

PLUS OR MINUS SWITCH-REFERENCE: REFERENTIAL STRATEGIES IN TUVA

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0. Introduction

The process of maintaining reference in discourse has two major aspects. The first aspect is referring per se, that is choice of referential devices, such as full NPs, or reduced NPs (pronouns or zeroes) on the basis of the referent's current degree of activation (Chafe 1987, Givón 1990, Kibrik 2001) in the speaker's working memory. If a referent is activated enough, the preferred referential form is a reduced NP (anaphoric pronoun or zero). Reduced NPs have very broad domains of reference, and here the second aspect of reference-maintenance becomes relevant: the problem of referential conflict, or "ambiguity". The speaker has to identify the cases of potential referential conflict (henceforth: RC) that can be caused by the projected reduced referential devices, and to ensure the removal of this conflict; if the speaker cannot ensure that, a full NP must be used.

Among the ways of removing RCs one can distinguish between the conventionalized (lexical and morphosyntactic) means that help to eliminate RCs, such as gender classification expressed in the third person pronouns (like English he/she/it), and non-conventionalized means, such as semantic context of a clause being compatible with the referent in question and incompatible with a competing referent (Kibrik 1987).

Heath (1975) has observed that switch-reference appears to be co-functional with noun classification and suggested that these two phenomena are complementarily distributed in languages. Both are ways of distinguishing between referents and thus can preclude RCs. Givón (1981) developed the notion of functional domain and suggested (Givón 1983) that switch-reference shares its functional domain (expression of topic continuity) with stressed/unstressed pronouns, honorific distinctions, and so on. Foley and Van Valin (1984: Ch.7) proposed a typological account of several morphosyntactic means that can be used to maintain reference; all of the means investigated in that work in fact contribute to RC removal, and not to referring per se. In Kibrik 1991, 2001 I outlined a typological calculus of lexical and morphosyntactic means that can be used in languages to preclude RC.

In this paper I propose to look at referential strategies (that is, strategies of referential device selection) in Tuva, a Turkic language of southern Siberia¹. This language has a small set of devices that can be used to perform reference as such, and one powerful morphosyntactic mechanism which is a conventionalized means contributing to the elimination of RCs. This mechanism is a system of switch-reference (henceforth: SR). Because of SR's role of a RC removing mechanism, it can be expected that presence/absence of SR markers is a factor of referential strategies employed. In this article I am going to investigate whether referential strategies are the same or different in constructions marked and unmarked for SR.

1. Tuva

The Tuva language is spoken by approximately 207 thousand people (1989 census) who constitute the native population of the Tuva Republic (Russian Federation). Tuva is a typical Turkic language and shares many areal traits with the neighboring Siberian languages. (Cf. Isxakov and Pal'mbax 1961, Čeremisina 1977, Šamina 1987.) In terms of morphosyntactic typology, Tuva is consistently agglutinative, has the purely accusative role alignment, the strictly verb-final clause word order, and the clearly defined syntactic subject. Predicates of Tuva clauses very frequently consist of several consecutive verb forms, resembling serial constructions. In such series of verbs the first one is lexically the most meaningful, and the following ones are auxiliaries or quasi-auxiliaries. These auxiliaries represent various aktionsart meanings. The linearly last verb form may or may not be finite, and all others are necessarily marked as non-finite - more specifically as converbs. (Converbs are deverbal forms used in languages to construct adverbial clauses; for a discussion of this notion refer to Haspelmath 1995; on Turkic converbs cf. Johanson 1995.) For example²:

- (1) čĥ-j so-p al-dĥ-m
gather-CONV hit-CONV take-PAST-1.SG
'I gathered it (a lot, for myself)'

Tuva discourse (at least narrative) displays a strong tendency toward clause chaining, that is, construction of long series of clauses wherein only the last one is finite and independent, while all the rest are non-finite and morphosyntactically marked as dependent.

Reduced referential devices in Tuva include frequently used zero and a demonstrative, also used as a third person pronoun: ol 'he, she, it' (accusative. onu, dative aĥaa; plural nominative olar 'they'). Pronouns (leave alone zeroes) do not distinguish any further categories, similar to those classifying referents in various languages and thus removing RCs (Kibrik 1991), such as noun class (stable classification), or logophoricity or obviation/proximity (varieties of current classifications). Therefore the potential of the Tuva reduced referential devices for creating RC is very high. As a result, full NPs are frequently used as alternates of reduced devices. Cf. a discussion of comparable devices in Turkish - Enç 1986, Erguvanlı-Taylan 1986.

Tuva possesses a system of verb-marked switch-reference that was described in detail in Bergelson and Kibrik 1987, 1995. To put it briefly, the same-subject (SS) form of the verb is a converb in -GAš³. The converbal forms do not allow agreement with the subject of the clause. The different-subject (DS) form ends in -Vr.GA, which is structurally the dative (-GA) from the imperfect masdar (-Vr, traditionally called "future tense participle"), inflected for person and number of the subject of the clause (the appropriate markers are inserted in the slot marked as two dots). For example, first person singular agreement marker is -(I)m, third person is zero; accordingly, the first person singular DS ending is -

VrImGA, in the third person -VrGA. Tuva SR is close to the typological average (outlined in Haiman and Munro 1983) - for a detailed discussion refer to Bergelson and Kibrik 1995.

Not all types of dependent clauses, and even not all types of adverbial clauses, are marked for SR in Tuva. The two contrasting markers just discussed appear in the context of the least specified semantic connection between clauses. Equivalents of such constructions in languages like Russian and English are typically coordinate constructions with an and-type conjunction. Several other types of constructions also can be marked for SR (see Bergelson and Kibrik 1995). To the contrary, still other types of adverbial clauses are not marked for SR; most importantly for this paper, the conditional clauses have the uniform marker -Z..ZA (in the third person simplified to -ZA) independently of the subject coreference matter.

