

Maki et al. (2016) propose for the first time in the generative literature that genitive subject licensing in Mongolian must meet two conditions at the same time, which are (i) licensing by a c-commanding nominal element in a local domain and (ii) licensing by the adnominal form of a predicate in a local domain. However, it is only Mongolian that has been reported to have this property. If Mongolian belongs to the Altaic language family, it is predicted that this property should be found in other Altaic languages as well. In this paper, we postulate the hypothesis that there should exist Altaic languages other than Mongolian that allow long distance genitive subject licensing, and examine if it is verified.

## 1. Introduction

Harada (1971) originally addressed the issue of genitive subject licensing in Japanese, and since then, it has been discussed by many linguists, such as Miyagawa (1993, 2011, 2012, 2013), Watanabe (1996), Hiraiwa (2001), Ochi (2001, 2009), Harada (2002) and Kobayashi (2013), among many others. Modifying the original idea by Maki et al. (2010, 2011, 2015), Maki et al. (2016) propose conditions on genitive subject licensing in (1) based on two important approaches to genitive subject licensing in Japanese, namely, Miyagawa's (1993, 2011) D-licensing approach and Watanabe's (1996)/Hiraiwa's (2001) adnominal form-licensing approach.

(1) Conditions on Genitive Subject Licensing in Mongolian

- a. A genitive subject must be c-commanded by a nominal element in a local domain.
- b. A genitive subject must be in a local relationship with the adnominal form of a predicate.

(1a) corresponds to Miyagawa's (1993, 2011) D-licensing approach, and (1b) to Watanabe's (1996)/Hiraiwa's (2001) adnominal form-licensing approach. Maki et al.'s (2016) claim that both (1a) and (1b) are necessary for genitive subject licensing in Mongolian is motivated by the fact that long distance genitive subject licensing is possible in Mongolian. The crucial example is shown in (2).

(2) Bayatur- $\emptyset$  [öcügedür Ulayan-u  $t_1$  qualdun-abu- $\gamma$ san/\*-ab- $\check{c}$ ai ge $\ddot{c}$ ü] bodu- $\gamma$ san nom<sub>1</sub>-bol  
 Bagatur-Nom [yesterday Ulagan-Gen buy-take-Past.Adn/-take-Past.Con that] think-Past.Adn book-Top  
 ene nom.  
 this book

'The book which Bagatur thought [that Ulagan bought  $t$  yesterday] is this book.'

In (2), the subject in the embedded clause is marked genitive only when the predicate is in the adnominal form. Note that the genitive subject in embedded clauses needs a relative head, as shown by (2) and (3).

(3) Bayatur- $\emptyset$  [Ulayan- $\emptyset$ /\*-u nom- $\emptyset$  qualdun-abu- $\gamma$ san/-ab- $\check{c}$ ai ge $\ddot{c}$ ü] bodu-jai.  
 Bagatur-Nom [Ulagan-Nom/-Gen book-Acc buy-take-Past.Adn/-take-Past.Con that] think-Past.Con  
 'Bagatur thought [that Ulagan bought a book].'

To our knowledge, it is only Mongolian that has this property. If Mongolian belongs to the Altaic language family, it is predicted that this property should be found in other Altaic languages as well, otherwise the conditions in (1) would be dubious. In this paper, we postulate hypothesis (4), and examine if it is verified.

(4) Hypothesis: There should exist Altaic languages other than Mongolian that allow long distance genitive subject licensing.

## 2. Data

In order to test hypothesis (4), we investigated case properties of some of the Tungusic languages (Evenki, Manchu and Xibe) and the Turkic languages (Kazakh, Uyghur and Uzbek), which belong to the Altaic language family. (Note that the Mongolic languages such as Mongolian also belong to the Altaic language family.) All these languages allow genitive subject. Investigating each language in detail finally reveals that out of these languages, Uzbek and Uyghur allow long distance genitive subject licensing. In the following discussion, we will see relevant Uzbek and Uyghur examples in this order.

