

# Case in conflict: embedded subjects in Mongolian\*

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## 1 Introduction

The aim of this paper is to analyse the conditions under which the accusative on subjects of embedded (object) clauses can be omitted in Mongolian and to propose an explanation for why the accusative can be omitted under these conditions. The analysis of the conditions underlying the omission of accusative in this particular case alternation is based on the results of two questionnaires.

The results of the questionnaires indicate that the accusative on the subject of an embedded object clause (embedded subject, for short) can be omitted either (i) if the matrix subject and embedded subject are not adjacent or (ii) if they are adjacent and the matrix subject is higher than the embedded subject on the definiteness scale or animacy scale. In order to explain this pattern of omission we postulate that (i) the function of the accusative marker is to indicate that the argument is not the matrix subject, (ii) that

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there is a default and defeasable inference to the effect that the argument which is highest on the definiteness or animacy hierarchy is the matrix subject, and (iii) that the information about syntactic function contributed by word order differs in status from the information contributed by case morphology. If the function of the accusative in Mongolian (and possibly in other SOV languages, too) is to indicate that the NP does not bear the matrix subject role, this would be somewhat unusual since case markers are assumed to either distinguish arguments of the same predicate from one another or to identify semantic or pragmatic properties of the argument. According to de Hoop and Malchukov (2008, p. 3) “[t]he identifying strategy makes use of case morphology to encode specific semantic/pragmatic information about the nominal argument in question”, whereas “[t]he distinguishing strategy is a more specific strategy that is used for distinguishing between the two core arguments of a transitive clause, i.e. the subject and the object”.

Since the conditions governing the accusative-nominative case alternation on subjects of object clauses are different from the conditions underlying the differential object marking of direct objects, we will begin by summarising in section 2 the conditions for differential object marking in Mongolian. In section 3 we will introduce some case alternations on subjects of subordinate clauses, and will then focus on the case alternation on subjects of object clauses. Based on native speaker intuitions about this case alternation we formulated some generalisations, which we tested by means of a written and then a web questionnaire. In sections 4 and 5 we present the questionnaires and their evaluation. In section 6 we propose an explanation of the phenomenon of accusative omission on subjects of object clauses. Section 7 concludes.

## 2 Differential object marking in Mongolian

Modern Mongolian is an SOV language with nominative-accusative alignment. The subject of matrix clauses is morphologically unmarked (nominative), whereas the direct object is either accusative or also unmarked. In particular, the direct object must be ACC-marked if it is expressed by a pronoun, a name or a definite NP, and it may be ACC-marked if it is indefinite, with the preference depending mainly on specificity. See Guntsetseg (to appear) for a detailed description of the factors conditioning differential object marking in Modern Mongolian.

- (1) Tuya **ene hun\*(-ig)** med-ne.  
 Tuya this person-ACC know-NPST<sup>1</sup>  
 ‘Tuya knows this person.’

- (2) Tuya **neg oyut(a)n(-ig)** med-ne.  
 Tuya a student-ACC know-NPST  
 ‘Tuya knows a student.’

The subjects of subordinate clauses can be realised in different cases. For example the subject of a relative clause can be NOM, GEN or ABL (3), whereas the subject of adverbial clauses is either NOM or ACC (4).

- (3) Bi **jerunhiilegch/-in/-ees** bich-sen zahia-g  
 I president.NOM/-GEN/-ABL write-PST letter-ACC  
 unsh-san.  
 read-PST

‘I read the letter which the president wrote.’

- (4) **Bold/-ig** ir-sn-ii daraa bi yav-na.  
 Bold.NOM/-ACC come-PST-GEN after I.NOM go-NPST  
 ‘I will go after Bold comes.’

Note that in (4) the embedded clause is a complement of the postposition *daraa* (after), making it unlikely that the matrix verb *yavna* (go-NPST) somehow governs the embedded subject *Bold* if it is accusative marked. To the extent that these subordinate clauses are structurally similar to the object clauses to be discussed in the next section, they appear to provide evidence against an analysis of the embedded subjects as being governed by the matrix verb.

So in Mongolian there are different case alternations on subjects of subordinate clauses, but no case alternation on subjects of main clauses.

### 3 Case alternation on subjects of object clauses

In this paper we will focus on the case alternation on subjects of object clauses. Object clauses are propositional complements suffixed with the accusative marker *ig*, as illustrated in (5).

- (5) Bi ene oyutn-ig haana amidar-dag-**ig** med-ne.  
 I this student-ACC where live-HAB-**ACC** know-NPST  
 ‘I know where this student lives.’

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<sup>1</sup>We have used the following glosses based on the Leipzig Glossing Rules: ABL = ablative, ACC = accusative, CVB = converb, DAT = dative, GEN = genitive, HAB = habitual, INF = infinitive, INS = instrumental, NOM = nominative, NPST = non-past, PRS = present tense, PST = past tense

The object clause may occur either after the matrix subject (6a) or before it (6b).

- (6) a. **Bi** ene oyutn-ig haana amidar-dag-ig med-ne.  
 I this student-ACC where live-HAB-ACC know-NPST  
 ‘I know where this student lives.’
- b. Ene oyutn-ig haana amidar-dag-ig **bi** med-ne.  
 this student-ACC where live-HAB-ACC I know-NPST  
 ‘I know where this student lives.’

As can be seen from these examples, the subject of such an object clause can be realised in the accusative, but under certain conditions the accusative suffix on the subject may be omitted, leading to an accusative-nominative case alternation on subjects of object clauses.

- (7) a. Bi **ene oyutn-ig** haana amidar-dag-ig med-ne.  
 I this student-ACC where live-HAB-ACC know-NPST  
 ‘I know where this student lives.’
- b. Bi **ene oyutan** haana amidar-dag-ig med-ne.  
 I this student where live-HAB-ACC know-NPST  
 ‘I know where this student lives.’

Note that unlike English subordinate clauses, the embedded object clauses in Mongolian do not have a clause-initial complementiser. Together, the fact that Mongolian is verb-final and the fact that embedded object clauses do not have a clause-initial complementiser allow for the possibility that the embedded subject immediately follows the matrix subjects, resulting (in some cases at least) in a temporary uncertainty about the grammatical function of the second NP. For example, immediately after parsing the NP *ene oyutn-ig* (this student-ACC) in sentence (7a), this NP could be understood as the object of the main clause, which would not be possible if the two NPs were separated by a clause-initial complementiser.

