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The Role of the Subject/Non-Subject Distinction
in Determining the Choice
of Relative Clause Participle in Turkish

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1. Relativization in Turkish: Introduction and
Background

Turkish relative clauses are participial constructions in which the verb of the relative clause appears in a non-finite form. Turkish being a canonical SOV language, relative clauses precede their heads and relativization is accomplished by deleting the target in the relative clause which is understood as coreferent with the head.

Examples (2)a. and b. below are relative clauses formed on the subject and object respectively of the transitive sentence in (1):

(1) The snake ate the squash.

Yılan kabağ-ı ye-di.
Snake squash-ACC eat-PAST

(2)a. the snake that ate the squash
∅ kabağ-ı yi-yen yılan
squash-ACC eat-SP snake

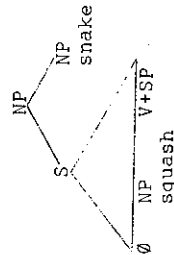
b. the squash that the snake ate
yılan-ın ∅ ye-diğ-i kabak
snake-GEN eat-OP-POSS squash

Notice that in (2)a, where a subject has been relativized, the verb of the relative clause (henceforth RC) appears with the participial suffix -(y)AnI whose phonological shape varies according to regular phonological rules like vowel harmony. RC's constructed in this way are called 'subject participle' (SP) relative clauses.

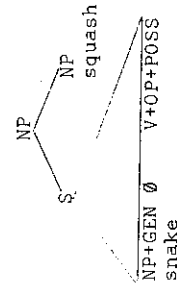
In (2)b, where the object has been relativized, the verb of the RC is suffixed with the participle -DIK followed by a possessive suffix. The possessive suffix agrees in person and number with the subject of the RC which appears in the genitive. We call this the 'object participle' (OP) construction.

The two types of RC are represented schematically below.

SP Construction
(2a)



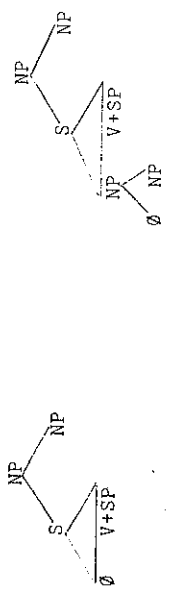
OP Construction
(2b)



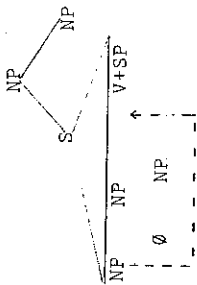
an obligatory rule of Indefinite Movement which applies before relativization. Definite subjects may be displaced by an optional rule of scrambling which follows relativization.² He furthermore suggested that the genitive marking is assigned to NP's by a transformational rule and therefore that these NP's are underlyingly caseless. Underhill then proposed the following principle: choose the SP when the target of relativization is a caseless NP in initial position at the time of RC formation. Otherwise, choose the OP.

To see how this principle works in conjunction with Underhill's assumptions about the rules involved, consider the diagram given below. In Case I, the target of relativization is a subject NP which is sentence-initial and caseless at the time of RC formation. In accordance with the principle, the SP results. In Case II, the target of relativization is a genitive NP attached to a subject; such an NP is initial and caseless given Underhill's assumptions, and again the principle correctly predicts the SP. In Case III, the RC is formed on a sentence with an indefinite subject; this subject is moved to immediate pre-verbal position prior to relativization, leaving in initial position a genitive NP attached to an oblique phrase. This genitive NP will be caseless at the time of RC formation, according to Underhill's assumptions, and the SP is again correctly predicted.

Case I: \emptyset Subject Case II: \emptyset GEN on Subject



Case III: \emptyset GEN on Oblique Phrase in S with INDEF Subject



Underhill's proposal is summarized below.

Underhill's Proposal

Assumption: Genitive NP's are underlyingly caseless.

- a. Indefinite Movement precedes relativization.
- b. Scrambling follows relativization.
- c. Participles are chosen according to the principle: if the target of relativization is a caseless NP in initial position at the time of RC formation, the SP construction is chosen; otherwise, the OP is chosen.

We see in the simple cases that the SP appears when the target of relativization is the subject of the RC and the OP appears when the target is a non-subject. This statement is not entirely adequate, however. Genitive NP's are freely relativizable in Turkish, and when we relativize the genitive in a sentence like (3) below, we get SP as in (4a). Notice that the target of relativization here is not a subject but a genitive NP attached to a subject.

