The Mystery of the Missing Argument: Hebrew Object Drop

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This study explores Hebrew null objects in light of existing analyses both for Hebrew and for other languages. Previous accounts of Hebrew object drop are evaluated empirically, and are shown to be incapable of accounting for the range of facts. It is proposed that the empty objects are unpronounced topics. The content of these gaps is examined, with the conclusion that neither a pronoun nor a lexical DP underlies them. While each of these options has substantial advantages, they both leave some of the data unexplained. I thus propose that the lexical content of the dropped object is not specified; rather, it merges as a bundle of features, among them topichood, which allows PF to leave it unpronounced, and a referential index, which picks out its exact reference from the context. This account enables the content of the null object to remain flexible and to be determined with respect to the discourse.

Key words: *argument drop, feature bundle, Hebrew, object drop, topic drop*

1   Introduction

In certain environments, Hebrew allows an object position to remain empty. The examples below demonstrate null objects in three environments in which this phenomenon is most commonly found. In (1) and (2) the null object appears in a second conjunct of a coordinated CP and a coordinated VP, respectively. In (3) the null object appears in an answer to a question.

(1) *Dani katav   et   ha-šir   ve-Miriam   tirgema   ø.*
    Dani wrote ACC the-song   and-Miriam   translated
    'Dani wrote the song and Miriam translated it.'

(2) *Dani kisa   et   ha-salat   ve-sam   ø ba-mekarer*
    Dani covered ACC the salad and-put   in.the-fridge
    'Dani covered the salad and put it in the fridge.'

(3) Q: *Macata   et   ha-maftexot?*
       found.2sg ACC the-keys
       'Did you find the keys?'
    A: *Ken, macati   ø.*
       yes   found.1SG
       'Yes, I found them.'

This research is concerned with the essence of the empty category and the way by which it is derived[1]. I begin by examining previous analyses of Hebrew null objects as either traces of Ā-movement or remnants of VP Ellipsis (section 2). These analyses,

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[1] This study excludes null objects in generic, non-referential, and arbitrary contexts. In all the examples used here, the null object has a specific referent.

proposed in Doron (1990, 1999) and assumed in Goldberg (2005), are evaluated with respect to Hebrew data. I point at their inability to account for the range of facts.

Having rejected both analyses, and with the goal of offering a unified treatment for all occurrences of Hebrew object drop, I observe that Hebrew null objects are systematically interpreted as topics. This generalization leads to an account of the phenomenon as an instance of topic drop, whereby an object is PF deleted due to its topichood (section 3). I then examine the lexical content of the unpronounced object, considering two available possibilities: that the silent object is a pronoun and that it is a full DP (section 4). I reject both these possibilities on empirical grounds, proposing instead that the null object is not inherently specified for lexical content but rather merges as a feature bundle (section 5).
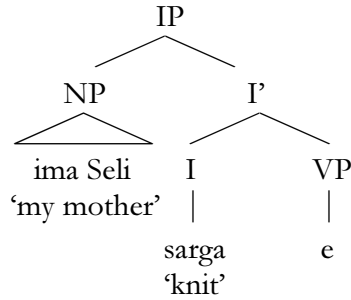
2   Previous analyses

The study of Hebrew object drop has yielded the proposal in Doron (1990, 1999), and later in Goldberg (2005), according to which, two different derivations occur in Hebrew which result in the surface appearance of a null object. I explore these two analyses--V-stranding VP Ellipsis and Ā-trace--and point to their problematic nature in sections 2.1 and 2.2. Section 2.3 examines a particular construction in which the null object induces an ambiguity between a sloppy and a strict interpretation. I show how this construction further weakens the existing proposals.

