Patterns of relativization in North Asia: towards a refined typology of prenominal participial relative clauses

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1. Introduction

This paper aims at investigating the variation in relative clause constructions found in selected languages of northern Eurasia (cf. Map 1), focusing on prenominal participial strategies. As will be shown, these constructions are more varied than would appear from the simple descriptions often given. Therefore, one goal of the paper is to provide a more refined typology of such prenominal relative clauses.

Map 1. The languages mentioned in this contribution (approximate locations)

The languages of Siberia have been suggested to share a sufficient number of linguistic features to merit classifying them as a linguistic area (Anderson 2006). Some of these features are predominantly SOV word order, agglutinative morphology, a large number of cases, and widespread use of non-finite verb forms in clause combining. At first glance, relative clause constructions appear to constitute a further areal feature, since preposed participial relative clauses with a 'gapped' relativized noun phrase are widespread. In cross-linguistic studies of relative clauses, this type is

most frequently exemplified with data from Turkish (e.g. Lehmann 1984: 52–55, Comrie 1989: 142–143, Comrie & Kuteva 2005: 495–496, Andrews 2007: 233–234), which thus represents the prototypical prenominal participial relative clause strategy (cf. (1a)). In Turkish non-subject relative clauses, the subject of the relative clause takes genitive case marking and is cross-referenced with possessor marking on the nominalized verb form (cf. (1b)). This again serves as the prototype for nominalized relative clauses: "Nominalization [of the relative clause, B.P.] occurs when the structure of a clause gives some evidence of at least a partial conversion to nominal type. Typical indicators would be marking the subject like a possessor, attaching possessor morphology to the verb as cross-referencing with the subject, or attaching other typical nominal morphology such as determiners or case marking to the verb" (Andrews 2007: 232).

(1)   TURKISH (Oghuz Turkic, Anatolia; Comrie & Kuteva 2005: 495, 469)

    a. *kitab-ı   al-an   öğrenci*
       book-ACC buy-PTCP student
       'the student who bought the book'

    b. *öğrenci-nin al-dığ-ı*   *kitap*
       student-GEN buy-NMLZ-**POSS.3SG** book
       'the book which the student bought'

In Turkish, non-subject relative clauses are formed with one of two suffixes, *-DIK* and *-(y)AcAk*, which have nonfuture and future time reference, respectively. As illustrated in (1), these forms differ from the participles employed in subject relativization (cf. Göksel & Kerslake 2005: 438–460). Other languages of Eurasia (e.g. Evenki, see Sections 2.1 and 2.2) that use relativization strategies of the types illustrated in (1a,b) employ the same participles in both subject and non-subject relative clauses. These types of non-subject relative clause will be referred to as 'participle-marked' relative clauses, without further distinction between the Turkish and the Evenki type.

    Although the participle-marked construction is often presented as the prototypical participial non-subject relative clause strategy in Eurasia, other constructions exist as well, as will here be exemplified with data from other Turkic languages (cf. (2b), (3b) below). In a preliminary survey, Comrie (1998) discusses the existence of a fairly large area in East Asia, extending to parts of South Asia and eastern Eurasia, and including languages such as Japanese, Ainu, Mandarin Chinese, Korean, Khmer, Dravidian languages, and some Turkic languages. All of these languages have a single syntactic construction, which Comrie calls 'attributive clause construction'. This is

used in both subject and non-subject relative clauses as well as in sentential complements with a nominal head. In these languages, the subject of the relative clause is not indexed at all in non-subject relative clauses, so that there is no morphological difference between subject and non-subject relative clauses, as illustrated with data from Karachay-Balkar in (2). As can be seen by comparing (2a) with (1a), the subject relative clause construction in Karachay-Balkar is structurally identical to the Turkish construction, while the Karachay-Balkar non-subject relative clause differs from the 'prototypical' participle-marked construction in lacking a marker to cross-reference the relative clause subject (compare (2b) with (1b)); this type of construction will in the following be called 'unmarked'.

(2)   KARACHAY-BALKAR
      (Kipchak Turkic, North Caucasus; Comrie 1998: 56)

   a. *kitab-ï   al-ɣan   oquwču*
      book-ACC buy-PTCP student
      'the student who bought the book'

   b. *oquwču al-ɣan   kitap*
      student   buy-PTCP book
      'the book that the student bought'

Nikolaeva (1999: 76–88) discusses yet another type of non-subject relativization found in the Ob-Ugric language Northern Khanty; a parallel construction occurs in Sakha (Yakut), a Turkic language spoken in northeastern Siberia. Sakha non-subject relative clauses differ from their counterparts in both its sister languages, Karachay-Balkar and Turkish. In contrast to the unmarked relative clause construction used for both subject and non-subject relativization in Karachay-Balkar, in Sakha non-subject relativization (cf. (3b)) differs from subject relativization (cf. (3a)). In contrast to Turkish, however, non-subject relative clauses in Sakha do not cross-reference the subject of the relative clause on the nominalized verb form; instead, the subject is cross-referenced with possessive marking on the head noun (cf. (3b)). Instances of this strategy will be referred to as 'head-marked' relative clauses.

(3)   SAKHA (Siberian Turkic, Yakutia)

   a. *ol   tü:-le:ɣ-i   bier-bit oɣonńor ep-pit* …
      DIST fur-PROP-ACC give-PPT old.man   say-PPT[PRED.3SG]
      'The old man who had given the fur-bearing (animals) said … .'
      (Pakendorf 2002 field data, XatR_88)

b. *bu   aɣal-bït kihi-m   omuk   sir-ten*
   PROX bring-PPT person-**POSS.1SG** foreign place-ABL
   kel-bit
   come-PPT[PRED.3SG]
   'The person I brought comes from a foreign country.'
   (Pakendorf 2006 field data, elicited)

Table 1 summarizes the terminology and characteristics of the three types of participial non-subject relative clauses that occur in Turkic languages.

Table 1. Overview of terminology chosen for non-subject relative clause types

Type of relative clause	Characteristics
Participle-marked	Relative clause subject cross-referenced on nominalized verb form
Head-marked	Relative clause subject cross-referenced on head noun
Unmarked	Relative clause subject not indexed at all, neither on nominalized verb form nor on head noun

Since relative clauses of the kind exemplified in (1)–(3) above are characteristic of the Uralic, Turkic, Mongolic, and Tungusic language families, the discussion deals only with these languages, with an areal focus on the languages spoken to the east of the Ural Mountains. Simplified genealogical trees of these four families are provided in the Appendix. These language families are occasionally suggested to form a (disputed) genealogical node labelled 'Ural-Altaic' (e.g. Poppe 1983, Sinor 1988); for convenience, this label will be used intermittently without any claims as to its genealogical validity. Unfortunately, relativization strategies are one of the more poorly documented areas of grammar in many languages of Eurasia; if they are mentioned at all in language descriptions, they are frequently illustrated with just one or a few examples of subject relativization. Therefore, the data discussed here are largely based not on explicit statements about the type of relativization strategy favoured by the language in question, but rather on my interpretation of the rare examples found in various sections of the relevant descriptions. This approach does not permit a fine-grained analysis of the positions that can be relativized on, so that I distinguish only between subject and non-subject relative clauses. Furthermore, the analysis of these data is obviously skewed by the availability of information and cannot lay

any claim to being definitive; any truly conclusive investigation of relative clause strategies in the languages of Siberia would need to be based on textual material.