- (3) The man's snake ate the squash.
Adam- \acute{a} n yılan-ı kabağ-ı ye-di.
man-GEN snake-POSS squash-ACC eat-PAST
- (4) the man whose snake ate the squash
a. \emptyset yılan-ı kabağ-ı yi-yen adam
snake-POSS squash-ACC eat-SP man
b. * \emptyset yılan-ı-nın kabağ-ı ye-diğ-i
snake-POSS-GEN squash-ACC eat-OP-POSS
adam
man

The simple principle also fails to account for another class of cases, discussed in Underhill (1972). These are cases where the target of relativization is a genitive NP attached to a locational or directional phrase in a sentence with an indefinite subject. Consider sentence (5), which contains the ablative phrase *kapıdan altından*. This sentence has two readings: one in which the subject is interpreted as an indefinite as in 'Water is flowing under the door' and another in which the subject is interpreted as a definite as in 'The water is flowing under the door'.

- (5) Water is flowing under the door.
The water is flowing under the door.
Kapıdan altından su ak-ıyor.
door-GEN bottom-POSS-ABL water flow-PRES
- (6)a. the door under which water is flowing
 \emptyset altından su ak-an kapı
bottom-POSS-ABL water flow-SP door
- b. the door under which the water is flowing
 \emptyset altından su-yun ak-tığı
bottom-POSS-ABL water-GEN flow-OP-POSS
kapı
door

In seeking an explanation for this phenomenon, Underhill noted first that if the subject in sentences like (5) is to be interpreted as an indefinite, it obligatorily appears in immediate pre-verbal position. If it is to be interpreted as a definite, this displacement is optional. He therefore proposed that indefinite subjects are displaced from initial position by

The theoretical interest of Underhill's analysis is that the factors determining the choice of participial construction are linear position and case-marking. Thus, the distinction between subject and non-subject which seemed to be the determining factor in the simple cases turns out to be irrelevant under Underhill's analysis. The relativization transformation can be written entirely within the framework and formalism of Standard Theory.

For an immediate counterexample to Underhill's proposal, consider the sentence in (7). It contains an indefinite subject in immediate pre-verbal position and two oblique phrases: Kapänin altändan and yerin üzürine.

- (7) Water is flowing under the door onto the floor.
 Kapän-nän alt-än-dan yer-in
 door-GEN bottom-POSS-ABL floor-GEN
 üzür-in-e su ak-äyor.
 top-POSS-DAT water flow-PRES

Both genitive NP's in these oblique phrases can be relativized and while they both may be caseless at the time the rule applies, they cannot both be clause-initial. Thus, Underhill's proposal would predict that relativization of one of the genitive NP's should result in the SP while relativization of the other genitive NP should result in the OP. However, as (8)a and b show, relativization of either NP requires the SP.

- (8)a. the door under which water is flowing onto the floor
 Ø alt-än-dan yer-in üzür-in-e
 bottom-POSS-ABL floor-GEN top-POSS-DAT
 su ak-an kap-ä
 water flow-SP door
 b. the floor onto which water is flowing under the door
 kap-ä-nän alt-än-dan Ø üzür-in-e
 door-GEN bottom-POSS-ABL top-POSS-DAT
 su ak-an yer
 water flow-SP floor

It is clearly impossible to modify Underhill's proposal so that it will be compatible with these facts, and in the remainder of this paper we will demonstrate that Underhill's assumption (c), that the choice of RC participle is determined by linear position at some point in derivations, must be abandoned. We will show that the subject/non-subject distinction is indispensable in the statement of conditions for the choice of RC construction.

In particular, we claim that the primary principle governing choice of participial construction is that subjects relativize with the SP and non-subjects relativize with the OP regardless of case or position.

We will also establish a second principle which accounts for relativization of non-major constituents in the RC:

The Mother Node Principle (MNP)

If a subconstituent of a major constituent of the RC is relativized, the participle is chosen which would be appropriate for relativization of the major constituent itself. [That is, for the simple cases, if the mother node dominating the target is the subject of the RC, the SP is chosen; otherwise, the OP is chosen.]

2. Relativization of Subconstituents

2.1 We noted earlier that relativization of a genitive NP attached to a subject is done with the SP. These cases are correctly accounted for by Underhill's proposal since the target is sentence-initial and caseless at the time of RC formation.

