

First International Olympiad in Theoretical, Mathematical and Applied Linguistics

8–12 September 2003, Borovetz, Bulgaria

Team Contest

Problem 1 (35 marks)

In the first millennium CE there were in Chinese Turkestan two closely related languages, Tocharian A and Tocharian B, which had descended from a common ancestor, Proto-Tocharian. Here are some Proto-Tocharian words as they have been reconstructed by scholars:

$\left \begin{array}{ll} \bar{a}k\bar{a}natsa & \text{'unreasonable'} \\ \bar{a}sare & \text{'dry'} \\ \bar{a}st\bar{a}re & \text{'pure'} \\ k\bar{a}r\bar{a}m\bar{a}rtse & \text{'black'} \end{array} \right $	$\left\ \begin{array}{ll} p\bar{a}ratsako & \text{'chest (breast)'} \\ r\bar{a}s\bar{a}k\bar{a}re & \text{'sharp'} \\ sam\bar{a} & \text{'same'} \\ s\bar{a}k\bar{a}re & \text{'happy'} \end{array} \right\ $	$\left \begin{array}{ll} st\bar{a}n\bar{k}\bar{a} & \text{'palace'} \\ ts\bar{a}n\bar{k}\bar{a}r & \text{'top'} \\ w\bar{a}lo & \text{'king'} \\ y\bar{a}s\bar{a}r & \text{'blood'} \end{array} \right $
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And here are Tocharian A and Tocharian B words which are descendants of the Proto-Tocharian words listed above (in no particular order):

ṣtāṅk, walo, räskare, āsar, astare, āstär, āstre, asāre, stāṅk, wäl, wlo, pratsāko, pratsak, āknats, aknātsa, tsanṅkär, tsāṅkär, kramartse, krāmärts, räskär, sam, sām, ysār, sākär, yasar, säkre, ysār.

Assignment 1. Determine which word belongs to which language, knowing that:

- in one of the languages some words have two variants;
- the first word is Tocharian A.

Assignment 2. Allocate the following words to languages and reconstruct the Proto-Tocharian form of each pair:

- (a) *stām, ṣtām* ‘tree’;
- (b) *rtär, ratre* ‘red’;
- (c) *pärs, parso* ‘letter’.

Assignment 3. It is thought that Tocharian B had stress (as in English more or less). Upon what might this hypothesis be based?

Note: \bar{a} is a prolonged *a*, \mathfrak{s} sounds as *sh*, η as *ng*; the sequence *ts* is pronounced as a single consonant, \bar{a} is a specific Tocharian vowel. (Svetlana Burlak)

Problem 2 (30 marks)

When describing how personal and reflexive pronouns work in various languages, linguists make use of the so-called subscripts—Roman letters (typically *i*, *j*, *k*, ...) which mark pronouns and some other words in sentences. The character *** (asterisk) is also used. Here are some English examples:

1. John_{*i*} saw himself_{*i*} in the mirror.
2. John_{*i*} says that he_{*i/j/*k*} doesn't know Peter_{*k*}.
3. The boy_{*i*} is playing with his_{*i/j*} gun.
4. His_{*i*} teacher_{*j*}'s influence is easily seen in his_{*i/*j/k*} work.
5. The girl_{*i*} saw her_{**i/j*}.

Assignment 1. Explain the meaning of the subscripts and the asterisk.

Assignment 2. Add subscripts (and asterisks where appropriate) in the following sentences:

- (a) She doesn't like this trait in herself.
- (b) The father took his son to his room.
- (c) John knows that Peter has given his book to his son.

(Maria Rubinstein)

Problem 3 (35 marks)

Consider the following pairs of verbs with closely related meanings:

<i>accuse</i>	<i>rebuke</i>
<i>denounce</i>	<i>reprehend</i>
<i>command</i>	<i>instruct</i>
<i>advise</i>	<i>guide</i>
<i>assure</i>	<i>convince</i>

It is known that all verbs in the left-hand column have a certain ability that the verbs in the right-hand column lack.

Assignment 1. Identify the ability in question.

Assignment 2. Find the verbs that also have this ability among the following: *extort*, *threaten*, *forbid*, *swear*, *shout*, *approve*, *refuse*, *rob*, *dedicate*, *lose*, *scold*, *give up*, *demand*.

Assignment 3. Try to find two more verbs with the same ability.

(Boris Iomdin)