The paper is structured as follows: Section 2 illustrates the variation in subject and non-subject relative clauses in the Ural-Altaic languages, while Section 3 demonstrates the structural analogy of participle-marked relative clauses and complement clauses. Section 4 discusses the parallels between head-marked relative clauses and possessive constructions, with a particular focus on the parallels to associative possessive constructions. Section 5 investigates the structural analogies of unmarked relative clauses, and Section 6 concludes the paper.

2.   Relativization strategies in the Ural-Altaic languages

2.1. Subject relativization

As mentioned in the introduction, all the languages surveyed here employ the prenominal participial strategy with a gap in the relative clause.[1] However, the languages differ with respect to the degree of agreement between the participle and the head noun, as will be exemplified with two languages from the extreme endpoints of the agreement spectrum, i.e. the Turkic language Sakha (cf. (4a), (5a)) and the Tungusic language Evenki (cf. (4b), (5b)). In Sakha (cf. (4a)), as in other Turkic and Mongolic languages, the participle does not agree with the head noun in case or number. In the Tungusic and Uralic languages, in contrast, there is variation in the degree of agreement exhibited by the participle: In the Ob-Ugric languages Khanty and Mansi as well as in the westernmost dialect of Ėven (Tungusic), the participle completely lacks agreement, similar to what is found in the Turkic and Mongolic languages. Several languages show partial agreement of the participle, differing in whether the agreement is in number alone (the Tungusic language Udihe), in case alone (the Kamchatkan dialect of Ėven), or in number and accusative case (the Samoyedic language Nganasan). Finally, the highest degree of agreement is found in (standard) Evenki, where the participle agrees with the head noun in both number and all cases (cf. (4b)).

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[1]   Note, however, that Comrie (1998: 52) suggests that there is no gap in the relative clause, since these languages are characterized by zero anaphora, i.e. arguments retrievable from the context need not be overtly mentioned.

(4) a. SAKHA

(Siberian Turkic, Yakutia; Pakendorf 2002 field data, Efmy_367)

ʤiŋ- neːχ-tik   ol   kïaj-bït   χop-put   üle-leː-bit
truth-PROP-ADV DIST defeat-PPT manage-PPT work-VR-PPT

kihieχe   bier-eller
person.**DAT** give-PRS.3PL

'They give (medals) to people who really won, who managed, who worked.'

b. EVENKI (North Tungusic, Northeast Siberia; Nedjalkov 1997: 38)

bi Turu-du alaguv-ʤari-l-du   asatka-r-du meŋur-ve
1SG T.-DAT   study-SIM.PTCP-**PL-DAT** girl-**PL-DAT** money-ACC

buː-m
give.NFUT-1SG

'I gave money to the girls who study in Tura.'

This variability with respect to agreement in relative clause constructions reflects the variability in the degree of agreement exhibited by modifiers and their head nouns, which can be explained by the formal analogy of subject relative clauses to modified noun phrases in these languages. Thus, modifiers do not agree with their heads in the Turkic or Mongolic languages, as exemplified here with data from Sakha (cf. (5a)), while there are intra-familial differences with respect to NP agreement in Tungusic and Uralic: Khanty, Mansi, and the westernmost dialect of Ėven completely lack NP agreement, while modifiers agree in number but not case in Udihe, and there is full agreement in both number and case in (standard) Evenki (cf. (5b)).

(5) a. SAKHA

(Siberian Turkic, Yakutia; Pakendorf 2002 field data, MatX2_47)

kühüŋ-ŋü   ardaχ-tar-ga ...
autumn-ADJ rain-**PL-DAT**

'in the autumn(al) rains …'

b. EVENKI (North Tungusic, Northeast Siberia; Nedjalkov 1997: 277)

mit aja-l-du   omakta-l-du ʤu-l-du   bi-ʤere-t
1PL good-**PL-DAT** new-**PL-DAT** house-**PL-DAT** be-PRS-1PL.IN

'We live in good new houses.'

This section has demonstrated that, although there is some superficial variation in subject relative clause constructions in the Ural-Altaic languages of

northern Asia, this can be explained by differences in agreement between modifiers and their heads. As illustrated briefly in the introduction, these languages also differ in their non-subject relative clause constructions. Similar to the variability in subject relative clauses, this can be shown to result from syntactic analogy to other types of constructions; however, in contrast to subject relative clauses, which in all languages surveyed here are identical to only one type of construction – namely noun phrases with modifiers – non-subject relative clauses in the Ural-Altaic languages show analogies to different kinds of constructions, as will be shown below (Sections 3–5). Before examining the patterns of analogy in these languages, however, the range of variability in the languages surveyed here will be illustrated in more detail.

2.2. Non-subject relativization

As indicated in the introduction, there are differences between the languages surveyed here with respect to the presence and position of a suffix cross-referencing the relative clause subject, which can be entirely lacking, located on the participle, or located on the head noun (cf. Table 1 above). The Turkic languages of Siberia and beyond appear to exhibit a high degree of diversity with respect to non-subject relative clause constructions. As described by Schönig (1998: 415) for the South Siberian Turkic languages,

> [a] relative clause whose head is not coreferential with the first actant may use a possessive suffix as subject marker. Yenisey Turkic and Tofa do not use this option. Altay Turkic attaches the possessive suffix to the head of the relative clause, and the subject of the relative clause is usually not genitive-marked. Tuvan displays both types. It also has cases with a genitive-marked subject and a possessive suffix added to the participle.

From the above quotation it appears that Yenisey Turkic and Tofa use the unmarked strategy exemplified in the introduction with data from Karachay-Balkar (cf. (2b)), in which the subject of the relative clause is not cross-referenced at all, neither on the participle nor on the head. This strategy is also favoured by Tatar, a language related to Karachay-Balkar that is spoken predominantly on the Volga river, with variants scattered in Western Siberia (cf. (6a)). Altay Turkic, on the other hand, appears to employ the head-marked strategy illustrated above with data from Sakha (cf. (3b); see also (6b)), in which the subject of the relative clause is cross-referenced

on the head noun.[2] Head-marked relative clauses also appear to be charac-
teristic of Khakas, a South Siberian Turkic language; however, this impres-
sion is based on only a single example of a non-subject relative clause in
Anderson (1998). In the neighbouring South Siberian Turkic language
Tuvan I was able to find both head-marked (cf. (6c)) and participle-marked
constructions (cf. (6d)) amongst the examples in Anderson & Harrison
(1999). Participle-marked non-subject relative clauses, in which the subject
of the relative clause is cross-referenced on the participle with the help of
possessive suffixes, were exemplified in the introduction by Turkish (cf.
(1b)). In addition, in the above quotation Schönig describes Tuvan as also
having unmarked relative clauses, for which I do not, however, have any
examples.