However, his proposal cannot account for relativization of the genitive NP adamän in (9). Notice that it is attached to an indefinite subject which has undergone shift to immediate pre-verbal position. Hence at the time of relativization, this NP is not clause-initial and Underhill must predict the OP.

- (9) One of the man's snakes ate the squash.
 Kabağ-ä adam-in bir yılan-ä yer-di.
 squash-ACC man-GEN a snake-POSS eat-PAST

However, as we see in (10), the OP is impossible.

- (10) the man one of whose snakes ate the squash
 a. kabağ-ä Ø bir yılan-ä yi-yen adam
 squash-ACC a snake-POSS eat-SP man
 b. *Kabağ-ä Ø bir yılan-ä-nän yer-diğ-i
 squash-ACC a snake-POSS-GEN eat-OP-POSS man

The MNP correctly accounts for use of the SP here since the genitive target is a subconstituent of a major constituent functioning as subject of the RC.

In (11) below, we see a genitive NP attached to a non-subject in non-clause-initial position.

- (11) The snake ate the man's squash.
 Yılan adam-än kabağ-än-in-ä yer-di.
 snake man-GEN squash-POSS-ACC eat-PAST

This NP may be relativized and the result, which is consistent with Underhill's proposal, is the OP as seen in (12).

- (12) the man whose squash the snake ate
 a. yılan-än Ø kabağ-än-in-ä yer-diğ-i
 snake-GEN squash-POSS-ACC eat-OP-POSS
 adam
 man
 b. *yılan Ø kabağ-än-in-ä yi-yen adam
 snake squash-POSS-ACC eat-SP man

But now consider what happens if the subject of a sentence like (11) is indefinite, as in (13). The subject shifts to immediate pre-verbal position, exposing the genitive NP in initial position.

- (20) the squash that Hasan believes the snake ate
- a. Hasan-ın yılan-ın ∅ ye-diğ-in-i
 -GEN snake-GEN eat-PART-POSS-ACC
 san-diğ-ı kabak
 believe-OP-POSS squash
- b. *[SP]

The generalization is exceptional: relativization of anything in a sentential object requires the OP.

A further comment about relativization into sentential objects is in order. Recall the facts about relativization into sentences like (21) which contain an indefinite subject shifted to immediate pre-verbal position and an oblique phrase exposed in initial position. We saw that relativization of the genitive NP in such cases requires the SP, as shown in (22).

- (21) Water is flowing under the door.
 Kapı-nın alt-ın-dan su ak-ıyor.
 door-GEN bottom-POSS-ABL water flow-PRES
- (22) the door that water is flowing under
- a. ∅ alt-ın-dan su ak-an kapı
 bottom-POSS-ABL water flow-SP door
- b. *[OP]

If the MNP is correct, then it should be the case that when (21) is embedded as a sentential object, relativization of the genitive NP *kapının* should not be done with the SP but with the OP. This is exactly what happens: a RC formed on sentence (23) below with *kapının* as target is grammatical only with the OP as we see in (24).

- (23) I said that water is flowing under the door.
 Kapı-nın alt-ın-dan su
 door-GEN bottom-POSS-ABL water
- ak-tığ-ın-ı söyle-dim.
 flow-PART-POSS-ACC say-PAST-1
- (24) the door that I said water is flowing under
- a. ∅ alt-ın-dan su ak-tığ-ın-ı
 bottom-POSS-ABL water flow-PART-POSS-ACC
- söyle-diğ-im kapı
 say-OP-POSS door
- b. *[SP]

The MNP makes the correct prediction in all cases. 2.4 For a final test of the MNP, we experimented with relativization into adverbial clauses like the one in (25) and appositive clauses like the one in (26).

- (25) We were sad because the man died.
 Biz adam öl-duğ-ü için üzül-dük
 we man die-PART-POSS because sad-PAST-1p

- (26) I believe the rumor that the man ate the eggplant.
 Ben adam-ın patlıcan-ı ye-diğ-i
 I man-GEN eggplant-ACC eat-PART-POSS
 söylentisin-e inan-ıyor-um.
 rumor-DAT believe-PRES-1

We found, as expected, that NP's in adverbial clauses⁴ are relativized with the OP as in (27).

- (27) the man who we were sad because (he) died
- a. biz-im ∅ öl-diğ-ü için üzül-duğ-ümüz
 we-GEN die-PART-POSS because sad-OP-POSS
 adam
 man
- b. *[SP]

NP's in appositive clauses which function as non-subjects in the RC relativize with the OP even when the target is itself a subject NP as in (28).

