerpt from the book and its Roman transcription.
ambi age si aibici jihe bi coohiyan* wiung ging† ci jihe te absi genembi bi gemun hecen i baru genembi si atanggi wiung ging ci juraka bi ere biya ice de jurafi te hontohon biya hamika bime aitu teni ubade isinjiha emu gucu tutafi jime ofi bi elhešeme aliayakiyame yahure jakade tuttu jime goidaha tere gucu te amcame isinjimbio akün ere uthai tere gucu inu sikse teni jihe si bodoci ere biyai manashūn gemun hecen de isinambio isinarakūn bi adarame bahafi sambi abka gosifi beye elhe oci isinambi dere 🟢 [⋯]

Given below is its English translation:

Wang: ¹ Mister [lit. big elder brother], where did you come from?
Kim: ² I came from Wangging of Korea.

Wang: ³ Now where are [you] going?
Kim: ⁴ I am going to the imperial palace [= capital city of China].

Wang: ⁵ When did you depart from Wangging?
Kim: ⁶ I departed at the beginning of this month.

Wang: ⁷ You departed at the beginning of this month, now it has been almost half a month, why have [you] just arrived here?
Kim: ⁸ As a friend [of mine] was delayed and coming [late], I was travelling slowly to wait [for him], and because of this [my] coming has taken such a long time.

Wang: ⁹ Is that friend now catching up, or not?
Kim: ¹⁰ This is that very friend. [He] came just yesterday.

Wang: ¹¹ How would I know? If Heaven has mercy [on us], and [our] bodies are sound, [we] will arrive.

Kim: ¹² As to this Korean language of ours, it’s used only in the Korean land; if [one] passes Ijeo and arrives at the Chinese lands, everything is only in the Chinese language, so when anyone asks something [lit. a word], if [my] eyes vacantly stare and [I] can’t answer, what kind of people would the others see us as?

Wang: ¹³ So, that you study Chinese books — did [you] study of your(sg) own will or did your(sg) parents tell [you] to study?
Kim: ¹⁴ My parents [lit. our father and mother] told [me] to study, indeed!

Wang: ¹⁵ How many years has been your(sg) study?
Kim: ¹⁶ My study has exceeded half a year.
Here are some additional sentences in Manchu from the same book:

30. *afaha alban de kiceme yabufi hergen baharangge udu labdu bicibe baharaküngge inu bi*
31. *aika duleke aniya adali elgiyaha bici gemu jeterengge bufi ulebumbihe*
32. *amba age sain menggun be bucina ere menggun umesi juken adarame baitalambi*
33. *be morin be tataha boode ulebume genembi si bithe araha manggi mini tataha boode benju*
34. *bi inu donjici ere aniya ubade usin jeku be asuru bargiyahaku sembi*
35. *bi sinde fulu inu burakū komso inu burakū sunja yan oci uthai tob seme teherere hūda*
36. *booi jasigan tumen yan i aisin salimbi*
37. *coko hūlaha manggi iliši uthai yabuki*
38. *ere honin de enteke mangga hūda be gaiki seci funiyeye sain honin be udu hūda de uncambi*
39. *gemun hecen i jeter jaka hajio elgiyūn*
40. *gucuse ilicina coko ilanggeri hūlafi abka gereme hamika*
41. *jakūn fun menggun de emu hiyase sanyan bele sunja fun menggun de emu hiyase je bele*
42. *juwe fun menggun de emu ginggin honin yali bumbi sere*
43. *muse tubade dedume yoki aikabade duleme genece cargi orin ba i sidende niyalma bo akū*
44. *niyengniyeri yacin si jigiyūn sanyan ceri dorgi etuku be etumbi*
45. *orho turi gemu bi turi oci sahaliyan turi orho oci jeku orho*
46. *orho turi hajio ba oci ilan duin jiha menggun be baitalambi*
47. *sain sirgei araha boro genggiyen bocoi suje boro ninggude aisin dingse hadafi etumbi*
48. *si tere kubun be da bade udu hūda de udafi wang ging de genefi udu hūda de uncambi*
49. *sini ere geren morin ihan dobori dari jetero orho turi uheri udu jiha baibumbi*
50. *suweni geren šusai dorgi de nikan i niyalma udu coohiyian i niyalma udu*
51. *ubaci gemun hecen de isinarangge amba muru sunja tanggal ba funcembi*
52. *uncara niyalma majige eberembi udara niyalma jai sunja yan be nonggime bu*