### 2.1. Uzbek

Uzbek is a Turkic language that is the official national language of Uzbekistan spoken by some 27 million native speakers in Uzbekistan and elsewhere in Central Asia. Sjöberg (1963) and Gribanova (2013), among others, are important precursors on Uzbek linguistics. In this project, we owe all examples to Begzodbek Mukhtorov, a 21 year old male native speaker of the language, who lives in the Province of Andijon in Uzbekistan.

#### 2.1.1. Basic Sentences

We start by providing basic properties of clausal structures and the case system in Uzbek. First, the basic word order of Uzbek is SOV. Consider the example in (5).

(5) Begzodbek- $\emptyset$  kecha kitob- $\emptyset$  sotib ol-di.  
 Begzodbek-Nom yesterday book-Acc buy-Past.Con

‘Begzodbek bought a book yesterday.’

Note here that  $-\emptyset$  indicates an element with no phonetic content. Therefore, the nominative case marker and the accusative case marker in (5) have no phonetic content in Uzbek. Note also that attachment of the accusative case marker  $-ni$  is optional, as shown in (6).

- (6) Begzodbek- $\emptyset$  kecha kitob-ni sotib ol-di.  
Begzodbek-Nom yesterday book-Acc buy-Past.Con  
‘Begzodbek bought a book yesterday.’

However, when the object is definite,  $-ni$  must appear, as shown in (7).

- (7) Begzodbek- $\emptyset$  kecha o’sha kitob-ni sotib ol-di.  
Begzodbek-Nom yesterday that book-Acc buy-Past.Con  
‘Begzodbek bought that book yesterday.’

The same can be seen in (8).

- (8) Begzodbek- $\emptyset$  Saidakbar-ni maqta-di.  
Begzodbek-Nom Saidakbar-Acc praise-Past.Con  
‘Begzodbek praised Saidakbar.’

In (8), the object is a definite person called *Saidakbar*. Therefore, the accusative case marker  $-ni$  must appear. In addition, in (7), the position of the adverbial which represents time, *kecha* ‘yesterday,’ can be moved from the right hand side of *Begzodbek* ‘Begzodbek’ to the left hand side, as shown in (9).

- (9) Kecha Begzodbek- $\emptyset$  o’sha kitob-ni sotib ol-di.  
yesterday Begzodbek-Nom that book-Acc buy-Past.Con  
‘Begzodbek bought that book yesterday.’

Second, Uzbek has an overt complementizer for affirmative embedded clauses, as shown in (10), but for interrogative embedded clauses, the complementizer has no phonetic content, as shown in (11).

- (10) Begzodbek- $\emptyset$  [Saidakbar- $\emptyset$  Temur-ni maqta-di deb] o’yla-di.  
Begzodbek-Nom [Saidakbar-Nom Temur-Acc praise-Past.Con that] think-Past.Con  
‘Begzodbek thought that Saidakbar praised Temur.’
- (11) Begzodbek- $\emptyset$  [Saidakbar- $\emptyset$  kim-ni maqta-gan-i]-ni esla-di.  
Begzodbek-Nom [Saidakbar-Nom who-Acc praised-Past.Adn-PoP.3.]-Acc remember-Past.Con  
‘Begzodbek remembered who Saidakbar praised.’

Third and finally, there is a conclusive/adnominal form distinction in Uzbek, as shown by the contrast between (9) and (12).

- (12) Kecha Begzodbek- $\emptyset$  sotib ol-gan kitob, bu kitob.  
yesterday Begzodbek-Nom buy-Past.Adn book this book  
‘The book which Begzodbek bought yesterday is this book.’

In (9), which is a simple sentence, the predicate ends with the conclusive form *sotib ol-di* ‘buy-Past.Con.’ In (12), the predicate is in the relative clause, and ends with the adnominal form *sotib ol-gan* ‘buy-Past.Adn.’

### 2.1.2. Sentences with the Genitive Subject

Just like Japanese and Mongolian, Uzbek also allows the nominative/genitive alternation. In relative clauses, the subject can be either nominative or genitive, as shown in (13) and (14), respectively.

