

Non-canonical case in Mongolian

Dolgor Guntsetseg, Klaus von Heusinger, Udo Klein

Workshop: A non-canonical perspective on case
Konstanz, 09.05.2008

1 Introduction

Functions of case:

- distinguish NPs within a clause (NPs with different grammatical roles are realised differently)
- indicate (or index) the grammatical role
- indicate semantic properties of NP
- indicate semantic properties of clause

Claim: one of the non-canonical functions of ACC in Mongolian is to distinguish NPs across clause boundaries, in particular matrix and embedded subject NPs.

2 Mongolian background

Mongolian is an SOV language. The subject of matrix clauses is unmarked/nominative. 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: the preference depends mainly on specificity and the semantic properties of the verb.

- (1) Tuya **ene hun*(-ig)** med-ne.
Tuya this person-ACC know-PRS
Tuya knows this person.
- (2) Tuya **neg oyutn(-ig)** med-ne.
Tuya a student-ACC know-PRS
Tuya knows a student.

The subjects of embedded clauses can be realised in different cases. For example the subject of a relative clause can be realised as NOM, GEN or ABL, whereas the subject of a temporal clause can be realised as GEN or ACC.

- (3) Bi [jerunhiilegch/-in/-ees bich-sen zahia-g] unsh-san.
I president.NOM/-GEN/-ABL write-PST letter-ACC read-PST
'I read the letter which the president wrote.'

- (4) [Minii/namaig бага бай-һ-ад], Mongol kommunist улс бай-сан.
I.GEN/ACC small be-INF-DAT Mongolia communist country be-PST
 ‘When I was child, Mongolia was a communist country.’

A note on terminology: The ‘subject of an embedded clause’ is the NP which would be the ‘grammatical subject’ if the embedded clause were a main clause.

3 Case marking in embedded object sentences

We will focus on the case alternation in ACC-marked embedded clauses.

- (5) Bi [ene oyutan haana amidar-dag-ig] med-ne.
 I this student where live-HAB-ACC know-PRS
 ‘I know where this student lives.’

The matrix subject may occur in different positions.

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

The subject of the embedded object clause can be either NOM (unmarked) or ACC.

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

There are two reasons to believe that the construction where the subject of the embedded clause is ACC-marked is not ACI. First, the subject of the embedded clause may be ACC although the embedded verb is finite.

- (8) a. Tuya [**ene hun-ig** hulgai hii-**sn-ig**] med-ne.
 Tuya this person-ACC theft do-PST-ACC know-PRS
 ‘Tuya knows that this person did the theft.’
 b. Ene hun hulgai hii-sen.
 this person theft do-PST
 ‘This person did theft.’

Secondly, the subject of the embedded clause may be NOM even though the embedded verb is infinitive.

- (9) a. Tuya ene **hun** hulgai hii-**h-ig** har-san.
 Tuya this **person** theft do-INF-ACC see-PST
 ‘Tuya saw that this person does the theft.’
 b. *Ene hun hulgai hii-h.
 this person theft do-INF
 Intended reading: ‘This person does theft.’

If the NP *ene hun* is a direct object then it must be ACC-marked (10), showing that in (9a) this NP cannot be a direct object.

- (10) Tuya ene hun*(-ig) med-ne.
 Tuya this person-ACC know-PRS
 Tuya knows this person.

Observation: if matrix and embedded subjects are adjacent (11), then there is a clear preference for ACC on the subject of the embedded clause. This is not so clear if the two subjects are separated by an adverb (12), or if the matrix subject follows the embedded clause (13).

- (11) **Tuya** [**Bold**?(-ig) mashin hudalda-j av-sn-ig] sons-son.
 Tuya Bold-ACC car sell-CVB take-PST-ACC hear-PST
 Tuya heard that her mother bought a car.
- (12) **Tuya** uchigdur [**Bold**(-ig) mashin hudalda-j av-sn-ig] sons-son.
 Tuya yesterday Bold-ACC car sell-CVB take-PST-ACC hear-PST
 Tuya heard yesterday that her mother bought a car.
- (13) [**Bold**(-ig) mashin hudalda-j av-sn-ig] **Tuya** sons-son.
 Bold-ACC car sell-CVB take-PST-ACC Tuya hear-PST
 Tuya heard that her mother bought a car.