2. The methodological issue

In this paper I am going to look at referential strategies in biclausal Tuva sentences that were elicited from native speakers during my fieldwork on the language. Since I am going to find out whether the factor of plus or minus SR affects referential strategies, I need to try to isolate this factor, to manipulate it and see what are the consequences. To do this I need to construct many pairs of sentences that would be isomorphic, except for the presence/absence of SR marking. As Tuva is not my native tongue, the only way to do that is to interview native speakers and ask them to construct the necessary sentences - usually by translation from the medium language (Russian).

However, there is a serious methodological question that should be acknowledged before I proceed with a discussion of the data themselves. It is intuitively clear that referential strategies, once they exist in language, are designed to maintain reference in natural discourse rather than in constructed decontextualized sentences. Is not it possible that referential strategies, when tested under unnatural conditions, would be so much distorted that they would provide us only with faked data?

In general, this is a crucial question facing functional linguistics at this time: what is the status of constructed linguistic examples, do they represent any linguistic reality or maybe they are simply misguided data, and in the latter case any analysis of them is not only irrelevant but also harmful? For strong arguments for the exclusive use of natural discourse examples see e.g. Heath 1984, Chafe 1994.

I believe that the answer to this question is partly dependent on the sort of the phenomenon under investigation itself. It seems obvious that the linguistic phenomena that are paradigmatic in nature, that is related to language's function of information storage, can and should be elicited. If one needs to find out exactly which verbs in a language form causatives and which do not, one can browse through discourses for ages, and never resolve the problem; a much more efficient way to do that would be to experiment with the verbs of all major lexical classes. There are innumerable phenomena in language that can be very well studied in an experimental setting - through introspection in case of native language, and through elicitation in case of fieldwork with a non-native language.

On the other hand, there are many linguistic phenomena inherently oriented toward language's another function - that is, on-line communicative information transmittal. Among these phenomena are referential devices, word order, clause combining, and many others. For this kind of phenomena, the experimental approach is frequently misleading because it is very difficult to artificially construct the situation of on-line language use that would model the real natural situations. It is absolutely clear that Chafe's (1994) critique of research on discourse-oriented phenomena not based on discourse data is fully justified.

However, it is not entirely impossible to experimentally study the discourse-oriented linguistic phenomena, such as referential strategies. The only problem, as with any experimentation, is to fix the conditions of an experiment properly: these conditions have to model the natural situation in the relevant respects, and at the same time be simpler than messy reality and be controllable by the experimenter. It is necessary to realize to what extent the results obtained through experimentation can be extended onto natural usages of the given phenomenon. Such extension can be done only with adequate caution. (For advanced experimental research on discourse-oriented phenomena see Tomlin 1987, 1994.)

Thus, my conclusion is that referential strategies can and should be studied experimentally, provided a fair degree of caution. Before experimentation, the range of options available in the given language needs to be identified from natural discourse materials. On the other hand, experimentation can further lead one in natural discourse research, suggesting what are the relevant parameters of variation.

3. Natural discourse data

Consider an excerpt from a Tuva folk tale "Üš č üül ertemniġ ool" ('The boy who possessed three skills'), a specimen of written narrative discourse⁴. This excerpt illustrates how referential devices operate in natural discourse in SR constructions and conditional constructions.

(2) ool-dun_i ada-zi nazıla-p kġraaš ,
 boy-GEN father-3 grow.old-CONV grow.old:SS
 'The boy's father grew old

Ø öl-üp kal-gan irġin.
 die-CONV AUX-PF PTCL
 and died.

"<...> minč a xöġ mal-dġ kanč aar men? <...>" Q_i dečš ,
 so much livestock-ACC what.to.do:IMPF 1.SG say:SS
 "<...> What am I going to do with so much livestock?" saying

Ø_i mal-*i*-n sür-üp al-gaš,
 livestock-3-ACC drive-CONV AUX-SS

[and] driving his livestock

demgi ool_i čige songu čük-če čoru-p kaaptir evespe.
 that.very boy straight north side-DIR go-CONV AUX:NARR PTCL

that very boy went straight to the north.

ol_i bar čid-arga,
 he go AUX-DS

As he started,

oruk aksında üš ög tur-gan.
 road by three yurt stand-PF

there were three yurts by the road.

Ø_i bir ög-ge kir-e beerge,
 one yurt-DAT enter-CONV AUX:DS

He entered one yurt,

xöj ulus šidiraа sal-ip olur-uptur.
 many people chess put-CONV sit-NARR

[and there] many people sat playing chess.'

In example (2) every line corresponds to a single clause (except for line 3 where direct speech is put together with the matrix verb). Lines 2, 5, 7, 9 are finite clauses. All the rest are non-finite clauses: 1, 3, and 4 are SS-marked clauses, while 6 and 8 are DS-marked clauses. The clause in line 1 has the SS marker because its subject ("the father") is identical to that of the next clause. The clause in line 8 (the second last) has the DS marker because the following clause (the last one) has a different subject.

- (3) ol xaan-ni_j üš ulaj ut-kan kiži_k xaan-nin_j ornunga xaan bol-up,
 that khan-ACC three time defeat-PF person khan-GEN instead khan be-CONV
 'The one who defeats that khan three times will be a khan instead of the khan,

Ø_k töre-ni tud-ar,
 power-ACC hold-IMPF

[and] will get the power,

bir eves $\emptyset_k \emptyset_j$ ut-tur-gan bol-za,
 if defeat-PASS-PF be-COND
 [and] if he is defeated [by the khan]

\emptyset_k xaan-ga_j baž-i-n kes-tir-ip š aażıla-d-ir dep
 khan-DAT head-3-ACC cut-PASS-CONV execute-PASS-IMPF QUOT
 he would be beheaded by the khan, they said,

m̄indig bol-gan
 so be-PF
 it was so.'

