

## **TURKISH NON-CANONICAL OBJECTS**

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## Abstract

In this work we analyze objects with non-canonical case markers in Turkish. We show that semantic factors give rise to non-canonical case marking and try to determine criteria to decide on the grammatical function status of non-canonical objects. We conclude that ablative partitives and dative objects participating in an affectedness alternation should be analyzed as straightforward objects (OBJ), but that lexically specified non-canonically case marked objects should be treated as OBJ<sub>θ</sub>. Based on our analysis, we provide an LFG implementation as part of the Turkish ParGram grammar and show how this analysis provides just the right results for the data observed with respect to causativization, passivization and raising.

## 1 Introduction

Turkish is a free word order language in which case plays a large part in identifying participants of a clause. Subjects are generally nominative and agreement is with the subject. Turkish also has a well-known case alternation on objects that correlates with the semantics of specificity (Enç 1991). A nonspecific direct object generally bears nominative case and a specific direct object is marked with the accusative. (1) and (2) exemplify this well-known contrast.<sup>1</sup>

- (1) a. Ali bir **piyano** kiralamak istiyor  
Ali one piano.Nom to.rent want.Prog.3sg  
'Ali wants to rent one (some) piano.' (Enç 1991)
- b. Ali bir **piyano-yu** kiralamak istiyor  
Ali one piano-Acc to.rent want.Prog.3sg  
'Ali wants to rent a certain piano.' (Enç 1991)
- (2) a. **su** içtim  
water.Nom drink.Past.1sg  
'I drank water.'
- b. **su-yu** içtim  
water-Acc drink.Past.1sg  
'I drank the water.'

A less well-known fact is that Turkish contains further semantically conditioned case markings as well. In this paper, we survey the range of non-canonical case marking on objects in Turkish and show that there are at least two identifiable groups (section 2): one which involves Differential-Object Marking (Aissen 2003)

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<sup>1</sup>Note that Turkish is a pro-drop language and that it is natural to drop the subject, as in (2).

encoding semantic differences at a clausal level, and one where the non-canonical object marking seems to be conditioned exclusively by the lexical semantics of the verb. Since both are semantically conditioned in some way, we would expect that both types should be analyzed as semantically restricted ([+r]) and be realized as  $OBJ_{\theta}$  with respect to LFG's standard linking theory (Bresnan and Zaenen 1990). In section 3, we run through a number of tests involving passivization, causativization and raising in order to get a handle on the distribution and behavior of the non-canonical objects. We conclude that ablative partitives and dative objects participating in a case alternation should be analyzed as straightforward objects (OBJ), but that lexically specified non-canonically case marked objects should be treated as  $OBJ_{\theta}$ . We provide a detailed analysis in section 4 in form of a concrete implementation as part of the Turkish ParGram grammar (Çetinoğlu and Oflazer 2006).

## 2 Non-Canonical Object Marking in Turkish

In addition to the well-known specificity alternation in (1) and (2), an ablative object indicates partitivity as in (3) with verbs of consumption (Dede 1981, Kornfilt 1990). As illustrated by (4), the relation only holds when the object is consumable.<sup>2</sup>

- (3) su-dan içtim  
 water-Abl drink.Past.1sg  
 'I drank some of the water.'
- (4) şişe-den içtim  
 bottle-Abl drink.Past.1sg  
 'I drank (something) from the bottle.'

In addition to signaling partitivity, case in Turkish also appears to make distinctions between the degree of *affectedness* of an object. The examples in (5) and (6) illustrate this type of case alternation, which occurs with a group of verbs that also includes 'look' and 'blow on'. Here the dative encodes less affected objects and alternates with the accusative. For example, in (5) the action and, indeed, the verb is the same. However, if an accusative is used, the interpretation is that the child was shot; when a dative is used, the object 'child' is less affected and the interpretation is that the child was merely hit.

- (5) a. Ali **çocuğ-u** vur-du  
 Ali.Nom child-Acc hit-Past.3sg  
 'Ali shot the child.' (Dede 1981:41)
- b. Ali **çocuğ-a** vur-du  
 Ali.Nom child-Dat hit-Past.3sg  
 'Ali hit the child.' (Dede 1981:41)

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<sup>2</sup>Note that the surface form of the case markers differs from example to example. This is due to the well-known effects of vowel harmony in Turkish.

- (6) a. fare            **peynir-i**    ye-di  
       mouse.Nom cheese-Acc eat-Past.3sg  
       ‘The mouse ate the cheese.’ (Dede 1981:41)
- b. fare            **peynir-e**    dokun-du  
       mouse.Nom cheese-Dat touch-Past.3sg  
       ‘The mouse touched the cheese.’ (Dede 1981:41)

In (6) the verbs differ, but the effect of the case alternation is the same: actions affecting an object to differing degrees are encoded via differential case marking.

Alternating case markers due to the affectedness of the object are also found in many other languages (e.g., Scottish Gaelic, Finnish, South Asian languages in general, cf. Butt 2006). For example, Kiparsky (1998) analyzes a Finnish alternation that is very similar to the one in (5) as involving boundedness.

- (7) a. Ammu-i-n       **karhu-n**  
       shoot-Past-1sg bear-Acc  
       ‘I shot the/a bear.’ (Kiparsky 1998:267)
- b. Ammu-i-n       **karhu-a**  
       shoot-Past-1sg bear-Part  
       ‘I shot at the/a bear (bear is not dead).’ (Kiparsky 1998:267)

We leave aside the question of the exact semantics underlying the observed alternations in (5) and (6) and move on to another type of non-canonical case marking on objects found with a large subset of psych verbs. Although all the verbs given in (8) are similar in meaning, only (8a) bears the canonical accusative case. (8b) and a group of verbs such as *hate*, *fear*, *suspect*, *be disgusted*, *get fed up* have ablative objects and (8c), and another subset of psych verbs such as *beg*, *be crazy about*, *be angry*, *believe* have dative objects.

- (8) a. Ali            **Ayşe’-yi**    seviyor  
       Ali.Nom Ayşe-Acc love.Prog.3sg  
       ‘Ali loves Ayşe.’
- b. Ali            **Ayşe’-den**    hoşlanıyor  
       Ali.Nom Ayşe-Abl like.Prog.3sg  
       ‘Ali likes Ayşe.’
- c. Ali            **Ayşe’-ye**    tapıyor  
       Ali.Nom Ayşe-Dat adore.Prog.3sg  
       ‘Ali adores Ayşe.’

There is also another set of verbs which simply take non-canonical objects. These verbs do not have a common semantic property and can have either ablative or dative objects. *ride* in (9) and *help* are from this class.

- (9) Hasan at-a bindi  
 Hasan horse-Dat ride.Past.3sg  
 ‘Hasan rode the horse.’

It would be interesting to conduct an in-depth study of the use of semantic case alternations in Turkish. However, from our initial investigations it seems that the Turkish case alternations are not quite as productive as, for example, those found in South Asian languages (cf. Butt and King 2005, Butt et al. 2004) and rather seem to encode the vestiges of a productive system. Similarly, the non-canonical case marking found with psych verbs and verbs like *ride* and *help* seem to be lexically-conditioned vestiges of a more systematic lexical semantic classification.<sup>3</sup>

In this paper, we focus on how these non-canonical objects should be analyzed. Given that they are clearly semantically restricted ([+r]), we would expect them to function as OBJ<sub>θ</sub> or even OBL in terms of LFG’s linking theory (Bresnan and Zaenen 1990). A related question is whether these non-canonical objects, when passivized, should be analyzed as subjects. In the next section, we therefore examine data with respect to passivization, causativization and raising.

