Projection and Bounding in Possessor Raising

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1. Introduction

The question of how argument structure interfaces with syntactic projection is at the center of intensive research in linguistic theories. Within this research program, the question of what counts as an argument of a predicate becomes urgent. “Borderline” cases, sometimes called “semi-arguments”, are therefore of special interest: Elements that behave in some respects as arguments and in others as adjuncts. The case study of this paper, possessive datives (1), are a notorious example of this class of cases.1

(1) Hebrew
   a. Rina kilkela le-Gil et ha-ša’ou.
       Rina spoiled to-Gil Acc. the-watch
       ‘Rina spoiled Gil’s watch’

   French
   b. J’ai coupé les cheveux à Pierre.
       I cut the hair to-Pierre
       ‘I cut Pierre’s hair’

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* I am grateful to the following people for providing me with data on French and Spanish: Marie-Hélène Côté, Catrin Donati, Monica Santa-Maria Somobano and Philippe Schlenker.

1 A distinct pragmatic feature of PDC, which the English glosses fail to convey, is that the possessor is somehow affected by the action denoted by the verb.
Spanish

c. Les revisé los informes a los estudiantes.
   to-them I-revised the reports to the students
   ‘I revised the students’ reports’

Possessive datives, or more neutrally, non-genitive possessive arguments, have been extensively studied in a variety of languages, under different theoretical frameworks (Roldán, 1972; Guéron, 1985, 1991; Boer and Grodzinsky, 1986; Cheng and Ritter, 1987; Youn, 1990; Branchadell, 1992; Kempchinsky, 1992; Keach and Rochemont, 1992; Shibatani, 1994). The classical puzzle posed by the possessive dative construction (PDC) can be stated as in (2):

\[(2) \quad \text{The Classical Puzzle of Possessive Datives:}
\]
An argument in the clause (the possessor) derives its semantic role from another argument (the possessee), but its syntactic behavior from the predicate. What is the possessor dative an argument of?

There are two major schools of thought on the argumenthood of the possessor dative (PD). They are briefly summarized in (3):

\[(3) \quad \begin{align*}
   \text{a. The possessor dative is an argument of the verb (e.g.,} \\
   \text{BENEFACTIVE). The possessive interpretation arises through} \\
   \text{binding of an anaphoric element in the possessee. The explanatory} \\
   \text{burden is carried by } \theta\text{-theory.}
   \\
   \text{b. The possessor dative is an argument of the possessee. Its misleading} \\
   \text{syntax is due to syntactic raising to a position typically occupied by} \\
   \text{verbal arguments. The explanatory burden is carried by theories of} \\
   \text{movement and projection.}
\end{align*}
\]

In this paper I argue for a possessor raising analysis of PDC, which falls naturally under (3b). In particular, I argue that PD is generated inside the possessed DP and raises to a VP-internal position by syntactic movement. The data base consists mainly of Hebrew examples, with occasional reference to similar phenomena in French and Spanish.

2. Basic Properties of PDC

The first property of PDC is that PD is interpreted as the possessor or creator/author of another DP in the sentence. Crucially, PD cannot be
interpreted as the object/theme of the possessee. This contrasts with the genitive construction, as illustrated in (4):

(4) a. Gil higdil et ha-tmuna šel Rina.
    Gil enlarged Acc. the-picture of Rina
    ‘Gil enlarged Rina’s picture’ [Rina = possessor/creator/theme]

b. Gil higdil le-Rina et ha-tmuna.
    Gil enlarged to-Rina Acc. the-picture
    ‘Gil enlarged Rina’s picture’ [Rina ≠ theme]

This suggests a requirement that PD be interpreted as the “subject” of the possessed DP. This requirement has a natural account in terms of the internal structure of DP’s, to be articulated below.

Secondly, the possessee cannot be an external argument of the verb, an insight due to Borer and Grodzinsky (1986):

(5) a. ha-kelev ne’elam le-Rina.
    the-dog disappeared to-Rina
    ‘Rina’s dog disappeared’

b. * ha-kelev hitrocee le-Rina
    the-dog ran around to-Rina
    (‘Rina’s dog ran around’)

Thus, B&G argue, PD serves as an unaccusative diagnostic for Hebrew (see Guéron 1985 for similar observations for French). The prohibition against linking PD with an external argument follows, according to B&G, from the fact that PD must c-command the possessee or its trace at S-Structure. While the c-command condition turns out to be necessary, I will argue that it is far from being sufficient.

