Higher Order Compounds in Turkish[1] 7

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0 Introduction

The paper deals with so-called 'higher order compounds' in Turkish, that is, compounds the complement of which is a non-first order entity. In English we find constructions such as *the question whether he loves her* and *in the belief that she loves him*, for which it can be assumed that the heads, *question* and *belief*, have an argument slot which allows for the expression of an entity with an order higher than one. In Turkish there is a comparable type of construction, which follows at first glance the model of compounding for regular first order nouns. In terms of their overall structures, *'Plaja gidelim mi?' soru-su* 'the question "shall we go to the beach?"' does not differ much from *çay ev-i* 'tea house', since both nominal heads contain the phonologically conditioned compound marker, *-su* and *-i* respectively.

One of the questions addressed in this paper is whether the similarity in structure can indeed be attributed to application of the rules of compounding, or whether for higher order nouns the argument structure may play some role in the expression of the whole. A related problem is how the relation between verbs and nouns that share a common root can be established, and thus to what extent higher order nouns in Turkish can be said to have an internal argument structure.

1 Preliminaries

1.1 Standard Compounds

A nominal compound in Turkish can be regarded as the output predicate of a derivational rule (Predicate Formation Rule), which in its simplest form takes an NP-like structure (*term*)[2] plus a bare noun as its input, thereby producing a new predicate that is lexically marked for its derived nature as a compound

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[2] For the notion of "term", see Dik (1989: 55-56, 111-136).

noun. Contrary to what is generally assumed in the relevant literature[3] in the approach on which the present analysis is based the point of view[4] is defended that the possessive suffix third person singular (henceforth compound marker -CM) is not attached at the level of formation proper but that it is attached only in those cases where the compound functions as an NP. Thus if a compound is restricted by a possessor, it is the possessive marker, not the compound marker, that is attached to the right most element of the compound, as in: *diş fırça-sı* (=tooth brush-CM) 'tooth brush' and *diş fırça-m* (=tooth brush-p1s) 'my tooth brush'[5].

This approach has a number of clear advantages. Firstly, it allows us to account for the constraint that prohibits more that one occurrence of the CM. Secondly, without the necessity of deleting any morphological material, the bare compound (without a CM) can be used as input to other derivational rules, for instance the formation of adjectival predicates, e.g. *güneş gözlük-lü* (=sunglass-ADJ) 'with sunglasses', which is based on the bare compound noun *güneş gözlük* and not on the term structure *güneş gözlüğ-ü.* Thirdly, the analysis proposed is also applicable to the formation of compounds based on coordinated terms, e.g. *(güneş ve deniz) memleket-i* 'land of sun and sea'. Finally, adopting a 'late' expression of the compound marker is an excellent way to account for its presence or absence in recursive formations, e.g. *Türk Dil-i Dergi-si* (=Turk language-CM journal-CM) 'Turkish Language Journal' and *Türk Dil Kurum-u* (=Turk language society-CM) 'Turkish Language Society'. The model for Standard Compounds underlying the present analysis can be depicted as follows:

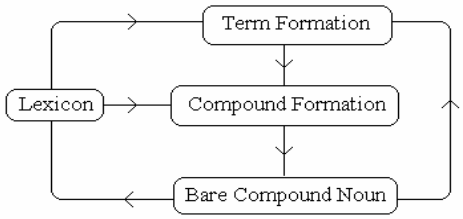

Figure 1: Compound Formation Rule

[3] Cf. Lewis (1967), Dede (1982), Hankamer (1987), König (1987), Spencer (1991), Hayasi (1996).

[4] Cf. Van Schaaik (1992, 1996).

[5] Since the compound marker is similar in form, but not in function, to the possessive suffix third person singular, the 'possessive paradigm' includes *diş fırça-sı* (=tooth brush-p3s) 'his/her tooth brush'.

1.2 Higher Order Compounds

Nouns can be classified in terms of the types of entity they denote, not only on the basis of their semantics proper, but also because they have, accordingly, different syntactic properties. Nouns denoting *things* or *persons* are said to refer to 'first order entities', and in most cases we are dealing with nouns for *concrete* things, *physical objects*. Words like *meeting*, *manner, driving* (as in: *I don't like his driving*) all denote *actions* or *events*, and this category of *abstract* nouns is said to refer to 'second order entities'. Second order nouns can be modified by expressions for time, duration, and frequency, whereas first order nouns can only be modified for quality and quantity. In the third category we have abstract nouns like *belief, thought, claim* (all having to do with factuality), and these are called 'third order nouns', modifiable by adjectives for degree. And last but not least, 'fourth order nouns' can be exemplified by words like *question, answer* etc., all on the linguistic level of the expression proper. In this way, they are on a par with the linguistic units NP (term), event (predicational term), proposition (propositional term), and utterance (clausal term) respectively[6].