- (13) Kecha Begzodbek- $\emptyset$  sotib ol-gan kitob, bu kitob.  
yesterday Begzodbek-Nom buy-Past.Adn book this book  
‘The book which Begzodbek bought yesterday is this book.’
- (14) Kecha Begzodbek-ning sotib ol-gan kitob-i, bu kitob.  
yesterday Begzodbek-Gen buy-Past.Adn book-PoP.3 this book  
‘The book which Begzodbek bought yesterday is this book.’

Note here that when the genitive subject appears, the relative head *kitob* ‘book’ must be followed by the 3rd person possessive pronoun *i*, which refers to the subject of the sentence, namely, *Begzodbek* ‘Begzodbek.’

Next, let us examine sentences with one embedding. Note that just like Mongolian, in Uzbek, a predicate may have its adnominal form in front of the Comp *dep* ‘that,’ as shown below.

- (15) Temur- $\emptyset$  [kecha Begzodbek- $\emptyset$  kul-di deb] ayt-di.  
Temur-Nom [yesterday Begzodbek-Nom laugh-Past.Con that] say-Past.Con  
‘Temur said that Begzodbek laughed yesterday.’
- (16) Temur- $\emptyset$  [kecha Begzodbek- $\emptyset$  kul-gan deb] ayt-di.  
Temur-Nom [yesterday Begzodbek-Nom laugh-Past.Adn that] say-Past.Con  
‘Temur said that Begzodbek laughed yesterday.’

Each of (15) and (16) disallows the subject in the embedded clause to be marked genitive, whether the predicate is in the conclusive form or in the adnominal form, as shown below.

- (17) \*Temur- $\emptyset$  [kecha Begzodbek-ning kul-di deb] ayt-di.  
Temur-Nom [yesterday Begzodbek-Gen laugh-Past.Con that] say-Past.Con

‘Temur said that Begzodbek laughed yesterday.’

- (18) \*Temur- $\emptyset$  [kecha Begzodbek-ning kul-gan deb] ayt-di.  
Temur-Nom [yesterday Begzodbek-Gen laugh-Past.Adn that] say-Past.Con  
‘Temur said that Begzodbek laughed yesterday.’

Let us now examine whether long distance genitive subject licensing is possible in Uzbek. Observe (19) first. (19) is ungrammatical because the predicate in the embedded clause is in the conclusive form.

- (19) \*Temur- $\emptyset$  [kecha Begzodbek-ning sotib ol-di deb] o’yla-gan kitob-i bu kitob.  
Temur-Nom [yesterday Begzodbek-Gen buy-Past.Con that] think-Past.Adn book-PoP.3.Sg this book  
‘The book which Temur thought that Begzodbek bought is this book.’

Now, (20) is the crucial example.

- (20) Temur- $\emptyset$  [kecha Begzodbek-ning sotib ol-gan deb] o’yla-gan kitob-i bu kitob.  
Temur-Nom [yesterday Begzodbek-Gen buy-Past.Adn that] think-Past.Adn book-PoP.3.Sg this book  
‘The book which Temur thought that Begzodbek bought is this book.’

In (20), the subject in the embedded clause is marked genitive, the predicate is in the adnominal form, and the relative head *kitob* ‘book’ hosts the possessive pronoun *i*.

Let us further examine whether simple binding by the relative head may contribute to long distance genitive subject licensing. To see this, consider (21).

- (21) [Kecha Begzodbek- $\emptyset$  kul-gan deb] o’yla-gan odam-ni, Temur- $\emptyset$  ko’r-di.  
[yesterday Begzodbek-Nom laugh-Past.Adn that] think-Past.Adn person-Acc Temur-Nom see-Past.Con  
‘Temur saw the man who said that Begzodbek laughed yesterday.’

In (21), the embedded clause contains an intransitive verb, and there is no gap in the embedded clause for relativization. Let us now change the nominative subject in (21) to the genitive subject, as shown in (22).