2.1   V-Stranding VPE

The idea that Hebrew null objects are in fact derived by V-Stranding VPE was first introduced in Doron (1990). Under this account, the object position is empty because the entire VP undergoes VP Ellipsis (VPE). Unlike in English VPE, however, the verb first raises to I; since it is now outside the VP it is not affected by VPE and remains overt. This analysis, dubbed V-stranding VPE by Goldberg (2005), leans on the existence of V to I movement, which indeed has been independently motivated for Hebrew (Doron 1983). An equivalent account has been proposed for null objects in other languages, among them Korean and Japanese (Otani and Whitman, 1991) and Irish (McCloskey 1991). Figure (1) represents this derivation for the answer in (4). Both the data and the structure are taken from Doron (1990).

(4)   Q: *At   saragt   et   ha-sveder   ha-za?*
          you   knit   ACC   the-sweater   the-this
          'Did you knit this sweater?'
      A: *Lo,   ima   šeli   sarga ø.*
          no   mother   my   knit
          'No, my mother did.'

Figure 1: VP Ellipsis

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                    IP
                  /    \
               NP       I'
              /  \      /  \
        ima Seli   I      VP
       'my mother'  |      |
                  sarga    e
                  'knit'
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Under this account, all VP-internal material but the verb is predicted to be null. Thus, this account is excluded when the null object is followed by overt VP-internal material. This is because such overt VP-internal material indicates that the VP is intact, as discussed by both Doron (1990, 1999) and Goldberg (2005). Such cases are common with ditransitive verbs, when a null direct object (DO) is followed by an overt indirect object (IO). Such an utterance is demonstrated in (5). In the example, the DO is null but an overt IO (the PP Goal *la-maxbesa* 'to the cleaners') indicates that the VP is intact.

(5)   Q: *Lakaxta   et   ha-sdinim l   a-maxbesa?*
             took.2SG   ACC   the-sheets   to.the-cleaners
             'Did you take the sheets to the cleaners?'
       A: *Lo,   ba-sof   lakaxti   ø le-ima   šeli.*
             no   in-the-end   took.1SG   to-mother   my
             'no, I ended up taking them to my mom's.'

The data above cast doubt on the V-stranding VPE account for this type of sentence, as discussed by Doron and Goldberg. But one might propose to save the V-stranding VPE idea as follows. If the IO raises outside the VP prior to VPE (in addition to verb raising), then it too escapes VPE and appears overt. This is not implausible for Hebrew, which allows argument scrambling, in which the IO precedes the DO. Below is such an example:

(6)   *Dani   natan   le-Dorit   et   ha-sefer.*
       Dani   gave   to-Dorit   ACC   the-book
       'Dani gave the book to Dorit.'

If this word order is a result of IO raising outside the VP, perhaps to some focus projection between IP and VP, then VPE would not affect the IO and would leave it overt, just as the IO in (5).

This scenario allows the V-stranding VPE account to hold even in those cases in which a null DO is followed by an overt IO. However, I reject this possibility. I draw from the treatment of similar Turkish data in Şener and Takahashi (2010). The authors use Binding Condition A to argue against IO raising when the DO is null. If the IO raises outside the VP it cannot be c-commanded by the DO, which remains lower in the structure, and as a consequence, it cannot be bound by it. Binding principle A of the Binding Theory requires that an anaphor be c-commanded by its antecedent. Thus, a successful binding relationship between an anaphor or a reciprocal IO and an antecedent

DO (either overt or null) indicates that the IO remains in its base position within the VP, from which it can be c-commanded by the DO. Now consider this example:

(7) Q: *Ma   asita   im   kol   ha-kufsa'ot?*
       what did.2SG with all   the-boxes
       'What did you do with all the boxes?'
    A: *Samti   ø   [axat al   ha-šniya]*
       put.1SG   [one on   the-second]
   'I put them on each other.'

The IO reciprocal 'on each other' is bound by the null object, whose reference – 'the boxes' or 'them' – is the antecedent. I conclude that the IO remained in its original VP-internal position. VPE, had it occurred, would eliminate it; yet it is overt.

This result rules out the V-stranding VPE analysis for this construction; and by extension, it suggests that V-stranding VPE may not be tenable for Hebrew, at least whenever an overt IO follows the gap. I maintain that it should be rejected across the board.

