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Converbs  
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Structure and Meaning of Adverbial Verb Forms  
– Adverbial Participles, Gerunds –

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## The system of switch-reference in Tuva: Converbal and masdar-case forms\*

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### 1. Preliminaries

Switch-reference is a morphosyntactic mechanism that marks, (usually) on the verb, the identity or nonidentity of the subject of a clause with the subject of another clause. As the simplest example of a verbal form marking the identity of subjects we can mention English adverbial participles as in *Having finished my homework, I went to sleep*. Adverbial participial clauses usually have a zero subject that is coreferential with the subject of the main clause.<sup>1</sup> The situation with Russian converbs (*deepričastija*) is similar. When the condition of coreferentiality is violated, the result are ill-formed sentences like (1), used ironically by Chekhov:

- (1) *Pod" ezž-a-ja k stancy i gljad-ja na prirodu v okno,*  
arrive-CONV to station and look-CONV on nature in window  
*s menja sletela šjapa.*  
from me flew.off hat  
'Arriving at the station and looking at nature through the window,  
my hat flew away.'

Thus, the converb suffix *-ja* is a marker of coreference between the subjects of two clauses in Russian.<sup>2</sup> In more elaborate systems of switch-reference not only markers of coreference (usually termed same-subject markers) but also markers of noncoreference (different-subject markers) are found. For examples, in An-cash Quechua (Quechuan, South America) there are markers designating coreference and noncoreference of the subject of the dependent clause and the subject of the main clause (Cole 1983: 3):

- (2) a. *chakra-chaw urya-shpa, pallamu-rqu-u wayta-kuna-ta.*  
field-in work-ss pick-PAST-1 flower-PL-ACC  
'While I worked in the field, I picked flowers.'  
b. *chakra-chaw urya-pti-i, Maria pallamu-rqu-n wayta-kuna-ta.*  
field-in work-DS-1 Maria pick-PAST-3 flower-PL-ACC  
'While I worked in the field, María picked flowers.'

As we will show below, one of such systems is amply represented in Tuva, a Turkic language of southern Siberia.

### 1.1. The history of the issue and typological remarks

The term “switch-reference” was coined by Jacobsen (1967) with respect to some North American Indian languages. In the course of the typological studies in the 1970s and 1980s it became clear that phenomena of switch-reference are by no means exotic and are found in many languages of the world. Furthermore, it turned out that switch-reference is one of the most common means of local cohesion in discourse (see, e.g., Foley–Van Valin 1984: 322–323). Systems of switch-reference are widely attested in the languages of North America (Jacobsen 1983), South America (Cole 1983), Australia (Austin 1981), New Guinea (Longacre 1983; Lynch 1983), and Africa (Wiesemann 1987). Thus, the least documented area in this respect is Eurasia. We are aware of just a few publications on switch-reference in Eurasia that make use of this notion. They mostly concern languages of eastern and southern Asia–Manchu–Tungusic languages (Nichols 1979), Nivkh (V. Nedjalkov in this volume), Japanese (Myhill–Hibiya 1988, Iwasaki 1992: chapter 4), and Tibeto-Burman (Genetti 1990); see also section 1.2 below on the description of switch-reference phenomena in Asia in different terms, and the discussion of another area of Eurasia in Nichols (1983).

Typological studies in switch-reference are found in the collections of Munro (1980), Haiman–Munro (1983) and a number of more recent works (such as the collections Haiman–Thompson (1988), Austin (1988), where the theory and typology of switch-reference were developed in more detail.<sup>3</sup>

The following universal (or at least near-universal) generalizations can be made on the basis of the available cross-linguistic data on switch-reference (cf. also Haiman–Munro 1983).

1. The clause containing the switch-reference markers is dependent on the other clause (with whose subject the subject of the dependent clause is compared with respect to coreference). The degree of this dependence can vary, but some degree of dependence must be present. A higher degree of dependence is expressed as the lack of marking the dependent verb form for person and/or temporal-modal features.
2. The dependent clause containing the switch-reference marker usually precedes the main clause.
3. Switch-reference systems mark the coreference of syntactic subjects, and not some semantic role or discourse function (cf. Foley–Van Valin 1984: 345–354, Woodbury 1983).
4. Same-subject (SS) and different-subject (DS) markers are frequently not structurally isomorphic. Moreover, the same-subject marker is typically indi-

visible, whereas the different-subject marker can include the subject agreement affixes (Haiman 1983).

5. There exists a hierarchy of the types of complex constructions with respect to their natural inclination to mark switch-reference. If a language has switch-reference then it should be expected primarily in constructions with the least specified type of semantic link between clauses (Jacobsen 1983: 170).

Later in this article we will consider a system of switch-reference which is clearly close to this typological standard. Functional explanations for the typological generalizations listed here will be attempted below in the conclusion of this paper.

### 1.2. The studies of switch-reference in Turkic linguistics

To our knowledge, the Turkic evidence has so far been mostly outside the attention zone of students of switch-reference. In the relevant literature we have noted a single mention of the data of Turkish (Haiman 1983, relying on the Turkish grammar of Lewis (1967); see also Haiman–Thompson 1984: 512). However, the facts presented in Lewis (1967) for the treatment of the converb suffixes *-(y)Ip* *-(y)A* as unquestionable same-subject markers are quite fragmentary; for some counterexamples see Kononov (1956: 475–476).

Systematic analyses of complex constructions or converb forms as marking (non)coreference of subjects are not found in the major grammars of Turkic languages (Dmitriev 1948, Kononov 1956, Kononov 1960, Isxakov–Pal'mbax 1961, Lewis 1967, Tekin 1968, Poceluevskij 1975, Ubrjatova 1976, Underhill 1976, Baskakov 1984, etc.), nor in comparative Turkic studies (Gadžieva 1973, Baskakov 1975, Juldašev 1977). Only particular forms are characterized as requiring or not requiring the identity of subjects (Dmitriev 1948: 189; Kononov 1956: 475–476; Juldašev 1977: 158, 167; for work on Tuva see below).

Very significant progress in describing Turkic (and other Altaic) switch-reference systems was made by the Novosibirsk typological school led by Majja I. Čeremisina, whose work mainly focuses on the phenomenon of “polypredicative” (i.e., multiclausal) constructions. The theoretical approach of this school was developed on the basis of the languages of the “Altaic type”. In particular, Čeremisina and others have independently established the distinction of “same-subject” (*monosub"ektnyj*) vs. “varying-subject” (*variantivno-sub"ektnyj*) vs. “different-subject” (*razno-sub"ektnyj*) forms of the dependent clause (Čeremisina 1977, 1980; Skribnik 1980). Novosibirsk scholars have provided detailed accounts of switch-reference in Altaic languages of the Tungusic (Gorelova 1980) and Mongolian (Skribnik 1980) branches, but in different terms: in the Russian tradition of Altaic studies, same-subject markers are traditionally called “sub-

jectiv attraction” (*sub<sup>o</sup>ektnoe pritižanije*) or “reflexiveness” (cf. Čeremisina 1979: 65). With respect to Turkic languages, Čeremisina (1980: 16, 22) noted that they also display examples of different-subject and same-subject constructions. The elaborate system of Yakut switch-reference is described in an interesting paper by Efremov 1979 (cf. also Efremov 1981) – this is probably the first systematic description of a switch-reference system in a Turkic language.

On the basis of everything said above we hope that a typologically-oriented systematic description of switch-reference in one of the Turkic languages spoken in the very geographical center of Asia can contribute to the typology of switch-reference and text cohesion, as well as to areal studies and Turkic linguistics. In section 2, multiclausal constructions that constitute the nucleus of the switch-reference system in Tuva are described; these constructions are exemplified in 2.1 and a semantic-syntactic treatment of them is suggested in 2.2 and 2.3. In section 3 we discuss the facts that can be called the periphery of the Tuva switch-reference system, i. e., constructions with adverbial clauses and with certain converbs.

## 2. Switch-reference in quasi-coordinate constructions

### 2.1. The mechanism of switch-reference

In general, English coordinate constructions with the conjunction *and*, where the semantic link between clauses is least specific, are translated into Tuva by means of the following kind of constructions:

- (3) a. *ava-m inek-ti saap-t-ar-ga, Kara-kis*  
 mother-1SG COW-ACC milk-SUF-IMPF-DAT Kara-kys  
*čan-ip kel-ir*  
 go.home-CONV AUX-IMPF  
 ‘My mother will milk the cow, and Kara-kys will go home.’
- b. *ava-m; inek-ti saap-kaš, Ø; čan-ip kel-ir*  
 mother-1SG COW-ACC milk-CONV go.home-CONV AUX-IMPF  
 ‘My mother will milk the cow and go home.’<sup>24</sup>

In both Tuva sentences, the first clause is marked as dependent, as shown by the nonfinite verb form, and the second as independent. The major difference between the sentences is that in (3a) the subjects of the two clauses are not coreferential and are expressed by overt NPs in each clause, whereas in (3b) they are coreferential and a subject is expressed overtly only in the first clause while the second clause has a zero subject. (Non-) coreference of the dependent-

clause subject with the main-clause subject is marked in the dependent clause by a verb affix. Evidently, we are dealing with a typical case of switch-reference. The affix *-ar-ga* marks a different subject, and the affix *-kaš* marks the same-subject condition. The term *quasi-coordination* will be explained in section 2.2.