From a syntactic point of view two questions should be asked about the structure of these object clauses. The first question is whether all instances of non-finite verb forms occurring in these object clauses are to be analysed as infinitives, and the second is whether the accusative subject of the object clause has raised to the object position of the main verb.

If all non-finite verb forms occurring in this construction are analysed as infinitives, then one could claim that this construction is an *Accusativus Cum Infinitivo* (ACI), as has been done in e.g. Binnick (1979). If this were the case, then it would not be obvious how to account for the fact that some verb forms can occur as main verbs (8) whereas others cannot (9):

- (8) a. Tuya ene hun hulgai **hii-sn-ig** med-ne.  
 Tuya this person theft do-PST-ACC know-NPST  
 ‘Tuya knows that this person did the theft.’
- b. Ene hun hulgai **hii-sen**.  
 this person theft do-PST  
 ‘This person did theft.’
- (9) a. Tuya ene hun hulgai **hii-h-ig** har-san.  
 Tuya this person theft do-INF-ACC see-PST  
 ‘Tuya saw this person do(ing) the theft.’
- b. \*Ene hun hulgai **hii-h**.  
 this person theft do-INF  
 Int.: ‘This person is doing the theft.’

See also Koptjevskaja-Tamm (1993, p. 37) for another argument why these non-finite verb forms should not be analysed as infinitives in Mongolian.

Concerning the second question, there is an important difference between accusative subjects of subordinate clauses and accusative objects (of main or subordinate clauses). If for example a demonstrative NP is the direct object of a main clause, then the accusative cannot be omitted (10a), but if the same demonstrative NP is the subject of an embedded object clause, then the accusative can be omitted (10b). Therefore, the claim that the subject of the object clause has raised to the object position of the main clause leaves this difference unexplained.

- (10) a. Zagdaa ene hulgaich\***(-ig)** bari-san.  
 Police this thief-ACC arrest-PST  
 ‘The police arrested this thief.’
- b. Bi ene hulgaich**(-ig)** zagdaa-d bari-gd-san-**ig**  
 I this thief-ACC police-DAT arrest-PASS-PST-ACC  
 med-ne.  
 know-NPST  
 ‘I know that this thief was arrested by the police.’

In this paper we do not have to take a stand on these questions about the proper analysis of the non-finite verb form and the subject of the object clause, since as it turns out the main questions that concern us here, namely under what conditions the accusative is omitted from the subject of the object clause and why, appear to be independent of the answer to these questions.

In the next two sections we will present two questionnaires, the first written and the second via the internet, that we performed in order to investigate

the conditions under which the accusative marker on the subject of object clauses can be omitted, and in the last section we will propose an explanation for why the accusative marker can be omitted under these conditions.

## 4 First questionnaire

### 4.1 Conditioning factors

So let us turn to the conditions under which the accusative on the subject of the object clause may or may not be omitted. The first observation, based on the intuition of one of the authors, is that the accusative on the embedded subject of (11) cannot easily be omitted, whereas the accusative on the same embedded subject can be omitted in (12):

- (11) a. Ene bagsh **Tuya-g** ire-h-ig hus-ej bai-na.  
 this teacher Tuya-ACC come-INF-ACC want-CVB be-NPST  
 ‘This teacher wants Tuya to come.’  
 b. ? Ene bagsh **Tuya** ire-h-ig hus-ej bai-na.  
 this teacher Tuya come-INF-ACC want-CVB be-NPST  
 ‘This teacher wants Tuya to come.’
- (12) a. Bi **Tuya-g** ire-h-ig hus-ej bai-na.  
 I Tuya-ACC come-INF-ACC want-CVB be-NPST  
 ‘I want Tuya to come.’  
 b. Bi **Tuya** ire-h-ig hus-ej bai-na.  
 I Tuya come-INF-ACC want-CVB be-NPST  
 ‘I want Tuya to come.’

Put differently, in (11) there is a clear preference for using the accusative, whereas in (12) both the accusative and the nominative subject appear equally acceptable. Note that in (11) the embedded subject *Tuyag* (‘Tuya.ACC’) is higher on Aissen’s definiteness scale<sup>2</sup> (DS) than the matrix subject *ene bagsh* (‘this teacher’).

(DS) Pronoun > Name > Definite > Indef. Specific > Indef. Nonspecific

On the other hand, in (12) the embedded subject *Tuyag* is lower on the DS than the matrix subject *bi* (‘I’). The underlying generalisation appears to be that if matrix and embedded subjects are adjacent, then there is a preference for accusative marking of an embedded subject if the embedded subject is higher than the matrix subject on the definiteness scale.

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<sup>2</sup>See Aissen (2003, p. 437).

To test this generalisation, we designed a questionnaire which we describe in the next subsection. The results will be presented and discussed in subsection 4.3.

## 4.2 Method

### 4.2.1 Design

The two independent factors were:

- Case on the embedded subject, with the two values NOM or ACC, and
- Relative definiteness of matrix subject (MS) and embedded subject (ES), with the two values MS > ES or MS < ES.

The dependent factor was:

- Acceptability judgement

### 4.2.2 Materials

Each of the four conditions was tested with three sentences, instantiating subjects with different positions on the definiteness scale, but with the same relative definiteness:

Cond.	Rel. def.	Case ES	Def. MS	Def. ES
1	MS > ES	NOM	Pro. Pro. Name	Name Def. Def.
2	MS > ES	ACC	Pro. Pro. Name	Name Def. Def.
3	MS < ES	NOM	Name Def. Def.	Pro. Pro. Name
4	MS < ES	ACC	Name Def. Def.	Pro. Pro. Name.

The sentences in (13) are from the first questionnaire. Sentence (13a) is one of the items used for the condition 2: the accusative marked embedded subject is a definite NP and thus lower on the definiteness scale than the matrix subject which is a pronoun. Sentence (13b) is one of the items used

for the condition 3, in which the nominative embedded subject is a name and is thus higher on the definiteness scale than the matrix subject which is a definite NP.

- (13) a. Bi ene huuhd-ig duula-h-ig huse-j bai-na.  
 I this child-ACC sing-INF-ACC want-CVB be-NPST  
 ‘I want this child to sing.’
- b. Ene bagsh Tuya duula-h-ig huse-j bai-na.  
 This teacher Tuya.NOM sing-INF-ACC want-CVB be-NPST  
 ‘This teacher wants Tuya to sing.’