(6)   a. TATAR (Kipchak Turkic, European Russia; Comrie 1981: 81)
        bez söjlä-š-kän   keše
        1PL talk-REC-PPT person
        'the man with whom we conversed'

    b. SAKHA
        (Siberian Turkic, Yakutia; Pakendorf 2002 field data, MatX_life_54)
        bukatïn   bihi bayar-bat   hir-bitiger
        completely 1PL wish-PRSPT.NEG place-**DAT.POSS.1PL**
        ti:j-bit
        reach-PPT[PRED.3SG]
        'He's in a place that we don't like at all.'

    c. TUVAN
        (Siberian Turkic, South Siberia; Anderson & Harrison 1999: 20)
        bistiŋ   dü:n   čor-a:n   čer-ivis   čaraš   bol-du
        1PL.GEN yesterday go-PPT   place-**POSS.1PL** beautiful be-PSTII.3SG
        'The place we went yesterday was beautiful.'

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2   However, Sakha has an additional, very marginal relativization strategy in which
    the head noun is internal to the relative clause, with the participle taking posses-
    sive marking to cross-reference the subject of the relative clause, as well as the case
    marking governed by the matrix verb, e.g. (Pakendorf 2002 field data, IvaP_11)
    ikki hahïl oyo-tun   tut-an   ayal-bït-ïn
    two fox   child-ACC.POSS.3SG hold-PF.CVB bring-**PPT-ACC.POSS.3SG**
    i:p-pip-pit
    raise-PPT-1PL
    '[…] we raised two young foxes that he caught and brought.'

    d. TUVAN

      (Siberian Turkic, South Siberia; Anderson & Harrison 1999: 72)

      bil-ir-im   *čer-ler köst-üp*   *kel-gileen*

      know-PRSPT-**POSS.1SG** place-PL show-CVB AUX-ITER-PST

      'They were shown the places I know.'

The Mongolic languages predominantly have unmarked relative clauses; in contrast to Karachay-Balkar and Tatar, however, the overt subject of the relative clause takes genitive case marking. This is here illustrated only with data from Khalkha (cf. (7a)), but the Western Mongolian language Kalmyk and the divergent Mongolic language Dagur have similar constructions (cf. Bläsing 2003: 242; Tsumagari 2003: 144). In contrast to its close relative Khalkha, Buryat surprisingly favours head-marked constructions (cf. (7b,c)). However, the cross-referencing is optional if an overt subject of the relative clause is present; this takes genitive case marking, as in the other Mongolic languages (cf. Čeremisina et al. 1986: 233).

(7)   a. KHALKHA (Eastern Mongolian, Mongol Republic; Kullmann & Tserenpil 2001: 392[3])

      tü:nij   *una-dag*   *mašin-ïg ta* *xar-san u:*

      3SG.GEN ride-HAB.PTCP car-ACC   2SG see-PPT Q

      'Did you see the car he drives?'

  b. BURYAT (Eastern Mongolian, South Siberia; Skribnik 2003: 126)

      aldar-ai   *barj-a:d bai-han tülxjü:r-i:nj multar-šaba*

      Aldar-GEN hold-CVB AUX-PPT key-**POSS.3** fall.down-??

      'The key that Aldar had held fell down.'

  c. BURYAT (Eastern Mongolian, South Siberia; Skribnik 2003: 126)

      zun   *nam-da*   *aba-han samsa-šni*   *xa:na-b*

      summer 1.SG.OBL-DAT take-PPT shirt-**POSS.2SG** where-??

      'Where is the shirt that you bought for me last summer?'

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3 Examples that lack interlinear glosses in the original source were glossed by me to the best of my abilities (with the exception of examples (9a) and (9c), which were kindly glossed by Olesya Khanina, and example (10), which was glossed by Larisa Leisiö); where I was unable to identify a suffix, this is indicated by two question marks.

The Tungusic languages appear to be quite homogenous, favouring parti-ciple-marked relative clauses[4] (cf. (8a,b); Nikolaeva & Tolskaya 2001: 677; Nedjalkov 1997: 38; Malchukov 1995: 34). An exception appears to be made by dialects of Evenki and Ėven that have been exposed to Sakha influence (Cheremisina et al. 1986: 243; Malchukov 2006: 129), such as the western-most dialect of Ėven spoken in the village of Sebjan-Küöl (cf. (8c)), which at least occasionally exhibits head-marked constructions.

(8) a. UDIHE
        (South Tungusic, Russian Far East; Nikolaeva & Tolskaya 2001: 677)
        bu sa-u   su bagdi-e-u   zugdi-we
        1PL know-1PL.EX 2PL live-PPT-**POSS.2PL** house-ACC
        'We know the house where you lived.'

    b. EVENKI (North Tungusic, Northeast Siberia; Nedjalkov 1997: 36)
        hunat amin-in   dʒuta-dʒari-la-n   dʒu-la
        girl   father-POSS.3SG live-SIM.PTCP-LOC-**POSS.3SG** house-LOC
        iː-re-n
        enter-NFUT-3SG
        'The girl entered the house in which her father lived.'

    c. SEBJAN-KÜÖL ĖVEN
        (North Tungusic, Yakutia; Pakendorf, 2008 field data, Kriv_pear03)
        … noŋan korzina-la   neː-wre-n,   tar-ụ   ụmụj-ča
        … 3SG   basket.R-LOC put-HAB-3SG that-ACC gather-PF.PTCP
        gruša-l-bị
        pear.R-PL-**PRFL.SG**
        'He … puts those pears that he gathered into a basket.'

Similar to the Turkic languages, the Uralic languages do not have a uni-fied type of non-subject relative clause construction. The greatest diversity appears to be found in Enets, with participle-marked (cf. (9a)), head-marked (cf. (9b)), and dual-marked (cf. (9c)) constructions occurring; unfortunately, nothing is known about the rules governing the choice of these different constructions (Cheremisina et al. 1986: 254–256). In Nganasan, although participle-marked constructions predominate (cf. (10)), head-marked constructions occur as well (Cheremisina et al. 1986: 251–252). Here, the

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4 However, Ėven in addition has a marginal strategy of internal relative clauses (Malchukov 1995: 37–39).

subject of the relative clause is not cross-referenced on either the participle or the head if it is overtly present (Cheremisina et al. 1986: 251); in Enets, this unmarked strategy is optional (Cheremisina et al. 1986: 254).

(9)   ENETS
      (Northern Samoyedic, Taimyr Peninsula; Cheremisina et al. 1986: 255)

    a.   *sosedka-d*   *toza-duj-d*   *paltok-raxa*
        neighbour-DAT   bring-ANT.PTCP-**POSS.2SG.OBL**   kerchief-SML

        paltok-zu-j   *tïdï-ni-d*
        kerchief-DEST-1SG.NOM/ACC.SG   buy-SUBJ-S:2SG

        'Bring me a kerchief like the one you bought for the neighbour.'

    b.   *boglja seda-duj*   *mjari-xuz-u-da*   *buja sexeza*
        bear   make-ANT.PTCP   wound-ABL-??-**POSS.3SG.OBL**   blood ??