#### 2.1.1. Earlier treatments

The affix *-kaš* found in (3b) has the underlying morphophonemic form *-GAš* and is called “the past tense converb” in a Tuva grammar (Isxakov–Pal’mbax 1961: 330).<sup>5</sup> Cognate forms also exist in several other Turkic languages – Bashkir, Tatar, Uzbek, Uighur and others. In these languages, this form probably does not imply the coreference of subjects.<sup>6</sup> For examples of its usage see: Dmitriev (1948: 248); Kononov (1956: 243); Grunina (1961: 137); Juldašev (1977: 76, 223 ff.). However, the Yakut form in *-aat*, cognate to the *-GAš* converb, is a same-subject converb (Efremov 1979: 65). Evidently, the status of the *-GAš* form and the corresponding Yakut form as same-subject forms is either an innovation or a reflex of an ancient situation. In the texts collected by Nikolaj Katanov, the author of the first Tuva grammar, this converb is used almost exclusively in contexts of coreference (cf. Katanov 1903: 934–1053).

The authors of the modern grammar of Tuva (Isxakov–Pal’mbax 1961) discovered the tendency for the *-GAš* converb to be used in the same-subject constructions (1961: 331–332), but they did not provide any interpretation of more complicated cases (see below). In a number of works on the syntax of the converb constructions in Tuva (Babuškin 1959, 1960; Delger-ool 1960; Sat 1982; Šamina 1983), this peculiarity of the *-GAš* converb is not mentioned. Ljudmila Šamina, in her dissertation, notes that “the converb in *-GAš* to a high degree guarantees the referential identity of its subject with the subject of the main action” (Šamina 1985 b: 129), but she herself cites four examples with noncoreference (1985 b: 131) without any additional comments (for an account of such cases see section 2.1.3 below); cf. also Čeremisina et al. (1986: 152).

The different-subject marker, attested in example (3b), has the morphophonemic form *-Vr.GA* where *-Vr* is the affix of the so-called “future tense participle”, or, in our terminology, imperfective masdar (deverbal noun); the symbol “..” marks a position for inserting personal affixes of the first and second person that express subject agreement (the third person agreement marker is zero);<sup>7</sup> *-GA* is the affix of the dative case. The use of such masdar-case forms as nonfinite verbs is very typical of the structure of dependent clauses in Tuva (as well as in Turkic in general). This morphosyntactic pattern, central for Turkic languages, served as a basis for the typology of the “predicative declension of participles” developed by Majja Čeremisina and her group (Čeremisina et al. 1984a). According to Ljudmila Šamina, “participle-case constructions” are the

nucleus of the system of “polypredicative” constructions in Tuva (Šamina 1982: 61). Unlike other similar combinations, the morphological combination we are interested in (the masdar in *-Vr* plus the dative affix *-GA*) is found in relatively few Turkic languages (Gadžieva 1973: 305–306, Čeremisina 1981: 13). It is hard to say whether the marker in question has functions similar to those in Tuva in other Turkic languages. In publications on Tuva it has never been mentioned that it is the different-subject marker, although examples illustrating its usage have been cited more than once (Katanov 1903: 922–923; Isxakov–Pal’mbax 1961: 309; Sat 1960; Šamina 1982; Čeremisina–Šamina–Borgojakova 1984; Šamina 1985). Curiously, while Šamina singles out a special same-subject type of participle-case constructions, she fails to observe that the *-Vr:GA* form cannot be used in this way and simply does not cite examples of such uses (Šamina 1985b: 119–120). In the typological studies of Čeremisina it was correctly stated that Turkic masdar-case forms are functionally related to converbs. These forms, despite their structural transparency, “function in a converb-like way” (Čeremisina 1981: 32). In Tuva this is especially true of the form in *-Vr.GA*.

Since the switch-reference function of the *-GA* and *-Vr.GA* forms has not been clearly identified in previous work on Tuva syntax, it was not possible to establish that these two markers constitute a functional pair and their semantics differs precisely in one component, being otherwise identical. We will discuss the shared semantic components of these two markers in section 2.2 below (for this kind of functional pair see Efremov 1979 on Yakut, and Skribnik 1980: 109–110 on Buryat). Multiclausal constructions including these markers are, according to our data, highly frequent and correlate with each other in a regular way, forming the nucleus of the morphosyntactic system of switch-reference in Tuva.

### 2.1.2. Principal examples

Let us examine the functioning of the switch-reference mechanism in biclausal constructions, taking into account all possible types of coreference between the arguments of the main clause and the dependent clause. First, let us look at constructions with verbs that have core case frames: nominative with one-place verbs, and nominative-accusative with two-place verbs. The same-subject marker appears only in the case of coreference of two subjects, whereas the different-subject marker appears in all other cases, no matter whether there is some coreference or not.

A. One-place verb plus one-place verb; no coreference:

- (4) *ača-zi čoru-j baarga, Kara-ool udu-p äd-ar.*  
 father-3 go-CONV AUX:DS Kara-ool sleep-CONV AUX-IMPF  
 ‘The father will leave and Kara-ool will go to sleep.’<sup>8</sup>

B. One-place verb plus one-place verb; coreference of subjects:

- (5) *Kara-ool, čemnen-ip al-gaš, O; ažiłda-p čort-kan.*  
 Kara-ool eat-CONV AUX-SS work-CONV ride-PF  
 ‘Kara-ool ate and went to work.’

C. Two-place verb plus one-place verb; no coreference – see (3a).

D. Two-place verb plus one-place verb; coreference of subject – see (3b).

E. Two-place verb plus one-place verb; coreference between the object of the first verb and the subject of the second verb:

- (6) *ool xana-ni; dožulaarga, ol; čaraš apar-gan.*  
 boy wall-ACC paint:DS it beautiful become-PF  
 ‘The boy painted the wall, and it became beautiful.’

F. One place verb plus two-place verb; no coreference:

- (7) *ača-zi čed-ip keerge, ava-zi Kara-ool-du čemger-ip*  
 father-3 come-CONV AUX:DS mother-3 Kara-ool-ACC feed-CONV  
*kaar.*  
 AUX:IMPF  
 ‘When the father comes, the mother will feed Kara-ool.’

G. One-place verb plus two-place verb; coreference of subjects:

- (8) *O<sub>1SG</sub> xooraj čoru-j bar-gaš, O<sub>1SG</sub> ava-m-ni kör-gen men.*  
 town ride-CONV AUX-SS mother-1SG-ACC see-PF 1SG  
 ‘Having come to the town, I saw my mother.’

H. One-place verb plus two-place verb; coreference between the subject of the first verb and the object of the second verb:

- (9) *O<sub>1SG</sub> xooraj čoru-j baar-im-ga, ava-m meni*  
 town ride-CONV AUX:DS-1SG-DS mother-1SG I:ACC  
*kür-bejn bar-di.*  
 see-CONV:NEG AUX-PAST  
 ‘I left for the town, and my mother did not see me.’

Note that in (9) the different-subject morpheme is broken in two parts by the first person singular agreement marker: the first part is merging in a portman-teau morph with the root, and the second follows the agreement marker.

## I. Two-place verb plus two-place verb; no coreference:

- (10) *ava-z̄i inek-ti saap kaarga, Kara-kis šala-ni*  
 mother-3 cow-ACC milk:CONV AUX-DS, Kara-kys floor-ACC  
*čü-p kaar.*  
 wash-CONV AUX-IMPF  
 ‘After the mother milks the cow, Kara-kys will wash the floor.’

## J. Two-place verb plus two-place verb; coreference of subjects:

- (11) *Kara-kis, duŋma-z̄i-n čemger-ip kaas, O, inek-ti*  
 Kara-kys brother-3-ACC feed-CONV AUX:SS cow-ACC  
*saar.*  
 milk:IMPF  
 ‘After Kara-kys has fed her brother, she will milk the cow.’

## K. Two-place verb plus two-place verb; other types of single coreference:

- (12) *urug, inek-ti čuurga, ava-z̄i O, maktaan.*  
 girl cow-ACC feed:DS mother-3 praise:PF  
 ‘The girl washed the cow, and her mother praised her.’
- (13) *ava-z̄i Kara-ool-du, čemger-ip kaarga, ol, inek-ti*  
 mother-3 Kara-ool-ACC feed-CONV AUX:DS he cow-ACC  
*saap kaar.*  
 milk:CONV AUX:IMPF  
 ‘When the mother has fed Kara-ool, he will milk the cow.’
- (14) *ava-z̄i inek-ti, čü-p kaarga, Kara-kis onu,*  
 mother-3 cow-ACC wash-CONV AUX:DS Kara-kys it:ACC  
*saap kaar.*  
 milk:CONV AUX:IMPF  
 ‘The mother will wash the cow, and then Kara-ool will milk it.’

## L. Two-place verb plus two-place verb; coreference of subjects; coreference of objects:

- (15) *O, inee-n, čü-p al-gaš, ača-m, O, saar.*  
 cow:3-ACC wash-CONV AUX-CONV father-1sg milk:IMPF  
 ‘Having washed the cow, the father will milk it.’

## M. Two-place verb plus two-place verb; the subject of the first verb is coreferential with the object of the second verb, and vice versa:

- (16) *i"i, Kara-ool-du, izirip-t-arga, ol, onu, xap-t-ar.*  
 dog Kara-ool-ACC bite-SUF-DS he it:ACC hit-SUF-IMPF  
 ‘If the dog bites Kara-ool he will hit it.’

The set of sentences just cited clearly demonstrates that the mechanism of switch-reference operates in a quite regular way in biclausal constructions where each clause has a typical agentive subject in the nominative case. Let us now see how this purely syntactic, subject-oriented mechanism works if we have clauses with less typical subjects.