4 Experiment

4.1 Aims

The aim of the experiment was to detect and measure the preferences for unmarked or ACC subjects in embedded clauses (depending on the adjacency, referentiality and animacy of the subject NPs), in order to establish whether the Mongolian ACC has developed a non-canonical function on top of its canonical function:

1. to distinguish/index NPs belonging to the **same clause** in order to (i) facilitate the assignment of grammatical roles and (ii) to express certain semantic/pragmatic distinctions.
2. to distinguish/index adjacent NPs belonging to **different clauses** in order to facilitate the assignment of grammatical roles

There is evidence from some verb-final constructions/languages that both the relative referentiality and the relative animacy of NPs in sentence-initial position have a measurable effect on the processing of such constructions: roughly, if the initial NP is lower on the referentiality or animacy scale than the second NP, then the processing is somewhat slower than if the initial NP's reference or animacy is higher. In other words, the expectation seems to be that the initial NP is higher on these scales than the following NP. We have therefore included the two factors relative referentiality and relative animacy in our experiment design.

To keep the experiment manageable, we investigated the case preferences for subjects of **intransitive** embedded clauses only. (In a previous questionnaire we investigated case preferences of subjects of transitive embedded clauses.)

4.2 Design

1. Dependent variable: acceptability judgement
2. Independent variables:
 - (a) 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
 - (b) Relative referentiality
 - 1: matrix subject higher on referentiality scale than embedded subject
 - 2: matrix and embedded subject have equal referentiality
 - 3: matrix subject lower on referentiality scale than embedded subject
 - (c) Relative animacy
 - 1: matrix subject higher on animacy scale than embedded subject
 - 2: matrix and embedded subject have equal animacy
 - 3: matrix subject lower on animacy scale than embedded subject
 - (d) Case
 - nominative
 - accusative

4.3 Details

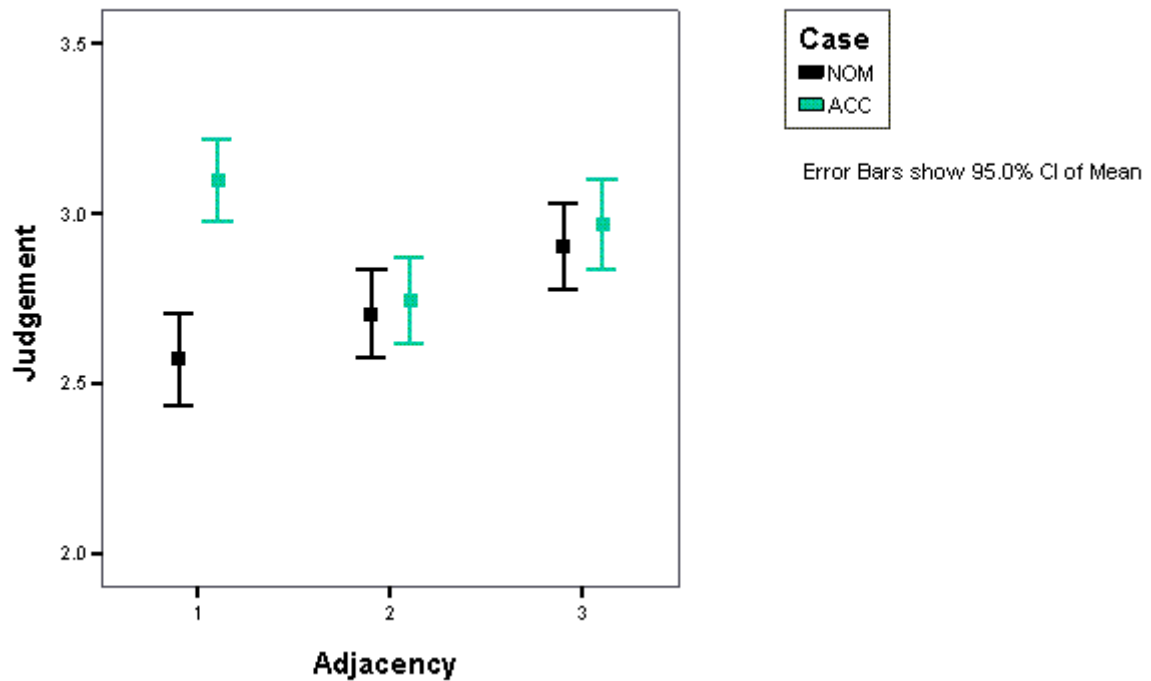
- online elicitation of acceptability judgements
- subjects must decide on a scale from one (very bad) to four (very good) how good/natural a sentence sounds.
- ratio of item/control sentence: 1:1
- 54 items, 6 questionnaires, 9 items/questionnaire
- each subject saw 9 out of 54 items
- 26 subjects per item

