A Semantic Characterization of Turkish Nominalizations

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1. Introduction

This paper presents a semantic characterization of two types of nominalizations that can appear as complements to predicates in Turkish: -DIK nominalizations (1a) and -MA nominalizations (1b).

(1) a. Zeynep [Uğur-un kek-i ye-**diğ**-in-i] bil-iyor
Zeynep.NOM [Uğur-GEN cake-ACC eat-DIK-3SG.POS-ACC] know-IMPF
'Zeynep knows that Uğur ate the cake.
b. Zeynep [Uğur-un kek-i ye-**me**-sin-i] ist[e]-iyor
Zeynep.NOM [Uğur-GEN cake-ACC eat-MA-3SG.POS-ACC] want-IMPF
'Zeynep wants Uğur to eat the cake.'

As the minimal pair above shows, -DIK and -MA complements exhibit the same surface syntax, which is comparable to the genitive-possessive construction[1] exemplified in (2).

(2) Uğur-*un* kedi-*sin*-i besle-di-m.
Uğur-GEN cat-3SG.POS-ACC feed-PST-1SG
'I fed Uğur's cat.'

There are, however, important contrasts between -DIK and -MA nominalizations that suggest differences in their internal syntax. For example, Kornfilt (2003) shows that -DIK nominalizations support A-bar phenomena while -MA nominalizations do not, which she takes to constitute a piece of evidence for the absence of the CP layer in the latter. Kornfilt (2003) also mentions contrasts in compatibility with determiners and pluralization. Importantly, contrasts in nominal properties do not directly follow from an account that resorts to missing verbal projections. In this paper, I argue that all of these contrasts follow from the right semantic characterization of -DIK and -MA nominalizations [section 2]. Furthermore, I entertain some possibilities on how the proposed semantic characterization can help us represent the selection of -DIK and -MA clauses in semantic terms [section 3].

2. Proposal

Previous studies on nominalizations in Turkish use different labels such as *action* vs. *factive* nominal (Lees, 1965; Kornfilt, 1984) or *indicative* vs. *subjunctive* nominalization (Kornfilt, 2003; Kornfilt & Whitman, 2011) to refer to -MA and -DIK nominalizations, respectively. Although these labels do not constitute a semantic characterization of these nominalizations *per se*, they surely reflect intuitions on where they are *licensed*. My goal in this paper is to sketch out what these nominalizations contribute *minimally*. Hence, building on insights from earlier descriptions, I will present a preliminary investigation towards understanding what these nominalizations are in formal semantic terms.

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[1] This paper will not be concerned with the genitive-possessive (GP) syntax of nominalizations. On the GP syntax of nominalizations in Turkish, see e.g. Kornfilt (2003). For a recent treatment of the GP syntax of possessive constructions in Turkish, see Öztürk & Taylan (2016).

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I propose that the basic mapping in (3) holds in Turkish. According to this mapping, the main difference between -MA and -DIK clauses is that the event variable is existentially closed in the latter (Kratzer, 1989; Hacquard, 2006; von Stechow & Beck, 2015), as schematized below.

(3) a. -MA clauses → predicates of events (type $< v, st >$)
b. -DIK clauses → propositions (type $< s, t >$)

(4) a. Suzan-ın koş-**ma**-sı
Susan-GEN run-MA-3SG.POS
'Susan's running'
b. $\lambda e_v.\lambda w_s$. run$(w)(e)$ & agent$(w)(e)$(S)

(5) a. Suzan-ın koş-**tuğ**-u
Susan-GEN run-DIK-3SG.POS
'that Susan ran/is running'
b. $\lambda w.\exists e$ [run$(w)(e)$ & agent$(w)(e)$(S)]
(ignoring aspect)

The proposed mapping finds empirical support from robust contrasts like in (6). Since -MA nominalizations are predicates of events, they make accessible an event that can be the subject of a predicate like *be an amazing event*. -DIK nominalizations, on the other hand, denote sets of worlds, from which we cannot recover an event that can compose with predicates like *be an amazing event*.

(6) a. *[Suzan-ın hata-yı bul-**duğ**-u] harika bir olay-dı
Susan-GEN mistake-ACC find-DIK-3SG.POS amazing a event-PST
'Lit: *That Susan found the mistake was an amazing event.'
b. [Suzan-ın hata-yı bul-**ma**-sı] harika bir olay-dı
Susan-GEN mistake-ACC find-MA-3SG.POS amazing a event-PST
'Susan's finding the mistake was an amazing event.'