Thirdly, as just observed, the possessor must c-command the possessee (or its trace). To see this, consider the following pair:

(6) a. Gil nika le-Rina et ha-xulca / et ha-xulca le-Rina.
    Gil cleaned to-Rina Acc. the-shirt / Acc. the-shirt to-Rina
    ‘Gil cleaned the shirt for Rina’

b. Gil lixlex le-Rina et ha-xulca / # et ha-xulca le-Rina.
    Gil dirtied to-Rina Acc. the-shirt / Acc. the-shirt to-Rina
    ‘Gil dirtied Rina’s shirt’
In (6a) DAT is a benefactive, whereas in (6b) it is a possessor. Note now that switching from V-DAT-ACC to V-ACC-DAT has no interpretive effect on the former, but destroys the possessive reading in the latter. Since no alternative interpretation is available for (6b), it is deviant with DAT following ACC.²

Fourthly, PDC obeys strict locality conditions. Thus, the possessor and the possesse must be clausemate (7), and furthermore, cannot be separated by more than one DP projection (8):

(7)  
   a. Jean semble lui avoir lavé les cheveux.
       John seems him-DAT to-have washed the hair
       ‘John seems to have washed his hair’
   b.  *Jean lui semble avoir lavé les cheveux.
       (Gnéron 1985: ex. 18)

(8)  
   a. Gil harag le-Rina et ha-gur šel ha-kalba.
       Gil killed to-Rina Acc. the-puppy of the-dog (Fem.)
       ‘Gil killed the dog’s puppy which belongs to Rina’
   b.  Gil harag le-Rina et ha-imma šel ha-gur.
       Gil killed to-Rina Acc. the-mother of the-puppy
       ‘Gil killed the puppy’s mother which belongs to Rina’

Notice that in (8a) Rina need only own (or at least, hold in her possession) the puppy, not its mother, whereas the opposite holds in (8b).

In the following section I outline the possessor raising analysis. I then show how it naturally accounts for the above properties, as well as deriving novel generalizations concerning the interaction of PDC with various syntactic phenomena, such as variable binding, extraction, control and agentivity.

3. Possessor Raising: A Movement Analysis

The discussion of PDC has so far yielded the following properties:

(9)  
   a. PD must be interpreted as possessor/creator, not object/theme.
   b. The possessed DP cannot be an external argument.
   c. PD must c-command the possessed DP (or its trace).
   d. Possessive interpretation is constrained by locality.

² V-ACC-DAT is acceptable in PDC only if DAT is phonologically heavy, suggesting rightwards heavy-shift.
I would like to argue that the simplest, and most adequate explanation for the cluster of properties in (9) is a case-driven movement analysis, summarized in (10) and illustrated in (11):

(10) a. The possessor is generated in a caseless Spec position within the possessee.
    b. It is generated with dative case features.
    c. It then raises to check its case features with V.

Following Hale and Keyser (1993), Chomsky (1995) and Kratzer (1996), I assume that an external argument (AGENT or CAUSER) is introduced by a designated verbal head v with some causative force. The derivation of PDC will be as follows:

(11) **Possessor Raising**

Possessor-raising analyses have been proposed in the past for a variety of constructions (Kubo 1990, Keach and Rochemont 1992, Ura 1996). Curiously enough, the core studies on PDC, focusing mainly on Romance, have consistently taken every possible path except the movement analysis (Guéron, 1985, 1991; Borer and Grodzinsky, 1986; Cheng and Ritter, 1987; Branchadell, 1992; Shibatani, 1994). As we proceed I will point out data that are problematic for these alternatives, compared with the movement analysis.

Consider now how (11) derives the properties in (9). For possessor raising to violate (9a), it should be possible to generate a dative-marked
theme inside a DP and then raise it outside. Assuming themes are generated as complements to their heads (whether V or N), this would entail that a dative DP is generated as a sister to N and then raises to check its case in the verbal domain.