4.4 Evaluation

- analysis of variance
- 2x3x3x3 factorial design

5 Results

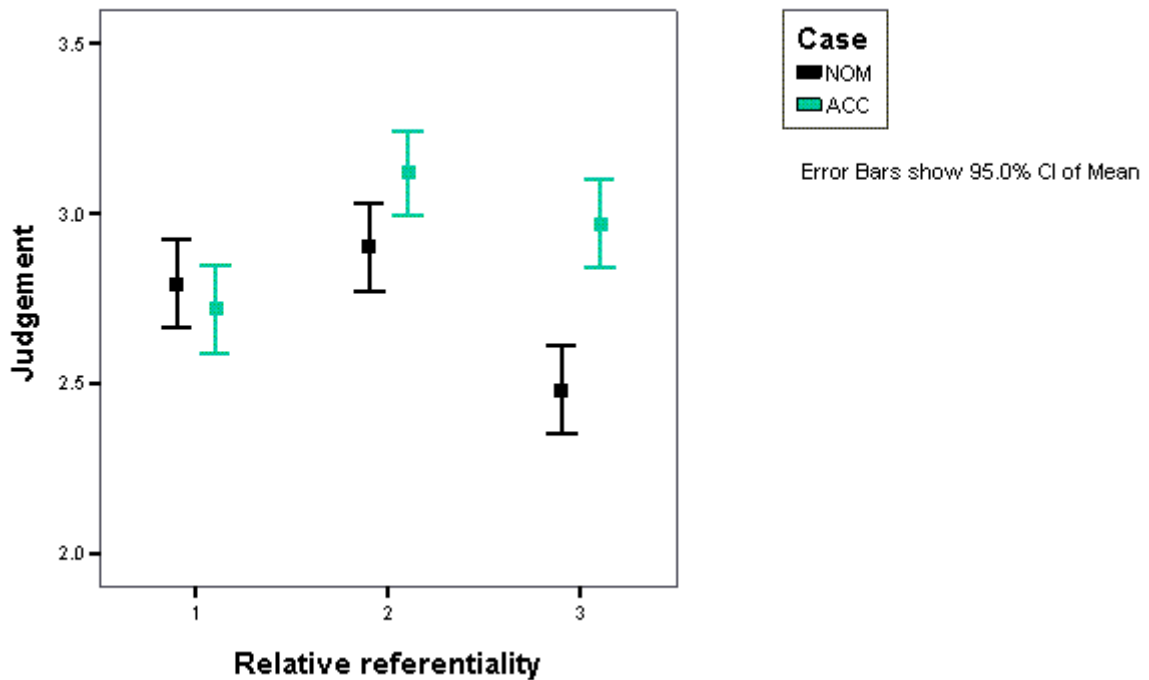
5.1 Interaction between adjacency and case marking



There is a significant interaction between the case of embedded subject and adjacency of matrix and embedded subjects: $F(2,1398)=10.2$; $p<0.001$.

- If matrix and embedded subject are adjacent (adjacency value 1), then there is a significant preference for ACC-marking of embedded subject.
- If matrix and embedded subject are not adjacent, then there is no significant case preference on the embedded subject.

5.2 Interaction between relative referentiality and case marking



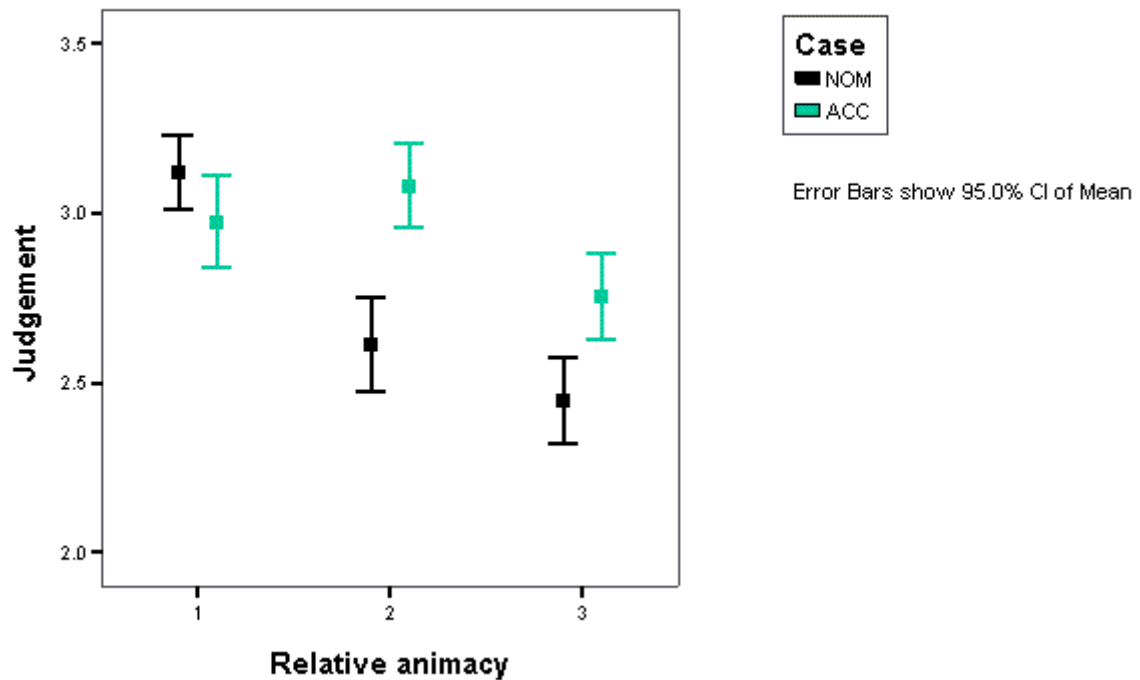
There is a significant interaction between the case of embedded subject and the relative referentiality of matrix and embedded subjects: $F(2,1398)=10,9$; $p<0,001$.