Further evidence for the proposed mapping comes from the selection patterns in (7). Propositions can be *obvious* or *true*. Hence, such predicates readily compose with -DIK clauses. Predicates like *take n minutes*, however, directly make reference to an event. Hence, they need to compose with a -MA clause (7b) and are totally incompatible with a -DIK clause (7c). Notably, -MA clauses, having an unbound event variable, exhibit more flexibility. For example, they can refer to definite event descriptions as in (8a) or they can contribute to propositions as in (8b) via existential closure of the event variable.[2]

(7) a. [Suzan-ın hata-yı bul-**duğ**-u] {ortada | doğru | biliniyor }.
Susan-GEN mistake-ACC find-DIK-3SG.POS {obvious | true | known }
'That Susan found the mistake is {obvious | true | known}.'
b. [Suzan-ın hata-yı bul-**ma**-sı] iki dakika sür-dü.
Susan-GEN mistake-ACC find-MA-3SG.POS two minute last-PST
'For Susan to find the mistake took 2 mintues.'
c. *[Suzan-ın hata-yı bul-**duğ**-u] iki dakika sür-dü.
Susan-GEN mistake-ACC find-DIK-3SG.POS two minute last-PST
'Lit: *That Susan found the mistake took 2 mintues.'
d. Zeynep [Suzan-ın hata-yı bul-**ma**-sın-ı] dil[e]-iyor
Zeynep.NOM Suzan-GEN mistake-ACC find-MA-3SG.POS-ACC wish-IMPF
'Zeynep wishes for Suzan to find the mistake.'

(8) a. ⟦ (7b) ⟧ ≈ λw. the runtime of ιe [find$(w)(e)$(the-mistake) & agent$(w)(e)$(Suzan)] = 2 mins
b. ⟦ (7d) ⟧ ≈ λw. $\forall w' \in$ WISH$_{[\text{Zeynep}, w]}$: $\exists e$ [find$(w')(e)$(the-mistake) & agent$(w')(e)$(Suzan)]

In what follows, I show that the proposed semantic type distinction predicts a number of syntactic contrasts between the two nominalization types reported in the literature.

[2] Section 3 is dedicated to the issues regarding selection and how this 'conversion' can be implemented.

2.1. Contrasts in internal syntax

Aspect marking is possible in -DIK clauses although it is not as rich as in finite clauses (Kornfilt, 2003). There is a variant of the -DIK nominalizer, namely the -ACAK nominalizer, which marks the *prospective aspect* (Jendraschek, 2011).[3] While the -ACAK nominalizer unambiguously encodes the prospective aspect, the -DIK nominalizer is ambiguous between imperfective and perfective interpretations. The aspectual contrast in -DIK clauses[4] is illustrated in (9).

(9) a. Uğur-un kedi-yi Zeynep-e ver-**diğ**-in-i bil-iyor-um.
Uğur-GEN cat-ACC Zeynep-DAT give-DIK-3SG.POS-ACC know-IMPF-1SG
'I know that Uğur gave/is giving the cat to Zeynep.'

b. Uğur-un kedi-yi Zeynep-e ver-**eceğ**-in-i bil-iyor-um.
Uğur-GEN cat-ACC Zeynep-DAT give-ACAK-3SG.POS-ACC know-IMPF-1SG
'I know that Uğur is going to give the cat to Zeynep.'

There is no comparable tense/aspect marking in -MA clauses. Temporal anchoring of the event is totally contingent on the embedding context (Kornfilt, 2003). This is shown in (10).

(10) Uğur-un git-**me**-si {gerek-iyor | gerek-ti | gerek-ecek}
Uğur-GEN go-MA-3SG.POS be.necessary-IMPF | be.necessary-PST | be.necessary-FUT
'It {is | was | will be} necessary for Uğur to leave.'

I assume that outer aspect is responsible for existentially closing the event variable (Klein, 1994; Kratzer, 1998; Hacquard, 2006; von Stechow & Beck, 2015). Accordingly, the contrast regarding aspect marking is exactly what the proposed semantic type distinction predicts. Due to the lack of aspect marking, -MA nominalizations may remain as objects of type $<v,st>$.[5] In -DIK nominalizations, on the other hand, the event variable is existentially closed by aspect, deriving a proposition denotation of type $<s,t>$. Hence, I assume that the denotations of -DIK and -ACAK nominalizers, besides their aspectual contributions, incorporate *event closure*, as defined in (11).

