

# Genitive Subjects in TP Nominalizations\*

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Japanese and Turkish are the best-studied examples of TP nominalizations with genitive subjects (cf. Kornfilt & Whitman 2011): no features of nominalization below TP, but nominalization above TP (Borsley & Kornfilt 2000). In B&K, TP nominalizations are derived by merging a nominal functional category above TP. The literature on TP nominalization has proposed both a nominal functional head, D, as the licenser of the genitive subject (Hale 2002, Miyagawa 2011), and a [nominal] C directly above TP (Hiraiwa 2001, Kornfilt 2003). We concur that these options define two subvarieties of TP nominalization, as originally proposed by Miyagawa (2008). [Nominal] C is the structure for Turkish factive nominalizations, as proposed by Kornfilt (2003). For Japanese, analyses divide up into those supporting [nominal] C (Watanabe 1996, Hiraiwa 2001) and those supporting D as the nominal functional head (Miyagawa 1993, 2011) licensing genitive case on the subject. In this paper we argue for a unified D-licensing approach for Japanese, but one distinct from earlier proposals. We propose that the presence in Japanese but not in Turkish of a “transitivity condition” which disallows an overt accusative-marked direct object when a genitive subject is present in relative clauses follows directly from the presence of the licensing head outside the highest clausal projection.

## 1. Background

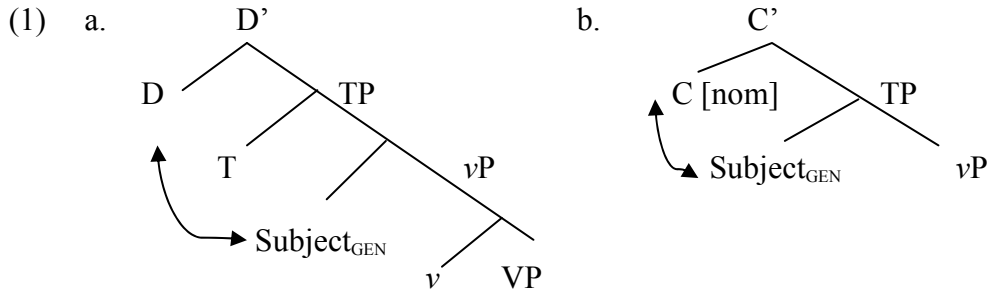
Japanese and Turkish are perhaps the best-studied examples of TP nominalizations with genitive subjects in the specific sense of Kornfilt & Whitman (2011): nominalized clauses that show no features of nominalization below the TP level, but an external syntax indicating nominalization above TP (Borsley & Kornfilt 2000). In the B&K approach, TP nominalizations are derived by merging a nominal functional category immediately above TP.<sup>1</sup> The literature

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<sup>1</sup> It is important to realize that both languages have TP nominalizations, despite the differences that this paper addresses. One of the anonymous reviewers asks us how we are to think about “genitive marking in the context of an ergative language as Turkish as opposed to a non-ergative one like

on this type of nominalization has proposed both a standard nominal functional head, D, as the licenser of the genitive subject (Hale 2002, Miyagawa 2003, 2008 2011 for Dagur and Japanese respectively), and a [nominal] C directly above TP (Hiraiwa 2001 for Japanese, Kornfilt 2003 for Turkish). These two structural possibilities are shown in (1).



We follow the view of Miyagawa (2008, 2011) that (1a-b) define two subvarieties of TP nominalization. In section 2 we modify (1b) slightly to claim that the genitive subject Agrees with T, which inherits a [nominal] feature from C, following the basic insight of Kornfilt (2003). In contrast, Miyagawa (1993, 2011) argues that the genitive subject in Japanese is licensed by D (see also Saito 1983), that is, the licensing configuration in (1a). There are two *prima facie* pieces of support for this difference between Turkish and Japanese. First, in Turkish, genitive subjects appear in a variety of embedded clausal constructions (cf. (2) below), while in Japanese, they are limited to complex NPs. In section 5 we reaffirm this syntactic difference between the two languages, citing previous research. Second, while TP nominalizations are marked by a verbal suffix which might be interpreted as a spellout of the [nominal] feature, in modern Tokyo Japanese, clauses containing genitive subjects are morphologically indistinct from matrix clauses.<sup>2</sup> While it would be hasty to assume a simple correlation between morphological exponence and syntactic structure, the Japanese pattern presents a challenge for the language learner: the only evidence for the “nominalized” nature of the Japanese construction is the genitive subject itself. Since genitive subjects always occur with material associable with a DP projection, it makes sense for the learner to acquire a grammar in which the licensing of the genitive subject is

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Japanese”. This query appears to be based on a misunderstanding about the level of the nominalization this paper studies. Ergativity in nominalizations arises in “low” nominalizations, i.e. below vP. Given that the clausal nominalizations addressed here are higher, i.e. are TP nominalizations, Turkish, or rather its relevant nominalized clauses, are not any more ergative than their Japanese counterparts.

<sup>2</sup> Through the end of the Late Middle Japanese period, approximately 1600, the morphological marking of predicates in nominalized clauses (the so-called adnominal inflection) was distinct in several conjugations that were of particularly high frequency among auxiliaries. It is plausible that prior to the loss of this distinct inflection, subjects marked with genitive *no* were licensed in a manner similar to Turkish genitive subjects.

associated with D.

As we show below, there are a number of differences between the Turkish and Japanese genitive subject constructions. The best known of these is the presence in Japanese but not in Turkish of a “transitivity condition” which disallows the co-occurrence of an overt accusative-marked direct object and a genitive subject. We discuss this topic in section 4, but prior to that, in the next two sections, we examine a heretofore unremarked difference between genitive subjects in the two languages, and an additional feature of Japanese NP modifying constructions that favors the D-licensing analysis.

## 2. The Surface Position of the Genitive Subject and Material to its Left

On our approach, genitive subjects are a feature of TP nominalizations. These are found in both Japanese and Turkish:

- |     |    |   |                 |
|-----|----|---|-----------------|
| (2) | a. | Hasan [uşağ -ın oda-yı temizle-diğ -in] -i<br>Hasan servant-gen room- acc clean -fn-3.sg-acc<br>söyle-di.<br>say -pst (null 3.sg) (fn: Factive Nominalization)<br>‘Hasan said that the servant cleaned the room.’ | <b>Turkish</b>  |
|     | b. | Hasan [[uşağ -ın temizle-diğ -i] oda-yı]<br>Hasan servant-gen clean -fn-3.sg room-acc<br>gör -dü<br>see -pst (null 3.sg.)   | <b>Turkish</b>  |
| (3) |    | Haruo ga [[zyotyuu no soozisi-ta] heya] o mi-ta.<br>Haruo nom maid-gen clean-past room acc see-pst<br>‘Haruo saw the room that the maid cleaned.’   | <b>Japanese</b> |

However, there are obvious surface differences between the genitive subject constructions in the two languages. As noted in section 1, in Turkish TP nominalizations are morphologically marked. The morphological exponence of nominalization in Turkish takes a number of forms in addition to the nominalizing suffix itself (e.g. *-DIK-*, which we have glossed as ‘-fn-’ in (2)): Turkish TP nominalizations also show nominal agreement (with forms from the nominal possessive agreement paradigm) on the nominalized verb, and overt case marking (e.g. accusative *-i* in (2)) on the nominalized clause.

All of these are absent in modern Tokyo Japanese. The verb ending is the normal indicative ending (Past *-ta* in (3)) found also in matrix clauses, there is no agreement morphology, and clauses with genitive subjects may not be marked with accusative *-o*. In most contexts, the sole cue for the [nominal] status of the

clause containing the genitive subject in (3) is the genitive case marking itself.<sup>3</sup>

In this section we focus on a subtler difference between the Turkish and Japanese patterns. A number of linguists have argued that in Japanese, genitive subjects appear in a relatively low position in the clause. Miyagawa (2011), making this argument, cites data like the following from Nakai (1980).

- (4) [[Kyonen made danroo no atta] heya] wa benkyoo-beya tosite  
 last year until fireplace gen existed room top study-room as  
 tukaw-are-ru.  
 use-pass-npst  
 ‘The room where there was a fireplace until last year will be used as a study  
 room.’ (adapted from Miyagawa 2011: 1268)

Nakai’s original point with examples like (4) is that the genitive subject in such examples cannot be construed as occupying Spec, DP, since in Japanese bare adverbs cannot adjoin to DP.

Miyagawa (2011) makes the additional argument that the genitive subject in Japanese remains in Spec,  $\nu$ P. This argument is based on the observation of Harada (1971) that material intervening between the genitive subject and the verb results in degraded acceptability (5a). Miyagawa observes that this effect is not observed if the intervening element is a VP adverb (5b).

- (5) a. [[kodomotati ga/\*no minna de ikioi yoku kake-nobotta] **Japanese**  
 children nom/gen together vigorously run-climb-pst  
 kaidan]  
 stairway  
 ‘the stairway which the children ran up together vigorously.’  
 (Miyagawa 2011: 1274)
- b. [[Koozi ga/no mattaku sir-ana-i] kakudo **Japanese**  
 Koji nom/gen completely know-npst angle  
 ‘the angle that Koji completely doesn’t know about.’ (Miyagawa  
 2011: 1274)

Miyagawa suggests that (5a) shows that the genitive subject does not move out of Spec,  $\nu$ P, on the assumption that the adverbs in this example are attached to  $\nu$ P. (5b) shows that adverbs may intervene when they are attached lower than  $\nu$ P.

In contrast with the evidence that genitive subjects in Japanese are below T, Kornfilt (2003, 2006, 2008) argues that genitive subjects in Turkish occupy Spec, TP. This difference between Japanese and Turkish is supported by the facts in (6). In Turkish, examples parallel to (4) where the genitive subject occurs to the right

<sup>3</sup> The one exception is the NP-modifying form of the Nonpast copula, which is realized as *na* (contracted from Middle Japanese adnominal *naru*) in relative clauses and other noun-modifying constructions.