        'Out of the wound which the bear had made blood gushed.'

    c.   *otï-da-r*   *enči-r*   *ni*
        wait-SIM.PTCP-**POSS.2SG.NOM**   person-**POSS.2SG.NOM**   NEG.S:3SG

        tu?
        come.CONNEG

        'The person you are waiting for didn't come.'

(10)   NGANASAN
     (Northern Samoyedic, Taimyr Peninsula; Cheremisina et al. 1986: 251)
     xinǯa *kėma-duode-j-nė*   *kolï bikė*   *kaǯanu*
     at.night   catch-PPT-ACC.PL-**GEN.POSS.1SG**   fish   river.GEN   close.to
     ičuo
     be.PRS.3SG
     'The fish I caught at night is lying on the riverbank.'

Interestingly, the two Khanty lects[5] Northern and Eastern Khanty differ in their non-subject relativization strategies, with participle-marked constructions being found in Eastern Khanty (cf. (11a)), and head-marked constructions occurring in Northern Khanty (cf. (11b)). In contrast to what was seen in Turkish and the Tungusic languages, in Eastern Khanty the subject agreement marker on the participle is not a possessive suffix, but the marker of a 3PL agent acting on a 3SG object from the verbal agreement paradigm (Filchenko 2007: 81, 266).

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5   Although these lects are classified as dialects for sociopolitical reasons, they are linguistically so divergent that they constitute separate languages (Comrie 1981: 106).

(11)   a.   EASTERN KHANTY (Ob-Ugric, West Siberia; Filchenko 2007: 465)
        wal-m-ïl   taɣə-ja   jö-ɣəs-ə
        be-PPT-**3PL** place-ILLAT come-PST-3PL
        'They came to the place of their living.' (= to the place where they
        live)

    b.   NORTHERN KHANTY (ObUgric, West Siberia; Nikolaeva 1999: 77)
        (*ma*) *tapəlt-əm   u:r-e:m*
        1SG   get.lost-PPT forest-**POSS.1SG**
        'the forest where I got lost'

To summarize the above, non-subject relativization in the Ural-Altaic languages appears to be highly variable, with differences between closely-related languages and even some variability within individual languages (cf. Table 2). The Tungusic language family appears to be the most homogenous, exhibiting mainly participle-marked constructions; exceptions are provided by some dialects of Northern Tungusic languages in contact with the Turkic language Sakha. The Mongolic languages are also fairly homogenous, with the unmarked strategy predominating; Buryat, however, constitutes an exception, favouring head-marked relative clauses. The Turkic and Uralic languages are the most diverse, with participle-marked, head-marked, and unmarked constructions being found. Interestingly, Tuvan appears to have at least two different non-subject relative clause constructions – participle-marked and head-marked, respectively. In the Uralic language family, the closely related lects Eastern and Northern Khanty differ in their non-subject relative clause constructions, while the Northern Samoyedic language Enets exhibits a large amount of internal variation, cross-referencing the subject of the relative clause on either the participle or the head, or both.

Table 2. Predominant relative clause strategies found in the Ural-Altaic languages

Language family	Favoured strategy
Turkic	Participle-marked (Turkish, Tuvan)
	Head-marked (Sakha, Altay Turkic, Khakas, Tuvan)
	Unmarked (Karachay-Balkar, Tatar, Yenisey Turkic, Tofa)
Mongolic (excl. Buryat)	Unmarked
	Head-marked (Buryat)
Tungusic	Participle-marked
Uralic	Participle-marked (Enets, Nganasan, Eastern Khanty)
	Head-marked (Enets, Nganasan, Northern Khanty)

This level of diversity is rather surprising, since these languages share a large enough number of features to justify the claim that they constitute a linguistic area (Anderson 2006), and syntactic structures frequently converge in situations of language contact (cf. Winford 2003: 70–89). That relativization strategies are not exceptionally resistant to contact influence is demonstrated by the fact (mentioned above) that Northern Tungusic dialects in contact with Sakha adopt head-marked non-subject relative clauses (cf. (8c)), and also by the fact that many languages with original participial relative clause patterns adopt constructions with relative pronouns under contact influence (e.g. Evenki in contact with Russian, cf. Malchukov 2003: 241). There thus seem to be factors at play that maintain the diversity in non-subject relative clause constructions in opposition to the potentially homogenizing forces of contact influence. These factors can be shown to be the different patterns of analogous constructions found in the various languages.

There are two predominant analogous constructions utilized by the Ural-Altaic languages in their non-subject relative clauses: participle-marked relative clauses can be shown to be analogous to complement clauses, and head-marked relative clauses show constructional similarities to possessive constructions. The Mongolic language Khalkha is interesting in that its non-subject relative clauses show similarities to both complement clauses and possessive constructions, while the non-subject relative clauses in Karachay-Balkar and Tatar, which belong to the type of construction called 'attributive clause' by Comrie (1998), differ from both complement clauses and possessive constructions. These patterns of analogy will be outlined in detail in the following sections.

3. Complement clauses in the languages of North Asia and analogy with relative clauses

Complement clause constructions in the Turkic, Tungusic, and Mongolic languages are quite homogenous, with only minor differences between the various languages; in general, the subordinate predicate is a nominalized verb form that takes the case governed by the matrix verb. As illustrated here with examples from Tuvan (cf. (12a)), the predicate of complement clauses in the Turkic languages takes possessive suffixes to cross-reference the subordinate subject, with the overt subordinate subject taking genitive case marking (Johanson 1998: 60; Göksel & Kerslake 2005: 181, 182, 423; Berta 1998a: 299, 1998b: 315; Anderson & Harrison 1999: 20). Complement clauses in the Tungusic languages are structurally similar to those of Turkic

languages, as exemplified here with data from Evenki (cf. (12b)), with the exception that the overt subject remains unmarked, since the Tungusic languages generally lack a genitive case⁶ (Malchukov 1995: 20, Nedjalkov 1997: 23, Nikolaeva & Tolskaya 2001: 711). As in the Turkic languages, in the Mongolic languages Khalkha and Buryat the non-finite predicate of complement clauses takes the case-marking governed by the matrix verb, with the overt subject of the subordinate clause standing in the genitive case. In contrast to the Turkic and Tungusic languages, however, in Khalkha the subject of the subordinate clause is not cross-referenced on the participle; in Buryat, on the other hand, cross-referencing of the subordinate subject on the participle with possessive suffixes is possible (cf. (12c); Skribnik 2003: 122).

(12) a. TUVAN
         (Siberian Turkic, South Siberia; Anderson & Harrison 1999: 20)
         dayïn–nïŋ čüge egel–e:n–in   bil–bes   men
         war–**GEN**   why begin–PPT–ACC.**POSS.3SG** know–NEG.AOR 1SG
         'I don't know why the war started.'

     b. EVENKI (North Tungusic, Northeast Siberia; Nedjalkov 1997: 24)
         alagumni duku-ʤari-va-n   iče-m
         teacher   write-PTCP-ACC-**POSS.3SG** see.NFUT-1SG
         'I see that the teacher is writing.'

     c. BURYAT (Eastern Mongolian, South Siberia; Skribnik 2003: 122)
         Butid Tagar-ai myaxa sabša-x-i:ji-nj   xara-na
         B.   T-GEN   meat   chop-FUT.PTCP-ACC-**POSS.3** watch-PRS
         'Butid watches how Tagar chops meat.'