(11) $[\![\exists]\!] = \lambda P_{<v,\,st>}.\lambda w_s.\ \exists e\ [P(w)(e)=1]$ [from Gluckman (2018):35]

Kornfilt (2003) furthermore shows that -MA clauses disallow A-bar phenomena (i.e. question-formation and relativization), which she attributes to their lacking of a CP layer (cf. Kornfilt & Whitman (2011)). I argue that the reported contrasts regarding A-bar phenomena follow from the proposed type distinction. Let us first consider the asymmetry in the possibility of question-formation. Examples like (12a) that exhibit optionality[6] between a -MA clause and a -DIK clause are particularly informative. Notice that despite the optionality in (12a) only the -DIK nominalization in this environment can support an embedded question denotation, as shown in (12b).

(12) a. Zeynep-in { gel-**diğ**-in-e | gel-**me**-sin-e } şaşır-dı
Zeynep-GEN { come-DIK-3SG.POS-DAT | come-MA-3SG.POS-DAT } be.surprised-PST
'She was surprised that Zeynep came.'

b. Kim-in { gel-**diğ**-in-e | *gel-**me**-sin-e } şaşır-dı
Zeynep-GEN { come-DIK-3SG.POS-DAT | come-MA-3SG.POS-DAT } be.surprised-PST
'She was surprised who came.'

This asymmetry follows from the proposal in that the *answerhood operator* responsible for embedded question denotations needs to combine with a set of type $<s,t>$ objects (Heim, 1994; Dayal, 1996), which -MA nominalizations, being objects of type $<v,st>$, do not support. Hence, the -MA variant in (12b) is ungrammatical due to a type clash.

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[3] Göksel & Kerslake (2005) call this a *relative tense* marker.

[4] I refer to clauses that feature the -ACAK or -DIK nominalizers as -DIK nominalizations/clauses.

[5] Aspect marking mediated by the auxiliary verb "ol" *be* is a potential worry that I ignore here. Aspect stacking via *be* is possible in -DIK and finite clauses, and presumably involves a recursion of type $<v,st>$ objects.

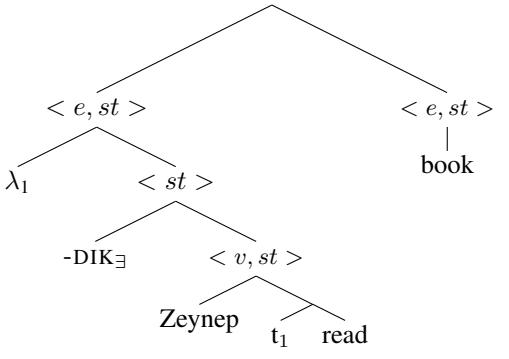
[6] See section 3 for further discussion on emotive predicates.

Another informative contrast that Kornfilt (2003) discusses concerns the possibility of relativization. As shown in (13), only -DIK nominalizations can stand for a relative clause.

(13) a. [$_{RC}$ Zeynep-in *e* oku-duğ-u] kitap
Zeynep-GEN read-DIK-3SG.POS book
'(The) book that Zeynep is reading/read.'
b. *[$_{RC}$ Zeynep-in *e* oku-ma-sı] kitap
Zeynep-GEN read-MA-3SG.POS book

I assume that relativization is obtained through Predicate Abstraction (Heim & Kratzer, 1998). Accordingly, abstraction over a proposition yields an object that can intersect with the head noun[7] (14) whereas abstraction over an object of type $<v, st>$ does not. Hence, (13b), too, can be precluded as an instance of type clash.

(14) $\lambda x.\ \lambda w.\ \exists e$ such that read$(w)(e)(x)$ & agent$(w)(e)$(Z) & book$(w)(x)$



2.2. Contrasts in nominal properties

-DIK and -MA nominalizations pattern like DPs in that they are both case-marked. However, Kornfilt (2003) argues that "*...the non-factive clauses* [i.e. -MA nominalizations] *are more nominal than the factive ones* [i.e. -DIK nominalizations] *in a number of ways.*" (p.12).[8] In particular, she notes that -MA clauses, unlike -DIK clauses, "*...can, with varying degrees of success, be pluralized and can also co-occur with certain determiners...*" (p.14), alluding to some unidentified restrictions on their compatibility with determiners and pluralization. Moreover, Kornfilt (1990) notes that the *with*-conjunction in Turkish can be used to conjoin -MA clauses but not -DIK clauses.

Let us first investigate the reported contrast in plural marking. As shown in (15a) and (15b), -MA clauses can be pluralized via the plural marker seen on nouns (15c).

