A cross-linguistic overview of vp-anaphora

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0. Introduction

Traditionally, VP-Anaphora has been treated as a phenomenon particular to English.[1] In recent years, however, several studies have identified structures in languages other than English as VP-Anaphora (hence VPA). In this paper I will discuss some of these studies, and determine what the licensing conditions for VPA are.

The organisation of the article is as follows: in section one I will discuss Doron's (1990a,b) treatment of certain structures she classifies as VPA. In section two these will be compared with VPA structures in Chinese, Korean and Japanese. It will appear that they have a different distribution: in the Asian languages there are more environments in which VPA can be licensed than in Hebrew.

In section three two questions will be examined: in the first place I will examine what the exact conditions are which license VP-Anaphora, and in the second place there will be a further parametrisation of VP-licensing mechanisms, one that will account for the differences observed between Hebrew on the one hand, and the Asian languages on the other. In that section we will also look at the exact way in which sloppy and strict readings can be realized.

1. VP-Anaphora in Hebrew

In Doron (1990a,b) it is argued that VPA can also be observed in Hebrew. Consider the examples in (1):[2]

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[1] I would like to thank Manuela Ambar, Edit Doron and John Whitman for the data they kindly provided, them and the audience at the TIN-dag for useful discussion, and Wim Kosmeijer for carefully reading and commenting on the manuscript.

[2] Unless mentioned otherwise, all Hebrew examples are from Doron (1990), and all Asian and southern European examples from Otani and Whitman (1991).

(1)   Q: at saragt et ha-sveder ha-ze?
          you knit this sweater?
          'Did you knit this sweater?'
      A: lo, ima Seli sarga
          no, my mother knit
          'No, my mother did'

It is well-known that objects can be dropped in Hebrew, so the question arises why this is an instance of VPA rather than ordinary object drop. In addition, note that in Hebrew we do not get a dummy verb in the answer sentence in (1) as we do in English, but a full lexical verb. Doron shows, however, that we do have an instance of VPA here, and also provides a plausible explanation for why we get a lexical rather than a dummy verb in Hebrew.

Before going into Doron's arguments supporting a VPA analysis of the sentences in (1), first some remarks concerning VPA. It is generally assumed that VPA can only be licensed if there is structural parallelism between the antecedent and the anaphoric VP. This would mean that in the case of (1), too, the VP in the answer part must be structurally identical to the VP in question part. This means that we have the structures in (2) and (3) for the sentences in (1) and their English equivalents respectively:

(2)   Q: $[_{IP}$ at $[_{I'}$ saragt $[_{VP}$ t_v ha-sveder ha-ze]]]
      A: $[_{IP}$ ima Seli $[_{I'}$ sarga $[_{VP}$ t_v ha-sveder ha-ze]]]

(3)   Q: $[_{CP}$ Did $[_{IP}$ you $[_{VP}$ knit this sweater]]]
      A: $[_{IP}$ my mother $[_{VP}$ knit this sweater]]

One of the arguments in favour of a VPA approach that Doron supplies is that it is possible to omit more than just a direct object, as can be seen in (4):

(4)   Salaxt et ha-yeladim le-beit-ha-sefer? Salaxti
          you-sent the kids to school? I sent
          'Did you send the kids to school? I did'

Both the indirect and the direct object have been omitted in this case, so this cannot be an instance of ordinary object-drop. A true example of object-drop is given in (5), where the indirect object remains in the VP:

(5)   saragt et ha-sveder ha-ze? lo, ima Seli kanta li
          you-knit this sweater? no, my mother bought for-me
          'Did you knit this sweater? No, my mother bought it for me'

The indirect object, however, is optional in this case, and if it is omitted, one might argue that we do have a case of VPA. We would then get a modified example as in (5'):

(5')   saragt et ha-sveder ha-ze? lo, ima Seli kanta
         you-knit this sweater? no, my mother bought

Yet we can distinguish cases of object-drop from those of VPA, if we compare (5') with (6):

(6)   dina soreget et ha-svederim Se-hi loveSet? lo, aval ima Sela
         soreget
         Dina knits the sweaters that she wears? no, but her mother knits
         'Does Dina knit the sweaters that she wears? No, but her mother
         does'

The difference between the sentences in (5') and those in (6) is that those in (6) have two interpretations, whereas there is only one interpretation for the sentences in (5'). (6) can either mean that Dina's mother knits her own sweaters, or that she knits Dina's. In (5'), however, the omitted direct object of *kanta* can only refer to the same sweater as the one in the first sentence, in other words, there is no sloppy interpretation possible in (5), whereas there is in (6).[3] We will come back to this issue in our discussion of some Asiatic languages.