- (22) \* [Kecha Begzodbek-ning kul-gan deb] o’yla-gan odam-i-ni, Temur- $\emptyset$   
[yesterday Begzodbek-Gen laugh-Past.Adn that] think-Past.Adn person-PoP.3.Sg Temur-Nom  
ko’r-di.  
see-Past.Con

‘Temur saw the man who said that Begzodbek laughed yesterday.’

(22) is totally ungrammatical, in spite of the fact that the predicate is in the adnominal form.

## 2.2. Uyghur

Let us now turn to Uyghur examples. Uyghur is a language that belongs to the Karluk branch of the Turkic language family. Asarina and Hartman (2010), among others, are important precursors on Uyghur linguistics. The data to be examined in the following discussion is from the variety of Uyghur spoken in Xinjiang Uyghur Autonomous Region, China. We owe all examples to be presented below to Mijiti Maihemuti and Yaxar, native speakers of Uyghur, who are 30 years old male and 26 years old male living in the above region.

### 2.2.1. Basic Sentences

We will provide basic properties of clausal structures and the case system in Uyghur. First, the basic word order of Uyghur is SOV. Consider the example in (23).

- (23) Tünügün Polat- $\emptyset$  bir kitab- $\emptyset$  al-di.  
yesterday Polat-Nom a book-Acc buy-Con.Past  
‘Polat bought a book yesterday.’

Note here that  $\emptyset$  indicates an element with no phonetic content. Therefore, the nominative case marker and the accusative case marker in (23) have no phonetic content in Uyghur. Note also that the accusative case marker can be *-ni* in (23), as shown in (24).

- (24) Tünügün Polat- $\emptyset$  bu kitab-ni al-di.  
yesterday Polat-Nom a book-Acc buy-Con.Past  
‘Polat bought a book yesterday.’

Attachment of the accusative case marker *-ni* is optional. However, when the object is definite, *-ni* must appear, as shown in (25).

- (25) Tünügün Polat- $\emptyset$  u kitab-ni al-di.  
yesterday Polat-Nom the book-Acc buy-Con.Past  
‘Polat bought the book yesterday.’

The same can be seen in (26).

- (26) Adil- $\emptyset$  Yultuz-ni mahti-di.  
Adil-Nom Yultuz-Acc praise-Past.Con  
‘Adil praised Yultuz.’

In (26), the object is a definite person called *Yultuz* ‘Yultuz.’ Therefore, the accusative case marker *-ni* must appear.

Second, Uyghur has an overt complementizer for affirmative embedded clauses, as shown in (27), but for interrogative embedded clauses, the complementizer has no phonetic content, as shown in (28).

- (27) Polat-bolsa [Adil-ø Yultuz-ni mahti-di dep] oyli-di.  
 Polat-Top [Adil-Nom Yultuz-Acc praise-Past.Con that] think-Past.Con  
 ‘Polat thought that Adil praised Yultuz.’
- (28) Polat-ø [Adil-ø kim-ni mahti-ghanliqi]-ni iside-bar.  
 Polat-Nom [Adil-Nom who-Acc praise-Past.Adn]-Acc remembered  
 ‘Polat remembered who Adil praised.’

Third and finally, there is a conclusive/adnominal form distinction in Uyghur, as shown by the contrast between (25) and (29).

- (29) Tünügün Polat-ø al-han kitab-bolsa bu kitab.  
 yesterday Polat-Nom buy-Past.Adn book-Top this book  
 ‘The book which Polat bought yesterday is this book’

In (25), which is a simple sentence, the predicate ends with the conclusive form *al-di* ‘buy-Past.Con.’ In (29), the predicate is in the relative clause, and ends with the adnominal form *al-han* ‘buy-Past.Adn.’

### 2.2.2 Sentences with the Genitive Subject

Let us now examine sentences with the genitive subject in Uyghur. Just like Japanese and Mongolian, Uyghur also allows the nominative/genitive alternation. First, in relative clauses, the subject can be either nominative or genitive, as shown in (30).

