Against the Mood Account of Turkish Nominalizers

Türkçe Adlaştırıcıların Kiple İzahına Dair

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Geliş Tarihi: 16.10.2021. Kabul Tarihi: 22.11.2021.

Abstract: This paper addresses the issue of what determines the choice of nominalizer in Turkish nominalized clauses and presents data that discredits the account that the Turkish nominalizers –*DIK* and –*mA* mark indicative and subjunctive moods respectively. It then presents several pieces of evidence suggesting that –*DIK* marks the clause as a proposition, whereas –*mA* induces an eventive/stative reading. This conclusion is drawn from (i) the contrasting distribution of either nominalizer in the non-head position of compounds headed by proposition- vs event-denoting nominals, (ii) the selectional behavior of predicates that require subjunctive complements, and (iii) the (im)possibility of either form to occur in the subject position.

Keywords: Turkish nominalization, factive, proposition, event, indicative, subjunctive

Özet: Bu çalışmada, Türkçenin adlaşmış tümceciklerinde, adlaştırıcı seçimini neyin tayin ettiği konusu ele alınmakta ve alanyazında geniş kabul gören –*DIK* ile –*mA* adlaştırıcılarının sırasıyla bildirme ile isteme kiplerini kodladığı yaklaşımının yetersizliği ortaya konmaktadır. Öte yandan, çalışmamızda –*DIK*'ın eklendiği tümceciği bir önerme olarak kodladığına, *mA*'nın ise bir olay/durum okumasına yol açtığına işaret eden bir dizi kanıt sunulmaktadır. Bu sonuca, (i) bu iki adlaştırıcının, başında önerme ya da olay/durum ifade eden adların bulunduğu birleşiklerde yer alma dağılımındaki farklılıklar, (ii) isteme kipi gerektiren yüklemlerin seçim davranışları, ve (iii) söz konusu adlaştırıcıların özne konumunda yer alabilme imkânı değerlendirilerek varılmaktadır.

Anahtar Kelimeler: Türkçede adlaştırma, olgusal, önerme, olay, bildirme kipi, isteme kipi

Turkish makes use of nominalizations in most cases where English would employ a *that*-clause. The most commonly used nominalizers are *-DIK*[1] and *-mA*,[2] both suffixes attached to verbal bases.

(1)   a. Mert-'in   mezun   ol-duğ-un-u   duy-du-m.
        Mert-GEN   graduate   be-DIK-3SG.POSS-ACC   hear-PST-1SG
        'I heard that Mert graduated.'
      b. Mert-'in   mezun   ol-ma-sın-a   sevin-di-m.
        Mert-GEN   graduate   be-MA-3SG.POSS-DAT   be.glad-PST-1SG
        'I am glad that Mert graduated.'

There is a comprehensive literature behind what governs the selection of *-DIK* vs *-mA* in (1). A number of proposals have previously been advanced, with varying degrees of success in capturing the distribution of these two nominalizers. I briefly review them in the next section.

This paper is organized as follows: Section 1 briefly reviews earlier accounts. Section 2 highlights some problems with Kornfilt's proposal that *-DIK* and *-mA* mark indicative and subjunctive moods respectively.[3] Section 3 discusses additional data that supports Demirok's proposal that *-DIK* marks the clause as a proposition whereas *-mA* induces an event reading.[4] Section 4 presents some comments regarding why *-DIK* forms are largely banned from the subject position, and Section 5 gives the concluding remarks.

1. Earlier Proposals

This section gives an overview of three of the most influential accounts of Turkish nominalization proposed in the literature.

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1 Another nominalizer, namely $-(\gamma)AcAK$, patterns closely with *-DIK* in many respects. Although I ignore $-(\gamma)AcAK$ in this discussion, my argument about *-DIK* should be taken to apply to $-(\gamma)AcAK$ as well, modulo the difference noted in the literature that the former is marked [-tense] while the latter involves future reference, or prospective aspect.
2 I will also disregard the nominalizer $-(\gamma)I\text{ş}$, which is mostly used to mark manner.
3 Jaklin Kornfilt, "Subject Case in Turkish Nominalized Clauses," In *Syntactic Structures and Morphological Information*, edited by Uwe Junghanns and Luka Szucsich (Berlin/New York: Mouton de Gruyter, 2003).
4 Ömer Demirok, "A Semantic Characterization of Turkish Nominalizations," In *Proceedings of the 36th West Coast Conference on Formal Linguistics*, edited by Richard Stockwell, Maura O'Leary, Zhongshi Xu and Z. L. Zhou (Somerville: Cascadilla Proceedings Project, 2019).