Doron supplies a large number of tests which show that all the phenomena she classifies thus are instances of VPA rather than object-deletion which all boil down to the fact that object deletion is sensitive to island-effects, whereas VPA is not. As an illustration, consider the examples in (7), where we have null categories within a relative clause, in other words, a Complex NP Constraint environment:

(7)   saragt et ha-sveder ha-ze?
         you-knit this sweater?
         lo, aval ha-baxura Se-sarga natna li oto be-matana
         no, but the girl who knit gave to-me for-a-present
         *lo, aval ha-baxura Se-kanta natna li oto be-matana
         no, but the girl who bought gave to-me for-a-present

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[3] This example may be somewhat unfelicitous, as an English paraphrase of a sloppy reading for (5') would be something like 'Does Dina knit the sweaters that she wears? No, but her mother buys her own sweaters that she wears.' The claim made here, however, does hold.

As soon as the verb is changed in the answer to the question in (7), that sentence becomes ungrammatical, as then we have object-drop rather than VPA. After this presentation of the Hebrew data, we will have a look at the analysis Doron presents for these facts.

Her account is based on correpondences and differences between English, French and Hebrew. The correspondence between English and Hebrew is that both languages allow VPA, the one between French and Hebrew that they both have movement of finite, lexical, theta-role assigning verbs to INFL. As it stands, it is mystifying how we can account for the correspondence between English and Hebrew, which both can license VPA on the one hand, and how we must explain the lack of VPA in French on the other. To achieve this, Doron proposes an extra condition for VPA to meet, viz. that verbal material must be base-generated in the position it is in at S-Structure.

This amounts to saying that there is no movement of finite verbal material ever in English and Hebrew, but that English lexical verbs are base-generated in V, whereas finite instances of *have* and *be* and modal auxiliaries are base-generated in INFL, and that finite Hebrew verbs are all base-generated in INFL. In French, on the other hand, there would then always be movement of finite verbs from V to INFL, and no base-generation ever.

One argument against Doron's approach is that it is not clear how in that case the multiple output of VPA can be accounted for, an example of which is given in (8):

(8)   John may have been ill, and Peter may, too
        John may have been ill, and Peter may have, too
        John may have been ill, and Peter may have been, too

If Doron assumes that VP-Anaphora can only be licensed if the auxiliary verbs in (8) that remain behind are all in INFL, and base-generated there, she has either to assume that INFL can be filled by more than one element, or that auxiliary verbs like *may* and *have* select IPs rather than VPs (or are adjoined to such projections). None of these assumptions is even faintly reminiscent of current ideas on the English IP and VP.

Apart from VPA, there are also other VP-affecting processes in Hebrew, one of them VP-Topicalization, illustrated in (9):

(9)   liStot bira, hi lo Sota
        to drink beer, she not drinks
        'Drink beer, she does not'
        liStot bira, hi tiSte rak ba-pab
        to-drink beer she will-drink only at-the-pub
        'Drink beer she will only at the pub'

We see the same thing happen here as we did earlier with VPA constructions: the second part of the sentence contains only a lexical verb, and no overt direct object, and the meaning of the VP in the second part is parasitic on the one in the first part.

Doron notes that it is not always easy to obtain a VPA reading in Hebrew. The example in (10), for instance, has two readings, the first of which, with an intransitive interpretation for the second occurrence of *me'aSenet*, is strongly preferred to the second:

(10)   dina me'aSenet sigarim aval rina lo me'aSenet
        Dina smokes cigars but Rina not smokes
        'Dina smokes cigars, but Rina doesn't smoke'
        'Dina smokes cigars, but Rina doesn't'

If, however, it is impossible to have an intransitive reading for the verb in question, the VPA reading arises more easily:

(11)   rina masi'a et ha-yeladim Sela le-beit-ha-sefer, aval dina lo masi'a
        Rina drives her kids to school, but Dina not drives
        'Rina drives her kids to school, but Dina doesn't'

Doron notes this sentence has a sloppy reading; no doubt there will be a strict one available, too.

To conclude this description of the Hebrew data, consider relative clauses in Hebrew. Usually there always must be a resumptive pronoun in such clauses, as can be seen in (12):

(12)   ha-kise Se-yaSavti alav   - the chair that I-sat on-it
        ha-kise (Se-)alav yaSavti - the chair (that) on-it I-sat
        *ha-kise Se-yasavti (al)   - the chair that I-sat (on)

There is one environment, however, in which the resumptive pronoun can be omitted, exemplified in (13):

(13)   dani yaSav al kol kise Se-ben-gurion yaSav
        Dani sat on every chair that-Ben-Gurion sat
        'Dani sat on every chair that Ben Gurion did'

This is an instance of Antecedent Contained Deletion, a phenomenon typically associated with VPA; as in this case it is the entire VP that is deleted, the PP can be omitted as well, so that there is no resumptive pronoun required either.