- (30) Tünügün Polat-ø/-ning al-han kitab-i-bolsa bu kitab.  
 yesterday Polat-Nom/-Gen buy-Past.Adn book-PoP.3-Top this book  
 ‘The book which Polat bought yesterday is this book.’

Note here that the relative head *kitab* ‘book’ must be followed by the 3rd person possessive pronoun *i*, which refers to the subject of the sentence, namely, *Polat* ‘Polat.’

Next, let us examine sentences with one embedding. Consider the example in (31).

- (31) Adil-ø [tünügün Polat-ø kul-di dep] di-di.  
 Adil-Nom [yesterday Polat-Nom laugh-Past.Con that] say-Past.Con  
 ‘Adil said that Polat laughed yesterday.’

Note that a predicate may have its adnominal form in front of a Comp such as *dep* ‘that,’ as shown below.

- (32) Adil-ø [tünügün Polat-ø kul-gen dep] di-di.  
 Adil-Nom [yesterday Polat-Nom laugh-Past.Adn that] say-Past.Con  
 ‘Adil said that Polat laughed yesterday.’

The genitive subject is disallowed in the embedded clause in each of (31) and (32), whether the predicate is in the conclusive form or in the adnominal form, as shown in (33) and (34).

- (33) \*Adil-ø [tünügün Polat-ning kul-di dep] di-di.  
 Adil-Nom [yesterday Polat-Gen laugh-Past.Con that] say-Past.Con  
 ‘Adil said that Polat laughed yesterday.’
- (34) \*Adil-ø [tünügün Polat-ning kul-gen dep] di-di.  
 Adil-Nom [yesterday Polat-Gen laugh-Past.Adn that] say-Past.Con  
 ‘Adil said that Polat laughed yesterday.’

Let us now examine whether the subject in the embedded clause can be marked genitive. Consider the following examples.

- (35) Polat-ø [Yultuz-ø al-di dep] oyli-hgan kitab bu kitab shu.  
 Polat-Nom [Yultuz-Nom buy-Past.Con that] think-Past.Adn book this book be  
 ‘The book which Polat thought that Yultuz bought is this book.’
- (36) Polat-ø [Yultuz-ø al-han dep] oyli-hgan kitab bu kitab shu.  
 Polat-Nom [Yultuz-Nom buy-Past.Adn that] think-Past.Adn book this book be  
 ‘The book which Polat thought that Yultuz bought is this book.’
- (37) \*Polat-ø [Yultuz-ning al-di dep] oyli-hgan kitab-i bu kitab shu.  
 Polat-Nom [Yultuz-Gen buy-Past.Con that] think-Past.Adn book-PoP.3 this book be  
 ‘The book which Polat thought that Yultuz bought is this book.’
- (38) Polat-ø [Yultuz-ning al-han dep] oyli-hgan kitab-i bu kitab shu.  
 Polat-Nom [Yultuz-Gen buy-Past.Adn that] think-Past.Adn book-PoP.3 this book be  
 ‘The book which Polat thought that Yultuz bought is this book.’

In (38), the subject in the embedded clause is marked genitive, the predicate is in the adnominal form, and the relative head *kitab* ‘book’ hosts the possessive pronoun *i*. (38) thus indicates that the genitive subject is possible in an embedded clause in Uyghur.

Let us further examine whether simple binding by the relative head may contribute to long distance genitive subject licensing. When the genitive subject and the gap for the relative clause are not in the same clause, the example is ungrammatical, as shown below.

- (39) Polat-ø [Yultuz-ø tunugun kul-gan dep] di-gan adam-ni koruptu.