1.1. Factive vs Non-factive

A leading argument that has, sometimes implicitly, been assumed in the literature is that *-DIK* is a marker of factivity.[5] Factivity here is intended to mean that the speaker is committed to the truth of the *-DIK*-marked clause, i.e., that what is said actually happens or has happened.[6]

Based on the interpretive contrast between (2a) and (2b), Lees concludes that *-DIK* (which he takes to be the General Participle) marks the nominalization as factive, whereas *-mA* is simply an action nominal with no commitment to truth conditions.[7]

(2)   a. Adam-ın   vergi   ver-diğ-i   belli.

       man-GEN   tax   pay-DIK-3SG.POSS   obvious

      'It is obvious that the man pays his taxes.'

      b. Adam-ın   vergi   ver-me-si   lazım.[8]

       man-GEN   tax   pay-MA-3SG.POSS   necessary

      'It is necessary for the man to pay his taxes.'

Similarly, Kornfilt states that *-DIK* (along with $-(\gamma)AcAk$) is selected by "essentially factive verbs" and indeed has "factive semantics".[9] She maintains the same position in later works.[10]

Based on the entailment in (3), however, Kunduracı argues against the position that *-mA* is non-factive.[11]

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5 Robert Lees, "Turkish Nominalization and a Problem of Ellipsis," *Foundations of Language* 1 (1965); Robert Underhill, *Turkish Grammar* (Cambridge: MIT Press, 1976); Jaklin Kornfilt, *Case Marking, Agreement and Empty Categories in Turkish* (Doctoral dissertation, Harvard University, 1984); Ayşe Pamir Dietrich, "An Analysis of Subordinate Clauses in Turkish," *Dilbilim Araştırmaları Dergisi* 6 (1995); Kornfilt, "Subject Case in Turkish"; Aslı Göksel and Celia Kerslake, *Turkish: A Comprehensive Grammar* (London: Routledge, 2005); Jaklin Kornfilt, "Verbal and Nominalized Finite Clauses in Turkish," In *Finiteness: Theoretical and Empirical Foundations*, edited by Irina Nikolaeva (Oxford: Oxford University Press, 2007).
6 Özyıldız (2017) argues, however, that factivity is not triggered by lexical items but rather arises as a reflex of syntactic/semantic composition.
7 Lees, "Turkish Nominalization."
8 Lees, "Turkish Nominalization," 113.
9 Jaklin Kornfilt, "On Some Infinitival Wh-constructions in Turkish," *Dilbilim Araştırmaları* 7 (1996): 195.
10 Kornfilt, "Subject Case in Turkish"; Kornfilt, "Verbal and Nominalized."
11 Aysun Kunduracı, "Etkileşimli Dilyapısı ve Türkçede Karmaşık Adlaşmalar," *Dilbilim Araştırmaları Dergisi* 1 (2020).

(3) Nevra-'nın   git-me-sin-e   çok   şaşır-dı-m.[12]
     Nevra-GEN   leave-MA-3SG.POSS-DAT   very   surprise-PST-1SG
     'I am very surprised that Nevra left.'
     ⇒ Nevra left.

Here, a *–mA* nominalization allows a factive reading contra Kornfilt.[13] We surely would not wish to assign two contradictory functions to a single morpheme.[14] In fact, *–DIK* is widely used in hypothetical contexts where no factivity is involved.

(4) Belge   imzala-n-dık-tan   sonra   teslim   ed-il-ir.
     document   sign-PASS-DIK-ABL   after   submission   do-PASS-AOR
     'The document is submitted after it has been signed.'

Such data seriously undermines the factive/non-factive analysis.

1.2. Indicative vs Subjunctive

Perhaps the best and most widely assumed account comes from the works of Csató, Taylan, Kornfilt, and Kornfilt and Whitman.[15] According to this view, the main difference between *–DIK* and *–mA* is one of mood: *–DIK* marks indicative, *–mA* marks subjunctive. Abstracting away from the relevant theoretical discussion, I assume in this study with Palmer that indicative and subjunctive correlate with realis and irrealis moods respectively,[16] and with Mithun that indicative "portrays situations as actualized, as having occurred or actually occurring, knowable through immediate perception" while subjunctive "portrays situations

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12 Kunduracı, "Etkileşimli Dilyapısı," 6.

13 Kornfilt, "On Some Infinitival Wh-constructions."

14 Halil I. Iskender, "Türkçede Üçüncü Çoğul Şahıs İyelik Ekinin Biçimbilimsel Gösterimi," In *KLU TDE Bölümü 2009'dan 2019'a 10. Yıl Hatıra Kitabı*, (Istanbul: Akademik Kitaplar, 2019).

15 Éva Á Csató, "Non-finite Verbal Constructions in Turkish," In *Altaica Osloensia: Proceedings of the 32. Meeting of the Permanent International Altaistic Conference*. edited by Bernt Brendemoen (Oslo: Universitetsforlaget, 1990); Eser Erguvanlı-Taylan, "Türkçe -DIK Ekinin Yantümcelerdeki İşlevi Üzerine," *Dilbilim Araştırmaları Dergisi* 3 (1993); Eser Erguvanlı-Taylan, "What Determines the Choice of Nominalizer in Turkish Nominalized Complement Clauses?" In *Proceedings of the 16th International Congress of Linguists,* edited by Bernard Caron (Oxford: Pergamon, 1998); Kornfilt, "Subject Case in Turkish;" Jaklin Kornfilt and John Whitman, "Afterword: Nominalizations in Syntactic Theory," *Lingua* 121 (2011).