In the first place, we have to look at dative quasi-subjects and derived passive subjects. In Tuva there is a small class of one-place stative verbs governing the dative case, e.g., *sook bol-* ‘be cold’, *aaršilig bol-* ‘ache’. Let us consider both possible locations of a dative quasi-subject that is coreferential with a nominative subject, in the main clause and in the dependent clause, respectively.

- (17) *Kara-ool, udu-j beerge (/ \*ber-geš), aŋaa, sook bol-ur.*  
 Kara-ool sleep-CONV AUX:DS AUX-SS he:DAT cold be-IMPF  
 ‘If Kara-ool falls asleep, he will be cold.’
- (18) *Kara-ool-ga, sook boorga (/ \*bol-gaš), ol, igla-j beer*  
 Kara-ool-DAT cold be:DS be-SS he cry-CONV AUX:IMPF  
 ‘If Kara-ool gets cold, he will cry.’

Clearly, the Tuva switch-reference system does not equate the dative quasi-subject with the genuine subject. And of course, the same-subject marker cannot be controlled by the dative of those verbs that have a nominative argument. It is precisely this nominative NP, the syntactic subject, that controls switch-reference, even if it is not the most central argument semantically:

- (19) a. *Kara-ool-ga, Kara-kis, taarš-irga (/ \*taarš-kaš), ol, onu,*  
 Kara-ool-DAT Kara-kys fit-DS fit-SS he she:ACC  
*oškaan.*  
 kiss:PF  
 ‘Kara-ool liked Kara-kys, and he kissed her.’ (lit. ‘Kara-kys suited Kara-ool ...’)
- b. *Kara-kis, Kara-ool-ga, taarš-kaš (/ \*taarš-irga), ol, onu,*  
 Kara-kys Kara-ool-DAT fit-SS fit-DS she he:ACC  
*oškaan.*  
 kiss:PF  
 ‘Kara-ool liked Kara-kys and she kissed him.’ (lit. ‘Kara-kys suited Kara-ool ...’)

Next we look at passive constructions. In a passive clause the original direct object turns up as the nominative subject, whereas the original subject is marked by the dative case. The verb displays a passive marker. Here are examples with passive in the dependent (20) and main (21) clauses:

- (20) *ool<sub>i</sub> ava-zi-n-ga čug-dur-ıp al-gaš, O<sub>i</sub> ojna-p*  
 boy mother-3-SUF-DAT wash-PASS-CONV AUX-SS play-CONV  
*čoruur.*  
 AUX:IMPF  
 ‘After the boy has been washed by his mother he will go to play.’
- (21) *Kara-ool<sub>i</sub> aki-zi-n-ga<sub>j</sub> užuraž-i ber-geš, ol<sub>i</sub> aŋaa<sub>j</sub>*  
 Kara-ool brother-3-SUF-DAT meet-CONV AUX-SS he he:DAT  
*ette-d-ir.*  
 beat-PASS-IMPF  
 ‘When Kara-ool meets his brother he will get beaten by him.’

Evidently, the passive subject controls switch-reference to the same degree as the initial subject. The agent phrase, marked by the dative case, is of course not equated with the subject:

- (22) *ava-zi<sub>i</sub> keerge (/ \*kel-geš), Kara-ool aŋaa<sub>i</sub> ette-d-ir*  
 mother-3 come:DS come-SS Kara-ool she:DAT beat-PASS-IMPF  
 ‘When the mother comes, Kara-ool will get beaten by her.’<sup>9</sup>

Thus, in the case of nonprototypical subjects the mechanism of switch-reference retains its strict orientation to the syntactic subject in the nominative.

### 2.1.3. Deviations from strict coreference

Above we considered examples with a dative quasi-subject. Tuva has one further type of verbal case frame lacking the regular nominative subject. This type consists of several predicates with a lexically fixed subject and a possessor argument (in the genitive case in *-nIŋ*), for instance: *X-nIŋ xöŋnü bulgan-* ‘feel nauseous’ (lit. ‘X’s mood breaks away’), *X-nIŋ xöŋnü baksıra-* ‘start feeling nauseous’ (lit. ‘X’s mood gets spoiled’). It turns out that the possessor argument of such a predicate is optionally treated like a subject, i. e., in constructions with such predicates either the same-subject or the different-subject marker can be used.

- (23) *Kara-ool<sub>i</sub> čemmen-ıp*  $\left\{ \begin{array}{l} aarga, \\ \text{AUX:DS} \\ al-gaš, \\ \text{AUX-SS} \end{array} \right\}$  *O<sub>i</sub> xöŋn-ü bulgan-i*  
 Kara-ool eat-CONV mood-3 break.away-CONV  
*ber-gen.*  
 AUX-PF  
 ‘When Kara-ool had eaten, he felt sick.’

- (24) *ool-dun<sub>i</sub> xöŋn-ü*  $\left\{ \begin{array}{l} baksıra-j \\ \text{get.spoiled-CONV AUX:DS} \\ baksıraš \\ \text{get.spoiled:ss} \end{array} \right\}$ ,  
 boy-GEN mood-3  
*O<sub>i</sub> čanıp* *kel-di.*  
 return.home-CONV AUX-PAST  
 ‘The boy became sick and he returned home.’<sup>10</sup>

Furthermore, this variation in the morphological marking is not an individual peculiarity of these predicates. In general, a possessor that is a part of a subject NP is treated like the subject itself with respect to switch-reference control. Thus, the possibility to use the same-subject construction in examples (23)–(24) is only a special manifestation of this rule. For example:

- (25) *O<sub>i</sub> kaš*  $\left\{ \begin{array}{l} köž-erge \\ \text{make.move-DS} \\ köš-keš \\ \text{make.move-SS} \end{array} \right\}$ , *xaan-niŋ<sub>i</sub> karaa*  
 sometimes khan-GEN eye-3  
*šoکارانجان-ıp kel-gen.*  
 flash-CONV AUX-PF  
 ‘The khan made several moves, and his eyes flashed.’<sup>11</sup>
- (26) *a" d-im*  $\left\{ \begin{array}{l} aari-j \\ \text{get.sick-CONV AUX:DS} \\ aaraš \\ \text{get.sick:ss} \end{array} \right\}$ , *oon aŋaj čoru-p*  
 horse-1SG thence further ride-CONV  
*šida-va-di-m.*  
 can-NEG-PAST-1SG  
 ‘My horse got sick, and I could not ride further.’<sup>12</sup>

But marking the dependent clause as same-subject becomes impossible when not only the possessor of the dependent-clause subject is coreferential with the main-clause subject, as in (26), but also the dependent-clause subject itself is coreferential with a nonsubject argument of the main clause. Thus, in the following example we also have coreference of the dependent-clause subject “mother” with the main-clause object “her”, in addition to the coreference between “my” and “I”.

- (27) *ava-m<sub>i</sub> kel-ırge (/ \*kel-geš); men onu<sub>i</sub> čemger-er men.*  
 mother-1SG come-DS come-SS I she:ACC feed-IMPF 1SG  
 ‘When my mother comes, I will feed her.’

The difference between (26) and (27) can be accounted for as follows: In sentence (26), the right-hand part is a one-place clause, and by using the same-





- (30) *iraaži-lar irlaar-i-n soksaarga* (/soksaas), *olar-nin*  
 singer-PL singing-3-ACC stop:DS stop:ss they-GEN  
*čamdik-iar-i čoru-j bar-gan.*  
 some-PL-3 go-CONV AUX-PF  
 ‘When the singers stopped singing, some of them left.’

In a sense, examples (23) to (25) and (28) with inalienable possession also belong to this class of cases. They differ in that the relation between the referents is not one of set-inclusion, but a part-whole relation. For the Tuva switch-reference mechanism the latter relation is closer to identity (i. e., coreference) than the former, so the same-subject marker is possible in the examples with coreference through the possessor.

The referentially prototypical subject is the referentially specific NP (on this and other referential characteristics see Padučeva 1985). NPs with another referential status are nonprototypical, referentially marginal subjects. NPs with generic referential status are treated on a par with prototypical subjects in Tuva, i. e., in the absence of coreference the different-subject marker is used.

- (31) *kiži-ler eki ažiłdaarga* (/ažiłdaas), *darga-lar amira-p*  
 human-PL well work:DS work:ss boss-PL be.glad-CONV  
*tur-ar-lar.*  
 AUX-IMPF-PL  
 ‘When the people work well, the superiors are glad.’

The same behavior is shown by universal NPs with the quantifier *šuptu* ‘all’. Note, however, that the same-subject marker obligatorily appears when one of the clauses contains a variable with the universal nominal *bürü* ‘everyone’, which refers to the whole set of referents given in the other predicate:

- (32) *šuptu aalı-lar čed-ip keel-geš* (/keerge), *kiži bürü-zi*  
 all guest-PL come-CONV come-ss come:DS human every-3  
*beleke ekkeel-gen.*  
 gift bring-PF  
 ‘All guests came and every one of them brought a present.’

In cases of strict coreference of subjects that are expressed by generic, universal and indefinite NPs, only the same-subject marker may be chosen. The same is true for syntactic zeroes with indefinite personal meaning:

- (33) *Ø; ažiłda-p kaap-kaš* (/kaap-t-arga), *Ø; ir-lar irlaar.*  
 work-CONV AUX-SS AUX-SUF-DS, song-PL sing:IMPF  
 ‘One sings songs when one finishes work.’