- There is no significant preference for ACC-marked embedded subjects if they are lower on the referentiality scale than the matrix subject.
- There is a slight preference for ACC marked embedded subjects if they have the same referentiality as matrix subjects.
- There is a statistically significant preference for ACC-marking (half a point on the judgement scale) if the embedded subject is higher on the referentiality scale than the matrix subject.

The appendix contains a plot with the interaction between relative referentiality and case, split by adjacency.

Section 5.4 contains a discussion of the interaction between referentiality and case if both subjects are adjacent.

5.3 Interaction between relative animacy and case marking



There is a significant interaction between the case of embedded subject and the relative referentiality of matrix and embedded subjects: $F(2,1398)=14,2$; $p<0,001$.

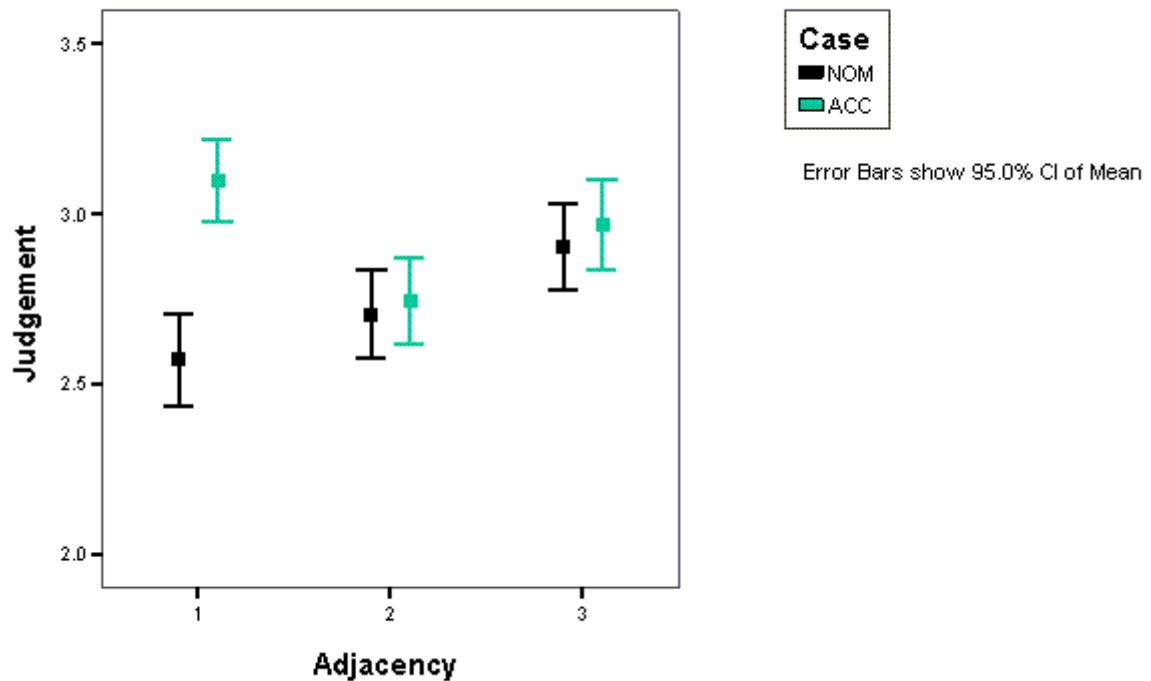
- If the matrix subject is higher in animacy than the embedded subject, then the judgements are overall better than if the matrix subject is equal or lower than the embedded subject.
- However, there is no clear preference for NOM or ACC on the embedded subject if it is lower in animacy than the matrix subject.
- 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.