#### 4.2.3 Participants, procedure and scoring

One half of the 320 participants were students from the University of Ulaanbaatar, and the other half consisted of employees and civil servants, also from Ulaanbaatar. The 12 sentences were distributed across 4 questionnaires. These items were mixed (i) with items for another experiment on differential object marking in Mongolian and (ii) with filler sentences. Every questionnaire was answered by around 80 participants. The participants had to judge on a scale from 1 (very bad) to 6 (very good) how good the sentences sound.

#### 4.2.4 Data analysis

The data were analysed by means of a crossed 2-way between-subjects analysis of variance.

### 4.3 Results

We found a significant effect of case ( $F(1,887) = 84.6$ ;  $p < .001$ ), a significant effect of relative definiteness ( $F(1,887) = 4.4$ ;  $p < .05$ ), and a significant interaction between case and relative definiteness ( $F(1,887) = 10.5$ ;  $p < .001$ ). While there was no significant difference between the accusative marking of embedded subjects higher than matrix subjects and the accusative marking of embedded subjects lower than matrix subjects, we found a significant difference between the nominative marking of embedded subjects depending on the relative definiteness. If the embedded subject was higher on the DS than the matrix subject, then nominative marking was significantly worse than if the embedded subject was lower on the DS than embedded subjects. In fact the mean of nominative marked embedded subjects which are higher on the DS than the matrix subjects is around 2, which is similar to the mean for the ungrammatical filler sentences. Moreover, the accusative marking was on



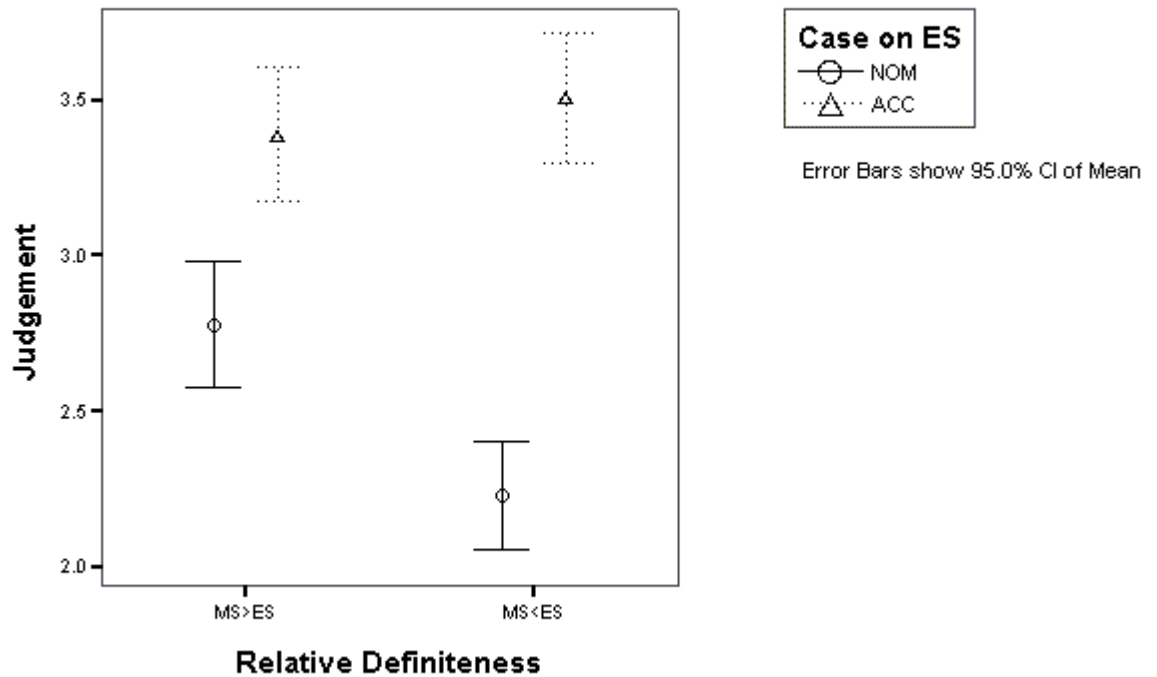


Figure 1: Interaction between case and relative definiteness

average judged better than the nominative marking, both if the embedded subject was higher and when it was lower than the matrix subject.

With the influence of the relative definiteness of the embedded subjects on nominative marking (or equally on the omission of the accusative marking) established at least for these lexicalisations, the next question is whether this difference holds also when the two subjects are not adjacent. Moreover, since high definiteness and high animacy often correlate, it is worth examining whether relative animacy of matrix and embedded subjects is also a factor conditioning the omission of the accusative marker. To find this out, we designed a second questionnaire which will be discussed in the next section.

## 5 Second questionnaire

### 5.1 Conditioning factors

With the second questionnaire we wanted to investigate the following two questions. First, does relative animacy of matrix and embedded subjects influence the accusative-nominative alternation on the embedded subject? If this is the case we should find a difference in the marking of embedded subjects, depending on whether or not they are higher on the animacy scale (AS) than the matrix subjects.

(AS) human > animal > inanimate

In (14) the embedded subject is lower on the AS than the matrix subject, in (15) the matrix and embedded subjects are both human and thus on the same position on the AS, and in (16) the embedded subject is higher on the AS than the matrix subject.

- (14) **Tuya neg shiree(-g)** end bai-sn-ig har-san  
Tuya a table-ACC here be-PST-ACC see-PST  
'Tuya saw a table was here.'
- (15) **Sarnai neg oyut(a)n(-ig)** end amidar-dag-ig med-ne  
Sarnai a student-ACC here live-HAB-ACC know-NPST  
'Sarnai knows that a student lives here.'
- (16) **Ene GPS bagaj neg hun(-ig)** haana yamar gazar  
This GPS instrument a person-ACC where which place  
bai-gaa-g sansr-in dolgion-oor todorhoil-j  
be-PRS-ACC space-GEN frequency-INS determine-CVB  
chad-dag.  
can-HAB  
'This GPS instrument can determine where a man is.'

Secondly, does the adjacency of matrix and embedded subject influence the accusative-nominative alternation on the embedded subject? If this is the case then we should find a difference in the marking of the embedded subject, depending on whether it is adjacent to the matrix subject (17) or not (18-19).

- (17) **Neg bagsh Tuya(-g)** hicheel-d idevhtei  
a teacher Tuya-ACC lesson-DAT diligently  
orolzo-h-ig sanuul-av.  
participate-INF-ACC warn-PST  
'A teacher warned that Tuya has to participate diligently at the lesson.'