However, when there is no coreference between the two subjects, the indefinite personal zero behaves like the other types of nonprototypical subjects that we have considered. When one of the subjects is zero and the other one is a noncoreferential full NP, the same-subject marker may be used:

- (34)  $\emptyset$  *xleb-ti; xooraj-da*  $\left\{ \begin{array}{l} biži-r-arga \\ \text{bake-DS} \\ biži-r-gaš \\ \text{bake-SS} \end{array} \right\}$ , *beer onu; mašina*  
 bread-ACC town-LOC hither it:ACC car  
*söört-üp tur-ar.*  
 bring-CONV AUX-IMPF  
 ‘They bake the bread in the town, and the car brings it here.’

There cannot be two noncoreferential indefinite personal zeroes in a Tuva sentence, so that it is impossible to check which marker is used in such a situation.

Let us now look at the last type of a referentially nonprototypical subject, the impersonal syntactic zero. It behaves regularly: whenever one of the clauses is impersonal, the different-subject marker is used, independently of the type of the subject of the other clause.

- (35) *songa-dan xadı-p egeleerge* (/egelees) *men doŋ-a*  
 window-ABL blow-CONV begin:DS begin:ss I freeze-CONV  
*ber-di-m.*  
 AUX-PAST-1SG  
 ‘A draft began to come through the window, and I froze.’ (lit. ‘It began to blow ...’)
- (36) *karangıla-j beerge* (\*ber-geš), *soo-j ber-gen.*  
 get.dark-CONV AUX:DS AUX-SS get.cold-CONV AUX-PF  
 ‘It grew dark and it became cold.’

Evidently, from the point of view of the Tuva switch-reference mechanism the impersonal zero is not a subject at all, so that the first condition for the use of the same-subject marker, the existence of two subjects, is not fulfilled. In this respect the impersonal clauses are similar to the dative clauses in examples (17)–(18).

The semantic features of the prototypical subject can be divided into two interconnected, but nonidentical types: lexical-semantic features and role features. We will not consider subjects that are nonprototypical with respect to their semantic role structure because they are not found at all in Tuva. Thus, there are no literal Tuva equivalents of clauses where an NP with a locative or instrument role occupies the subject position (e. g., *The bottle holds a lot of water*;



## 2.2. Semantics of connection in switch-reference constructions

What is the grammatical meaning common to the converbal form in *-GAš* (same-subject marker) and the masdar-case form in *-Vr.GA* (different-subject marker)? The semantic relations between the main and the dependent parts of the biclausal constructions in the examples cited in section 2.1 were quite varied. The idea of the existence of a link between two situations, common to all of them, was realized in different cases as a temporal relation (the event of the dependent clause precedes the event of the main clause), a logical relation (the event of the dependent clause is a condition for the event of the main clause, or a consequence event, expressed by the main clause, follows from a cause event, expressed by the dependent clause), a logical-temporal relation (one event naturally follows the other). The event of the dependent clause precedes the event of the main clause in some sense, temporally or logically. This meaning is iconically reflected in the linear order of the clauses, and the markers *-GAš* and *-Vr.GA* themselves carry only the idea of a link between the clauses, without conveying any temporal meaning. As can be seen in the examples, in multiclausal constructions of the type considered here the grammatical meaning of tense is conveyed only by the finite forms of the main clause. Nor do the same- and different-subject markers have an aspectual meaning of their own; the aspectual meaning in the dependent clause with these forms is conveyed only by auxiliary verbs.

Of special interest is the tense-neutrality of the different-subject form, which is morphologically built on the basis of the imperfective masdar in *-Vr*. In finite forms the masdar in *-Vr* conveys the temporal meaning “non-past tense” and the aspectual meaning “imperfective”. The meanings “perfect” and “past” are mostly expressed by masdar forms in *-GAN*. The aspectual-temporal contrast of the affixes *-Vr* and *-GAN* is also preserved in the masdar-case forms *-Vr.DA* and *-GAN.DA*, which mark dependent clauses and are structurally similar to the different-subject marker (see section 3.1 for more details). In these two forms the locative case suffix *-DA* is added to the masdar marker and the person agreement suffixes. The dependent-clause forms in *-Vr.DA* and *-GAN.DA* express the meaning of simultaneity or cooccurrence of two events. This meaning component is clearly conveyed in these forms by the locative case forms, which contain the idea of collocating two objects together. Similarly, in the different-subject marker *-Vr.GA*, the notion of non-simultaneity and link is expressed by the dative case which contains the idea of a displacement from one location to another, while the masdar component of the different-subject marker has been desemantized and has lost all aspectual-temporal meaning, in contrast to the

masdar affixes in the *-DA* forms. Furthermore, there is no form expressing a dependent clause that combines the *-GAN* masdar with the dative case.<sup>18</sup> This fact provides evidence from the system for the fact that, despite its transparent internal structure, the different-subject marker *-Vr.GA* has left the paradigm of masdar-case forms, has merged into a unitary whole and is now in functional opposition to the marker *-GAš*, expressing the same relative time and differing only in its switch-reference properties. To use Čeremisina’s expression, the *-Vr.GA* form has been “converbalized” (*deepričastižacija*), because it has been isolated from the other formally parallel forms (Čeremisina et al. 1984: 39). The regular interaction of two dependent-clause forms, for the same and different-subject conditions, forms the switch-reference system in Tuva. Although the two forms have the same grammatical meaning, except for their switch-reference function, the same-subject dependent clauses naturally imply a greater connectedness of the events than the different-subject clauses. In connected discourse, the form that expresses the greater connectedness has communicative priority. This also explains the fact that in cases of deviation from the prototypical referential relations between clauses (i.e., from coreference) it is always the same-subject forms that expand into the domain of the different-subject forms, but never the other way round. In several recent papers it has been proposed that in some languages, the morphology that might be thought of as expressing the switch-reference distinction in fact expresses the event linkage (Carlson 1987, Mithun 1993).

## 2.3. Quasi-coordination as a type of syntactic dependence in switch-reference constructions

The interpretation of multiclausal constructions with a dependent clause marked by a converb or masdar-case form of the verb has traditionally been controversial in Soviet Turkic linguistics. The content of this controversy is widely known (for overviews cf., e.g., Gadžieva 1957, Nartyev 1975, Ubrjatova 1976: 14–24, Hanser 1982; with reference to Tuva: Sat 1960) and briefly amounts to the following dilemma: should sentences of the type (42) be regarded as “complex” (i.e., biclausal) or “simple” (expanded); in other words, should their dependent clauses be regarded as subordinate clauses (Russian *pridatočnoe*) or as “phrases” (Russian *obrot*); in yet other words, should such dependent clauses be considered as being of the same type as subordinate clauses with European-type conjunctions (such clauses are also attested in Turkic languages but usually constitute a very marginal kind of dependent clause; cf. Čeremisina 1981) or of a different type? Example (3) is here re-presented as (42).

- (42) a. *ava-m inek-ti saap-t-arga, Kara-keis čan-ip*  
 mother-1SG cow-ACC milk-SUF-DS Kara-kys go.home-CONV  
*kel-ir.*  
 AUX-IMPF  
 ‘Mother will milk the cow and Kara-kys will come home.’
- b. *avam; inekti saap-kaš Ø; čanip kelir.*  
 milk-ss  
 ‘Mother will milk the cow and come home.’

Our view on this matter is the following. The whole problem is a result of carrying over terms and categories from Russian to Turkic grammar which were coined in Russian grammatical research and make sense elsewhere only with serious reservations. In carrying over these categories to Turkic languages, Turkologists take as their defining features either structure or meaning. In the first case it turns out that Turkic languages do not have subordinate clauses at all, because subordinate clauses must of necessity have a subordinating conjunction (as in Russian) and all converbal and masdar-case clauses fall into the category of phrases. In the second case it is practically the Russian translational equivalent that is taken as a basis for the classification. In this case most of the converbal and masdar-case clauses turn out to be subordinate clauses. In order to arrive at a typologically adequate solution of the problem, the “Russocentric” approach and the Russian-oriented distinction between “phrase” and “subordinate clause” should be given up completely. A clause can have quite different degrees of dependence or reduction: from minimal dependence (in a coordinate construction) to maximal dependence (as a “copredicate” in the sentence *He went toward the house with a quick pace*).<sup>19</sup> “Phrase” and “subordinate clause” are labels that refer to two points on the scale of reduction in Russian that are not universally applicable. What is universal is the functional types of multi-clausal constructions that are identified on the basis of semantic relations between clauses, in particular, complement clauses, adverbial clauses, coordination. But the degree of reduction is expressed in every language differently, by means of the syntactic (internal structure of the dependent clause) and morphological (marking of the verb) resources of the language.

What type of multiclausal construction do sentences of the type (42), which are of interest to us here, belong to? Čeremisina (1981) considers all such sentences as belonging to the “adverbial subsystem” of “polypredicative constructions”, i. e., as constructions with adverbial clauses. However, let us turn again to the examples in section 2.1.2. As we observed, the specific semantic link between the clauses can vary, and the only constant feature is the notion of the existence of a link between the situations and of a precedence relation between

the two clauses. This leads us to think that these constructions are semantically closest to coordinate constructions. Such an interpretation finds an indirect confirmation in their Russian equivalents: the majority of the examples are translations of Russian coordinate sentences with the conjunction *i* ‘and’. In addition, the range of meanings expressed by these biclausal constructions is very close to the range of meanings of the Russian conjunction *i*. As is well known, the meaning of the coordinating conjunction in Russian is never completely free of adverbial meaning (cf. Švedova 1980: 617). But in Russian conjunctive coordination allows the use of finite verb forms in both coordinate clauses. If we give up the a priori assumption that this feature of predicate coordination is universal, the Tuva constructions with a switch-reference marker must be regarded as coordinate. The typological difference between Turkic and Indo-European languages is that Turkic languages have no (or very little) conjunctive coordination. This is why they express coordination by making one of the clauses dependent on the other by means of a nonfinite verb. (This type of coordination is typologically very widespread, cf. Bergel’son 1986). Since Tuva does have marginal (conjunctionless) constructions with two or more finite verbs, we will call switch-reference constructions *quasi-coordinate*.