The appendix contains a plot with the interaction between relative animacy and case, split by adjacency.

The next section discusses the interaction between animacy, referentiality and case if both subjects are adjacent.

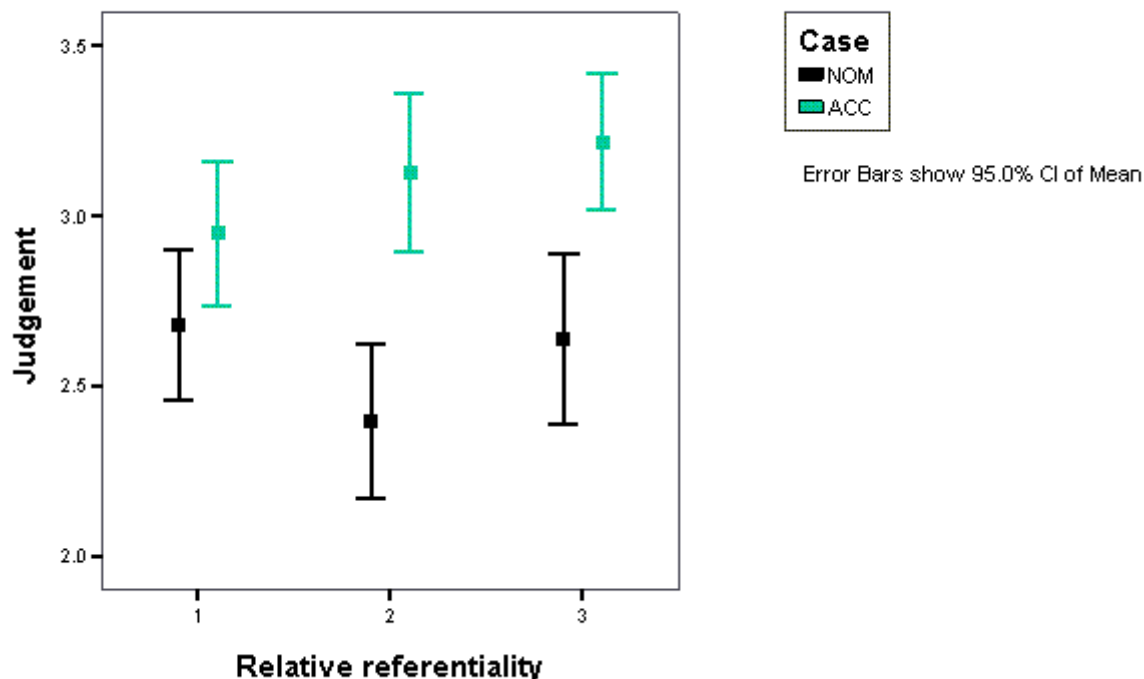
5.4 Adjacent subjects

Interaction between adjacency and case



- (14) **Neg bagsh** [Tuya(-ig) hicheel-d idevhtei orolzo-h-ig]
 a teacher Tuya-ACC lesson-DAT diligently participate-INF-ACC
 sanuu-lav.
 warn-PST
 ‘Today a teacher warned that Tuya has to participate diligently at the lesson.’
- (15) **Neg bagsh** unuudur [Tuya(-ig) hicheel-d idevhtei
 a teacher today Tuya-ACC lesson-DAT diligently
 orolzo-h-ig] sanuu-lav.
 participate-INF-ACC warn-PST
 ‘Today a teacher warned that Tuya has to participate diligently at the lesson.’
- (16) [Tuya(-ig) hicheel-d idevhtei orolzo-h-ig] **neg bagsh**
 Tuya-ACC lesson-DAT diligently participate-INF-ACC a teacher
 sanuu-lav.
 warn-PST
 ‘A teacher warned that Tuya has to participate diligently at the lesson.’