- (18) **Neg bagsh** unuudur **Tuya(-g)** hicheel-d idevhte  
 a teacher today Tuya-ACC lesson-DAT diligently  
 orolzo-h-ig сануул-ав.  
 participate-INF-ACC warn-PST  
 ‘Today a teacher warned that Tuya has to participate diligently at  
 the lesson.’
- (19) **Tuya(-g)** hicheel-d idevhte orolzo-h-ig **neg**  
 Tuya-ACC lesson-DAT diligently participate-INF-ACC a  
**bagsh** сануул-ав.  
 teacher warn-PST  
 ‘A teacher warned that Tuya has to participate diligently at the  
 lesson.’

## 5.2 Method

To answer these questions we designed a questionnaire with acceptability judgements on a scale from 1 (very bad) to 4 (very good) as the dependent variable, and with case, relative definiteness, relative animacy and adjacency as independent variables. To keep the experiment manageable, we investigated the case preferences for subjects of intransitive embedded clauses only.

### 5.2.1 Design

Independent factors:

- Adjacency
  - 1: embedded subject immediately follows matrix subject
  - 2: matrix and embedded subjects are separated by an adverb
  - 3: matrix subject follows the embedded clause
- Relative definiteness
  - MS>ES: matrix subject higher on definiteness scale than embedded subject
  - MS=ES: matrix and embedded subject have equal definiteness
  - MS<ES: matrix subject lower on definiteness scale than embedded subject
- Relative animacy

- MS>ES: matrix subject higher on animacy scale than embedded subject
  - MS=ES: matrix and embedded subject have equal animacy
  - MS<ES: matrix subject lower on animacy scale than embedded subject
- Case on subject of subordinate clause:
    - nominative
    - accusative

Dependent factors:

- acceptability judgement

### 5.2.2 Materials

For each of the 54 conditions below we used exactly one item.

Cond.	Adjacency	Rel. def.	Rel. anim.	Case
1	1	MS>ES	MS>ES	NOM
2	1	MS>ES	MS=ES	NOM
3	1	MS>ES	MS<ES	NOM
4	1	MS=ES	MS>ES	NOM
5	1	MS=ES	MS=ES	NOM
6	1	MS=ES	MS<ES	NOM
7	1	MS<ES	MS>ES	NOM
8	1	MS<ES	MS=ES	NOM
9	1	MS<ES	MS<ES	NOM
10	2	MS>ES	MS>ES	NOM
11	2	MS>ES	MS=ES	NOM
12	2	MS>ES	MS<ES	NOM
13	2	MS=ES	MS>ES	NOM
14	2	MS=ES	MS=ES	NOM
15	2	MS=ES	MS<ES	NOM
16	2	MS<ES	MS>ES	NOM
17	2	MS<ES	MS=ES	NOM
18	2	MS<ES	MS<ES	NOM
19	3	MS>ES	MS>ES	NOM
20	3	MS>ES	MS=ES	NOM
21	3	MS>ES	MS<ES	NOM
22	3	MS=ES	MS>ES	NOM

23	3	MS=ES	MS=ES	NOM
24	3	MS=ES	MS<ES	NOM
25	3	MS<ES	MS>ES	NOM
26	3	MS<ES	MS=ES	NOM
27	3	MS<ES	MS<ES	NOM
28	1	MS>ES	MS>ES	ACC
29	1	MS>ES	MS=ES	ACC
30	1	MS>ES	MS<ES	ACC
31	1	MS=ES	MS>ES	ACC
32	1	MS=ES	MS=ES	ACC
33	1	MS=ES	MS<ES	ACC
34	1	MS<ES	MS>ES	ACC
35	1	MS<ES	MS=ES	ACC
36	1	MS<ES	MS<ES	ACC
37	2	MS>ES	MS>ES	ACC
38	2	MS>ES	MS=ES	ACC
39	2	MS>ES	MS<ES	ACC
40	2	MS=ES	MS>ES	ACC
41	2	MS=ES	MS=ES	ACC
42	2	MS=ES	MS<ES	ACC
43	2	MS<ES	MS>ES	ACC
44	2	MS<ES	MS=ES	ACC
45	2	MS<ES	MS<ES	ACC
46	3	MS>ES	MS>ES	ACC
47	3	MS>ES	MS=ES	ACC
48	3	MS>ES	MS<ES	ACC
49	3	MS=ES	MS>ES	ACC
50	3	MS=ES	MS=ES	ACC
51	3	MS=ES	MS<ES	ACC
52	3	MS<ES	MS>ES	ACC
53	3	MS<ES	MS=ES	ACC
54	3	MS<ES	MS<ES	ACC

Sentence (20) was used to test condition 5, sentence (21) was used to test condition 22, and sentence (22) was used to test condition 47:

- (20) Tsetsegee Bold unuudur huduu-nuus ir-sn-ig sons-son.  
Tsetsegee Bold today country-ABL come-PST-ACC hear-PST  
‘Tsetsegee heard that today Bold came from country.’

- (21) Ene nom haana zar-agd-aj bai-gaa-g ene oyutan  
 this book where sell-PASS-CVB be-PRS-ACC this student  
 asuu-j bai-na.  
 ask-CVB be-PRS  
 ‘This student asks where this book is being sold.’
- (22) Sarnai end neg oyutn-ig amidar-dag-ig med-ne.  
 Sarnai here a student-ACC live-HAB-ACC know-PRS  
 ‘Sarnai knows that a student lives here.’

### 5.2.3 Participants, procedure, scoring

The 156 participants were all native speakers of Mongolian, and most of them accessed the questionnaire website by means of an advertisement link placed on a popular Mongolian website (<http://www.medeel.com>). The 54 sentences were distributed over 6 questionnaires, so that each participant saw only 9 out of 54 conditions/items. The test sentences were mixed with an equal number of filler sentences in the questionnaires. We collected 26 judgements per item via a web questionnaire, using the WEBEXP2 software, where the participants had to choose 1 (very bad), 2, 3, or 4 (very good), as a response to how good the sentence displayed sounded.

### 5.2.4 Data analysis

The data were analysed by means of a crossed 4-way between-subjects analysis of variance.