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of temporal PPs are degraded.<sup>4</sup>

- (6) a. ??/\*[[Geçen sene-ye kadar Ali-nin ekmek al-dıĝ 1] **Turkish**  
           last year-dat until Ali-gen bread buy-fn-3.sg  
           fırın  
           bakery  
           ‘the bakery where Ali used to buy bread until last year’ (ill-formed  
           with neutral intonation on the genitive subject)
- b. [[Ali-nin geçen sene-ye kadar ekmek al-dıĝ -1] **Turkish**  
       Ali-gen last year-dat until bread buy-fn -3.sg  
       fırın  
       bakery  
       ‘the bakery where Ali used to buy bread until last year’

The degradation is clearly due to the nominalized nature of the clause.<sup>5</sup> Speakers who either do not accept such examples at all, or for whom they are much worse than examples like (6b) with the adverb following the genitive subject, accept both orders when the clause is not nominalized:

- (7) a. Geçen sene-ye kadar Ali bu fırın -dan **Turkish**  
       last year-dat until Ali (nom) this bakery -abl  
       ekmek al -ır -dı.  
       bread buy-aor-pst  
       ‘Until last year, Ali used to buy bread in this bakery.’
- b. Ali geçen sene-ye kadar bu fırın-dan **Turkish**  
       Ali (nom) last year-dat until this bakery-abl  
       ekmek al -ır -dı.  
       bread buy-aor-pst  
       ‘Ali used to buy bread in this bakery until last year.’

<sup>4</sup>The fact that adjoining material to the left of the genitive subject results in degraded acceptability was first brought to our attention by Esra Kesici.

<sup>5</sup> In Turkish, the external noun in relative clauses plays no role, or at most a minor role, in the relevant judgments; even without such an external noun, a nominalized clause is degraded, when the genitive subject is preceded by clause-initial material:

- (i) (?)[Geçen sene-ye kadar Ali-nin bu fırın-dan ekmek al-dıĝ-ın]-1  
       past year-dat until Ali-gen this bakery-abl bread buy-fn-3.sg-acc  
       duy-du-m  
       hear-pst-1.sg  
       ‘I heard that Ali bought bread from this bakery until last year’.
- (ii) [Ali-nin geçen sene-ye kadar bu fırın-dan ekmek al -dıĝ -ın]-1  
       Ali-gen past year-dat until this bakery-abl bread buy -fn -3.sg-acc  
       duy -du-m  
       hear -pst-1.sg  
       ‘I heard that Ali bought bread from this bakery until last year’. We will return to such examples later in the paper.

In non-nominalized matrix clauses as well, it is generally argued that the surface position of the subject is Spec, TP (Kornfilt 2003, 2008). The exception to this generalization are certain types of existential clauses, where the subject may appear to the right of a locative argument, as well as PPs such as ‘until last year,’ as shown in (8a). As shown in (8b), this word order possibility also exists in nominalized clauses with genitive subjects, although in this case genitive marking on the subject forces a [specific] reading.

- (8) a. Geçen sene-ye kadar bu fırın-da bir kedi **Turkish**  
 last year-dat until this bakery-loc a cat  
 var-dı  
 exist- pst  
 ‘Until last year there was a cat in this bakery.’
- b. [Geçen sene-ye kadar bu fırın-da bir kedi-nin **Turkish**  
 last year-dat until this bakery-loc a cat- gen  
 ol-duğ-un]-u duy-du-m  
 be-fn-3.sg-acc hear- pst -1.sg  
 ‘I heard that until last year there was a cat in this bakery.’
- c. [Geçen sene-ye kadar bir kedi-nin ol-duğ -u] **Turkish**  
 last year-dat until a cat-gen be-fn -3.sg  
 fırın  
 bakery  
 ‘the bakery where until last year there was a cat’

(8b) shows that there is not a general restriction on PPs and other material preceding the genitive subject in factive nominalizations. Instead, the restriction is specifically on fronting material to the left of the subject in Spec, TP in this construction. This restriction is open to several possible explanations. One is simply that nominalized C does not select the functional projection(s) that host scrambled or topicalized material. Another, more interesting, possibility is that scrambling or topicalization to TP is blocked because TP itself is a [nominal] category. As pointed out by Borsley & Kornfilt (2000), it is a well-known property of nominalizations that material associated with the extended verbal projections (adverbs, PPs etc.) do not attach above the locus of the [nominal] feature. This property is visible in the contrast between the *acc/-ing* gerund in (9a) and the *poss/-ing* gerund in (9b)

- (9) a. \*Yesterday Ken’s winning the game will be big news today today.  
 b. (?)Yesterday Ken winning the game will be big news today.

While speakers vary as to the acceptability of (9b), no speaker accepts (9a); this is because *poss-ing* gerunds are nominalized at the level of possessive’s, while *yesterday* attaches above that level in (9a). The unacceptability of movement to the left of the subject in Turkish TP nominalizations suggests that something

similar is going on.

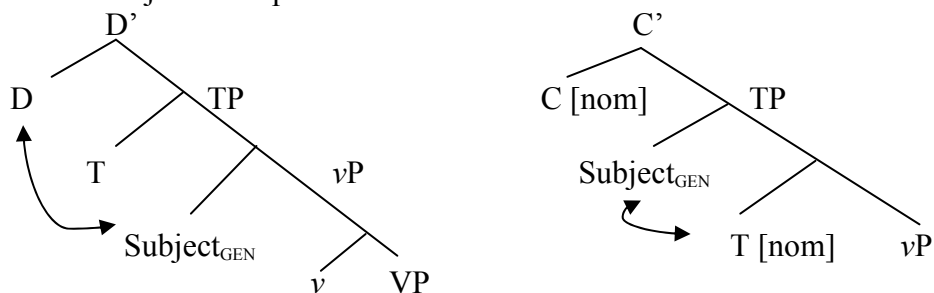
We can make this proposal concrete by adopting the hypothesis of Chomsky (2008) that T inherits its formal features from C. In the case of Turkish TP nominalizations, this would include nominal agreement features, an impoverished set of tense features (cf. section 6), and a [nominal] categorial feature. Once T bears the latter feature, scrambling to TP is blocked. Under this proposal the genitive subject checks its case and EPP feature with [nominal] T, as in Kornfilt (2003, 2008), but the specifically [nominal] features are inherited from C.

Returning to the crucial empirical point of this section, while Turkish does not allow attachment of material to the left of a nonexistential genitive subject, Japanese allows this possibility, as in (10):

- (10) [[Kyonen made Eri no tabete ita] pan] wa moohanbai kinsi da.  
 last year until Eri gen eating was bread top already sale forbidden is  
 ‘The bread that Eri was eating until last year is now prohibited for sale.’

This contrast between Turkish and Japanese is consistent with the claim of numerous authors that genitive subjects remain in a position below T, e.g. Spec, AgrSP (Watanabe 1996) or  $\nu$ P (Miyagawa 2008, 20011). It is specifically consistent with Miyagawa’s (2008, 2011) proposal that raising to Spec, TP (Turkish) and remaining in Spec,  $\nu$ P (Japanese) is a core difference between genitive subjects in the two languages. Thus while the Turkish genitive subject Agrees with [nominal] T and checks its EPP feature as in Kornfilt (2003, 2008), the Japanese genitive subject in relative clauses remains in spec,  $\nu$ P and is licensed under Agree with the D associated with the entire relative clause:

- (1)’ a. Genitive subjects in Japanese relatives b. Turkish–*DIK* nominalizations



Furthermore, the contrast between Turkish nominalized clauses (6) and non-nominalized clauses (7) suggests that in Turkish there is a transfer of the [nominal] feature from C to T. There is no evidence for such a transfer in Japanese. This last piece of evidence also suggests that the locus of the [nominal] feature in Japanese is not C. We turn to more evidence in favor of this conclusion in the next section.

### 3. The licensor for Japanese genitive subjects is higher than the extended clausal projection

Support for the locus of the licensor of genitive case being above C comes from a construction first discussed by Soga & Fujimura (1978). In certain complex NP contexts, Japanese can realize the particle *no* between the clause and the nominal head:

- (11) a. [ [kanarazu katu **no** ] sinnen]  
 definitely win no conviction  
 ‘the conviction that (one) will definitely win’ (Soga and Fujimura 1978: 41)
- b. ...seisan nooka ga sitekisita ‘[ume santi ga hattensuru  
 producer farmer nom brought.up plum orchard nom develop  
**no** tame] no kadai’  
 no sake cop topic  
 ‘...“topics for the sake of the development of plum-producing areas”  
 brought up by producer farmers.’ (<http://www.pref.wakayama.lg.jp/prefg/070109/news/001/news1005.html>)

Speakers vary as to the acceptability of this S *no* NP pattern, with some rejecting them out of hand. However it should be noted that the examples in (10) are both from texts produced by native speakers, and that the pattern was first noted by Soga and Fujimura, native speaker linguists.<sup>6</sup>

Two facts about the S *no* NP pattern are relevant to our discussion. First, as observed by Frellesvig & Whitman (2008), whatever speakers’ judgments about examples such as (11), all speakers agree that examples of this pattern involving gapped relatives are unacceptable, as shown in (12):

- (12) [[Kyonen made Eri ga tabete ita] (\*no) pan] wa moo hanbai  
 ast year until Eri nom eating was no bread top already sale  
 kinsi da.  
 forbidden is  
 ‘The bread that Eri was eating until last year is now prohibited for sale.’