In the third line of example (3) the verb appears in the form in -ZA - it is a conditional clause dependent on the following clause. In examples (2), (3) one can see a variety of referential devices employed in Tuva natural discourse. Among the reduced NPs the most widely used one is zero, but the pronoun sometimes occurs too.

4. Referential strategies in conditional constructions

In this section I am going to investigate referential strategies in Tuva conditional constructions which lack marking for SR.

All examples used in this section are experimental sentences, mostly elicited by translation from Russian into Tuva, but sometimes constructed by myself and then confirmed by native speakers to be correct. All examples are conditional constructions (normally with the real condition meaning) consisting of two clauses, the linearly first being conditional (dependent), optionally beginning with the conjunction *bir eves* 'if', and the second being main (independent). Most examples are in the imperfect, usually translated as the future tense. What is tested here is referential devices employed in the second clause. The set of possible referents is introduced in the first (antecedent) clause. Thus a referential space is experimentally constructed here, and this space governs referential strategies in the second (target) clause, analogically to natural referential space governing reference in regular discourse. An asset of the experimental situation is that one can fully control the referential space and filter out various complications operating in natural discourse.

First I am going to identify factors important for the choice of referential devices in the second clause (4.1). Then I will present the observed referential choices (4.2.) and proceed with generalizations explaining these observations (4.3, 4.4).

4.1. Relevant factors

The parameters varied in this data set include: the role of the antecedent in the first clause; topicality of the antecedent in the first clause; relative animacy of the referent in question compared to another referent; retention/elimination of referential conflict. As will be shown below, these parameters affect the referential choice, and therefore can be attributed the status of factors of referential choice.

Givón (1983, cf. also 1993) proposed the notion of coding scale - a quasi-universal set of referential devices including at least the following categories: "zero anaphora > anaphoric pronoun > anaphoric full NP". There exists an iconic relationship (Givón 1985) between the degree of activation of the referent, and the amount of material used by the speaker to mention this referent: the more activated a referent is, the more reduced is the selected referential device. The results of the study reported below basically support this generalization. All factors taken into account (except for the last one, concerned with referential conflict; see below) can either increase activation (and hence favor reduced reference), or decrease it. If one varies factor X and sees that variation x_1 cooccurs with referential device A from the coding scale, while variation x_2 cooccurs with a referential device to the left of A on the coding scale, one can infer that x_1 increases activation while x_2 does not.

Role of the antecedent

Role of the antecedent is known to be among the crucial factors of referential choice (for a cognitive explanation of this fact see Kibrik 1999). Both syntactic role (subject vs. non-subject) and semantic role (agent/experiencer vs. the rest) can be important for referential strategies. For a while, however, I will concentrate on those cases in which the two are not contrasted, that is the single argument of a one-place clause is the subject, while in multi-place clauses the subject (nominative NP) is an agent. (In section 6 below I will briefly discuss a less standard situation, that is experiential verbs in which subject does not coincide with agent.)

Compare the following examples:

(4) a. bir eves Kara-kis_i duŋma-zı-n ĉemger-ip kag-za, Ø_i inek saar
 if Kara-kys brother-3-ACC feed-CONV AUX-COND, cow milk:IMPF
 'If Kara-kys feeds the brother, she will milk the cow'

b. bir eves Kara-ool-du_i ava-zı etteer bol-za, ol_i ač a-zı-n-ga
 if Kara-ool-ACC mother-3 beat:IMPF be-COND, he father-3-SUF-DAT
 bar-ıp xomudaar
 go-CONV complain-IMPF

'If mother beats Kara-ool (lit. If Kara-ool mother beats) he will complain to his father'

Relative animacy of referents

An animacy hierarchy appears to operate in Tuva, roughly of the following form: "human > animal > inanimate". Compare the following two examples:

- (6) a. bir eves ava-zı̄ Kara-ool-ga_i xorada-j ber-ze,
 if mother-3 Kara-ool-DAT take.umbrage-CONV AUX-COND
 ač a-zı̄ onu_i ette-p kaar
 father-3 he:ACC beat-CONV AUX:IMPF
 'If mother takes umbrage at Kara-ool, his father will beat him'

- b. bir eves ava-zı̄ inek-ti_i ču-p kag-za,
 if mother-3 cow-ACC wash-CONV AUX-COND
 Kara-kis inek-ti_i saap kaar
 Kara-kys cow-ACC milk:CONV AUX:IMPF
 'If mother washes the cow, Kara-kys will milk it'

In (6a) the animacy ranks of both referents are equal, and in the second clause an anaphoric pronoun is used. In (6b) the antecedent's rank is lower than that of the other referent, and a full NP is used. There are reasons to believe that it is relative rather than absolute animacy that matters, since if both referents were animals, the referential strategy would be much like in (6a).

Note that in examples (6) the position of the referential device in its own (second) clause is the direct object, unlike (4) and (5) where it was the subject. In this study, both subject and object usages of referential devices are considered.

Referential conflict

All factors considered above contribute to a referent's degree of activation. Even when a referent is highly activated, a reduced referential form can still be ruled out if a RC exists, that is, if a wrong referent can be attributed to this referential form by the addressee. Thus, a separate and quite influential factor of referential device selection is the presence/absence of RC.