### 5.2.5 Results

The first result of the factorial analysis of variance is that there is a significant interaction between the case of embedded subject and adjacency of matrix and embedded subjects ( $F(2,1398)=10.2$ ;  $p<0.001$ ), as illustrated in Figure 2. This interaction can be interpreted in the following way. First, if matrix and embedded subject are adjacent, then there is a significant preference for ACC-marking of the embedded subject. And secondly, if matrix and embedded subject are not adjacent, then there is no significant preference for ACC-marking of the embedded subject.

The second significant interaction, illustrated in Figure 3, is between the case of the embedded subject and the relative definiteness of matrix and embedded subjects ( $F(2,1398)=10.9$ ;  $p<0.001$ ). First, there is no significant preference for ACC-marked embedded subjects if they are lower on the definiteness scale than the matrix subject. Secondly, there is a slight preference

### Interaction between case and adjacency of subjects

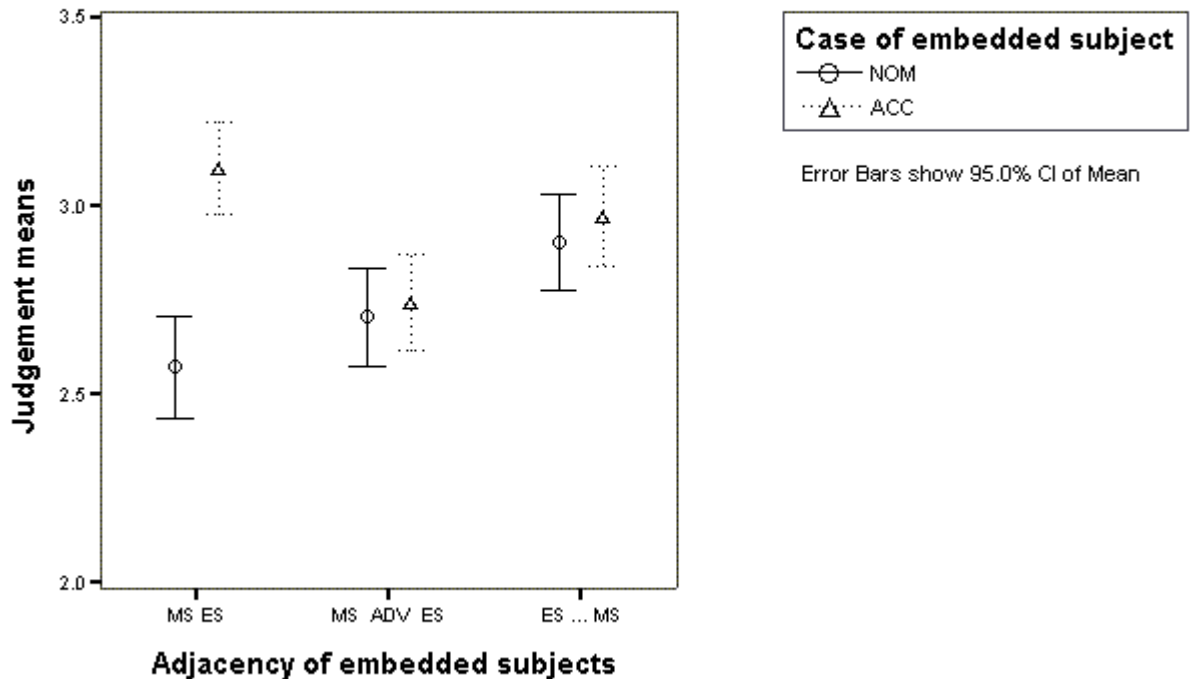


Figure 2: Interaction between case and adjacency

for ACC marked embedded subjects if they have the same definiteness as matrix subjects. Thirdly, there is a statistically significant preference for ACC-marking (half a point on the judgement scale) if the embedded subject is higher on the definiteness scale than the matrix subject.

The third significant interaction, illustrated in Figure 4, is between the case of embedded subject and the relative animacy of matrix and embedded subjects ( $F(2,1398)=14,2$ ;  $p<0,001$ ). First, there is a significant preference for ACC-marked embedded subjects if their animacy is equal to or higher than the animacy of the matrix subject. And secondly, there is no clear preference for NOM or ACC on the embedded subject if it is lower in animacy than the matrix subject.

Next we will look more closely at the interaction between animacy, definiteness and case if both subjects are adjacent. The three examples where the subjects are adjacent but differ in relative definiteness are repeated below:

### Interaction between case and definiteness of subjects

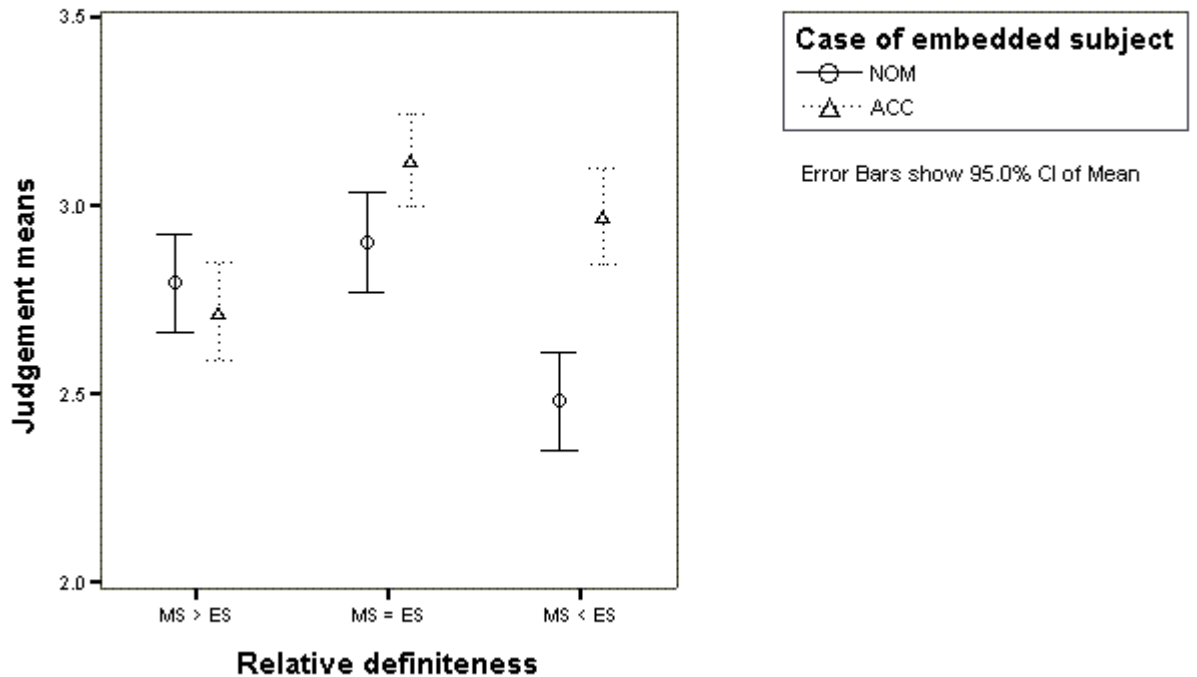


Figure 3: Interaction between case and definiteness

- (23) **Tuya neg shiree(-g)** end bai-sn-ig har-san  
 Tuya a table-ACC here be-PST-ACC see-PST  
 ‘Tuya saw a table was here.’
- (24) **Tsetsegee Bold(-ig)** unuudur huduu-nuus ir-sn-ig  
 Tsetsegee Bold-ACC today country-ABL come-PST-ACC  
 sons-son.  
 hear-PST  
 ‘Tsetsegee heard that Bold today came from countryside.’
- (25) **Neg zereg ene buu(-g)** yaj ajilla-dag-ig nadad  
 A soldier this gun-ACC how function-HAB-ACC I.DAT  
 zaa-j ug-sun.  
 show-CVB give-PST  
 ‘A soldier showed me how this gun works.’



### Interaction between case and animacy of subjects

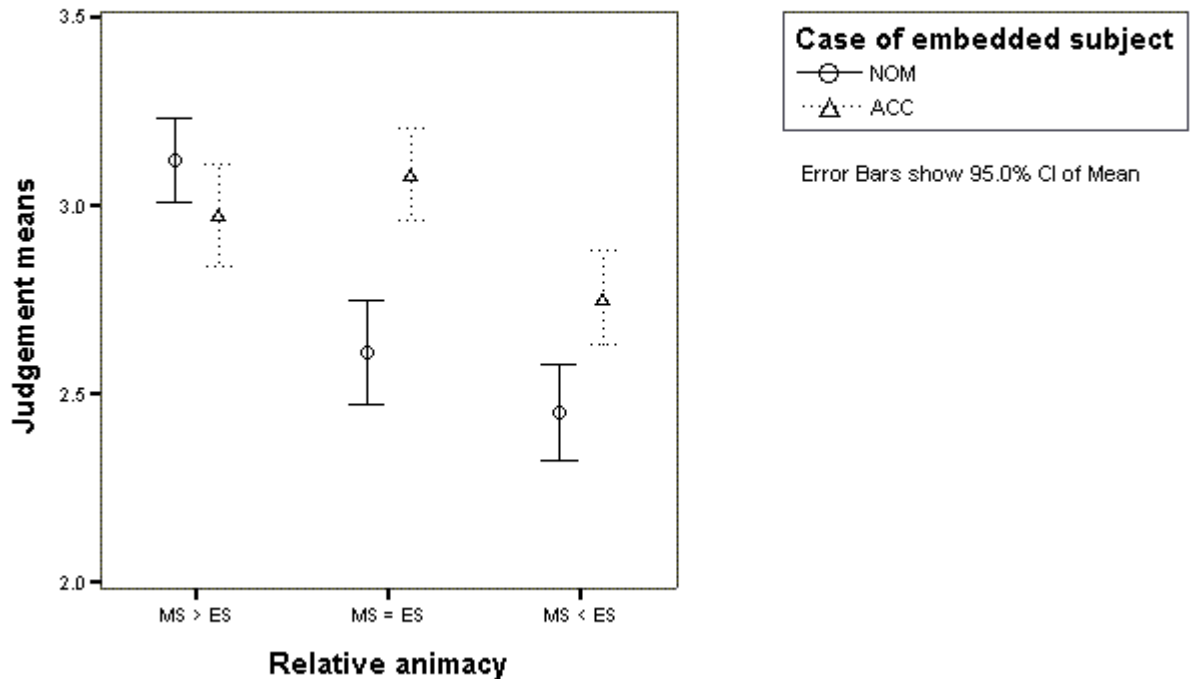


Figure 4: Interaction between case and animacy

The interaction between case and relative definiteness if the subjects are adjacent is illustrated in Figure 5: If the two subjects are adjacent, then ACC-marked embedded subjects are significantly preferred **only if** they are equal to or higher than the matrix subject on the definiteness scale.

Finally we illustrate in Figure 6 the case alternation results if the adjacent subjects have different relative animacy, with the examples repeated below:

- (26) **Tuya neg shiree(-g)** end bai-sn-ig har-san  
 Tuya a table-ACC here be-PST-ACC see-PST  
 ‘Tuya saw a table was here.’
- (27) **Sarnai neg oyutn(-ig)** end amidar-dag-ig med-ne  
 Sarnai a student-ACC here live-HAB-ACC know-NPST  
 ‘Sarnai knows that a student lives here.’

