

First International Olympiad in Theoretical, Mathematical and Applied Linguistics

8–12 September 2003, Borovetz, Bulgaria

Solutions to the Problems of the Team Contest

Solution of Problem 1

Assignment 1.	A	B	A	B	A	B
	<i>štāṅk</i>	<i>stāṅk</i>	<i>āknats</i>	<i>aknātsa</i>	<i>pratsak</i>	<i>pratsāko</i>
	<i>āštār</i>	<i>astare, āstre</i>	<i>krāmārts</i>	<i>kramartse</i>	<i>rāškār</i>	<i>rāškare</i>
	<i>wāl</i>	<i>walo, wlo</i>	<i>sākār</i>	<i>sākre</i>	<i>sam</i>	<i>sām</i>
	<i>āsar</i>	<i>asāre</i>	<i>tsāṅkār</i>	<i>tsaṅkār</i>	<i>ysār</i>	<i>ysār, yasar</i>

The first pair gives the correspondence *št*—*st*. This determines unambiguously the second pair (or triple, rather), whence we learn that Tocharian B has kept the final vowels (except for the ‘specific’ one) and Tocharian A has lost them. Consequently all words with retained final vowels are Tocharian B and their counterparts with lost final vowels are Tocharian A. This allows the following conclusions to be made: In Tocharian A the ‘specific’ vowel falls out before a vowel that is retained and is retained before one that is lost; *a*, long or short, is preserved without change. In Tocharian B the ‘specific’ vowel can become *a*, *ā* or nothing and both *as* can become either *a* or *ā*. This determines the remaining pairs.

Assignment 2. (a) A *štām*, B *stām* ‘tree’ < **stāmā*; (b) A *rtār*, B *ratre* ‘red’ < **rätäre*; (c) A *pārs*, B *parso* ‘letter’ < **pārso*. In the reconstruction the ‘specific’ vowel is not inserted in clusters of the type ‘sonant + obstruent’ and the cluster *st*, nor is it added after final *r*.

Assignment 3. It is assumed that under stress **ä* > *a*, **a/ā* > long *ā*, whereas without stress **ä* > nothing or *ä* (as in Tocharian A), **a/ā* > short *a*.

Solution of Problem 2

Assignment 1. The subscripts mark the participants in the situation (the persons mentioned in the sentence). Identical letters mean identical individuals, different letters mean different individuals. In this way it is shown which pronoun can refer to which noun. If a pronoun can refer to more than one noun, all possible subscripts are given, separated by slashes. If a pronoun can refer to an individual not mentioned in the sentence, a letter is used that doesn’t mark any other word in the same sentence (e. g., *he* in (2) may be someone other than John or Peter, let’s say Bill, if he exists at all). An asterisk next to a letter indicates that the pronoun can’t refer to the noun with this subscript.

Assignment 2.

- She_i doesn’t like this trait in herself_i.
- The father_i took his_{i/*j/k} son_j to his_{i/j/k/l} room.
- John_i knows that Peter_j has given his_{i/j/l} book to his_{i/j/k/l/m} son_k.