ADJECTIVE DISTRIBUTION IN MODERN MONGOLIAN[1]

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Abstract

This paper discusses adjective distribution in Mongolian based upon the mereological framework: scale structure. It investigates how adjectival complements are sensitive to the scalar structure of adjectival predicates (APs) in resultative constructions as well as direct perception expressions. The findings reveal that Mongolian only tolerates inherent resultatives; derived resultatives are ruled out. The acceptability of adjectival complements in inherent resultatives runs from 'Totally open-scale/Totally closed-scale' down to 'Lower closed/Upper closed-scale'. On the other hand, adjectival complements in direct perception expressions are of no diverse acceptability, i.e. all layers of APs are licensed. Furthermore, durative verbs are likely to yield open-scale APs whilst punctual verbs seem to favour closed-scale APs.

Keywords: Mongolian; adjective predicates; scale structure

Povzetek

Članek obravnava distribucijo pridevnika v mongolščini po mereološki teoriji skalarnih struktur. Avtor razišče občutljivost pridevniških dopolnil na skalarno strukturo pridevnikov v povedkovni rabi tako v posledičnih strukturah kot tudi v izrazih osebnega mnenja. Rezultati razkrivajo, da mongolščina dopušča samo inherentni vzročno-posledični odnos pridevnikov v povedkovni rabi, kjer pa sprejme pridevniška dopolnila z zelo raznolikim odnosom do pridevnika; od popolnoma odprtega/zaprtega do delno odprtega/zaprtega. Nasprotno je v izrazih osebnega mnenja, kjer so sprejemljiva bolj ali manj vsa pridevniška dopolnila, pri čemer nedovršni glagoli privlačijo odprti tip pridevnikov v povedkovni rabi, dovršni pa zaprti tip.

Ključne besede: mongolščina; pridevniki v povedkovni rabi; skalarna struktura

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1   Introduction

Mongolian, an Altaic language family member, is an exclusively suffixing agglutinative SOP language.[2] A salient feature of the language lies in that adjectival complements may directly precede the verbs, as seen in direct perception expression (1a) as well as in a resultative construction (1b).

(1)   a. *Direct perception expression*

Нүцгэн би   түүнийг   олж   харсан.   (well-formed)
naked   I   her.Acc   find   see-PAST
'I found her naked.'

b. *Resultatives construction*

Тэр   ханаа   **улаан**/улаанаар   будсан.   (well-formed)
she   wall   red/red.Instr   paint-PAST
'She painted the wall red.'

As far as (1b) is concerned, the adjective *улаан* 'red' is licensed in the resultative construction. However, not all adjectival complements appear to be welcome in Mongolian. The following adjective *хатуу* 'solid' is ruled out in the resultative construction, c.f. (2).

(2)   *Нуур   **хатуу_биет**   хөлджээ.   (ill-formed)
lake   solid   freeze-PAST
'The lake froze solid.'

The ungrammaticality of (2) lies in that the adjective *хатуу* 'solid' is a closed-scale AP whilst the adjective *улаан* 'red' in (1b) is an open-scale AP. It appears then that Mongolian resultatives seem to only license closed-scale APs. This linguistic phenomenon is the opposite of English resultatives. English only tolerates closed-scale APs as resultative complements, with open-scale APs being ruled out.[3] (3) provides the illustrations.

(3)   a. Bill pounded the metal ***long**.   (Open-scale AP: ill-formed)
b. Bill pounded the metal **flat**.   (Closed-scale AP: well-formed)

The ungrammaticality of (3a) lies in that open-scale adjectives fail to describe certain culmination points (see Beavers, 2008; Wechsler, 2005; and Wyngaerd, 2001 for further discussion).

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[2] There are three writing systems in Mongolian: Todo Bicig (Xinjiang area), Traditional Mongolian alphabet (Hudum) (Inner Mongolia) and Cyrillic Mongolian (Outer Mongolia). In this study, Cyrillic Mongolian was adopted. A list of Mongolian Cyrillic alphabet is provided at the end of the paper.