### Interaction between case and definiteness of adjacent subjects

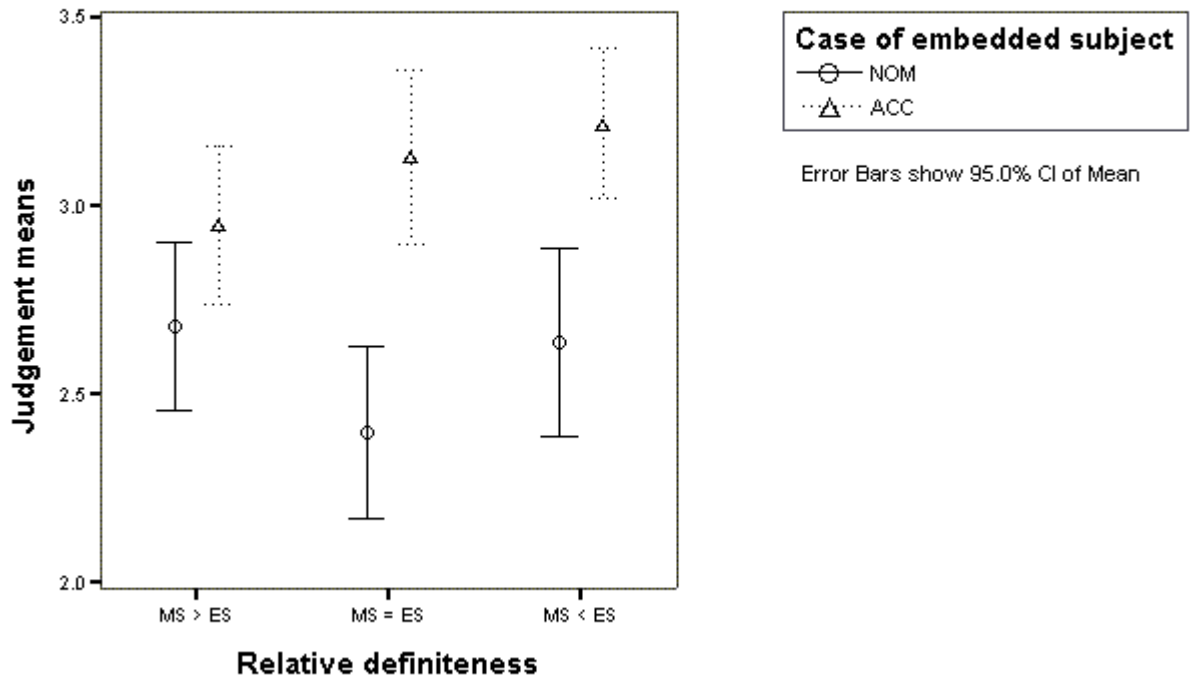


Figure 5: Interaction between case and definiteness of adjacent subjects

- (28) **Ene GPS bagaj neg hun(-ig) haana yamar gazar**  
 This GPS instrument a person-ACC where which place  
 bai-gaa-g sansr-in dolgion-oor todorhoil-j  
 be-PRS-ACC space-GEN frequency-INS determine-CVB  
 chad-dag.  
 can-HAB  
 ‘This GPS instrument can determine where a man is.’

Again, the accusative marking on the embedded subject cannot easily be omitted if its animacy is equal to or higher than the animacy of the matrix subject.

Summing up the main results of the two questionnaires, the accusative marking on the embedded subject of an object clause may be omitted in one of three cases:

### Interaction between case and animacy of adjacent subjects

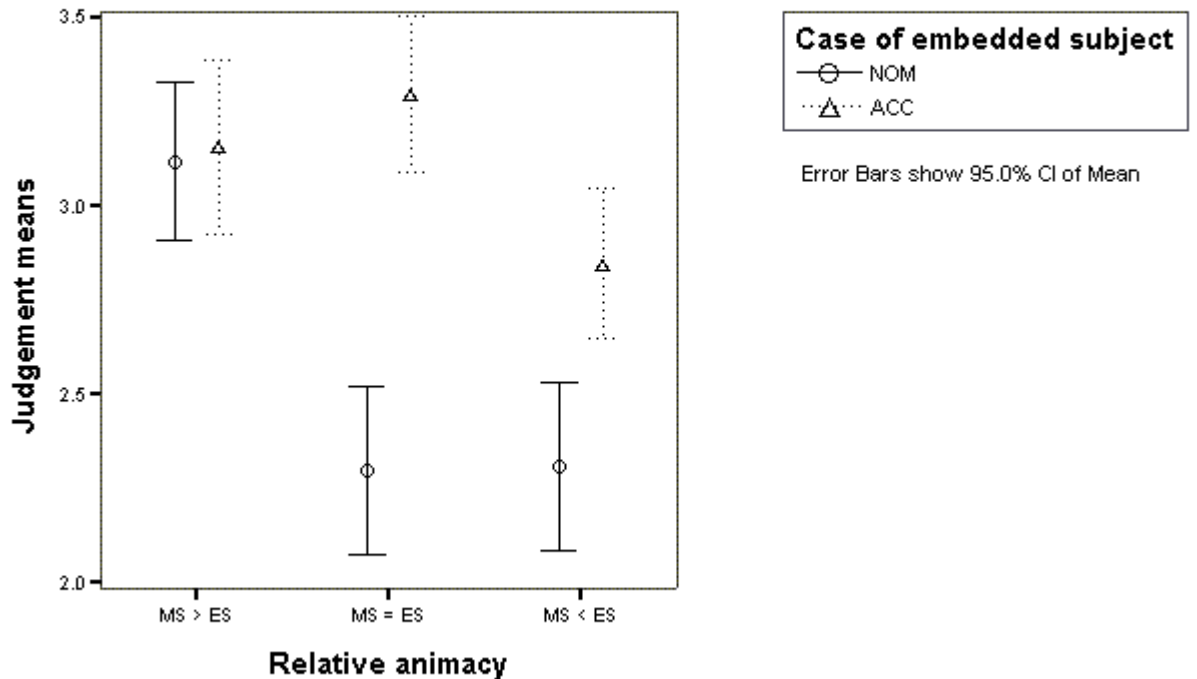


Figure 6: Interaction between case and animacy of adjacent subjects

- if the matrix and embedded subjects are not adjacent
- if the matrix and embedded subjects are adjacent, and the matrix subject is higher than the embedded subject on the definiteness scale
- if the matrix and embedded subjects are adjacent, and the matrix subject is higher than the embedded subject on the animacy scale

Before we proceed with the interpretation of these results, it is necessary to point out that due to the fact that only one item has been tested per condition, we cannot generalise from the judgements about this particular sentence to the acceptability of the condition (or sentence type). For example, since condition 5 (matrix and embedded subjects are adjacent and on the same position on both definiteness and animacy scale) was tested by exactly one sentence, namely sentence (20), we cannot generalise from the judgements

for this particular sentence to the judgements of all other sentences satisfying condition 5. Given the experiment setup, we can conclude that if we repeated the same experiment with different participants the results would very likely be the same, but we cannot conclude that if we repeated the experiment with different items per condition, the results would be the same. Due to this limitation we interpret our results as indications (not evidence) on what the omission of the accusative on embedded subjects depends on.

## 6 Interpretation

Why does the omission of the accusative on embedded subjects of object clauses depend on the relative animacy and on the relative definiteness of the embedded subject? Put differently, why is it easy to omit the accusative if the embedded subject is lower than the matrix subject, but hard (if not ungrammatical) if the embedded subject is higher than the matrix subject? (Remember that if these arguments were direct objects the accusative could not be omitted if the argument is a pronoun, name or definite/demonstrative NP.)

We propose to account for this difference by the interaction of the following principles:

- (P1) **PROMINENCE PRINCIPLE**: the most prominent argument in a sequence of adjacent arguments (the highest argument on the definiteness or animacy scale) has the most prominent grammatical function, i.e. matrix subject.
- (P2) **ACCUSATIVE PRINCIPLE**: an accusative marked NP is not the matrix subject.
- (P3) **FIRST ARGUMENT PRINCIPLE**: the first NP in a sequence of NPs is interpreted as the matrix subject.