### 3 Object Tests

As to be expected in Turkish, both causativization and passivization are morphological. Both affect argument structure and thus are potentially good tests to distinguish between types of objects. Indeed, as the next four sections show, these tests as well as data from raising show that there are two classes of objects.

#### 3.1 Passivization

The standard analysis of passives across theoretical frameworks is that the direct object of an active clause is realized as a subject in the passive. In standard LFG analyses (e.g., Bresnan 1982, Sells 1985, Butt et al. 1999), the assumption is that the OBJ, but not OBJ<sub>θ</sub>, is realized as the SUBJ of the passive clause (also see the discussion of the status of OBJ in Börjars and Vincent 2008). This section thus investigates the behavior of the non-canonical objects with respect to passivization.

In canonically marked clauses, the nominative/accusative object is realized as a standard nominative subject which agrees with the verb under passivization.

- (10) a. ben-i kovaladı  
 I-Acc chase.Past.3sg  
 ‘S/he chased me.’  
 b. ben kovalandım  
 I.Nom chase.Pass.Past.1sg  
 ‘I was chased.’

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<sup>3</sup>For example, Joan Maling (p.c.) pointed out that Slavic languages use a special case for verbs of transport, such as *ride*.

In contrast, the ablative partitive object preserves its case under passivization. As Dede (1981) points out, if the ablative were absorbed under passivization with ablative partitives, then the partitive reading would be lost. There is thus a *clausal semantic* reason for the ablative to be preserved.

- (11) a. **su** içildi  
 water.Nom drink.Pass.Past.3sg  
 ‘Water was drunk.’  
 b. **su-dan** içildi  
 water-Abl drink.Pass.Past.3sg  
 ‘Some of the water was drunk.’

Given that observation, the next question is the function of the ablative partitives in the passivized sentence. Subjecthood rules given in Kornfilt (1997) are the nominative case and the agreement with the verb in person and number (cf. also Göksel and Kerslake 2005), and (11b) fails with respect to both of them. This is more clearly illustrated by the (semantically somewhat strange) examples in (12) where the verb agreement is 3sg in (12.b).

- (12) a. **ben** iç-il-di-m  
 I.Nom drink.Pass-Past.1sg  
 ‘I was drunk.’  
 b. **ben-den** iç-il-di  
 I-Abl drink.Pass-Past.3sg  
 ‘Some of me was drunk.’

However, there are indications, as in (13), that these ablative partitives function as subjects. Kornfilt (1990) points out that these examples involve unaccusative verbs where the ablative is the sole core argument and is naturally analyzed as a subject (despite the absence of verb agreement). Kornfilt (1990) argues that the ablative objects have the same distribution as canonical objects and proposes a *pro* which receives a phonologically unrealized Structural Case, thus bringing ablatives in line with canonical nominative/accusative objects (Kornfilt abandons the subjecthood criterion of verb agreement with respect to these examples).

- (13) a. **biz-de** bu kitap-tan kal-ma-dı  
 we-Loc this book-Abl remain-Neg-Past  
 ‘We don’t have any (copies) of this book left.’ (Kornfilt 1990:287)  
 b. **dolap-ta** bu sucuk-lar-dan var/yok  
 cupboard-Loc this sausage-Pl-Abl exist/Neg.exist  
 ‘There are/aren’t (some/any) of these sausages in the cupboard.’  
 (Kornfilt 1990:287)

Non-canonical case encoding degree of affectedness/boundedness is also preserved under passivization. When (14a) is passivized the dative object is still dative

in (14b) instead of nominative. Again, case absorption would erase the semantic contrast; the sentence would mean ‘shot the child’ rather than ‘hit the child’.

- (14) a. Ali çocuğ-a vur-du  
Ali.Nom child-Dat hit-Past  
‘Ali hit the child.’  
b. çocuğ-a vur-ul-du  
child-Dat hit-Pass-Past  
‘The child was hit.’ (Dede 1981:45)

If we apply a test on both alternatives of *vur*, we can observe that the passivized accusative and dative behave exactly alike with respect to anaphora resolution. This indicates that the passivized dative argument may be functioning as a subject.

- (15) a. **çocuk** kendisi tarafından vuruldu  
child.Nom self.P3sg by shoot.Pass.Past.3sg  
‘The child was shot by itself.’  
b. **çocuğ-a** kendisi tarafından vuruldu  
child-Dat self.P3sg by shoot.Pass.Past.3sg  
‘The child was hit by itself.’

In psych verbs, the object also preserves its case under passivization as exemplified in (16b). A small group of native speakers also accept the passivization as grammatical when the object becomes nominative as in (16c).

- (16) a. san-a tap-tı  
you-Dat worship.Past.3sg  
‘S/he worshipped you.’  
b. san-a tapıldı  
you-Dat worship.Pass.Past.3sg  
‘You were worshipped.’  
c. %sen tapıldın  
you.Nom worship.Pass.Past.2sg  
‘You were worshipped.’

Although (16c) is ungrammatical for some speakers, the same data providers find (17) grammatical. In this example, *tapılarak* ((while) being worshipped) is the sentential complement which behaves as an adverb and is constructed by appending an *-arak* suffix to the verb. The subject of the *while*-clause always matches the subject of the main sentence (presumably via obligatory anaphoric control, cf. Dalrymple 2001). So, it seems that, to be able to construct the matrix sentence, the inner sentence should have a subject, and the verb *tap-* (worship) is forced to be passivized and have a nominative case marker, rather than a dative one.

- (17) **öküz** tap-ıl-arak kilise-ye getir-il-di  
 ox.Nom worship-Pass-ByDoingSo church-Dat bring-Pass-Past.3sg  
 ‘The ox, while being worshipped, was brought to the church.’  
 (Knecht (1986) taken from Özkaragöz (1979))

When the matrix verb is impersonally passivized, *ox* can keep its dative case marker in the embedded clause. On the whole, the evidence from passivization with respect to the psych verbs again seems to indicate that the non-canonical object is indeed functioning as a direct object that is realized as a subject under passivization.

- (18) **öküz-e** tap-ıl-arak dans ed-il-di  
 ox-Dat worship-Pass-ByDoingSo dance make-Pass-Past.3sg  
 ‘It was danced while the ox was worshipped.’

Lastly, we turn to the class of verbs like *ride*, which have dative objects. As shown in (19), case is again preserved under passivization.

- (19) a. Hasan at-a bindi  
 Hasan.Nom horse-Dat ride.Past.3sg  
 ‘Hasan rode the horse.’  
 b. at-a bin-il-di  
 horse-Dat ride-Pass-Past.3sg  
 ‘The horse was ridden.’

However, this data by itself again is not sufficient to establish the potential subjecthood (and hence the precise object status of the non-canonical object) as it is also possible to passivize clauses with an intransitive verb and constituents other than the direct object, as in (20). In these cases passivization is impersonal, that is, the constituent preserves its function (and also its case marking) and there is no subject in the passivized sentence ((20a) and (20b)).