Second, all speakers agree that examples such as (11b) are completely impossible with a genitive subject, as shown in (13):

- (13) ...seisan nooka ga sitekisita [ume santi \*no/ga hattensuru **no**  
 producer farmer nom point.out plum orchard gen/nom develop no  
 tame] no kadai

<sup>6</sup> Part of the problem in eliciting judgments about the S *no* NP pattern is that this pattern is a well-known feature of early child speech (Murasugi 1991), and is also a characteristic of the speech of adult imperfect learners of Japanese, and is stigmatized in association with both contexts. (10a) is an example from a famous wartime song, while (10b) is from the official home page of Wakayama prefecture.



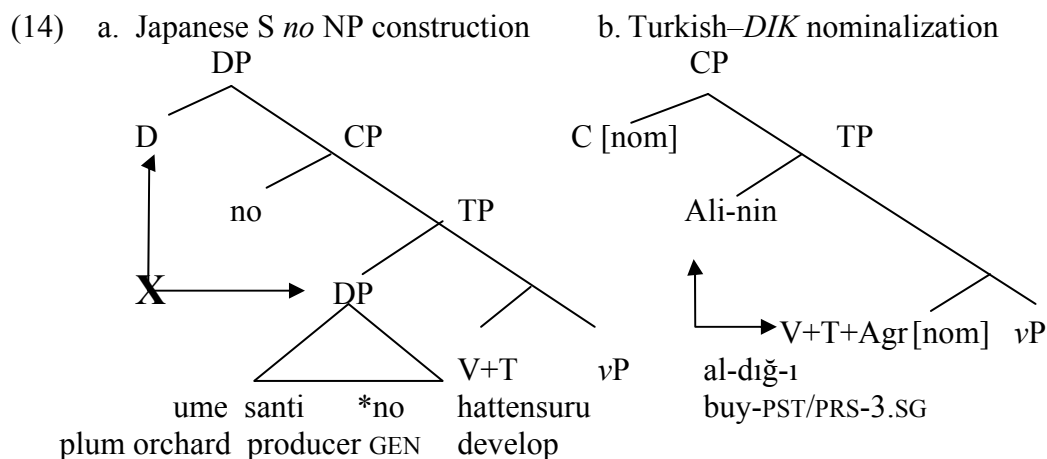
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sake cop issue

‘...“issues for the sake of development of plum-producing areas” pointed out by producer farmers.’

These two facts can be explained in the following way. First, the impossibility of gapped relatives indicates that the presence of *no* blocks relativization. Frellesvig & Whitman, adopting the analysis of prehead relatives due to Kayne (1994), suggest that *no* blocks relativization because it is a complementizer. On Kayne’s analysis, the head NP is first extracted from the relative TP and adjoined to CP; then the remnant TP is fronted and adjoined above the head NP. But the presence of a complementizer *no* between the relative TP and the nominal head rules out this derivation. While a complex NP with a prehead gapless clause might be derived by fronting the whole CP, gapped relative clauses require that only TP be fronted.

The same analysis of *no* as complementizer explains the unacceptability of genitive subjects in the *S no NP* pattern, on the assumption that Japanese genitive subjects are licensed by D. Presence of an overt complementizer blocks the possibility of establishing an Agree relation between D and the genitive subject. This contrasts with the Turkish situation, where the licenser of the genitive subject is [nominal] T, and the genitive subject in Spec, TP is accessible to it. We contrast these two configurations in (14).



For ease of comparison, we show the same stage in the derivation, where C c-commands TP and thus the genitive subject. At this stage in Turkish (14b), T inherits its formal features, including a [nominal] feature, and licenses genitive case in Spec, TP under Agree. However a similar relationship between D and the genitive subject in Japanese (14a) is interrupted by the intervening complementizer *no*, resulting in unacceptability. This contrast between Japanese and Turkish strongly supports the contention that the licenser for genitive subjects Turkish is C, while in Japanese it is D.

The attentive reader will notice that in a derivation of complex NPs with

prehead clausal modifiers, as proposed by Kayne (1994), the next step in the Turkish derivation should be movement of TP to the left of the complementizer. This is exactly what is proposed by Kornfilt (2005) for languages such as Uighur, Turkmen, Uzbek, and Sakha, i.e. in Turkic languages of Central and East Asia.<sup>7</sup> In these languages, gapped RCs that have modifying clauses with genitive subjects exhibit agreement morphology with that subject that appears to be non-local, i.e. such morphology shows up to the right of the head of the relative clause, similar to what Hale (2002) describes for Dagur Mongolian. We return to this issue in section 7.

#### 4. The Transitivity Condition

In Japanese, but not in Turkish, overt direct objects are disallowed in relative clauses containing genitive subjects, as first noticed by Harada (1971). This observation is usually referred to in the literature as the Transitivity Condition (Watanabe 1996, Miyagawa 2008, 2011):

- (15) [[Eri ga/\*no pan o katta] mise] **Japanese**  
 Eri nom/gen bread **acc** bought store  
 ‘the store where Eri bought bread’

The Transitivity Condition is not observed in corresponding nominalized relative clauses in Turkish:

- (16) [[Ali-nin ekmeğ-in -i al -dığ -ı] fırın] **Turkish**  
 Ali-gen bread-3.sg-**acc** buy-fn -3.sg bakery  
 ‘the bakery where Ali buys/bought his bread’

Miyagawa (2011), following an insight of Watanabe (1996) relates the Transitivity Condition in an elegant way to (1) licensing of genitive case on the subject from D and (2) the evidence that Japanese genitive subjects do not move to Spec, TP. The main elements of Miyagawa’s proposal are the following:

- (17) The Transitivity Condition (Miyagawa 2011)
- a. Japanese relative clauses do not contain C (TP is directly selected by D)
  - b. As a consequence of (a), no formal features are transferred to T.
  - c. D licenses genitive case on the subject. As a consequence of (b), no formal features intervene.
  - d. As a consequence of (b), T does not attract the subject (or any other argument) to Spec, TP.
  - e. As a consequence of (d), complex NPs retaining both a subject and an

<sup>7</sup> Actually, Kornfilt (2005) analyzes the modifying clause in the RCs of those languages as a Tense-Aspect-Mood phrase, while such clauses in Turkish RCs are analyzed as *Agr*-phrases.

object in the relative clause violate the Subject-in-Situ Generalization (SSG) of Alexiadou and Anagnostopoulou (2001, 2007).

- (18) The subject-in-situ generalization (SSG; Alexiadou & Anagnostopoulou, 2007)  
By Spellout,  $vP$  can contain only one argument with an unchecked Case feature.

As noted by Miyagawa and Alexiadou & Anagnostopoulou, the SSG is designed to capture the effects of Watanabe's (1996) account of the Transitivity Condition. This account assumes that the object moves to Spec, AgrO as soon as that projection enters the derivation, and that the genitive subject moves to Spec, AgrS. In a transitive clause, however, the movement of the genitive subject is blocked by the object in Spec, AgrO under Relativized Minimality.

The elegance of Miyagawa's proposal in (17) is due to the fact that it relates the absence of C, the absence of formal features in T, and the low position of the subject to account for the Transitivity Condition. However the proposal is not without problems. As acknowledged by Miyagawa, one problem is that the Transitivity Condition does not hold in object relatives, as originally observed by Harada (1971):

- (19) [[Eri ga/no [e] katta] pan] **Japanese**  
Eri nom/gen bought bread  
'the bread that Eri bought'

In fact the acceptability of (19) conforms to the pattern of the constructions treated by Alexiadou & Anagnostopoulou. In these constructions as well, A' movement beyond  $vP$  results in acceptability, as in the French Stylistic Inversion example in (20):

- (20) Que crois-tu que manquent un grand nombre d'étudiants?  
what believe-you that lack a great number of students  
'What do you believe that a great number of students lack'

According to Alexiadou & Anagnostopoulou (2001, 2007), examples such as (20) escape the SSG because the object has moved out of  $vP$  through its case checking position. On a standard cyclic Agree account of an object wh-question like (20), the object first has its case features checked under an Agree relation with  $v$ , then is attracted by an EPP feature of  $v$  to Spec,  $vP$ , then moves on to Spec, CP. At first glance the same account would seem to be available for the Japanese object relative (19). However the Japanese data raise a problem for this account of object relatives. The second step of the preceding derivation, movement of the object into Spec,  $vP$ , may be available, but under (17a) there is no C to attract the relativized object out of  $vP$ .

Perhaps because of this difficulty, Miyagawa (2011) speculates that the empty category related to the nominal head in Japanese relative clauses is *pro*, not trace, and suggests adopting Baker's (1995) proposal that *pro* does not require case. This proposal predicts that contexts where the object is *pro* do not violate the Transitivity Condition. However this prediction, too, is not borne out:

- (21) [[Heizitu ni Eri ga/\*?no pan o kau] mise] to  
 weekday on Eri nom/gen bread acc buy store and  
 [[syuumatu ni dannasan ga/\*?no pan o kau] mise] wa tigau.  
 weekend on husband nom/gen bread acc buy store top different.  
 'The store where Eri buys bread on weekdays and the store where (her) husband buys bread on weekends are different.'
- (22) Pan wa, [[heizitu ni Eri ga/\*?no *pro* kau] mise] to  
 Bread top weekday on Eri nom/gen buy store and  
 [[syuumatu ni dannasan ga/\*?no *pro* kau] mise] wa tigau.  
 weekend on husband nom/gen buy store top different.  
 'Bread, the store where Eri buys it on weekdays and the store where (her) husband buys it on weekends are different.'

(21) is a straightforward Transitivity Condition violation in a relative clause. (22) involves the same pattern with the object 'bread' topicalized. As is well known, topics in Japanese can be derived by movement or base generation; in the latter case they bind a resumptive *pro*. Since (22) involves topicalization out of a complex NP, the standard assumption is that the *ec* bound by the topic is *pro* (Saito 1985). However replacement of the overt accusative marked object in (22) by *pro* still results in degraded acceptability. That is, the Transitivity Condition applies to *pro* as well as overt objects.