[3] A detailed explanation regarding *open-scale* and *closed-scale* APs will be given in Section 2.

Intriguingly, in terms of perception expression, on the contrary, English adjectives are of no diverse acceptability, i.e. both open and closed-scale APs are allowed, as illustrated by (4).

(4)   a. Bill saw Mary **exhausted**.   (Open-scale AP: well-formed)
        b. Bill saw the dog **dead**.   (Closed-scale AP: well-formed)

It is also salient to mention that German language, a relative of English, permits both open-scale and closed-scale APs in resultative constructions, as in (5). On the other hand, German has diverse acceptability of direct perception expressions: the distribution of APs runs from 'Lower closed/Upper closed-scale' down to 'Totally open-scale/Totally closed-scale', as in (6).
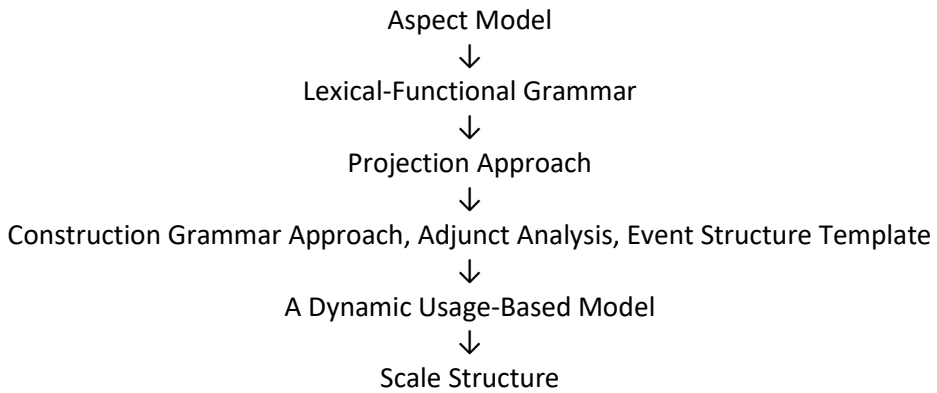
(5)   *Resultative construction in German*

        a. Mary   hämmerte   das Eisen   **flach**.   (Closed-scale AP: well-formed)
           Mary   hammer   the metal   flat
           'Mary pounded the metal flat'

        b. Bill   hämmerte   das Eisen   **lang.**   (Open-scale AP: well-formed)
           Bill   hammer   the metal   long
           'Bill pounded the metal long'

(6)   *Direct perception expression in German*

        a. *Mary   sah   ihn   müde.   (Totally open-scale AP: ill-formed)
            Mary   see-PAST   him   tired
            'Mary saw him tired.'

At this stage, then, it seems that the distribution of APs in German direct perception expression somehow resembles Modern Mongolian.

Resultative construction has been studied intensively in linguistic typological work. Various frameworks have been raised, intending to achieve a more thorough analysis on the subject. Below is a map of major theories that have contributed to this subject, based on Chomsky's (1965) 'Aspects Model', Levin and Rappaport Hovav's (1995) 'Projection Approach', Goldberg's (1995) 'Construction Grammar Approach', Jackendoff's (1997) 'Adjunct Analysis', Rappaport Hovav and Levin's (1998) 'Event Structure Template', Boas's (2003) 'Dynamic Usage-Based Model', and Kennedy, Christopher and Louise McNally's (2005) 'Scale Structure'.

Aspect Model
↓
Lexical-Functional Grammar
↓
Projection Approach
↓
Construction Grammar Approach, Adjunct Analysis, Event Structure Template
↓
A Dynamic Usage-Based Model
↓
Scale Structure

The distribution of APs in Mongolian seems to receive far less attention compared to those of European languages. This study tentatively explores how APs show sensitivity to the scalar structure in resultative as well as direct perception constructions.