- (20) a. Ali okul-a git-ti  
 Ali.Nom school-Dat go-Past.3sg  
 ‘Ali went to the school.’  
 b. okul-a gid-il-di  
 school-Dat go-Pass-Past.3sg  
 ‘The school was gone to. (Somebody went to the school)’

But all is not lost as Turkish distinguishes between subject and non-subject gaps in the participles by marking them with the derivational suffixes *-en* and *-diği*, respectively. Thus, if we convert the passivized sentence into a participle and extract the constituent we are interested in, we can determine whether or not it is functioning as a subject. Consider the data in (21). (21a) represents the base predication. In (21b) and (21c) participles corresponding to the base predication have

been formed. In (21b) the suffix *-en* indicates that there is a subject gap, i.e., *dog* is the missing subject of the participle. In (21c), on the other hand, the object *cat* has been extracted and the non-subject suffix *-diği* marks this.

- (21) a. köpek kedi-yi kovaladı  
 dog.Nom cat-Acc chase.Past.3sg  
 ‘The dog chased the cat.’
- b. [ ]<sub>i</sub> kedi-yi kovala-**yan** köpek<sub>i</sub>  
 cat-Acc chase.PresPart dog.Nom  
 ‘The dog that chased the cat.’
- c. köpeğ-in [ ]<sub>i</sub> kovala-**dığı** kedi<sub>i</sub>  
 dog-Gen chase-PastPart.3sg cat.Nom  
 ‘The cat that the dog chased.’<sup>4</sup>

So now let us try the participle extraction test with the *ride* class. When we make a participle out of the passive version in (19) and extract the constituent *horse*, the morphological marking on the participle indicates that the former non-canonical object is now patterning with subjects. We take this as an indication that these non-canonical objects behave like subjects when they are passivized.

- (22) a. bin-il-en/\*diği at  
 ride-Pass-PresPart/PastPart.3sg horse.Nom  
 ‘The horse that was ridden.’

The data in this section has demonstrated that in all instances of non-canonical object marking the case was preserved under passivization. Despite this case preservation and the lack of agreement with the verb, a range of tests indicate that these non-canonical objects function as subjects when passivized. Thus, the passivization data so far also suggest that all of the objects could be analyzed as OBJ. In the next section we turn to data from causativization to see whether this analysis can be confirmed or whether our analysis needs to be more differentiated.

### 3.2 Causativization

Turkish exhibits quite complex patterns with respect to causativization, including double causatives. Here we focus only on single causativization. As shown in (23b), if the verb is intransitive, the subject becomes an accusative object.

- (23) a. kedi uyu-du  
 cat.Nom sleep-Past.3sg  
 ‘The cat slept.’

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<sup>4</sup>Literally, since these are participles: ‘The cat is one chased by a dog.’ The genitive case on *dog* is because it is functioning as the agent/Spec of the participle.

- b. çocuk kedi-yi uyu-t-tu  
 child.Nom cat-Acc sleep-Caus-Past.3sg  
 ‘The child made the cat sleep.’

In transitive clauses, the canonical nominative/accusative object preserves its case and function when the verb is causativized. The causee (former nominative subject) is marked with the dative.

- (24) a. köpek kedi-yi kovaladı  
 dog.Nom cat-Acc chase-Past.3sg  
 ‘The dog chased the cat.’  
 b. çocuk köpeğ-e kedi-yi kovalat-tı  
 child.Nom dog-Dat cat-Acc chase-Caus-Past.3sg  
 ‘The child made the dog chase the cat’

The ablative on partitive objects is similarly preserved under causativization. The causee is again dative. This is in parallel to the canonical causative in (24), indicating that the ablative object patterns with canonical objects.

- (25) a. su-dan içtim  
 water-Abl drink.Past.1sg  
 ‘I drank some of the water.’  
 b. annem ban-a su-dan içirdi  
 mother.P1sg I-Dat water-Abl drink.Caus.Past.3sg  
 ‘My mother made me drink some of the water.’

Where a dative object signals low affectedness, we encounter a difficulty because Turkish has a general constraint which disprefers two dative-marked objects in a clause. However, if one of the datives is an indirect object, then two datives in a clause are allowed, as in (26).

- (26) Babam-a çocuklar-a masal anlat-tır-dı-m  
 father.P1sg-Dat child.Pl-Dat story.Nom tell-Caus-Past-1sg  
 ‘I had my father tell stories to the children.’ (Göksel 1993:216)

The pattern with causatives of dative less affected objects is complex in that it allows for an alternative realization of both the causee and the object. Each can be realized with a dative or an accusative, depending on whichever is compatible with an affectedness/boundedness reading. Consider *look* in (27), which takes a dative object in the base predication. In (27a), the causee is in the dative, but in (27b), the causee is accusative and the door (which is not affected) is dative.

- (27) a. **hizmetçi-ye** çocuğ-u bak-tır-dı-k  
 maid-Dat child-Acc look-Caus-Past-1pl  
 ‘We made the maid look after the child.’ (Dede 1981:43)

- b. **herkes-i** kapı-ya bak-tır-dı-m  
 everybody-Acc door-Dat look-Caus-Past-1sg  
 ‘I made everybody look at the door.’ (Dede 1981:43)

A similar pattern can be observed in (28) with the shoot/hit alternation.<sup>5</sup> When the child is less affected (hit rather than shot), it appears in the dative.

- (28) a. Ahmet Ali’**ye** çocuğ-**u** vur-dur-du  
 Ahmet.Nom Ali-Dat child-Acc shoot-Caus-Past.3sg  
 ‘Ahmet made Ali shoot the child.’  
 b. Ahmet Ali’**yi** çocuğ-**a** vur-dur-du  
 Ahmet.Nom Ali-Acc child-Dat hit-Caus-Past.3sg  
 ‘Ahmet made Ali hit the child.’

Knecht (1986) gives another interesting example which allows two causativization patterns for a verb with a non-canonical object. The verb *hohla* ‘blow on’ subcategorizes for a dative object. Most of the native speakers prefer to keep *ayna* ‘mirror’ in the dative case, and convert *Ufuk* into accusative when causativized (29c). But it is also acceptable to transform the non-canonical object of the main verb into the accusative object of the causative verb, demonstrating the alternative possibilities in verbs with no clearly affected object (29b).

- (29) a. Ufuk ayna-**ya** hohladı  
 Ufuk.Nom mirror-Dat blow.on.Past.3sg  
 ‘Ufuk blew on the mirror.’  
 b. Ufuk’**a** ayna-**yı** hohlattım  
 Ufuk-Dat mirror-Acc blow.on.Caus.Past.1sg  
 ‘I made Ufuk blow on the mirror.’  
 c. Ufuk’**u** ayna-**ya** hohlattım  
 Ufuk-Acc mirror-Dat blow.on.Caus.Past.1sg  
 ‘I made Ufuk blow on the mirror.’

The fact that causatives of non-canonical dative objects do not allow two datives in the clause indicates that both the causee and the non-canonical object should be analyzed as objects — the causee cannot be analyzed as an indirect object, otherwise two datives in a clause should be licit, as in (26). Furthermore, modulo the double-dative constraint, the non-canonical objects pattern like canonical transitives in terms of causativization.

We now turn to the pattern with psych verbs and verbs of the *ride* type. Both with ablative and dative objects of psych verbs, the case is preserved under causativization. However, the causee (former nominative subject) is accusative rather than dative, as shown in (30) and (31).

<sup>5</sup>Note that an “affectedness” alternation in causatives has also been documented in Romance, Bantu and South Asian languages (Alsina and Joshi 1991, Alsina 1997, Butt 1998).