- Polat-Nom [Yultuz-Nom yesterday laugh-Past.Adn that] say-Past.Adn person-Acc saw  
 ‘Polat saw the man who said that Yultuz laughed yesterday.’
- (40) \*Polat- $\emptyset$  [Yultuz-ning tunugun kul-gan dep] di-gan adam-ni koruptu.  
 Polat-Nom [Yultuz-Gen yesterday laugh-Past.Adn that] say-Past.Adn person-Acc saw  
 ‘Polat saw the man who said that Yultuz laughed yesterday.’
- (41) \*Polat- $\emptyset$  [Yultuz-ning tunugun kul-gan dep] di-gan adam-i-ni koruptu.  
 Polat-Nom [Yultuz-Gen yesterday laugh-Past.Adn that] say-Past.Adn person-PoP.3-Acc saw  
 ‘Polat saw the man who said that Yultuz laughed yesterday.’

### 3. Discussion

The examples from Uzbek and Uyghur clearly indicate that long distance genitive subject licensing proposed for Mongolian facts does apply to Uzbek and Uyghur as well, which thus confirms hypothesis (4), which in turn seems to suggest that long distance genitive subject licensing is a true human language property. Let us consider what this actually means by reviewing the mechanism of long distance genitive subject licensing proposed by Maki et al. (2016). The crucial difference between the grammatical sentence in (38) and the ungrammatical sentence with a genitive subject in (41) in Uyghur, for example, is the fact that the former has a relative head with the corresponding gap in the relative clause.

- (38) Polat- $\emptyset$  [Yultuz-ning al-han dep] oyli-hgan kitab-i bu kitab shu.  
 Polat-Nom [Yultuz-Gen buy-Past.Adn that] think-Past.Adn book-PoP.3 this book be  
 ‘The book which Polat thought that Yultuz bought is this book.’
- (41) \*Polat- $\emptyset$  [Yultuz-ning tunugun kul-gan dep] di-gan adam-i-ni koruptu.  
 Polat-Nom [Yultuz-Gen yesterday laugh-Past.Adn that] say-Past.Adn person-PoP.3-Acc saw  
 ‘Polat saw the man who said that Yultuz laughed yesterday.’

If genitive subject licensors were limited to relative heads with corresponding gaps alone, (43) with a genitive subject in the sentential object would be incorrectly predicted to be ungrammatical.

- (42) Polat- $\emptyset$  [Adil- $\emptyset$  kul-gen] ish-ni eside saqli-di.  
 Polat-Nom [Adil-Nom laugh-Past.Adn fact-Acc remember-Past.Con  
 ‘Polat remembered the fact that Adil laughed.’
- (43) Polat- $\emptyset$  [Adil-ning kul-gen] ish-i-ni eside saqli-di.  
 Polat-Nom [Adil-Gen laugh-Past.Adn fact-PoP.3.Sg.-Acc remember-Past.Con  
 ‘Polat remembered the fact that Adil laughed.’

Therefore, it is necessary to assume that a nominal element is somehow involved in genitive subject licensing. Then, in order to correctly exclude (41) with a genitive subject, while ruling in (43) with a genitive subject, genitive subject licensing must be local in such a way that a nominal element is close enough to the genitive subject, where “close enough” needs to be precisely defined. Since the close enough relation between the outer nominal element and the genitive subject in (43) is of the form shown in (44), Maki et al. (2016) assume that the link between the genitive subject and the nominal head in the configuration in (44) is the close enough relation.

- (44) [Sub-Gen...V-T(Adn)] N

If this is correct, the issue that immediately suggests itself is the way the genitive subject in (38) can be locally licensed by a nominal element, which does not apparently exist in the close domain. The crucial point is that (38) has a gap which is bound by the relative head, which seems to make a crucial contribution to licensing of the genitive subject in (38). Maki et al. (2016) then propose that a relation is established between a relative head and its gap  $t$  by binding (c-commanding), in such a way that the nominal feature in the nominal head percolates down to  $t$ , as shown by the structure in (45), where the categories on the path from the nominal head to  $t$  are squared.