16 Frank R. Palmer, *Mood and Modality* (Cambridge: Cambridge University Press, 2001).

as purely within the realm of thought, knowable only through imagination".[17]

Based on a number of distributional contrasts, in particular the presence of Tense marking, Kornfilt concludes that *–DIK* nominalizations have the syntactic status of CPs, while *–mA* nominalizations pattern with DPs in the relevant sense.[18] Of particular importance for us are Kornfilt's examples in (5).

(5) a. Ben   bugün   yemek   pişir-e-yim.

I   today   food   cook-OPT-1SG

'Let me cook food today.'

b. [Ben   bugün   yemek   pişir-e-yim]   ist-iyor-um.

I   today   food   cook-OPT-1SG   want-IMPF-1SG

'I want to cook food today.'

c. [Sen-in   yarın   ev-de   yemek   pişir-me-n-i]   ist-iyor-um.

you-GEN   tomorrow home-LOC   food   cook-MA-2SG.   want-IMPF-1SG
                                           POSS-ACC

'I want you to cook food at home tomorrow.'

d. *[Sen-in   yarın   ev-de   yemek   pişir-diğ-in]-i   ist-iyor-um.[19]

(5a) involves an optative (subjunctive) form, which occurs as an embedded complement to the verb *iste–* 'want' (5b). This is expected, given that verbs of desire uniformly select subjunctive forms. The crucial example is (5c), which is grammatical with *–mA* but not with *–DIK* (see (5d)), suggesting strongly that *–mA* nominalizations pattern with subjunctives.

Predolac presents several pieces of evidence which, she argues, corroborates Kornfilt's position that *–mA* marks the subjunctive mood.[20] In particular, she notes the parallelism between embedded root clauses and *–mA*-marked nominals, the dependence of *–mA* nominalizations on the matrix clause for tense specification, the exclusive occurrence of *–mA* forms with subjunctive-selecting predicates, the contrastive marking of nominalizations between reason-and purpose-denoting

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17 Marianne Mithun, *The Languages of Native North America* (Cambridge: Cambridge University Press, 1999), 173.

18 Kornfilt, "Subject Case in Turkish."

19 Kornfilt, "Subject Case in Turkish," 9-11.

20 Esra Predolac, "The Subjunctive and Indicative Moods in Turkish," *Papers in Turkish and Turkic Linguistics (Proceedings of the Second Workshop on Turkish, Turkic, and the Languages of Turkey: Tu+ 2)* (Bloomington: Indiana University Linguistics Club Working Papers [IULCWP], 2018).

predicates, subjunctive obviation, and the ability to allow a narrow *wh*-scope.

In Section 2, I bring in several pieces of data against this analysis, but first, I would like to brief on a recently proposed account.

1.3. Propositional vs Eventive

There is yet another account of the *-DIK/-mA* contrast, according to which the former denotes propositions whereas the latter denotes events. Demirok argues that *-DIK* marks the clause as a proposition, which then serves as an appropriate argument to predicates like *ortada* 'obvious', *doğru* 'true', *biliniyor* 'known',[21] predicates that are often exploited to establish the propositional status of clausal arguments.

(6) Suzan-'ın   hata-yı   bul-duğ-u   ortada/doğru/biliniyor.
    Suzan-GEN   mistake-ACC   find-DIK-3SG.POSS   obvious/true/known
    'It is obvious/true/known that Susan found the mistake.'
    c.f. *Suzan-'ın hata-yı bul-ma-sı ortada/doğru/biliniyor.[22]

Events, on the other hand, contrast with propositions in having spatio-temporal extension, and are thus appropriate candidates for modifiers like *take n minutes*.[23]

(7) Suzan-'ın   hata-yı   bul-ma-sı   iki   dakika   sür-dü.
    Suzan-GEN   mistake-ACC   find-MA-3SG.POSS   two   minutes   take-PST
    'It took two minutes for Susan to find the mistake.'
    c.f. ★Suzan-'ın hata-yı bul-duğ-u iki dakika sür-dü.[24]

Demirok further demonstrates that this analysis accounts for several properties of the two types of nominalization previously noted in the literature.[25] In particular, he attributes the grammaticality contrast in (8) to a type mismatch.

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21 Demirok, "A Semantic Characterization."
22 Demirok, "A Semantic Characterization," 133.
23 Nicholas Asher, *Reference to Abstract Objects in Discourse* (Dordrecht: Kluwer, 1993); Nicholas Asher, "Events, Facts, Propositions, and Evolutive Anaphora," In *Speaking of Events*, edited by James Higginbotham, Fabio Pianesi and Achille C. Varzi (Oxford: Oxford University Press, 2000).
24 Demirok, "A Semantic Characterization," 133.
25 Demirok, "A Semantic Characterization."