However, this scenario runs counter to what we know about case assignment in Hebrew nominals. In particular, the complement domain (in the sense of Chomsky, 1995) of N is a proper domain for licensing of dative case, (e.g., ha-mixtav le-Rina 'the letter to Rina'). But if so, raising a dative-marked complement out of DP to check its case with V would violate Last Resort (Chomsky, 1995). Therefore, PD cannot be generated in a complement position.

As for (9b), the ban on possessor raising out of an external argument, this would follow from minimalist assumptions concerning feature checking. Consider again the structure in (11). In order for PD to raise out of the external argument - the topmost [Spec,vP] - there must be yet a higher verbal position, in the inflectional domain, to check dative case; otherwise, PD would have to lower, an excluded option. By assumption, there is no potential checker of dative case outside of VP; hence raising of PD would not be case driven, violating Last Resort.

Property (9c) follows automatically from the definition of chains: the c-command condition simply reflects the fact that lowering is disallowed. As to property (9d), it is easy to see that the domain of possessor-raising is identical to the domain of NP-movement. The categories DP and IP contain subjects, hence block any NP-movement out of them. Since possessor raising is nothing more than NP-movement, it is constrained to apply within these domains.

The raising analysis has three important consequences, which crucially distinguish PDC from DOC (double object construction):

(12) **Consequences of Possessor Raising:**

a. The DO contains an empty category in PDC but not in DOC.

b. That empty category is a trace - PD is not an argument of V.

c. The landing site, [Spec,VP], is a position projected by V.

In the following sections I argue that there is independent evidence for each and every ingredient in (12).

4.1 **He in the Possessee**

The possessor raising analysis attributes to PDC a structure quite distinct from that of superficially similar constructions like the double-object
construction. Thus, the accusative argument in the surface string **V-DAT-ACC** contains an empty category in PDC but not in DOC. The presence of that trace should be detectable by standard tests; to the extent that these tests yield contrasts between PDC and DOC, the possessor raising analysis is supported.

Empty categories in the syntax behave like variables in the semantics. As such, they may be bound by quantificational DP's. We therefore expect quantifier binding into an argument to be possible by a dative QP which is a possessor but not a GOAL or BENEFACTIVE:

(13)  

a. Gil liksleq le-kol yalda, et t, ha-xulea haxi yafa.
   Gil dirtyed to-every girl Acc. the-shirt the-most pretty
   'Gil dirtyed every girl's prettiest shirt'

b. # Gil natan le-kol yalda et ha-xulea haxi yafa.
   Gil gave to-every girl Acc. the-shirt the-most pretty
   ('Gil gave every girl the prettiest shirt')

c. Gil natan le-kol yalda, et ha-xulea haxi yafa šēla,
   Gil gave to-every girl Acc. the-shirt the most pretty her
   'Gil gave every girl her prettiest shirt'

The oddness of (13b) is directly related to the clash between the quantifier, which requires multiple assignments, and the definite description, which requires uniqueness. This can be seen in (13c), where adding an overt (pronoun) variable renders the sentence grammatical.

Consider next the implications of the empty category assumption for possible categorial choices of the possessee. When the latter is a DP, either bare or embedded in a PP, there is a potential base position for the possessor, namely [Spec,DP]. However, if the possessee is expressed as an adverb, no such position exists. This explains the surprising contrast between (14b,c):

(14)  

a. ha-sid mitkalef le-Rina, [ep ba- [DP t₁, salon u-ve-xadar ha-šena]].
   the-paint peels to-Rina in-the-living-room and-in-the-bedroom.
   'The paint peels off in Rina's living-room and bedroom'

b. [ep be- [DP t₁, eyze xadarim] ha-sid mitkalef le-Rina, ?

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3 (13b) can be saved by a type-reading of "the prettiest shirt". However notice that under this reading as well there is no binding relation with the quantifier. Values of "girls" do not determine values of tokens of "the prettiest shirt". Moreover, no type-reading is forced in (13a).
in-which rooms the-paint peels to-Rina

'In which of Rina's rooms does the paint peel off?'

c. * [Adp eyfo] ha-sid mitkalef le-Rina?
   where the-paint peels to-Rina
   ('where (of Rina's) does the paint peel off?')

Notice that there is nothing wrong with combining a where-question with PDC as such:

(15) eyfo ha-or mitkalef le-Rina?
   where the-skin peels-off to-Rina
   'Where does Rina's skin peel off?'