2. VP-Anaphora in Chinese, Korean and Japanese

There are a number of striking correspondences between Hebrew on the one hand, and Chinese, Korean and Japanese on the other. In Otani and Whitman (1991) the authors first discuss the occurrence of bound variables in the case of apparent object-deletion:

(14)   Meigeren$_i$ [piping le ziji$_i$]
         everyone criticize PERF self
         Zhishi Zhangsan$_j$ mei piping [e$_j$]
         Only Zhangsan not criticize [e]
         'Everyone criticized himself. Only Zhangsan didn't'

                                                                  Chinese

As in Hebrew, we have only a lexical verb in the second part of the sentence, and no overt, lexically realized object. It has been widely established, however, that in such quantificational contexts as the above, we always have VPA (cf. Reinhart 1986).[4]

Again as in Hebrew, it is also possible to have strict and sloppy readings in these languages:

(15)   Chelswu-ka [caki-uy phyenci-ul] leki-ess-ta. Yengmi-to [e] peli-ss-ta
         Chelswu self-of letter discard. Yengmi also discard
         Chelswu threw out his letters, and so did Yengmi

                                                                  Korean

It is certainly not the case that we can always have sloppy readings, irrespective of whether or not there is an instance of VPA, as the example in (16) shows:

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[4] That is, if a language allows such a construction. Otherwise, we get verbless constructions, as in, for example, Dutch as in (i), an option also available in English, or a combination of a verbal pro-form and a pronoun, as in (ii):

(i)   Iedereen haat zichzelf, behalve Jan
         'Everybody hates himself, except Jan
(ii)   Iedereen haat zichzelf, alleen Jan doet dat niet
         everybody hates himself, only Jan does that not
         'Everybody hates himself, only John doesn't'

(16)   Zibun-no hatake-no ninzin-ga Makuguregaa ozisan-no daikoobutu
         desi-ta. Piitaa-mo [e] daisuki desi-ta
         self-GEN   garden-GEN   carrot-NOM   Mr.-GEN   McGregor   big
         favourite be-PERF. Peter also very fond of be-PERF
         'His carrots are Mr. McGregor's favourites. Peter is also very fond
         of them'

                                                                Japanese

In this case only a strict reading is available, as there is no structural
parallelism between the first and the second part; the carrots are subject in
the former, and object in the latter.

   So we see that both Hebrew and the Asian languages under consider-
ation observe a requirement for structural parallelism. Yet the Asian
languages have environments where VPA can be licensed that were ruled out
in Hebrew. Consider the examples in (17):

(17)   Jane-ga zibun-no kodomo-o taiensase-ta no de, Mary-wa [e]
         nyuuensase-ta
         Jane-NOM   self-GEN   child-ACC   withdraw-from-kindergarten-PERF
         since Mary-TOP enrolled-in-kindergarten-PERF
         'Jane withdraw her children from kindergarten since Mary took
         them there'

                                                                Japanese

As we saw in the above, a similar construction is impossible in Hebrew, that
is with a sloppy reading, on which Mary takes her own children to
kindergarten. Such constructions were exactly the ones that Doron used to
distinguish cases of object-deletion and VPA. The conclusion Otani and
Whitman draw from these examples, is that, apparently, the trace left behind
by the moved lexical verb is unspecified, in that it is not coindexed with its
antecedent. In other words, the meaning of the lexical verb is not important
for the trace.[5] Under these assumptions, the differences between Hebrew
and the Asian languages can be schematized as in (18):

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[5] Actually, Doron (1990b:5) argues for the opposite of this statement; in her own words, '... the
trace of a particular verb can only be bound by occurrences of the same verb ...'

(18) a   John-wa [$_{VP}$ [$_{NP}$ zibun-no tegami-o] t] [sute-ta]
          Mary-mo [$_{VP}$ [$_{NP}$ e]   t] [sute-ta]
          John-NOM self-GEN letters-ACC discard-PERF
          Mary-also discard
          'John threw out his letters, and so did Mary'

                                                                    Japanese

      b   [$_{IP}$ at   [$_{I'}$ saragt$_i$ [$_{VP}$ t$_i$ [$_{NP}$ et ha-sveder ha-ze]]]
          lo, [$_{IP}$ ima Seli   [$_{I'}$ sarga$_i$ [$_{VP}$ t$_i$ [$_{NP}$ e]]]
          you knit this sweater? no, my mother knit
          'Did you knit this sweater? No, my mother did'

                                                                    Hebrew

The difference between these two representations lies in the trace either being coindexed with the moved verb or not. If there is no coindexation as in the case of the Asian languages, the requirement for structural parallelism is met. Note that all this requires that there is string-vacuous movement of the verb from V to INFL in these languages, the main subject in Otani and Whitman's article.