- (7) a. ool_i duŋma-m-bile čugaalaš -sa, ool-du_i ava-m končuur
 boy sister-1.SG-with talk-COND boy-ACC mother-1.SG scold:IMPF
 'If the boy talks with my sister, my mother will scold him'

- b. ool_i duŋma-zɨ-n xa-p-sa, \emptyset_i ava-m končuur
 boy sister-3-ACC hit-SUF-COND mother-1.SG scold:IMPF
 'If the boy hits his sister, my mother will scold him'

In (7b), the semantic context of the second clause makes it clear who can be the goal of scolding - it is the boy and not his sister; therefore, RC is absent here, and the anaphoric zero is used. To the contrary, in (7a) the RC remains there, and a full NP must be used.

4.2. Referential choices

Table 1 summarizes all observations on referential device selection, as dependent on the listed factors. The first three factors are explicitly represented as the input of Table 1, while the factor of RC is presented in a less explicit way (see legend below). The main division in Table 1 is determined by the valence of the antecedent clause. If its verb is one-place, then only one referent is introduced there, and therefore all factors of referential device selection are neutralized: the single argument must be a subject and a topic, and the factors of relative animacy and of RC obviously do not apply. If the antecedent clause contains a more-than-one-place verb, then all factors apply, and all further divisions are relevant.

ANTECEDENT'S FUNCTION IN THE FIRST CLAUSE	FIRST CLAUSE IS ONE-PLACE	FIRST CLAUSE IS TWO-PLACE		
		S > O	S = O	S < O
subject = topic	¹ \emptyset \emptyset	² ol/ \emptyset onu/ \emptyset	³ \emptyset FNP~ \emptyset	⁴ ol ?
object = non-topic		⁵ FNP (ol) FNP (onu)	⁶ ol onu	⁷ FNP ?
subject = non-topic		⁸ ?		
object = topic		⁹ ? ?	¹⁰ ol onu	¹¹ ol~ \emptyset ?
subject = topic (i) + + object = non-topic (j)		¹² $\emptyset_i + \emptyset_j$ FNP _j +FNP(onu) _i	¹³ ol~ $\emptyset_i + \text{onu}_j$ FNP _j +onu~ \emptyset_i , ol _j +FNP(onu) _i	¹⁴ ? FNP _j +onu _i , $\emptyset_j + \emptyset_i$

Table 1. Referential choices in conditional constructions

LEGEND. In each cell of Table 1 (except for the lowest row), in the first line the subject form of the reference is indicated (i.e., subject of its own second clause), in the second line the direct object form. The lowest row contains information on double coreference between the two clauses; the first line represents the direct coreference between the arguments of the two clauses,

and the second line to the inverse (mirror-image) coreference. Below I refer to the first and second line of each cell with the help of letters A and B respectively, e.g. the upper line of cell 5 is 5A, the lower line of cell 12 is 12B.

"<", ">", and "=" indicate relative animacy of subject and object.

FNP stands for "full NP".

Plus (+) in the lowest row indicates a combination of two relevant referential forms.

Slash (/) indicates a distribution dependent on the presence of referential conflict: present RC/removed RC.

In parentheses those referential forms are indicated that vary with the main form in case RC is removed.

Tilde and comma connect those forms that vary freely or are in an unknown distribution, respectively.

Question mark indicates those cells for which I have no data.

The information presented in Table 1 may seem chaotic, but in fact this impression is due to the bi-dimensional representation of a multi-dimensional space. Examples illustrating all possibilities summarized in Table 1 will be presented below, and all observed referential strategies will be discussed.

Data in Table 1 are of two different kinds: positive and negative. Negative data correspond to cells marked with a question mark - for those feature combinations I have no examples, normally due to unnaturalness of these combinations. Let us first consider the positive (4.3) and then the negative (4.4) data.

4.3. Referential strategies

Data in Table 1 are strictly empirically based, that is I included there only those referential forms that were attested during my elicitation process. It is by all means possible that some other forms sometimes can be used under the conditions outlined in Table 1, but of course one has to rely on the actually attested data. General principles of referential strategies become clear due to these data.

If the antecedent clause is one-place (cell 1 of Table 1), the referential strategy is simple and has no further distinctions. The preferred type of reference is the maximally reduced referential form - zero. For example:

- (8) bir eves Kara-ool_i č ed-ip kel-ze, ač a-zř Ø_i ette-p kaar
 if Kara-ool reach-CONV come-COND father-3 beat-CONV AUX:IMPF
 'If Kara-ool comes, his father will beat him'

The situation is many times more complex if the antecedent clause is two-place. Referential strategies in such sentences can best be described in terms of a prototype and its modifications. The prototypical two-place clause is a transitive clause (cf. Hopper and Thompson 1980) where the agent (i) is the topic and highly animate, while the patient (j) is inanimate (note that in the examples considered in this section transitive agent equals subject, and transitive patient equals direct object). This situation

corresponds to cells 2 and 5 of Table 1. Referential strategies in the prototypical case amount to the following:

(a) i → reduced NP

(b) j → full NP

The following modifications of the prototype are relevant.

1) According to the animacy hierarchy, the object of the antecedent clause equals or is higher than the subject. Then in the second clause the former is referred to by a more reduced referential form, while the latter by a fuller referential form.

2) It is the object of the antecedent clause that is the topic. Then in the second clause it is referred to by a more reduced form.

(One more modification of the prototype will be discussed in section 6 below: a deviation from the prototypical set of roles in the antecedent clause.)