Given below are their English translations in arbitrary order:

A. *Among your(pl) many classmates, how many are Chinese and how many are Korean?*
B. *Are things to eat scarce or abundant at the imperial palace?*
C. *For eight fen of silver [they give] one dou of millet; for five fen of silver [they give] one dou of white rice.*
D. *It is said that for two fen of silver [they] give one jin of lamb meat.*
E. *Let us go there to sleep. If [we] pass [there], over there are no people or houses in a span of twenty li.*
F. *Roughly five hundred li are left to arrive at the imperial palace from here.*
G. *How many qian in total are spent on straw and beans for these many horses and cattle of yours to eat every night?*
H. *If one is in a place where straw and beans are scarce, one spends three to four qian of silver.*
I. At what price do you buy that cotton at the place of origin and then at what price do you sell it when you go to Wangging?

J. There are both straw and beans — the beans are black beans and the straw is straw from crops [lit. ‘crop straw’].

K. Let us wake up and immediately leave after the cock crows.

L. If we had harvested abundantly like last year, we would have given all something to eat and fed you.

M. I also heard that, this year, field crops were not much harvested here.

N. Friends, could you wake up? The cock has crowed three times and the sky has almost become bright.

O. Mister, could you give me good silver? This silver is very flat — how would I use it?

P. A letter from home is worth ten thousand liang of gold.

Q. Seller, reduce the price a bit. Buyer, again add five liang of silver and give.

R. If you wish to be paid such an expensive price for this sheep, at what price do you sell a sheep with good wool?

S. You, stop trying to be paid arbitrarily like this. Even though I am not a broker, I know all about this price of silk.

T. I will neither give more nor give less to you. Five liang of silver is exactly the right price.

U. We will go to feed the horses at the inn. After you write the document, send it to my inn.

V. Even though those who go to work at the assigned jobs and get government positions are very many, there are also those who do not get a position.

W. We wear blue long-sleeved garments and white gauze inner garments in spring.

X. Hats made of good threads and light-coloured silk hats — we rivet gold brooches on top and wear them.

(a) Determine the correct correspondences.

(b) Here are some Manchu sentences from a fictional maths textbook featuring conversion of units of measurement and basic operations (+, −, ×). Translate into English:

54. ilan minggan ninggun tanggū juşuru, juwe ba, ishunde teherebumbi
55. orin hule i dorgici emu hule ilan moro hiyase be ekiyebuci, juwan jakūn hule uyun hiyase nadan moro hiyase funcembi
56. ilan tanggū nadanju duin ginggin de jakūn tanggū dehu juwe ginggin be nonggici, bahara ton udu
57. ninju duin fun be tofohon de kamcime bodoci, uyun yan ninggun jiha be bahambi

(c) Write in the Manchu script:

58. manju hergen ‘Manchu script’
59. mongo tala ‘Mongolian steppe’
60. tumen ula ‘Tumen river’
61. i i niyalma ‘Yi people’
62. tanggū tacikū ‘Tangut school’
63. tiyan ju gurun ‘India’
64. hahu hoton ‘Hohhot’ (city)
65. cicihar hoton ‘Qiqihar’ (city)
Part II (25 points)

The Imperially Commissioned Mirror of the Manchu Language is an 18th-century monolingual Manchu dictionary published by the Qing emperor Kangxi.