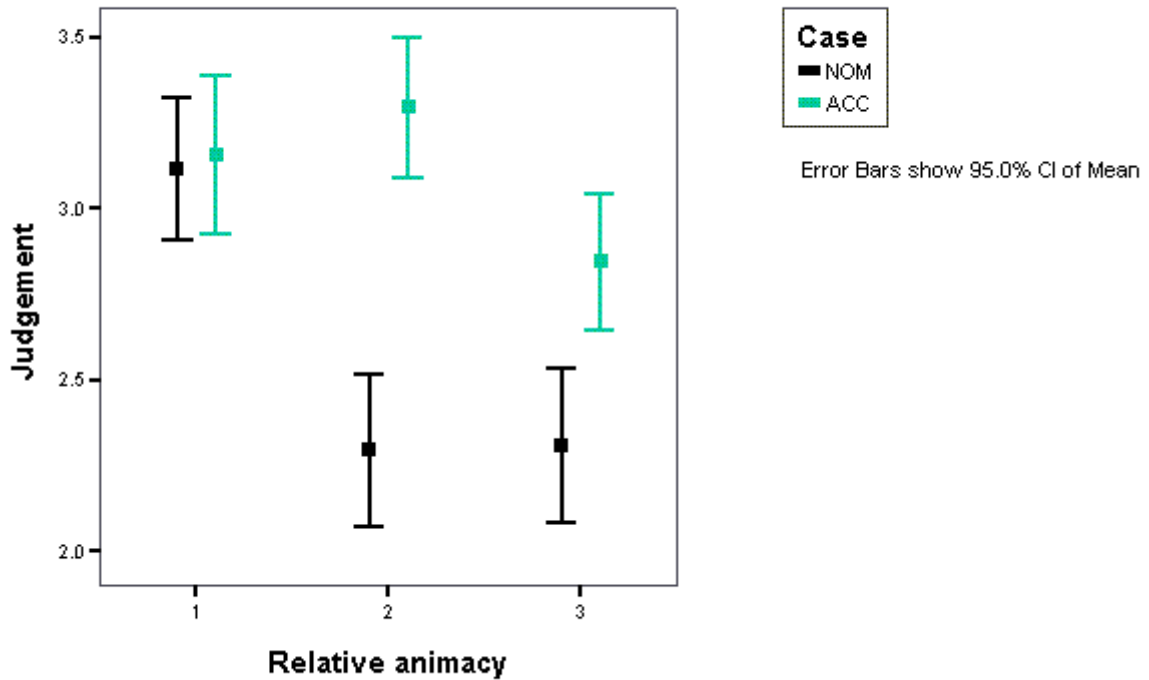
Interaction between referentiality and case, with adjacent subjects



- (17) **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.’
- (18) **Tsetsegee** [**Bold(-ig)** unuudur huduu-nuus ir-sn-ig] sons-son.
 Tsetsegee Bold-ACC today country-ABL come-PST-ACC hear-PST
 ‘Tsetsegee heard that Bold today came from countryside.’
- (19) **Neg zereg** [ene buu(-ig) yaj ajilla-dag-ig] nadad zaa-j
 A soldier this gun-ACC how function-HAB-ACC me show-CVB
 ug-sun.
 give-PST
 ‘A soldier showed me how this gun works.’

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 referentiality scale.

Interaction between animacy and case, with adjacent subjects



- (20) **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.’
- (21) **Sarnai** [neg oyutn(-ig) end amidar-dag-ig] med-ne
 Sarnai a student-ACC here live-HAB-ACC know-PRS
 ‘Sarnai knows that a student lives here.’
- (22) **Ene GPS bagaj** [neg hun(-ig) haana yamar gazar bai-gaa-g
 This GPS instrument a person-ACC where which place be-PRS-ACC]
 sansr-in dolgion-oor todorhoil-j chad-dag.
 space-GEN frequency-INS determine-CVB can-HAB
 ‘This GPS instrument can determine where a man is.’

There is a significant preference for ACC-marking of the embedded subject if its animacy is equal to or higher than the animacy of the matrix subject.

Conclusion: The statistically significant preference for ACC-marking of an embedded subject adjacent to the matrix subject holds only if the embedded subject is higher than the matrix subject either on the referentiality scale or on the animacy scale.

5.5 Summary

- If the matrix and embedded subjects are adjacent, then there is a significant overall preference for ACC-marking of the embedded subject.

- If the matrix and embedded subjects are adjacent, then an ACC-marked embedded subject is preferred only if it is equal or higher in referentiality than the matrix subject.
- If the matrix and embedded subjects are adjacent, then an ACC-marked embedded subject is preferred only if it is equal or higher in animacy than the matrix subject.

6 Interpretation

How/why does such a case alternation emerge?

- ACI
- second NP is initially interpreted as DO
- indexation of embedded subject, if the high-to-low expectation is violated

Why is there a preference for ACC-marking on embedded subjects only if it is adjacent to matrix subject?

- no clause boundary, second NP initially interpreted as DO of the same clause
- difficult to parse a sequence of NPs with different grammatical roles (Stabler, 1994)

Why is there a preference for ACC-marking on embedded subjects only if they are equal to or higher than the matrix subjects in animacy/referentiality?

- high-to-low expectation is violated

The answer to the last two questions is, we think, independent of whether the subject of the embedded clause is actually analysed as an embedded subject or a raised object. If NOM NPs are analysed as embedded subjects and ACC NPs as raising to object, then it is still unclear why raising to object preferably occurs when the two NPs are adjacent and the high-to-low expectation is violated.