- (30) a. kedi köpek-ten korktu  
 cat.Nom dog-Abl fear.Past.3sg  
 ‘The cat feared the dog.’  
 b. çocuk **kedi-yi** köpek-ten korkuttu  
 child.Nom cat-Acc dog-Abl fear.Caus.Past.3sg  
 ‘The child made the cat fear the dog.’
- (31) a. Ali ateş-e taptı  
 Ali.Nom fire-Dat worship.Past.3sg  
 ‘Ali worshipped the fire.’  
 b. babası **Ali’-yi** ateş-e taptırdı  
 father.P3sg Ali-Acc fire-Dat worship.Caus.Past.3sg  
 ‘His father made Ali worship the fire.’

The same pattern holds for the *ride* type. As shown in (32), the case of the object is preserved under causativization, and again, the causee must be accusative.

- (32) a. Hasan at-a bindi  
 Hasan.Nom horse-Dat ride.Past.3sg  
 ‘Hasan rode the horse.’  
 b. babası **Hasan’-ı** at-a bindirdi  
 father.P3sg Hasan-Acc horse-Dat ride.Caus.Past.3sg  
 ‘His father made Hasan ride the horse.’

The evidence from causativization thus partitions the data into two sets: those which allow for a dative causee in parallel to canonical transitive clauses and those which require an accusative causee, deviating from the canonical pattern. Under the assumption that causatives always need to include an OBJ in the subcategorization frame, we suggest that the data from causativization can be understood as follows: ablative partitives and affectedness alternation involve “real” objects, i.e., OBJ. However, the psych verbs and the other non-canonical case marking verbs subcategorize for OBJ<sub>θ</sub>. That is, when a clause with a partitive or less affected object is causativized, then the causee is realized as a dative OBJ<sub>θ</sub> (or the causee as an OBJ and the affected object as an OBJ<sub>θ</sub> in the case of the alternative possibilities in examples as in (27) or (29)) because there is already an OBJ in the clause. On the other hand, when a psych verb or *ride* type verb is causativized, there is only a lexically determined OBJ<sub>θ</sub> in the clause and so the causee is linked to an OBJ.

### 3.3 Passives of Causatives

In order to test this hypothesis, we can examine the behavior of the causativized clauses with non-canonical objects when these in turn are passivized. As a benchmark, the passivization of a causativized canonical verb is given in (33). Note that the translation in (33b) might be misleading. In the Turkish sentence, *kedi* ‘cat’ is the subject whereas in the English sentence *dog* is the subject.

- (33) a. çocuk köpeğ-e kedi-yi kovala-t-tı  
 child.Nom dog-Dat cat-Acc chase-Caus-Past.3sg  
 ‘The child made the dog chase the cat.’  
 b. kedi (çocuk tarafından) köpeğ-e kovala-t-ıl-dı  
 cat.Nom child.Nom by dog-Dat chase-Caus-Pass-Past.3sg  
 ‘The dog was made to chase the cat (by the child).’

The ablative partitives again pattern canonically in that the causee remains in the dative. However, the ablative case is preserved and the subject is non-nominative. That is, the ablative object of the main verb seems to be the one linked to the OBJ in the causative version and it is this argument which is subject to passivization in (34b). That is, the ablative object preserves its case as well as its function as OBJ in the causative construction and then becomes an ablative subject under passivization in (34b). Again, the English translation might be misleading.

- (34) a. annem ban-a su-dan içirdi  
 mother.P1sg I-Dat water-Abl drink.Caus.Past.3sg  
 ‘My mother made me drink some of the water.’  
 b. ban-a su-dan içirildi  
 I-Dat water-Abl drink.Caus.Pass.Past.3sg  
 ‘I was made to drink some of the water.’

The dative less affected objects (not shown here for lack of space) pattern like the ablatives; however, the psych verbs and *ride* type verbs again exhibit a different pattern. Examples of a psych verb with an ablative object (35), a psych verb with a dative object (36), and *ride* with the dative object (37) are provided below. In all the examples the accusative causee in the causativized sentences becomes nominative under passivization. This is consistent with our analysis of the accusative causee having been linked to OBJ in the causative and then being available for standard passivization whereby a canonical OBJ is realized as a nominative SUBJ.

- (35) a. çocuk kedi-yi köpek-ten kork-ut-tu  
 child.Nom cat-Acc dog-Abl fear-Caus-Past.3sg  
 ‘The child made the cat fear the dog.’  
 b. kedi köpek-ten kork-ut-ul-du  
 cat.Nom dog-Abl fear-Caus-Pass-Past.3sg  
 ‘The cat was made to fear the dog.’  
 (36) a. babası Ali’yi ateş-e taptırdı  
 father.P3sg Ali-Acc fire-Dat worship.Caus.Past.3sg  
 ‘His father made Ali worship the fire.’  
 b. Ali ateş-e taptırıldı  
 Ali.Nom fire-Dat worship.Caus.Pass.Past.3sg  
 ‘Ali was made to worship the fire.’

- (37) a. babası Hasan'-ı at-a bindirdi  
 father.P3sg Hasan-Acc horse-Dat ride.Caus.Past.3sg  
 'His father made Hasan ride the horse.'
- b. Hasan at-a bindirildi  
 Hasan.Nom horse-Dat ride.Caus.Pass.Past.3sg  
 'Hasan was made to ride the horse.'

In sum, the data from passivized causatives are consistent with our analysis made on the basis of the data with respect to simple causatives and passives. Ablative partitive and dative less affected objects behave in parallel to canonical objects, strengthening our claim that they are OBJ. For the sentences in (35)–(37), the result of the passivization is as expected: causativization introduces OBJs with an accusative case to these sentences, and passivization makes these OBJs nominative SUBJs. Hence the psych verbs and the other subset of verbs with non-canonical objects can be analyzed as subcategorizing for OBJ<sub>θ</sub>s in their basic form.

### 3.4 Raising

Raising is another possible test for subject status. That is, one could take a passivized version of the clauses with non-canonical objects and see if the passivized object is able to raise out of the clause, as a normal subject would. However, it turns out that verbs like *seem* and *believe*, which are equivalent to raising verbs in other languages, display quite a complex set of syntactic properties (a.o., Mulder 1976, Kornfilt 1977, Moore 1998) in Turkish.

When the lexical item *gibi* 'like' is used, agreement markers can appear on both the matrix and the embedded verb. Since this provides information about subject status and is thus potentially interesting for our investigation, we here only provide examples with *gibi*, as in (38).

- (38) biz san-a süt iç-ti-k gibi görün-dü-k  
 we.Nom you-Dat milk drink-Past.1pl like seem-Past-1pl  
 'We seemed to you to have drunk milk.' (Mulder 1976:(26b))

The *we* here is nominative and is clearly the subject of the matrix verb *seem*; as evidenced by verb agreement, it is also the subject of the embedded verb.

In (39), we have taken our bench mark transitive clause, passivized it and then embedded it in a raising construction. As can be seen, the embedded subject is raised to be the matrix nominative subject, which agrees with the raising verb. Interestingly, this subject (*we*) may or may not agree with the embedded verb.

- (39) a. biz sana kovala-n-dı-k gibi görün-dü-k  
 we.Nom you.Dat chase-Pass-Past-1pl like seem-Past-1pl  
 'We seemed to you to have been chased.'

- b. biz sana kovala-n-dı gibi görün-dü-k  
 we.Nom you.Dat chase-Pass-Past.3sg like seem-Past-1pl  
 ‘We seemed to you to have been chased.’