The paper is mapped out as follows: section 2 sheds light on the framework that is adopted in the analysis, i.e. scalar structure. With this in place, section 3 first examines the scalar properties of Mongolian APs and then delves into APs' distribution in resultative constructions. Section 4 moves on to explore APs in direct perception expressions. Section 5 highlights the results and concludes the paper.

The Mongolian Cyrillic alphabet is adopted in this study and hand-made examples are used. Native speakers checked the examples. Due to numerous dialects in the country, native speakers from the Inner and Outer parts of Mongolia have both been asked to provide judgements. Moreover, a multilingual parallel electronic dictionary is employed: http://asuult.net/dic/.

2   Framework: scalar structure

A *scale* is constituted of a set of degrees (points or intervals indicating measurement values) on a particular dimension (e.g. cost, depth, height, temperature), with an ordering relation. The dimension represents an attribute of an entity, with the degrees indicating the possible values of this attribute (Kennedy and McNally, 2005). *Scale* measures the change undergone by the incremental theme, patient or figure participant. The following variations have been established:

(a) Totally open-scale: a scale may have neither a minimal nor maximal element
(b) Lower closed-scale: a scale may have a minimal but no maximal element
(c) Upper closed-scale: a scale may have a maximal but no minimal element
(d) Totally closed-scale: a scale may have both maximal and minimal elements

Kennedy and McNally (2005)

Scale structure may apply to adjectives[4]:

(7)   a. Totally open-scale: tired, *müde*, nervous, *nervös*, sad, *traurig* , deep, *tief*, long, *lang*
       b. Lower closed-scale: drunk, *betrunken*, shave, *rasiert*, pale, *blass*, flat, *flach*
       c. Upper closed-scale: pure, *rein*, naked, *nackt*, unshaved, *unrasiert*
       d. Totally closed-scale: dead, *tot,* empty, *leer*

Scale structure may apply to verbs:

(8)   a. Totally open-scale: shift, *utsuru*, ply, *kayou*
       b. Lower closed-scale: approach, *yoru*, leave, *hanareru*, flit, *kasumeru*
       c. Upper closed-scale: return, *modoru*, cross, *wataru*, return, *kaeru*, pass, *heru*
       d. Totally closed-scale: arrive, *tsuku*, reach, *todoku*, transcend, *koeru*, descend, *oriru*, exit
       e. Non-scale change: tumble, *korogaru*, swim, *oyogu*, run, *hashiru*, crawl, *hau*, dance, *odoru*

Scale structure may apply to prepositions/postpositions:

(9)   a. Totally open-scale: toward, *e*
       b. Lower closed-scale: from, *kara*; *yori*
       c. Upper closed-scale: *e-to*[5]
       d. Totally closed-scale: until, *made*; along, *ni sotte*

The scalar properties of APs, verbs and (pre) postpositions (PPs) further link to the combinatorial possibilities with verbs. Wechsler (2005, p. 264) indicates that resultative constructions with maximal endpoint adjectives often have durative verbs, e.g. *wipe, pull*. On the other hand, non-gradable adjectives are more likely to occur with punctual verbs, e.g. *shoot, kick.* This view is supported by Beavers (2008), who proposes that punctual verbs tend to yield non-gradable de-verbal adjectives while durative verbs tend to yield gradable de-verbal adjectives.

As such, *scale structure* should be a great help in detecting the syntactic distribution of APs in Mongolian.

3   The distribution of adjectives in resultative constructions

With the classifications of adjective highlighted, this section proceeds by looking into: (a) the scalar property of Mongolian APs; and (b) their distributions in resultative constructions. (10) provides a list of the most-used adjectives.

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[4] In (7)-(9), English lexicons are in normal font; the corresponding lexicons of other languages are in italic. (7) are German adjectives; (8) and (9) are Japanese adjectives.

[5] *e-to* is between direction *e* and delimitation *made*.