(15) a. Selim-in Kerim-den para dilen-me-**ler**-in-den bana gına geldi
Selim-GEN Kerim-ABL money beg-MA-PL-3SG.POS-ABL to.me be.sick.of.PST
'Lit: I got sick of Selim's beggings for money from Kerim.'
b. Ali-nin bu şarkı-yı son ses dinle-me-**ler**-in-e zor katlan-dı-k
Ali-GEN this song-ACC full sound listen-MA-PL-3SG.POS-DAT difficult endure-PST-1PL
'Lit: We could barely endure Ali's listenings to this song at full blast.'
c. Timur dün kedi-**ler**-*(i) besle-di
Timur yesterday cat-PL-ACC feed-PST
'Timur fed *(the) cats yesterday.'

[7] I abstract away from questions like how intensionality needs to be represented and to what extent situation/world pronouns are part of the object language. The schematic composition in (14) follows Schwarz (2012) in assuming that predicates are of objects of $< e, st >$.

[8] Being "more nominal" is admittedly vague. Kornfilt (2003) offers the following interpretation: -MA clauses are homogeneously DPs as shown by their lacking of (functional) verbal projections like CP and their compatibility with determiners and pluralization. In contrast, -DIK clauses are *at the same time* CPs.

The pluralized -MA clauses denote definite event descriptions[9] and presuppose the existence of a plurality of events that satisfy the relevant event description. However, it should be noted that the plural marking on -MA clauses is usually marginal, as also pointed out in Kornfilt (2003). There seem to be interesting pragmatic restrictions on plural marking. For instance, a neutral report of a repeated event like *lifting the barbell* using the plural as in (16a) sounds marginal at best. Most natural reports that feature plural marking on a -MA clause are complaints and imply distress or nuisance due to the frequency of the relevant event. That being said, the semantic conditions on its licensing are familiar. For example, (16b) has the odd presupposition that Selim killed a salient mosquito many times. Hence, the plural marking on a -MA clause does not seem to be a non-compositional quirk of predicates like *be sick of*.

(16) a. ??Haberler-de, sporcu-nun halter-i kaldır-ma-**lar**-ın-ı göster-di-ler
news-LOC athlete-GEN barbell-ACC lift-MA-PL-3SG.POS-ACC show-PST-3PL
'Lit: In the news, they showed the athlete's lifting**s** of the barbell.'

b. #Selim-in sivrisineğ-i öldür-me-**ler**-in-den bana gına geldi
Selim-GEN mosquito-ACC kill-MA-PL-3SG.POS-ABL to.me be.sick.of.PST
'Lit: I got sick of Selim's killing**s** of the mosquito.'

A propositional -DIK clause, however, clearly cannot be pluralized, as shown in (17a). Plural marking on a -DIK clause that denotes a property (thanks to relativization) is of course possible (17b). Hence, nominal pluralization is able to semantically target objects of $<v, st>$ [(15a), (15b)] as it ordinarily targets objects of type $<e, st>$ [(15c), (17b)].[10]

(17) a. Melis-in ev-i temizle-dik-**[*ler]**-i ortada-ydı
Melis-GEN house-ACC clean-DIK-PL-3SG.POS obvious-PST
'That Melis cleaned the house [*intended*: *many times] was obvious.'

b. Merve-nin e pişir-dik-**ler**-in-i ye-di-k
Merve-GEN cook-DIK-PL-3SG.POS-ACC eat-PST-1PL
'We ate the thing**s** that Merve cooked.'

Since -MA clauses can stand for definite event descriptions, we should ask the question if they can also occur with overt quantificational determiners in Turkish (cf. Portner (1995)). Examples like in (18), although they are somewhat marginal, show that -MA clauses can co-occur with determiners like *every*.[11]

(18) ?Sporcu-nun halter-i **her** kaldır-ma-sın-ı dakikalarca alkışla-dı-k
athlete-GEN barbell-ACC every lift-MA-PL-3SG.POS-ACC for.minutes applaud-PST-1PL
'Lit: We applauded each lifting of the barbell by the athlete.'

Proposition-denoting -DIK clauses, on the other hand, clearly cannot combine with quantifiers over individuals (19b). Again, a property denoting -DIK clause as in (20) can combine with an overt quantifier over individuals.

(19) a. Selim-in ev-e uğra-dığ-ı bil-in-iyor
Selim-GEN house-DAT stop.by-DIK-3SG know-PASS-IMPF
'That Selim stopped by the house is known.'

b. *Selim-in ev-e **her** uğra-dığ-ı bil-in-iyor
Selim-GEN house-DAT every stop.by-DIK-3SG know-PASS-IMPF
Intended: ≈ 'Every instance of Selim stopping by the house is known.'