Rather, the problem with (14c) is that there is no syntactic way to generate a possessor inside an AdvP, thus leaving the dative DP uninterpretable; by contrast, in (15) the dative is associated with the (unaccusative) subject DP, which may contain an empty category in its Spec position (an option which yields pragmatic oddness in (14c)).

4.2 ec = trace

Having established the existence of an empty category inside the possessee, we are in a position to pose the question - what kind of an empty category is it. Given standard assumptions of the Principles and Parameters approach, the answer can be either of the four candidates: (i) trace, (ii) PRO, (iii) null anaphor, (iv) pro. The latter option in fact was never proposed (a PD-bound pro would violate Condition B), so the choice narrows down to (i)-(iii). In this section I argue for option (i) and against the (ii)-(iii); in particular, I show that certain distributional facts about PDC are only compatible with - indeed, follow from - the trace analysis and not with any other analysis.

The most straightforward evidence for the trace analysis is the observation that possessor raising is sensitive to islands. Thus, although LOCATIVE, SOURCE, and INSTRUMENTAL PP's do not in general block possessor raising from the prepositional object (16), typical adjunct PP's (expressing cause, purpose, etc.) do so (17):

(16) a. Gil yašav le-Rina ba-mirbax. [LOCATIVE]
     Gil sat to-Rina in-the-kitchen
     'Gil sat in Rina's kitchen'
b. Gil ganav le-Rina me-ha-tik. [SOURCE]
   Gil stole to-Rina from-the-bag
   ‘Gil stole (something) from Rina’s bag’

c. Gil hitkaleax le-Rina im ha-sabon. [INSTRUMENTAL]
   Gil bathed to-Rina with the-soap
   ‘Gil took a shower with Rina’s soap’

(17) a. * Gil pitpet le-Rina biglal ha-hufa’a. [CAUSE]
   Gil chatted to-Rina because the-performance
   (‘Gil chatted because of Rina’s performance’)  

b. * Gil hitkaleax le-Rina bli ha-sabon. [cf. (16c)]
   Gil bathed to-Rina without the-soap
   (‘Gil took a shower without Rina’s soap’)

e. * Gil azav le-Rina lamrot ha-‘iyumim
   Gil left to-Rina despite the-threats
   (‘Gil left despite Rina’s threats’)

The emerging generalization is: All and only argumental PP’s are compatible with PDC. Under the assumption that arguments are L-marked and adjuncts are not (Chomsky, 1986), the contrastive pattern observed above follows from the possessor raising analysis: Arguments are transparent to extraction, adjuncts are opaque.

Notice that accounts of PDC which do not assume movement cannot appeal to the L marking analysis. Consequently, theories of PRO/pro/anaphor-binding cannot rule out PDC with adjunct PP’s without recourse to some extra machinery: While these PP’s create islands for extraction, they are transparent to binding of non-trace empty categories.

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4 The sole exception to this generalization is SUBJECT-MATTER PP’s, which block possessor raising:

1. * Gil ifyen le-Rina et ha hitmahagut.
   Gil characterized to-Rina Acc. the-behavior
   (‘Gil characterized Rina’s behavior’)

2. * Gil hitbases le-Rina al ha-netunim.
   Gil based-himself to-Rina on the-data
   (‘Gil based himself on Rina’s data’)

These verbs may involve an additional, implicit argument, of which the overt SM-argument is predicated. If so, they will fall under the cases discussed in section 5. For lack of space I leave this as a suggestion for future research.
If PD raises to its surface position from a possessee-internal position, then, given standard assumptions on 0-marking, it is not an argument of the verb. Thus, failure at argumenthood tests provides additional, independent support for the raising analysis. One such test comes from the interaction of PDC with control into purpose clauses.

It is well-known that obligatory control is restricted to thematic configurations (Chomsky 1981, Manzini 1983). Without going into the details of how controller choice is determined, a minimal necessary requirement seems to be the following (Nishigauchi, 1984):

(18) In the environment [... X ... Y ... [s PRO to VP... ]], X may control PRO only if:

i) X and S are co-arguments, or:

ii) X and Y are co-arguments, S is predicated of Y.

Control into infinitival complements falls under (18i), while control into purpose clauses (predicated of the THEME argument) falls under (18ii).