Adverbial clauses, on the other hand, are expressed by means of masdar-postposition constructions in Tuva. In contrast to converbal and masdar-case constructions, they express a semantically specific type of link – temporal sequence, cause-result relation, etc., and not the existence of a link per se, as the quasi-coordinate constructions (on masdar-postposition constructions see Šamina 1981, 1985 a).

That the link in quasi-coordinate constructions is of a coordinative kind is confirmed by the freedom with which chains of dependent clauses can be built up in which only the last clause has a finite verb. Tuva narrative texts abound in such chaining constructions with dependent clauses containing switch-reference markers (cf., e.g., Babuškin 1959: 100, Isxakov–Pal’mbax 1961: 331). These really *multiclausal* constructions are characterized by a principle that can be called the principle of linear control of switch-reference: the use of a switch-reference marker in every clause is controlled by the (lack of) coreference with the subject of the clause that follows, for example:

- (43) *ool üžen älgi-çi-n berip-keš, älgi-çi-niŋ eŋ eki*  
 boy thirty herd-3-ACC give-ss herd-3-GEN most good  
*a’d-i-n tud-up mun-up al-gaš, aal*  
 horse-3-ACC catch-CONV saddle-CONV AUX-ss camp  
*kez-ip čor-up tur-arga, [...] Karati-Xaan dep*  
 go.around-CONV AUX-CONV AUX-DS Karaty-Khan AUX

- kiži židıraa möörej-i čarlaan.*  
 person chess contest-ACC announce:PF  
 ‘The boy gave away thirty of his horses, chose and saddled the best horse of the herd and went around the camp, and (at that time) a person called Karaty-Khan announced a chess contest.’<sup>20</sup>
- (44) *koža aal-ga baar-im-ga, kiži čok boorga, udavajn-daa*  
 neighbor camp-DAT go:DS-1SG person be.not be:DS soon-PTCL  
*čanip-kan men.*  
 go.home-PAST 1SG  
 ‘I went to the neighboring camp, there was nobody there, and I soon went back home.’<sup>21</sup>

Tuva is not unique in showing this tendency for chaining constructions. First, the existence of such chains in other Turkic languages has often been noted (cf., e.g., Baskakov 1975: 237, Gadžieva–Birjukovič 1983: 7). Second, it is well known that many languages with switch-reference have a tendency for chaining text structures (cf. Longacre 1983).

### 3. Other types of switch-reference marking constructions

It is not always easy to draw semantic distinctions between quasi-coordinate constructions and those with adverbial clauses. The prototypical discourse function of the quasi-coordinate constructions is signaling maintenance and preserving or, in contrast to this, change of the main active participant of the situation described, i.e., marking of switch-reference. The information concerning the semantic type of relation between the conjoined situations is secondary. The opposite is the case as far as constructions with adverbial clauses are concerned. Their prototypical discourse function is signaling the specific type of semantic relation between events, one of which is described as a temporal, causal or purposive elaboration of the other. Information on common participants can be provided, however, as secondary in importance. It is of interest to know whether a language like Tuva employs its switch-reference resources in various constructions not specifically focused on participant tracking. (For surveys of Tuva constructions with adverbial clauses, see Babuškin 1960, Delger-ool 1960, Sat 1982). In this section, several types of constructions with adverbial clauses are analyzed. We are primarily interested in what means are used for coding sameness/difference of subjects, to what extent these means are regular, and whether they should be viewed as components of the switch-reference system.

#### 3.1. Constructions with temporal clauses

There are a variety of temporal clauses in the Tuva language. Thus, 85 formal types of such clauses are described in Šamina (1985 b). (Among them are our quasi-coordinate constructions with the markers *-GAʃ* and *-Vr.GA*.) Temporal constructions considered in that paper to be the basic ones are those with the dependent verb marked as a masdar-case form in *-GA* or *-DA* (dative or locative cases, respectively). From our point of view, these forms, which look similar at first glance, have very different functions, which is reflected in different morphological and syntactic restrictions on their distribution. The conditions for using *-GA* forms and their functions within the system of switch-reference have been analyzed in full detail in section 1 above. As for *-DA* forms, they appear to be the most frequent masdar-case forms in Turkic languages (see, for instance, Gadžieva 1973; Čeremisina 1981). In the works on the Tuva language, they have been treated similarly to *-Vr.GA* forms (Šamina 1982; Sat 1960; Čeremisina et al. 1984). The following examples show some occurrences of *-DA* forms.

- (45) a. *uruu aar-ir-da, ava-zi igla-p tur.*  
 girl:3 sick-IMPF-TEMP mother-3 cry-CONV AUX  
 ‘When the girl is sick, her mother cries.’
- b. *xün ün-gen-de, čer čiraan.*  
 sun rise-PF-TEMP earth get.illuminated:PF  
 ‘When the sun rose, the earth became illuminated.’<sup>22</sup>
- c. *(men) udu-p čid-ir-im-da, ava-m (meni) otturup-kan.*  
 I sleep-CONV AUX-IMPF-1SG-TEMP mother-1 I:ACC awaken-PF  
 ‘When I fell/was asleep, my mother awakened me.’
- d. *ava-zi ača-zi-bile čugaalaž-ıp olur-da, ogl-u uruu-bile*  
 mother-3 father-3-with talk-CONV AUX-TEMP boy-3 girl:3-with  
*ten-ıp tur-gan.*  
 fool-CONV AUX-PF  
 ‘While the mother and father talked, their children fooled around.’
- e. *sižen šik-ıa, kezzer xerek.*  
 grass wet-TEMP cut must  
 ‘While the grass is wet, one has to mow (it).’

The following morphological features are characteristic of *-DA* constructions: co-occurrence with both imperfective (45 a) and perfective (45 b) masdars, that is, *-Vr* and *-GAN* forms, respectively; with simple or analytic (45 c) verbal predicates; directly with the auxiliary stem – the most frequent case (45 d); with an adjective predicate (45 e). Form a syntactic point of view, *-DA* constructions tend to be used in combination with the noncoreference of subjects, though this correlation is not as strict as for *-Vr.GA* constructions (see below).

Semantically, *-DA* constructions represent the idea of a loose temporal cooccurrence of two events, i. e., partial or absolute identity of their temporal boundaries (see Katanov 1903: 924; Delger-ool 1960; Šamina 1985b: 60). It is this meaning that is responsible for the frequent non-coreference of subjects encountered in *-DA* constructions: Naturally, in the real world temporally cooccurrent events more frequently involve distinct actors (cf., however, a more peculiar situation represented by *-Blšaan* constructions, see below). Deviations from this correlation occur in nonstandard situations where either it is difficult to judge whether the coreference of subjects is really observed – see (46) (and cf. 2.1.3 above), or the temporal clause is expressed in a reduced way; in the last case the temporal clause usually breaks up the main clause – see (47)–(48).

- (46) *doŋ-a ber-gen-de, ažiŋlda-ar-i dam baar.*  
freeze-CONV AUX-PF-TEMP work-IMP-3 still go:IMP  
'When one is freezing, one works even better.' (lit. '... his working goes ...')
- (47) *duu meeŋ taalŋ-im-ni [ün-er-iŋ-de] ap al-ir*  
that I:GEN bag-1SG-ACC exit-IMP-2SG-TEMP take:CONV AUX-IMP  
*sen.*  
2SG  
lit. 'That bag of mine, when you go out, you'll pick up.'<sup>23</sup>
- (48) *ača-m [Toora-xem-de bol-gan-da] meŋeŋ xöjleŋ sad-ip*  
father-1SG Toora-khem-LOC be-PF-TEMP I:DAT shirt buy-CONV  
*ber-gen.*  
AUX-PF  
'My father, staying at Toora-khem, bought a shirt for me.'

The temporal *-DA* clause in (48) obviously has the primary locative meaning, whereas the auxiliary *bol* 'be located' simply serves as the carrier of the *-DA* marker.

Thus, *-DA* constructions should be analyzed as temporal, and hence, adverbial clauses, in contrast to *-Vr.GA* constructions, which were analyzed as quasi-coordinate. This claim is also supported by the fact that *-DA* clauses fail to participate in clause chaining (cf. examples with *-Vr.GA* clauses in 2.3). This is motivated by a closer and more unidirectional dependence of the *-DA* modifier on the main clause as compared to the quasi-coordinate constructions.

From the point of view of the switch-reference system, a "quasi-minimal pair" for *-DA* constructions appears to be the construction with the *-Blšaan* converb which requires strictly coreferential subjects. (On this converb and its properties see Babuškin 1959: 101; Isxakov–Pal'mbax 1961: 388; Šamina 1985 b:

125–126). The discourse function of *-Blšaan* constructions is to emphasize strict temporal cooccurrence, and even fusion of two events. This is a peculiar situation, and *-Blšaan* clauses are not frequent in Tuva texts. It is worth mentioning that *-Blšaan* constructions again bring in the difficult problem of delimitation between adverbial clause constructions and coordination: the idea of conjunction is expressed to a maximal degree by a structure where events are unified both by a common main participant – especially when it is the only participant of a one-place-verb – and by temporal cooccurrence.