[9] As shown in (15c), plural marking on nouns may force definiteness, at least in episodic contexts. This seems to extend to nominalizations. See Sağ (to appear) for relevant discussion on the semantics of number in Turkish.

[10] A clarification note is necessary here: nominal pluralization is impossible with VPs even though they are also of type $<v, st>$. Therefore, compatibility with nominal pluralization is admittedly contingent on the presence of a categorizer head like n^o. The point here is that such a head is arguably also available in -DIK nominalizations but this alone does not license pluralization. Hence, nominal pluralization has both semantic (type-wise) as well as syntactic (category-wise) preconditions.

[11] Note that determiners strongly prefer to follow the genitive phrase in genitive-possessive constructions. This behavior of determiners extends to clausal nominalizations, as well.

(20) Deniz-in **her** e pişir-diğ-in-i yedi-k
Deniz-GEN every cook-DIK-3SG.POS-ACC eat-PST-1PL
'We ate everything that Deniz cooked.'

Hence, our findings regarding nominal pluralization are replicated in the domain of quantification: quantificational determiners can compose with objects of type $<v, st>$ as they ordinarily compose with objects of type $<e, st>$. The availability of pluralization and quantification for objects of type $<v, st>$ is predicted if events are on par with entities (Lasersohn, 1995).

The last contrast in nominal properties to be discussed here is the possibility of conjunction via the comitative/instrumental clitic "ile" *with*, pointed out in Kornfilt (1990). Turkish has multiple strategies of conjoining NPs, one of which involves the comitative/instrumental clitic *ile*, as illustrated in (21). The conjunctive use of *ile* can easily be diagnosed by the plural agreement on the predicate.

(21) Ali-**yle** Merve görüş-tü-**ler**.
Ali-with Merve meet-PST-PL
'Ali and Merve met.'

Crucially, *ile* can only conjoin NPs to form pluralities, and in that respect contrasts with the regular conjunction *ve*, which has the distribution of English *and*.

(22) a. Uzun adam {**ve** | **ile**} kel adam birbirlerini selamla-dı-lar
tall man and | with bald man each other greet-PST-PL
'The tall man and the bold man greeted each other.'
b. O uzun {**ve** | *__ile__} kel adam
that tall and | with bald man
'That tall and bald man'
c. Ali otur-du {**ve** | *__ile__} ağla-dı.
John sit-PST and | with cry-PST.
'Ali sat and cried.'

Hence, *ile*-conjunction seems to do what a sum formation operator does (Link, 1983), namely it forms pluralities out of entities by summing them, as exemplified in (23). This specialized function of *ile*-conjunction gives us another test. As Kornfilt (1990) notes, *ile* can be used to conjoin -MA clauses, but not -DIK clauses. This is a welcome prediction if -MA clauses can denote definite event descriptions and definite event descriptions are like individuals. In (24) is an illustrative example. If *ile* is doing what it does in NP conjunction, the subject of (24) must refer to a definite plural event.

(23) $[\![$Ali **ile** Merve$]\!]$ = a $\oplus$ m

(24) [Zeynep-in gitar çal-ma-sı] **ile** [Dilara'nın şarkı söyle-me-si] herkes-i
Zeynep-GEN guitar play-MA-3SG.POS with Dilara-GEN song say-MA-3SG.POS everyone-ACC
eğlen-dir-di dün gece
have.fun-CAUS-PST last night
'Last night, Zeynep's playing the guitar and Dilara's singing made everyone have fun.'

The fact that the *ile* can sum events can be more clearly observed in (25). Let e_1 and e_2 be the atomic events[12] that the conjuncts in (25) denote. When the distributive morpheme *-şer* is part of the sentence, the sentence asserts that the runtime of each atom of the plural event $e_1 \oplus e_2$ was 2 hours. In other words, the sentence means e_1 took 2 hours and e_2 took 2 hours. Hence, the atoms of (plural) events summed via *ile* are accessible just like the atoms of (plural) individuals formed via *ile* (26). However, when the distributive morpheme is not part of the sentence in (25), the predicate *took 2 hours* specifies the runtime of the plural event $e_1 \oplus e_2$. That is, (25) without the distributive morpheme is judged false if e_1 and e_2 occupy non-overlapping 2-hour intervals in the past.

[12] To simplify the discussion, I take these definite singular event descriptions to pick out atomic events. But this may not necessarily be so. I abstract away from this question here.