Observe now that both types are fully compatible with dative controllers:

(19) a. Gil himlic le-Rina, [PRO, lr'ot refe].
    Gil recommended to-Rina PRO to-see doctor
    ‘Gil recommended to Rina to see a doctor’

b. Gil natan la-Rina, [taklitim [PRO, lenagen ba-msiba]].
    Gil gave to-Rina records PRO to-play at-the-party
    ‘Gil gave Rina records to play at the party’

However, minimally changing the DOC in (19b) (where the goal-DAT is selected by V) to PDC (where the possessor-DAT is not selected by V) - results in ungrammaticality:

(20) * Gil sarat la-Rina, [taklitim [PRO, lenagen ba-msiba]].
    Gil scratched to-Rina records PRO to play at the party
    (‘Gil scratched Rina’s records to play at the party’)

Crucially, when the infinitive is an argument (complement) of the possessee - PD can control PRO (via trace); this shows that there is nothing intrinsic about possessors which bars them from entering control relations, rather it is their thematic (un-)relatedness to the infinitival that matters:
(21) Gil haras le-Rina, et [\text{NP}_{t} \text{ ha-sikuy [PRO}_{t} \text{ lizkot be-acma ba-} \\
\text{Gil ruined to-Rina Acc the-chance PRO to win in herself in-the-} \\
\text{taxarat]]}.} \\
\text{contest} \\
`\text{Gil ruined Rina's chances to win the contest by herself'}$

The island-sensitivity and the control incompatibility of PDC follow straightforwardly from the possessor raising analysis, providing direct support for (12c).

5. Possessor Raising and Argument Structure

The last ingredient of the analysis, (12d), predicts that if the verb chooses to project an argument in [Spec,VP], that should block possessor raising into that position. Such cases are expected to arise with non-agentive verbs, selecting two internal arguments and no light-verb projection. The predicted generalization, novel as far as I can tell, is the following:

(22) Dyadic non-agentive verbs are incompatible with PDC.

(22) is illustrated below with three different verb classes.

5.1 Experiencer Verbs

Consider the following examples:

(23) a. * Gil ahav le-Rina et ha-tisroket. \\
\text{Gil loved to-Rina Acc the-hairstyle} \\
\text{(`Gil loved Rina's hairstyle')} \\

b. * Gil hitpale le-Rina al ha-ma'amr. \\
\text{Gil was puzzled to Rina about the article.} \\
\text{(`Gil was puzzled at Rina's article')} \\

Why should experiencer verbs be incompatible with PDC? According to our analysis, these verbs do not project an AGENT, hence the EXPERIENCER argument is projected VP-internally, in the specifier position of VP. This leaves no room for PD to raise to, resulting in sharp ungrammaticality.

This result is significant, because the behavior of this class of verbs in PDC is standardly attributed to the so-called "theme affectedness" condition on the construction (see Cheng and Ritter, 1987; Yoon, 1990;
Branchadell, 1992; Slihatani, 1994). Under this story, what rules out (23) is the fact that the THEME is “unaffected” in it.

The thesis of “theme-affectedness” is, I believe, empirically false. In fact, as the data in (24) makes clear, PDC occurs quite freely with “unaffected” objects:

(24) a. Gil madad le-Rina et ha-salon.
    Gil measured to-Rina Acc. the-living-room
    ‘Gil measured Rina’s living-room’

b. ha-sapar hiš’ir le-Rina et ha-tistroket kmo ťe-hi.
    the-harber left to-Rina Acc. the-hairstyle as that-it
    ‘The harber left Rina’s hairstyle as it is’

c. Gil histakel le-Rina al ha-ko‘va.
    Gil look-at to-Rina on the-hat
    ‘Gil looked at Rina’s hat’

d. Je lui ai photographié les pieds.
    I to-her photographed the feet
    ‘I photographed her feet’

The examples in (24) have one thing in common with other grammatical cases of transitive PDC discussed above; in all of them the subject is agentive, even though the theme is “unaffected”. It it were the latter factor that determined their status, rather than the former, they should have patterned with (23), contrary to fact.