Let us first look at the more prototypical cases and then proceed with deviations from the prototype. Two rows of Table 1 corresponding to the prototypical correlation between syntactic roles and topicality (2 - 3 - 4 and 5 - 6 - 7) demonstrate a clear interdependence between the referential strategies for two kinds of possible antecedents - subjects and objects. A RC between these two possible antecedents is the major problem for maintaining reference in biclausal sentences. Compare the most prototypical cells 2 and 5. In case of a present RC, a full NP reference is reserved for the object antecedent (9b), and a 0l reference for the subject antecedent (9a):

(9) a. bir eves ava-z_i inek-ti saap-sa, o_l č an-ip kel-ir
 if mother-3 cow-ACC milk:SUF-COND she go.home-CONV AUX-IMPF
 'If mother milks the cow, she will come home'

b. ool ī"t-t_i mun-up-sa, ī"t_i č id-ipt-ar
 boy dog-ACC sit.down-COND dog lie.down-SUF-IMPF
 'If the boy sits down on the dog, it will lie down'

When the object of the antecedent clause is higher in animacy rank (cell 6, ex. 10 below), then it gets a pronominal coding, and therefore only zero remains for a mention of the subject antecedent (cell 3, see ex. 6a above).

(10) bir eves ač a-z_i Kara-ool-du_i č emger-ip kag-za, o_l inek-ti
 if father-3 Kara-ool-ACC feed-CONV AUX-COND he cow-ACC
 saap kaar
 milk:CONV AUX:IMPF
 'If father feeds Kara-ool, the latter will milk the cow'

- (13) a. bir eves Kara-ool_i Kara-kis-ka_j inak bol-za, Ø_i onu_j oš kaar
 if Kara-ool Kara-kys-DAT love be-COND her kiss:IMPF
 'If Kara-ool falls in love with Kara-kys, he will kiss her'
- b. bir eves Kara-ool_i Kara-kis-ti_j sonuurgaar bol-za, ol_j onu_i oš kaar
 if Kara-ool Kara-kys get.interested:IMPF be-COND she him kiss:IMPF
 'If Kara-ool gets interested in Kara-kys, she will kiss him'

In the cases of mirror-image double coreference the variety of choices is particularly broad. For example, when the object outranks the subject in animacy (cell 14B), the following very different examples were attested:

- (14) a. bir eves ı'tı_i Kara-ool-du_j ızırıp-t-ar bol-za, Kara-ool_j onu_i
 if dog Kara-ool-ACC bite-SUF-IMPF be-COND Kara-ool it:ACC
 xa-pt-ar
 hit-SUF-IMPF
 'If the dog bites Kara-ool, he will hit it'
- b. seek_i Kara-ool-du_j ızır-ar bol-za, Ø_j Ø_i ölür-üp kaar
 fly Kara-ool-ACC bite-IMPF be-COND kill-CONV AUX:IMPF
 'If the fly bites Kara-ool, he will kill it'

The difference between (14a) and (14b) can hardly be attributed to any particular factor; rather non-prototypicality of the given combination of factors results in the lack of any specific conventions fixed for this combination.

Finally, one has to consider the role of referential conflict in the data represented in Table 1. As was mentioned above, under the most prototypical combination of factors the following strategies operate in the second clause. If a RC is present, the subject antecedent is referred to by the *ol* pronoun (cell 2) while the object antecedent by a full NP (cell 5). If RC is eliminated due to the semantic context of the clause, then a more reduced form of reference is appropriate. Thus, in case of subject antecedent the zero reference is systematically used (15b) (instead of *ol* used under RC, 15a):

- (15) a. bir eves Kara-ool_i inek-ti saap kaar bol-za,
 if Kara-ool cow-ACC milk:CONV AUX:IMPF be-COND
ava-zı onu_i čemger-ip kaar
 mother-3 he:ACC feed-CONV AUX:IMPF
 'If Kara-ool milks the cow, his mother will feed him'

b. ool_i i''t-ti xa-p-sa, ava-m Ø_i končuur
 boy dog-ACC hit-SUF-COND mother-1.SG scold:IMPF
 'If the boy hits the dog, my mother will scold him'

If the speaker needs to mention a referent that was the subject of the first clause, and RC is eliminated due to certain factors, then it is irrelevant for referential strategies whether the antecedent clause was one-place or two-place. If one compares cells 1 and 2 in Table 1, it is obvious that in both cases the zero references are used.

In case of an object antecedent the pronominal reference is optionally used - compare the following example where RC is completely ruled out due to the personal pronoun subject in the first clause, with example (9b) above where a RC was possible:

(16) sen i''t-ti mun-up-sa, i''ti~ol_i čid-ipt-ar
 you(.SG) dog-ACC sit.down-SUF-COND dog it lie.down-SUF-IMPF
 'If you sit down on the dog, it will lie down'

In the less prototypical cells of Table 1, where additional complicating factors apply, the role of RC in the referential choice is less evident. However, the following generalization is possible: whenever there is more than one referential form used under particular conditions, and there is any clear distribution between these forms, it is always the case that the more reduced form is used when RC is eliminated.

4.4. When referential strategies do not apply

As was mentioned above, the set of unfilled cells in Table 1 is not random. What are particular reasons for certain combinations of features being unnatural?

Cells 4B, 7B, 11B correspond to a situation when a highly animate referent is an object in the second clause. The reason must be following: if a referent is highly animate, and at the same time given, it is more than likely that a passive construction would be used in such a clause.

Cell 14A. Events with the subject lower in animacy than the object are unusual anyway. Much less likely are situations where two such events are combined in one sentence.

Cell 9B. If a referent (particularly a low animacy referent) is an object of two connected clauses, the linear position of the corresponding NPs is preferably the same one - in this case, the second. Therefore all candidate sentences for this cell are rather subsumed under 5B.

Cell 8. Once a subject was unimportant enough to yield the topic position to the object, it is very unlikely that this subject can be referred to again in the second clause.

Finally, in Table 1 I did not include any examples with double coreference and OSV word order in the antecedent clause. Several examples of this kind were collected, but they are partly contradictory, and

this might be because the combination of features in question is so complex that it is no more efficient studying it by examples of decontextualized sentences.