A higher order compound is a linguistic structure that resembles a standard compound, but, and this is actually the criterion for this definition, it has a non-first order head. Let me give you some examples, classified in terms of types of complement those non-first order heads can take. In (1) and (2) we see direct speech complements of *soru* and *yanıt* respectively.

(1) *Erkek-ler-in,* ***"Kadın-lar ne isti-yor-lar?"*** *soru-su-na*
man-pl-gen woman-pl what want-pres-agr question-CM-dat

kafa patlat-tık-ları da bir gerçek.
brain-rack-pres-agr too a reality

'That men rack their brains over *the question "What do women want?"*
is a reality too'

(2) ***"Yap-abil-eceğ-imiz bir şey yok, öyledir bir kez"*** *yanıt-ı-nı ver-di.*
Do-pot-fut-P1 a thing negex so-it-is one time answer-CM-acc give-past
'He gave *the answer "There's nothing we can do, that's just the way it is"'*

[6] For extensive accounts of the multi-level hierarchy as adopted in Functional Grammar, see Dik (1989), Hengeveld (1989), and Siewierska (1991).

The entire structure which is italicised can be regarded as a compound: we have a clausal structure plus a head which is 'closed' by the compound marker. In both (1) and (2) the complement of the compound head noun is a level-4 structure, *in casu* some utterance which is repeated as a quotation. In (3) and (4) we find another type of embedded finite clause: yes/no questions and wh-questions. Again, the whole is presented as a genuine compound:

(3) ***Bu konu-da bir görüşme yap-ıp yap-ma-dık-ları soru-su***
this subject-loc a meeting do-conv do-neg-prt-agr question-CM
'*the question whether they would organise a meeting on this subject…*'

(4) ***Bu proje-nin ne kadar uza-yacağ-ı soru-su****-na yanıt bulmak*
this project-gen how long stretch-fut-agr question-CM-dat answer find
'To find an answer to *the question how long this project is going to last...'*

From a descriptive point of view the burning issue is, of course, are these structures real compounds or are they something else? To be quite open: yes, they are compounds! But in order to show that this claim holds we first need to take a closer look at their internal structure, that is, we must sort out what kind of complements occur in combination with a head noun of some higher order. After that, a comparison will be made between the argument structures of such nouns and their related verbs.

2 Some Data

With respect to the question what types of complement a higher order head noun can take, we could say that whatever type of complement (compare the finite clauses of *soru* in (3) and (4)) we would like to see combined with a higher order noun, we can be sure that virtually any combination can be attested. This was established on the basis of a corpus of Turkish texts, including novels and spoken texts[7]. In the subsections below some data are arranged according to the order of the head noun, and the distinctions which are further

[7] The Corpus of Turkish Texts at Boğaziçi Üniversitesi (İstanbul) is based on some spoken text material collected by Christoph Schroeder and printed Turkish texts collected by the author of the present article.

relevant within this ordering are *clausal term, propositional term,* and *predicational term*[8].

2.1 Level-4 Head (Utterance)

In addition to (1)-(4), based on a *clausal term,* the following examples based on level-4 heads (*soru, cevap*) can be given:

(5) *Feride,* ***adam-ın biz-e de uğra-ma-yacağ-ı cevab-ı****-nı ver-di.*
Feride man-gen we-dat too drop in-neg-fut-agr answer-CM-acc give-past
'Feride gave *the answer that the man would not drop in on us either*'

(6) ***matematik soru-su***
math question-CM
'math problem'

In (5) an example is presented the complement of which is a Propositional Term (level-3), while the complement of (6), *matematik*, is a level-2 entity.

2.2 Level-3 Head (Proposition)

In general, propositional verbs can be classified in terms of what they denote: intellectual attitude *(believe, presume)*; emotional attitude *(fear, hope)*; mental perception *(feel, sense)*; propositional manipulation *(claim, convince, pretend)*. Thus, the type of complement these verbs usually take expresses a proposition. Assuming that the nominal correlates of such verbs (e.g. *the belief, the fear, the feeling, the claim*) are level-3 nouns (*inanç, korku, duygu, iddia*) denoting propositions too, we find not only level-3 ((7)-(8)), but also level-2 complements ((9)-(11)):

(7) *kendisi-nin de onun yer-in-de aynı şey-i yap-acağ-ı duygu-su*
he-himself-gen too his place-p3s-loc same thing-acc do-fut-agr feeling-CM
'The feeling that he too would do the very same thing in his place'

(8) *onu tanı-yor-muş-um duygu-su*
him know-pres-inf-agr feeling-CM

[8] For a classification of complement taking predicates, see Dik (1997,96-116) and Noonan (1985).