- (49) a. *ava-zi uruu-n čemger-bišaan, čugaalaž-ip olur.*  
mother-3 girl:3-ACC feed-TEMP:SS talk-CONV AUX  
'The mother feeds her daughter and speaks to her.'
- b. *čem xajindir-bišaan, ava-zi uruu-n čemger-ip tur-gan.*  
food cook-TEMP:SS mother-3 girl:3-ACC feed-CONV AUX-PF  
'While cooking, the mother (simultaneously) fed her daughter.'

An important fact about the Tuva switch-reference system is that in same-subject constructions the deletion of a subject NP can occur either in the main or in the dependent clause – see the positions of the NP *avazi* in (49 a–b). But this fact can receive another interpretation: it is always the subject of the dependent clause that is deleted; but since the dependent clause in all cases precedes the main clause, sometimes the remaining subject NP can be dislocated to the leftmost position in the sentence. Thus, the full NP *avazi* in (49 a) either belongs to the dependent clause, to which it is actually adjacent, or it is dislocated from its original position in the main clause, in which case the dependent clause is surrounded by main clause material. Each of the interpretations has its pros and cons, but in any case the variant with the subject in the left clause – see (49 a) – can be justifiably considered a quasi-coordinate construction, because it is characterized by anaphoric, not cataphoric deletion.

When there is a pragmatic need of communicating the idea of temporal cooccurrence or fusion of two events with distinct actors, a passive variant of the *-Blšaan* construction can be used, permitting to preserve the subject coreference.

- (50) a. *oŋ-u ača-zi-n-ga ette-dir-bišaan, igla-p tur-gan.*  
boy-3 father-3-SUF-DAT beat-PASS-TEMP:SS cry-CONV AUX-PF  
lit. 'The boy gets beaten by his father and cries.'

Of course, this is possible only if *some* coreference between the clauses is present, as in (50 a), where the patient of the dependent clause is coreferential with the agent of the main clause. Compare this with the case where there is no coreference, subjects cannot be made coreferential and the *-DA* clause is used:

- (50) b. *ogl-u ača-xi-n-ga ette-dir-ip tur-da, ava-xi*  
 boy-3 father-3-SUF-DAT beat-PASS-CONV AUX-TEMP mother-3  
*igla-p tur-gan.*  
 cry-CONV AUX-PF  
 ‘While the father was beating the son, his mother cried.’

A peculiar feature of *-BIšaan* converbs is the possibility of their autonomous use as finite forms with person markers. When used in this manner they have an emphatic meaning ‘X is still doing P (and) still doing Q’, as in (51 b–c).

- (51) a. *kettin-bišaan, uruu irla-p tur.*  
 dress-TEMP:SS girl:3 sing-CONV AUX  
 ‘While dressing, the daughter sings.’  
 b. *uruu kettin-bišaan, diran-bišaan.*  
 girl:3 dress-TEMP:SS comb-TEMP:SS  
 ‘The daughter is (still) dressing and combing herself.’  
 c. *men kettin-bišaan men, men diran-bišaan men.*  
 I dress-TEMP:SS 1SG I comb-TEMP:SS 1SG  
 ‘I am dressing and combing myself.’  
 (with a characteristic prolonged intonation)

The *-BIšaan* and *-DA* forms are close to being part of the switch-reference system. But still there are some features which differentiate them from the constructions analyzed in section 2: (a) they are not full synonyms, as *-BIšaan* has an emphatic sense of paralleling events; (b) *-Vr..DA* and *-GAn..DA* are not as consistent with respect to their different-subject-function as *-Vr..GA* is.

Other patterns of temporal constructions – with conjunctions or *masdars* plus postpositions (see Šamina 1985 b) – are not sensitive to switch-reference and thus are not examined here. It should also be added that though in some cases a temporal relation may implicate a causal or conditional relation (depending on the context and aspectual characteristics of the event), the expression of temporal cooccurrence remains the prototypical function of *-DA* and *-BIšaan* constructions. The prototypical means for expressing condition are constructions with a special conditional mood marker in the dependent clause. They are not sensitive to switch-reference (see Kibrik 1988) and thus are not considered in this paper.

### 3.2. Constructions with causal clauses

Among the great variety of Tuva constructions that express causal relations (see Šamina 1980, 1985 a), one can single out a nuclear subset where the switch-reference distinction is observed. (As noted above, in adverbial clause construc-

tions, switch-reference marking tends to be associated with the least specific semantics). The following are some basic examples:

- (52) a. *men korg-a ber-gen bol-gaš, börü-nü ölür-üp šida-vaan men.*  
 I be.afraid AUX-PF be-SS wolf-ACC kill-CONV can-NEG:PF 1SG  
 ‘I could not kill the wolf because I had been frightend.’  
 b. *börü anjak boorga, ölür-be-di-m.*  
 wolf young be:DS kill-NEG-PAST-1SG  
 ‘Since the wolf was young, I did not kill it.’  
 c. *bo čil sook boorga, xoj aŋ öl-gen.*  
 that year cold be:DS much animal die-PF  
 ‘Since the year was cold, a lot of animals died.’

Example (52 a) shows a same-subject construction, and (52 b) a different-subject construction with a coreferential direct object in the main clause. In (52 c) there are no coreferential NPs. It is obvious that the switch-reference markers are the same as in quasi-coordinate constructions: *-GAš* and *-Vr..GA*. However, in causal constructions there is a special carrier for those markers, namely the existential copula *bol-* that can accompany not only nominal but also verbal predicates of dependent clauses without any restrictions on their form – see (52) and also cf. (53):

- (53) a. *ača-m dika turup-kan bol-gaš, udu-j ber-gen.*  
 father-1SG very be.tired-PF be-SS sleep-CONV AUX-PF  
 ‘My father fell asleep because he grew very tired.’  
 b. *ača-m dika turup-kaš, udu-j ber-gen.*  
 father-1SG very be.tired-SS sleep-CONV AUX-PF  
 ‘My father grew very tired and fell asleep.’

Some peculiarities of switch-reference in causal constructions can be seen in sentences like (54 a):

- (54) a. *sen eki boor-uŋ-da kel-di-m.*  
 you good be:IMPF-2SG-TEMP AUX-PAST-1SG  
 ‘I came because you are good.’

Here the different-subject marker is *-DA* – the same as in temporal clauses. But its carrier is still a finite form of the same copula *bol-*. One can compare it to an analogous temporal clause construction demonstrating the nominal predicate:

- (54) b. *sen bičü tur-uŋ-da, seŋee ir-lar irla-p ber-ip*  
 you little AUX-2SG-TEMP YOU:DAT song-PL sing-CONV AUX-CONV  
*čoraan men.*  
 AUX:PF 1SG  
 ‘When you were young, I sang songs to you.’

The question arises as to what the grammatical status of the copula *bol-* is which appears as *bolgaš*, *boor..GA* or *boor..DA* and can accompany all types of predicates in causal clauses. From our point of view it would be misleading to describe these forms as conjunctions or postpositions (see Isxakov–Pal ‘mbax 1961: 450; Šamina 1980; Šamina 1985 a, 1985 b). At the same time, they cannot be equated with the auxiliaries and be thus considered a part of the complex verbal predicate since they are attached to an already formed analytic complex. We would prefer to view these markers not in terms of paradigmatically defined word classes (conjunctions vs. auxiliaries etc.), but functionally, according to their role as switch-reference markers in causal constructions. This is even more reasonable in view of the special character of the same/different-subject opposition in causal constructions: not *-GAš* vs. *-Vr..GA*, but *bolgaš* vs. *boor..Ga*, *boor..DA*. (The existence of the two latter forms is due to different aspectual features of the events in question). In general, constructions with causal clauses belong to the switch-reference system, their morphological base being the quasi-coordination switch-reference markers *-GAš/-Vr..GA*.

### 3.3. Constructions with purposive clauses

A large group of biclausal constructions in Tuvu show in their dependent clause a marker based on a form of the verb *de-* ‘say, tell’. Among these, constructions with purposive clauses form a special and easily definable class (another class that is not of interest to us here is complements with verbs of intellectual activity). The purposive clause is introduced by the marker *deš* which is in fact the *-GAš*-converb of *de-*. (For further information on purposive clauses see Šamina 1980; Sat 1981). Thus an expression translatable as “X does P in order to do Q”, means literally “saying Q, X does P”. The following are some basic examples:

- (55) a. *ava-m-ga ušuraš-ir deš, men xooraj čorup-tu-m.*  
 mother-1SG-DAT meet-IMP PURP I town go-PAST-1SG  
 ‘I went to the town in order to see my mother.’
- b. *ava-zi dištan-žin deš, uruu mün-nü xajindir-ip kaan.*  
 mother-3 rest-IMP:3SG PURP girl:3 soup-ACC cook-CONV AUX:PF  
 ‘For the mother to have a rest, her daughter cooked the soup.’
- c. *ača-m konču-tun-ma-žin deš, men ijaš-ti čar-ip*  
 father-1SG scold-SUF-NEG-IMP:3SG PURP I firewood chop-CONV  
*kal-di-m.*  
 AUX-PAST-1SG  
 ‘I chopped firewood so that my father would not scold me.’

These examples suggest that the different/same-subject contrast is relevant for purposive constructions as well, though the means of expressing it are different. The different-subject relation (55 b, 55 c) is signaled by the “imperative-optative mood” (Sat 1955: 695) on the dependent verb; for the third person its marker is *-ZIn*. The literal meaning of (55 b), for example, is “Saying: ‘Let the mother have a rest’, the daughter cooked the soup”.