- (28) the man who I believe the rumor that (he) ate the eggplant
- a. ben-im ∅ patlıcan-ı ye-diğ-i
 I-GEN eggplant-ACC eat-PART-POSS
- söylentisin-e inan-dığ-ım adam
 rumor-DAT believe-OP-POSS man
- b. *[SP]

The MNP appears to be exceptionless.

3. Relativization into Subjectless Clauses

There exists a class of Turkish sentences which lack subjects entirely. These are impersonal passives like the one given in (29), the source of which is the active intransitive sentence given in (30).

- (29) One exits to the street by this door.
 Bu kapı-dan sokağ-a çık-ıl-ır.
 this door-ABL street-DAT exit-PASS-AOR
- (30) Pro bu kapı-dan sokağ-a çık-ar.
 this door-ABL street-DAT exit-AOR

Not only is there no direct object in (30) but there is also no reason to believe that any of the oblique objects in that sentence have become the derived subject of (29).

Breckenridge (1975) argues that impersonal passive sentences involve application of passive without promotion of anything to subject status. Her arguments are straightforward: given any discoverable tests of subjecthood in Turkish, NP's in impersonal passives don't pass them. They don't undergo subject-to-object raising, they don't trigger verb agreement, they don't lack overt case-marking, and they can't be deleted by Equi.⁵

When we consider relativization of targets in impersonal passives, we find that no matter what constituent is relativized, only the SP is possible. Thus, the ablative NP *kapıdan* in (29) relativizes with the SP and so does the dative NP *sokağa*.

- (31) the door that one exits to the street by
 a. \emptyset sokağ-a çık-ıl-an kapı
 street-DAT exit-PASS-SP door
 b. *[OP]
- (32) the street which one exits to by this door
 a. bu kapı-dan \emptyset çık-ıl-an sokak
 this door-ABL exit-PASS-SP street
 b. *[OP]

It appears that we need to state the following additional principle:

The No-Subject Principle (NSP)

If there is no subject in the RC at the time of RC formation, the OP construction is impossible and only the SP construction is chosen.

4. Relativization into Clauses with Indefinite Subjects

At this point, we reconsider sentences like (5), repeated below, which contain shifted indefinite subjects and oblique phrases in initial position.

- (5) Water is flowing under the door.
 Kapı-nın alt-ın-dan su ak-ıyor.
 door-GEN bottom-POSS-ABL water flow-PRES

As we pointed out in Section 1, the genitive NP *kapının* is relativized with the SP. This requires explanation since the genitive is part of a non-subject phrase and in general non-subjects and anything in them relativize with the OP. Underhill's proposal was designed to account for this but we have had to reject that proposal.

In this section, we will examine relativization into such constructions more carefully, and show that in general no NP in an indefinite-subject sentence relativizes with the OP. The situation is thus parallel to that in impersonal passive constructions where there is no subject and the NSP applies. We will propose that the same principle applies in the cases discussed here because the indefinite subjects in these sentences have undergone a demotion process which leaves the RC subjectless at the point when RC formation applies. First note that, contrary to Underhill's assumptions, it is not only genitive targets in such constructions which relativize with the SP:

- (33) an airplane on which fire broke out
 yangın çık-an bir uçak
 fire break out-SP a plane

- (34) the village to which electricity is being brought
 elektrik getir-il-en köy
 electricity bring-PASS-SP village

Further, recall that when there are two oblique phrases in an indefinite-subject construction, the SP is used no matter which contains the target of relativization:

- (7) Water is flowing under the door onto the floor.
 Kapı-nın alt-ın-dan yer-in
 door-GEN bottom-POSS-ABL floor-GEN

- üzer-in-e su ak-ıyor.*
 top-POSS-DAT water flow-PRES
 the door under which water is flowing onto the floor
 \emptyset alt-ın-dan yer-in *üzer-in-e*
 bottom-POSS-ABL floor-GEN top-POSS-DAT
 su ak-an kapı
 water flow-SP door
 the floor onto which water is flowing under the door
 kapı-nın alt-ın-dan \emptyset *üzer-in-e*
 door-GEN bottom-POSS-ABL top-POSS-DAT
 su ak-an yer
 water flow-SP floor
- (8)a. the door under which water is flowing onto the floor
 \emptyset alt-ın-dan yer-in *üzer-in-e*
 bottom-POSS-ABL floor-GEN top-POSS-DAT
 su ak-an kapı
 water flow-SP door
 the floor onto which water is flowing under the door
 kapı-nın alt-ın-dan \emptyset *üzer-in-e*
 door-GEN bottom-POSS-ABL top-POSS-DAT
 su ak-an yer
 water flow-SP floor

In fact, no matter what is relativized out of a clause with an indefinite subject, the RC is constructed with the SP.