Here are some entries from the dictionary:

66. abka............. umesi den tumen jaka be elbehengge be, abka sembi.
67. alin................. den amba niggge be, alin sembi.
68. amargi............. hadaha usiha bisire ergi be, amargi sembi.
69. arašan aga........... erin de acabume agaha aga be, arašan aga sembi.
70. bolori............... nadan biya jakün biya uyun biya tumen jaka bargiyara be, bolori sembi.
71. cecike............... yaya ajige gasha be, cecike sembi.
72. dosimbi............... bata be gidame julesi genere be, dosimbi sembi.
73. edun.................. abka na i sukdun selgiyebume dara be, edun sembi.
74. elden............... šun biya usiha tuwai genggiyen yasa de fosoro be, elden sembi.
75. ergen............... beye i da sukdun be, ergen sembi.
76. gasha............... juwe bethe dethe funggala bisirengge be, gasha sembi.
77. hūda............... udara uncara jakai salire jiha menggun i ton be, hūda sembi.
78. ilha............... yaya orho moo i bongko ci fushume ilakangge be, gmu ilha sembi.
79. mergen............... sure dacun niyalma be, mergen sembi.
80. nadan usiha... amargi de bisire nadan amba usiha be, nadan usiha sembi.
81. nimaha............... muke de banjiba esihengge jergi jaka be, nimaha sembi.
82. niyalma............... abkai banjibuhu tumen ergengge i dorgi umesi surengge be, niyalma sembi.
83. sahaliyan....... umesi yacin be, sahaliyan sembi.
84. se............... orhoda i cikten da i acan i sidende banjiba jalan be, se sembi.
85. šun............... inenggi tucifi gubci abka na de eldekeengge be, šun sembi.
86. tanggū............... juwe susai be, tanggū sembi.
87. ulden............... alin jakarara ongsolo tucire elden be, ulden sabumbi sembi.
88. usiha............... dobori abka de sarafi, emke emken i elden bisirengge be, usiha sembi.
89. wargi............... Šun dosire ergi be, wargi sembi.

Given below are their English translations in arbitrary order:

A. sky......................... That which is the highest, and covers all kinds of things is called “sky”.
B. light of dawn.......... [When] the light emerges before the mountains are differentiated, [it is] said that “the light of dawn is seen”.
C. sun........................ That which emerges by day and illuminates the whole sky and the earth is called “sun”.
D. light......................... [That which] is of the sun, the moon, the stars, and fire, and is bright and stings at the eye is called “light”.
E. **Plough**... The seven big stars that are in the north are called “Plough”.

F. **much-needed rain**... The rain raining at the right moment is called “much-needed rain”.

G. **wind**... [That which] blows to spread the spirit of the sky and the earth is called “wind”.

H. **autumn**... (i)

I. **mountain**... Tall and big things are called “mountains”.

J. **west**... (ii)

K. **north**... The direction where the North star exists is called “north”.

L. **hundred**... (iii)

M. **to progress**... Going forward while smashing enemies is called “to progress”.

N. **star**... Those which are spread over the night sky, and each and every one of which has light are called “stars”.

O. **human**... (iv)

P. **breath**... The basic spirit of the body is called “breath”.

Q. **sage**... A clever, sharp person is called “sage”.

R. **price**... (v)

S. **black**... (vi)

T. **ginseng head**... A node that is created where the stem and root of ginseng meet is called “ginseng head”.

U. **flower**... Things which unfurl into blossom from the buds of any grass or tree are all called “flowers”.

V. **bird**... That which has two legs, feathers, and a tail is called “bird”.

W. **chick**... Any small birds are called “chick”.

X. **fish**... Various sorts of things living in water and having scales are called “fish”.

(d) Determine the correct correspondences.