A second problem is posed by the theoretical status of the Subject-in-Situ Condition. Alexiadou & Anagnostopoulou (2007: 21) observe that the SSC is unstatable in a system involving cyclic Agree (Chomsky 2001). This is because in such a system, the case feature of the object will always be checked within the *v*P. To solve this problem, Alexiadou & Anagnostopoulou (2007) propose adopting countercyclic Agree. Their formulation of countercyclic Agree is specified by the following T-*v*-Agree Hypothesis (Alexiadou & Anagnostopoulou 2007: 22):

- (23) *T-v-Agree Hypothesis*:  
*v* enters Agree with T and then Case valuation takes place, creating a configuration of Case checking ambiguity (*v* and T could value the Case of SUB or OBJ).

(23) is designed to replicate the effects of the SSG as stated in Alexiadou & Anagnostopoulou (2001), where the illicitness of leaving two arguments inside *v*P was related to the 'lethal ambiguity' incurred when *v* and T, with their distinct

case features, are combined. Alexiadou & Anagnostopoulou propose that the ambiguity created by Agree between  $v$  and T is resolved by reference to the distribution of EPP features, according to the following algorithm (Alexiadou & Anagnostopoulou 2007: 22):

- (24) (a) First,  $v$  Agrees with T, resulting in a Case checking ambiguity/ indeterminacy (what will Agree with what first?).  
(b) EPP provides a guideline for ordering the Agree relations:  
- If T bears an EPP feature, the first Agree relation involves T and SUBJ.  
- If  $v$  bears an EPP feature, the first Agree relation involves  $v$  and OBJ.  
(c) If both  $v$  and T bear EPP features, Agree proceeds strictly cyclically.

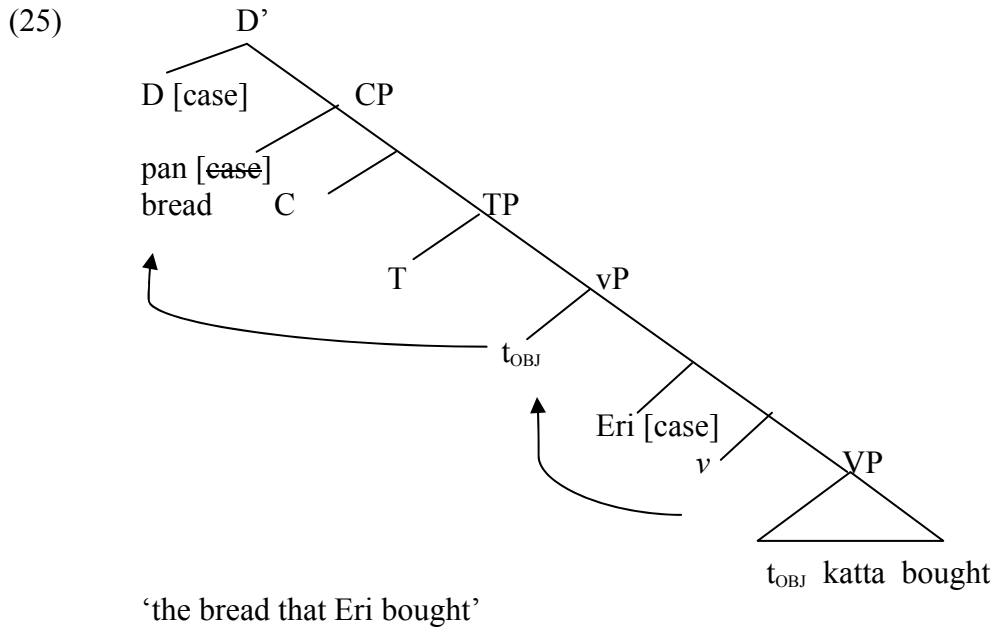
By assumption (according to both Alexiadou & Anagnostopoulou and Miyagawa), T bears no EPP features in Japanese genitive subject constructions. In object relatives such as (19), the relativized object is first attracted by an EPP feature on  $v$ . Then under the second clause of (24), Agree takes place between  $v$  and the object, and the SSG is not violated. However when neither T nor  $v$  bear an EPP feature, both subject and object remain in  $v$ P with their case features unchecked, and the SSG is violated. This is designed to cover Transitivity Condition violations such as (15).

However, the revised SSG still leaves open a major question. The original version of the SSG in (18) assumed a single level of spellout. In the cyclic Agree version as revised in (23) and (24), it is not clear at which level spellout occurs. It cannot occur at the  $v$ P cycle (phase), because neither subject nor object case features are ever checked at this phase (prior to (24a) Agree between T and  $v$ ). If spellout occurs at the CP phase, in transitive clauses such as (15) the case feature on  $v$  and the object will always have been checked once T enters the derivation, thus predicting incorrectly that Transitivity Condition violations such as (15) are licit.

Because of these difficulties (which may reflect an inadequate understanding of the framework on our part), we would like to propose a somewhat different approach which still maintains what we take to be the main insights of Watanabe (1996), Miyagawa (2003, 2011): the low position of the genitive subject, and genitive case licensing from D. This approach focuses on the case featural status of the head nominal in Japanese complex NPs.

Consider an object relative with a genitive subject such as (19). For concreteness, we assume the head extraction analysis of relative clauses (Vergnaud 1974, Kayne 1994; see Hoshi 2004 and Frellesvig & Whitman 2008 for Japanese, and Kornfilt 2005 for Turkish). The direct object first enters into an Agree relation with  $v$  and checks its case feature. The object is then moved successive cyclically through Spec,  $v$  to Spec, C. Under a Kaynean derivation of

head-final relatives, TP is raised out of CP through an additional specifier of CP.<sup>8</sup> At this stage D enters the derivation and seeks to check its case feature. Once TP has been moved to the edge of CP, the subject in Spec, vP is the closest DP with an unchecked case feature accessible to D. After the subject checks its case feature with D, TP moves on to Spec, DP, deriving the surface order of relative clauses.



(25) shows this derivation just prior to raising of TP. Note that the intermediate trace of the extracted object in Spec, v intervenes between D and the subject. Were the extracted object to bear an unchecked case feature, it would check the case feature on D under Closest Agree, leaving the feature on the genitive subject unchecked. However since the case feature on the object has already been checked, such an intervention effect does not occur.

Let us now consider the case of an extracted adjunct, such as our original Transitivity Condition violation in (15), repeated as (26) below:

- (26) [[Eri ga/\*no [e] pan o katta] mise] **Japanese**  
 Eri nom/gen bread **acc** bought store  
 ‘the store where Eri bought bread’

Here the head of the relative clause *mise* ‘store’ is related to an empty category interpreted as a locative adjunct. It is inconsequential for our purpose whether this empty category is trace or *pro*; the crucial question is how this *ec* checks its case feature. This question arises because Japanese, like Turkish, systematically

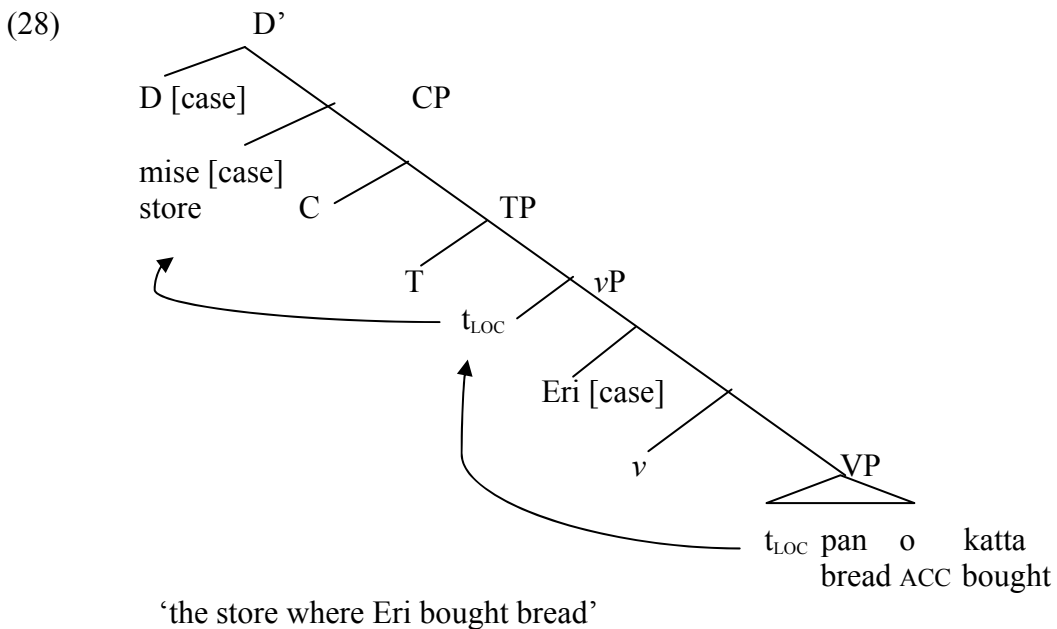
<sup>8</sup> We assume throughout that movement on each cycle is to an outer specifier, contrary to the “tucking in” approach of Richards (2001), at least in the case of non-final landing sites.

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disallows both P-stranding (27b) and pied-piping (27c).

