Missing objects in Hebrew: Argument ellipsis, not VP ellipsis

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Abstract

Hebrew is standardly cited as a language exhibiting Verb-stranding VP-ellipsis (VSVPE). Systematic reassessment of the data demonstrates that all the alleged evidence for VSVPE is consistent with Argument Ellipsis (AE); furthermore, there are ample data that are only consistent with AE, and more revealingly, data that can only be explained if VSVPE is *un*available. Finally, the verb preceding the missing object need not match the antecedent verb, falsifying the "Verb Identity Requirement". The conclusion that Hebrew employs AE (similarly to East Asian languages) but not VSVPE focuses attention both on the typology of AE and on the so-far hidden constraints against VSVPE derivations.

Keywords: verb-stranding VP ellipsis, argument ellipsis, null objects, Hebrew

1 Introduction

In the growing literature on ellipsis phenomena, one particular area has witnessed extensive research during the past two decades: Verb-stranding Verb Phrase Ellipsis (henceforth, VSVPE). The term refers to sentences with Object Gaps (henceforth, OG sentences) that are analyzed in two derivational steps: (i) V moves out of VP to some higher functional head (Asp, T, etc.); (ii) The remnant VP undergoes ellipsis. The second sentence in the Hebrew example (1a), on this view, has the structure in (1b) (shading represents elided material). Note that the pronominal possessor can receive either a strict or a sloppy reading, as expected in ellipsis.

(1) a. Gil hizmin et axot-o. Yosi gam hizmin ___.
Gil invited ACC sister-his. Yosi too invited
'Gil invited his sister. Yosi did too.'

b. VSVPE
$[_{TP}$ *Yosi*$_i$ $[_{T'}$ *gam* $[_{T'}$ *hizmin-v*-T $[_{vP}$ t_i $[_{v'}$ t_v $[_{VP}$ t_V $[_{DP}$ *et axoto*]]]]]]]

An obvious alternative, which is conceptually simpler, is to assume that ellipsis targets just what is missing, namely, the internal argument (Argument Ellipsis;

henceforth, AE). In this analysis, the verb is generated outside the elided constituent; verb raising may or may not be involved ((2) depicts AE with verb raising).

(2) AE

[$_{TP}$ *Yosi*$_i$ [$_{T'}$ *gam* [$_{T'}$ *hizmin-v*-T [$_{vP}$ t$_i$ [$_{v'}$ t$_v$ [$_{VP}$ t$_V$ [$_{DP}$ *et exoto*]]]]]]]

Historically, the VSVPE analysis has been first proposed for Chinese (Huang 1987, 1991), Japanese and Korean (Otani and Whitman 1991), and Irish (McCloskey 1991). At around the same time, it has also been proposed for Hebrew (Doron 1990, later modified in Doron 1999). For the latter language, the VSVPE analysis has been assumed in Sherman 1998, and subsequently elaborated and bolstered in Goldberg 2005. Indeed, all the authoritative survey articles on ellipsis cite Hebrew as a primary exemplar of the construction (van Craenenbroeck and Merchant 2013, van Craenenbroeck 2014, Merchant 2016).

This paper marshals a series of arguments to refute the VSVPE analysis of Hebrew OG sentences. Instead, I argue, these sentences are best analyzed as instances of AE. AE has been extensively studied in East Asian languages. Indeed, the initial VSVPE analysis for OG sentences in these languages was soon abandoned in favor of AE, on the basis of compelling evidence.[1] Curiously, the insights from that literature were rarely imported to the theoretical attempts to deal with OG sentences in Hebrew, or indeed, in other languages displaying OG sentences, such as Russian and Portuguese. In the few works that they were (like Goldberg 2005), unfortunately, the conclusions were lethally hampered by methodological hurdles.

My strategy will be straightforward. First, I will examine each piece of evidence offered in the past for the VSVPE analysis in Hebrew, with an eye towards the question whether the AE alternative is sufficiently considered and rejected. For each such piece, it will be shown that either (i) the facts are not as reported, or (ii) crucial facts are not mentioned, or (iii) the facts are accurate, but in no way favor VSVPE over AE. Second, I will adduce a variety of OG sentences for which AE is the *only* sensible analysis. Finally, I will discuss a set of data that presses the stronger conclusion – namely, that VSVPE *cannot* be available in the grammar of Hebrew (as it overgenerates nonexisting strings and readings).

An important consequence of the empirical discussion, extending beyond the Hebrew case, concerns the so-called "Verb Identity Requirement (VIR) on VSVPE" (see Goldberg 2005:171): The requirement that the verbs in the antecedent and target VP

[1] See Xu 2003, Aoun & Li 2008, Cheng 2013, Park 1997, Kim 1999, Hoji 1998, Oku 1998, Tomioka 1998, Saito 2007, Takahashi 2008, 2014, Abe 2009, Sato 2014, Sakamoto 2017.

be stem-identical (differing at most in inflectional features). This requirement has been assumed in most studies of VSVPE up until very recently, sometimes even taken as a defining property of the construction (Schoorlemmer and Temmerman 2012).[2]

At the same time, it is fair to say that the VIR has remained a theoretical nuisance. Neither A-movement nor Ā-movement out of ellipsis sites is subject to anything like it; as long as the correlates in the antecedent and the target clause stand in some contrast to each other, they need not be identical. Indeed, time and again scholars of ellipsis have expressed either puzzlement or discontent over this point. Remarking on the fact that identity restricts head movement but not XP movement out of ellipsis sites, Lasnik (1997:fn. 5) writes: "It is still unclear why the constraint should make this distinction". van Craenenbroeck & Merchant (2013:705) write: "To date, there is no comprehensive account of the Verbal Identity Requirement… As such, it remains one of the (many) open questions in the field of ellipsis". And Lipták (2015:fn.1) calls this requirement "a curious exception".

In fact, there is a strand of research that argues against the VIR, thus strengthening the theoretical skepticism expressed above.[3] It seems that the staunchest strongholds of the VIR that have so far persisted are Hebrew (Goldberg 2005) and Irish (McCloskey 2011, 2017). Of these two, I now argue, Hebrew is a fake stronghold: The VIR, in fact, does not constrain OG sentences in that language (see section 3.3).

This result, I believe, is a step forward, in the following sense: The VIR is *not* a natural corollary either of AE or of VSVPE. On the AE analysis, the verb in the target clause is never part of the ellipsis site, hence there is no reason to expect it to be subject to any parallelism requirement that standardly applies to elided material. On the VSVPE analysis, as just noted, it should be possible for material extracted from the ellipsis site not to match its correlate in the antecedent clause (if contrastively focused). The claim that verb or head movement is subject to an *additional*, special identity requirement is therefore a stipulation, best avoided.[4] In this light, the weaker

[2] For example, in Hebrew (Doron 1990, Goldberg 2005), English (Potsdam 1997), Portuguese (Kato 2003, Cyrino and Matos 2005), Irish (McCloskey 2011, 2017), Hungarian (Lipták 2012) and Russian (Gribanova 2013).

[3] For example, in Serbo-Croatian (Lasnik 1997), Portuguese (Santos 2009), Malayalam, Bangla and Hindi (Simpson, Choudhury and Menon 2013), Scottish Gaelic (Thoms 2015), Russian (Gribanova 2013, 2017a,b, Bailyn 2014), Hungarian (Lipták 2017) and Greek (Merchant 2017). Obviously, the VIR is not assumed in studies that advocate the AE analysis (see Takahashi 2013 for Japanese, Duguine 2014 for Basque, Sato 2014 for Singapore English, Bailyn 2014 for Russian and Rasekhi 2016 and Sato and Karimi 2016 for Persian).

[4] A popular rationale offered for this stipulation is the idea that head movement applies at PF. Unlike syntactically generated traces, which are accessible to rebinding by a new antecedent in the ellipsis clause, PF movement does not yield any syntactic variable. As far as LF is concerned, then, it is as if PF-movement never applied, and the extracted verb is expected to fully reconstruct, ruling out any mismatch with the antecedent verb (Boeckx and Stepanović 2001, Schoorlemmer and Temmerman

the empirical basis of the VIR, the weaker the motivation for paying this extra theoretical cost.

The conclusion that Hebrew employs AE rather than VSVPE to derive OG sentences may allay the worries surrounding the VIR but it raises a new puzzle: What makes VSVPE impossible? The puzzle is indeed nontrivial, given that Hebrew possesses what seems to be the two (jointly) sufficient properties for VSVPE. First, it has V-to-T raising (at least optionally) (3a), if Subj-V-Adv-Obj word orders are any indication (Doron 1983, 1990, Shlonsky 1987, Borer 1995). Second, it exhibits "canonical" VPE in periphrastic constructions, where the entire VP following an auxiliary is missing (3b).

(3) a. Gil [$_{V}$ šaxax] [$_{Adv}$ le-itim krovot] t_{V} et ha-maftexot ba-oto.
Gil forgot to-times frequent ACC the-keys in.the-car
'Gil often forgot the keys in the car.'

b. A: Gil haya maskim la'azor lanu?
Gil was agree.PRTC to.help to.us
'Would Gil have agreed to help us?'

B: Batuax hu haya ___.
surely he was
'Surely he would have.'

Recently, Sailor (to appear) has identified a class of languages in which both V-raising and VPE exist, and yet VSVPE does not – namely, mainland Scandinavian languages. The explanation he offers rests on derivational sequencing of the two operations – but crucially, it does not extend to Hebrew, in which the same head, T, attracts V and triggers VPE.

Although the puzzle of why VSVPE is unavailable in the grammar of Hebrew will not be solved here (see Landau 2018 for elaboration), I will consider its implications towards the end of the paper.

The structure of this paper is as follows. Section 2 describes the general distribution and range of readings of OG sentences in Hebrew, focusing on those in which the OG cannot be analyzed as *pro* or a topic-bound null category, hence must be the residue of ellipsis. I then outline the VSVPE analysis and explicitly spell out all its empirical

2012, McCloskey 2017). This reasoning, however, is at odds with compelling evidence for the interpretive effects of head movement, both in terms of scope interactions (Lechner 2006) and in terms of leaving LF-visible traces that impact MaxElide effects (Hartman 2011, Thoms 2014). See Landau 2018 and Lipták 2017 for further critique of the VIR.

predictions. Section 3 proceeds to put these predictions to test, manipulating a number of grammatical factors: animate OGs, OG's inside islands, OGs without a lexical VP antecedent, OGs co-occurring with a coargument in ditransitive VPs, and OGs violating the VIR. For all these cases, it is shown that the predictions of the VSVPE analysis are disconfirmed.

Section 4 discusses more environments, unmentioned in previous works on Hebrew, for which the VSVPE fails to apply: OGs in sentences with unmoved verbs and OGs that bind an overt coargument. Section 5 establishes the stronger conclusion: Not only is VSVPE unnecessary, it is in fact unavailable. This is shown by examining the behavior of adjuncts and raising verbs in OG sentences. In both scenarios, the VSVPE analysis overgenerates sentences and readings that are correctly ruled out by the AE analysis. It is further shown that Null Complement Anaphora cannot account for the syntactic activity of the OGs in Hebrew.

Section 6 addresses a challenging argument in favor of VSVPE, based on ACD constructions, first formulated in Doron 1999. I show that consideration of the full range of facts not only removes the force of this argument but, in fact, turns it *against* the VSVPE analysis. Section 7 considers the wider implications of this study (explored in detail in Landau 2018), in particular the questions of whether VSVPE is available in other languages (and if not, what that implies), and of what the case of Hebrew can teach us about the general typology of AE languages. Section 8 concludes the paper.