(10) эцсэн (tired) / гүн (deep) / урт (long) / хатуу (hard) / нүцгэн (naked) /
үхсэн (dead) / өвчин (sick) / чийг (wet) / хавтгай (flat) / сэрїїн (awake) /
хоосон (empty)

An examination in terms of the modifiers *жинхэнэ* 'very' and *хагас* 'half' is carried out. Three Mongolian native speakers provided their judgements. The results are given in (11).

(11) a. **жинхэнэ (very)**

жинхэнэ *чийг*	(very wet)	[natural]
жинхэнэ *эцсэн*	(very tied)	[natural]
жинхэнэ *гүн*	(very deep)	[natural]
жинхэнэ *урт*	(very long)	[natural]
жинхэнэ *хатуу*	(very hard)	[natural]
* жинхэнэ *өвчин*	(very sick)	[unacceptable]
? жинхэнэ *хавтгай*	(very flat)	[unnatural]
? жинхэнэ *нүцгэн*	(very naked)	[unnatural]
жинхэнэ *үхсэн*	(very dead)	[natural]
жинхэнэ *сэрүүн*	(very awake)	[natural]
жинхэнэ *хоосон*	(very empty)	[natural]

b. **хагас (half)**

хагас **чийг**	(half wet)	[unnatural]
? хагас *эцсэн*	(half tied)	[unnatural]
хагас *гүн*	(half deep)	[natural]
? хагас *урт*	(half long)	[unnatural]
? хагас *хатуу*	(half hard)	[unnatural]
? хагас *өвчин*	(half sick)	[unnatural]
? хагас *хавтгай*	(half flat)	[unnatural]
? хагас *нүцгэн*	(half naked)	[unnatural]
? хагас *үхсэн*	(half dead)	[unnatural]
хагас *сэрүүн*	(half awake)	[natural]
? хагас *хоосон*	(half empty)	[unnatural]

Based upon the test, we may arrive at the following classification of Mongolian APs:

(12) a. Totally open-scale: *эцсэн* (tied), *урт* (long), *гүн* (deep)
b. Lower closed-scale: *чийг* (wet), *өвчин* (sick), *өлөссэнийг* (hungry),
хусугсанийг (shaved)
c. Upper closed-scale: *хатуу* (hard), *сэрүүн* (awake), *чайсанийг* (pale)
d. Totally closed-scale: *нүцгэн* (naked), *үхсэн* (dead), *хоосон* (empty),
хавтгай (flat)

In light of the classification, we move onto inquiring as to how APs are distributed in resultative constructions. Tests along with the four different scalar structures of APs are provided in (13) to (16). Native speakers again assessed the examples.

(13) *Totally open-scale AP*

    a. жан сан: төмөр таяг дабдажъ **урт** болгаб. (natural)
        Zhang san metal stick pound long PAST
        'Zhang san pounded the metal long.'

    b. жан сан: өрөөн өсөрч **ядараб**. (natural)
        Zhang san himself dance tired-PAST
        'Zhang san danced himself tired.'

(14) *Lower closed-scale AP*

    a. жан сан: өрөөн иниесээр байжъ **Өбчитай** болоб. (natural)
        Zhang san himself laugh PROG sick PAST
        'Zhang san laughed himself sick.'

    b. ?жан сан: өбөст газар усулжъ **чийг** болгаб. (unnatural)
        Zhang san garden water wet PAST
        'Zhang san watered the garden wet.'

(15) *Upper-closed scale AP*

    a. *жан сан: ус хӨ[6] лдээжъ **хатуу** болгаб. (ill-formed)
        Zhang san water Ba freeze solid PAST
        'Zhang san froze the water solid.'

    b. жан сан: лъ сийг сажилажъ **сэргээб**. (natural)
        Zhang san Li si shake awake PAST
        'Zhang san shook Li si awake.'

(16) *Totally closed-scale AP*

    a. ?жан сан: төмөр таяг дабдажъ **хабтагай** болгаб. (natural)
        Zhang san metal stick pound flat PAST
        'Zhang san pounded the metal flat.'

    b. *Нуур **хатуу_биет** хөлджээ. (ill-formed)
        lake solid freeze-PAST
        'The lake froze solid.'