- |      |    |   |                 |
|------|----|---|-----------------|
| (27) | a. | [[kyonen made Eri ga/no [e] hataraitte ita] mise]     | <b>Japanese</b> |
|      |    | last year until Eri nom/gen working was store         |                 |
|      |    | ‘the store where Eri worked until last year’          |                 |
|      | b. | [[kyonen made Eri ga/no [e] *de hataraitte ita] mise] | <b>Japanese</b> |
|      |    | last year until Eri nom/gen at working was store      |                 |
|      | c. | [[kyonen made Eri ga/no [e] hataraitte ita] mise *de] | <b>Japanese</b> |
|      |    | last year until Eri nom/gen working was store at      |                 |

We propose that the case feature on the head of adjunct relative clauses such as (27a) is checked by  $v$  in the relative clause. Here a language-particular property of Japanese becomes relevant to our discussion. It is well known that Japanese allows only a single instance of accusative case per clause, the so-called Double  $o$  Constraint (Harada 1973, Poser 1981). We interpret this to mean that  $v$  in Japanese checks at most one case feature. The consequence of this is that in a transitive clause with a relativized adjunct such as (26), either the relativized head or the object reaches spellout with its case feature unchecked. Let us consider the derivation corresponding to our original Transitivity Condition violation (15), where the locative adjunct has been extracted. Again, we look at the point in the derivation where the extracted head is between D and the TP containing the genitive subject:



In (28), assuming that  $v$  has checked its sole case feature with the direct object ‘bread’, the adjunct head ‘store’ is extracted from  $vP$  with an unchecked case feature. When the extracted head is moved to Spec,  $vP$ , it intervenes between D

and the genitive subject. Under Closest Agree, the extracted head blocks a checking relationship between D and the genitive subject.

Like previous accounts, the account sketched here is based upon the licensing of genitive subjects by D, rather than T or C. It also relies on the Double *o* Constraint, an independently motivated language particular property of Japanese, and the head extraction account of relative clauses. The account leaves a number of questions open, in particular the status of the Transitivity Condition in Japanese noun complement constructions. We hope to return to these questions in further research, but we conclude this section with an observation about another difference between Japanese and Turkish relative clauses that is consistent with our account of the case licensing of adjunct relative heads.

Kuno (1972) notes that the range of adjuncts that can be relativized in Japanese is restricted. Thus while (29) is acceptable, (30) is not (examples based on Kuno 1972 244-245).

(29) [[Tegami ga/no [e] takusan kita] tomodati] (ga oozei ita.) **Japanese**  
 letter nom/gen many came friend no many were  
 ‘There were many friends from whom letters came (to me)’

(30) \* [[Eri ga/no [e] kita] mura] **Japanese**  
 Eri nom/gen came village  
 ‘the village where Eri came (from)’<sup>9</sup>

Kuno relates the contrast between (29) and (30) to the possibility of topicalizing the source argument ‘letters’ in a main clause corresponding to the relative clause in (29), while such topicalization is unacceptable in the case of (30). But from the standpoint of our account of relativization, a more relevant contrast is the possibility of ‘letters’ appearing in a multiple nominative construction corresponding to (29):

(31) Sono tomodati ga tegami ga takusan kita. **Japanese**  
 that friend nom letter nom many came  
 ‘It is that friend that many letters came from.’

In contrast, a multiple nominative counterpart of (30) is unacceptable:

(32) \*Sono mura ga Eri ga kita. **Japanese**  
 that village nom Eri nom came  
 ‘It is that village that Eri came from.’<sup>10</sup>

<sup>9</sup> As Kuno (1972: 244, footnote 2) notes, (30) is acceptable on the reading “the village Eri came to”. Kuno’s original examples involve only nominative-marked subjects, but we have added genitive marking to make the point that in cases of adjunct relativization such as these, the case marking of the subject does not affect acceptability.



Hoshi (2004) points out that many instances of apparent relativization from positions normally inaccessible to this operation, such as islands, are in fact relativization from the higher or ‘major’ subject. Such a source is available in (29), but not in (30). This suggests that relativization of source adjuncts is in fact impossible in Japanese; apparent counterexamples such as (29) involve relativization from the major subject position, not from the position of the source adjunct.

This contrasts with the situation in Turkish. In Turkish, relativization of source adjuncts is generally acceptable, including examples corresponding to (30):

- (33) [[Ali-nin [e] gel -diğ -i] köy] **Turkish**  
 Ali- gen come -fn -3.sg village  
 ‘the village where Ali came (from)’

Since neither language allows P-stranding or pied-piping, and the Japanese example (30) and Turkish are nearly morpheme-for-morpheme identical, the difference cannot be a semantico-functional one, such as the recoverability of the morphological information indicating that a source argument has been relativized. Instead, we suggest that the difference is due to the status of adjunct case in the two languages.

In Japanese, matrix adjunct arguments are marked by the ablative postposition *kara* ‘from’ as in (34a). In Turkish, in contrast, adjunct arguments are marked by the ablative case suffix *-Dan*.<sup>11</sup>

- (34) a. Eri ga sono mura kara kita. **Japanese**  
 Eri nom that village from came  
 ‘Eri came from that village.’

---

<sup>10</sup> Two factors are at work in the unacceptability of the multiple nominative construction in (32). First, multiple nominal constructions are most felicitous when the ‘major’ (leftmost) subject corresponds to a possessor of the ‘minor’ or rightmost subject, or a higher (TP level) adjunct. Whitman (2000), focusing on the parallel construction in Korean, attributes this restriction to Relativized Minimality: possessors of the subject and higher adjuncts can move to subject position without crossing over the subject. In (31) the theme subject ‘many letters’ is existential and plausibly occupies its base position in VP. In (32), the definite subject ‘Eri’ occupies a surface position outside the VP, on normal assumptions. A second factor applies to a broader range of multiple nominative constructions, which may in some instances involve a major subject related to an argument to the right of the minor subject. These require a salient property reading. That reading is available in (31) “The friend has the property that many letters came from her”, but difficult to obtain in (32) “The village has the property that Mary came from it”.

<sup>11</sup> The fact that the Turkish ablative morpheme is a case suffix rather than a postposition is shown by the morpheme’s inclusion in the phonological word of the noun stem: the ablative morpheme’s vowel obeys Vowel Harmony [VH], and it bears regular word-final stress, when the morpheme is word-final. Postpositions, in contrast, are not stressed, nor are they included in the noun’s VH-domain. Furthermore, those postpositions that can cliticize onto the noun stem (e.g. the instrumental/comitative *ile*, whose cliticized form is *-(y)lA*) can’t bear stress, either—even when in word-final position (although they do undergo VH when cliticized). Japanese postpositions, in contrast, show clitic or even dependent word-like behavior (Vance 1993).

- b. Ali bu köy-den gel-di. **Turkish**  
 Ali.nom that village-abl come-pst  
 ‘Ali came from that village.’

Although the details of ablative case licensing are beyond the scope of this paper, the status of *-DAn* as a case affix, that is, as the morphological exponent of ablative case, suggests that ablative case in Turkish may be licensed by a functional head, such as the high applicative head proposed by Pylkkänen (2008). The impossibility of relativization in Japanese (30) suggests that a corresponding functional head, able to license higher adjuncts such as source DPs, is absent in Japanese. Given this absence, relativized adjuncts must be checked by some other device such as the multiple nominative structure in (31).<sup>12</sup>

### 5. Genitive subjects and the status of the external head

So far we have focused on the evidence that the genitive subject in Japanese TP nominalization is licensed by a higher functional head, D. We have discussed a number of contrasts which suggest that genitive subjects in Turkish are licensed within the extended verbal projection, specifically by [nominal] T which inherits this feature from C. In this section we defend this view in detail, arguing specifically against the proposal that Turkish TP nominalizations involve an unpronounced nominal head external to CP. Our discussion addresses claims made to the contrary in the literature, pointing out empirical problems associated with those claims.

Aygen (2002) and, in older work, Lees (1965) claim that an external noun (either concrete, or phonologically unrealized) is responsible for the clause-internal nominal properties in Turkish nominalizations, e.g. for the genitive case of the subject. According to this proposal, e.g. (35) is claimed to be similar in structure to (36): both are claimed to have a clause-external nominal head:

- (35) Ben [Hasan-in gel **-diğ-in**] -i bil -iyor -um. **Turkish**  
 I Hasan-gen come **-fn-3.sg -acc** know -prprog -1.sg  
 ‘I know that Hasan came’
- (36) Ben [[Hasan -in gel **-diğ-i**] **gerçeğ-in**] -i bil -iyor-um. **Turkish**  
 I Hasan -gen come **-fn-3.sg fact-cmpm-acc** know-prprog 1.sg  
 ‘I know the fact that that Hasan came’

<sup>12</sup> Inspection of the examples of Japanese adjunct relativization in Kuno (1972) suggests that they are limited to goals, locations, and instruments. These are thematic role types associated with Pylkkänen’s (2008) lower Applicative Phrase position, and they also correspond to role types that are crosslinguistically subject to noun incorporation (Baker 1988). On both of these criteria the adjuncts in question are located inside VP. This is consistent with our suggestion that such “lower” adjuncts may be licensed by *v* when no other case checking head is available, and that Japanese lacks a high applicative-type projection capable of licensing “higher” adjuncts, in contrast to Turkish.

There are numerous empirical problems with the proposal that nominalized indicative argument clauses are *externally* headed DPs. We illustrate just two of these in the examples below, focusing on differences between overtly headed versus non-headed nominalized clauses with respect to scrambling and to selection of different types of nominalization.