2 Object gaps in Hebrew

This section lays out the empirical foundation for the discussion of OGs in Hebrew. In section 2.1 we present a range of examples that favor the *ellipsis* account over its obvious alternatives – a null *pro* or some topic-oriented null category. In so doing we demonstrate that OGs in Hebrew, in fact, display a wider distribution than previously assumed. Section 2.2 presents the standard V-stranding VP-ellipsis analysis, for which Hebrew has become a prime example. Also discussed is the VIR, normally associated with VSVPE derivations. In section 2.3 I list the major empirical predictions stemming from the currently existing literature on VSVPE in Hebrew; these predictions are then put to empirical testing in section 3.

2.1 Against *pro* and topic-drop: Motivating an ellipsis analysis of Hebrew OGs

Many languages employ null pronouns, i.e. *pro*, in object positions. Often, the reference of the null pronoun is recovered from the current discourse topic(s).

However, the object gap in Hebrew displays a number of properties that clearly distinguish it from *pro* and topic-related anaphora.

First, as noted originally by Doron (1990), pronominal positions inside the gap allow sloppy readings, whereas object pronouns do not.

(4) a. Gil nika et ha-šulxan šelo axarey še-Yosi nika ___.
Gil cleaned ACC the-table his after that-Yosi cleaned
'Gil cleaned his table after Yosi did.' (*strict or sloppy*)

a. Gil nika et ha-šulxan šelo axarey še-Yosi nika oto.
Gil cleaned ACC the-table his after that-Yosi cleaned it.ACC
'Gil cleaned his table after Yosi cleaned it.' (only *strict*)

While sloppy readings are no longer considered criterial for ellipsis (see Merchant 2013 for documentation of sloppy readings in non-elliptical contexts)[5], it is still generally true that pronouns ("surface anaphors") and ellipsis sites ("deep anaphors"), in specific paradigms, minimally contrast in this property. At the very least, the availability of a sloppy reading in (4a) is inexplicable if the object gap is just the unpronounced version of the accusative pronoun in (4b). On the other hand, contrary to Doron's conclusion, the remaining options are not exhausted by VP-ellipsis, since Argument Ellipsis may produce identical ambiguities.

A related contrast emerges with disjunctive antecedents (Sakamoto 2015, Cyrino and Lopes 2016). A gap preserves the disjunctive reading while a pronoun lets through only the E-type reading.

(5) A: cilamti knesiya o katedrala, ani lo batuax.
photographed.1SG church or cathedral I not sure
'I photographed a church or a cathedral, I'm not sure.'

B: gam ani cilamti ___.
also I photographed.1SG
'I also photographed a church or a cathedral.'

[5] In fact, "sentential" pronouns are different from object pronouns in letting through the sloppy reading. The sentence below is ambiguous between the strict (elided *he*=Gil) and the sloppy (elided *he*=Yosi) readings, whether or not the final pronoun is included.

(i) Gil xošev še-hu haxi xaxam, aval Yosi YODE'A (et ze).
Gil thinks that-he most smart but Yosi knows (ACC it).
'Gil thinks he's he smartest, but Yosi KNOWS it.'

Whether the clausal gap is a residue of ellipsis or (null) pronominalization, then, cannot be decided on the basis of this test. See also Hauser, Mikkelsen and Toosanvardani 2007 and Baltin 2012 for analyses that combine the two operations in the same derivation.

B': gam ani cilamti ota.
also I photographed.1SG it
'I also photographed the one that you did.'

An OG can take on a quantificational meaning, unlike a pronoun.[6]

(6) a. afiti harbe ugiyot. Mixal gam afta ___.
baked.1SG many cookies Mixal also baked.3SG.F
'I baked many cookies. Mixal did too.'

b. # afiti harbe ugiyot. Mixal gam afta otan.
baked.1SG many cookies Mixal also baked.3SG.F them
'I baked many cookies. Mixal baked them too.'

OG positions also contrast with pronouns in allowing nonspecific readings for numerical quantifiers and mass nouns.

(7) a. A: ani mexapes šloša ozrim la-misrad.
I look.for three assistants to.the-office
'I'm looking for three assistants for my office.'

B: ani lo carix ___, maspikim li šnayim.
I not need suffice to.me two
'I don't need three (assistants), two are enough for me.'

B': ani lo carix otam, maspikim li šnayim.
I not need them suffice to.me two
'I don't need them, two are enough for me.'

b. A: lo niš'ar li kesef.
not remained to.me money
'I have no money left.'

B: li niš'ar ___ /*oto.
to.me remained *it
'I have some money left.'

Notably, arguments with nonspecific readings cannot function as sentence topics. Since the Ā-variable analysis of OGs depends on the operator being a null topic (Huang 1984), these OGs cannot be analyzed as Ā-variables either. Erteschik-Shir,

[6] Here I differ from Taube (2013), who claims that such OGs are impossible. See Takahashi 2008, Cheng 2014 and Sato & Karimi 2016 for analogous data in Japanese, Chinese and Persian, respectively.

Ibnbari and Taube (2013) point out that topicalized (=moved) DPs in Hebrew are restricted to a shifted topic interpretation, whereas OGs can have a continued topic interpretation. This further undermines the Ā-movement analysis.

The claim in Erteschik-Shir, Ibnbari and Taube 2013 is actually stronger: Not only *can* OGs in Hebrew refer to the continued topic, but they *must* do so. This stronger claim is refuted by non-topical OGs as in (7a-b). Similarly, the OG in (6) picks a *different* set of entities than its antecedent, which cannot be said to be part of the topic set. In fact, there need not be any relevant topic set; the antecedent and the OG may refer to nobody.

(8) A: lo pagašti šam af exad.
not met.1SG there anybody
'I didn't meet anybody there'

B: gam ani lo pagašti ___.
also I not met.1SG
'I also didn't meet anybody.'

These problems do not arise on the AE analysis which is only committed to lexical-syntactic parallelism and not to topic continuity.

Syntactically, there is a single type of OG in Hebrew on Erteschik-Shir et al.'s account: an "unvalued feature bundle, whose content is retrieved by searching for an available topic in the linguistic or non-linguistic context" (p. 160). The said features are standard person/number/gender features. It is, in fact, not clear how valuation of mere *ϕ-features* can recover *lexical* content. This is especially true for OGs which cannot alternate with overt pronouns, like nonspecific arguments or arguments with a sloppy reading; no combination of ϕ-features is suitable there.[7]

In conclusion, the topic-linking account cannot explain the full range of facts associated with Hebrew OGs, contrary to Erteschik-Shir et al.'s claim. In classic terms, the evidence laid out in this section establishes that Hebrew OGs are surface and not deep anaphors (Hankamer and Sag 1976). Their interpretation relies not on topicality but rather on a linguistic antecedent (which may or may not introduce the

[7] This problem arises because Erteschik-Shir et al. take OGs to be nothing more than unvalued ϕ-features. Once the valued are supplied, the OG should be indistinguishable from a pronoun (modulo Spellout, which has no interpretive effect). Perhaps the absence of a D-feature on OGs, as opposed to genuine pronouns, can account for their greater tolerance to nonspecific readings. This distinction, however, leaves unexplain the availability of OGs interpreted as definites, including nonspecific (*de dicto*) definites, or quantified DPs.

current topic), and it arises from standard semantic composition of the unpronounced syntactic pieces in the ellipsis site (see section 5.3 for further evidence).[8]

2.2 The V-stranding VP-ellipsis analysis

The VSVPE analysis has its origins in the late 1980s and early 1990s, when different scholars independently observed that many characteristics of the widely studied English construction of VP-ellipsis are found in other languages – with one notable exception: What is missing in the ellipsis site is only arguments, not the verb, which is found next to the gap. The basic proposal was that the lexical verb is either generated in the inflectional domain or raises there by standard V-to-T movement, so that ellipsis targets a "headless" VP remnant, stranding V in T. This type of analysis has been initially proposed for Chinese (Huang 1987, 1991), Japanese and Korean (Otani and Whitman 1991), Hebrew (Doron 1990) and Irish (McCloskey 1991, 2005) and has been later adopted for other languages.[9]

On the VSVPE analysis, the OG sentence in Hebrew (9a) has the schematic LF representation in (9b), where the circled area marks the elided constituent.

(9) a. Gil hizmin et axot-o. Yosi gam hizmin ___.
Gil invited ACC sister-his. Yosi too invited
'Gil invited his sister. Yosi did too.'

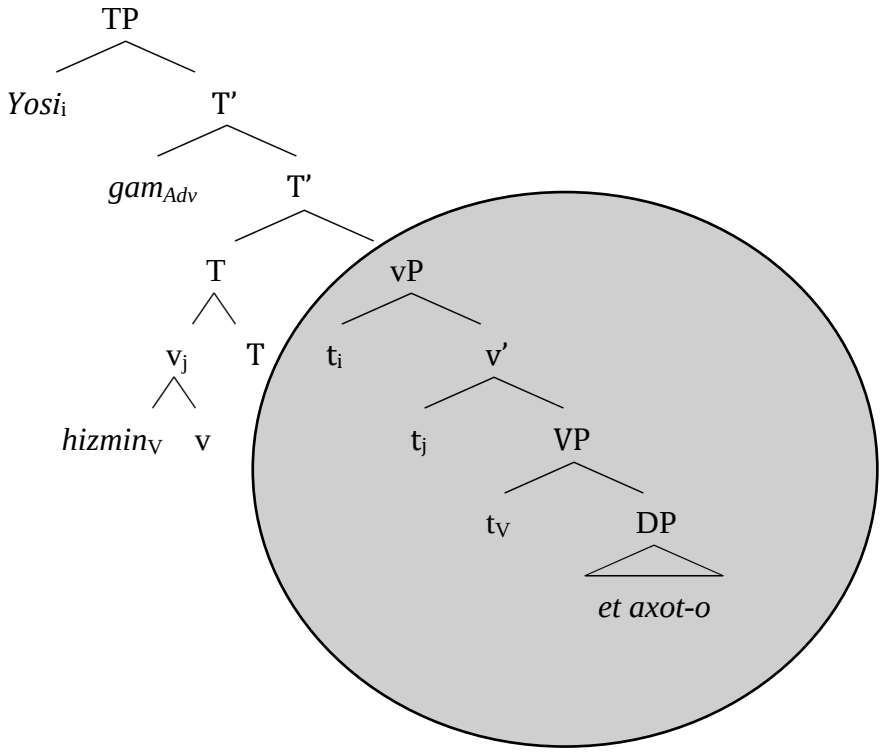
[8] Can AE explain *all* OG contexts in Hebrew? We need not decide on the issue here. Doron (1999) and Taube (2013) cite examples where the antecedent of the OG is a nonlinguistic, purely deictic entity, as in (i) (taken from Taube 2013).

i. (The speaker presents a new bag and says:)
yafe? kaniti ___ be-mivca.
nice bought.1SG in-sale
'Is it nice? I bought on sale.'

These cases may involve *pro*, Ā-variable or implicit arguments (Null Complement Anaphora); however, it is also possible that discourse-controlled, "exophoric" AE exists, similarly to exophoric VPE (Miller and Pullum 2013).

[9] Among them: Basque (Laka 1994), Portuguese (Martins 1994, Cyrino and Matos 2005, Santos 2009, Rouveret 2012), Ndendeule and Swahili (Ngonyani 1996, 1998), Serbo-Croatian (Stjepanovic 1997), Finnish (Holmberg 2001, 2016), Russian, Polish and Czech (McShane 2000, Gribanova 2013, Ruda 2014), Egyptian Arabic (Tucker 2011), Welsh (Rouveret 2012) and Greek (Merchant 2017); see also the comprehensive study of Goldberg 2005.

b. *LF of the OG sentence*



This structure may come about in either of two different ways, depending on one's favorite theory of VP ellipsis (for recent reviews, see van Craenenbroeck and Merchant 2013, van Craenenbroeck 2014, Merchant 2016). On the LF reconstruction view, the circled vP is not present in syntax; rather, a silent *pro*-form occupies its position, which is replaced by a fully-fledged vP only at LF. On the PF deletion view, (9b) is also the syntactic representation. The circled vP is generated from the outset, but fails to be pronounced, either because it is deleted at PF or (under a Late Insertion view) because its phonological content is not inserted. Both approaches must constrain reconstruction or deletion of the VP to occur only under semantic isomorphism with the antecedent vP.