How can we account for these preferences? Here is an attempt:

1. If matrix and embedded subjects are unmarked and adjacent, then it is more difficult to assign them the correct grammatical role.
2. If the embedded subject is higher on the referentiality or animacy scale than the adjacent matrix subject, then it is more difficult to assign them the correct grammatical role.
3. The use of the ACC has been extended from distinguishing/indexing NPs **within** the same clause towards distinguishing/indexing NPs **across** clauses. This extension may have been initiated by the reanalysis of ACC as indicating that the NP is not the matrix subject.

Given these assumptions, we expect the preference for ACC on the embedded subject to correlate with the difficulty in assigning it the correct grammatical role.

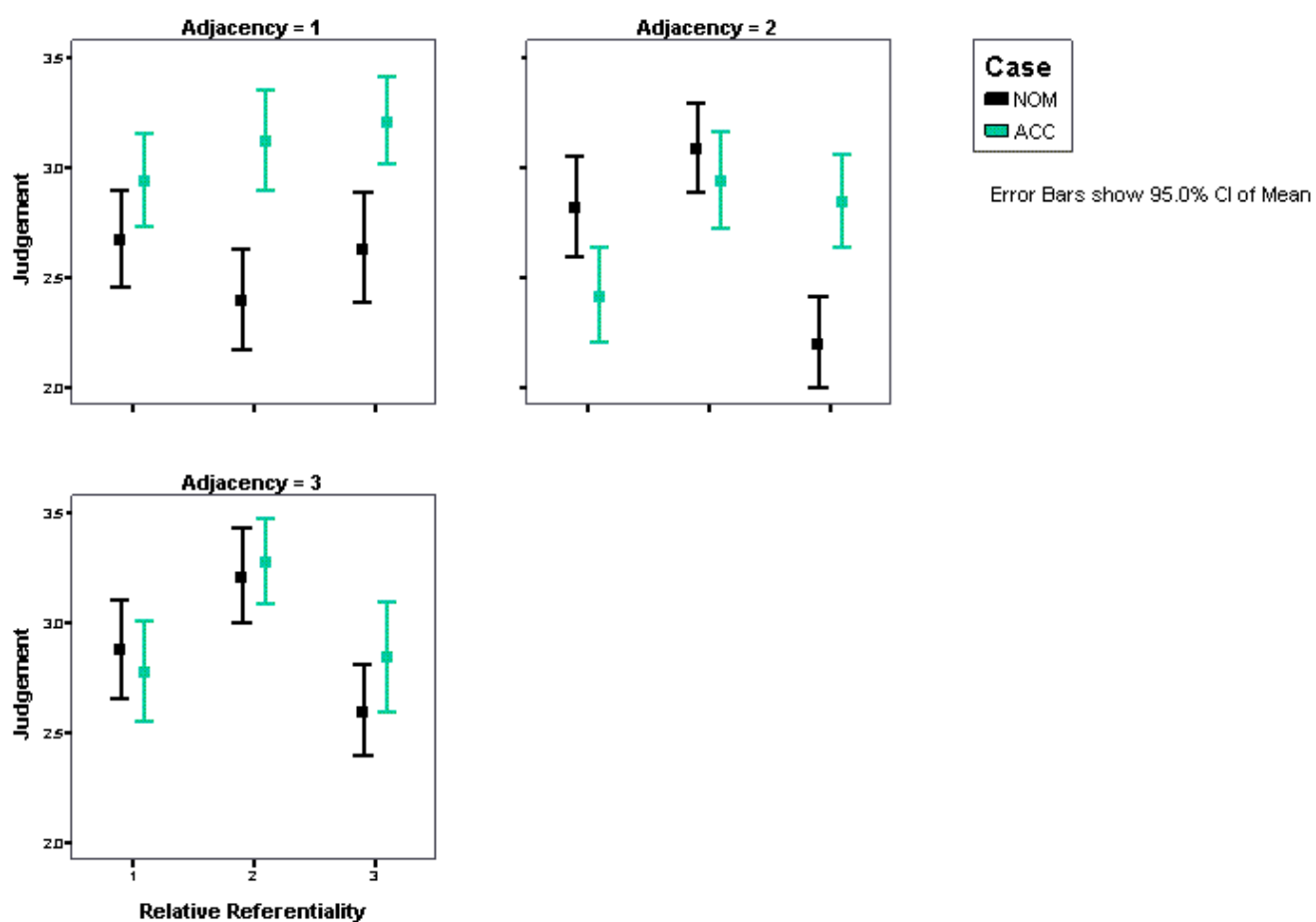
If this is on the right track, then one of the functions of the ACC in Mongolian is to distinguish NPs across clause boundaries – an unusual function of case.