Now let us examine what happens with respect to clauses with non-canonical objects. First, we take the examples of semantic case alternation. As can be seen from the alternation in (40), the case is again preserved in order to be able to preserve the semantic distinction of partitivity.

- (40) a. su iç-il-di gibi görün-dü  
 water.Nom drink-Pass-Past.3sg like seem-Past.3sg  
 ‘It seemed that water was drunk.’  
 b. su-dan iç-il-di gibi görün-dü  
 water-Abl drink-Pass-Past.3sg like seem-Past.3sg  
 ‘It seemed that some of the water was drunk.’

The same is true for the affectedness alternation, where a nominative on *child* in (41a) would result in the reading that the child was shot, rather than hit (cf. Kornfilt 1977). This can be seen in (41b), which is ambiguous. In the second reading, the subject has been pro-dropped and is interpreted as a third person pronoun.

- (41) a. çocuğ-a vur-ul-du gibi görün-dü  
 child-Dat hit-Pass-Past.3sg like seem-Past.3sg  
 ‘It seemed that the child was hit.’  
 b. ben-a vur-ul-du gibi görün-dü  
 I-Dat hit-Pass-Past.3sg like seem-Past.3sg  
 ‘It seemed that I was hit.’  
 ‘It seemed to me that s/he was shot.’

So, again it seems that in these cases the non-canonical object is acting as a direct object which can be raised out of a clause after passivization, though preserving its case marking for reasons of semantic contrast.

The pattern with respect to the psych verbs and the *ride* type again differs. We illustrate this here only with respect to the verb *fear* (all the other verbs behave the same way as this one). As can be seen from (42a) vs. (42b), the *we* can marginally be raised; however it is not the subject of the embedded verb, as it cannot agree with that. Furthermore, as illustrated by (42c), one cannot raise the *we* while preserving its non-canonical case marking. The *we* can appear with the non-canonical case marking, but then only as part of the embedded clause (cf. Kornfilt 1977) on a discussion of the significance of word order in such examples) and the verb *seem* must be interpreted as having an impersonal subject.

- (42) a. \*biz sana kork-ul-duk gibi görün-dük  
 we.Nom you.Dat fear-Pass-Past.1pl like seem-Past.1pl  
 ‘We seemed to you to have been feared.’

- b. ?biz sana kork-ul-du gibi görün-dük  
 we.Nom you.Dat fear-Pass-Past.3sg like seem-Past.1pl  
 ‘We seemed to you to have been feared.’
- c. \*biz-den sana kork-ul-du gibi görün-dü  
 we-Abl you.Dat fear-Pass-Past.3sg like seem-Past.3sg  
 ‘It seemed to you that we were feared.’
- d. sana [biz-den kork-ul-du] gibi görün-dü  
 you.Dat we-Abl fear-Pass-Past.3sg like seem-Past.3sg  
 ‘It seemed to you that we were feared.’

To summarize, the raising data confirms the patterns observed with respect to causativization and passivization: the non-canonical objects in Turkish can be grouped into two types. In one, the non-canonical marking is used to express a semantic case alternation at a clausal level and here the object can be analyzed as an OBJ. In the other, the non-canonical case marking is tied to the inherent lexical semantics of particular verbs, such as psych verbs and verbs such as *ride*, and in this case, the object can be analyzed as an OBJ<sub>θ</sub>. In the next section, we present our analysis as we have implemented it within the Turkish ParGram grammar.

## 4 Analysis and Implementation

Given these empirical considerations, we conclude that the instances of Differential Object Marking (DOM), namely the ablative partitives and the affectedness alternation should be analyzed as involving OBJ. On the other hand, the cases of lexically specified non-canonical case marking involving dative and ablative arguments should be analyzed as inherently semantically-restricted objects, i.e., as OBJ<sub>θ</sub>. We show how this analysis plays out in the actual implementation with respect to passivization and causation thereby further confirming the formal validity of our analysis.

### 4.1 Passivization

The passivization rule for Turkish has two parts. One part is the standard lexical rule that takes an OBJ and makes it a SUBJ under passivization. In its canonical form, a transitive verb has the subcategorization frame *verb*<SUBJ, OBJ>. When passivized, SUBJ becomes NULL unless an oblique agent is introduced in the passive sentence. This is illustrated in (43) and (44), which provide simplified f-structures of the sentences in (10a) and (10b) respectively.

(43) F-structure for *köpek beni kovaladı*

$$\left[ \begin{array}{l} \text{PRED} \quad \text{'kovala}\langle\text{köpek, ben}\rangle' \\ \text{SUBJ} \quad \left[ \begin{array}{l} \text{PRED} \quad \text{'köpek'} \\ \text{CASE} \quad \text{nom} \end{array} \right] \\ \text{OBJ} \quad \left[ \begin{array}{l} \text{PRED} \quad \text{'ben'} \\ \text{CASE} \quad \text{acc} \end{array} \right] \\ \text{TENSE PAST} \end{array} \right]$$

(44) F-structure for *ben kovalandım*

$$\left[ \begin{array}{l} \text{PRED} \quad \text{'kovala}\langle\text{NULL, ben}\rangle' \\ \text{SUBJ} \quad \left[ \begin{array}{l} \text{PRED} \quad \text{'ben'} \\ \text{CASE} \quad \text{nom} \end{array} \right] \\ \text{TENSE PAST, PASSIVE +} \end{array} \right]$$

Another subpart of the passive lexical rule deals with the psych verbs and *ride* type verbs. For these, we posit the subcategorization frame  $\text{verb}\langle\text{SUBJ}, \text{OBJ-TH}\rangle$  and we add a disjunction to the standard passive lexical rule<sup>6</sup> to encode that an OBJ-TH ( $\text{OBJ}_\theta$ ) becomes SUBJ ( $(\uparrow \text{OBJ-TH}) \rightarrow (\uparrow \text{SUBJ})$ ) when there is no OBJ available in the clause. The result is illustrated in (45) and (46), which give the simplified f-structures of the sentences in (19a) and (19b), respectively.

(45) F-structure for *Hasan ata bindi*

$$\left[ \begin{array}{l} \text{PRED} \quad \text{'bin}\langle\text{Hasan, at}\rangle' \\ \text{SUBJ} \quad \left[ \begin{array}{l} \text{PRED} \quad \text{'Hasan'} \\ \text{CASE} \quad \text{nom} \end{array} \right] \\ \text{OBJ-TH} \quad \left[ \begin{array}{l} \text{PRED} \quad \text{'at'} \\ \text{CASE} \quad \text{dat} \end{array} \right] \\ \text{TENSE PAST} \end{array} \right]$$

(46) F-structure for *ata binildi*

$$\left[ \begin{array}{l} \text{PRED} \quad \text{'bin}\langle\text{NULL, at}\rangle' \\ \text{SUBJ} \quad \left[ \begin{array}{l} \text{PRED} \quad \text{'at'} \\ \text{CASE} \quad \text{dat} \end{array} \right] \\ \text{TENSE PAST, PASSIVE +} \end{array} \right]$$

Finally, the partitivity and affectedness relations are controlled via CHECK features, which are used generally within ParGram to enforce well-formedness constraints. Thus, for example, if a verb of consumption has a consumable object, it is allowed to have an ablative object in the basic sentence and an ablative subject in its passive form.<sup>7</sup> (47) shows the f-structure analysis of (3). The passivized sentence (11b) has the f-structure in (48).