- (45) [ $\boxed{\text{NP}} \boxed{\text{TP}} \boxed{\text{Tr}} \boxed{\text{VP}} \boxed{\text{CP}} \boxed{\text{TP}} \text{NP-Gen} \boxed{\text{Tr}} \boxed{\text{VP}} t_1 \boxed{\text{C}} \boxed{\text{N}}_1$ ]

It is not implausible to assume that if a maximal projection XP has a certain feature, the head  $X^0$  also shares it with XP by percolation. If the squared categories in (45) on the path from the relative head to  $t$  all host a nominal feature, the circled C in the most deeply embedded clause in (46) also hosts it, as the CP which it projects is among the squared categories.

- (46) [ $\boxed{\text{NP}} \boxed{\text{TP}} \boxed{\text{Tr}} \boxed{\text{VP}} \boxed{\text{CP}} \boxed{\text{TP}} \text{NP-Gen} \boxed{\text{Tr}} \boxed{\text{VP}} t_1 \boxed{\text{C}} \boxed{\text{N}}_1$ ]

If this takes place, the local configuration with the genitive subject in the most deeply embedded clause in (46) will look like (47).

- (47) [Sub-Gen...V-T(Adn)]  $\text{C}_{[+N]}$

Note that this is exactly parallel to the configuration in (44), where N, instead of  $\text{C}_{[+N]}$ , is involved in genitive subject licensing. Thus, Maki et al. (2016) claim that this type of mechanism is in operation in genitive subject licensing in Mongolian, and propose (1).

- (1) Conditions on Genitive Subject Licensing in Mongolian  
 a. A genitive subject must be c-commanded by a nominal element in a local domain.  
 b. A genitive subject must be in a local relationship with the adnominal form of a predicate.

Note that Maki et al. (2016) hypothesize that only the relevant Comp in the binding path from the relative head to its gap may host the feature  $[+N]$  inherited from the relative head, and can function as a licensor for genitive subjects, based on

Rizzi's (1990) idea about feature specifications on functional categories. Rizzi (1990: 382) proposes that functional categories such as Comp and Infl have feature specifications made out of a combination of two binary features [ $\pm$ C] and [ $\pm$ I], and Comp has the feature specifications [+C, -I]. What is important here is the fact that Comp does not have any feature specification regarding [ $\pm$ N], so that it is not implausible to assume that it can host the feature [+N], as this will not cause a contradiction among the feature specifications on Comp. What is more important is the fact that the relevant Comp which can potentially license genitive subjects follows the adnominal form, not the conclusive form, of a predicate, which seems to indicate that the Comp at issue is as "nominal" as the adnominal form of the predicate, as a consequence of the agreement relationship between the V-I complex and Comp, which is widely observed in human language.

If we assume that the mechanism proposed by Maki et al. (2016) is fundamentally correct, what does it actually suggest for the theory of grammar? The two conditions in (1) are satisfied locally. This is in the spirit of Chomsky's (1995, 2000) minimalist approach to the theory of grammar. However, in order for the Comp to locally license the genitive subject within the CP in the case of (38), for example, the binding path from the original position of the head nominal within the CP to the relative head outside the CP must be constructed, and if the Comp gets its [+N] feature when or after the binding path is constructed, this process is not conducted in a local fashion. This poses a serious problem for the minimalist view of language theory. We propose that this actually suggests that relative clause formation in these languages involves movement of the head nominal itself, which drops by the Comp on the way to the final landing site, so that the Comp gets the [+N] feature from the head nominal derivationally, and just as the head nominal moves further to the final landing site, the Comp with the [+N] feature locally licenses the genitive subject within the CP. If this is true, every operation related to genitive subject licensing is conducted locally. To conclude, the mechanism in (1) strengthened by the data from Uzbek and Uyghur as well as Mongolian suggests that genitive subject licensing is derivationally done in a local fashion, and relative clause formation in these languages involve movement of the relative head. If this is true, it further suggests that movement, whether it is phrasal or head, may move across a CP boundary or a phase, if it is required.

If the idea that relative clause formation in these languages involves head movement applies to relative clause formation in languages like Japanese, it may go together with Tonoike's (1992) claim that interrogative clause formation in Japanese involves head movement of the question particle *ka* from the indeterminate nominal to the [+Q] Comp, as shown in the derivation in (48).