2.2   Ā trace

Another derivation which results in an empty object position is termed by Doron (1990, 1999) Null Object Construction. Based on Huang's (1984) proposal for Chinese, Doron assumes that a null object is an Ā-variable, bound by an empty operator which is located higher in the structure. The derivation is illustrated below, based on Doron's representation for the answer in (4).

Figure 2: Ā trace[2]
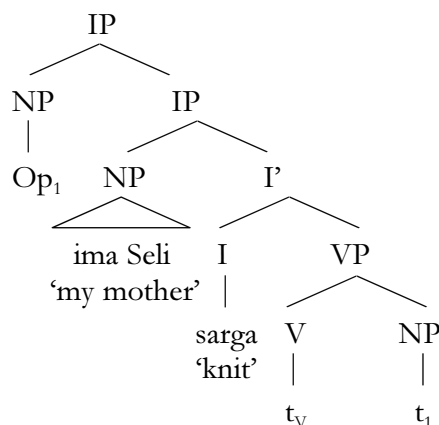
Since the null object is an Ā-trace, it is not expected to occur in islands. Doron presents data of ungrammatical null objects in islands. However, Hebrew null objects have intricate restrictions, not yet fully understood, which may account for the

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[2] The structure shows V to I movement although such movement, if it exists, is irrelevant to this derivation.

ungrammaticality of Doron's examples. Below I bring five examples of null objects in island environments which are grammatical.

NP Complement Island:

(8) *Her'eti   et   ha-tmuna   le-dina,*
     showed.1SG   ACC   the-picture to-Dina
     ve-mišehu   hefic   šmu'a [NP complement *še-her'eti   ø   gam   le-Yosi.*]
     and-someone spread rumor   that-showed.1SG   also to-Yosi
     'I showed the picture to Dina and someone spread a rumor [that I also showed it to Yosi].'

Adjunct Island:

(9) *Fiksasnu   et   ha-mismaxim   le-London*
     faxed.1PL   ACC   the-documents   to-London
     [Adjunct *lamrot   še-kvar   šalaxnu   ø   le-Berlin.*]
             despite   that-already   sent.1PL   to-Berlin
     'We faxed the documents to London even though we had already sent them to Berlin.'

CP coordination:

(10) [CP *Dina   he'evira   et   ha-meser   le-Yosi*]
        Dina   passed   ACC   the-message   to-Yosi
     [CP *ve-Dani   he'evir   ø   le-Mixal.*]
        and-Dani   passed   to-Michal
     'Dina passed the message to Yosi and Dani did to Michal.'

VP coordination:

(11) *Mixal   * [VP *kibla   et   ha-mafte'ax   mi-Dani*]
     Michal   received ACC   the-key   from-Dani
     [VP *ve-natna   ø   le-Sarit.*]
        and-gave   to-Sarit
     'Michal received the key from Dani and gave it to Sarit.'

Subject Island:

(12) *Ani   yodea   še-her'et   et   ha-tmuna   le-Dani,   aval*
     I   know   that-showed.2SG   ACC   the-picture to-Dani   but
     [subject *ze   še-her'et   ø   le-Yosi*]   *ze   mamaš   lo   beseder.*
            this that-showed.2sg   to-Yosi   it   really no   all.right
     'I know that you showed the picture to Dani, but showing it to Yosi was really wrong.'

Since Hebrew null objects are insensitive to islands, the Ā-trace analysis cannot account for them. Note that in each of the island examples above, the empty object position is followed by an overt indirect object. The examples were constructed this way so as to eliminate the possibility that the above are cases of V-stranding VPE. VPE is known to be insensitive to islands (Doron 1990), and Doron uses this trait as a diagnostic: her claim is that when a null object appears in an island, it is derived by VPE. However, the island data above show that this distinction does not hold; the examples can be construed neither as Ā-traces nor as VPE.

I have argued in this section that neither of the previously proposed analyses can cover all the object drop data. One solution to this problem might be to say that some object drop occurrences are derived by V-stranding VPE and others by Ā-trace; indeed this solution is adopted by both Doron and Goldberg. This current proposal, however, aims at developing a unified treatment for all object drop occurrences.