(47) F-structure for *ben sudan içtim*

$$\left[ \begin{array}{l} \text{PRED} \quad \text{'iç}\langle\text{ben, su}\rangle' \\ \text{SUBJ} \quad \left[ \begin{array}{l} \text{PRED} \quad \text{'ben'} \\ \text{CASE} \quad \text{nom} \end{array} \right] \\ \text{OBJ} \quad \left[ \begin{array}{l} \text{PRED} \quad \text{'su'} \\ \text{CASE} \quad \text{abl} \\ \text{CHECK} \quad \text{consumable} \end{array} \right] \\ \text{TENSE PAST} \end{array} \right]$$

(48) F-structure for *sudan içildi*

$$\left[ \begin{array}{l} \text{PRED} \quad \text{'iç}\langle\text{NULL, su}\rangle' \\ \text{SUBJ} \quad \left[ \begin{array}{l} \text{PRED} \quad \text{'su'} \\ \text{CASE} \quad \text{abl} \\ \text{CHECK} \quad \text{consumable} \end{array} \right] \\ \text{TENSE PAST, PASSIVE +} \end{array} \right]$$

## 4.2 Causativization

For the implementation of causatives, we follow the approach used for Urdu complex predicates (Butt and King 2006), which allows the merger of two separate

<sup>6</sup>Available at <http://www2.parc.com/isl/groups/nltt/xle/doc/notations.html>

<sup>7</sup>Ideally, this kind of information should be encoded and checked at the level of representation of world knowledge.

argument structures to form a new complex predicate via the Restriction Operator (Kaplan and Wedekind 1993). The causative itself is analyzed as a two place predicate where the first argument is the causer and the second argument is the event that is caused. The base verb preserves the number of arguments it has although the arguments themselves are altered (see also Butt et al. 2008 for some discussion).

There are two types of behavior for the causativization of transitives. If the core predication already contains an OBJ, then the causee (former SUBJ) is realized as a dative OBJ<sub>θ</sub>. This rule applies to canonical transitives, ablative partitives and the affectedness alternation. A canonical transitive verb and its causative form as exemplified in (24) have the f-structures (49) and (50), respectively.

- (49) F-structure for *köpek kediyi kovaladı*      (50) F-structure for *çocuk köpeğe kediyi kovalattı*
- |   |      |                                   |                      |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |       |      |  |  |  |   |      |                                   |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |        |   |              |   |  |      |     |   |       |      |  |  |
|---|------|-----------------------------------|----------------------|---|------|---|--------------|---|--|------|-----|---|-----|---|-------------|---|--|------|-----|---|-------|------|--|--|--|---|------|-----------------------------------|---|------|---|--------------|---|--|------|-----|---|-----|---|-------------|---|--|------|-----|---|--------|---|--------------|---|--|------|-----|---|-------|------|--|--|
| <table style="border-collapse: collapse; width: 100%;"> <tr> <td style="padding: 2px 5px;">[</td> <td style="padding: 2px 5px;">PRED</td> <td style="padding: 2px 5px;">‘kovala(köpek,kedi)’</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td style="padding: 2px 5px;">SUBJ</td> <td style="padding: 2px 5px;">[</td> <td style="padding: 2px 5px;">PRED ‘köpek’</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td></td> <td style="padding: 2px 5px;">CASE</td> <td style="padding: 2px 5px;">nom</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td style="padding: 2px 5px;">OBJ</td> <td style="padding: 2px 5px;">[</td> <td style="padding: 2px 5px;">PRED ‘kedi’</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td></td> <td style="padding: 2px 5px;">CASE</td> <td style="padding: 2px 5px;">acc</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td style="padding: 2px 5px;">TENSE</td> <td style="padding: 2px 5px;">PAST</td> <td colspan="2"></td> </tr> </table> | [    | PRED                              | ‘kovala(köpek,kedi)’ | ] | SUBJ | [ | PRED ‘köpek’ | ] |  | CASE | nom | ] | OBJ | [ | PRED ‘kedi’ | ] |  | CASE | acc | ] | TENSE | PAST |  |  | <table style="border-collapse: collapse; width: 100%;"> <tr> <td style="padding: 2px 5px;">[</td> <td style="padding: 2px 5px;">PRED</td> <td style="padding: 2px 5px;">‘caus(çocuk, kovala(köpek,kedi))’</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td style="padding: 2px 5px;">SUBJ</td> <td style="padding: 2px 5px;">[</td> <td style="padding: 2px 5px;">PRED ‘çocuk’</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td></td> <td style="padding: 2px 5px;">CASE</td> <td style="padding: 2px 5px;">nom</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td style="padding: 2px 5px;">OBJ</td> <td style="padding: 2px 5px;">[</td> <td style="padding: 2px 5px;">PRED ‘kedi’</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td></td> <td style="padding: 2px 5px;">CASE</td> <td style="padding: 2px 5px;">acc</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td style="padding: 2px 5px;">OBJ-TH</td> <td style="padding: 2px 5px;">[</td> <td style="padding: 2px 5px;">PRED ‘köpek’</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td></td> <td style="padding: 2px 5px;">CASE</td> <td style="padding: 2px 5px;">dat</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td style="padding: 2px 5px;">TENSE</td> <td style="padding: 2px 5px;">PAST</td> <td colspan="2"></td> </tr> </table> | [ | PRED | ‘caus(çocuk, kovala(köpek,kedi))’ | ] | SUBJ | [ | PRED ‘çocuk’ | ] |  | CASE | nom | ] | OBJ | [ | PRED ‘kedi’ | ] |  | CASE | acc | ] | OBJ-TH | [ | PRED ‘köpek’ | ] |  | CASE | dat | ] | TENSE | PAST |  |  |
| [   | PRED | ‘kovala(köpek,kedi)’              | ]                    |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |       |      |  |  |  |   |      |                                   |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |        |   |              |   |  |      |     |   |       |      |  |  |
| SUBJ  | [    | PRED ‘köpek’                      | ]                    |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |       |      |  |  |  |   |      |                                   |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |        |   |              |   |  |      |     |   |       |      |  |  |
|   | CASE | nom                               | ]                    |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |       |      |  |  |  |   |      |                                   |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |        |   |              |   |  |      |     |   |       |      |  |  |
| OBJ   | [    | PRED ‘kedi’                       | ]                    |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |       |      |  |  |  |   |      |                                   |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |        |   |              |   |  |      |     |   |       |      |  |  |
|   | CASE | acc                               | ]                    |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |       |      |  |  |  |   |      |                                   |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |        |   |              |   |  |      |     |   |       |      |  |  |
| TENSE   | PAST |                                   |                      |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |       |      |  |  |  |   |      |                                   |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |        |   |              |   |  |      |     |   |       |      |  |  |
| [   | PRED | ‘caus(çocuk, kovala(köpek,kedi))’ | ]                    |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |       |      |  |  |  |   |      |                                   |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |        |   |              |   |  |      |     |   |       |      |  |  |
| SUBJ  | [    | PRED ‘çocuk’                      | ]                    |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |       |      |  |  |  |   |      |                                   |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |        |   |              |   |  |      |     |   |       |      |  |  |
|   | CASE | nom                               | ]                    |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |       |      |  |  |  |   |      |                                   |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |        |   |              |   |  |      |     |   |       |      |  |  |
| OBJ   | [    | PRED ‘kedi’                       | ]                    |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |       |      |  |  |  |   |      |                                   |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |        |   |              |   |  |      |     |   |       |      |  |  |
|   | CASE | acc                               | ]                    |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |       |      |  |  |  |   |      |                                   |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |        |   |              |   |  |      |     |   |       |      |  |  |
| OBJ-TH  | [    | PRED ‘köpek’                      | ]                    |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |       |      |  |  |  |   |      |                                   |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |        |   |              |   |  |      |     |   |       |      |  |  |
|   | CASE | dat                               | ]                    |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |       |      |  |  |  |   |      |                                   |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |        |   |              |   |  |      |     |   |       |      |  |  |
| TENSE   | PAST |                                   |                      |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |       |      |  |  |  |   |      |                                   |   |      |   |              |   |  |      |     |   |     |   |             |   |  |      |     |   |        |   |              |   |  |      |     |   |       |      |  |  |

Both the base and causativized versions of the partitive example in (25) are represented by the f-structures (51) and (52), respectively.