### 5.1 Problems with post-verbal scrambling

- (37) ?[Hasan -in        **t<sub>i</sub>**    nihayet kaç    -tığ    -in]    -i  
 Hasan -gen                    finally    escape -fn    -3.sg -acc  
 duy    -du    -m    **karı    -sın    -danı**  
 hear   -pst -1.sg   **wife -3.sg    -abl**  
 'I heard that Hasan finally ran away from his wife'

This example illustrates the ease with which constituents of embedded clauses can scramble to post-verbal positions in the root clause. However, similar post-verbal constructions are degraded when the nominalized embedded clause is overtly headed:

- (38) ??/\*[[Hasan -in        **t<sub>i</sub>** nihayet kaç    -tığ -i]    söylenti -sin ]    -i  
 Hasan -gen                    finally    escape -fn -3.sg    rumor -cmpm -acc  
 duy    -du    -m    **karı    -sın    -danı**  
 hear   -pst -1.sg   **wife -3.sg    -abl**  
 'I heard the rumor that Hasan finally ran away from his wife'

This contrast is even clearer when the whole argument clause is scrambled to verb-final position in the root clause:

- (39) t<sub>j</sub> Duy-du-m    [[Hasan-in    nihayet    karı-sın-dan    kaç    -tığ-in]-i]<sub>j</sub>  
 hear-pst -1.sg Hasan-gen    finally    wife-3.sg-abl    escape-fn-3.sg-acc  
 'I heard that Hasan finally ran away from his wife'

In these examples, post-verbal scrambling of a constituent of the subordinate clause is completely well-formed:

- (40) t<sub>j</sub>    Duy-du-m    [[Hasan-in    nihayet    t<sub>i</sub> kaç -tığ    -in]    -i]<sub>j</sub>  
 hear-pst -1.sg Hasan-gen    finally            escape-fn-3.sg -acc  
 karı-sın-dan<sub>j</sub>  
 wife-3.sg-abl  
 'I heard that Hasan finally ran away from his wife'

This is just as expected in any analysis in which this type of subordinate clause is *not* headed.

Corresponding examples where there is an *overt* head are ill-formed:

- (41) ??/\*t<sub>j</sub> Duy -du -m [[ Hasan -ın nihayet t<sub>j</sub>  
 hear -pst -1.sg Hasan -gen finally  
 kaç -tığ -i] söylenti -sin -i ]<sub>j</sub> karı -sın -danı  
 escape -fn -3.sg rumor -cmpdm -acc wife -3.sg-abl  
 'I heard the rumor that Hasan finally ran away from his wife'

For the External Noun Hypothesis (ENH), there should be no difference between the perfectly acceptable (40) and the ill-formed (41) — unless one makes scrambling dependent upon the phonological properties of the external head — clearly an undesirable move.

## 5.2 Problems with distribution

TP nominalizations in Turkish can differ in their distribution according to whether they have an external nominal head or not. Only two systematic differences (among a number of similar selectional differences) are considered here: (So-called) factive (*-DIK-*) versus (so-called) non-factive (*-mA-*)<sup>13</sup> nominalized clauses as objects versus subjects of psychological predicates.

**5.2.1** Psychological predicates allow both the factive and the non-factive nominalization types as complements, without any difference in semantics.

- (42) a. [Ali -nin ev -den kaç -ma -sın] -a üzül -  
 Ali -gen home-abl flee -nfn -3.sg -dat sadden  
 -dü -m  
 past-1.sg (nfn: non-factive nominalization)  
 'I was saddened at Ali's running away from home'  
 b. [Ali -nin ev -den kaç -tığ -ın] -a  
 Ali -gen home-abl flee- fn -3.sg -dat  
 üzül -dü -m  
 sadden -past -1.sg  
 'I was saddened at Ali's running away from home'

However, when an external noun shows up, only the factive gerund is well-formed for factive semantics:

- (43) a. ??/\*[Ali-nin ev -den kaç -ma (-sı)] söylenti-sin-e  
 Ali-gen home-abl flee-nfn -3.sg rumor-cmpdm-dat

<sup>13</sup> We follow Lees (1965) in using these labels for these two main types of Turkish nominalizations, although they do not reflect the semantics of those clauses in each and every instance.

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üzül -dü -m  
sadden-past-1.sg  
Intended reading: 'I was saddened at the rumor of Ali's running away from home'

- b. [Ali -nin ev -den kaç -tığ -ı] söylenti-sin -e  
Ali -gen home-abl flee- fn -3.sg rumor-cmpdm-dat  
üzül -dü -m  
sadden-past-1.sg  
'I was saddened at the rumor of Ali's running away from home'

**5.2.2** With the same type of predicates, only the non-factive gerundive is well-formed as subject, despite indicative semantics; however, when such a sentential subject is externally headed, only the factive gerund is well-formed for indicative semantics:

- (44) a. [Ali -nin ev -den kaç -ma -sı] ben -i  
Ali -gen home-abl flee -nfn -3.sg I -acc  
üz -dü  
sadden-past

'Ali's running away from home saddened me'

- b. \*[Ali -nin ev -den kaç -tığ -ı]<sup>14</sup> ben -i  
Ali -gen home-abl flee -fn -3.sg I -acc  
üz -dü  
sadden-past

Intended reading: 'Ali's running away from home saddened me'

- (45) a. ??/\*[Ali -nin ev -den kaç -ma (-sı)] söylenti-si ben-i  
Ali-gen home-abl flee-nfn-3.sg rumor-cmpdm I-acc  
üz-dü  
sadden-past

Intended reading: 'The rumor of Ali's running away from home saddened me'

- b. [Ali -nin ev -den kaç -tığ -ı] söylenti-si ben -i  
Ali -gen home-abl flee -fn -3.sg rumor -cmpdm I -acc  
üz -dü  
sadden -pst

'The rumor of Ali's running away from home saddened me'

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<sup>14</sup> The language appears to be changing with respect to examples such as (44b), inasmuch as it is our impression that younger speakers tend to allow the factive gerundive *-DIK* in sentential subject positions, while also allowing the non-factive *-mA* clauses in the same positions, as well.

### 5.3 Word order: Genitive subject before or after adverbs—slight differences, depending on presence of external noun

We saw earlier that in Turkish relative clauses with nominalized modifying clauses, the genitive subject cannot follow adverbs; we repeat the relevant examples:

- (46) a. ??/\*[[geçen sene-ye kadar Ali-nin ekmek al-dığ -1] **Turkish**  
           last year-dat until Ali-gen bread buy-fn -3.sg  
           fırın  
           bakery  
           ‘the bakery where Ali used to buy bread until last year’
- b. [[Ali-nin geçen sene-ye kadar ekmek al-dığ-1] **Turkish**  
       Ali-gen last year-dat until bread buy-fn-3.sg  
       fırın  
       bakery  
       ‘the bakery where Ali used to buy bread until last year’

We also saw that nominalized embedded clauses exhibit a similar contrast, although the contrast is less striking:

- (47) (?)[Geçen sene-ye kadar Ali-nin bu fırın -dan ekmek  
           past year-dat until Ali-gen this bakery-abl bread  
           al -dığ -ın]-1 duy-du -m  
           buy-fn-3.sg-acc hear-pst-1.sg  
           ‘I heard that Ali bought bread from this bakery until last year’
- (48) [Ali-nin geçen sene-ye kadar bu fırın-dan ekmek al -dığ -ın]-1  
       Ali-gen past year-dat until this bakery-abl bread buy-fn-3.sg-acc  
       duy -du -m  
       hear-pst-1.sg  
       ‘I heard that Ali bought bread from this bakery until last year’

Noun-complement constructions pattern with relative clauses, rather than with the nominalized embedded clauses without an external nominal head:

- (49) ??/\*[[Geçen sene-ye kadar Ali-nin bu fırın-dan ekmek al -dığ -1]  
           past year-dat until Ali-gen this bakery-abl bread buy-fn -3.sg  
           söylenti-sin-i] duy -du -m  
           rumor-cmpd-acc hear-pst-1.sg  
           ‘I heard the rumor that Ali bought bread from this bakery until last year’
- (50) [[Ali-nin geçen sene-ye kadar bu fırın -dan ekmek al -dığ -1]  
       Ali-gen past year-dat until this bakery-abl bread buy-fn -3.sg  
       söylenti-sin -i] duy -du -m  
       rumor-cmpdm-acc hear-pst-1.sg  
       ‘I heard the rumor that Ali bought bread from this bakery until last year’

While the distinction is subtle, it is there, as we verified with four native speakers, whose intuitions about these examples were clear and robust. If nominalized

clauses such as (47) and (48) had an (abstract) external noun (whose existence were responsible for the licensing of the genitive subject, rather than the nominalized C and, by inheritance, the—defective—T and nominal *Agr*), we should have expected for the judgments of (47) and (48) to pattern more closely with those for (49) and (50).<sup>15</sup>

#### 5.4 External heads: The Turkish facts contrasted with Japanese

So far in this section we have seen that genitive subjects in Turkish nominalizations are licensed independently of an external lexical nominal head. This is exactly the prediction made by the analysis in (1b=9b), where [nominal] C, a nominal functional head internal to the extended clausal projection, is responsible for genitive case on the subject. In contrast, in Japanese we have endorsed and provided further support for the hypothesis of Miyagawa (2003, 2011) that it is the D head associated with the external lexical head noun that licenses genitive case on the subject of the relative. In this section we discuss evidence adduced in previous research in favor of the D-licensing analysis for Japanese, and contrast it with the facts in Turkish.

Maki & Uchibori (2008) argue against Hiraiwa’s (2001) hypothesis that nominal C licenses genitive subjects in Japanese. They point out that in all of the contexts where Hiraiwa shows that genitive subjects are possible without an overt external nominal head, an overt head can be realized. Some of the relevant examples are below from Maki & Uchibori (2008: 203-4):

- (51) a. John wa [ Mary ga/no yonda (teido/no) yori ] **Japanese**  
 Johntop Mary nom/gen read extent/no than  
 takusan no hon o yonda.  
 many gen books acc read  
 ‘John read more books than (the extent/what) Mary did.’  
 (Gloss modified from Maki & Uchibori 2008: 203)
- b. John wa [toki ga/no tatu (no)to tomo ni] **Japanese**  
 John top time nom/gen pass no with together loc  
 Mary no koto o wasurete itta.  
 Mary gen matter acc forgetting went

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<sup>15</sup> The facts of examples (46) through (48), while adding to the evidence against the “external noun hypothesis” for Turkish nominalized clauses, may be seen to undermine our initial, and central, claim that the properties of Turkish clausal nominalizations (such as a genitive subject) are not determined by any clause-external noun, but by the clause-internal nominal C—and, via inheritance, by the clause-internal *T+nominal Agr* complex. However, note that what is most important about these examples is the contrast between all of the nominalized clauses, whether with or without an external noun, on the one hand, and non-nominalized clauses on the other, where the relevant adverbs may freely either precede or follow the nominative subject. Note also that one reason for the ill-formedness of (49) may be the fact that the clause-peripheral adverb is being accessed by the clause-external nominal head, leading to categorial incompatibility. If correct, this hypothesis would add to our arguments against an abstract external noun in bare TP-nominalizations in Turkish, given the relative well-formedness of (47) against the clear ill-formedness of (49).