(8) a. Kim-in   gel-diğ-in-e   şaşır-dı.

who-GEN   come-DIK-3SG.POSS-DAT   surprise-PST

'He was surprised at who came.'

b. *Kim-in   gel-me-sin-e   şaşır-dı.[26]

who-GEN   come-MA-3SG.POSS-DAT   surprise-PST

Int.: 'He was surprised at who came.'

Demirok assumes, with Heim, that the answerhood operator responsible for embedded questions only combines with *t*-type[27] propositions[28] (i.e. –*DIK* nominalizations), for which <v,t>-type events (i.e., –*mA* nominalizations) are not appropriate candidates. If –*DIK* nominalizations are syntactic CPs as Kornfilt and Whitman conclude,[29] the contrast in (8) receives a principled explanation.

Under Demirok's account, we also have an explanation as to why –*mA*-marked forms fail to participate in relativization.[30]

(9) a. [Zeynep'-in   oku-duğ-u]   kitap

Zeynep-GEN   read-DIK-3SG.POSS   book

'The book that Zeynep read'

b. *[Zeynep'-in   oku-ma-sı]   kitap[31]

Demirok maintains that the predicate abstraction *a la* Heim and Kratzer involved in relative clause formation[32] would yield an <e,t>-type object that can intersectively combine with another <e,t>-type noun, whereas abstraction over a <v,t>-type event would not yield an object of the appropriate type, leading again to a type clash.

One further point I would like to draw attention to here is the (in)ability of either form to pluralize. Kornfilt observes that only –*mA* nominalizations can pluralize (modulo –*DIK* forms used in relative clauses).[33]

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26 Demirok, "A Semantic Characterization," 134.

27 For simplicity, I abstract away from situation variables.

28 Irene Heim and Angelika Kratzer, *Semantics in Generative Grammar* (Oxford: Blackwell, 1998).

29 Kornfilt and Whitman, "Afterword: Nominalizations."

30 There is yet another argument proposed in Aygen (2002) and Kennelly (1996), according to which –*DIK* and –*mA* mark perfective and non-perfective aspects, respectively. I will not discuss it here and wish to refer the interested reader to the relevant works.

31 Demirok, "A Semantic Characterization," 135.

32 Heim and Kratzer, *Semantics in Generative Grammar*.

33 Kornfilt, "Subject Case in Turkish."

(10) a. Selim-'in   para   dilen-me-ler-in-den   gına   gel-di.

Selim-GEN   money   beg-MA-PL-3SG.POSS-ABL   sickness   come-PST

'I got sick of Selim's beggings for money.'

b. *Selim-'in   para   dilen-dik-ler-in-i   bil-iyor-um.[34]

Selim-GEN   money   beg-DIK-PL-3SG.POSS-ACC   know-IMPF-1SG

'I know Selim's beggings for money.'

As before, Demirok takes (10b) to involve a type mismatch; Like <e,t>-type common nouns, event-denoting <v,t>-type *–mA* forms are good candidates for the sum-forming operator of Link,[35] which is not possible with proposition-denoting *–DIK* forms of type *t*.

As such, Demirok's account[36] is highly promising and opens new venues for the analysis of *–DIK* vs *–mA* nominalizations.

2. Problems with the Mood Analysis

In this section, I discuss a set of data that seriously undermine the mood analysis of Turkish nominalizations. The data involve a comparison between *–mA*-marked nominalization and embedded root clauses in the complement position of the complementizer *ki*.

In heavily subjunctive-marking languages like Spanish, verbs of propositional attitude like *creer* 'believe' take an indicative in their complement position (11a), whereas the negative of such verbs require a subjunctive form (11b).

(11) a. Cre-o   que   Juan   es / *sea   un   genio.

believe-1SG   that   John is_{IND} is_{SUBJ} a   genius

'I believe that John is a genius.'

b. No cre-o   que   Juan   *es / sea   un   genio.

not believe-1SG   that   John is_{IND} is_{SUB} a   genius

'I do not believe that John is a genius.'

In Turkish, such verbs may take a finite clause introduced by the complementizer *ki* 'that' (alongside a nominalized form (see below)). When they do so, the embedded verb must surface in the regular indicative form, but not in the subjunctive.

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34 Demirok, "A Semantic Characterization," 135.

35 Godehard Link, "The logical analysis of plural and mass nouns: A lattice theoretic approach," In *Meaning, use and interpretation of language*, edited by Rainer Bäuerle, Christoph Schwarze and Arnim von Stechow (Berlin, Germany: de Gruyter, 1983).

36 Demirok, "A Semantic Characterization."

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(12) a. San-ıyor-um [ki Mert sen-i anla-dı / *anla-mış ol-sun].
think-IMPF-1SG that Mert you-ACC understand-PST understand-PERF be-OPT
'I think Mert has understood you.'
b. İnan-ıyor-um [ki Mert gel-di / *gel-miş ol-sun].
believe-IMPF-1SG that Mert come-PST come-PERF be-OPT
'I believe Mert has come.'

In parallel to Spanish, the situation is reversed when the matrix verb is negated: The embedded verb obligatorily takes the subjunctive.