If linear order was sufficient in order to assign the correct grammatical roles to the two unmarked NPs, then it would remain unexplained why the subject of the embedded clause should be suffixed with the ACC marker.

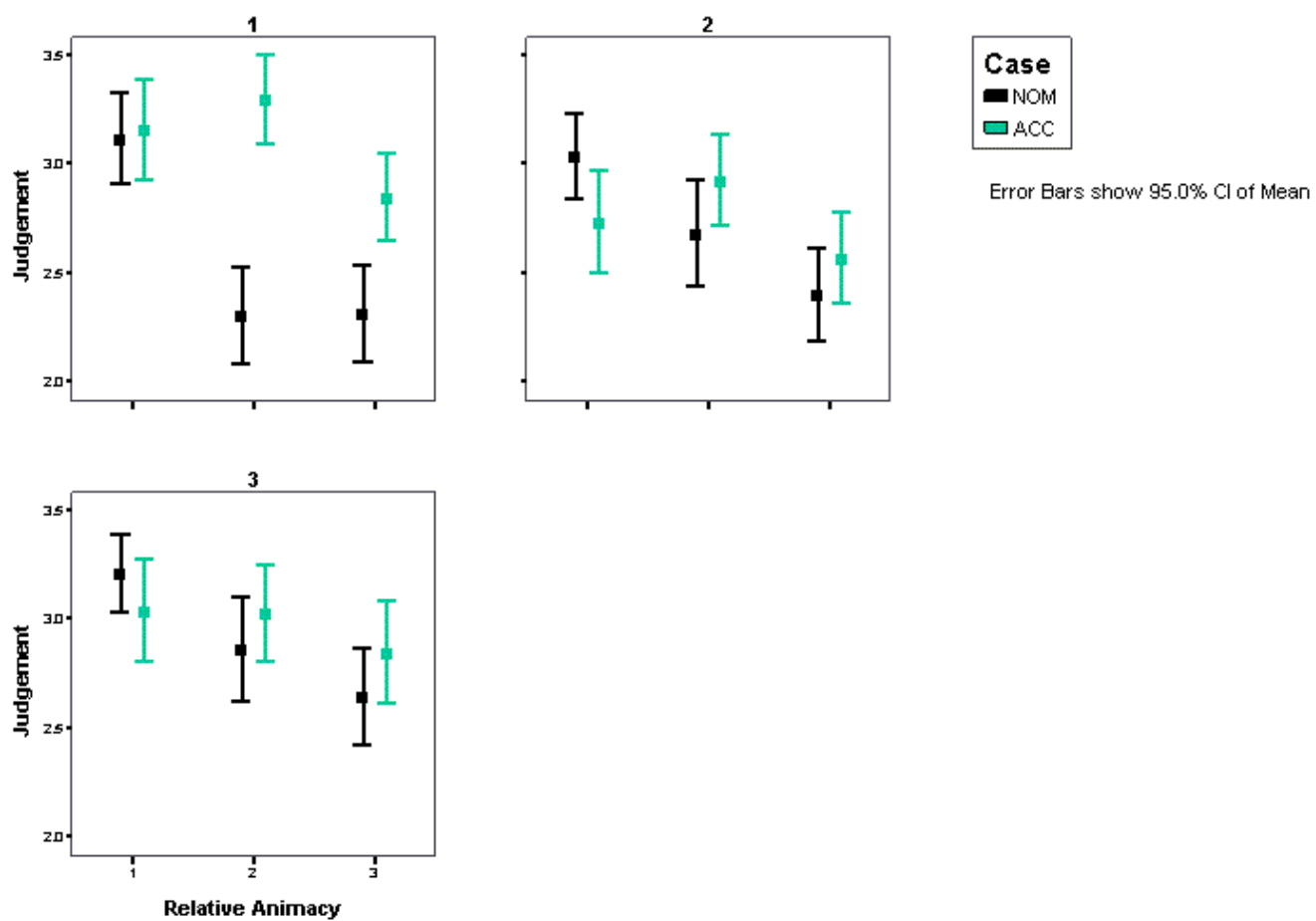
Unless we find another explanation for the case alternation and the preference pattern, we are forced to conclude that the linear order of two adjacent NPs by itself is not much help in assigning the correct grammatical roles.

7 Appendix

Interaction between referentiality and case, split by adjacency:



Interaction between animacy and case, split by adjacency:



References

Edward Stabler. Finite connectivity of linguistic structure. In C. Clifton, L. Frazier, and K. Rayner, editors, *Perspectives on sentence processing*, pages 303–336. Lawrence Erlbaum Associates, Hillsdale, NJ, 1994.