Much of the discussion to follow is neutral between the two approaches. In section 5.3, however, I will present evidence that the ellipsis site can launch extraction, which is more natural on the PF-deletion account (though LF-copying theories can assume that the remnants in the elliptical clause are base-generated outside the ellipsis site,

and that internal traces in the latter are accessible to rebinding by the remnants; see Chung, Ladusaw and McCloskey 1995).

For Hebrew, LF reconstruction was assumed in Doron 1990 and PF deletion was assumed in Sherman 1998, Doron 1999, 2013 and Goldberg 2002, 2005. It is interesting to note that both Doron (1990) and Goldberg (2005) point out the tension between VSVPE and the LF reconstruction view – although they draw opposite conclusions. Doron (1990) observes that on the LF reconstruction view, VSVPE cannot be derived via V-to-T movement, because this movement is syntactic but the reconstructed VP does not exist in the syntax (rather, an unstructured *pro* is). She is then driven to the unorthodox assumption that Hebrew allows its lexical verbs to be generated directly under T, at least in VSVPE structures. Possibly the desire to avoid this consequence led Doron (1999) to shift to the PF deletion view, which is compatible with standard V-to-T movement.[10]

Goldberg (2005), in turn, recognizes that the grammar might recruit a mechanism of chain formation divorced from movement, to allow reconstructed traces inside ellipsis sites to link up with new antecedents. However, she claims (p. 193-4) that normally the antecedents of the traces need not be identical (e.g., *John$_i$ was arrested t_i and Bill$_i$ was ~~arrested t_j~~ too*), but the antecedents of the verbal traces in VSVPE do need to be identical, an unexplained oddity on the LF reconstruction view. In section 3.3 this argument will dissolve in light of the finding that verbal identity between the antecedent and the target clauses in ellipsis is *not* mandatory in VSVPE. Concomitantly, verb (mis)match effects cannot inform the choice between PF deletion and LF reconstruction.

2.3 Claimed properties of VSVPE in Hebrew

All previous work on Hebrew maintained that OG sentences can arise in two ways: A null object, or VSVPE. The big challenge was telling them apart. Doron (1990, 1999) claimed that the null objects are traces of null operator Ā-movement, following Huang's (1984) classic analysis of Chinese. Hence, they should not occur in island environments. Goldberg (2002, 2005) adopted the null operator analysis, but claimed that null objects in Hebrew must be inanimate[11]; hence OG sentences whose object is understood to be animate must be derived by VSVPE. Goldberg also claimed that only direct objects may be null, so any missing PP or adverb must result from VSVPE (there is no direct ellipsis of these elements). Finally, both Doron (1990) and

[10] Lobeck (1999:fn.14), assuming the *pro*-analysis as well, faces a similar dilemma with VSVPE languages and leaves the matter undecided.

[11] The [-animate] restriction is also upheld in Erteschik-Shir, Ibnbari and Taube 2013, where Hebrew null objects are taken to be unvalued feature bundles linked to the "continued topic"; see section 3.

Goldberg (2005) claimed that the verb in the antecedent clause and the verb in the target clause (where VP ellipsis applies) must be identical in root and template, the so called "Verb Identity Requirement on VSVPE" (see Goldberg 2005:171). Hence, distinct verbs in the antecedent and target clauses imply a null object. Note that Doron (1999), in agreement with Otani and Whitman 1991, retracted this condition. However, most of the subsequent literature on VSVPE takes it to be a defining property of the construction (e.g., see Schoorlemmer and Temmerman 2012, van Craenenbroeck and Merchant 2013, van Craenenbroeck 2014, Lipták 2015).

These previous studies, therefore, yield a systematic array of predictions as to where null objects and VSVPE should be available and where they should not. The following is a list of such predictions.

(10) *Predictions of previous studies of OG sentences in Hebrew*

The OG must be inanimate:

a. in the absence of a lexical VP antecedent.
b. if the target VP is ditransitive and contains an overt PP argument.
c. if the antecedent and target Vs are different.

The OG must be island-sensitive:

d. in the absence of a lexical VP antecedent.
e. if the target VP is ditransitive and contains an overt PP argument.
f. if the antecedent and target Vs are different.

g. If the target VP is ditransitive, and one argument is overt, the OG must correspond to a DP, not a PP.

Cases (10a,d) cannot involve VSVPE because all types of VPE with a lexical V head require a lexical VP antecedent. Cases (10b,e) cannot involve VSVPE because VPE is exhaustive and does not spare VP-internal arguments; only the verb is spared, precisely because it moves out of VP. And cases (10c,f) cannot involve VSVPE because they violate the VIR. Thus, all these OGs must be null objects and are expected to display the hallmarks of null objects – inanimacy and island-sensitivity. Finally, (10g) follows because null operators are nominal,[12] and by assumption PPs do

[12] This claim amounts to the common observation that under normal circumstances, null operator constructions may only target DP positions, presumably because a preposition-turned-null is not recoverable. For example:

i. John is easy to depend on $[e_i]_{DP}$ / *John is easy $[Op_i$ to depend $[e_i]_{PP}]$.
ii. Here's a picture $[Op_i$ to look at $[e_i]_{DP}]$ / *Here's a picture $[Op_i$ to look $[e_i]_{PP}]$

not independently elide, only the direct object may be missing in the presence of another argument; PPs may only elide as part of the elision of the entire VP.

In what follows I show that none of these predictions are met; OG sentences in Hebrew do not have the character described in (10), and in general, are much more productive and less restricted than what previous work has assumed. What will emerge from this demonstration is that there is no OG sentence for which the null object analysis is not available.[13] However, while an argument ellipsis analysis can cover *all* of the data, a VSVPE can cover only *part* of the data. The sensible conclusion should be that the grammar of Hebrew need not have any recourse to VSVPE. This will be the conclusion of section 3. Following it, section 4 will introduce novel data that make the stronger point: the grammar of Hebrew *does not* have any recourse to VSVPE. In section 3.4 I return to some of the data discussed in the earlier studies and explain why they had been misanalyzed as evidence for the properties in (10).

3 Empirical critique

In this section I put to test the seven predictions in (10), one by one. First, it is shown that the absence of a lexical VP antecedent imposes neither animacy nor island-sensitivity on the OG (section 3.1); second, it is shown that an OG co-occurring with an overt co-argument could correspond to a PP (hence, there exists PP ellipsis), and that a nominal OG co-occurring with an overt PP in a ditransitive VP need not be animate or island-sensitive (section 3.2); and third, it is shown that the Verb Identity Requirement fails to hold of OG sentences, specifically those that cannot be analyzed as null objects by previous accounts (section 3.3). Lastly, section 3.4 suggests that earlier accounts were empirically flawed due to insufficient attention to the pragmatic constraints on ellipsis.

3.1 Ellipsis with no lexical VP antecedent

Prediction (10a) states that in the absence of a lexical VP antecedent, the OG must be inanimate. However, it is not difficult to find grammatical examples involving animate OGs where no lexical VP antecedent exists in the preceding discourse. Two common types of nonverbal sentences in Hebrew involve present tense nonverbal

[13] Early studies held that a sloppy interpretation of a pronoun inside the OG is indicative of VPE; the underlying assumption was that the only type of null object is *pro*. However, the growing literature on East Asian languages revealed that null objects may perfectly generate sloppy readings, plausibly (though maybe not exclusively) via the argument ellipsis derivation. Goldberg (2005) recognizes this for Japanese and Korean and even for Hebrew null object constructions (p. 158, fn. 3). Therefore, the (un)availability of a sloppy reading will not be used here as a method of distinguishing VSVPE and argument ellipsis.

predications and present tense possessive constructions. The former are constructed without any verb, the latter with nonverbal existential particles (positive *yeš*, negative *eyn*). It is possible, though, that a null copular verb occurs in these constructions. However, this possibility will not salvage the VSVPE account, as I discuss below.

In (11a), the identifying DP in A's utterance serves as the antecedent of the OG in B's response. In (11b), the possessee nominal in A's question serves as the antecedent for the possessee gap in B's response. In both cases, the gaps correspond to humans.

(11) a. A: ze ax-i.
this brother-my
'This is my brother.'

B: ken, zihiti ___.
yes, identified.1SG
'Yes, I identified him.'

b. A: yeš lax xaver tov?
PRT to.you.F.SG friend good
'Do you have a good friend?'

B: eyn li ___.
PRT.NEG to.me
'I don't.'

Prediction (10d) states that in the absence of a VP antecedent, the OG must be island-sensitive. However, the following example, with an OG occurring inside a *wh*-island, shows this not to be true.

(12) A: yeš le-miše'hu sigaryot?
PRT to-somebody cigarettes
'Does anybody have cigarettes?'

B: ani lo zoxer [im kaniti ___ o lo].
I not remember.3SG.PRS if bought.1SG.PAST or not
'I don't remember if I bought cigarettes or not.'

Just like nonspecific readings are available in these contexts (ruling out a *pro* analysis), sloppy readings are too. Note that A's presentational sentence below is another kind of a verbless construction.

(13) A (noticing the approaching waiter): hine ha-mana šeli.
here the-order my
"Here's my order."

B: oof, [ad še-anaxnu nekabel ___], nigva ba-ra'av.
damn until that-we will.get.1PL will.starve.1PL in.the-famine
'Damn, until we get ours, we'll starve to death.'

The understood OG is *et ha-mana šelanu* 'ACC the-order our' (i.e., our order), in which the possessive pronoun *šelanu* is 1st *plural*, differing from its 1st singular antecedent *šeli* 'my'. Such ϕ-mismatches are a standard feature of ellipsis, which in this case, can only target DP, not VP.

The literature on nonverbal predications in Hebrew present tense often postulates a null copula (Shlonsky 1997, Haugereid, Melnik and Wintner 2013). It is important to realize that the motivations are largely theory-internal. Thus, given the existence of overt copulas in past and future tenses, the exceptionality of present tense can be relegated, on the "null copula" view, to a defective morphological paradigm. Similarly, it is a common assumption that the relation between finite tense and nonverbal predicates cannot be direct and must be mediated by a verbal head. The reasons cannot be wholly semantic (e.g., related to event semantics), because verbs and adjectives do not split neatly along such lines; stative and individual-level verbs require no copula, while stage level adjectives, presumably, still require the null copula.

I will not try to evaluate the case for null copulas here. Rather, I will assume this analysis may be correct and proceed to ask whether it weakens in any way our argument against VSVPE, which was based on the putative absence of a VP antecedent in (11)-(13).

The answer is negative, because the argument only rests on the absence of a *lexical* VP antecedent. Copulas are not lexical, and the most significant implication of this fact, in the present context, is that they lack any argument structure.[14] Therefore, there can be no semantic equivalence between the antecedent VP and the target VP in case the former is a copula and the latter a lexical predicate. To illustrate, consider the LF representations of the relevant VPs in (12), assuming that V-movement abstracts over verb meanings.

[14] Indeed, the copula in nonverbal predications may lack *any* semantic features, its sole function being to medicate c-selection between T and the predicate. For present purposes, however, it is enough to entertain the weaker position (namely, only argument structure is absent).