The **PROMINENCE PRINCIPLE** is taken to be a defeasable processing principle motivated by the harmonic alignment of prominence scales.<sup>3</sup> The **ACCUSATIVE PRINCIPLE** is taken to be a grammatical hard-wired principle, which cannot be overridden by other principles. The **FIRST ARGUMENT PRINCIPLE** is again taken to be a processing principle that can be overridden. The motivation for this principle is the observation that “in the case of an ambiguity, the first argument is preferentially interpreted as the subject

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<sup>3</sup>See Aissen (2003, p. 440) for the notion of harmonic alignment of prominence scales.

of the clause”, as pointed out in Schlesewsky and Bornkessel (2004, 1216) and references therein.

Let us now look at the individual structures in turn and see what effect these principles have. In the first structure illustrated in (29) the first NP is higher on one of the definiteness or animacy scales than the adjacent accusative marked NP. The NP in a sequence of NPs which is the most prominent one (the highest on the definiteness or animacy scale) is indicated by boldface.

(29) **NP**<sub>NOM</sub> NP<sub>ACC</sub>

By (P1) the first NP is the matrix subject since it is more prominent, and by (P2) the second argument cannot be the matrix subject. So there is no conflict between what these two principles imply. Secondly, if the structure is as in (30)

(30) NP<sub>NOM</sub> **NP**<sub>ACC</sub>

by (P1) the second NP is the matrix subject as it is the more prominent one, but by (P2) the second NP cannot be the matrix subject, because it is accusative marked. If we assume that case information overrides default information, then no conflict results. Note that if the ACCUSATIVE PRINCIPLE specified that an accusative marked NP cannot be the subject (as opposed to the matrix subject), the subjects of object clauses could not be accusative marked, contrary to fact. It is therefore important to emphasise that the function of the accusative marker in these cases cannot be analysed as (i) distinguishing subject from object or as (ii) indicating some semantic/pragmatic property of the argument, but should be analysed as distinguishing matrix subject from non-matrix subject. If this is correct then the distinguishability of the arguments of a transitive relation proposed e.g. by de Hoop and Lamers (2006), de Swart (2007) and Næss (2007) should be complemented, in Mongolian at least, by the distinguishability of matrix subject from non-matrix subjects.

Thirdly, if the structure is as in (31)

(31) **NP**<sub>NOM</sub> NP<sub>NOM</sub>

then both by (P1) and (P3) the first argument is the matrix subject, so again no conflict arises. Fourthly if the structure is as in (32)

(32) NP<sub>NOM</sub> **NP**<sub>NOM</sub>

then by (P1) the second NP is the matrix subject, since it is the more prominent one, but by (P3) the first NP should be the matrix subject. If we assume that word order does not override the default information provided by (P1), then we predict a conflict in the assignment of grammatical roles.

In other words, we claim that the crucial difference between structures like (30) and structures like (32) is that in (30) the case information overrides the defeasable inference based on relative prominence, whereas word order information cannot override this inference, resulting in conflicting information about grammatical role assignment.

The second question is why the conditions for the omission of the accusative on embedded subjects are dependent on the adjacency of the two subjects. Note that this has been built into the PROMINENCE PRINCIPLE (P1). One possibility is that the assignment of grammatical roles in SOV languages is sensitive to clause boundaries. If a clause boundary (e.g. a clause-initial complementiser) also indicates that certain NPs cannot be the matrix subject, then the accusative would not be necessary to indicate this. On the other hand, if like in Mongolian there is no such clause boundary indicator between two morphologically unmarked NPs, then the PROMINENCE PRINCIPLE may or may not conflict with the FIRST ARGUMENT PRINCIPLE. If the most prominent argument is not the first but the second NP, then the PROMINENCE PRINCIPLE conflicts with the FIRST ARGUMENT PRINCIPLE, and the presence of the ACC can be interpreted as settling the conflict by overriding the FIRST ARGUMENT PRINCIPLE. If on the other hand the most prominent argument is the first NP, then no conflict arises, and the ACC is not necessary for the assignment of the matrix subject role.

To sum up, in order to account for the difference between the acceptability of the structures (30) and (32) we postulated (i) a principle to the effect that the most prominent argument in a sequence of arguments (the highest argument on the definiteness or animacy scale) is the matrix subject, and (ii) a difference in the status of case and word order information about grammatical role assignment – case overrides (the effect of) the PROMINENCE PRINCIPLE so that there is no conflict, whereas word order does not override the PROMINENCE PRINCIPLE, resulting in a conflict of grammatical role assignment.

## 7 Conclusion

In Mongolian the conditions under which the accusative on embedded subjects can be omitted are different from the conditions under which the accusative on direct objects can be omitted. On the one hand, with direct objects the accusative can only be omitted if the NP is an indefinite NP, whereas this is not the case for embedded subjects. On the other hand, the omission of the accusative on embedded subjects depends on the adjacency of this subject to the matrix subject and/or on which of the two NPs is more

prominent, which is again not the case for direct objects. We conclude from this that the accusative marking on an NP does not indicate that this NP is a direct object, but that this NP is not the matrix subject. If this is on the right track, then in addition to the other functions case may have (see e.g. Butt (2006)), it can also be used to distinguish NPs across clause boundaries – an unusual function of case.

In order to explain why the accusative on embedded subjects of object clauses can be omitted, we proposed (i) a PROMINENCE PRINCIPLE according to which the most prominent NP in a sequence of NPs is the matrix subject and (ii) a difference in the status of case morphology and word order information about grammatical role assignment. The ACCUSATIVE PRINCIPLE overrides the PROMINENCE PRINCIPLE whereas the FIRST ARGUMENT PRINCIPLE conflicts with the PROMINENCE PRINCIPLE, explaining why the accusative cannot easily be omitted from the embedded subject, if it immediately follows the matrix subject and is more prominent than the matrix subject.

Since this explanation does not depend on the type of the subordinate clause, we predict that case alternations on subjects of other types of subordinate clause also depend on the interaction of these principles. To test whether these findings can be generalised across other kinds of subordinate clauses (as well as across different items of the same condition), we designed and performed another experiment with 6 lexicalisations per condition, the results of which await analysis and interpretation.

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