5. Referential strategies in switch-reference constructions

The general structure of sentences examined in this section is the same as of those considered above: the referential set is defined in the linearly first and syntactically dependent clause, and the target referential forms may appear in the linearly second main clause. The crucial difference is that here such sentences are examined, in which the dependent clause is marked as having the same (-GAš) or different (-Vr..GA) subject as the main clause.

5.1. Relevant factors

Factors a priori taken into account when examining referential strategies in SR-constructions must of course be identical to those employed for conditional constructions. The examination of actual data will demonstrate whether all of these factors are indeed relevant in case of SR-constructions.

5.2. Referential choices

Referential choices attested in the collected corpus of SR-marking examples are summarized in Table 2. The set of empty cells in Table 2 is the same as in Table 1, for explanations of these facts see 4.4.

ANTECEDENT'S FUNCTION IN THE FIRST CLAUSE	FIRST CLAUSE IS ONE-PLACE	FIRST CLAUSE IS TWO-PLACE		
		S > O	S = O	S < O
subject = topic	1 \emptyset \emptyset	2 \emptyset onu/ \emptyset	3 \emptyset onu/ \emptyset	4 \emptyset ?
object = non-topic		5 ol onu~ \emptyset	6 ol onu~ \emptyset	7 ol ?
subject = non-topic		8 ?		
object = topic		9 ol~ \emptyset ?	10 \emptyset \emptyset	11 ? ?
subject = topic (i) + + object = non-topic (j)		12 \emptyset_i +onu~ \emptyset_j ol _j +onu _i	13 \emptyset_i +onu~ \emptyset_j ol _j +onu _i	14 ? ol~ \emptyset_j +onu _i

Table 2. Referential choices in switch-reference constructions

The rest of section 5 will be a discussion of the data represented in Table 2.

5.3. Referential strategies.

The most obvious feature Table 2 displays (as compared to Table 1) is that it contains no full NPs. This general distributional change is clearly related to the function of SR as a means of RC removal. As was observed before, presence/absence of RC is an important factor affecting referential choice: absence of RC strongly favors more reduced referential forms. Since SR is a powerful RC-eliminating device, apparently it is no longer necessary to use such disambiguation means as full NPs.

The second obvious fact is that the parameter of relative animacy has almost no relevance: there is very little difference between columns within each row. Again, it is quite clear that this effect is due to orientation to a strict syntactic mechanism rather than fine semantic distinctions.

Let us identify particular cases when SR markers do and do not remove referential conflict. One can expect that SR will affect and simplify referential strategies when it really removes RC, and when it does not there should not be strong difference between the conditional and SR constructions.

I will restrict the discussion, as before, to sentences where the first clause does not mention more than two referents. If a sentence is a SS-construction, then RC is always eliminated, for example:

(17) ɨ"t_i ool-du ɨzɨr-ɨp-kaš, Ø_i dez-e ber-gen
 dog boy-ACC bite-SUF-SS run-CONV AUX-PF
 'The dog bit the boy and ran away'

(18) Kara-ool_i Kara-kis-tɨ_j sonuurgaaš, Ø_i Ø_j~onu_j oš kaan
 Kara-ool Kara-kys-ACC get.interested:SS she:ACC kiss:PF
 'Kara-ool got interested in Kara-kys and kissed her'

In (18) the SS marker unequivocally tells that the main clause's subject is "Kara-ool"; therefore, since there are only two referents in our experimental referential space, the referent of the second zero/pronominal NP in the main clause can only be "Kara-kys".

The SS-marked sentences correspond to the following cells of Table 2: 1A, 2A, 3A, 4A, 12A, 13A. (For cell 14A there are no data, see 4.4 and 5.2.) In all of these cases, in order to refer to the subject the zero marker is used in the main clause (see Table 2), while the object of the main clause is referred to by zero or a pronoun in free variation (cells 12A and 13A). In the Todža dialect, contrary to the literary Tuva, it is also possible to optionally use a pronoun in the subject position:

(19) Kara-kys_i kel-geš, Ø_i~ol_i ač a-zɨ-n čemger-ip kaan
 Kara-kys come-SS she father-3-ACC feed-CONV AUX:PF
 'Kara-kys came and fed her father'

As for the DS marker, sometimes it eliminates RC, too. This happens in two classes of situations. The first class corresponds to cell 1B of Table 2, that is, the situation when the first clause is one-place, and the referent appears as the object of the target clause. Obviously, there is no RC in this case, just as there was none in the comparable conditional construction, and therefore the zero marker is used. For example:

- (20) ool_i igla-j beerge, ava-zi Ø_i čassid-ip kaan
 boy cry-CONV AUX:DS mother-3 stroke-CONV AUX:PF
 'The boy cried and his mother stroked him'

The second class of situations is much more numerous – they appear exactly when a referent occupies the subject position in the target clause (while the antecedent is, of course, the object of its clause). This corresponds to cells 5A, 6A, 7A, 9A, 10A, 11A, 12B, 13B, 14B of Table 2. The following example illustrates cell 5A:

- (21) ool ĩ"t-tĩ_i xa-pt-arga, ol_i dez-e ber-gen
 boy dog-ACC hit-SUF-DS it run-CONV AUX-PF
 'The boy hit the dog and it ran away'

Since the DS marker in (21) informs that the subject of the main clause is not "the boy" (which appears as the subject of the dependent clause), in the given experimental referential space the only remaining candidate is "the dog". Note that subject reference with a non-topicalized object antecedent (cells 5A, 6A, 7A) invariably has the form *ol*. When the object antecedent is topicalized, the zero subject reference is common (cells 9A, 10A, 11A), unless the referent is very low on the animacy scale. In this latter case (cell 9A) the *ol* reference is again preferred, for example:

- (22) taš-tĩ_i Kara-ool it-ipt-erge, ol_i~Ø_i čingirgen-i ber-gen
 rock Kara-ool push-SUF-DS it roll-CONV AUX-PF
 'Kara-ool pushed the rock, and it rolled down'

In the cases of double mirror-image coreference (cells 12B, 13B, 14B) there is again a standardized referential form — NP pair *ol onu*, for example:

- (23) ool_i ĩ"t-tĩ_i čemger-ip kaarga, ol_i onu_i izir-ip-kan
 boy dog-ACC feed-CONV AUX:DS it he:ACC bit-SUF-PF
 'The boy fed the dog, and it bit him'

In (23), the DS marker informs that the subject of the main clause is not "the boy", therefore it must be "the dog", and therefore, the only remaining candidate for the referent of *onu* is "the boy".

In all types of SR sentences discussed so far (to recapitulate: SS -1A, 2A, 3A, 4A, 12A, 13A; DS -1B, 5A, 6A, 7A, 9A, 10A, 11A, 12B, 13B, 14B) the SR markers helped to remove RC. Referential strategies in all these cases were distinctly different from those found in the conditional constructions. Fine distinctions used in non-SR conditional constructions to guarantee the removal of RC are replaced by the simple and firm principle of subject coreference.

In all other non-empty cells (2B, 3B, 5B, 6B, 10B) SR does not contribute to RC removal. In all of these cells the DS marker occurs; the referent appears in the object position in the target clause, and there are no additional hints guaranteeing RC removal (such as presence of only one referent in the antecedent clause, as in 1B, or double coreference, as in 12B, 13B, and 14B). Consider examples illustrating the listed cases in which RC is not removed due to SR markers.

(24) a. Kara-ool_i inek-ti saap kaarga, ava-zì onu_i
 Kara-ool cow-ACC milk:CONV AUX:DS mother-3 he:ACC
 čemger-ip kaar
 feed-CONV AUX:IMPF
 'Kara-ool milked the cow, and his mother fed him'

b. urug_i inek-ti čuurga, ava-zì Ø_i maktaan
 girl cow-ACC wash:DS mother-3 praise:PF
 'The girl washed the cow, and her mother praised her'

Clearly, the pattern found in cells 2B and 3B (the antecedent is the subject of the dependent clause) is identical to the pattern attested in cell 2B of Table 1 (conditional constructions): the distribution of *onu* and \emptyset depends on the presence of RC. If a RC is eliminated due to semantic factors, the more reduced form is employed. Apparently in the SR constructions, where animacy distinctions are almost irrelevant, this pattern was extended onto cell 3B. For example, in (24a) the RC is not eliminated, and *onu* is used, while in (24b) it is eliminated, and zero is used.

In cells 5B and 6B (the antecedent is the non-topicalized object of the dependent clause) both *onu* and \emptyset can occur again, but do not appear to be distributed depending on the presence of RC. In the following example a RC is present, but both forms were reported by the consultants:

(25) ava-zì Kara-ool-du_i ču-p kaarga, ač'a-zì onu_i~Ø_i čemger-gen
 mother-3 Kara-ool-ACC wash-CONV AUX:DS father-3 he:ACC feed-PF
 'Mother washed Kara-ool, and his father fed him'

A puzzling fact about this referential strategy is that the form *onu*, in case RC is not eliminated by semantic factors, remains ambiguous: the sentence in (25) with *onu* can also mean 'and his father fed her [=mother]'. However, native speakers strongly suggested that the (25)-type sentences should better be used only with coreference to the subject of the first clause, that is, with reference "mother", while under coreference with the object of the first clause this object should better be topicalized in its clause (cell 10B). In this latter case the zero reference is consistently used:

- (26) Kara-ool-du_i *ava-zı̄* *č u-p* *kaarga*, *ača-zı̄* \emptyset _i *čemger-gen*
 Kara-ool-ACC mother-3 wash-CONV AUX:DS father-3 feed-PF
 'Mother washed Kara-ool, and his father fed him'

One can conclude that in those cases in which SR does not contribute to RC removal, the difference of referential strategies employed in SR sentences from those used in conditional sentences is relatively small (compared to the cases where SR guarantees RC removal). The most important fact is that in the prototypical situation (cell 2B) the same RC-dependent distribution is used as in conditional constructions. This probably demonstrates that SR is co-functional with referential strategies employed in conditional sentences to eliminate the RC: when SR fails as a disambiguating device, the same principles operate as in non-SR constructions. However, some details of referential strategies, in particular the zero marking in 10B (compared to *onu* under the same combination of factors in conditional constructions) still await an explanation.

6. The effect of experiential verbs

SR in Tuva is primarily oriented toward strict syntax. Although there is a number of reservations to this principle (Bergelson and Kibrik 1995), generally SR marks the referential identity of syntactic subjects of two clauses, that is, NPs in the nominative case. As was known in grammatical typology since 1970s (see various papers in Li 1976), prototypical syntactic subject cross-linguistically is a result of interference of two independent types of phenomena: those related to role semantics and those related to discourse function or topicality.

In the previous discussion I took into account the examples in which topicality was separated from subjecthood and the OSV word order occurs. (This separation can appear in a more grammaticalized way in Tuva passive constructions, see Kibrik 1988.) Now the other component of subjecthood, that related to role semantics, needs to be considered.

Cross-linguistically, the semantic basis of subject is the hyperrole of "central participant", sometimes also called "S/A". This category subsumes agents and experiencers, as well as the single arguments of one-place verbs. This hyperrole is particularly relevant in languages biased toward accusativity.