(13) a. San-m-ıyor-um [ki Mert sen-i *anla-dı / anla-mış ol-sun].
think-NEG-IMPF-1SG that Mert you-ACC understand-PST understand-PERF be-OPT
'I do not think Mert has understood you.'
b. İnan-m-ıyor-um [ki Mert *gel-di / gel-miş ol-sun].
believe-NEG-IMPF-1SG that Mert come-PST come-PERF be-OPT
'I do not believe Mert has come.'

This makes it clear that the clausal complement of the negative propositional attitude verbs like *san-* 'think' and *inan-* 'believe' are in the subjunctive form. Given this, the mood account of Kornfilt, Kornfilt and Whitmann, and Predolac[37] would have predicted such constructions to take the purportedly subjunctive *-mA*-nominalization, rather than the purportedly indicative *-DIK*. This is not the case, though.

(14) a. [Mert-'in sen-i *anla-ma-sın-ı / anla-dığ-ın-ı] san-m-ıyor-um.
Mert-GEN you-ACC understand-MA-3SG.POSS-ACC understand-DIK-3SG.POSS-ACC think-NEG-IMPF-1SG
'I do not think Mert understood you.'

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37 Kornfilt, "Subject Case in Turkish"; Kornfilt and Whitman, "Afterword: Nominalizations"; Predolac, "The Subjunctive and Indicative."

b. [Mert-'in   *gel-me-sin-e /   gel-diğ-in-e]   inan-m-ıyor-um.[38]

Mert-GEN   come-MA-3SG.   come-DIK-3SG.   believe-NEG-
            POSS-DAT   POSS-DAT   IMPF-1SG

'I do not believe Mert has come.'

I thus conclude that the "indicative *–DIK* vs subjunctive *–mA*" account is not on the right track. It makes wrong predictions concerning their distribution with propositional attitude verbs.

3. Propositional Nature of *–DIK* Nominalizations

In this section, I present more evidence in support of the argument that *–DIK* nominalizations mark the clause as a proposition. More specifically, they denote an object that can have a truth value,[39] which is generally lacking in event-denoting *–mA* nominalizations. The evidence comes from the marking of nominalized non-heads of compounds and the truth-related interpretation of 'doubt' verbs.

3.1. Compound Non-heads

Hegarty notes that predicates select the kind of entities they can felicitously combine with.[40] Thus, the argument position of predicates like *think, believe,* and *say* is a standard position for expressions denoting propositions. The same goes for the argument position of predicates like *ortada* 'obvious', *doğru* 'true', and *biliniyor* 'known', predicates that Demirok uses to make his point.[41]

Similarly, the non-head position of compounds headed by proposition-denoting nouns like *önerme* 'proposition', *bilgi* 'information', *gerçek* 'truth' is reserved for expressions that denote propositions. Note that, when this is the case, only a *–DIK* nominalization is possible.

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[38] This sentence with *–mA* is actually grammatical, but under an indicative factive reading. It can be used as an extension to (i.a).

(i)   **a.** I told Mert not to come...

            b. I do not believe the fact that he has come, despite my order to the contrary.

Clearly, the *-mA*-marked nominalization is used in an indicative context, constituting further counterexample to the subjunctive analysis.

[39] Lars Johanson, "Selection of Subjunctors in Turkic Non-finite Complement Clauses," *Bilig* 67 (2013).

[40] Michael Hegarty, "Semantic Types of Abstract Entities," *Lingua* 113 (2003).

[41] Demirok, "A Semantic Characterization."

(15) | Mert-'in | mezun | {ol-duğ-u / | *ol-ma-sı} | önerme-si/ | bilgi-si/gerçeğ-i |
| Mert-GEN | graduate | be-NOML-3SG.POSS | be-NOML-3SG.POSS | proposition-COMP | information-COMP truth-COMP |

'the proposition/information/fact that Mert graduated'

Event- and state-denoting nouns like *olay* 'event', *durum* 'state' that head compounds, on the other hand, require a *-mA* form.

(16) | Mert-'in | mezun | {*ol-duğ-u / | ol-ma-sı | olay-ı/durum-u |
| Mert-GEN | graduate | be-NOML-3SG.POSS | be-NOML-3SG.POSS | event-COMP state-COMP |

'the event/state that Mert graduates'

This set of data suggests that proposition-denoting clausal expressions are nominalized in *-DIK*, whereas events and states (perhaps also situations) are marked in *-mA*.

3.2. The Case of *Şüpheli* 'Doubtful'

Expressing denial of the propositional content, verbs of doubt consistently take subjunctive complements in languages like Spanish, whereas their negative requires an indicative embedded verb.

(17) a. Dudo [que Juan *es/sea médico].
'I doubt it that John is a doctor.'

b. No tengo ninguna duda de [que John es/*sea médico].
'I have no doubt that John is a doctor.'

Recall from the previous section that Turkish requires a subjunctive embedded root complement with the positive form of propositional attitude verbs like *inan-* 'believe', and an indicative one with their negative. A similar situation obtains with the predicate *şüpheli* 'doubtful' when it takes a *ki* complement, only that this time the positive-negative requirement is reversed.