5.2 Subject-Goal Verbs

A second type of non-agentive dyadic verbs which are incompatible with PDC are subject-goal verbs:

(25) a. * ha-misra‘i kibel le-Rina et ha-mištav.
    the-office received to-Rina Acc. the-letter
    (‘Rina’s office received the letter’/ ‘The office received Rina’s letter’)

b. * Le bureau lui a reçu la lettre.
    the office to-her received the letter
    (‘The office received her letter’/ ‘Her office received the letter’)

12
Both the goal and the theme are internal arguments; thus the two argumental positions within the VP - complement and specifier - are occupied. Given that receive is non-agentive, no VP level is projectable. The ungrammaticality of (25) follows, with no further stipulations.

5.3 Stative Location Verbs

Further contrasts suggest that agentivity plays a less direct role in PDC than that proposed in (22). Consider the following minimal pair:

(26) a. *šney xadarim hexilu le-Rina et ha-rahitim.
    two rooms contained to-Rina Acc. the-furniture
    (‘Two rooms contained Rina’s furniture’;
    ‘Two of Rina’s rooms contained the furniture’)

b. ha-rahitim tafsu le-Rina šney xadarim.
    the-furniture catch to-Rina two rooms
    ‘The furniture took up two of Rina’s rooms’

The contrast in (26), which is extremely sharp for Hebrew speakers, refutes the claim that PDC is only found with “action verbs” (Roldán, 1972; Cheng and Ritter, 1987; Branchadell, 1992; Shibatani, 1994). The verb tafs ‘take, occupy’ in (26b) is a stative verb par excellence, perfectly compatible with PDC (the contrast is in fact replicated in the very languages for which this claim has been made - French and Spanish).

The verbs contain and (the stative) take/fill differ in that although both are non-agentive statives, take/fill does have an (additional) agentive entry, whereas contain does not. We thus modify (22) as follows:

(27) PDC is incompatible with transitives lacking an agentive entry.

Suppose that the availability of an agentive entry for V licenses projection of the light-verb v in all instances of V (perhaps as a result of lexical economy). What distinguishes the agentive entry of V from its non agentive one is simply that v projects a specifier in the former but not in the latter. Thus the non-agentive take projects the structure [+ v [vP THEME [v, V LOCATION]]]. Notice that a potential landing site is available for possessor raising, namely [Spec,vP], precisely because the agent is not projected. The ban on movement into 0-position is respected.

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5 Other stative verbs that pattern with tafs ’occupy’: hekif ‘surround’, histir ‘cover’, xasam ‘block’. tala ‘hang’. All of them have independent agentive entries.
since in this particular construction [Spec, vP] is not a θ-position. As for
the ungrammatical (26a), the lack of an agentive entry for contain makes
the ‘v-less’ structure the only one available. Possessor raising is
consequently ruled out.

The facts surveyed in this section thus provide strong support for the
possessor raising analysis, and in particular, the claim that PD raises to a
position projected by the verb. For comparison, consider the model
proposed in Borer and Grodzinsky (1986), where PD is argued to be
linkable to an internal argument but not to an external one. This model
would fail to rule out any of the ungrammatical examples discussed in this
section, since all of them involve possession of a VP-internal argument.

Conclusion

The basic thesis this paper argues for is the possessor raising thesis: That
is the claim that possessive dative constructions are derived by movement
of the possessor DP from a position internal to the possessed DP. The
minimal assumption made with regard to that movement is that it is case-
driven. A wide variety of properties follows, syntactic and semantic:
Obligatoriness of possessive construal, strict locality, exclusion of external
arguments as PD-hosts, c-command effects, extraction asymmetries,
interaction with control and with various argument structures. Most of
these properties are hard, if not impossible to capture within alternative
analyses which only posit an empty category within the possessed DP,
concentrating their theoretical thrust on the thematic properties of PDC.

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6 The proposed account implies that strictly Larsonian shells do not exist, at least not for
tradic verbs like put. Otherwise, possessor raising would be predicted to fail there for the
same reason, namely competition over [Spec,VP] - but it doesn’t:

i. Gil sam le-Rina xol ba-kusim.
   Gil put to-Rina sand in-the-pockets
   ‘Gil put sand in Rina’s pockets’

I therefore assume, with Hale and Keyser (1993), that such constructions involve two-place
prepositions, placing the direct object in [Spec,PP]. The designated position for possessor
raising - [Spec,VP] - is thus made available.