(14) a. Putative antecedent T' of (12A): [$_{T}$ *be*-T [$_{\alpha}$ λP [$_{VP}$ t_{P} *cigarettes*]]]
b. Target T' of (12B): [$_{T}$ *bought*-T [$_{\alpha}$ λP [$_{VP}$ t_{P} *cigarettes*]]]

By assumption, the copula verb carries no argument structure information, so the denotation of α in (14a) boils down to the denotation of *cigarettes* – an object of type <e>. In contrast, the denotation of α in (14b) is $\lambda P_{<e,<s,t>>}$.P(**cigarettes**,e), an object of type <<e,<s,t>>,t>.[15] Because VP ellipsis must respect semantic equivalence (at a minimum), and expressions of different semantic types cannot be semantically equivalent, the antecedent VP in (14a) cannot license ellipsis of the target VP in (14b). More generally, *copular* verbs that take a DP complement do not form an appropriate VP-meaning for ellipsis of VPs headed by a *lexical* V. In this sense, then, it is appropriate to speak of OGs without a lexical VP antecedent as a real challenge to the VSVPE analysis, which is not mitigated by entertaining a null copula in these constructions.

As a final example, we can cross a number of properties that presumably should not be able to co-occur.

(15) A: adayin eyn li manxe la-doktorat.
still no to.me advisor to.the-doctorate
'I still don't have a PhD advisor.'

B: lifney še-ata moce ___, ata carix nose.
before that-you find you need topic
'Before you find one, you need a topic.'

The OG is animate and inside an island, so it cannot be an Ā-variable. Its nonspecific interpretation also rules out a *pro* analysis. Finally, the absence of a lexical VP antecedent rules out VSVPE. Such sentences, underivable on Doron's and Goldberg's assumptions, can only be produced by AE.

3.2 Ellipsis inside ditransitive VPs

Predictions (10b,d) state that an OG next to an overt argument PP must be inanimate and island-sensitive. This is because the presence of an overt argument rules out VPE.[16] However, both predictions are false.

[15] On the common Neo-Davidsonian view of verb meaning, the external argument is introduced by a separate (v/Voice) head and the stem of a transitive verb denotes a relation between an individual (the internal argument) and an event.

[16] VSVPE could be coupled with PP scrambling to produce a pseudogapping derivation (Johnson 2001). However, pseudogapping exhibits specific characteristics: It is only available in conjunctions (not in question-answer pairs) and requires contrastive focus on the nongapped material (here, the remaining PP). OG sentences do not show these restrictions (see Goldberg 2005:46-48).

First, animate OGs occur with a co-argument PP.[17]

(16) a. hišveti et Yosi le-aba šelo,
compared.1SG ACC Yosi to-father his
aval hayiti carix le'hašvot ___ le-axiv.
but was.1SG should to.compare to-brother.his
'I compared Yosi to his father, but I should have compared him to his brother.'

b. etmol lakaxti et Rina la-avoda.
yesterday took.1SG ACC Rina to.the-work
maxar ani ekax ___ le-kniyot.
tomorrow I take.FUT.1SG to-shopping
'Yesterday I took Rina to work. Tomorrow I'll take her shopping.'

Second, as Taube (2013) shows, OGs happily occur with coargument PPs inside islands. Her examples below illustrate this with a complex NP and with a subject island, respectively.[18]

(17) a. her'eti et ha-tmuna le-Dina, ve-mišehu hefic
showed.1SG ACC the-picture to-Dina but someone spread
[šmu'a še-her'eti ___ gam le-Yosi].
rumor that-showed.1SG also to-Yosi

b. le'har'ot et ha-tmuna le-Dani ze beseder,
to.show ACC the-picture to-Dani it alright
aval [le'har'ot ___ le-Yosi] ze mamaš mugzam.
but to.show to-Yosi it really exaggerated
'Showing the picture to Dani is alright, but showing it to Yosi is really too much.'

The two properties can be crossed, producing an animate OG next to an argument PP inside a (subject) island.

(18) A: le'hazmin et dod Arye eleynu ha-bayta ze kcat mevix.
to.invite ACC uncle Arye to.us the-home it a.bit embarrassing
'To invite uncle Arye to our place is a bit embarrassing.'

[17] Erteschik-Shir et al.. (2013) cite parallel examples, but remark that they are rare. I believe that this is an artifact of the relative rarity of ditransitive verbs whose direct object can comfortably be animate.
[18] Santos (2009:39) cites parallel examples in Portuguese, where a ditransitive verb appears without its (obligatory) PP argument inside an island.

B: ve-[le'hazmin ___ le-mis'ada] ze lo mevix?
and-to.invite to-restaurant it not embarrassing
'And to invite him to a restaurant isn't embarrassing?'

Let us proceed to prediction (10g), which states that an OG occurring with an overt coargument must be a DP, not a PP. The reasoning behind this prediction was that null objects in Hebrew must be nominal, and therefore, if a VPE analysis is ruled out by the presence of an overt coargument, the OG cannot be anything but a DP. However, missing PPs whose interpretation is retrieved from a linguistic antecedent are quite possible in contexts that are completely parallel to contexts of nominal OGs. In particular, they are licit in ditransitive contexts.

(19) A: samta beyca ba-suši?
put.2SG.M egg in.the-sushi
'Did you put egg in the sushi?'

B: lo, aval samti melafefon ___.
no but put.1SG cucumber
'No, but I put cucumber in it.'

The missing PP *ba-suši* 'in the sushi' cannot result from VSVPE, given the remaining direct object *melafefon* 'cucumber'. In fact, this Hebrew example is a word-for-word translation of a Japanese example that Goldberg (2005:79) presents in order to *undermine* the VSVPE analysis for Japanese.[19] Goldberg concludes that in Japanese (and Korean), any sentence that can be analyzed as involving VSVPE can alternatively be analyzed with AE; in the case of ditransitive VPs – multiple argument ellipsis. However, the Hebrew facts are no different, and (19) shows that PP ellipsis is available in the language (see Erteschik-Shir et al.. 2013 for the same conclusion). By the same logic, then, (multiple) argument ellipsis can account for any alleged case of VSVPE in Hebrew.

Just like DP ellipsis, PP ellipsis can apply to animate arguments, and furthermore license sloppy readings (B's response below is ambiguous).

(20) A: šalaxti matana la-horim šeli.
sent.1SG gift to-parents my
'I sent a gift to my parents.'

[19] AE applies to argumental PPs also in Japanese (Saito 2007), Chinese (Cheng 2013), Bangla, Hindi and Malayalam (Simpson, Choudhury and Menon 2013), Turkish (Takahashi 2014) and Persian (Sato & Karimi 2016).

B: ani šalaxti praxim ___.
I sent.1SG flowers
'I sent them flowers / I sent mine flowers.'

Finally, as we will see in the next section, verbal identity between the antecedent and the target clause is not necessary for ellipsis, and this is true also for animate PP arguments.

(21) A: ravti im Moše etmol.
quarreled.1SG with Moshe yesterday
'I quarreled with Moshe yesterday.'

B: ani kvar hišlamti ___.
I already reconciled
'I've already reconciled with him.'

The evidence presented above suggests that none of the restrictions on Hebrew null objects as stated in (10a,b,d,e,g) in fact hold. Such null objects can be animate, can occur inside islands and can be PPs. This is most clearly visible in ditransitive contexts in which one argument is missing (the OG) and the other one is overt. These cases, which rule out a VSVPE analysis, indicate that the general device of AE is quite pervasive in Hebrew, and is much more similar to its counterpart in Japanese/Korean/Chinese than had been previously realized.

As a final note, observe that the existence of PP ellipsis also demonstrates the insufficiency of the *pro* drop and the null operator analyses as general accounts of Hebrew OGs. Both *pro* and null operators are nominal by nature; at most, they can occur *with* a governing preposition, but not replace one (see fn. 12). Compared to these alternatives, then, AE is also more general and explanatory.

3.3 Ellipsis under non-identical verbs

Predictions (10c,f) state that if the antecedent and target Vs are different, the OG must be inanimate and island-sensitive. This followed from the "Verb Identity Requirement on VSVPE" (Doron 1990, Goldberg 2005 and much subsequent work). However, verbal identity is not a condition on ellipsis in Hebrew any more than it is in many other languages (see fn. 3). Some of the examples with animate OGs cited in the literature as ungrammatical are just fine (see Goldberg 2005:190).

(22) A: Yicxak nišek et Aviva?
Yitzchak kissed ACC Aviva
'Did Yitzchak kiss Aviva?'

B: lo, hu xibek ___.
no he hugged
'No, he hugged her.'

Ditransitive verbs allow multiple ellipsis of both arguments under verbal mismatch (note the animacy of the benefactive argument).

(23) A: afita la'hem uga?
baked.2SG.M to.them cake
'Did you bake them a cake?'

B: kaniti ___ ___.
bought.1SG
'I bought them one.'

Such animate OGs readily allow sloppy readings. The contrast between the verbs is indeed a facilitating factor here, despite the explicit claim in Goldberg 2005:181 that such contrastive focus cannot salvage ellipsis under nonidentical verbs.

(24) be-zman še-kol ha-yeladot son'ot et ha-morim šelahen,
in-time that-all the-girls hate ACC the-teachers their
Rina davka ohevet ___.
Rina in.contrast like
'While all the girls hate their teachers, Rina actually likes them/hers.'

Island sensitivity is not observed either.

(25) A: karata et ha-sefer šelo?
read.2SG.M ACC the-book his
'Did you read his book?'

B: lo na'im li ki afilu lo kaniti ___.
not pleasant to.me because even not buy.1SG
'I feel bad because I haven't even bought it.'

It is worth noting that Doron (1999), although discarding the Verb Identity Requirement of Doron 1990, retains a weaker condition, of "valence identity".[20] The raised V creates a λ-predicate of verb meanings, which is copied from the antecedent to the target clause. Because the λ-predicate contains λ-binders for each argument position, it would fail to properly apply to a verb with different valence in the target clause (either resulting in uninterpreted λ-binders or uninterpreted arguments).

[20] This weaker condition is also assumed for Portuguese VSVPE in Santos 2009:105.

However, even this weaker condition is not met by OGs under nonidentical verbs. (26a) illustrates a monotransitive antecedent clause and a ditransitive target clause, (26b) illustrates the reverse situation (island insensitivity is also demonstrated). A *pro* analysis is ruled out in (26a) by the sloppy interpretation of the OG and in (26b) by its nonspecific character.

(26) a. A: ani axalti et ha-karix šeli.
I ate ACC the-sandwich my
'I ate my sandwich.'

B: ve-ani natati ___ le-axot-i.
and-I gave to-sister-my
'And I gave mine to my sister.'

b. hu lo taram harbe kesef la-universita
he not donated much money to.the-university
lamrot še-hi behexlet crixa ___.
even.though that-it definitely need
'He didn't donate a lot of money to the university even though it definitely needs a lot of money.'

As a final demonstration, consider the following example.

(27) *le'havtiax* matana meyuxedet la-xavera šelo ze mat'im le-Dani,
to.promise present special to.the-friend.F his it suits to.Dani
aval [*latet* matana kazot ___] davka mat'im le-Yosi.
but to.give present such in.contrast suits to.Yosi
'To promise a special present to his girlfriend suits (is typical of) Dani, but to *give* her/give *his* such a present actually suits (is typical of) Yosi.'

Four properties of the OG in the second conjunct of this example rule out a null object analysis: It is animate, it is a PP (*la-xavera šelo* 'to his girlfriend'), it allows a sloppy reading, and it occurs inside a subject island. Two properties, in turn, rule out VSVPE: The OG occurs with an overt coargument, under a verb distinct from the antecedent verb (*promise* vs. *give*). Although previous accounts cannot derive such examples, AE easily can, free of the restrictions in (10).