(18)   a. ?Şüpheli-yim   [ki   Mert   doktor   ol-sun].

doubtful-1SG	that	Mert	doctor	be-OPT

'I doubt it that Mert is a doctor.'

⇏ Mert is a doctor.

a'. *Şüpheli-yim [ki Mert doktor(dur)].

b. Şüphe-m   yok   [ki   Mert   doktor].

doubt-1SG.POSS	not.exist		that	Mert	doctor

⇒ Mert is a doctor.

b'. *Şüphe-m yok [ki Mert doktor ol-sun].

The predicate *şüpheli* 'doubtful' is particularly relevant for us. On the one hand, it requires a subjunctive complement; on the other, it expresses denial of the truth value of the complement. This state of affairs allows us to make a prediction: If *-DIK* is marked as indicative, we predict the positive of *şüpheli* 'doubtful' to take a *-mA*-marked complement and its negative to take a *-DIK* complement. (19) makes it clear that this prediction is not borne out.

(19)   a. [Mert-'in   doktor   ol-duğ-un-dan]   şüpheli-yim.

Mert-GEN	doctor	be-DIK-3SG.POSS-ABL	doubtful-1SG

'I doubt it that Mert is a doctor.'

⇏ Mert is a doctor.

a'. ??[Mert-'in doktor ol-ma-sın-dan] şüpheli-yim.[42]

b. [Mert-'in   doktor   ol-duğ-un-dan]   şüphe-m   yok.

Mert-GEN	doctor	be-DIK-3SG.POSS-ABL	doubt-1SG.POSS	not.exist

'I do not doubt it that Mert is a doctor.'

⇒ Mert is a doctor.

b'. *[Mert-'in doktor ol-ma-sın-dan] şüphe-m yok.

Clearly, although *şüpheli* 'doubtful' is sensitive to the marking of the verb in finite *ki* clauses (18), it is indifferent to the marking of the nominalized embedded verb either in the positive or in the negative form (19) because *şüpheli* 'doubtful' always selects a *-DIK*-marked nominalization, contra the mood

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[42] Once again, to the extent that this expression is grammatical, it receives a factive reading, meaning *I suspect it might be true that Mert is a doctor*. This indicates that, even with verbs of doubt, *-mA* forms induce a factive reading rather than a subjunctive one, contra Kornfilt (2003), Kornfilt and Whitmann (2011), and Predolac (2018).

analysis of Kornfilt, Kornfilt and Whitmann, and Predolac.[43]

This pattern, however, is actually predicted under the proposal that –*DIK* marks the clause as a proposition. On the most salient readings, the sentences in (19) express the speaker's attitude towards the truth value of the embedded expression, and can thus best be paraphrased as in (20).

(20)   a. I doubt the proposition "Mert is a doctor" is true.
     = I believe the truth value of "Mert is a doctor" is 0.
     b. I do not doubt the proposition "Mert is a doctor" is true.
     = I believe the truth value of "Mert is a doctor" is 1.

A near-exact paraphrase involving speaker's judgements of truth values highlights the intimate connection between –*DIK* nominalizations and propositions. To the extent that this line of reasoning is on the right track, it lends further support to Demirok's argument,[44] which had precursors in Csató[45] and Johanson's.[46]

4. The Problem of Subject Position

The proposal that –*DIK* nominalizations are interpreted as propositions may help account for a particular problem that has so far resisted explanation. The gist of the problem is that –*DIK* nominalizations are almost systematically absent from the subject position. This can be best exemplified by psych predicates, which can normally take both –*DIK* and -*mA* nominalizations as complements.

(21)   a. [Mert-'in   kaybet-me-sin-e /   kaybet-tiğ-in-e]   şaşır-dı-m.

Mert-GEN   lose-MA-3SG. POSS-DAT   lose-DIK-2SG. POSS-DAT   surprise-PST-1SG

'I was surprised that Mert lost.'

b. [Mert-'in   kaybet-me-si /   *kaybet-tiğ-i]   beni   şaşır-t-tı.

Mert-GEN   lose-MA-3SG. POSS   lose-DIK-3SG. POSS-ACC   I-ACC   surprise-CAUS-PST

'That Mert lost surprised me.'

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43 Kornfilt, "Subject Case in Turkish"; Kornfilt and Whitman, "Afterword: Nominalizations"; Predolac, "The Subjunctive and Indicative."

44 Demirok, "A Semantic Characterization."

45 Éva Á Csató, *Two Types of Complement Clauses in Turkish,* vol. 82, in *Turcologica* (Wiesbaden: Harrassowitz Verlag, 2010).

46 Johanson, "Selection of Subjunctors."

Here, although both nominalizations can appear as objects (21a), the *-DIK* form is not allowed in the subject position (21b). The reason cannot be the subject position *per se*, given the examples in (6) (repeated in (22a) for convenience) and those in (22b).

(22) a. [Suzan-'ın hata-yı bul-duğ-u] ortada/doğru/
biliniyor.