'the feeling *as if* I know him'

(9) *sevgi duygu-su* (abstract noun)
love feeling-CM
'feeling of love/affection'

(10) kandır-ıl-mış-lık duygu-su (verbal noun-1)
fool-pass-prt-der feeling-CM
'feeling of having been fooled'

(11) *Başka bir insan-la bir ol-mak duygu-su* (verbal noun-2)
other a person-COM one be-INFIN feeling-CM
'feeling of being one with another person'

The complements of *duygu* 'feeling' in (7)-(8) are both finite, but they differ with respect to factivity: the one in (7) is factive, whereas that of (8) is not. The complements of (9)-(11) are based on abstract (deverbal) nouns.

2.3 Level-2 Head (Event)

Predicational terms are used in combination with verbs like *advise, propose, request, ask, order*. The examples below are based on the second order noun *emir* 'order, command'.

(12) *Anne-m* ***"Kahve!" emr-i****-ni al-ınca…*
other-p1s coffee order-CM-acc take-'as'
'When she got *the order "Coffee!",* my mother…'

(13) ***Yeltsin'i öldür-me emr-i****-ni ver-diğ-i öne sür-ül-en Kruçkov*
Yeltsin-acc kill-nom order-CM-acc give-prt-agr suppose-pass-prt Kruçkov
Kruchkov, who is supposed to have given *the order to assassinate Yeltsin*'

In (12) a direct speech complement (level 4: the utterance *kahve* 'coffee') is used to represent an order being given[9]; in (13) it is a future event which is expressed by means of an infinitival / nominalised verb form.

[9] For an account of how nouns can be used in holophrastic phrases for issuing orders and commands, see Mackenzie (1997) and Moutaouakil (1996).

3 Analysis

Another angle from which we should look at the data presented above is via the comparison of these higher order heads with verbs that such head nouns are related to in one way or another. Typically, in a purely verbal environment we find exactly the same types of complement, as can be exemplified by means of a comparison between English and Turkish. Level-4 matrix verbs of both English (*ask, answer*) and Turkish (*sor*, *yanıtla*) can take an embedded or a direct speech complement. Embedded clauses of English (b) are connected by a *wh-word* (complementiser) to the matrix verb, whereas the Turkish (a) embedded clause is nominalised and its syntactic status as a sentential object is marked by a case marker. On level 3 (propositional verbs) we find in principle a similar situation, although the complementiser of English is realised as *that*. Compare (14) and 15):

(14) a *Ali, kendisi-ni niye terk et-tiğ-i-ni sor-du*
Ali himself-acc why leave-part-agr-acc ask-past
b 'John asked why she had left him'

(15) a *Ali kendisi-ni terk ed-eceğ-i-ne inan-dı*
Ali himself-acc leave-fut-agr-dat believe-past
b 'John believed that she would leave him'

In the nominal domain, there is a striking parallelism with the verbal system in English (b) but not in Turkish (a), as can be shown by:

(16) a *kendisi-ni niye terk et-tiğ-i soru-su*
himself-acc why leave-part-agr question-CM
b 'the question why she had left him'

(17) a *kendisi-ni terk ed-eceğ-i inanc-ı*
himself-acc leave-furt-agr belief-CM
b 'the belief that she would leave him'

Now we have some idea about the structural similarities and differences between matrix verbs and 'related' nouns, the question must be raised, and not only from a morphological (derivational) or clause internal (syntactic) point of view, but even more from a semantic point of view: what *kind* of relation should be assumed between a verb and its seemingly corresponding noun? In

other words, for a verb stem like *sor* 'ask', we can assume an "Agent-Patient-Addressee" argument structure, but what can be said about the noun *soru*? The question referred to above can therefore be rephrased as: does the ***noun*** *soru* have an argument structure completely similar or partially similar to that of the ***verb*** *sor,* or doesn't it have an argument structure at all?

The answer to such a question is extremely relevant, since the presence of an argument structure with some semantic function (or theta role, if you like) might give a clue about the expression of a higher order compound as a whole.