In all examples examined so far, subjects represented agents and patients of one-place verbs, and agents of two-place verbs. As many other languages, Tuva possesses a closed set of experiential verbs that morphosyntactically behave differently from the "mainstream" verbal lexicon. One-place experiential verbs in Tuva, such as 'be cold', have no syntactic subject at all: their experiencer is coded by a NP in the dative case. Two-place experiential verbs, such as 'like', also require their experiencer to appear in the dative, while the stimulus is coded by a nominative NP (syntactic subject). Thus in experiential clauses subject (nominative) is separated from the central participant. It is interesting to see how referential strategies in conditional and SR constructions react to this separation.

The SR mechanism does not identify the experiential dative NP with the subject, even in one-place clauses, and the DS marker must be used:

- (27) ool-ga_i sook apaarga, ol_i iɣlaj beer
 boy-DAT cold become:DS he cry-CONV AUX:IMPF
 'When the boy becomes cold, he will cry'

The referential strategy itself is different, too: a pronominal form is used in (27). Obviously, dative antecedent in SR constructions is not identified with a nominative (subject) antecedent: if it were, zero would be found in (27) (see cell 1A in Table 2). The same holds true in other cases. For example, in the object position (in its own clause) the form *onu* is preferred in both conditional and SR sentences, when the antecedent is an experiential dative NP:

- (28) a. bir eves ool-ga_i sook bol-u ber-ze, ač a-zɨ onu_i
 if boy-DAT cold be-CONV AUX-COND father-3 he:ACC
 čɨɨd-ɨp kaar
 warm-CONV AUX:IMPF
 'If the boy is cold, his father will warm him up'

- b. ool-ga_i sook apaarga, ač a-zɨ onu_i čɨɨd-ar
 boy-DAT cold become:DS father-3 he:ACC warm-IMPF
 'When the boy becomes cold, his father will warm him up'

If one compares referential strategies displayed in (28) with those summarized in Tables 1 and 2, it turns out that experiential dative antecedent does no pattern together with a subject antecedent. It patterns most closely together with an object antecedent (cells 6B, 10B).

7. Conclusion

In this article I have reviewed referential strategies in Tuva biclausal sentences, in which the first clause always was a dependent adverbial clause, and the second was the main clause. Referential strategies under investigation were concerned with reference within the linearly second clause to referent(s) introduced in the linearly first clause. The purpose of this study was to see whether referential strategies employed in the second clause were dependent on the type of construction of the sentence. Two types of constructions were examined: those marked and those unmarked for SR.

The answer to the primary question is yes: referential strategies are highly dependent on the presence/absence of switch-reference markers in the dependent clause. Since Tuva has very limited means for removing referential conflicts, referential strategies in non-SR (conditional) constructions are a quite fine mechanism, used to reduce the danger of RCs. If SR markers are present, they guarantee RC removal in most cases, which results in greater average reduction of referential forms employed, and strong unification of referential strategies. Fine semantic distinctions relevant in case of non-SR constructions, are no longer necessary. In those cases when SR markers do not secure RC removal, referential strategies are closer to those used in non-SR constructions.

A conclusion inferrable from this study is that the "functional domain" (Givón 1981) of referential conflict removal really exists, and can be allocated to different linguistic means. In Tuva, if switch-reference markers are employed in a sentence, they assume most of the functional load of RC removal. If a sentence is not marked for SR, this functional load must be carried by some other resources; fine referential conventions are used for this purpose.

In this study an experimental method of data collection was used. After the relevant factors of referential device selection were identified, these factors were varied in all possible combinations, and the corresponding sentences were produced by native speakers. Thus the space of possibilities was constructed as a calculus. This method is quite efficient and can serve as a justified complement to natural discourse research, as long as conditions of experimentation are properly set.

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Footnotes

¹The data for this article were obtained during my fieldwork as a participant of the Moscow State University expedition in Tuva in the summer of 1986. This fieldwork focused on the Todža dialect of Tuva (see Čadamba 1974). Some additional data were collected in 1987 in Moscow, from speakers of the literary (Kyzyl) dialect of Tuva. Differences between the two dialects are irrelevant for this paper, except for otherwise indicated places. I would like to express my sincere gratitude to all speakers of Tuva who shared their knowledge of the language with me. An earlier discussion of the phenomena examined in this paper appeared as a part of Kibrik 1988. A somewhat different version of this study, including the data that I collected in the 1990s, will appear as Kibrik forthcoming: Ch. III.

²Abbreviations in glosses:

CONV- converb

SS - same subject

DS - different subject

PF - perfect

IMPF - imperfect

NARR - narrative form

COND - conditional mood

NONEVID - non-evidential past form

PASS - passive

SG - singular

1, 2, 3 - person of subject (in verbs) or possessor (in possessed nouns)

cases:

ACC - accusative

DAT - dative

DIR - directive

GEN - genitive

SUF - suffix of an irrelevant, unknown, or no meaning

PTCL - particle

AUX - auxiliary verb

QUOT - quotative

³Capital letters are a traditional Turkic convention to represent the underlying morphophonemic segments. For example, in the morpheme -GAš G can surface as g, k, or nothing; A as a or e; whereas the last segment is always invariably displayed as š and therefore is represented by the regular case letter. V designates an unspecified vowel, that can surface variously depending on lexical and phonological factors.

⁴This tale was published in a school textbook (B.L.Ondar, N.S.Kongar. Töreen čugaa. Ege š kolaniŋ üš kü klazınga ööredilge nomu. Kızıł: Tıvaniŋ Nom Ündürer Čeri, 1985, p. 118-122.) and analyzed by Aleksandr E.Kibrik and myself with the help of native speakers of Tuva.