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
ṣtāŋk	stāŋk	āknats	aknātsa	pratsak	pratsāko
āṣtär	astare, āstre	krāmärts	kramartse	räskär	räskare
wäl	walo, wlo	sākär	sākre	sam	sām
āsar	asāre	tsäŋkär	tsaŋkär	ysār	ysār, yasar

The first pair gives the correspondence *ṣt—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*, *ä* or nothing and both *a*s can become either *a* or *ā*. This determines the remaining pairs.

Assignment 2. (a) A *ṣtām*, B *stām* 'tree' < **stāmä*; (b) A *rtär*, B *ratre* 'red' < **rätäre*; (c) A *pärs*, B *parso* 'letter' < **pärso*. 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.

(a) She$_i$ doesn't like this trait in herself$_i$.

(b) The father$_i$ took his$_{i/*j/k}$ son$_j$ to his$_{i/j/k/l}$ room.

(c) John$_i$ knows that Peter$_j$ has given his$_{i/j/l}$ book to his$_{i/j/k/l/m}$ son$_k$.

Solution of Problem 3

Assignment 1. The left column contains what are technically known as performative verbs. (The concept of performativity was introduced in 1965 by the English philosopher John Austin.) They are different from other verbs in that the action they name can be performed by their use, rather than simply described. So the words *'I accuse you of murder'* all by themselves constitute an accusation; the words *'I denounce you as an impostor'*, a denunciation; *'I command you to report to the headquarters at once'*, a command; *'I advise you not to go there'*, advice; *'I assure you that this problem is not so hard'*, assurance. Performativity is a rather peculiar property; as the statement of the problem shows, even verbs with very similar meanings can differ in its presence or absence (one can't very well say *'I hereby reprehend your cowardice'* of *'I convince you that this is the correct solution'*).

Assignment 2. These are the verbs *forbid* (*'I forbid leaving the room before the class is over'*), *swear* (*'I swear to cheat no more'*), *approve* (*'I approve of your decision'*), *refuse* (*'I refuse to try to solve this problem'*), *dedicate* (*'I dedicate this book to my parents'*), *give up* (*'I can't do this problem, I give up'*), *demand* (*'I demand to be told how this problem is to be solved'*).

Assignment 3. For example, *thank* (*'I thank you for the clarification'*), *congratulate* (*'I congratulate you on your success'*).