We now have several layers illustrating the acceptability thresholds of Mongolian APs in resultatives, running from 'Totally open-scale AP' down to 'Lower closed-scale AP, Upper-closed scale AP, Totally closed-scale AP'.

Note that (13) are inherenet resultatives.[7] It seems that Mongolian lacks derived resultative constructions. All layers of APs appear to be ruled out.

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[6] хӨ is a co-verb.

[7] The terminology used to describe the two types of resultative constructions varies: Kageyama (1996) labels them as 'inherent resultatives' vs. 'derived resultatives'; Washio (1997) refers to them as 'strong resultatives' vs. 'weak resultatives'; Iwata (2006) uses the terms 'argument resultatives' vs. 'adjunct resultatives'; and in Levin & Rappaport Hovav (1995) and Kennedy's (1999) works,

(17)   *Mongolian derived resultatives*   (unnatural)

? жан сан: арих   уужъ хогослаба   ба.
Zhang san   pub   drink empty   PAST
'Zhang san drank the pub empty.'

Another Altaic language, Japanese, also lacks derived resultative constructions, as shown in (18):

(18) a. *Japanese inherent resultatives*   (well-formed)

Taro   wa   kabe o   siroku   nutta.
Taroo   TOP   wall ACC   white   paint-PAST
'Taro painted the wall white.'

b. *Japanese derived resultatives*   (ill-formed)

*Kanojo wa   sakana o   zerii joo ni   tataita.
She   TOP   fish   ACC   jelly   into   pound-PAST
'She pounded the fish into a jelly.'

We might contend that Altaic languages are likely to miss derived resultative constructions. This feature is shared with Romance languages; Italian and French do not tolerate derived resultative constructions, as seen in (19) and (20).

(19) a. *Italian inherent resultatives*   (well-formed)

Ho   taglito   la carne   in piccolo   pezzi.
have.1stSg   cut.PPT   the meat   in small   pieces
'I cut the meat into small pieces.'

b. *Italian derived resultatives*   (ill-formed)
*Gianni ha   martellato   il metallo   piatto.
Gianni   has   hammer-PPT   the metal   flat
'Gianni hammered the metal flat.' (Napoli, 1992, p. 65)

(20) a. *French inherent resultatives*   (well-formed)

Je coupe la viande **en**   morceaux.
I   cut   the meat   PREP   pieces
'I cut the meat into pieces.'

'control resultatives' vs. 'exceptional case-marking resultatives' is used. Moreover, Dimitrova-Vulchanova (2002) employs 'connected resultatives' vs. 'disconnected resultatives' to describe resultatives. All these terms differ slightly but ultimately refer to the same thing. The current paper follows Washio (1997).

b. *French derived resultatives*   (ill-formed)

?Elle a battu   le poisson en   gelée.
She   pounded the fish   PREP   jelly.'
'She pounded the fish into jelly.'

Moreover, another character of French resultatives is worth highlighting, namely, that only prepositional complements are permitted to denote the result, c.f. (21):

(21) a. J'ai peint le mur **en** rouge.   (well-formed)
      b. Jean a cassé le vase **en** morceaux.   (well-formed)
      c.f. c. *J'ai peint le mur *rouge*.   (ill-formed)

Germanic languages, on the other hand, license both inherent and derived resultative constructions.

(22) a. *German inherent resultatives*

      Bill fror   das Wasser   hart.
      Bill freez-PAST   the water   hard
      'Bill froze the water hard.'

      b. *German derived resultatives*

      Bill trank   die Kneipe   leer.
      Bill drink-PAST   the pub   empty
      'Bill drank the pub empty.'

(23) a. *English inherent resultatives*

      Mary wiped the table clean.

      b. *English derived resultatives*

      She pounded the fish into a jelly.