Firstly, if a direct derivational path is to be assumed, for a number of verb-noun pairs we run into problems with respect to their derived argument structure. Some examples of such pairs are:

Level 4:	*sor* 'to ask'	- *soru* 'question'
	yanıtla 'to answer'	- *yanıt* 'answer'
Level 3:	*inan* 'to believe'	- *inanç* 'belief'
	kork 'to fear'	- *korku* 'fear'
	ümit et 'to hope'	- *ümit* 'hope'
	iddia et 'to claim'	- *iddia* 'claim'
	duy 'to feel'	- *duygu* 'feeling'
	hisset 'to feel'	- *his* 'feeling'
Level 2:	*iste* 'to want'	- *istek* 'wish'
	emret 'to order'	- *emir* 'order'
	tavisye et 'to advise'	- *tavsiye* 'advise'
	teklif et 'to propose'	- *teklif* 'proposal'

The first problem we have to deal with is the question as to what is derived from what. For some nouns it can be assumed that they are derived from a corresponding verb, e.g. *soru, inanç, duygu, istek,* but for others it is just the other way around[10]. For *yanıt, iddia, emir* and others it is fully clear that these nouns underlie the formation of their verbal counterparts: *yanıtla* 'to answer'*, iddia et* 'to claim'*, emret* 'to order'. Now assuming that the argument structure is retained through derivation, it is pretty hard to determine the eventual result for this type of V<N derivation.

[10] Compare Lees' (1960, 201) observation that a noun like *tamir* 'repair' denotes an event by itself, as can be illustrated by contrasting *Hasan'ın otomobil tamir-i* (=Hasan-gen car repair-P3S) with **Hasan'ın otomobil tamir et-me-si* with the attempted reading 'Hasan's car repair *do-ing*'.

Secondly, a more theoretical issue is connected to the question whether nouns have an internal argument structure at all[11]. Complements of higher order nouns are always expressed as zero-constituents, that is, they never have a case marker associating them with some semantic role. This is in great contrast to what we find at the clausal level where matrix verbs are used: that which is *questioned*, *asked, believed, denied, answered*, *felt,* or *feared*, to mention just a few verbs, is always expressed with some case marker; see (14)-(15). The conclusion is justifiable that higher order nouns do not have an internal argument structure. They are Patient nouns themselves (as opposed to Agent: *yazar* 'writer', or Instrument: *açacak* 'bottle-opener')[12]. For these Patient nouns we can say that what is *believed, felt, asked* etc. is expressed as such by their complements. In other words, such constructions constitute, as it were, a kind of identifying construction. And furthermore, who actually *believes, feels, asks* and so on is in the majority of cases not worth mentioning, and that is why we find in only a very limited number of cases an expression of an Agent (as in: *Hasan'ın inançlarına göre*). But still, the question remains *why* higher order compounds are expressed as they are, since it cannot entirely be solved by these observations only.

Recall that a Higher Order Compound is expressed (from left to right) as 1) any type of complement without case marking, 2) a higher order noun, 3) a CM, thereby following the model of standard compounding. Looking at the relation between complement taking matrix verbs and their corresponding nouns in English (and other Indo-European languages), we may observe that for the expression of that complement the same strategy is applied as in relative clauses. In this type of clause a relativiser is used to subordinate the complement (allowing for a normal syntactic placement), whereas in complement taking predicates (both verbal and nominal) a complementiser (or subordinator) is applied for very much the same reason: to facilitate normal syntax. It is not exaggerated, I think, to say that in those languages there is no other way out[13]. The differences between English and Turkish, as exemplified by (14)-(17), can be summarised as follows:

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[11] For different points of view, see Dik (1989) and Mackenzie (1987).

[12] For deverbal first order nouns, see Mackenzie (1997).

[13] The relationship between certain nouns in English and their complements is expressed by means of a preposition, e.g. *a feeling of insecurity, the victory over Germany*. In Turkish, however, the one and only option is that of compounding: *güvensizlik duygu-su, Almanya zafer-i.*

(18)

System	English	Turkish
verbal	verb + compl	(V-nom)-case + verb
nominal	noun + compl	(V-nom)-Ø + noun-CM

For Turkish we observe the following. In a matrix clause, the complement is presented and expressed as a sentential object, no matter what kind of case marker is required. These markers are mostly accusative, but sometimes dative or ablative, fully depending on the verb in question. Syntactically speaking, the higher order compound follows the pattern of the matrix clause: first of all the complement, next the nominal head. Since embedded finite clauses as a whole are put in a position that is 'reserved', so to speak, for constituents of nominal origin (NPs), such structures must therefore be syntactically expressed, and accordingly, be interpreted like constituents with nominal status. And that is exactly the reason why a structure like finite clause plus for instance *soru* requires the application of a marker (the CM) that usually secures the closure of a sequence of NPs which in itself is to be taken as *one* semantic unit.

4 Conclusion

For any theory that adopts and includes in its framework the notion of 'entity order', the description and analysis of the constructions presented in this paper should not pose any problems whatsoever, since in this way the 'primitive' notion of NP can be replaced by *term*, which covers *regular NPs*, *predicational terms* (expressing events), *propositional terms* (propositions) and *clausal terms* (expressing utterances) as well. From a structural point of view these entities have notably more in common than points of difference, with the result that, collectively, they form an excellent means to describe compounds of any kind.

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