(25) [Suzan'ın hata-yı bul-ma-sı] **ile** [Merve'nin email-i yaz-ma-sı]
Susan-GEN mistake-ACC find-MA-3SG.POS with Merve-GEN email-ACC write-MA-3SG.POS
iki-**(şer)** saat sür-dü.
two-DIST hour last-PST
'for Susan to find the mistake and for Merve to write the email took 2 hours (each).'

(26) Suzan **ile** Merve iki-**şer** saat çalış-tı-lar
Suzan with Merve two-DIST hour work-PST-PL
'Suzan and Merve each worked for two hours.'

Proposition-denoting -DIK clauses resist conjunction via *ile*, as shown in (27). Finally, entity denoting -DIK clauses (due to relativization), on the other hand, can easily be conjoined by *ile* (28). Once again, the possibility of *ile*-conjunction shows us that events are to be grouped with individuals and brings further support for the type distinction between -MA and -DIK clauses.

(27) *[Suzan'ın hata-yı bul-duğ-u] **ile** [Merve'nin email-i
Susan-GEN mistake-ACC find-DIK-3SG.POS with Merve-GEN email-ACC
yaz-dığ-ın-ı] biliyorum.
write-DIK-3SG.POS-ACC I.know
Intended: 'I know that Susan found the mistake and Merve wrote the email.'

(28) [Sen-in e pişir-diğ-in] **ile** [ben-im e al-dığ-ım] masa-da
you-GEN cook-DIK-2SG.POS with I-GEN buy-DIK-1SG.POS table-LOC
'The thing you cooked and the thing I bought are on the table.'

3. Some Remarks on Selection

An important question that we need to address is how the proposed semantic type distinction could help us characterize the selection of -MA and -DIK complements. As noted in previous works, attitude predicates in Turkish fall in three classes: those that exhibit strict selection of -MA vs. -DIK complements, those that exhibit optionality, and those that differ in interpretation dependent on the complement type.

One way to recast selection in semantic terms is to adjust the lexical entries of selecting predicates accordingly. For example, we can simply posit type-compatible denotations for the -DIK selecting "düşün" in (29) and the -MA selecting "iste" in (30).[13]

(29) a. Melis [Deniz-in git-**tiğ**-in-i] düşün-üyor
Melis.NOM [Deniz-GEN go-DIK-3SG.POS-ACC] think-IMPF
'Melis thinks that Deniz left.'
b. $[\![\text{düşün}]\!] = \lambda p_{<s,t>}.\ \lambda x.\ \lambda w.\ \forall w' \in \text{DOX}_{[x,\,w]},\ p(w')=1$

(30) a. Melis [Deniz-in git-**me**-sin-i] ist[e]-iyor
Melis.NOM [Deniz-GEN go-MA-3SG.POS-ACC] want-IMPF
'Melis wants Deniz to leave.'
b. $[\![\text{iste}]\!] = \lambda P_{<v,st>}.\ \lambda x.\ \lambda w.\ \forall w' \in \text{BOUL}_{[x,\,w]},\ \exists e\ [P(w')(e)=1]$

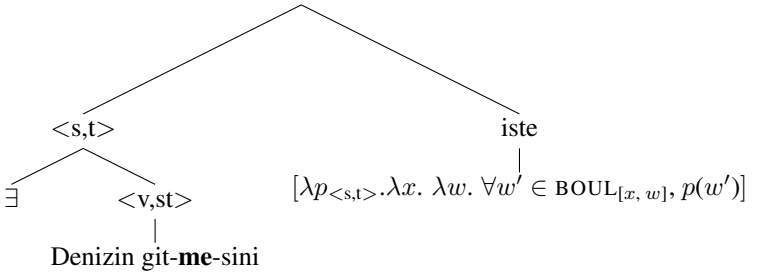
Under this analysis, the reason for the ungrammaticality of examples like (31) will be a type mismatch. That is, "iste" would need to compose with an object of type $<v, st>$, which -DIK clauses, being objects of type $<s, t>$, cannot support.

(31) *Melis [Deniz-in git-**tiğ**-in-i] ist[e]-iyor
Melis.NOM [Deniz-GEN go-DIK-3SG.POS-ACC] want-IMPF
Intended: 'Melis wants Deniz to leave.'

[13] Implementing type-based selection does not eliminate the syntactic selection problem entirely. Even if we acknowledge the type asymmetry and accordingly adjust the denotations of selecting predicates, we still need to ensure that a finite clause of type $<s, t>$ (or even a bare VP of type $<v, st>$) do not end up as complements when they cannot.