2.3   Sloppy/strict ambiguity

I now focus on a particular construction in which the null object induces an ambiguity between a strict and a sloppy reading. First I present the phenomenon and then I discuss the problem that it poses for the existing analyses of Hebrew object drop. The ambiguity between sloppy and strict interpretations is typically (although not exclusively) found in a CP conjunction, as in example (13).

(13) *Dina$_i$ sama et   ha-simla   šela$_i$ al   ha-kise*
      Dina put ACC the-dress   her   on   the-chair
      ve-tali$_k$ talta   ø$_{i/k}$ ba-aron.
      and-Tali   hung   in.the-closet
      'Dina put her dress on the chair and Tali hung it/her dress in the closet.'

The antecedent object in the first conjunct contains a possessive pronoun (in our example the antecedent object is *et ha-simla šela* 'her dress'). The gap in the second clause can have two interpretations: under the strict reading, Tali hung Dina's dress in the closet. Under the sloppy reading, Tali hung her own dress in the closet.

Sloppy readings are normally explained by VPE (Doron 1999). Doron uses the availability of sloppy readings in Hebrew to support the V-stranding VPE idea, as do Otani and Whitman (1991) for Japanese. However, a construction with an overt IO excludes the VPE possibility, as discussed above. This is exactly what we have above in (13). The overt PP 'in the closet' is incompatible with the VPE idea. While Doron claims that sloppy readings are necessarily derived by VPE, the above example shows that VPE is not tenable in such cases and we must look somewhere else for an explanation for sloppy readings.

To conclude this section, the accounts proposed so far cannot explain the Hebrew phenomenon in question, especially if one aims at deriving all occurrences of Hebrew object drop from a single mechanism.

3   The missing object as a topic

In this section I observe that all instances of Hebrew referential null objects are instances of topic drop. I conclude this from two properties: 1. they drop in contexts in which they have a discourse antecedent, and 2. they alternate freely with pronouns (with one exception to be discussed). However, I show that this does not mean that they are fronted prior to dropping. I demonstrate that other arguments beside objects can undergo topic drop. I further propose that topic drop is a PF phenomenon. In section 3.2 I extend the topic drop idea to null objects that induce sloppy readings, by arguing that they are restrictive topics.

3.1 Null objects and topic drop

It has long been observed that referential null objects are discourse-dependent. This observation goes back at least to Huang (1984). In this central work, Huang treats empty objects as bound by topic NPs, which themselves may be either overt or null. Sigurðsson & Maling (2008) address the linkage between referential null objects and discourse in Germanic languages. In Hoji (1998), Japanese null objects are said to pick out as their referent the most discourse-salient candidate. As for Hebrew, I propose that the null objects themselves are understood as topics. Topics are necessarily given; as for null objects, their reference (or 'antecedent') is present in the discourse, and the object gap is understood as referring back to it. Cross-linguistically, topics can be marked by various means: they can be fronted (or otherwise moved), pronominalized, cliticised, and/or de-stressed. Under the view suggested here, Hebrew topics are allowed to remain silent (which can possibly be viewed as extreme de-stressing).

That Hebrew null objects are topics can be concluded from the environments in which they appear. Examining these environments reveals that each such environment establishes the object as a topic by providing a discourse antecedent. One such environment is a coordinated structure, and it is responsible for what Sigurðsson & Maling (2008) term Conjunct Object Drop (COD). It is illustrated in examples (1) and (2), repeated below as (14) and (15). In COD, the object is brought to the attention of the hearer in the first conjunct and drops in the second conjunct, where it is understood as a topic, referring back to its antecedent in the first clause.

(14) *Dani   katav   et   ha-šir   ve-Miriam   tirgema   ø / oto.*
    Dani   wrote   ACC   the-song   and-Miriam   translated   it
    'Dani wrote the song and Miriam translated it.'