3.4 Why were earlier descriptions inaccurate?

It is legitimate to ask what is the source of the significant discrepancy between the facts of Hebrew OG sentences as presented above and their description in the literature, specifically in Doron 1990, 1999 and Goldberg 2005. My answer is that

ellipsis is highly sensitive to context, and examples that are judged marginal or unacceptable in one context can become fully acceptable in another. In particular, unless an appropriate contrast is established between the events of the antecedent and the target clauses, ellipsis will not be felicitous.

Consider (28a), which Doron (1999) presents as evidence for the island-sensitivity of null objects.

(28) a. A: saragt et ha-sveder ha-ze?
knit.2SG.F ACC the-sweater the-this
'Did you knit this sweater?'

B: * lo, hine ha-baxura še-sarga ___ le-Dani.
no here the-girl that-knit.3SG.F to-Dani
'No, here is the girl that knit it for Dani.'

b. B': * lo, Tali sarga ___ le-Dani.
no Tali knit.3SG.F to-Dani
'No, Tali knit it for Dani.'

As Taube (2013:fn.10) correctly points out, the OG in the island-free response (28b) is no better than the OG in the Complex NP island in (28a). This immediately suggests that islandhood is not the source of deviance here. Rather, the appearance of an indirect argument in both B and B', which is not part of A's question, destroys the minimal contrast required for ellipsis. In this case, the contrast hinges on the polarity of the antecedent proposition (A asks a yes-no question, and the response begins with *lo* 'no'), with the content of that proposition being presupposed, up to contrasted constituents (see Holmberg 2016). Although (28) superficially seems to require valence identity (thus contradicting (26)), this is merely a side-effect of the more fundamental requirement that polar question-answer pairs share their propositional content. This view is corroborated by the fact that even when an *adjunct* that is not part of the question is added to the answer (hence, valence identity is respected), the result is equally infelicitous, regardless of the OG/pronoun choice.

(29) A: saragt et ha-sveder ha-ze?
knit.2SG.F ACC the-sweater the-this
'Did you knit this sweater?'

B: * lo, Tali sarga (oto) be-kišaron.
no Tali knit.3SG.F it in-skill
'No, Tali knit it skillfully.'

Consider next (30a), which Doron (1990) presents as evidence for the Verb Identity Requirement on VSVPE. The OG in B's response only has a strict reading, which would follow if ellipsis is blocked under a nonidentical verb.

(30) a. A: Dina soreget et ha-svederim še-hi lovešet?
Dina knits ACC the-sweaters that-she wears
'Does Dina knit the sewaters that she wears?'

B: lo, ima šela kona la ___.
no mother her buys to.her
'No, her mother buys them to her.'

As Lasnik (1997) observes in discussing this example, the absence of a sloppy reading here is most likely pragmatic in nature. The sloppy interpretation of B's response would amount to: 'No, Dina_i doesn't knit the sweaters she_i wears, her mother_j buys her_i the sweaters she_j wears'. This is hardly sensible. Indeed, even if we substitute *soreget* 'knits' for *kona* 'buys' in B's response, thus *respecting* verbal identity, the sloppy reading is equally difficult to obtain. Again, a purported condition on VSVPE is seen to be a side-effect of pragmatic conditions.

Consider now (31a), an example by Goldberg (2005:49) presented to motivate both the [-animate] condition on null objects and the Verb Identity Requirement on VSVPE.

(31) a. ?? Rina hisi'a et Gil ha-'ira
Rina drove.3SG.F ACC Gil the-town
ve-horida ___ leyad ha-bayit.
and-dropped.3SG.F near the-house
'Rina drove Gil to town and dropped him near his home.'

b. Rina hisi'a et Gil ha-'ira
Rina drove.3SG.F ACC Gil the-town
ve-axarey še'atayim hexzira ___ ha-bayita.
and-after two.hours returned.3SG.F the-house
'Rina drove Gil to town and after two hours returned him home.'

I should note that Goldberg marks (31a) as ungrammatical whereas I find it only marginal. The reason for its deviance is supposedly the fact that the OG cannot be a null object (being animate) nor a residue of VSVPE (due to the nonidentical verbs). However, a slight variation on this sentence, preserving these two features, is perfectly fine (31b). The difference may have to do with the clearer semantic contrast

(in directionality) between the antecedent and the target events, as well as with idiosyncratic lexical restrictions. In this connection it is worth noting that even OGs analyzable as null objects by Goldberg often produce different degrees of deviance in contexts her theory predicts no restrictions.

(32) A: karata et ha-ma'amar?
read.2.SG.M ACC the-article
'Did you read the article?'

B: hecacti ___ / šamarti __ le-axarkax / cilamti ___
glimpsed.1SG / kept.1SG for-later / made-a-copy.1SG
? kvar hikarti ___ / ?? lo, ibadti ___ / *kipalti ___ / *saneti ___
already knew.1SG / no lost.1SG / folded.1SG / hated.1SG

While it is evident that some semantic relation R needs to hold between the verb in the antecedent clause and the verb in the target clause, it is not entirely clear what the best way to characterize it is. Surely *identity* and *antonymy* are suitable values for R. Otherwise, some *contrast* is required, but the dimensions over which it is defined are to be worked out (duration, directionality, emotional polarity, intensification, etc.); mere temporal subsequence is not sufficient (e.g., (31a)). A thorough investigation of this matter is beyond the scope of this paper.[21]

The important point is that the source of deviance in OG sentences in Hebrew is pragmatic constraints that are often overlooked. Once the proper pragmatics is set up, many deviant examples improve dramatically. Still, the few that do not improve (which may reflect lexical restrictions) also do not reveal any sensitivity to animacy or island effects, contrary to earlier claims.

Empirically, then, we are faced with a familiar subset relation between the extensions of competing accounts. To a subset of data, involving OGs that occur with no other internal coargument, the VSVPE analysis successfully applies, provided there is a VP antecedent in the context, which is furthermore headed by a verb identical to the one stranded in the target clause. To another subset of the data, involving OGs that are either inanimate or occur with another internal coargument, the null object analysis applies successfully, provided the OG is not inside an island. The two analyses overlap for some data, but crucially, do not exhaust the range of OG constructions in Hebrew, leaving a very diversified leftover unexplained.

[21] An independent factor mentioned by Erteschik-Shir, Ibnbari and Taube 2013 is clause-finality: OGs located at the right edge of the clause are judged worse than those followed by some overt material.

Thus, many OG sentences can be generated neither by VSVPE nor by null objects as previously conceived: (i) an animate OG with no lexical VP antecedent; (ii) an OG inside an island with no lexical VP antecedent; (ii) an animate OG occurring under a nonidentical verb; (iii) an OG inside an island occurring under a nonidentical verb; (iv) an animate OG co-occurring with another internal argument; (iv) an OG co-occurring with another internal argument inside an island; (v) an OG corresponding to a PP co-occurring with another internal argument; (vi) an OG corresponding to a PP occurring under a nonidentical verb; (vii) an OG under an unmoved V (see section 4.1).

All these sentences types are attested, as the discussion in sections 3.1-3.4 and 4.1 below shows. In fact, it seems that the simplest explanation for the entire range of facts, covering both the data explained and those unexplained by the previous accounts, is to assume a generalized process of AE in Hebrew. This process is very productive and is not constrained by animacy, categorial status (DP vs. PP), presence/absence of coarguments in the VP, or verbal identity with the antecedent or islandhood. At most, it is subject to pragmatic felicity conditions of the sort suggested above.

This conclusion leaves open the possibility that Hebrew entertains *both* AE and VSVPE in its grammar. Notice that so far nothing in the data considered ruled out the existence of VSVPE. Rather, this analysis was shown to undergenerate many examples. But undergeneration is not falsification. To pursue the stronger conclusion, one would need to show that VSVPE *over*generates nonexisting structures or readings. This demonstration, which was never carried out to my knowledge, would leave us with a single ellipsis device in this empirical domain – AE. It would also raise the intriguing question of *why* Hebrew (or other languages) lacks VSVPE, given that its components are all in place (i.e., V-to-T raising and VP ellipsis). Section 5 presents two such arguments against the existence of VSVPE in Hebrew. Before that, section 4 adduces our final set of data to which VSVPE is inapplicable.

4 Further limitations of VSVPE

In this section I discuss novel Hebrew data that go beyond the explanatory power of VSVPE. Section 4.1 presents OG sentences where the main verb has not moved; section 4.2 presents ditransitive VPs where one null object binds another overt object.

4.1 Ellipsis with V *in-situ*

Because the VSVPE analysis necessarily involves V-movement, it cannot generate OG sentences in which the main verb demonstrably occupies its base position. Such

sentences can be constructed by making sure that the verb appears lower than the lowest adverbs in Cinque's adverb hierarchy. That guaranteed, there is simply no VP-external head position to which V can raise prior to VP-ellipsis, making the VSVPE analysis inapplicable. The lowest adverbs are "frequentative II" *often* and "completive II" *completely*. Consider then the following examples.

(33) a. lo lakaxti et ha-yeladim la-kirkas,
not took.1SG ACC the-kids to.the-circus
aval le'itim-krovot lakaxti ___ la-te'atron.
but often took.1SG to.the-theater
'I haven't taken the kids to the circus but I've often taken them to the theater.'

b. Gil kere'ax az hu lo carix legale'ax et ha-roš,
Gil bald so he not need to.shave ACC the-head
be-zman še-Dani le'itim-krovot megale'ax ___ legamrey.
in-time that-Dani often shaves completely
'Gil is bald so he doesn't have to shave his head,
while Dani often shaves his head completely.'

The null object analysis of Goldberg is ruled out by the animacy of the OG in (33a) and by the (adjunct) island in (33b). In (33a), VPE is ruled out by the remnant PP argument. Both target VPs contain a frequentative adverb, and (33b) also contains a completive adverb. The latter occurs to the right of VP, a consequence of short VP-fronting, according to Cinque. But notice that this fronting must be very short indeed, for it lands below the immediately dominating projection of the frequentative adverb, hence still within the extended vP. Thus, both examples plausibly manifest OG next to a verb that has *not* been stranded in T. Their grammaticality is unexpected on the VSVPE analysis and demonstrates that another ellipsis mechanism is available to the grammar of Hebrew, one that is not constrained by animacy or island-sensitivity.

4.2 Binding between an elided argument and an overt argument

Oku (1998) showed that in a ditransitive VP in Japanese, an OG can bind the second object. Şener and Takahashi (2010) showed the same effect in Turkish, and Rasekhi (2016) showed it for Persian. Hebrew is similar, as pointed out in Taube 2013.

Observe first that the first object can bind the second one (34a) but not vice versa (34b), even though local scrambling of the PP over the DP is otherwise possible (34c). This pattern may arise either because the two word orders are base-generated and precedence tracks c-command, or because local scrambling is a type of movement that

does not reconstruct. Whatever the right treatment is, the important conclusion is that an anaphoric object cannot be bound by a lower object.

(34) a. hišveti et roš ha-memšala le-acmo (me-lifney šnatayim).
compared.1SG ACC head the-government to-himself (from-before two.years)
'I compared the prime minister to himself (from two years ago).'

b. * hišveti le-acmo et roš ha-memšala (me-lifney šnatayim).
compared.1SG to-himself ACC head the-government (from-before two.years)

c. hišveti la-nasi et roš ha-memšala.
compared.1SG to.the-president ACC head the-government
'I compared the prime minister to the president.'

Now consider the OG sentence in B's response.

(35) A: le-mi hišveta et roš ha-memšala?
to-whom compared.2SG.M ACC head the-government
'Who did you compare the prime minister to?'

B: hišveti ___ le-acmo.
compared.1SG to-himself
'I compared him to himself.'