‘John forgot about Mary as time went by.’  
 (Gloss modified from Maki & Uchibori 2008: 203)

However in fact this argument is rather weak; in Turkish, too, nominal heads can be supplied for most of the contexts where bare TP nominalizations appear, like ‘extent’ in (51a), but as we have shown earlier in this section, the argument against a covert external head as licenser in Turkish is overwhelming. Furthermore, one of the overt nominal heads cited by Maki & Uchibori is *no*, which has an analysis as a complementizer (cf. section 3). Maki & Uchibori point out that *no* also occurs, under certain restrictions, in pseudoclefts, where it has been analyzed either as a pronoun or a complementizer:

(52) [[John ga/no sikarateta] no ] wa Mary ni da. **Japanese**  
 John nom/gen scolded no top Mary by is  
 ‘How John was scolded is by Mary.’ (Maki & Uchibori 2008: 204)

Maki & Uchibori suggest, following Murasugi (1991), that genitive subjects are acceptable in pseudoclefts only when *no* can be interpreted as a pronoun denoting an action or an event. According to Murasugi, (53) is degraded in acceptability:

(53) [[Mary ga/??no nigedasita] no ] wa gakkoo kara da. **Japanese**  
 Mary nom/gen ran.away no top school from is  
 ‘Where Mary ran away is from school.’  
 (Maki & Uchibori 2008: 204, cited from [Murasugi 1991](#))

However, it is unclear in what respect (52) is more event-denoting than (53). The analysis presented in section 4 provides an account of the contrast between (52) and (53) while confirming the analysis of *no* in pseudoclefts with genitive subjects as a pronoun, thus supporting the external head hypothesis for Japanese. On an extraction account of pseudoclefts, the pronoun *no* is extracted from its underlying position in the presupposition. As we argued in section 4, lower adjuncts such as the agent in (52) may check their case feature with *v* prior to extraction. We suggested that higher adjuncts such as source adjuncts cannot be licensed in this way; instead apparent source adjunct relatives are formed from multiple subject constructions. The multiple subject construction with corresponding to (53) is equally unacceptable:

(54) ??Sonogakkoo ga Mary ga nigedasita.  
 Mary nom/gen ran.away no top school from is  
 ‘It is that school that Mary ran away from.’

These facts suggest that even in the case of pseudoclefts, Maki & Uchibori’s contention is correct. Pseudoclefts with genitive subjects have external heads, associated with the item extracted from the position of the gap in the presupposition.

In contrast to evidence like this for Japanese, as we have shown in this section, nominalized clauses with external nouns in Turkish have different properties than similar clauses without (overt) external nouns. Furthermore, if an external head (or D) were responsible for licensing the genitive subject in Turkish, as in Japanese, we might expect – again parallel to the Japanese facts – that the presence of such a head alone is sufficient to trigger selection of nominalized



morphology and license genitive subjects. But such is not the case. As shown in Kornfilt (2003), non-nominalized clausal complements of external nouns have nominative, rather than genitive subjects:

- (55) [Ali/\*Ali -nin karı -sın -ı terket-ti] söylenti -si.  
Ali/\*Ali-gen wife-3.sg.-acc leave-pst rumor -cmpdm  
'The rumor that Ali left his wife'

We take the ill-formedness of examples such as (55) with a genitive subject to support our approach to genitive subjects in Turkish nominalizations, i.e. to support our claim that the licenser of genitive is clause-internal, i.e. a nominal C, rather than clause-external, i.e. the external noun and a higher nominal projection headed by such a noun.

## **6. The content of defective T in TP nominalizations**

In our account of TP nominalizations in Japanese and Turkish, we have assumed, following earlier analyses, that T is defective in both languages. In this section we take a brief look at the morphological and semantic restrictions which support this contention.

Turkish nominalizations with genitive subjects contain only a subset of Tense, Aspect, and Mood features. In Turkish fully tensed, i.e. fully verbal, clauses, it is possible to distinguish a reported past, a definite past, a general present, a present progressive, and a future tense, by means of single tense/aspect morphemes (i.e. not via complex tense formations involving light verbs or auxiliaries); some of these are illustrated below:

- (56) Ali ekmeğ-i fırın-dan al -dı  
Ali bread-acc bakery-abl buy-pst  
'Ali bought the bread from the bakery'
- (57) Ali ekmeğ-i fırın-dan al -ır  
Ali bread-acc bakery-abl buy-aor  
'Ali buys (in general, habitually) the bread from the bakery'
- (58) Ali ekmeğ-i fırın-dan al -ıyor  
Ali bread-acc bakery-abl buy-presprog  
'Ali buys (currently) the bread from the bakery'
- (59) Ali ekmeğ-i fırın-dan al -acak  
Ali bread-acc bakery-abl buy-fut  
'Ali will buy the bread from the bakery'

In contrast, in embedded nominalizations, only a future versus non-future distinction can be made in nominalized indicatives (glossed as factive here), and no tense distinctions can be made at all in nominalized subjunctives (which may

actually be just inflected infinitives, and are glossed as non-factive here):

- (60) Ali-nin ekmeğ-i fırın-dan al -diğ-in]-1 bil-iyor -um  
 Ali-gen bread-acc bakery-abl buy-fn-3.sg-acc know-presprog-1.sg  
 ‘I know that Ali buys/bought/has bought the bread from the bakery’
- (61) Ali-nin ekmeğ-i fırın-dan al -acağ-in]-1  
 Ali-gen bread-acc bakery-abl buy-nfut-3.sg-acc  
 bil-iyor -um  
 know-presprog-1.sg (nfut: nominalization of future)  
 ‘I know that Ali will buy the bread from the bakery’
- (62) Ali-nin ekmeğ-i fırın-dan al -ma-sın]-1 isti -yor-um  
 Ali-gen bread-acc bakery-abl buy-nfn-3.sg-acc want-presprog-1.sg  
 ‘I want that Ali should buy the bread from the bakery’ (Ambiguous between present and future.)

In order to make the kind of finer distinctions with respect to tense and aspect which are made morphologically in fully verbal clauses, complex, periphrastic constructions involving light verbs or the auxiliary must be used.

Providing a partial parallel, Miyagawa (2008) observes that Japanese relative clauses with genitive subjects do not have the tense properties of normal finite clauses in Japanese. The difference is salient in clauses with past tense; with genitive subjects, such clauses seem to have a property-like reading akin to participial modifiers, as shown in (63).

- (63) [[ Taroo no tatai-ta] kabe **Japanese**  
 Taroo genhit-pst] wall  
 ‘the wall hit by Taroo’ or ‘the wall with the property of having been hit by Taroo’

Miyagawa provides as evidence for this claim the fact that examples like (64) with a punctual adverb such as 3 *zi-ni* ‘at 3 o’clock’ are degraded with a genitive subject.

- (64) [3 zi ni Taroo ga /??no tatai-ta] kabe **Japanese**  
 [3 o’clock Taro nom /??gen hit-pst] wall  
 ‘the wall that Taro hit at 3 o’clock’  
 (adapted from Miyagawa 2008, example (26))

Turkish *-DIK* also expresses, in addition to defective tense, imperfective aspect. When presented with data similar to Japanese (63), Turkish speakers do not reject but disprefer temporal point-denoting adverbs:

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- (65)  $?(?)$  [Ali-nin tam saat üç -te at -tığ -ı] gol **Turkish**  
Ali-gen exactly hour three-loc throw-fn -3.sg goal  
'the goal which Ali shot at exactly three o'clock'

A periphrastic construction, involving a perfect(ive) participial main verb and an auxiliary in *-DIK* is needed instead:

- (66) [Ali-nin tam saat üç -te at -mış ol -duğ -u] gol  
Ali-gen exactly hour three-loc throw- perf.part. aux -fn-3.sg goal  
'the goal which Ali shot at exactly three o'clock'

No such complexity is needed when the adverb denotes an interval, and is thus compatible with the imperfective aspect of *-DIK*:

- (67) [Ali -nin bütün gün boyunca oyna -dığ -ı] oyun  
Ali -gen entire day during play -fn -3.sg game  
'The game which Ali played during the entire day'.

We see thus that T in TP nominalizations in Turkish and Japanese is defective along several dimensions. The exact syntactic consequences of this similarity await further research. While in the Turkish case T inherits a [nominal] feature from C and bears only a reduced set of tense features, it still bears (nominal) agreement features, and attracts the subject, as well as licensing genitive case on the subject. In the Japanese case T also bears a reduced set (or perhaps no) tense features, but lacks a nominal feature, and does not attract the subject.

### **7. TP nominalizations and the structure of complex NPs**

At several places throughout this paper we have touched on the relationship between Japanese and Turkish TP nominalizations and the structure of complex NPs. We conclude with a direct comparison of complex NPs, particularly relative clauses, not just in Japanese and Turkish, but in other Turkic languages as well, based on the work of Kornfilt (2005, 2008, 2009).