(15) *Dani   kisa   et   ha-salat   ve-sam   ø / oto   ba-mekarer.*
    Dani   covered   ACC   the salad   and-put   it   in.the-fridge
    'Dani covered the salad and put it in the fridge.'

Another environment is a question-answer pair such as in (3), repeated below as (16). The question establishes the object as the topic of conversation, allowing a gap in the answer.

(16) Q: *Macata   et   ha-maftexot?*
       found.2sg   ACC   the-keys
       'Did you find the keys?'
    A: *Ken,   macati   ø /   otam.*
       yes   found.1SG   them
       'Yes, I found them.'

An interesting property of Hebrew null objects is that they may appear without a linguistic antecedent. In such a case, the situation makes them available as topics even though they are not mentioned. Such an occurrence is demonstrated below:

(17) [the speaker presents a new bag].
  Yafe? kaniti   ø /   et   ze   be-mivca.
  nice bought.1SG   ACC this in-sale
  'Is this nice? I bought it on sale.'

Note that in each of these last three examples, the null object can alternate with an overt object pronoun. Since pronouns are generally topics, this provides further support for the generalization that null objects are dropped topics.

Despite the approach taken here, the phenomenon of Hebrew object drop cannot be analyzed in terms of topic movement. Hebrew topicalization, i.e. fronting a topic-object to initial position, is reserved for restrictive topics and is generally infelicitous with ordinary topics. Restrictive topics are defined in Erteschik-Shir (1997, 2007) as elements drawn from a given set (a *topic set* in the term used by Erteschik-Shir, or *D-linked* using Pesetsky's 1987 terminology). Any of the members of such a set can become a restrictive topic. These topics *can* be fronted in Hebrew, unlike non-restrictive topics. Consider the topicalized sentence below:

(18) *Et   ha-xalav   hu sam   ba-mekarer.*
  ACC   the-milk   he put   in.the-fridge
  'He put the milk in the fridge.'

Now let us consider the contexts in which this instance of topic fronting is possible. Below are two contexts. (18) is felicitous following (19b). Yet it is ruled out following the context in (19a).

(19) a. *Dani   hevi   xalav   me-ha-super.*
     Dani   brought   milk   from-the-supermarket
     'Dani brought milk from the supermarket.'
  b. *Dani   hevi   xalav   ve-tapuxim   me-ha-super.*
     Dani   brought   milk   and-apples   from-the-supermarket
     'Dani brought milk and apples from the supermarket.'

The reason for this sharp contrast is that in context (19a), 'the milk' is a regular topic, hence its topicalization fails. However, context (19b) makes available a topic set: {milk, apples}, thus 'the milk' in (18) is interpreted as a restrictive topic: an item selected from the topic set. Its topicalization is therefore successful.

I have shown that the topichood of the object in (19a) is an insufficient condition for topicalization. However, the object can be null:

(20) *Dani   hevi   xalav   me-ha-super   ve-sam ba-mekarer.*
  Dani   brought   milk   from-the-supermarket   and-put in-the-fridge
  'Dani brought milk from the supermarket and put it in the fridge.'

This section was dedicated to distinguishing between topic drop and topiclization. These two phenomena are separate processes and the former does not derive from the latter.

While this study focuses on object drop as topic drop and does not concern topic drop in general, it is worth noting that other arguments can potentially be null when interpreted as topics. Consider the following answers in examples (21) and (22), in which

the subject and the PP goal, respectively, are null. Both appear in a context which makes them topics.

(21) Q: *Ma dani ose?*
what Dani does
'What is Dani doing?'
A: *Mexin shiurey bayit.*[3]
prepare lessons home
'He is preparing homework.'

(22) Q: *Heveta la-maxbesa et ha-sdinim?*
brought-2SG to.the-cleaners ACC the-sheets
'Did you bring the sheets to the cleaners?'
A: *Lo, ba-sof heveti rak et ha-magavot.*
no in.the-end brought-1SG only ACC the-towels
'No, in the end I only brought the towels there.'