- (48) a. Kimi-wa [Taroo-ga nani-o-ka katta to] omoimashita?  
 you-Top [Taro-Nom what-Acc-Q bought Comp] thought  
 'Q you thought [that Taro bought what].'  
 b. Kimi-wa [Taroo-ga nani-o- $t_1$  katta to] omoimashita ka<sub>1</sub>?  
 you-Top [Taro-Nom what-Acc bought Comp] thought Q  
 'Q you thought [that Taro bought what].'

In (48b), the question particle *ka* moves to the matrix Comp across the embedded Comp *to* 'that.' The movement involved is schematically identical to that involved in relative clause formation in Japanese under the present view, as shown below.

- (49) a. kimi-ga [Taroo-ga hon-o katta to] omotta  
 you-Top [Taro-Nom book-Acc bought Comp] thought  
 'the book [you thought [that Taro bought  $t_1$ ]].'  
 b. kimi-ga [Taroo-ga  $t_1$  katta to] omotta hon<sub>1</sub>  
 you-Top [Taro-Nom bought Comp] thought book  
 'the book [you thought [that Taro bought  $t_1$ ]].'

The head movement hypothesis for relative clause formation and interrogative clause formation in Japanese may provide a uniform analysis for the fact that these operations are not subject to Ross' (1967) island constraints such as the Complex NP Constraint. (50b) and (51b) show that relative clause formation and interrogative clause formation in Japanese may cross a complex NP, or a barrier (the relative clause) in the sense of Chomsky (1986).

- (50) a. Kimi-wa [ $t$  nani-o-ka katta hito]-o sagashiteimasu?  
 you-Top [ what-Acc-Q bought person]-Acc looking.for  
 'Q you are looking for [the person who bought what].'  
 b. Kimi-wa [ $t$  nani-o- $t_1$  katta hito]-o sagashiteimasu ka<sub>1</sub>?  
 you-Top [ what-Acc-Q bought person]-Acc looking.for Q  
 'Q you are looking for [the person who bought what].'  
 (51) a. kimi-ga [ $t$  hon-o katta hito]-o sagashiteiru  
 you-Nom [ book-Acc bought person]-Acc looking.for  
 'the book [you are looking for [the person who bought  $t_1$ ]]'  
 b. kimi-ga [ $t$   $t_1$  katta hito]-o sagashiteiru hon  
 you-Nom [ bought person]-Acc looking.for book  
 'the book [you are looking for [the person who bought  $t_1$ ]]'

Since (50b) and (51b) are grammatical in Japanese, these have raised an issue of apparent violation of island constraints. Some ideas have been proposed that may circumvent the issue. However, to our knowledge, they all assume that what moves is a phrasal category, which may not have phonetic content. What if what moves in relative clause formation and interrogative clause formation in Japanese is not a phrasal category, but a head, as suggested above. Maki and Goto (2010)

propose a semipermeable membrane theory of syntax, in which a barrier is made out semipermeable membrane, so that it may block movement of a larger entity such as a phrase, but may let a smaller entity such as a head go through it. Under Maki and Goto's (2010) theory, as long as it is correct, movement of a head in (50b) and (51b) will be allowed, while movement of a phrase involved in the English counterparts will not be allowed, as shown below.

(52) \*What are you are looking for [the person who bought *t*]?

(53) \*the book which you are looking for [the person who bought *t*]

#### 4. Conclusion

Based on the data from Uzbek and Uyghur, this paper confirmed the hypothesis in (4) that there should exist Altaic languages other than Mongolian that allow long distance genitive subject licensing. It also claims that relative clause formation involves head movement in these languages and Japanese, so that every operation related to genitive subject licensing is conducted locally. Extending the head movement analysis to interrogative clause formation in Japanese, it also claims that a barrier may be crossed by a head, not a phrase. This idea is possible under Maki and Goto's (2010) semipermeable membrane theory of syntax.

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