Unfortunately, I do not have detailed information on complement clause constructions in the Samoyedic languages, other than general statements to the effect that subordinate clauses have non-finite predicates (Helimski [2006] 1998: 512, Künnap: 1999: 33). As for the Ob-Ugric languages, in Eastern Khanty the subordinate predicate of complement clauses predominantly takes the form of an infinitive instead of a participle, while complements of verbs of speech and cognition are mostly encoded by finite verbs. Where the subordinate predicate is expressed by a non-finite verb form, the subordinate subject is not referenced with possessive marking on the verb

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⁶ In Evenki, however, the possessor in possessive constructions is occasionally marked with a suffix that has been suggested to be the remnant of a genitive case (Nedjalkov 1997: 158).

(Filchenko 2007: 438–462, 512–526). In Northern Khanty, complement clauses can have an infinitival predicate (when the subordinate subject is coreferential with that of the matrix clause) or a participial predicate; the latter can optionally take agreement markers to index the subordinate subject. These agreement suffixes, which derive from possessive suffixes, but differ from them phonologically, are triggered by topicalized subjects (Nikolaeva 1999: 33, 46–49). In Mansi, predicates of complement clauses are formed by the infinitive, while verbs of perception and cognition take participial complements (Riese 2001: 65–68).

As can be seen from the comparison of participle-marked non-subject relative clauses and complement clauses illustrated here with data from Turkish and Evenki (compare (13a) with (1b), repeated here as (13b), and (12b) with (8b), repeated here as (13c), respectively), the constructions are analogous to a certain extent: In both cases, the subordinate subject is cross-referenced on the participle with possessive marking, and in the Turkic languages the overt subordinate subject takes genitive case marking. (There are, of course, differences between the constructions, too, in accordance with their different syntactic roles of attribute and verbal complement, respectively.) However, Eastern Khanty differs from this pattern, since non-finite predicates of complement clauses do not exhibit subject agreement; furthermore, agreement with the relative clause subject is marked not by possessive suffixes, but by verbal agreement suffixes, as discussed above.

(13)   a.   TURKISH (Oghuz Turkic, Anatolia; Göksel & Kerslake 2005: 425)
         sen-in   abla-n-ın   yanında ol-duğ-un-u
         2SG-**GEN** sister-POSS.2SG-GEN with   be-PTCP-**POSS.2SG**-ACC
         bil-iyor-du-m
         know-IMPF-PST-1SG
         'I knew that you were with your sister.'

      b.   TURKISH (Oghuz Turkic, Anatolia; Comrie & Kuteva 2005: 496)
         öğrenci-nin al-dığ-ı kitap
         student-**GEN** buy-NMLZ-**POSS.3SG** book
         'the book which the student bought'

      c.   EVENKI (North Tungusic, Northeast Siberia; Nedjalkov 1997: 36)
         hunat amin-in   dʒuta-dʒari-la-n   dʒu-la
         girl   father-POSS.3SG live-SIM.PTCP-LOC-**POSS.3SG** house-LOC
         iː-re-n
         enter-NFUT-3SG
         'The girl entered the house in which her father lived.'

It is in the cross-referencing of the subordinate subject on the predicate of the relative clause that participle-marked relative clauses differ from subject relative clauses as well as from head-marked and unmarked relative clauses. Since relative clauses constitute a subtype of subordinate clause, the structural parallel of relative clauses and other subordinate clause constructions is not surprising (cf. Cristofaro 2003: 196–197). What is surprising, however, is that not all the languages of northern Eurasia utilize this strategy, but that some have developed the head-marked relative clause type.

One possible difference between languages with participle-marked non-subject relative clauses and those with head-marked constructions might be a difference in the degree of 'nouniness' exhibited by the participles – if in some of the languages participles have more nominal characteristics than in others, this might explain why possessive marking of the participle is possible for some, but not all, languages. However, as can be seen from the Buryat example (12d) above and the Sakha example (14) below, the complement clause constructions in languages that favour head-marked relative clauses also cross-reference the subordinate subject on the non-finite verb form.

(14)   SAKHA (Siberian Turkic, Yakutia; Pakendorf, 2002 field data, MalA_91)
   χas   uon ča:nńik čej-i   ör-ör-bün
   how.many ten teapot tea-ACC put.to.boil-PRSPT-ACC.**POSS.1SG**
   aj-bït beje-te   bil-er,   küŋ-ŋe
   creator–1PL self-POSS.3SG know-PRSPT[PRED.3SG] day-DAT
   '…how many dozens of teapots I put to boil each day the Lord alone knows.'

Similarly, complement clauses in Karachay-Balkar and Tatar do not differ from those of other Turkic languages, with the subordinate subject being cross-referenced on the non-finite verb form with the help of possessive suffixes (Berta 1998a: 299, 1998b: 315). This demonstrates that the differences in non-subject relative clause constructions are not due to different characteristics of participles in the languages involved; specifically, participles in languages that favour head-marked or unmarked relative clauses do not exhibit less 'nouny' features than do participles in participle-marking languages. This last point is further emphasized by the fact that some languages, such as Tuvan and Enets, have both participle-marked and head-marked relative clauses. The existence of head-marked relative clauses therefore needs to be explained in other ways, and Nikolaeva (1999: 79–80) has pointed out the structural parallels between head-marked relative

clauses and possessive constructions. These will be discussed in the following section.

4. Possessive constructions and non-subject relative clauses

In Northern Khanty, only pronominal possessors are cross-referenced on the possessum in possessive constructions (cf. (15a)); when the construction contains a nominal possessor, the possessum remains unmarked (cf. (15b)). The same holds for relative clauses, in which the head noun only cross-references pronominal subjects (cf. (16a)), while nominal subjects do not trigger such cross-referencing (cf. (16b)).

(15) NORTHERN KHANTY (Ob-Ugric, West Siberia; Nikolaeva 1999: 52)

    a. (*ma*) *xo:t-e:m-na*
       (1SG) house-**POSS.1SG**-LOC
       'in my house'

    b. *Juwan xo:t-na*
       John   house-LOC
       'in John's house'

(16) NORTHERN KHANTY (ObUgric, West Siberia; Nikolaeva 1999: 79)

    a. (*luw*) *wa:ns-əm xo:t-əl*
       (3SG) see-PPT   house-**POSS.3SG**
       'the house he saw'

    b. *juwan wa:ns-əm xo:t*
       John   see-PPT   house
       'the house John saw'

A similar analogy between possessive constructions and non-subject relative clause constructions is observable in the Turkic languages Khakas and Sakha (exemplified here only with data from Sakha; cf. (17a,b)). In both languages, the possessum in possessive constructions takes a suffix cross-referencing the person and number of the possessor (cf. (17a)); similarly, the head noun in relative clause constructions takes a suffix cross-referencing the person and number of the subject (cf. (17b)). In Khakas the possessor in possessive constructions and the relative clause subject take genitive case marking; since Sakha has lost its genitive case, these constituents remain unmarked.

