

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:

<i>ākänatsa</i>	‘unreasonable’	<i>päratsako</i>	‘chest (breast)’	<i>stänkä</i>	‘palace’
<i>āsare</i>	‘dry’	<i>räsäkäre</i>	‘sharp’	<i>tsänkä</i>	‘top’
<i>āstäre</i>	‘pure’	<i>samä</i>	‘same’	<i>wälo</i>	‘king’
<i>kärämärtse</i>	‘black’	<i>säkäre</i>	‘happy’	<i>yäsär</i>	‘blood’

And here are Tocharian A and Tocharian B words which are descendants of the Proto-Tocharian words listed above (in no particular order):

štänk, walo, räskare, āsar, astare, āštär, āstre, asäre, stänk, wäl, wlo, pratsäko, pratsak, āknats, aknātsa, tsänkär, tsänkär, kramartse, krämärts, räskär, sam, sām, ysär, säkär, yasar, säkre, ysär.

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:

- stām, štām* ‘tree’;
- rtär, ratre* ‘red’;
- 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: *ā* is a prolonged *a*, *š* sounds as *sh*, *ŋ* as *ng*; the sequence *ts* is pronounced as a single consonant, *ä* 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)