B's response is somewhat awkward; the natural response is simply *le-acmo* 'to himself', without repeating the verb. However, it is distinctly better than (34b), suggesting that condition A per se is not violated. On the AE analysis, this possibility is expected: An elided argument should still be visible to binding, no less than null pronouns or traces are. On the VSVPE analysis, however, (35B) is underivable. For the remnant reflexive to surface, it must scramble out of the VP prior to VPE. But this movement should destroy the binding relation as it does in (34b). Furthermore, the animacy of the OG precludes the kind of null object analysis that Goldberg (2005) advances. Thus, there is no viable alternative to AE.

5 VSVPE *cannot* exist in Hebrew

Up to this point I have considered a wide range of data that is explicable on the AE analysis but not on the VSVPE analysis. In this section I present evidence pressing the stronger conclusion – that VSVPE cannot be an available option in the grammar of Hebrew. The evidence consists of sentences and interpretations that should be derivable by VSVPE but in fact are not possible. In section 5.1 I discuss data involving adjuncts and their absence from the ellipsis site; in section 5.1 I present a

novel argument from the interaction of raising and OG sentences that points to the inadequacy of VSVPE. Finally, section 5.3 shows that OGs in Hebrew evidence genuine syntactic structure and cannot be viewed as a case of Null Complement Anaphora.

5.1 Adjunct exclusion

One of the earliest arguments against VSVPE in Korean and Japanese is due to Park 1997 and Oku 1998. Both authors observed that unlike in English VPE, in Korean and Japanese an adverb in the antecedent VP is not understood as part of the gap in the target clause. So, the most natural construal of the second sentence in the English example (36a) is that John washed the car but didn't do it carefully. In contrast, the most natural construal of the second sentence in the Japanese example (36b) is that John didn't wash the car at all. If Japanese OG sentences are to be analyzed as VSVPE (Otani & Whitman 1991), this contrast is mysterious. If, however, they merely involve an elided object, it is expected.

(36) a. Bill washed the car carefully. John didn't.

b. Bill-wa kuruma-o teineini aratta. John-wa ___ arawa-nakat-ta.
Bill-TOP car-ACC carefully washed John-TOP wash-not-PAST

Importantly, this argument not only shows that AE must be available in Japanese, it also shows that VSVPE must *not* be available; otherwise, it should have generated a reading that (36b) in fact lacks. Aoun and Li (2008) replicated this argument in Chinese with particular force (see also Xu 2003). In Chinese, which negative marker is used with a stative verb depends on whether a duration adjunct is present. OG sentences whose antecedents contain a duration adjunct nonetheless select the negative marker that occurs without it, indicating that the adjunct cannot be copied in the ellipsis site. That adjuncts are excluded from ellipsis has been shown for Turkish (Şener and Takahashi 2010), Singapore English (Sato 2014), Persian (Sato & Karimi 2016), and American Sign Language (Koulidobrova 2017) as well, favoring the AE over the VSVPE analysis in these languages.[22]

This simple and powerful argument can also be reproduced in Hebrew. Before we do that, however, we need to attend to one potential worry. Note that Oku referred to "most natural" readings. In fact, it is known since Sag 1976 that VPE can target either the lower or the higher segment of an adjunction structure. An antecedent adjunct can

[22] Recently, Funakoshi (2016) challenged the accepted description for Japanese, arguing that adjunct-including readings *are* possible, favoring the VSVPE analysis. Strikingly, none of the facilitating factors he mentions has any redeeming effect on the corresponding Hebrew examples; adjunct-exclusion appears to be a robust feature of OG sentences in this language.

be excluded from the ellipsis site if the latter is followed by an adjunct standing in some contrast with the antecedent adjunct (37a). As Sag showed, the two segments can be simultaneously accessed in multiple VPE (37b).

(37) a. Peter $[_{VP}$ $[_{VP}$ talked to the boss$]_1$ on Monday$]_2$
and I did $[_{VP}$ e $]_1$ on Wednesday.

b. Mary can't $[_{VP}$ $[_{VP}$ go to Princeton$]_1$ in the fall$]_2$, but
she can $[_{VP}$ e $]_1$ in the spring, although if
she does $[_{VP}$ e $]_2$, those who expect her in the fall will be very disappointed.

The worry then is this: (36a) might, after all, have the adjunct-excluding reading that characterizes (36b); it is simply not salient. What we truly need, then, is to demonstrate that sentences of type (36b) decidedly do not have the adjunct-including reading. This is not trivial because adjunct meanings – manner, place, time etc. – can be easily added to the ellipsis site in the pragmatics.

Consider the following Hebrew pair. The third sentence in (38a) contains an OG following a stranded verb. The combination of negation and a creation verb produces the entailment that there is no cake baked by Gil. It is therefore infelicitous to refer to this empty set by a pronoun in the following sentence.[23] Crucially, to obtain the reading that the cake was baked but not according to the recipe, Hebrew must resort to stripping (38b), where the entire TP is missing and the remnant is a displaced contrastive focus, not necessarily the subject (see Doron 1999, 2013, Depiante 2000, Merchant 2005).[24]

(38) a. Yosi afa et ha-uga lefi ha-matkon. hi hayta me'ula.
Yosi baked ACC the-cake according the-recipe it was fabulous
Gil lo afa ___. # hi hayta mag'ila.
Gil not baked it was gross
'Yosi baked the cake according to the recipe. It was fabulous. Gil didn't bake the cake. It was gross.'

b. GIL, LO ___. hi hayta mag'ila.
Gil not baked it was gross
'Gil didn't. It was gross.'

[23] Nominals contained in VPE can serve as antecedents to pronouns, a well-known characteristic of surface anaphora (Grinder and Postal 1971, Hankamer and Sag 1976).

i. Yosi baked the cake according to the recipe. It was fabulous.
Gil didn't ~~bake the cake$_i$ according to the recipe~~. It$_i$ was gross.'

[24] Similarly for Japanese, Takita (2013) shows that TP ellipsis under sluicing preserves the adjunct construal of the antecedent clause.

In (39a), the first sentence in B's response cannot be used to negate the adverb alone, namely, the source of acquaintance. Rather, the negation scopes over the event itself, with the entailment that B has no acquaintance with the relevant woman. Hence, the corrective continuation is infelicitous. In contrast, bare negation, as in the response by B', can be easily used to convey the intended meaning. Note that VPE in English allows that reading too.

(39) A: ata makir ota me-ha-tixon?
you know her from-the-high.school
'Do you know her from high school?'

B: # lo makir ___. me-ha-cava.
not know from-the-army
'I don't know her. From the army.'

B': lo, me-ha-cava.
not from-the-army
'No, from the army' / 'I don't. From the army.'

A different version of this argument can be constructed on the basis of object-oriented secondary predicates (OOSP). These adjuncts attach inside the lowest VP projection, hence cannot be spared by VPE (see Rouveret 2012).

(40) a. * Paul drank his tea boiling hot, and Bob did lukewarm.
b. Paul drank his tea boiling hot, but Bob didn't.
(i) Bob didn't drink his tea.
(ii) Bob drank his tea not boiling hot.

Since the OOSP cannot escape VPE, the ambiguity of (40b) cannot be structural; rather, the predicate *drank his tea boiling hot* might fail to apply to *Bob* for two different reasons, as shown in (40b-i,ii) above. In this light, consider analogous OG sentences in Hebrew (41b,c), as possible continuations of (41a).[25]

(41) a. Yosi cilem et axoto menumnemet.
Yosi photographed ACC sister.his drowsy.F.SG
'Yosi took his sister's picture while she was drowsy.'

[25] Such examples should be constructed with care, since Hebrew makes extensive use of N-drop that strands attributive adjectives, producing *V __ A* strings similar to those produced by AE that strands an OOSP. However, an N-drop source for sentence (41b) would be something like "Gil photographed a/the sleeping sister", which is distinctly odd in Hebrew, where kinship terms normally occur with a possessive pronoun. This makes it a reliable instance of ellipsis (I thank a reviewer for suggesting this test).

b. Gil cilem ___ yešena.
Gil photographed sleeping.F.SG
'Gil took his sister's picture while she was sleeping.'

c. Gil lo cilem ___.
Gil not photographed
'Gil didn't take his sister's picture.'

d. GIL, LO ___.
Gil not
'Gil didn't.'

The grammaticality of (41b), in clear contrast to (40a), rules out VSVPE as a possible source; the OOSP should not have survived the elision of the VP (this example also teaches us something about the syntactic visibility of the OG; see section 5.3). This is the now-familiar undergeneration problem. In addition, the fact that (41c) must be interpreted parallel to (40b-i) and cannot have the adjunct-including reading, like (40b-ii), indicates that AE solely applies to the object, excluding the OOSP. This is not surprising, assuming (as we did above) that adjuncts in general are not subject to ellipsis (see Saito 2007, Takahashi 2014). VSVPE, however, would overgenerate this reading. Once again, to obtain the adjunct-including reading, one must resort to stripping (41d).

In conclusion, even if VPE (and by extension, VSVPE) supports adjunct-excluding readings, it does not force them. The fact that Hebrew OG sentences (like their Japanese counterparts) do force them, then, suggests that the they do not involve ellipsis of VP but rather of the internal argument alone.

5.2 A missing output with raising verbs

The VSVPE analysis overgenerates another type of sentences, which are not derivable on the AE analysis. This argument, as far as I know, is novel.

Jacobson (1992) observed a curious contrast between raising and control predicates: While control predicates generally allow complement drop (Null Complement Anaphora, NCA), raising predicates never do.[26]

[26] Jacobson notes that some subject control predicates do not permit complement drop (e.g., *want, attempt, desire*), but all object control verbs and control adjectives do. Still, no Raising-to-Object or raising adjective permits complement drop. This suggests that resistance to complement drop with some subject control verbs is a lexical idiosyncrasy. Indeed, the counterparts of these verbs in other languages often allow complement drop.

(42) a. John tried/forgot/refused to take out the garbage,
and I think that Bill also tried/forgot/refused.
b. John is eager/willing/afraid to leave,
but I don't think Bill is eager/willing/afraid.

(43) a. * John seems/happens/turns out to be obnoxious,
but I don't think that Sam seems/happens/turns out.
b. * John is certain/sure/apt to win,
but I don't think Bill is (particularly) certain/sure/apt.

Landau (2013:20-21) reasons that the contrast follows from a combination of two assumptions: (i) NCA in English is a "deep anaphor" with no internal syntax (Hankamer and Sag 1976), (ii) raising involves movement out of the complement, control does not. Considering the sentences above with the missing complements, the matrix subject in (42a-b) is independently generated and licensed in the matrix clause, but the matrix subject in (43a-b) can only be generated in the raising complement. Since the latter is not syntactically present, the result is ungrammatical.

Note that the facts cannot tell us whether NCA in English is actually available with raising predicates. Whether it is available or not, raising will be excluded. Its only chance of being licensed is through ellipsis (surface anaphora). Yet the inability of raising predicates to license ellipsis of their complements appears to be a robust crosslinguistic fact, however it is to be explained.[27] Thus, a recurring contrast is found between root and epistemic modals. While epistemic modals are necessarily monadic raising predicates, root (e.g., deontic) modals might project either as raising or as control predicates. In languages like Chinese, French, Spanish, Italian and Dutch, this distinction has consequences for the possibility of complement ellipsis (Wu 2002, Dagnac 2010, Aelbrecht 2010, Authier 2011), and in Hebrew too.

Consider the Hebrew modal verb *yaxol* 'can', which allows all the readings its English counterpart does. In (44a), it is used as a deontic modal with an animate subject,

[27] While English clausal complements can only go missing through NCA, other languages may apply genuine ellipsis of clausal complements (Cyrino and Matos 2006). Thus, the NCA-based explanation for (43) might not generalize to languages in which the silent clausal complement is structurally represented and in principle should be able to launch subject raising. It also does not generalize to modal complements in English, which, qua VPs, should be able to undergo VPE. However, VP complements of epistemic modals also resist ellipsis (Drubig 2001, Gergel 2009).