Suzan-GEN mistake-ACC find-NOML- obvious/true/
3SG.POSS known

'It is obvious/true/known that Susan found the mistake.'

b. [Mert-'in kaybet-tiğ-i] görün-üyor / duy-ul-du / sır değil.

Mert-GEN lose-DIK- seem-IMPF hear-PASS- secret NEG
3SG.POSS PST

'[that Mert lost] seems / was heard / is no secret.'

Why the do we have this pattern? I propose that *-DIK* forms are missing in subject position because of their proposition-denoting semantics. The argument is that most constructions that disallow *-DIK* forms denote causation between two events, whereas propositions are known to be causally inefficacious.[47]

Consider (21b) first. Pending the controversy in the relevant literature, I assume that Experiencer Object constructions involve causation, as evidenced by the presence of causative morphology in (21b).[48] If so, under the proposition-denoting analysis of *-DIK* nominalizations, (21b) would receive the odd interpretation *the proposition that Mert lost caused me to get surprised*. In fact, it is highly doubtful if a purely abstract thing as a proposition could cause anything at all. Given this causal inefficacy of propositions, the ungrammaticality of (21b) follows. The examples in (22), on the other hand, are simple constructions involving no causation, and are thus correctly predicted to be grammatical.

Note further that the distribution is not related to eventivity, i.e., it cannot be argued that (21b) is ungrammatical because it is eventive, whereas the grammatical cases in (22) are not. As a matter of fact, when we put a *-DIK* form in the subject position of an eventive but not causative sentence, we do get a grammatical expression. Consider (23).

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47 Hegarty, "Semantic Types of Abstract Entities."

48 In fact, Temme (2018) concludes that of the three possible readings (agentive, eventive, and stative) an EO construction can have, only the stative one may lack causation, perhaps denoting two co-existing states rather than a causing and a caused state.

(23) a. [Mert'in   kaybet-tiğ-i]   kulağ-ım-a   gel-di.
      Mert-GEN   lose-DIK-2SG.POSS   ear-1SG.POSS-DAT   come-PST
      'That Mert lost reached my ear, i.e., I heard that Mert lost.'
      b. [Mert'in   kaybet-tiğ-i]   göz-üm-den   kaç-ma-dı.
      Mert-GEN   lose-DIK-2SG.POSS   eye-1SG.POSS-ABL   miss-NEG-PST
      'That Mert lost did not escape my notice.'

At this point, one might wonder why the following contrast obtains.

(24) a. [Enflasyon-un   yüksel-diğ-i]   *(haber-i)   piyasalar-ı   tedirgin et-ti.
      inflation-GEN   rise-DIK-   news-COMP   market-PL-   worry-CA-
                      3SG.POSS   ACC   US-PST
      '*(The news) that inflation went up worried the markets.'
      b. [Mert'in   rapor-u   yaz-ma-dığ-ı]   *(söylenti-si)   patron-u   kız-dır-dı.
      Mert-GEN   report-ACC   write-NEG-   rumor-   boss-ACC   anger-
                                    DIK-3SG.   COMP   CAUS-
                                    POSS   PST
      '*(The rumor) that Mert did not write the report angered the boss.'

In these examples, the presence of *-DIK* is predictably ungrammatical (for the simple reason that it occurs in a cause-denoting clause), but surprisingly, the ungrammaticality is lifted when the clause is headed by the proposition-denoting nominals *haber* 'news' and *söylenti* 'rumor'. After all, *that inflation went up* denotes a proposition with a truth value, but so does *the news that the inflation went up*.

(25) a. [That inflation went up] is true.
      b. [The news that inflation went up] is true.

Why then do we have the distribution in (24)? Hegarty proposes, based on Gundel, Hedberg, Nancy, and Zacharsky's Givenness Hierarchy,[49] that an entity introduced into the discourse by a clause is *activated* (i.e., it has a representation in the short term memory), whereas an entity introduced by a nominal is *activated as well as in-focus*, a contrast that he relies on to account for a range of differences between proposition denoting clauses and nominals.[50] These include the fact that a proposition denoting nominal can be referred to by personal pronouns,

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49 Jeanette K. Gundel, Nancy Hedberg and Ron Zacharsky, "Cognitive Status and the Form of Referring Expressions in Discourse," *Language* 69, no. 2 (1993).

50 Hegarty, "Semantic Types of Abstract Entities."

whereas a proposition denoting clause can only be referred to by demonstratives[51] (a point also noted in Asher).[52]

> (26) a. There was a snake on my desk. *That* scared me.
>
> b. There was a snake on my desk. *It* scared me.

In (26a), *that* takes as its antecedent the clause *there was a snake on my desk*, while *it* in (26b) refers most naturally to the snake, not to its presence on the desk.

Hegarty proposes that proposition-denoting nominals differ in type from proposition-denoting clauses:[53] The former are of type *e* and the latter of type $<<s,t>,t>$.[54] This being the case, we may also attribute the ungrammaticality of constructions involving a *-DIK* nominalization in the subject position to a type clash. Predicates like *şaşırt-* 'surprise' and *kızdır-* 'anger' would take an *e*-type entity or a $<v,t>$-type event as the causing argument, whereas predicates like *biliniyor* 'known', *ortada* 'obvious', *doğru* 'true' would require an $<<s,t>,t>$-type object.