- (51) F-structure for *ben sudan içtim*      (52) F-structure for *annem bana sudan içirdi*
- |   |       |                          |               |   |      |   |            |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |       |      |  |  |   |   |      |                          |   |      |   |             |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |        |   |            |   |  |      |     |   |       |      |  |  |
|---|-------|--------------------------|---------------|---|------|---|------------|---|--|------|-----|---|-----|---|-----------|---|--|------|-----|---|--|-------|------------|---|-------|------|--|--|---|---|------|--------------------------|---|------|---|-------------|---|--|------|-----|---|-----|---|-----------|---|--|------|-----|---|--|-------|------------|---|--------|---|------------|---|--|------|-----|---|-------|------|--|--|
| <table style="border-collapse: collapse; width: 100%;"> <tr> <td style="padding: 2px 5px;">[</td> <td style="padding: 2px 5px;">PRED</td> <td style="padding: 2px 5px;">‘iç(ben, su)’</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td style="padding: 2px 5px;">SUBJ</td> <td style="padding: 2px 5px;">[</td> <td style="padding: 2px 5px;">PRED ‘ben’</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td></td> <td style="padding: 2px 5px;">CASE</td> <td style="padding: 2px 5px;">nom</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td style="padding: 2px 5px;">OBJ</td> <td style="padding: 2px 5px;">[</td> <td style="padding: 2px 5px;">PRED ‘su’</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td></td> <td style="padding: 2px 5px;">CASE</td> <td style="padding: 2px 5px;">abl</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td></td> <td style="padding: 2px 5px;">CHECK</td> <td style="padding: 2px 5px;">consumable</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td style="padding: 2px 5px;">TENSE</td> <td style="padding: 2px 5px;">PAST</td> <td colspan="2"></td> </tr> </table> | [     | PRED                     | ‘iç(ben, su)’ | ] | SUBJ | [ | PRED ‘ben’ | ] |  | CASE | nom | ] | OBJ | [ | PRED ‘su’ | ] |  | CASE | abl | ] |  | CHECK | consumable | ] | TENSE | PAST |  |  | <table style="border-collapse: collapse; width: 100%;"> <tr> <td style="padding: 2px 5px;">[</td> <td style="padding: 2px 5px;">PRED</td> <td style="padding: 2px 5px;">‘caus(anne, iç(ben,su))’</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td style="padding: 2px 5px;">SUBJ</td> <td style="padding: 2px 5px;">[</td> <td style="padding: 2px 5px;">PRED ‘anne’</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td></td> <td style="padding: 2px 5px;">CASE</td> <td style="padding: 2px 5px;">nom</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td style="padding: 2px 5px;">OBJ</td> <td style="padding: 2px 5px;">[</td> <td style="padding: 2px 5px;">PRED ‘su’</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td></td> <td style="padding: 2px 5px;">CASE</td> <td style="padding: 2px 5px;">abl</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td></td> <td style="padding: 2px 5px;">CHECK</td> <td style="padding: 2px 5px;">consumable</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td style="padding: 2px 5px;">OBJ-TH</td> <td style="padding: 2px 5px;">[</td> <td style="padding: 2px 5px;">PRED ‘ben’</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td></td> <td style="padding: 2px 5px;">CASE</td> <td style="padding: 2px 5px;">dat</td> <td style="padding: 2px 5px;">]</td> </tr> <tr> <td style="padding: 2px 5px;">TENSE</td> <td style="padding: 2px 5px;">PAST</td> <td colspan="2"></td> </tr> </table> | [ | PRED | ‘caus(anne, iç(ben,su))’ | ] | SUBJ | [ | PRED ‘anne’ | ] |  | CASE | nom | ] | OBJ | [ | PRED ‘su’ | ] |  | CASE | abl | ] |  | CHECK | consumable | ] | OBJ-TH | [ | PRED ‘ben’ | ] |  | CASE | dat | ] | TENSE | PAST |  |  |
| [   | PRED  | ‘iç(ben, su)’            | ]             |   |      |   |            |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |       |      |  |  |   |   |      |                          |   |      |   |             |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |        |   |            |   |  |      |     |   |       |      |  |  |
| SUBJ  | [     | PRED ‘ben’               | ]             |   |      |   |            |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |       |      |  |  |   |   |      |                          |   |      |   |             |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |        |   |            |   |  |      |     |   |       |      |  |  |
|   | CASE  | nom                      | ]             |   |      |   |            |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |       |      |  |  |   |   |      |                          |   |      |   |             |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |        |   |            |   |  |      |     |   |       |      |  |  |
| OBJ   | [     | PRED ‘su’                | ]             |   |      |   |            |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |       |      |  |  |   |   |      |                          |   |      |   |             |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |        |   |            |   |  |      |     |   |       |      |  |  |
|   | CASE  | abl                      | ]             |   |      |   |            |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |       |      |  |  |   |   |      |                          |   |      |   |             |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |        |   |            |   |  |      |     |   |       |      |  |  |
|   | CHECK | consumable               | ]             |   |      |   |            |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |       |      |  |  |   |   |      |                          |   |      |   |             |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |        |   |            |   |  |      |     |   |       |      |  |  |
| TENSE   | PAST  |                          |               |   |      |   |            |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |       |      |  |  |   |   |      |                          |   |      |   |             |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |        |   |            |   |  |      |     |   |       |      |  |  |
| [   | PRED  | ‘caus(anne, iç(ben,su))’ | ]             |   |      |   |            |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |       |      |  |  |   |   |      |                          |   |      |   |             |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |        |   |            |   |  |      |     |   |       |      |  |  |
| SUBJ  | [     | PRED ‘anne’              | ]             |   |      |   |            |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |       |      |  |  |   |   |      |                          |   |      |   |             |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |        |   |            |   |  |      |     |   |       |      |  |  |
|   | CASE  | nom                      | ]             |   |      |   |            |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |       |      |  |  |   |   |      |                          |   |      |   |             |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |        |   |            |   |  |      |     |   |       |      |  |  |
| OBJ   | [     | PRED ‘su’                | ]             |   |      |   |            |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |       |      |  |  |   |   |      |                          |   |      |   |             |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |        |   |            |   |  |      |     |   |       |      |  |  |
|   | CASE  | abl                      | ]             |   |      |   |            |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |       |      |  |  |   |   |      |                          |   |      |   |             |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |        |   |            |   |  |      |     |   |       |      |  |  |
|   | CHECK | consumable               | ]             |   |      |   |            |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |       |      |  |  |   |   |      |                          |   |      |   |             |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |        |   |            |   |  |      |     |   |       |      |  |  |
| OBJ-TH  | [     | PRED ‘ben’               | ]             |   |      |   |            |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |       |      |  |  |   |   |      |                          |   |      |   |             |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |        |   |            |   |  |      |     |   |       |      |  |  |
|   | CASE  | dat                      | ]             |   |      |   |            |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |       |      |  |  |   |   |      |                          |   |      |   |             |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |        |   |            |   |  |      |     |   |       |      |  |  |
| TENSE   | PAST  |                          |               |   |      |   |            |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |       |      |  |  |   |   |      |                          |   |      |   |             |   |  |      |     |   |     |   |           |   |  |      |     |   |  |       |            |   |        |   |            |   |  |      |     |   |       |      |  |  |

If the core predication does not contain an OBJ, then the causee has to be realized as an accusative OBJ. Psych verbs and *ride* type verbs subcategorize for an OBJ-TH instead of an OBJ, therefore the SUBJ of the base verb becomes the OBJ after causativization. (53) and (54) depict f-structures of (30). (55) and (56) are the implementation for (32).