(e) Fill in the blanks (i–vi).
Part III (25 points)

Suppose you are a group of Manchu-speaking merchants from the Qing dynasty. Your price list is given below:

- jeterengge
  šanyan bele ............. emu hiyase de nadan fun menggun
coko yali ...... emu ginggin de emu jiha sunja fun menggun

- etuku
  ilhangga stigiyan ................... duin yan menggun
  sahaliyan tulergi etuku ............. ilan yan menggun
  šanyan kubun dorgi etuku ............. tofohon jiha menggun

cooiyian ci jihe orhoda ...... orin ginggin de juwan yan menggun
aisin i jodoho suje .............. emu jušuru de sunja yan menggun
funiyhe sain honin .................. juwan juwe yan menggun

(f) Answer the following questions from your customers in Manchu using the Manchu script:
Part IV (25 points)

Here are some transcriptions of utterances in Modern Manchu recorded in the 21st century and their English translations in arbitrary order:

100. bi bəl wənčal ba də bələ udaxə
101. bo molin jolum jixəniŋŋə
102. aninj ja əxi odun
103. əninj sajn lod njam jixə
104. gimu xačan da tuli alin da nimiŋ gjak amba
105. jo alin ilan alin al sigdən da bi bitk taxə
106. masa čumaxə əmbada bitk xolal ba da jom
107. owu dili xaalbin innama sajanjə aisa gwajdam
108. si siskə buda jam wajama utka bo wul walin jixə
109. so učuluxə bo učula ako
110. təla sim maŋŋə əmbada fakjixə
111. tasa əla bitki ba manda buxo

A. It snows very heavily in Beijing in the winter season.
B. Between 2 o’clock and 3 o’clock I read [past tense] a book.
C. I bought rice at the rice market.
D. We came on horseback [lit. riding horses].
E. We will go to school together tomorrow.
F. You return home right after eating a meal yesterday.
G. You pl sang but we did not sing.
H. Very many people came today.
I. He went together with yousg.
J. They gave us this book.
K. In which direction is the wind today?
L. How long does it take to get from here to Harbin by car?

(g) Determine the correct correspondences.

(h) Translate into English:

112. mində jašixan bo!
113. təla amba njam waka
114. siskə majixa axa axaxa
115. bi iči dolxi otuku udaxə
116. aninj tasa alin da čičika sawaxə
117. anja nimaxə jam amə xoni jali jam
118. bo čumaxə čičikal xotun da jom, so jawə da jom?
119. bi jwan ani oŋŋulo gimu kačan da banjixə bixa
Manchu belongs to the Tungusic family. It was spoken by the Manchu tribes in the historical region of Manchuria in Northeast Asia. It was one of the official languages of the Qing empire, which was founded by the Manchus. With the passing of time, Manchu has been gradually replaced by Chinese, leaving only a few dozen native speakers in the current days.

Chinese belongs to the Sino-Tibetan family. Mandarin is a variety of Chinese that was the common spoken language of government officials during the Ming and Qing dynasties.

(Manchu) $c \approx ch$ in church; $j \approx j$ in judge; $š = sh$ in sheesh; $h = ch$ in German Bach or $j$ in Spanish jalapeño; $ng = ng$ in hang; $y = y$ in you; $ũ$ is a vowel.

č, j, š, x, ŋ, j (Modern Manchu) $\approx c, j, ř, h, ng, y$ (Manchu). $ə = a$ in comma. A doubled letter denotes length.

The following Chinese units of measurement were used in the Qing dynasty:

<table>
<thead>
<tr>
<th>Length</th>
<th>1 li = 1800 chi (≈ 576 m)</th>
<th>1 chi = 10 cun (≈ 0.32 m)</th>
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<tbody>
<tr>
<td>Mass</td>
<td>1 jin = 16 liang (≈ 596.8 g)</td>
<td>1 liang = 10 qian = 100 fen (≈ 37.3 g)</td>
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<tr>
<td>Volume</td>
<td>1 shi = 10 dou (≈ 103.5 ℓ)</td>
<td>1 dou = 10 sheng (≈ 10.35 ℓ)</td>
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</table>

—Minkyu Kim

**Editors:** Samuel Ahmed (editor-in-chief), Ivan Derzhanski (technical editor), Hugh Dobbs, Shinjini Ghosh, Stanislav Gurevich, Gabrijela Hladnik, Minkyu Kim, Yuyang Liu, Bruno L’Astorina, Liam McKnight, Dan Mirea, Aleksejs Puguševs, Jan Petr, Przemysław Podleśny, Milena Veneva, Elysia Warner.

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Good luck!