Although this analysis presents a conceivable approach to selection in general, I believe there are reasons not to pursue it. First, under this analysis, *event closure* [see (11)] will need to be part of the meaning of the attitude verbs that select for a -MA complement. This tweak only allows us to recast the seemingly idiosyncratic selection in semantic-type terms, it has no independent justification. For example, the composition in (32) that eliminates the stipulated type asymmetry between "düşün" and "iste" and factors out *event closure* works equally well. [But we lose the proposed explanation for (31).]

(32)



Second, encoding *event closure* in the denotation of the selecting verb commits us to lexically encoding systematic meaning correlations as if they were idiosyncratic. Here is the problem: A large class of attitude predicates are able to compose with both -DIK and -MA nominalizations. In a subset of these cases, the choice of nominalizer correlates with systematic differences in interpretation. Consider the examples in (33)-(35) where the core meanings of the selecting predicates remain constant. But with -MA complements, a root modal construal [translated as *should*] emerges.

(33) a. Mahkeme işçi-ler-e tazminat öde-n-**me**-sin-e karar ver-di
court worker-PL-DAT compensation pay-PASS-MA-3SG.POS-DAT decision give-PST
'The court decided that workers should be paid compensation.'

b. Mahkeme işçi-ler-e tazminat öde-n-**diğ**-in-e karar ver-di
court worker-PL-DAT compensation pay-PASS-DIK-3SG.POS-DAT decision give-PST
'The court decided that workers were/are being paid compensation.'

(34) a. Kurum-un komite-ye temsilci gönder-**me**-sin-den şüpheli-yiz
institution-GEN committee-DAT representative send-MA-3SG.POS-ABL be.doubtful-1PL
'We doubt that the institution should send a respresentative to committee.'

b. Kurum-un komite-ye temsilci gönder-**diğ**-in-den şüpheli-yiz
institution-GEN committee-DAT representative send-DIK-3SG.POS-ABL be.doubtful-1PL
'We doubt that the institution sent/is sending a respresentative to committee.'

(35) a. Bireysel silahlanma-nın yasadışılaştır-ıl-**ma**-sın-a inan-ıyor-uz
personal gun.ownership-GEN illegalize-PASS-MA-3SG.POS-DAT believe-IMPF-1PL
'We believe that personal gun ownership should be illegalized.'

b. Bireysel silahlanma-nın yasadışılaştır-ıl-**dığ**-ın-a inan-ıyor-uz
personal gun.ownership-GEN illegalize-PASS-MA-3SG.POS-DAT believe-IMPF-1PL
'We believe that personal gun ownership was/is being illegalized.'

Where does this root modal construal come from? We could say it is part of the meaning of -MA nominalizations. For example, based on a similar set of data, Kornfilt (2003) analyzes -MA nominalizations as subjunctive nominalizations. But we have seen evidence that -MA nominalizations do not have this modal construal everywhere. Data like in (36) show that -MA nominalizations have a maximally undecorated, plain meaning. They simply denote predicates of events.

(36) [Suzan-ın hata-yı bul-**ma**-sı] iki dakika sür-dü.
Susan-GEN mistake-ACC find-MA-3SG.POS two minute last-PST
'For Susan to find the mistake took 2 mintues.'

Under the analysis sketched in the beginning of this section, we are forced to write two independent lexical entries for each predicate that is compatible with both nominalizations, ignoring whatever

interpretational systematicity that there is. An alternative analysis is to take this systematicity seriously and attribute the unexpected modal construal to a null object, say *a modal complementizer*, that combines with a -MA clause and converts it into a propositional object [as in (32)]. The modal complementizer will not only do *event closure* but also introduce modal quantification. As a matter of fact, there is a growing body of insightful work that argues that attitude predicates do not directly compose with propositions. Instead, complementizers (or mood projections) are assumed to be the locus of modal quantification and mediate the relationship between a proposition and the selecting verb (Kratzer, 2006, 2013, 2016; Moulton, 2009, 2015). This approach would readily accommodate data like in (33)-(35). One challenge for this approach, though, is to successfully restrict the distribution of this modal complementizer, as there are cases like (37) where this selectional flexibility is not observed.