As for the same-subject relation, (55 a), it is signaled by the plain indicative mood. That this form is a finite one, and not a masdar or participle, is better seen in examples with nonzero agreement:

- (56) *ača-m dištan-ir men deš, čan-ip kel-gen.*  
 father-1SG rest-IMP 1SG PURP go.home-CONV AUX-PF  
 ‘My father came home to have a rest.’

The optional first person marker *men* is present in this sentence. It is used to describe the purpose of some event most explicitly, by verbalizing it through direct speech – “Father came, saying: ‘I’ll have a rest’”. The absence of the person marker *men* in (56) would describe that purpose by verbalizing it as indirect speech: “Father came, saying that he’ll have a rest”.

These two possibilities create occasional ambiguities which are resolved by the context, depending on whether the purposive is construed as representing direct or indirect speech:

- (57) *ava-m meni čemger-ip kaq-žin deš, sen ažil-dan*  
 mother-1SG I:ACC feed-CONV AUX-IMP:3SG PURP you work-ABL  
*kel-di-ŋ.*  
 come-PAST-2SG
- a. Direct speech: ‘You came from work so your mother would feed you.’ (lit. ‘Saying: “Let my mother feed me” you came from work.’)
- b. Indirect speech: ‘You came from work so my mother would feed me.’ (lit. ‘Saying [that] my mother should feed me you came from work.’)

From the pragmatic point of view, interpretation (a) is no doubt preferable here.

The system of switch-reference in purposive clauses operates according to the same main principle that holds for the other types of constructions reviewed above: the same-subject marker appears only in case two coreferential nominative NPs are present; semantic features are not taken into account. See (58):

- (58) *Ø; čilig bol-žun deš, ool; pečka-ni odap-kan.*  
 warm be-IMP:3SG PURP boy stove-ACC heat-PF  
 ‘The boy started the stove in order to get warm.’



The verb *älüg bol* ‘be warm’ requires the dative, not the nominative case, and the respective NP cannot be considered the subject NP in Tuva. For the switch-reference mechanism it means different-subject marking, in this case – the imperative-optative mood of the main verb.

Thus, there are good reasons for considering purposive constructions in Tuva as belonging to the switch-reference system. Though same- and different-subject markers in purposive constructions are different from those analyzed in previous sections, the main same-subject marker *-GAŝ* also finds its place here: the verbal form *deeš* shares its subject with the main clause introducing direct/indirect speech and is used as an intermediate link for maintaining the referential bond between the subjects of the main and dependent clauses.

### 3.4. Constructions with conjoining converbs

The examination of purposive adverbial clauses concludes the overview of multiclausal constructions that mark switch-reference along with their adverbial meanings. However, we have still not considered the constructions with the converbs in *-(I)p* and *-V/-j* that allow only same-subject usages. Forms cognate with these converbs are found in nearly all Turkic languages, and in Turkological works many pages are usually devoted to them (see, e.g., Dmitriev 1948: 187; Kononov 1956: 475–476; Gadžieva 1961; Lewis 1967: 175–178; Gadžieva 1973: 318–321; Pocoluevskij 1975: 237–238; Juldašev 1977: 158–179, 185). Tuva constructions with the *-V/-j* and *-(I)p* converbs are described in much detail in Katanov (1903: 846, 850), Babuškin (1959; Isxakov–Pal’mbax (1961: 316–330). In Šamina (1985b) they are described along with the other converb constructions conveying temporal relations. In our opinion, such a categorization is not quite justifiable and is rather motivated by the semantics of Russian translations of these constructions with the help of Russian converb phrases.

Converbs in *-V/-j* and *-(I)p* have traditionally been thought to have at least two separate types of uses (Isxakov and Pal’mbax 1961: 316). These are, first, marking the dependent clause in a multi-clausal construction, and, second, marking all nonfinal verb forms in an analytical verbal construction. In both types of uses these converbs barely have any independent meaning – they basically serve to conjoin adjacent verbs (see below); hence the term “conjoining converbs”. The two types of uses are illustrated by the following examples.

- (59) a. *ool olur-a, duŋma-žt-bile ojna-p olur-gan.*  
 boy sit-CONV sister-3-with play-CONV AUX-PF  
 ‘The boy is sitting and playing with his sister.’  
 b. *duŋma-žt-bile ojna-p olur-a, ool igla-j ber-gen.*  
 sister-3-with play-CONV AUX-CONV boy cry-CONV AUX-PF  
 ‘The boy was playing with his sister and burst into tears.’

- c. *uruu kettin-ip, diran-ip tur.*  
 girl:3 dress-CONV comb-CONV AUX  
 ‘The girl is dressing and combing herself.’

In each of these examples, the verb of the first clause takes the form of a converb in *-V/-j* or *-(I)p*. At the same time, these examples illustrate the second type of use of these converbs – to mark the nonfinal verb in an analytic construction (in all three examples, this use is found in the second clause, and in [58b] in the first clause as well: *ojnap olura*). Synchronically, these two types of uses are distinct, but we believe that they are interconnected with respect to both their genesis and their function. The original use is the first type – marking the dependent clause in multiclausal constructions which, along with those examined in section 2 above, can be called quasi-coordinate (cf. Čeremisina et al. 1986: 28, 30, 145). These constructions characterize two concrete situations as linked, combined in a certain parameter (time, place, *Aktionsart*, commonality of participants, logical sequence etc.; cf. Katanov 1903: 846). Their connectedness is iconically represented in syntax, since one of the clauses is marked as a dependent one by a converb affix. Like quasi-coordinate constructions with *-GAŝ* examined in section 2, these constructions require obligatory coreference between the subjects (all the reservations indicated for the *-GAŝ* constructions in section 2.1.3 hold true here too). However, they differ from *-GAŝ* constructions in that the meaning of temporal precedence is not necessarily present. It should be noted that the use of the converbs in *-(I)p* as final verbs of dependent clauses is typical of the literary dialect of Tuva (see Babuškin 1959: 99) and is quite rare in the Todža dialect.

As for the second type of use of the converb, i.e., analytic verb constructions, they display a different kind of connectedness: it is not a link between two specific situations in discourse but rather a context-independent semantic link between a given verbal lexeme and certain auxiliary or partially desemanticized verb. Desemanticization underlying this link can be full or partial; in accordance with that, this link can be either firm or flexible. For example, the construction *diranip tur* (lit. ‘combing stands’) is the most neutral, i.e., the most grammaticalized way of expressing the meaning ‘she is combing’. However, under suitable semantic conditions, other wordings are possible, e.g., *diranip olur* ‘she is combing in a sitting position’ (lit. ‘combing sits’), where the auxiliary verb has not entirely lost its lexical meaning. Such occurrences represent an intermediate case between the two types of use of the conjoining converbs. They are similar to well-known serial constructions found in African, Papuan and some other languages. In general, due to different degrees of desemanticization of the link between the main and dependent clauses, and due to the openness of the lexical

class of auxiliary verbs, the intermediate cases are not unique and cover the whole continuum of transition from multiclausal constructions with conjoining converbs to the analytic verb forms.

A possible framework for describing these two types of converb uses is the idea of Foley–Van Valin 1984 and Foley–Olson 1985 that serial constructions and coordinate clauses are nothing but two stages of the process of clause juncture that can reach different degrees of completion: (1) sharing all arguments by both predicates, as in analytic forms; (2) sharing only part of the arguments, necessarily including the main protagonist, as in the multi-clausal constructions in (59 a, 59 b); (3) sharing only the adverbial arguments (not necessarily present). Converbs in *-V/-j* and *-(l)p* do not have parallel forms that mark different-subject. Thus, like English adverbial participles and Russian converbs, they do not constitute a subsystem of switch-reference.

#### 4. Conclusion

Let us briefly summarize the results of this study. The basis of the switch-reference system in Tuva is constituted by a pair of morphological markers *-GAʃ* and *-Vr.GA* (same-subject and different-subject respectively) used in quasi-coordinate constructions (section 2). This morphological opposition also underlies a subsystem of switch-reference in causal adverbial clause constructions (section 3.2). There is also a pair of markers that express temporal adverbial clauses with the meaning of simultaneity (section 3.1) and that are partially isomorphic with the pair of basic markers, but are grammaticalized to a lesser degree. Another subsystem of switch-reference – purposive adverbial clause constructions (section 3.3) – is based on different morphological resources: the same- and different-subject status is shown on the dependent verb by means of the indicative and imperative-optative moods respectively. The last type of switch-reference marking constructions we are aware of is the construction with conjoining converbs in *-(l)p* and *-V/-j* which embraces a broad range of multiclausal structures: from an analytical verb form to a clause chain. The markers of these converbs are same-subject markers and do not have different-subject marking counterparts.

In section 1, we listed cross-linguistically frequent properties of switch-reference systems. Now we will try to compare the Tuva variant of such a system with the typological “standard” and to provide functional explanations for the properties in question.

1. In Tuva switch-reference constructions, the switch-reference markers also mark the clause as dependent. The very fact that (non)coreference of the

clause’s subject with another subject is marked makes the clause dependent, requires comparing it to some other clause. Moreover, markers of switch-reference not only signal (non)coreference of the subject of the dependent clause with the subject of the main clause, but in addition express certain adverbial meanings with different degrees of specificity: from a minimally specific meaning in quasi-coordinate constructions to a highly specific meaning in purposive adverbial clauses.