(17)   SAKHA (Siberian Turkic, Yakutia; Pakendorf 2002 field data,
       Afny_84, XatR_02)

a. *bihigi   törö-p-püt   aɣa-bït*
   1PL   be.born-CAUS-PPT   father-**POSS.1PL**
   'our true father'

b. *bihigi   törö:-büt   olor-or   tüölbe-bit*
   1PL   be.born-PPT   live-PRSPT   meadow-**POSS.1PL**

   ostuoruya-tïttan   saɣal-ïaχ-χa   höp
   history-ABL.POSS.3SG   begin-FUT.PTCP-DAT   PTL

   'It's possible to start with the history of the place where we were
   born, where we live.'

The preceding examples have shown that head-marked relative clause con-
structions are structurally analogous to possessive constructions. However,
semantically the analogy is not so much to constructions expressing pos-
session in a narrow sense,[7] but rather to constructions that underline the
pragmatic association between entities in discourse. Such possessive

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[7] There are interesting differences between languages in relative clause construc-
     tions in which the head noun is a possessed item, but the possessor is not identical
     to the subject of the relative clause. In Buryat, the possessive suffixes can refer
     only to the subject of the relative clause, not to the actual possessor of the head
     noun (Cheremisina et al. 1986: 234–235, Skribnik 2003: 126). Thus, although in
     the following example the actual possessor of the head noun 'book' in the rela-
     tive clause is second person singular, this cannot take second person singular
     possessive marking to indicate the possessive relation, but has to cross-refer-
     ence the subject of the relative clause. Since this is coreferential with the subject
     of the matrix clause, the head noun takes the Reflexive Possessive suffix *-o:*.

     Buryat (Eastern Mongolian, South Siberia; Cheremisina et al. 1986: 234)

     üsegelder šam-ha: aba-han nom-o: [*nom-šni,   *šinij*
     yesterday 2SG.OBL-ABL take-PPT book-**PRFL** [*book-POSS.2SG *2SG.GEN
     nomïe]   bi   nügö: nedeli-de üge-xe-b
     book.ACC] 1SG other week-DAT give-FUT-1SG
     'I will return (your) book which I took yesterday, next week.'

     In Sakha, however, it is the possessor that is cross-referenced on the head noun,
     and not the subject of the relative clause. This is shown by the following exam-
     ple, in which the head noun 'book' takes 2SG possessive marking indexing the
     2SG possessor, rather than 1SG possessive marking to index the subject of the
     relative clause.

marking that highlights associations between entities in discourse, without the expression of prototypical possession, is found in several Siberian languages. It has been discussed in detail for the Uralic languages by Nikolaeva (2003); its uses in Sakha are discussed in Pakendorf (2007). Nikolaeva (1999: 76–88) has suggested that head-marked relative clauses may have developed out of these 'associative possessive' constructions, as will be discussed in the following.

4.1. Head-marked relative clauses and associative possession

In the Uralic languages, associative possession has various functions; the one pertaining most to the discussion of head-marked relative clauses is that it serves to highlight the pragmatic relationship between important discourse participants (Nikolaeva 2003: 138–140), as exemplified here with data from Northern Khanty (cf. (19)). In this example, the repeated act of falling down in one and the same place has created a pragmatic relation between the speaker and the place that is highlighted by the possessive suffix on the noun.

(19)   NORTHERN KHANTY (ObUgric, West Siberia; Nikolaeva 1999: 83)

 ma iśi taxa:j-e:m-na il ko:r-s-əm
 1SG same place-**POSS.1SG**-LOC down fall-PST-1SG
 'I fell down in the same place.'

In Sakha, too, possessive suffixes can have this function of underlining the pragmatic relations between important discourse participants. Example (20) is taken from a narrative that describes how an old man tricked a group of bandits and led them into a trap. The old man clearly has an important relation to the bandits, since he is the cause of their capture; this is indicated by the 3PL possessive marking on *kihi* 'man' and *oyonńor* 'old man'.

Sakha (Siberian Turkic, Yakutia; translated by Sakha native speaker in February 2009)

min eji:gitten beɣehe ïl-bït en kinige-ɣin   ekze:men-ner
1SG 2SG.ABL yesterday take-PPT 2SG book-ACC.POSS.2SG exam-PL

kenni-leritten tönnör-üöm
after-3PL.ABL return-FUT.1SG

'I will return your book, which I took yesterday, after the exams.'

(20) SAKHA (Siberian Turkic, Yakutia; Pakendorf 2007: 228)

inńe di-e:čči kihi-lere   hïrga kölü-m-müt-terin   kenne
thus say-HAB man-**POSS.3PL** sled harness-REFL-PPT-ACC.3PL after

ol   oɣonńor-doro   mi:n-ner-in-en   kel-bit
DIST old.man-**POSS.3PL** ride-CAUS-REFL-CVB come-PPT[PRED.3SG]

'Saying this the old man, after they harnessed their sled, the old man came riding.'

Nikolaeva (1999: 85–88) suggests that head-marked relative clauses in Northern Khanty may have developed out of unspecified associative possessive phrases. The development would have started with a canonical associative possessive phrase such as *ne:pək-e:m* [book-POSS.1SG] 'my book', which in the appropriate context could receive a meaning not of possession, but of association, e.g. 'the book I sold/wrote/etc'. This unspecified possessive relation entails an unexpressed predicate relation, with the possessor as subject. In order to disambiguate the associative possessive phrase 'my book', in the second stage of the development an overt predicate may have been inserted, e.g. *xans-ə-m/tinij-ə-m ne:pək-e:m* [write-EP-PPT/sell-EP-PPT book-POSS.1SG] 'my written/sold book'. This can then be reanalyzed as a relative clause 'the book I wrote/sold'.

Data from Sakha provide further evidence for the hypothesis of head-marked relative clauses having developed in analogy to associative possessive constructions. Here, if the subject of the relative clause carries a possessive suffix referring to the head noun, then this subject cannot itself be cross-referenced on the head noun, as shown in (21). In this example, the subject of the relative clause is the husband (*kergen*) of the head noun *uču:tal* 'teacher'. Since in Sakha kin terms require possessive marking to index their relationship to a discourse participant, *kergen* 'husband' carries a 3SG possessor suffix referring to the teacher. In this case, additional possessive marking on the head noun to cross-reference the person and number of the relative clause subject is ungrammatical.

(21) SAKHA (Siberian Turkic, Yakutia; Pakendorf 2006 field data, elicited)

bihigi kergen-e   araχs-an bar-bït uču:tal-ï
1PL   husband$_i$-**POSS.3SG$_k$** leave-CVB go-PPT teacher$_k$-**ACC**

[**uču:tal-ïn*]   *tapt-ï:bït*
[*teacher-ACC.POSS.3SG$_i$*] love-PRS.1PL

'We love the teacher whom her husband left.'