(i) John must wash his car every day. (✓deontic, ✓epistemic)
(i) John must wash his car every day, and Peter must too. (✓deontic, *epistemic)

Descriptively speaking, then, it seems that raising predicates (whether experiential or modal) do not license complement ellipsis (whether VP or TP). Why that is – is an open question.

exploiting the control option. The control complement in the second conjunct can be omitted, which is compatible either with NCA or ellipsis. In contrast, in (44b) the modal takes an inanimate subject and assumes an epistemic reading. This forces a raising analysis, which is incompatible with a null complement.

(44) a. Gali$_i$ yexola [PRO$_i$ lalexet lišon me'uxar],
Gali can to.go to.sleep late
aval axot-a$_j$ lo yexola ([PRO$_j$ lalexet lišon me'uxar]).
but sister-her not can to.go to.sleep late
'Gali can go to sleep late, but her sister can't.'

b. ba-ona ha-zot, mezeg ha-avir be-Roma yaxol lihyot na'e,
in.the-season this temper the-air in-Rome can to.be nice
aval mezeg ha-avir be-London lo yaxol *([t$_i$ lihyot na'e]).
but temper the-air in-London not can to.be nice
'In this season, the weather in Rome can be nice but the weather in London can't be nice.'

Similarly, the PP *ke-adam ašir me'od* 'as a very rich man' in (45) is the predicate of a small clause complement of the raising predicate *hitbarer* 'turn out'. Dropping the complement removes the source of the matrix subject and produces ungrammaticality.

(45) Gil hitbarer ke-adam ašir me'od,
Gil turned.out as-man rich very
aval ax-iv$_i$ lo hitbarer *([t$_i$ ke-adam ašir me'od]).
but brother-his not turned.out as-man rich very)
'Gil turned out to be a very rich man, but his brother didn't turn out *(to be a very rich man).'

With these observations in mind, we can see the problem for the VSVPE analysis. This analysis offers an opportunity of generating the same strings of (44b) and (45) as grammatical sentences. Consider more closely the second conjunct of (44b). As noted above, raising complements resist ellipsis. Therefore, there are two possible sources for the nullness of the infinitival complement: Either it undergoes NCA, or it is deleted as part of a VSVPE of the matrix VP (which strands the raising verb in T). These two derivations are depicted in (46). For concreteness, I will assume that Hebrew negation projects above TP and that the subject raises to an AgrP projection above it (Shlonsky 1997), although the labels do not matter here. The shaded area in (46b) represents the ellipsis site (English words used for convenience).

(46) a. (44b) via NCA

*[$_{AgrP}$ *The weather in London* [$_{NegP}$ *not* [$_{TP}$ *can*$_j$-T [$_{VP}$ t$_j$]]]]

b. (44b) via VSVPE

[$_{AgrP}$ *The weather in London*$_i$ [$_{NegP}$ *not* [$_{TP}$ *can*$_j$-T [$_{VP}$ t$_j$ [$_{TP}$ t$_i$ *to be nice*]]]]]

While the first derivation is ruled out (nothing can raise out of an unprojected complement, hence *the weather in London* is not thematically licensed), the second one is not. The VSVPE analysis is predicated on the assumption of V-to-T movement out of a VP that is subsequently elided. Crucially, raising itself is allowed out of elided VPs.

(47) a. Bill appeared to be angry, but Tom didn't.

b. Mary is likely to be home although her mother isn't.

This can even be shown in Hebrew, using the Aux-stranding VPE construction, which is limited to specific contexts (habitual or counterfactual events, or nonverbal predicates in past/future tenses, as in (3)). Differently from (44b), (48B) involves genuine VPE, following an overt copula. The elided constituent contains the full syntactic structure of the complement, from which raising can proceed.

(48) A: ze$_i$ haya yaxol [$_{TP}$ t$_i$ likrot], ata yode'a.
it was can to.happen you know
'It could have happened, you know.'

B: lo, ze$_j$ LO haya [$_{VP}$ yaxol [$_{TP}$ t$_j$ likrot]].
no it not was can to.happen
'No, it couldn't have (happened).'

If both A-movement of the subject and head movement of the verb are possible out of a VP-ellipsis site, there is nothing to rule out derivation (46b), overgenerating (44b) and (45).[28] Since the availability of A-movement out of elided VPs is not at any dispute (see van Craenenbroeck 2014 for discussion), it is the other operation, V-to-T movement out of the elided VP, that must *not* be available. Thus, we have a fairly strong argument against the existence of VSVPE in the grammar of Hebrew.

5.3 AE does not reduce to NCA

Before closing this section, I would like to address a concern raised by a reviewer. If Hebrew may employ NCA with raising complements, as I suggested for (44b)/(45), how can we tell that what has been described as AE all along is not another instance

[28] In fact, Ā-movement is also possible, as the stripping counterparts of (44b)/(45), with the raising verb also omitted, are fine.

of NCA? More concretely, what evidence is there that missing objects are truly elided and not simply unprojected argument slots, as NCA is normally analyzed (see Depiante 2000)? Note that sloppy readings and other interpretive properties do not obviously distinguish between the two constructions.

An initial reason for doubting this possibility is the "whimsical" character of NCA as attested in transitive verbs (Fillmore 1986). It is typically unpredictable which verbs would allow it and which would not, even in closely related pairs (e.g., *insist* vs. *demand*, *find out* vs. *discover*, *promise* vs. *vow*; see Fillmore's discussion of English). Quite differently, OGs in Hebrew transitive clauses show no such lexical sensitivity. As far as I know, any verb, no matter how "strongly transitive" it is, can appear with a missing object if placed in a proper linguistic context that supplies an antecedent for that object. In that respect, OGs in Hebrew bear the hallmark of a productive, syntactic phenomenon much more than NCA, a non-productive lexically-governed process.

Furthermore, NCA and ellipsis are distinguished syntactically: Only the latter involves a complex constituent present in the syntax (albeit silent). We have already seen in (35) that OGs in Hebrew can bind overt anaphors. Notably, reflexive binding requires a *syntactic* binder, implicit arguments being insufficient (Landau 2010). This provides one piece of evidence that Hebrew OGs are not (solely) derived by NCA, which would leave no projected DP to function as a binder. Landau (2010) also observes that secondary predicates must be predicated of *syntactic* arguments, making for another useful test to rule out the NCA option. Significantly, Hebrew OGs license secondary predicates, as shown in (41a-b), repeated below. Note also the non-default feminine agreement on the stranded secondary predicate. Given that agreement is defined over syntactic elements, NCA cannot provide the necessary ϕ-features to value agreement.

(49) Yosi cilem et axoto menumnemet.
Yosi photographed ACC sister.his drowsy.F.SG
'Yosi took his sister's picture while she was drowsy.'

Gil cilem [et axoto] yešena.
Gil photographed ACC sister.his sleeping.F.SG
'Gil took his sister's picture while she was sleeping.'

We thus have two independent respects in which ellipsis fares better than NCA in explaining the syntactic visibility of OGs in Hebrew.

A fourth piece of evidence comes from extraction. Admittedly, DPs in Hebrew are generally islands and extraction out of them is only allowed in extremely limited circumstances. Therefore, evidence for extraction out of elided DPs is hard to come by. Nevertheless, relevant examples can be constructed.

(50) a. [al yemey ha-beynayim]$_i$ avad li [rov ha-xomer t_i],
on days.of the-middle lost to.me most the-material
aval [al ha-renesans]$_j$ adayin nišmar [rov ha-xomer t_j].
but on the-renaissance still kept most the-material
'On the middle ages, most of my material got lost, but on the renaissance, most of it is still kept.'

b. ed exad ziha et ha-parcuf šel kol xašud,
witness one recognized ACC the-face of every suspect
ve-ed nosaf ciyer [et ha-parcuf šel kol xašud].
and-witness another drew ACC the-face of every suspect
'One witness recognized the face of every suspect,
and another one drew the face of every suspect.'

In (50a), a PP is topicalized out of an unraised (VP-internal) subject of an unaccusative verb – an overt one in the first conjunct, an elided one in the second. Thus, the elided DP in the second conjunct hosts an internal trace. (50b) supports an inverse scope reading for the QP embedded in the DP object – both in the first conjunct, where the object is overt, and in the second one, where it is elided (for every suspect, one witness recognized the suspect's face and another one drew it). Assuming that QR is the mechanism by which low QPs come to be interpreted with wide scope relative to high QPs, we conclude that the universal QP undergoes QR. But this implies that the elided object in the second conjunct hosts an internal trace at LF. Hosting an internal trace is a hallmark of syntactic structure – present in ellipsis, but absent in NCA. Thus, facts like (50a-b) favor the former analysis over the latter.

With these four arguments, we can safely conclude that Hebrew OGs are not (at least, not solely) derived by NCA, and that a productive mechanism of AE, removing phonological features but leaving syntactic structure intact, is also operative in the language.

6 A challenge from ACD

I now turn to the final argument the literature offers for VSVPE in Hebrew. The argument, due to Doron (1999), draws on an intriguing observation made in Cole 1976, in the context of discussing relative clauses in Hebrew.

In general (and barring island effects), resumptive pronouns are in free alternation with traces in direct object and (nonlocal) subject positions, but are obligatory in prepositional object positions, given that Hebrew lacks P-stranding.

(51) a. ze ha-kise še-Ben Gurion ahav (oto).
it the-chair that-Ben Gurion loved it.ACC
'This is the chair Ben Gurion loved (it).'

b. ze ha-kise še-Ben Gurion yašav *(al-av).
it the-chair that-Ben Gurion sat on-it
'This is the chair Ben Gurion sat *(on).'

Cole observed that the PP (=P+resumptive pronoun) in the relative clause *can* be dropped, curiously, when it is selected by the same verb that selects the head of the relative (52a). Doron, however, noted that V-identity is not required, as long as the two verbs subcategorize for the same preposition (52b).

(52) a. yašavta al ha-kise še-Ben Gurion yašav (al-av).
sat.2SG.M on the-chair that-Ben Gurion sat on-it
'You sat on the chair that Ben Gurion sat (on) / did.'

b. ha-trufa ha-zot azra le-kol xole še-ha-trufa ha-hi
the-medicine the-this helped to-every patient that-the-medicine the-that
hezika (lo).
harmed (to.him)
'This medicine helped every patient that medicine harmed.'

The solution to the puzzle, according to Doron, is to recognize that the PP-less versions of (52a-b) are derived by ACD: The VP in the relative clause is deleted under identity with the matrix VP. The sole difference from the familiar, English-type ACD, is that VP ellipsis in Hebrew strands the verb in T. The "disappearance" of the embedded PP is an automatic outcome of its dominating VP being deleted; cf. the analogous English construction, *You sat on the chair that Ben Gurion did*. Recall that Doron (1999) assumes, as I do, that elliptical OG sentences in Hebrew are not constrained by V-identity, hence (52b) poses no particular difficulty.

While I believe that ACD is just the right solution for the puzzle, I differ from Doron in what I take to be the elided constituent. Given the ample evidence against VSVPE, it seems that VP cannot be the target of ellipsis here. The natural alternative is PP ellipsis; the missing PP in (52a-b) just is the target of ellipsis. This alternative comes at no additional cost, as there is independent evidence that AE in Hebrew extends to

PP arguments (see (20)/(21)/(27)). The two competing analyses are depicted below, assuming the standard LF-movement account of ACD required to place the elided constituent outside its antecedent. In each case, the antecedent is boldfaced and the ellipsis site is shaded (English words used for convenience).