(37) a. Patron işçi-ler-e tazminat öde-n-**diğ**-in-i san-dı
court worker-PL-DAT compensation pay-PASS-DIK-3SG.POS-ACC think-PST
'The boss (falsely) thought that the workers were/are being paid compensation.'

b. *Patron işçi-ler-e tazminat öde-n-**me**-sin-i san-dı
court worker-PL-DAT compensation pay-PASS-MA-3SG.POS-ACC think-PST
Intended: 'The boss (falsely) thought that the workers should be paid compensation.'

Finally, there is another systematic class of attitude predicates that are able to compose with both complement types, but this time without any detectable interpretational difference. This group mainly consist of emotive predicates, both non-factive (38) and factive[14] [see e.g. (12a)]. In (38), for example, both variants have the attitude-report reading where Pelin's *worry*-worlds each include an event of Mustafa losing his phone, which is not part of the actual world.[15] If we choose to factor out *event closure*, a different complementizer that composes with a predicate of events needs to be postulated to derive a propositional attitude in cases like (38b). I should note that as long as the classes of predicates that co-occur with such complementizers can be clearly defined, this move is not particularly concerning under the view that complementizers host more action than it was previously thought (Kratzer, 2006; Moulton, 2009).

(38) a. Pelin Mustafa-nın telefon-un-u keybet-**tiğ**-in-den endişelen-di
Pelin Mustafa-GEN phone-3SG.POS-ACC lose-DIK-3SG.POS-ABL be.worried-PST
'Pelin was worried that Mustafa lost his phone.'

b. Pelin Mustafa-nın telefon-un-u keybet-**me**-sin-den endişelen-di
Pelin Mustafa-GEN phone-3SG.POS-ACC lose-MA-3SG.POS-ABL be.worried-PST
'Pelin was worried that Mustafa would lose his phone.'

There is some evidence that the propositional attitude with this class of predicates is not lexically selected, as shown by a distinct reading available to -MA clauses that co-occur with this class of predicates. Under this reading, the -MA clause is construed as a definite event description and does not seem to describe an attitude. For example, this reading of (38b) presupposes an event of Mustafa losing his phone in the actual world and reports it as the source of Pelin's worry state. Note that this is the only possible reading when the predicate is causativized, as in (39). Similarly, when the -MA clause in (38b) is fronted, this becomes the salient reading.

(39) M.-nın telefon-un-u keybet-**me**-si Pelin-i endişelen-dir-di.
M.-GEN phone-3SG.POS-ACC lose-MA-3SG.POS.NOM Pelin-ACC be.worried-CAUS-PST
'Mustafa's losing his phone worried Pelin.'

This double-life of -MA clauses also predicts contrasts like in (40) with respect to 'nominal properties'. Assuming that a plural-marked -MA clause denotes a definite plural event as in (40a), we predict that it can no longer be converted into a proposition (40b), for its event variable will already be bound. Similarly, we predict incompatibility with *ile* conjunction and determiners when the -MA

[14] It should be noted that factivity may not be a lexical property of attitude predicates in Turkish. See Özyıldız (2017) for relevant discussion on 'factivity alternations' in Turkish.

[15] Notice that the -MA variant does not add any kind of root modal interpretation here. cf. (33)-(35)

clause needs to be converted into a proposition. Hence, at this point, we are able to make more precise predictions on when a -MA clause can contrast with a -DIK clause with respect to nominal properties.

(40) a. Ali-nin ders-ten kal-ma-**[✓lar]**-[s]ın-a çok üzül-dü-m
Ali-GEN class-ABL fail-MA-PL-3SG.POS-DAT much be.sad-PST-1SG
'I was saddened by Ali's failing in the class [✓multiple times].'

b. Mahkeme Selim-e tazminat öde-n-**me**-[*ler]-[s]in-e karar ver-di
court Selim-DAT compensation pay-PASS-MA-3SG.POS-DAT decision give-PST
'The court decided that Selim should be paid compensation [intended: *multiple times].'

4. Conclusion

In this paper, I have presented a preliminary semantic investigation of two kinds of nominalizations in Turkish, namely -MA and -DIK nominalizations, which I have argued should be represented as predicates of events (of type $<v, st>$) and propositions (of type $<s, t>$), respectively. I have shown that a number of syntactic contrasts between the two nominalization types reported in previous works follow from this type distinction. Notably, the proposed type asymmetry correctly predicts more flexibility with -MA nominalizations since they come with a free event variable. Unlike -DIK nominalizations which are born as propositions, they can be converted into definite or quantified event descriptions, or into propositions via event closure. This characterization also allows us to make more fine-grained predictions on where the reported contrasts in nominal properties are attested, and more generally brings in empirical support for the entity-event uniformity in the domains of plurality and quantification.

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