4   The distribution of adjectives in direct perception expressions

Having drawn a picture of the sensitivity of APs in resultatives, we are in a better position to engage in the analysis of direct perception expression. Tests along with the four various scalar structures of Mongolian APs are carried out. Once more, native speakers provided the judgements.

(24) *Totally open-scale AP*

      жан сан   лъ сийн **ядарагсанийг** үзэб.   (natural)
      Zhang san Li si   tired   see-PAST
      'Zhang san saw Li si tired.'

(25)   *Totally closed-scale AP*

    a.   жан сан   нохойн   **үхүгсэнийг**   үзэб.   (natural)
       Zhang san   dog   dead   see-PAST
       'Zhang san saw the dog dead.'

    b.   жан сан   лъ сийн   **нүцгэн нь олжъ**   үзэб.   (natural)
       Zhang san   Li si   naked   see-PAST
       'Zhang san saw Li si naked.'

(26)   *Upper closed-scale AP*

       жан сан   лъ сийн   **чайсанийг**   үзэб.   (natural)
       Zhang san   Li si   pale   see-PAST
       'Zhang san saw Li si pale.'

(27)   *Lower closed-scale AP*

    a.   жан сан   лъ сийн   **өлөссэнийг**   үзэб.   (natural)
       Zhang san   Li si   hungry   see-PAST
       'Zhang san saw Li si hungry.'

    ?b.жан сан   лъ сийн   **хусугсанийг**   үзэб.   (ill-formed)
       Zhang san   Li si   shaved   see-PAST
       'Zhang san saw Li si shaved.'

The oddness of хусугсанийг 'shaved' (c.f. 27b) might have revealed that a Mongolian perception verb only denotes a direct perception report. It does not contribute to a potential indirect perception, describing the observer's conceptualisation of the perceived event. Nonetheless, Mongolian seems to welcome all layers of adjectival complements in direct perception expressions.

5   Conclusion

This paper has delved into the adjective distribution in resultative constructions as well as direct perception expressions. The findings show that Mongolian only tolerates inherent resultatives; derived resultatives are ruled out. The acceptability of adjectival complements in inherent resultatives runs from 'Totally open-scale/Totally closed-scale' down to 'Lower closed/Upper closed-scale'. On the other hand, adjectival complements in direct perception expressions are of no diverse acceptability, i.e. all layers of APs appear licensed. The foregoing discussion is summarised in Table 1.

Table 1: The distribution of Mongolian adjectives in
resultative and direct perception constructions

Scalar property	Inherent resultatives	Derived resultatives	Direct perception expression
Totally open scale	*high*	all ruled out	all licensed
Lower closed scale			
Upper closed scale			
Totally closed scale	*low*		

The scalar properties of APs further link to the combinatorial possibilities with verbs. Durative verbs are likely to yield open-scale APs whilst punctual verbs seem to favour closed-scale APs. Moreover, the scalar properties can be a syntactic diagnostic for split intransitivity, i.e. unergative verbs are likely to yield closed-scale postpositions while unaccusative verbs tend to occur with open-scale postpositions.

Table 2: Scalar properties of APs along with the combinatorial possibilities
with verbs and postpositions

Durative verbs $\Rightarrow$ Open-scale AP	Open-scale postpositions $\Leftarrow$ Unaccusative verb
Punctual verbs $\Rightarrow$ Closed-scale AP	Closed-scale postpositions $\Leftarrow$ Unergative verbs

Mongolian Cyrillic alphabet

а *a*	б *b*	в *v*	г *g*	д *d*	е *ye*	ё *yo*	ж *j*	з *dz*	и *i*	й *y*	к *k*
л *l*	м *m*	н *n*	о *o*	ө *ö*	п *p*	р *r*	с *s*	т *t*	у *u*	ү *ü*	ф *f*
х *kh*	ц *ts*	ч *ch*	ш *sh*	щ *shch*	ъ *"*	ы *i*	ь *'*	э *e*	ю *yu*	я *ya*	

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