This can be explained by the fact that the association between the subject of the relative clause and the head noun, which is normally highlighted by the possessive-marking on the latter (and is here indicated by indices in the glosses), is already established by the possessive marking on the subject of the relative clause. Since the relation between the two entities is already marked, further marking would be redundant and is therefore blocked.

That this blocking is not due to a purely syntactic constraint on consecutive possessive-marked noun phrases in one sentence is demonstrated by (22), where the subject of the relative clause (*Maša aɣa-ta* 'Masha's father') is marked with a possessive suffix, but the head noun *ït* 'dog' still takes possessive marking to cross-reference the subject. Here, the relation expressed by the possessive suffix on the relative clause subject (that between Masha and her father) is not the same as that highlighted by the possessive marking on the head noun (that between the father and his hunting dog); therefore, the subject-indexing on the head noun is not blocked.

(22)   SAKHA (Siberian Turkic, Yakutia; Pakendorf 2006 field data, elicited)
   min Maša aɣa-ta   bul-ka   bar-ar
   1SG Masha$_i$ father$_k$-**POSS.3SG**$_i$ hunt-DAT go-PRSPT
   ït-ïn   kör-büt-üm
   dog$_m$-**ACC.POSS.3SG**$_k$ see-PPT-1SG
   'I saw the dog with which Masha's father goes hunting.'

The above discussion has shown that head-marked non-subject relative clauses have developed in analogy to associative possessive constructions. However, it should be noted that such possessive marking to highlight the association between salient discourse participants is found not only in languages with head-marked relative clauses, but also in the participle-marking Tungusic languages, as demonstrated here with examples from Udihe (cf. (23a)) and Ėven (cf. (23b)).[8] The presence of associative possessive constructions in North Asian languages is thus not a sufficient condition for the development of head-marking relative clauses, although it might well be a necessary prerequisite for such constructions.

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8   Of course, such pragmatic uses of possessive marking are not restricted to the languages of North Asia – this phenomenon is also found in European languages. Thus, in the appropriate context the English phrase 'my book' could also refer to 'the book I am writing/have written'. However, associative possessive marking in some of the languages of Siberia, such as the Uralic languages or Sakha, is noticeably more widespread than such uses in the European languages.

(23) a. UDIHE

      (South Tungusic, Russian Far East; Nikolaeva & Tolskaya 2001: 138)

      bi oloxi-wə   meːusa-laː-mi ə-si-mi-də   wa:
      1SG squirrel-ACC gun-VR.PST-1SG NEG-PST-1SG-FOC kill

      oloxi-ŋiː   susʼa
      squirrel-**ALN.1SG** escape.PERF.3SG

      'I shot at the squirrel but didn't get it. The squirrel (lit. 'my squirrel') escaped.'

    b. SEBJAN-KÜÖL ĖVEN

      (North Tungusic, Yakutia; Pakendorf, 2008 field data, NikM_pear13)

      amahḳị kojeːt-če-le-n,   tar šljap [stammers]
      back   look.at-PF.PTCP-LOC-POSS.3SG that hat.R [stammers]

      kiːke-če   kụŋa-n   šljapa-w-an
      whistle-PF.PTCP child-**POSS.3SG** hat.R-ACC-POSS.3SG

      boː-d-ni
      give-NFUT-3SG

      'When he looked back, the child that had whistled gave (him) his hat.'

The preceding discussion has demonstrated that participle-marked relative clauses are analogous to complement clauses, while head-marked relative clauses are analogous to associative possessive constructions. The third type of non-subject relative clause described in the introduction and in Section 2.2 is the unmarked relative clause, which has been ignored in the discussion so far. In the following, the patterns of analogy in languages with the unmarked relative clause type will be investigated.

5. Patterns of analogy in unmarked non-subject relative clauses

In the introduction and in Section 2.2 the unmarked relative clause type was illustrated with data from the Kipchak Turkic languages Karachay-Balkar and Tatar on the one hand, and the Mongolic language Khalkha on the other. In the initial discussion, the relative clause constructions in these languages were classified as belonging to the same type, although it was pointed out that Khalkha differs from the Kipchak languages in the genitive case marking of the relative clause subject (cf. Section 2.2). However, a comparison of Khalkha and Kipchak non-subject relative clauses with other constructions demonstrates that there are actually significant differences between these unmarked relative clauses, as will be discussed in the following.

   While the Kipchak Turkic languages differ from the Turkic languages discussed here in their relative clause constructions, they do not differ in their possessive or complement clause constructions. The predicates of complement clauses take possessive suffixes to cross-reference the subordinate subject, with the latter taking genitive case marking if overt (Johanson 1998: 60; Berta 1998a: 299, 1998b: 315). In possessive constructions, the overt possessor takes genitive case marking, while the number and person of the possessor are cross-referenced on the possessum with possessive suffixes. This clearly contrasts with the relative clause constructions in these languages, in which neither the head noun nor the participle takes possessive marking, nor is the overt subject in non-subject relative clauses marked for genitive case. The relative clause constructions in these languages are therefore very different from the participle-marked and head-marked constructions found in their Turkic relatives. The Khalkha relative clause constructions, however, although lacking agreement marking of the relative clause subject on the participle or head noun, do show analogies to other types of constructions, making them more similar to head- and participle-marked constructions.

   In the Mongolic languages, the possessor in possessive constructions takes genitive case marking, while the possessum remains unmarked. The structural analogy of the constructions is evident in the comparison of the possessive construction (cf. (24a)) with the relative clause construction ((7a), repeated here as (24b)). The only difference between (24a) and (24b) is that in the relative clause a participle modifies the head noun; without the participle, the sentence would read 'Did you see his car' and would be structurally identical to (24a).

(24)   KHALKHA (Eastern Mongolian, Mongol Republic; Kullmann & Tserenpil 2001: 88, 392)

   a. *bid Bata:r-ïn   bajšin-g   bari-v*
      1PL Bataar-**GEN** house-ACC build-PST
      'We built Bataar's house.'

   b. *tü:nij   una-dag   mašin-ïg ta   xar-san u:*
      3SG.**GEN** ride-HAB.PTCP car-ACC   2SG see-PPT Q
      'Did you see the car he drives?'

Khalkha non-subject relative clauses thus show structural analogy to possessive constructions. Furthermore, they are analogous to subject relative clauses as well, the only difference being that there is no separate genitivally marked relative clause subject (compare (24b) with (25)).

(25)   KHALKHA (Eastern Mongolian, Mongol Republic; Kullmann & Tseren-
       pil 2001: 140)

   German-a:s   ir-sen   xün-ijg   ta   tani-x   u:
   Germany-ABL come-PPT person-**ACC** 2SG know-NPST Q
   'Do you know the person who came from Germany?'

However, the Khalkha relative clause construction is not only analogous
to possessive constructions, but also to complement clause constructions.
As mentioned in Section 3, in Khalkha the subject of a complement clause
stands in the genitive case, while the non-finite subordinate predicate lacks
agreement with the subject of the subordinate clause. The structure of such
clauses parallels that of non-subject relative clauses, with the participle in
complement clauses filling a position analogous to that of the head noun in
relative clauses (Kullmann & Tserenpil 2001: 392; compare (26) to (24b)).