If this line of reasoning is on the right track, it suggests that the two *-DIK* clauses below cannot be of the same type, given their mismatch in grammaticality.

(27) a. [Mert-'in   kaybet-tiğ-in]-e   şaşır-dı-m.
       Mert-GEN   lose-DIK-3SG.POSS-DAT   surprise-PST-1SG
       'I was surprised [that Mert lost].'
       b. *[Mert-'in   kaybet-tiğ-i]   ben-i   şaşır-t-tı.
       Mert-GEN   lose-DIK-3SG.POSS   I-ACC   surprise-CAUS-PST
       Int.: '[That Mert lost] surprised me.'

Indeed, it has been extensively argued, contra Belletti and Rizzi's syntactic account,[55] that the role of *that Mert lost* is different in the two sentences. It is interpreted as a subject matter in (27a), and as a causer in (27b).[56] The hallmark

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51 Abstracting away from details, I refer the interested reader to the discussion in Hegarty (2003) and the references therein.

52 Asher, *Reference to Abstract Objects*.

53 Hegarty, "Semantic Types of Abstract Entities."

54 Hegarty (2003) rejects the traditional analysis of proposition-denoting clauses as objects of type $<s,t>$ (or simply *t*), and proposes a raised type instead.

55 Adriana Belletti and Luigi Rizzi, "Psych-verbs and θ-theory," *Natural Language & Linguistic Theory* 6, no. 3 (1988).

56 Jane Grimshaw, *Argument Structure* (Cambridge: MIT Press, 1990); David Dowty, "Thematic

of subject matter is that the experience it triggers might be aimed at something about the stimulus rather than the content of it, whereas causers can only represent the content of the experience. Pesetsky gives the following pair to illustrate this point:

(28)   a. John worried about *the television set*.   (subject matter)
          b. *The television set* worried John.   (causer)[57]

In (28a), John's worry might be something about the television set, i.e., that it might be about to break down, whereas the television set is directly interpreted as the cause of the experience, i.e., the television itself worries John, not something about it. Pesetsky directly correlates the experiencer subject constructions like (28a) with a subject matter role for the stimulus, and the experiencer object constructions like (28b) with a causer role for the stimulus.[58]

In line with Pesetsky's proposal that stimuli in the subject position are interpreted as causer,[59] and given the causal inefficacy of proposition denoting clauses, we correctly rule in (28a) and rule out (28b).

I thus attribute the systematic absence of *-DIK* nominalizations from the subject position to their propositional nature.

5. Conclusion

This paper addressed the selection of nominalizer in Turkish embedded clauses. After reviewing some of the proposals made in the literature in Section 2, I demonstrated in Section 3 that the mood account of Kornfilt, Kornfilt and Whitmann, and Predolac[60] faces serious challenges in accounting for sentences involving propositional attitude verbs like *inan-* 'believe' and *düşün-* 'think'. It was shown in particular that while the negative form of such verbs consistently follows the predicted pattern in taking subjunctive embedded predicates, this

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Proto-roles and Argument Selection," *Language* 67, no. 3 (1991); David Pesetsky, *Zero Syntax: Experiencers and Cascades* (Cambridge: MIT Press, 1995).

57 Pesetsky, *Zero Syntax*, 57.

58 Pesetsky, *Zero Syntax*.

59 Pesetsky, *Zero Syntax*.

60 Kornfilt, "Subject Case in Turkish"; Kornfilt and Whitman, "Afterword: Nominalizations"; Predolac, "The Subjunctive and Indicative."

is not the case when the embedded clause is nominalized. Section 3 presented further data that support the analysis of –*DIK* as a marker of proposition. It was further demonstrated that a proposition-denoting account of –*DIK* has the edge in accounting for the selectional restrictions of verbs of doubt, which follow a reverse pattern to verbs like *inan* 'believe' because they require a subjunctive with positive matrix predicates, and an indicative with negated ones. Finally, Section 4 addressed the (mostly) across-the-board absence of –*DIK* nominalizations from the subject position, concluding that this, too, is reducible to their semantics as markers of propositions. The argument was that most of the expressions that ban –*DIK* nominalizations are bi-eventive causation-denoting structures, and that propositions cannot readily be interpreted as causers of some sort. To the extent that it is successful, the data discussed in this paper supports Johanson[61] and Demirok's[62] proposal that –*DIK* denotes a proposition that can have a truth value, rather than factivity or indicativity as proposed in Kornfilt, Kornfilt and Whitmann, and Predolac.[63]

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61 Johanson, "Selection of Subjunctors."

62 Demirok, "A Semantic Characterization."

63 Kornfilt, "Subject Case in Turkish"; Kornfilt and Whitman, "Afterword: Nominalizations"; Predolac, "The Subjunctive and Indicative."

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