2. Tuva has verb-final word order, and in a simple clause all arguments are located to the left of the verb. In accordance with this principle, the main finite verb tends to take the rightmost position in multiclausal constructions, whereas the nonfinite (frequently nominalized) clauses marking switch-reference take the argument slots to the left of the main verb.
3. The Tuva switch-reference mechanism marks (non)coreference of syntactic subjects. In cases where the referential properties of the subject are blurred, variation of switch-reference markers is possible.
4. The main same-subject marker in Tuva (*-GAʃ*) is morphologically unanalyzable while the different-subject marker (*-Vr.GA*) has an internal structure and agrees with the subject of its clause. This is quite natural since noncoreference, unlike the same-subject case, does not convey by itself any information about the subject.
5. In Tuva, the basic type of multiclausal constructions displaying switch-reference marking is what we called quasi-coordinate constructions with same- and different-subject markers in the dependent clause. These constructions show the semantically least specific link between clauses. Presumably, this is explained by the fact that switch-reference first emerges in constructions where the type of coreference is least predictable from the semantic nature of the interclausal link itself.

All that we have said above permits us to outline some perspectives for further studies on switch-reference. As for Tuva, at least the following aspects deserve to be mentioned: (1) discovering the remaining types of constructions marking switch-reference, if any; (2) an in-depth study of converb constructions (see section 3.4) and the continuous scale between analytical verb forms and multiclausal constructions with dependent converbal clauses; the relevance of the notion of serial construction to the Tuva evidence; (3) the interplay of such devices of discourse cohesion as switch-reference and anaphora (cf. Kibrik 1988 for some work in this direction).

As for Turkic studies in general, all Turkic languages should be closely examined to see whether they have switch-reference phenomena or not. Relying both on general speculations and preliminary analyses, there are reasons to suspect that switch-reference is quite typical of the Turkic language type. The contempo-

rary state of syntactic typology calls for filling this gap in our knowledge about this language family, which is in fact one of the best documented in the world.

## Abbreviations

1, 2, 3	persons of subject/possessor	LOC	locative
ABL	ablative	NEG	negative
ACC	accusative	PASS	passive
AUX	auxiliary	PAST	past
CONV	converb	PF	perfective masdar
DAT	dative	PL	plural
GEN	genitive	PTCL	particle
IMP	imperative-optative	PURP	purposive
IMPF	imperfective masdar	SG	singular
INTR	interruptive aspect	SS	same subject
ITER	iterative aspect	SUF	meaningless suffix (morphophonemically induced)
DIR	directional case	TEMP	temporal clause
DS	different subject		

In the Tuva examples, we ignore zero morphemes and omit the corresponding glosses, like nominative case marker, third person agreement.

## Notes

\* This paper is slightly revised translation of an article originally published in Russian (M. B. Bergel'son–A. A. Kibrik. 1987. "Sistema pereključenija referencij v tuvinskom jazyke", *Sovetskaja tjurkologija* 1987 (2): 16–32; 1987 (4): 30–45).

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Tuva is a Turkic language spoken in southern Siberia (mostly in the Tuva republic, a part of the Russian Federation) by approximately 207,000 speakers (1989 census). In English the Tuva language has been variously called Tuvan, Tuvin, Tuvian, Tuvinian, as well as a number of older names (see Comrie 1992: 190). The Tuva people call their language *tiva dil*. Tuva is a member of the Northern (Eastern-Hunnic) branch of the Turkic family. The grammatical structure of Tuva is mostly within the limits of the Turkic "standard", but includes some features shared by other Turkic, Tungusic and Mongolian languages of the area. The lexicon displays a strong influence from Mongolian. The standard Tuva orthography is based on the Cyrillic alphabet. Here we use a transliteration system fairly common in Turkic studies (see, e.g., Comrie 1981). The character *i* represents a high back unrounded vowel; *i'*, *a'* etc. are pharyngealized vowels; *j* is a palatal voiced fricative.

This paper is based on data collected by the authors in the 1986 linguistic expedition of Moscow State University in Tuva (Todža district, the village of Ij). Except for the cases specifically indicated, all Tuva examples were elicited from our consultants in the village of Ij, who speak the Todža dialect of Tuva (see Čadamba 1974). Checking our materials with the speakers of the literary dialect of Tuva showed that the Todža dialect does not differ significantly from the literary dialect in the relevant aspects. The cases of divergence between dialects are indicated in the paper. We have occasionally used data from written Tuva texts, as well as from the works of other authors. Such cases are indicated.

We are happy to express our gratitude to our consultants – the schoolteachers from the village of Ij, and also our colleagues Ul'jana P. Opej-ool and Marina V. Monguša, who helped us to correct and supplement our data. We thank the members of the Tuva linguistic expedition who discussed with us certain aspects of the present work, and we are very thankful to Alek-sandr E. Kibrik, Antonina I. Koval, Isaak Š. Kozinsky, Maria S. Polinsky, Edgem R. Tenišev, Jakov G. Testelec, and Viktorija N. Yartseva, who read an early version of the article and made valuable comments. We also highly appreciate the help of Thomas Payne who provided us with some important information. Keith Slater suggested a number of stylistic improvements, for which we are very much indebted to him. Naturally, all mistakes and omissions are our own responsibility.

1. True, there are marginal examples of noncoreferentiality of subjects of the participial and main clauses in English, e.g. *John having carefully set the trap, Bill waited patiently behind the tree for the bear* (we owe this example to Robert D. Van Valin). To ensure such noncoreferentiality, however, there should be an overt NP in the participial clause; the absence of a noun phrase is equivalent, by default, to coreferentiality.
2. There are well-known examples of correct Russian sentences with converbs where the subjects are not, strictly speaking, coreferential (see, e.g., Bergel'son 1979). In fact, Russian converbs are no less complicated than the Tuva converbs discussed below. The Russian data are cited here simply for illustrative purposes.
3. Stirling 1993 appeared after the revised version of this paper was finished, so we could not take it into account.
4. Two notes are due here:
  - (a) *Kara-kys* ('Black girl') is one of the most common Tuva female names (below we will also meet the common male name *Kara-ool* 'Black boy');
  - (b) in the second clauses of (3a–b), one can see that the verb forms are the analytic ones, i.e., they consist of a lexically full verb in the converb form in *-ip* plus an auxiliary verb in a finite form. This kind of analytic structure is highly typical of Tuva texts; we will deal with the analytic structures in more detail in section 3.4.
5. Following Turkological tradition, we use a morphophonemic transcription for affixes where capitals indicate morphophonemes that can be realized differently on the surface, depending on the context. For example, the morphophoneme *A* can show up as *a* or *e* because of vowel harmony, depending on the stem vowel; the morphophoneme *G* surfaces as *g*, *k*, and sometimes zero.
6. Although the term "converb" (*deepričastie*) was originally brought into Turkic linguistics from the Russian grammatical tradition, the requirement of coreferentiality of the main clause and dependent clause subjects is not usually implied by its usage in Turkic studies; see Čeremisina (1977).
7. On the difference between agreement affixes on masdars and regular nouns see Čeremisina (1981: 34).

8. It should be noted that a more natural translation of such sentences in English would be something like “Kara-ool’s father will leave and Kara-ool will go to sleep” but we stick here and below to a translation more isomorphic to the Tuva construction; in contrast to English, the preferred interpretation of such Tuva sentences is that it is Kara-ool who is the father’s son.
9. This example was elicited from a speaker of the literary dialect of Tuva. For the speakers of the Todža dialect such sentences are unacceptable. In Todža biclausal constructions of the type in question, one of the clauses can be made passive only if there is a strong motivation to topicalize the patient – to make it a passive subject; such a motivation can appear only if the second clause includes an argument coreferential with this patient subject, which is not the case in (22).
10. Our informants do not agree on the stylistic value of the same-subject variants of such sentences. Different forms are preferred on different occasions. The unsystematic nature of these preferences perhaps indicates that they are not motivated in every single case, but only reflect the informants’ intuitions about the somewhat marginal status of these constructions.
11. This example with the same-subject form was taken from the written text of a Tuva fairy tale. The different-subject variant was checked with an informant.
12. Examples (25)–(26) are from a speaker of the standard dialect.
13. This example is from Babuškin (1959: 101).
14. Although it is, of course, not necessary (and actually does not occur often in practice) that both NPs are overt.
15. This example, as well as the other examples in the remainder of section 2.1.3 are from a speaker of the standard dialect.
16. As has been observed by Maria S. Polinsky (personal communication), the possibility of the same-subject marker in example (37 a) (and its impossibility in [37 b]) can also be explained differently, namely by the existence of an associative link between the concepts of “spring” and “flowers”; such links are similar to referential relations like part/whole, which were considered above. In general, for some uses of same-subject markers in the context of incomplete coreference one can imagine a somewhat different treatment, based not on the nonprototypicality of subjects, but on the discovery of various relations of similarity and link between subjects; simple coreference is a special case of such relations.
17. *-BAS* is the negative variant of the imperfective masdar marker *-Vr*.
18. Indeed, such a combination exists, but in a completely different function: to mark a sentential complement of a verb that requires a dative object.
19. The word group *with a quick pace*, formally an instrumental/manner NP, can be viewed as a reduction of the predication “he paced quickly”.
20. This example was taken from the written text of a Tuva fairy tale and was checked with an informant.
21. Example from Babuškin (1960: 137).
22. Example from Babuškin (1960: 129).
23. The last two examples are from Šamina (1982: 67–68).

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- Note: *UZ TNIIJaLI* = *Učenyje zapiski Tuvinskogo naučno-issledovatel'skogo instituta jazyka, literatury i istorii, Kyzyl*.
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