Our partitioning of non-canonical objects in Turkish into two distinct sets, one which subcategorize for OBJ but with special case marking that is motivated by clausal semantic factors, and one which subcategorize for an OBJ<sub>θ</sub> due to inherent lexical semantic factors, thus allows for a straightforward implementation.

(53) F-structure for *kedi köpekten korktu*

PRED	‘kork(kedi, köpek)’				
SUBJ	<table style="border-collapse: collapse;"> <tr> <td style="padding-right: 5px;">PRED</td> <td style="border-left: 1px solid black; padding-left: 5px;">‘kedi’</td> </tr> <tr> <td style="padding-right: 5px;">CASE</td> <td style="border-left: 1px solid black; padding-left: 5px;">nom</td> </tr> </table>	PRED	‘kedi’	CASE	nom
PRED	‘kedi’				
CASE	nom				
OBJ-TH	<table style="border-collapse: collapse;"> <tr> <td style="padding-right: 5px;">PRED</td> <td style="border-left: 1px solid black; padding-left: 5px;">‘köpek’</td> </tr> <tr> <td style="padding-right: 5px;">CASE</td> <td style="border-left: 1px solid black; padding-left: 5px;">abl</td> </tr> </table>	PRED	‘köpek’	CASE	abl
PRED	‘köpek’				
CASE	abl				
TENSE PAST					

(54) F-structure for *çocuk kediyi köpekten korkuttu*

PRED	‘caus(çocuk, kork(kedi, köpek))’				
SUBJ	<table style="border-collapse: collapse;"> <tr> <td style="padding-right: 5px;">PRED</td> <td style="border-left: 1px solid black; padding-left: 5px;">‘çocuk’</td> </tr> <tr> <td style="padding-right: 5px;">CASE</td> <td style="border-left: 1px solid black; padding-left: 5px;">nom</td> </tr> </table>	PRED	‘çocuk’	CASE	nom
PRED	‘çocuk’				
CASE	nom				
OBJ	<table style="border-collapse: collapse;"> <tr> <td style="padding-right: 5px;">PRED</td> <td style="border-left: 1px solid black; padding-left: 5px;">‘kedi’</td> </tr> <tr> <td style="padding-right: 5px;">CASE</td> <td style="border-left: 1px solid black; padding-left: 5px;">acc</td> </tr> </table>	PRED	‘kedi’	CASE	acc
PRED	‘kedi’				
CASE	acc				
OBJ-TH	<table style="border-collapse: collapse;"> <tr> <td style="padding-right: 5px;">PRED</td> <td style="border-left: 1px solid black; padding-left: 5px;">‘köpek’</td> </tr> <tr> <td style="padding-right: 5px;">CASE</td> <td style="border-left: 1px solid black; padding-left: 5px;">abl</td> </tr> </table>	PRED	‘köpek’	CASE	abl
PRED	‘köpek’				
CASE	abl				
TENSE PAST					

(55) F-structure for *Hasan ata bindi*

PRED	‘bin(Hasan, at)’				
SUBJ	<table style="border-collapse: collapse;"> <tr> <td style="padding-right: 5px;">PRED</td> <td style="border-left: 1px solid black; padding-left: 5px;">‘Hasan’</td> </tr> <tr> <td style="padding-right: 5px;">CASE</td> <td style="border-left: 1px solid black; padding-left: 5px;">nom</td> </tr> </table>	PRED	‘Hasan’	CASE	nom
PRED	‘Hasan’				
CASE	nom				
OBJ-TH	<table style="border-collapse: collapse;"> <tr> <td style="padding-right: 5px;">PRED</td> <td style="border-left: 1px solid black; padding-left: 5px;">‘at’</td> </tr> <tr> <td style="padding-right: 5px;">CASE</td> <td style="border-left: 1px solid black; padding-left: 5px;">dat</td> </tr> </table>	PRED	‘at’	CASE	dat
PRED	‘at’				
CASE	dat				
TENSE PAST					

(56) F-structure for *babası Hasan’ı ata bindirdi*

PRED	‘caus(baba, bin(Hasan, at))’				
SUBJ	<table style="border-collapse: collapse;"> <tr> <td style="padding-right: 5px;">PRED</td> <td style="border-left: 1px solid black; padding-left: 5px;">‘baba’</td> </tr> <tr> <td style="padding-right: 5px;">CASE</td> <td style="border-left: 1px solid black; padding-left: 5px;">nom</td> </tr> </table>	PRED	‘baba’	CASE	nom
PRED	‘baba’				
CASE	nom				
OBJ	<table style="border-collapse: collapse;"> <tr> <td style="padding-right: 5px;">PRED</td> <td style="border-left: 1px solid black; padding-left: 5px;">‘Hasan’</td> </tr> <tr> <td style="padding-right: 5px;">CASE</td> <td style="border-left: 1px solid black; padding-left: 5px;">acc</td> </tr> </table>	PRED	‘Hasan’	CASE	acc
PRED	‘Hasan’				
CASE	acc				
OBJ-TH	<table style="border-collapse: collapse;"> <tr> <td style="padding-right: 5px;">PRED</td> <td style="border-left: 1px solid black; padding-left: 5px;">‘at’</td> </tr> <tr> <td style="padding-right: 5px;">CASE</td> <td style="border-left: 1px solid black; padding-left: 5px;">dat</td> </tr> </table>	PRED	‘at’	CASE	dat
PRED	‘at’				
CASE	dat				
TENSE PAST					

## 5 Conclusion

In this paper we analyzed objects that bear cases other than the canonical nominative/accusative case in Turkish. With a set of examples, we observed the possible alternation scenarios and divided the non-canonical objects into subsets. Verbs of consumption have ablative objects when only part of the object is affected from the action. Degree of affectedness or boundedness causes alternation in object cases for another set of verbs as well. Most of the psych verbs subcategorize for either dative or ablative objects, as do a small subset of verbs with no common semantics.

When the sentences including non-canonical objects are passivized, all of the objects preserve their case. Although Turkish has nominative subjects in general, there are indications that non-canonical objects might turn into subjects. On the other hand, data from causativization points to two distinct groups. Objects with partitivity or affectedness/boundedness alternations behave the same as canonical objects, with the difference that they preserve their non-canonical case so as not to erase the semantic information coded by them. Objects of psych verbs and the *ride* type behave as if they do not already contain an OBJ, as the accusative causee fills that role. We thus analyze these non-canonical objects as OBJ<sub>θ</sub>.

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