(53) a. Logical Form of VSVPE + ACD:
[the chair that Ben Gurion sat-T [$_{VP}$ t$_V$ [$_{PP}$ on x]]]$_x$ [you **sat on x**]

b. Logical Form of PP ellipsis + ACD
[the chair that Ben Gurion sat-T [$_{VP}$ t$_V$ [$_{PP}$ on x]]]$_x$ [you sat **on x**]

Is there evidence to choose between the two alternatives? Fortunately, there is.

While VSVPE, according to Doron, is not constrained by V-identity, it should be constrained by "valence identity" – but that too is false, see (26). In ACD as well, OG sentences need not be valence-identical to their antecedents. In (54a) the antecedent clause is monotransitive and the target clause is ditransitive, whereas in (54b), the reverse holds. The examples below reflect S-structure and not LF; the shaded elided PP confirms that the preposition selected by the embedded verb (*le-* 'to' in (54a), *me-* 'from' in (54b)) is identical to the one selected by the matrix verb.

(54) a. azarti **le**-kol mi še-Rina natna išur [$_{PP}$ **le-** x].
helped.1SG to-every who that-Rina gave permit
'I helped whoever Rina gave a permit to.'

b. hu hicil oti **me**-ha-makom še-af exad
he saved me from-the-place that-no one
lo hicliax le'himalet [$_{PP}$ **me-** x].
not managed to.escape
'He saved me from the place no one managed to escape.'

Note that (54a) is problematic for the VSVPE analysis for two reasons (or three, if V-identity is required): The target VP is not empty, containing the direct object, and the verb is of the semantic type <e,<e,t>>, while its antecedent is of type <e,t>.

Another kind of ACD which is beyond the reach of VSVPE involves nonverbal matrix clauses. The VP in the relative clause has no antecedent lexical VP at all to be recovered from (see section 3.1). PP ellipsis is the only possible analysis.

(55) ze humor **al** nos'im še-ani ba-xayim lo hayiti
it humor about topics that-I in.the-life not was
me'ez le'hitbadeax [$_{PP}$ **al** x].
dare to.joke
'It is humor about topics that I would have never dared to joke about.'

Finally, the VSVPE analysis overgenerates adjunct-including readings in ACD environments as well (see the discussion in section 5.1).[29] First, observe that English VPE in ACD may affect VP-adjuncts (Soh 2003).

(56) He has convincingly argued every point that I haven't.

This sentence can mean: He has convincingly argued every point that I have argued but not convincingly. Importantly, negation in the target clause need not negate the very occurrence of the event, but only its adverbial modification. By contrast, the following example in Hebrew lacks a parallel reading; the relative clause can only be understood as negating the occurrence of the event.

(57) hu hitgaber be-kalut **al** kol be'aya še-ani lo hitgabarti [$_{PP}$ **al** x].
he overcame in-ease on every problem that-I not overcame
'He easily overcame every problem that I didn't overcome.'
Not: "He easily overcame every problem that I overcame but not easily.'

The missing reading is readily available under stripping (*…še-ani lo* ___ 'that I not'), which affects a constituent large enough to include the adjunct. I concur with Sakamoto 2016, then, that this type of OG sentences in ACD environments not only fails to favor the VSVPE analysis, but in fact proves it wrong.

7 Consequences for further research

Although the empirical discussion has focused on Hebrew, the conclusions have implications for the analysis of similar elliptical constructions in other languages. This is particularly so because within the literature on V-stranding ellipsis, Hebrew has acquired a canonical status, a benchmark to which new constructions and languages are frequently compared; indeed, all major surveys of ellipsis present the Hebrew case in such terms (see van Craenenbroeck and Merchant 2013, van Craenenbroeck 2014, Lipták 2015, Merchant 2016). Evidently, our conclusion that Hebrew does not, after all, employ VSVPE, should serve as an impetus to revisit purported cases of VSVPE in other languages and ask whether they withstand a similar critique. Furthermore, the

[29] This argument for AE over VSVPE was made by Sakamoto (2016) for Japanese; the Hebrew facts are similar.

claim that Hebrew employs AE opens up new questions about the crosslinguistic distribution of this grammatical device. These questions are fully addressed in work in progress; here I will limit myself to sketching the relevant issues.

Sections 3-4 demonstrated that there is no distinguishing property that is found in VSVPE but not in AE; potential candidates for such properties were shown to be unreliable. On the other hand, as often noted in the literature, it is not easy to find empirical properties consistent *only* with AE and not with VSVPE. The best test so far, due to Park 1997 and Oku 1998, concerns the inclusion/exclusion of adjuncts in the ellipsis site. This test has been successfully applied to East Asian languages in the past, and in section 5.1, to Hebrew as well. I have further developed this test, using creation verbs.

In fact, adjunct inclusion was tested in the literature on VSVPE, for example in Malayalam, Bangla and Hindi (Simpson, Choudhury and Menon 2013), Portuguese (Santos 2009:28,64) and Russian (Gribanova 2013). The results, however, are not conclusive, as the test examples fail to distinguish a *syntactic* reason for the inclusion of the adjunct in the ellipsis site (namely, that it is vP that is elided) from a *pragmatic* reason for favoring the adjunct-including reading, which is perfectly compatible with AE (see the discussion surrounding (37)). In Landau 2018 I revisit the arguments for VSVPE in these languages and show that there is much reason for skepticism. In fact, there seems to be positive evidence against it and in favor of AE, paralleling the arguments made here for Hebrew.

If this is an accurate assessment of the facts, a natural question arises: Is VSVPE available in *any* language? One possibility is that some grammar-particular constraint operating in Hebrew (and in other languages amenable to the reanalysis of VSVPE as AE) is responsible for blocking the VSVPE derivation; other languages may lack this constraint and display genuine VSVPE. But what could that constraint be? What is puzzling is that the two ingredients that appear to make VSVPE possible are V-to-T/Asp raising and VP ellipsis. If V can raise out of VP in language L and if VP is a possible target of ellipsis in L (say, following an auxiliary), then why can the two not cooccur in L, but can in other languages?

Sailor (to appear) argues that if VPE is triggered before V-raising is, VSVPE will not be possible, as V would be trapped inside the ellipsis site (made inaccessible to syntactic operations, see Aelbrecht 2010). This, he claims, is what we see in mainland Scandinavian languages. Crucially, though, Sailor assumes that if the two operations are triggered by the same head, no order is imposed between them and so VSVPE should be possible (on the derivation in which V-raising precedes VPE). Hebrew is a

counterexample, for VPE and V-raising are both triggered by T, and yet VSVPE is unattested.

A second possibility, theoretically more daring, is that VSVPE is unavailable in principle. That is, some aspect in VSVPE derivations violates a UG principle. The challenge is to identify this principle. The challenge is even greater because V-stranding ellipsis does seem real in other constructions; most obviously, bare verbal responses to polar questions (Holmberg 2001, 2016, Lipták 2013, Martins 2016, Gribanova 2017a). Exactly what determines which combinations of ellipsis and V-stranding (or head-stranding more generally) are permitted and which ones are not? Can the relevant factors be traced to well-accepted, grammatical principles and structures?

The interaction of head movement and ellipsis has drawn considerable attention in recent literature (van Craenenbroeck and Lipták 2008, Schoorlemmer and Temmerman 2012, Thoms 2015, Gribanova 2017b, McCloskey 2017, Sailor to appear). Inspired by these works, Landau (2018) addresses these theoretical questions and provides an account covering VSVPE as well as other cases of head-stranding ellipsis. Any such account, of course, should be strong enough to rule out VSVPE in principle (leaving AE as the leading analysis for OG sentences in Hebrew and similar languages) but not too strong to rule out true instances of head-stranding ellipsis.

Finally, let us turn to the grammar of AE itself. Most of the current literature on AE is focused on East Asian languages. That Hebrew should employ this device is, from the perspective of the existing literature, at least interesting, if not puzzling. The main proposal as to the parameter that governs the possibility of AE in any given language is the "Anti-Agreement Parameter": L allows ellipsis of an argument iff no functional head agrees with that argument (Saito 2007, Takahashi 2008, 2013, 2014). This parameter explains why AE of both objects and subjects is pervasive in no-agreement languages like Japanese, Korean and Chinese; it also explains why objects but not subjects may undergo AE in languages with subject agreement but no object agreement, like Turkish (Şener and Takahashi 2010). Other proposals attribute the option of AE to scrambling (Oku 1998), the absence of a DP layer in the nominal projection (Cheng 2013), the agglutinative nature of the nominal ϕ-morphology (Simpson, Choudhury & Menon 2013, Otaki 2014), or the property of radical *pro*-drop (Sakamoto 2017).

Currently, no existing proposal can do justice to the typological diversity of AE languages (see Sakamoto 2017 for a recent comprehensive review). Hebrew compounds the problem: It has no scrambling in the usual sense (only objects of

ditransitive verbs may swap positions), no agglutinative nominal ϕ-morphology, no radical *pro*-drop, and it certainly projects a DP layer in nominals. Indeed, it also lacks object agreement, but this criterion must be very narrowly applied at any rate, given that English also lacks it and still excludes AE.[30] Expecting more languages to shift from the VSVPE rubric to the AE rubric, the prospects of finding a single, syntactic correlate of AE licensing looks increasingly daunting. This might suggest that we have been looking in the wrong direction all along; perhaps the variation is to be explained in *pragmatic* terms (regulating the recoverability of elided arguments), insofar as we countenance the existence of pragmatic parameters.

8 Conclusion

Starting from the late 1980s and into the early 1990s, the VSVPE analysis has been advocated for a great number of languages. The very first exemplars were Chinese (Huang 1987, 1991), Japanese and Korean (Otani and Whitman 1991), Hebrew (Doron 1990) and Irish (McCloskey 1991). Curiously, this analysis has been retracted and superseded in all these languages up to now – except for Hebrew. In Chinese, Japanese and Korean, the current consensus takes OG sentences to involve AE. In Irish, the latest take is *TP ellipsis* under a polarity head (McCloskey 2017). It thus seemed increasingly suspicious that Hebrew alone should survive this revisionist wave.

As I argued throughout this paper, the suspicion was fully warranted. Upon close scrutiny, none of the claimed hallmarks of VSVPE in Hebrew holds up. This was shown by re-examining the full range of constructions admitting null objects in Hebrew. Many of them, it transpired, could not be analyzed as VSVPE (e.g., because there is no lexical VP antecedent or verb raising, because verb identity is not respected, because a PP object co-occurs with the gap, etc.), and at the same time, they are not restricted by any of the alleged constraints on null objects in Hebrew (e.g., they can be animate and occur inside islands). The inevitable conclusion is that AE is a necessary device in Hebrew grammar, and furthermore, that it can account for all the data for which VSVPE was invoked.

The next step was to show that VSVPE is not only dispensable but rather inconsistent with certain facts. Two arguments were presented to that effect: Contrary to the predictions of VSVPE (and to the behavior of VPE elsewhere), adjuncts in the antecedent VP are not copied to the ellipsis site; moreover, OG sentences are

[30] As originally conceived in Saito 2007, the "Anti-Agreement Parameter" registers both abstract and morphological agreement; presumably, the (principled) absence of object agreement in Japanese is fundamentally different from the (morphological) absence of object agreement in English.

excluded with raising verbs, although the VSVPE analysis predicts their existence. With this argumentation at hand, it was concluded that the grammar of Hebrew makes no use of VSVPE.

This conclusion raises interesting questions for future research. It invites a reconsideration of alleged VSVPE derivations in other languages, and possibly, a deeper theoretical probe into constraints on head movement out of ellipsis sites. Finally, it brings to the fore the pressing need in formulating a comprehensive theory of licensing AE across languages.

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