We have shown that it is impossible to account for these facts with a principle depending on linear position; we must look for another way of relating the indefiniteness of the subject to the choice of RC participle when some non-subject is relativized. Our proposal is that the indefinite subjects in these sentences undergo a demotion which has the effect of rendering the sentence subjectless. Then the No-Subject Principle accounts straightforwardly for the appearance of the SP in relativizations out of such clauses.

The existence of this demotion process is justified independently in Knecht (1976), and in Hankamer and Knecht (forthcoming). We do not have the space here to reproduce those arguments, nor to discuss the nature of this demotion process in detail. We confine ourselves to pointing out that, contrary to Underhill's assumptions, the process occurs in transitive sentences as well as intransitive ones:

- (35) A bee stung the man's daughter.
 adam-ın kız-ın-ı arı sok-tu.
 man-GEN daughter-POSS-ACC bee sting-PAST

We find that relativization in sentences like this results in the SP, as in (36):

- (36) the man whose daughter a bee stung
 a. \emptyset kız-ın-ı arı sok-an adam
 daughter-POSS-ACC bee sting-SP man
 b. *[OP]

In these examples, as in examples like (5), we propose that the subject has not only moved, but has been demoted from subjecthood, and that the sentences are subjectless at the time of RC formation.

We thus suggest that Underhill was essentially correct in proposing that something happens to indefinite subjects in such cases, which allows other constituents to undergo SP relativization. He was mistaken in taking the crucial factor to be linear position.

5. In conclusion, we have argued that the subject/non-subject distinction is essential in determining

which participial construction results when a major constituent of the RC is relativized. Specifically, we get the SP when a subject is relativized and we get the OP when a non-subject is relativized and the RC contains a subject. If there is no subject in the RC, the SP is required.

Additionally, we have shown that the MNP is exceptionless. Subconstituents invariably relativize with the participial construction appropriate for relativization of the major constituent which contains them.

We have demonstrated conclusively that the choice of RC participle in Turkish cannot be determined exclusively by reference to the linear position (and case-marking) of the target. The MNP requires reference to hierarchical relations in the relative clause structure, and the NSP refers crucially to the absence of a subject in the RC at the time of RC formation. We conclude that the notion 'subject', however defined, is crucial to the determination of relative clause participles in Turkish.

Footnotes

- 1 In accord with standard practice in the citation of Turkish suffixes, we use capital letters to represent segments which vary according to regular phonological alternations.
- 2 These assumptions certainly represent an over simplification, for the position of indefinite NP's in Turkish sentences is dependent on several factors, and their distribution is too complex to be accounted for under Underhill's assumption of one obligatory indefinite movement rule. We do not take up these complications here, because to do so would only detract from the clarity of the exposition; they are examined in some detail in Hankamer and Knecht (forthcoming).
- 3 With two exceptions: a "bare-complement" type which simply embeds a finite clause as a complement to certain verbs; and the *ki*- clause construction which is borrowed from Persian, where a finite clause is introduced by the complementizer *ki*. Neither of these constructions will appear in the discussion here.
- 4 Some adverbial clauses are extraction islands in Turkish and others are not (see Tatò 1974). We have of course restricted our attention to the ones which allow extraction.

5 Another argument that the oblique NP's in impersonal passive constructions are not subjects is based on an observation brought forth in Knecht (1976): that the rule of comparative deletion in Turkish is constrained so that it cannot take a subject as target. This rule can delete the oblique NP's in impersonal passive constructions, indicating once more that they are not subjects.

6 Several examples of this kind are given in Lewis pp. 262-263, from which these are paraphrased. Underhill was aware of the existence of these examples, but dismissed them as "proverbial". We have found, however, that our informants regard them as perfectly normal, and that (when the subjects are interpreted as indefinite) only the SP and never the OP construction is possible.

7 This term is due to Postal & Perlmutter (cf Postal and Perlmutter (forthcoming)), and refers to the loss of status in a hierarchy of grammatical relations.

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