One piece of data demonstrating that in Turkish, there are two levels of nominal functional structure, D and C/T, is the fact that RCs can be "possessed", with a possessor distinct from the subject marked genitive; each instance of genitive is licensed by its own local nominal head, D in the case of the possessor, and T inheriting its [nominal] feature from C:<sup>16</sup>

- (68) Ben -im [Rembrandt -ın çiz -diğ -i] resm -im **Turkish**  
I -gen Rembrandt -gen draw -fn-3.sg picture-1.sg  
'my picture which Rembrandt drew'

<sup>16</sup> Japanese, too, allows both a genitive possessor and genitive subject, but this is to be expected, since Japanese D licences multiple genitives.

In some other Turkic languages, non-subject relative clauses are similar to their counterparts in Turkish, in that the subject of the modifier clause is also in the genitive, and the clause is also nominalized. However, the agreement marker which agrees in terms of phi-features with the subject is placed not on the nominalized predicate, but on the external noun (cf. Kornfilt 2008, 2009):

- (69) Ali-**nin** öl-tür-gön öküz-**ü** **Kirghiz**  
 Ali-**gen** die-caus-p ox-**3.sg**  
 ‘The ox which Ali killed’

There are two possible analyses of this agreement pattern, both proposed by Kornfilt—one in (2005), and the other in (2008). Either one could apply, a priori, to either relative clauses or to noun-complement constructions. In her 2005 paper, Kornfilt applies a Kaynean derivation to complex NPs in Eastern Turkic languages, to account for the fact that, as in (69), the morphology expressing agreement with the genitive subject appears to the right of the external head. In this account, first nominal AGR is raised from T to C. Next, in a noun-complement construction, the external head (e.g. ‘fact’) is merged with C. Finally, the complement TP is moved around C into the DP projection, stranding nominal agreement. A similar, if not identical, derivation would apply to a relative clause. After AGR has raised from T to C, the relative clause head moves to Spec,CP; the complement TP moves into the DP projection, stranding C with its nominal AGR occupant. This AGR then cliticizes to its closest phonological host, i.e. the head of the relative clause.<sup>17</sup>

Kornfilt (2008) presents an alternative derivation for the nominalized clause in gapped relatives in these Turkic languages. In this approach, the clause itself is not a (nominal) CP, and the genitive of the subject is licensed by the external noun (which agrees with the subject—a local Agree relationship made possible by the defective, i.e. reduced, non-CP nature of the clause). This analysis holds that there is, as in Japanese complex NPs, only a single nominal functional projection, D. On this analysis, as in Japanese, D checks its formal features with the subject of the relative clause. A *prima facie* piece of evidence for this analysis is the fact that in contrast with Turkish (68), the nominal agreement morphology cannot license a possessor distinct from the subject:

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<sup>17</sup> Note that Kornfilt (2005) addresses only relative clauses; here, we extend the account proposed there to noun-complement constructions. Note also that we assume that the cliticization of AGR takes place at the very end of a derivation. This explains why it cliticizes to the external noun in constructions with such an external nominal head, after the TP has moved up and leftwards, while the same type of AGR cliticizes to the (nominalized) verb in constructions without an external nominal head (such as in direct nominalized clausal complements of matrix verbs), given that in the latter type of constructions, it is the nominalized verb which is the closest phonological host for the AGR.

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- (70) a. \*Ali-**niŋ** öl-tir-gen buqa-**m** **Kazakh**  
 Ali-**gen** die-CAUS-NML ox-**1.sg**  
 Intended reading: ‘my ox which Ali killed’
- b. \*Sen-**iŋ** öl-tir-gen buqa-**m** **Kazakh**  
 you-**gen** die-caus-nml ox-**1.sg**  
 Intended reading: ‘my ox which you killed’
- (71) \*Ali-**nin** öl-tür-gön öküz-**üm** **Kirghiz**  
 Ali-**gen** die-caus-nml ox-**1.sg.**  
 Intended reading: ‘My ox which Ali killed’
- (72) a. \*Äli-**niŋ** öl-tür-gän kala-**m** **Uighur**  
 Ali-**gen** die-caus-nml ox-**1.sg**  
 Intended reading: ‘My ox which Ali killed’
- b. \*min-**iŋ** öl-tür-gän kali-**si** **Uighur**  
 I-**gen** die-caus-nml ox-**3.sg**  
 Intended reading: ‘His/her ox which I killed’

The facts in (70-72) might be taken to suggest that such languages have a structure similar to the Japanese genitive subject structure, with the genitive subject licensed under Agree with D.

However a further set of facts shows that the parallel between Eastern Turkic and Japanese cannot be complete. Eastern Turkic complex NPs do not obey the Transitivity Condition. (73) shows this for Kirghiz:

- (73) Bül [Ali-**nin** nan sat-**ip** al-gan dükön-**ü**].  
 This Ali-**gen** breadsell-ing take-nml store-**3.sg.**  
 ‘This is the store where Ali bought bread.’

Our consultant tells us that (73) is perfectly acceptable.<sup>18</sup>

Furthermore, as pointed out by Kornfilt (2005), the posthead agreement morphology in Eastern Turkic languages differs from Turkish in being a clitic.

Summarizing these facts, complex NPs in Eastern Turkic resemble Turkish in not observing the Transitivity Constraint, but they differ in that (i) their nominal agreement is a clitic (ii) nominal agreement is placed to the right of the head noun in complex NPs (iii) double nominal agreement, with an external possessor and the genitive subject, is disallowed. We propose that these last three facts are related, and that in particular (i) accounts for the other two.

Our account is as follows. In our analysis of Turkish, we invoked the proposal of Chomsky (2008) that the formal features of T are inherited from C. Suppose that this holds for Eastern Turkic as well, except that agreement is

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<sup>18</sup>An anonymous JeNom reviewer tells us that the same is true for Kazakh: the Transitivity Condition does not hold in this language either. We are grateful to Akmatallieva Jakshylyk for confirmation and analysis of the Kirghiz data.

realized in C as a lexical item, a clitic, and thus is unable to undergo inheritance to T (which in this case would constitute lowering of a lexical item). Nevertheless we assume that T in Eastern Turkic bears an EPP feature which attracts the subject out of *v*P, as suggested by the absence of Transitivity Condition effects. When C is merged, it checks its formal features with the genitive subject, and these are spelled out on the agreement clitic in C. Next, as in Kornfilt's (2005) analysis, the complex NP head in a relative clause is raised from TP to Spec CP (or in the case of a noun complement, directly merged with C). Finally D is merged, and TP is raised to Spec, DP stranding the agreement clitic in C, as in Kornfilt (2005). The ill-formedness of doubled agreement, with clitic agreement in C Agreeing with the genitive subject and agreement with an external possessor spelled out in D, is blocked by the 'Stuttering Prohibition' motivated in Kornfilt (1986) for Turkish and extended to Eastern Turkic in Kornfilt (2009). Very briefly, this prohibition rules out (among others) immediate sequences of agreement morphemes (whereby the default third person singular agreement morpheme used as a nominal compound marker also counts as an agreement morpheme). Thus, possessed compounds in Turkish exhibit only the agreement morpheme for the possessor, but not the compound marker:

- (74) a. yarış araba -sı  
 race car -cmpdm  
 'race car'  
 b. (ben -im) yarış araba (\*-sı) -m  
 I -gen race car (-cmpdm) -1. sg  
 'my race car'

We claim that in Eastern Turkic, the following example in Uighur is ruled out by the same Stuttering Prohibition:

- (75) \*Äli-niñ öl -tür -gän kali -si-m  
 Ali-gen die-caus-nml ox-3. sg-1.sg  
 Intended: 'My ox which Äli killed' (nml: nominalization marker)

Note that in the Turkish possessed compound in (74b), the ill-formed example could be rescued by eliminating one of the suffixes violating the Stuttering Prohibition, namely the compound marker (i.e. the default third person singular agreement suffix). Note further that the agreement morpheme for the possessor cannot be omitted in favor of the compound marker:

- (76) \*(ben-im) yarış araba -sı  
 I -gen race car -cmpdm  
 Intended: 'My race car'

The reason proposed in Kornfilt (2009) for the difference between the omission of

the genuine agreement marker and the omission of the compound marker is based on Case: the noun *yarış* ‘race’ is viewed as incorporated into the head, and thus is not a DP in need of Case. Therefore, the default agreement marker (=the compound marker) is not needed as a Case licenser. However, the possessor does need its genitive case to be licensed by the agreement marker which it Agrees with. Therefore, the only way to rescue the version of (74b) which violates the Stuttering Prohibition is to elide the compound marker.

No such rescue operation is possible in (75), however. Both of the agreement markers are needed as licensers of separate instances of genitive: the third person singular agreement morpheme is needed as the licenser of the subject of the relative clause, and the first person singular agreement marker is needed as the licenser of the possessor. Thus, neither one of the logically possible rescue operations are possible to save examples such as (75) from the ill-formedness due to the Stuttering Prohibition. The result is the one we have seen: relative clauses cannot be possessed in Eastern Turkic.

Thus Eastern Turkic, like Turkish, differs crucially from Japanese and Kirghiz in that the subject is raised from  $\nu$ P to Spec, TP. Thus as in Turkish, no intervention effect blocks licensing of genitive case on the subject.

## **8. Conclusion**

In this paper we have reviewed a number of similarities and differences between TP nominalizations – structures with a nominal functional projection directly above TP – in Japanese and Turkish, and in section 7, East Turkic languages. We have shown that the two structural subtypes of TP nominalizations, one involving the D layer associated with an external head, the other a [nominal] C/TP have a cluster of distinct properties. The pattern involving a D head as the licenser of the genitive subject appears to be associated with the Transitivity Condition, although so far only Japanese has emerged as a clear example of this pattern. The pattern involving [nominal] C/T is associated with movement of the subject out of  $\nu$ P, and thus no Transitivity Condition. T in this pattern appears to inherit the [nominal] feature of C. Agreement in this pattern may appear on either side of the external head, depending upon whether agreement morphology is realized as an independent lexical item, or as features which may be inherited by T.

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