According to Erteschik-Shir (2005, 2006), processes triggered by information structure occur at the PF interface. These processes include other ways of marking topics, such as dislocation (for instance topicalization and scrambling) and de-stressing. This approach is also taken in Sigurðsson & Maling (2008), where the alternation between a pronominal argument and a gap is analyzed as a occurring post-syntactically, at PF. In this spirit, I treat Hebrew object drop, which I claim is topic drop, as occurring at PF. This idea is further developed in section 5.

Such an account of object drop does not rely on the existence of syntactic elements and processes such as null operators and verb raising. It requires only that the object be identified as a topic at PF, and thus be allowed to remain unpronounced.

Before this section is concluded, I would like to make clear that these non-generic null objects are not obligatory and that they characterize informal speech, whereas in more formal registers, a pronoun is used in the same position. It is also important to note that not every (non-restrictive) topic object may drop. Hebrew imposes various restrictions on object drop, among them semantic and phonological ones, that are yet to be fully studied[4].

3.2 The topic drop analysis and sloppy readings

In this section I examine how the topic drop analysis extends to sloppy readings. As discussed above, a null object in the second conjunct whose reference contains a possessive pronoun is potentially ambiguous between a sloppy and a strict reading. The strict reading easily conforms to the topic drop analysis. To illustrate this, let us consider

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[3] Hebrew is a partial *pro*-drop language. Agreement-related *pro*-drop is only available for non-present tense and for non-3rd person. Since the example uses present tense and 3rd person, a *pro*-drop analysis is irrelevant here.

[4] One such semantic restriction requires that the null object be inanimate, whereas animate null objects are hardly acceptable. For this reason, the examples throughout this paper are limited to inanimate null objects.

again example (13), repeated below as (23). This time let us imagine a context that calls for a strict reading, i.e. one where the dropped object refers back to the object in the first clause (as the indices show). The context is provided in the example:

(23) [Speaker: Dina is so untidy that Tali must always clean up after her. Last night before they went to bed…]
  Dina$_i$ sama et   ha-simla   šela$_i$ al   ha-kise
  Dina put ACC the-dress her   on   the-chair
  ve-tali$_k$ talta   ø$_i$ ba-aron
  and-Tali   hung   in.the-closet
  'Dina put her dress on the chair and Tali hung it in the closet.'

The topic of the second clause is Dina's dress, which is mentioned overtly in the first clause. Due to its topichood it can drop.

More challenging to the topic drop idea is the sloppy interpretation. Under this reading, the referent of the dropped object is *not* the previously mentioned object. In our example, the gap now refers to Tali's dress, which is not previously mentioned. I repeat the example, this time preceded by a question which provides a context that calls for a sloppy interpretation:

(24) Q: *Mi   sama   et   ha-simla   šela   eyfo?*
       who put   ACC the-dress her   where?
       'Who put her dress where?'
    A: *Dina$_i$ sama   et   ha-simla   šela$_i$ al   ha-kise*
       Dina put ACC the-dress her   on   the-chair
       ve-tali$_k$ talta   ø$_k$ ba-aron
       and-Tali   hung   in-the-closet
       'Dina put her dress on the chair and Tali hung her dress in the closet.'

The null object now refers to Tali's dress, which is not available as a topic in this discourse. Note, however, that what *is* available in this discourse is a topic set: the set of dresses {Dina's dress, Tali's dress}. A multiple WH-question as in (24) is a type of discourse that provides a topic set, as discussed in Pesetsky (1987) and in Erteschik-Shir (1997, 2007). The dropped object in the second conjunct refers to one of the items in this set, namely to Tali's dress.

Note that as opposed to the topic set {milk, apples} from example (19b), the items in the topic set in (24) are each linked to an item from another topic set, the set of dress owners {Dina, Tali}, which is also made available by the discourse. This linking allows the restrictive topic in the second conjunct to be null; its content can be recovered through its link to the subject of its clause.

I conclude therefore that Hebrew object drop may apply to restrictive topics, as well as to regular topics, as long as the restrictive topic can be identified through linking to an item in the discourse.