(26)   KHALKHA (Eastern Mongolian, Mongol Republic; Kullmann & Tseren-
       pil 2001: 391)

   tü:nij   xödö: jav-sn-ïg   bi   med-sen
   3SG.**GEN** countryside go-PPT-ACC 1SG know-PST
   'I knew that he had gone to the countryside.'

Relative clause constructions in Khalkha can thus be analyzed as possessive
constructions in which the head noun is modified by a participle; Khalkha
complement clauses show structural analogy in that here the nominalized
subordinate predicate fills the slot occupied by the head noun in relative
clauses. In this way, Khalkha relative clauses show structural similarities
with both head-marked and participle-marked relative clause types. This is
very different from the situation in the Kipchak languages Karachay-Balkar
and Tatar, in which the subject and non-subject relative clauses are fully
identical, but in which relative clauses differ from complement clauses and
possessive constructions. It thus appears that the unmarked type of non-
subject relative clause construction might better be analysed as two sepa-
rate constructions, the unmarked 'attributive clause construction' found in
the Kipchak languages on the one hand, and the unmarked construction of
the Khalkha type on the other. Although these are similar in not indexing
the subject of the relative clause on either the participle or the head noun,
the difference in the treatment of the relative clause subject (unmarked in
Kipchak and genitivally marked in Khalkha) is indicative of significant dif-
ferences in the underlying constructions. The typology of non-subject rela-
tive clauses set up in the introduction (cf. Table 1) thus needs to be refined

as follows (cf. Table 3): the participle-marked type of relative clause might also be called the 'complement-clause type', while the head-marked type might be renamed as 'possessive-construction type'. The unmarked type actually contains two different types of construction: the 'attributive clause type' discussed by Comrie (1998) and the 'possessive-complement type' found in Khalkha.

Table 3. Refined typology of relative clauses in Northern Eurasia

Initial type	New type	Analogous construction
Participle-marked		Complement clauses
Head-marked		Associative possessive constructions
Unmarked	Possessive-complement	Complement clauses and possessive constructions
	Attributive clause	Neither complement clause nor possessive construction

6. Conclusion

As has been shown in this paper, the relativization strategies of languages of North Asia are more diverse than expected from their otherwise relatively homogenous nature. This variability is especially unexpected when contrasted with the data presented in typological surveys, in which frequently only the participle-marking strategy is exemplified with data from Turkish. However, some of the variation uncovered here can be shown to be the result of structural analogy of relative clauses with other types of constructions. Subject relative clauses behave like other modifiers in noun phrases; differences in agreement between participle and head noun are the result of differences in agreement between modifiers and their heads. As for non-subject relative clauses, their diversity can be explained by their analogy to complement clauses on the one hand and possessive constructions on the other, with Khalkha non-subject relative clauses exhibiting similarities to both.

Which structural analogy is chosen for relative clauses appears to be arbitrary, since complement clauses in the languages with the head-marking relativization strategy do cross-reference the subordinate subject on the nominalized verb form, while some participle-marking languages, such as Ėven, Evenki and Udihe, have associative possessive constructions.

This arbitrariness is further demonstrated by languages such as Tuvan and Enets, which show both participle-marked and head-marked constructions. Whether in these languages the head-marked relative clauses might have an additional nuance of highlighting the pragmatic relationship between the relative clause subject and the head noun that is absent in participle-marked constructions requires further investigation; this, however, cannot be undertaken here.

Furthermore, this paper has demonstrated that there is a clear distinction between unmarked relative clauses of the Khalkha type and unmarked relative clauses of the Kipchak type. The latter are classified by Comrie (1998) as belonging to a wider area of languages exhibiting so-called 'attributive clause constructions'; from the above investigation of relative clause constructions in the languages of North Asia it becomes evident that the attributive clause constructions do not extend into this region. The observed variation in non-subject prenominal participial relative clauses results in a more refined typology of such relative clauses, in which four different subtypes are distinguished: participle-marked, head-marked, unmarked attributive clause and unmarked possessive-complement relative clauses.

Acknowledgements

Abbreviations

ABL	ablative	ANT	anterior
ACC	accusative	AOR	aorist
ADJ	adjectiv(izer)	AUX	auxiliary
ADV	adverb(ializer)	CAUS	causative
ALN	alienable possession	CONNEG	connegative converb

CVB	converb	PPT	past participle
DAT	dative	PRFL	reflexive possessive
DEST	destinative	PROP	proprietive
DIST	distal demonstrative	PROX	proximal demonstrative
EX	exclusive	PRS	present
FOC	focus	PRSPT	present participle
FUT	future	PST	past
GEN	genitive	PTCP	participle
HAB	habitual	PTL	particle
ILLAT	illative	Q	question particle
IMPF	imperfect	R	Russian copy
IN	inclusive	REC	reciprocal
ITER	iterative	REFL	reflexive
LOC	locative	S	subject conjugation
NEG	negative	SG	singular
NFUT	non-future	SIM	simultaneous
NMLZ	nominalizer	SML	similative
NOM	nominative	SUBJ	subjunctive
NPST	non-past	VR	verbalizer
OBL	oblique	1	1st person
PERF	perfect	2	2nd person
PF.PTCP	perfect participle	3	3rd person
PL	plural	??	suffixes that I was unable to gloss
POSS	possessive		

Appendix

Simplified and most commonly accepted genealogical relationships in the Turkic, Tungusic, Mongolic, and Uralic language families. Not all the languages belonging to each language family are included; languages mentioned in the article are highlighted in italic.

Turkic language family (Johanson 1998: 82–83)

Proto-Turkic
    Oghuz Turkic
        Turkish
    Kipchak Turkic
        Kazakh
        Tatar
        Karachay-Balkar

Uyghur Turkic
    Uzbek
Siberian Turkic
    North Siberian Turkic
       Sakha (Yakut)
       Dolgan
    South Siberian Turkic
       Tuvan
       Khakas
       Tofa
       Altay Turkic
Oghur Turkic (Chuvash)
Arghu Turkic (Khalaj)

Tungusic language family (Atknine 1997: 111)

Proto-Tungusic
    Manchu
       Manchu, Sibe
    South (Amur) Tungusic
       Udihe, Oroč
       Nanai, Ulča, Orok
    North Tungusic
       Evenki, Solon
       Ėven
       Negidal

Mongolic language family (Weiers 1986: 66–69)

Proto-Mongolic (~ Middle Mongolian)
    West Mongolic
       Oirat
       Kalmyk
    East Mongolic
       South Mongol
       Central Mongol
          Khalkha
       North Mongol
          Buryat
    divergent languages
       Dagur

Uralic language family (Abondolo 1998: 2–3, Janhunen 1998: 459)

Proto-Uralic
   Finno-Ugric
      Saamic-Fennic
      Mordva, Mari, Permic
      Ugric
         Hungarian
         Ob-Ugric
            Khanty
            Mansi
   Samoyedic
      Northern Samoyedic
         Nganasan
         Enets
         Nenets
      Southern Samoyedic
         Selkup

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