4   The content of the missing object

I have established that the empty category is a constituent identified as a topic (or restrictive topic) and deleted at PF. I now address the question of the content of that

constituent. The current cross-linguistic literature on null arguments makes available two options: that the silent constituent is an unpronounced pronoun (see e.g. Neeleman and Szendröi 2005), and that it is a full DP (see e.g. Kim 1999, Şener and Takahashi 2010). I will examine each of these options in turn.

4.1   The null object as a pronoun

The idea that an empty object is a pronoun (but not necessarily *pro*) has been proposed in various works, among them that of Neeleman and Szendröi (2005). Let us consider the possibility that the dropped object of Hebrew is indeed a pronoun. At first glance this idea seems appealing for the case at hand. As was shown in section 3, Hebrew (non-generic) null objects alternate freely with overt object pronouns. Consider again examples (14) through (17), in which the language allows either an overt pronoun or a gap, without any change in meaning. This flexibility points to the possibility that the constituent in question is merged in the syntactic component as a pronoun. At the phonetic component, due to its topichood, a choice can be made whether to realize the pronoun phonetically or leave it unpronounced (see Sigurðsson & Maling 2008).

If this idea is on the right track, then we expect every occurrence of null object to not only be grammatical with a pronoun but also to have the same interpretation. While this is indeed what we find in a wide range of dropped object utterances, excluded are those dropped objects that produce a sloppy reading. I demonstrate this below with sentence (13), repeated as (25). This time, unlike examples (14)-(17), an overt pronoun in the position of the gap does not yield an equivalent interpretation. While the gap creates sloppy/strict ambiguity, the overt pronoun *ota* 'it', as the indices indicate, can only be interpreted with the strict reading. In other words, it necessarily refers back to the object from the first clause.

(25)   *Dina$_i$ sama et   ha-simla   šela$_i$ al   ha-kise*
        Dina put   ACC   the-dress   her   on   the-chair
        ve-tali$_k$ talta   ø$_{i/k}$ /   ota$_{i/*k}$ ba-aron.
        and-Tali   hung   it   in.the-closet
        'Dina put her dress on the chair and Tali hung (it) in the closet.'

This example shows that an object gap and a pronoun do not completely overlap in interpretation, since a pronoun does not allow a sloppy reading. If we aim to define the content of the null object in a way that encompasses sloppy readings, then we must abandon the possibility that the null object merges as a pronoun.

4.2   The null object as a full DP

Having rejected the pronoun idea, I now examine the possibility that the null object starts out as a full DP, identical to the antecedent object DP. A solution along these lines has been adopted for East Asian languages such as Japanese, Korean, and Chinese (e.g. Oku 1998, Kim 1999). Its most obvious advantage is that it can explain sloppy readings while not excluding strict readings. This flexibility is demonstrated below with the same sentence. As the indices indicate, both the gap and the full DP allow a sloppy as well as a strict reading.

(26) *Dina$_i$* *sama* *et* *ha-simla* *šela$_i$* *al* *ha-kise*
Dina   put   ACC the-dress her   on   the-chair
ve-Tali$_k$ *talta*   *ø$_{i/k}$* /   [*et*   *ha-simla* *šela$_{i/k}$*]   *ba-aron.*
and-Tali   hung   ACC the-dress her   in-the-closet
'Dina put her dress on the chair and Tali hung her dress in the closet.'

It seems then that the full DP account is satisfactory, covering the entire range of data. But this is not the case. There it a type of null object construction that is not accounted for by the full DP analysis. In this construction the antecedent is a quantified object, as in (27), where the antecedent is 'three books'.

(27) *Dani*   *katav*   *[šloša*   *sfarim]*   *ve-miriam*   *tirgema*   *ø.*
Dani   wrote   [three   books]   and-Miriam   translated
'Dani wrote three books and Miriam translated them.'

The only possible interpretation of the null object in the second clause is co-reference with the object in the first clause; namely, Miriam translated those same three books that Dani wrote. Another potential meaning--that Miriam translated three *other* books--is not available.

This property of the gap is not replicated with an overt full DP. I demonstrate this below with a minimally different sentence, in which an overt full DP is inserted in the same position as the gap above.

(28) *Dani katav*   *[šloša sfarim]*   *ve-miriam*   *tirgema*   *[šloša sfarim].*
Dani wrote   [three books]   and-Miriam   translated   [three books]
'Dani wrote three books and Miriam translated three books.'

This configuration does not allow co-reference between the object in the first clause (the three books written by Dani) and the object in the second clause (the three books translated by Miriam). The only available interpretation is that Miriam translated three *different* books.

A necessary conclusion from these data is that a full DP does not underlie an unpronounced object, at least when the antecedent object is quantified. If the dropped object in (27) started out as a full DP, then we would expect it to yield the same interpretation made available by a full DP in (28), contrary to fact.

Before we move on, it is worthwhile to consider (27) again. The inability of the gap to refer to different items calls for an explanation. The reader may suspect that it is pragmatics that favors the reading in which the same three books are first written and then translated. But an explanation in terms of topichood is more appropriate here. If the entire utterance is about the same three books, then (27) is a classic case of COD construction: the first-clause object 'three books' is interpreted as a topic and thus is allowed to drop in the second clause. However, if the utterance is about six books (three that are written and three that are translated) then the object in the second conjunct has no discourse antecedent and cannot be understood as a topic. The result is topic drop failure.

Let us recap. We are interested in exposing the content of the null object; we have considered two options: a pronoun and a full DP. Section 4.1 has shown that the pronoun account leaves out sloppy readings. Section 4.2 has shown that the full DP idea

excludes quantified antecedent objects. A solution to this problem might be to have two separate accounts, each covering *some* of the data. However, my goal is to find a unified solution, one that will include all constructions allowing null objects.

5   The null object as a feature bundle

This problem may warrant a different approach. We have put an effort into finding out what it is that merges in syntax only to be unpronounced at PF. An alternative way to think about this problem is to say that PF is responsible for the lexicalization as well as for the silence. Note that all the null objects discussed here can freely alternate with overt material. My proposal is that in the syntactic component the constituent in question lacks lexical content; both its overt and null realizations are dealt with post syntactically, in the phonological component. PF does not suppress existing lexical material; rather, it can realize it or not. This idea means that the constituent in question is not inherently specified: it merges in syntax as a feature bundle, and it is only at PF that its features translate into phonetic content.

Proposals along these lines were introduced in Hoji (1998) and Sigurðsson and Maling (2008), although the details are different. Hoji suggests that "…the content of the supplied N-head is most likely a feature bundle, excluding phonological features" (p. 142). Sigurðsson & Maling maintain that "all pronominal arguments are syntactically computed feature bundles that may or may not be spelled out in PF" (p. 10). I extend this notion so that the feature bundle may realize phonetically either as a pronoun, a gap, or a lexical DP.

The feature bundle minimally carries these three features: topichood, the relevant theta role, and a referential index. This last feature, the referential index, connects the constituent to the discourse: it indicates what it refers back to. It also dictates what phonetic realization is allowed. For example, when the index signals that the constituent refers back to an item out of a topic set which connects to a second-clause subject (a sloppy interpretation), a pronoun will not be a possible phonetic realization. In this scenario PF may either copy the phonetic content of the first-clause object or leave the constituent null. If, on the other hand, the index indicates co-reference with an antecedent object, a pronoun becomes a legitimate phonetic choice. The desired flexibility is thus maintained, and the variety of interpretations that an object gap yields is accounted for.

6   Conclusion

Hebrew object drop is analyzed as topic drop, where a constituent identified as a topic is PF deleted. The content of that constituent is not inherently specified. More work is needed in order to turn this preliminary idea into a more elaborate account. In the meantime, it allows us to account for all object drop occurrences discussed above. Its appeal lies in its capacity to encompass a wide range of object drop cases in Hebrew; something that previous proposals have been unable to do.

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