It can be shown that even though there are more possibilities for VPA in Chinese, Korean and Japanese, there are structural requirements to be met similar to those in English and Hebrew, consider the following sentences:

(19)   John-wa hati-zi-ni zibun-no apaato-kara de-ta
          John-TOP 8-o'clock-at self-GEN apartment-from leave-PERF
          Bill-wa ku-zi-ni [e] soozisi-hazime-ta
          Bill-TOP 9-o'clock-at clean-start-PERF
          'John left his apartment at eight o'clock, and Bill starts to clean it at nine o'clock'

                                                                    Japanese

The absence of a sloppy reading in this case again indicates that we do not have a VPA context here. The reason for this is that the complementation type of the two main verbs is different in the two sentences; *de*, 'to leave' selects a PP in Japanese, whereas *soozisi*, 'to clean', selects an NP argument.

The account Otani and Whitman propose for the licensing conditions of VPA is as follows: every language that can license empty objects, and that has movement of finite verbs to INFL, should also have VPA. They find support for this claim in the sentences in (20) and (21) which are from Italian and Portuguese respectively:

(20)   Gianni$_i$ ha incontrato il suo$_i$ maestro delle elementari
        Gianni has met the his teacher of elementary
        Anche Maria lo$_i$ ha incontrato *pro$_i$*
        Also Maria him has met
        'John met his school teacher, and Mary met him, too'
    ≠   'John met his school teacher, and Mary did, too

                                                    Italian

(21)   O João$_i$ encontrou o seu$_i$ mestre de elementário
        A Maria$_j$ também encontrou [e$_j$]
        'John met his school teacher, and Mary met him / did, too

                                                    Portuguese

In Italian we have an overt direct object, realized as a clitic, whereas in Portuguese we have a true empty object. The lexical realisation of the internal argument in Italian prevents parallelism between the two VPs, so that only a strict reading is available in (20). In Portuguese we have a VP which consists of empty categories only, so that VPA can be licensed. Otano and Whitman note that it is also possible to have (21) with a clitic, and that in that case the sentence patterns with the Italian example, in other words, the sloppy reading is no longer available then.

3. The Licensing of VP-Anaphora

As we saw in the above the key notion for VP-Anaphora is structural parallelism. Without structural parallelism, there can be no VPA. We also saw that Doron argues for an additional requirement, that finite verbal material has been generated in the position it is in at S-Structure. For her this is crucial in accounting for the presence of VPA in Hebrew, and the lack thereof in French.

An alternative for this approach was put forward by Otani and Whitman. According to them, a language will have VPA if it has both movement of finite verbs to INFL, and the ability to license empty objects. In order to specify the general licensing conditions for VPA we could use Otani and Whitman's generalisation, but add to it in such a way that the English cases of VPA are accounted for as well.

The obvious way to do this is to employ Doron's observations in section one. She proposed a base-generation account for VP-Anaphora. We might slightly rephrase this and argue that VP-Anaphora are possible if all constituents within the VP are either empty, or all lexically filled; in other words, either we have verb-movement plus object drop, or no verb-movement and obligatorily lexically realized objects.

In effect this predicts that all languages that do have movement of finite verbs, yet lack licensing mechanisms for empty objects, will also lack VP-Anaphora. In this way we filter out French in a way different from Doron's. Obviously, all other languages discussed in this paper have been accounted for, as those all followed from Otani and Whitman's generalisation.

There is, however, a remaining problem. As was already mentioned in the above, Hebrew does not allow VP-Anaphora if the main verb is changed, whereas this is alright in the Asian languages. Before going into this, we will first briefly discuss null objects.

Huang (1984) discusses empty argument positions in a large number of languages. According to him, there are three ways in which such empty categories can be licensed: we can have PRO, *pro* and a variable bound by an empty operator. PRO can occur in the standard cases, that is in non-finite clauses, usually controlled by an antecedent in a higher clause, *pro* when it can be formally licensed by a sufficiently rich AGR, and a variable in languages that Huang calls 'discourse oriented'. Examples of such languages are Chinese, Korean and Japanese, and also Portuguese.

Note that in the languages under consideration we can only have empty objects of the operator type, as none of them has an AGR sufficiently rich to identify objects. Subjects, under this approach, can either be realized as *pro* in the southern European languages, or as a variable, as in the Asian languages; these languages lack any AGR, so that *pro* is not an option here. After this short discussion, let us return to the data.

With the above in mind, it is obvious that in the languages in which it is possible to have variables bound by a null operator, sentences with transitive verbs lacking an object will be ambiguous. Reconsider example (15):

(15)   Chelswu-ka [caki-uy phyenci-ul] leki-ess-ta. Yengmi-to [e] peli-
         ss-ta
         Chelswu self-of letter discard. Yengmi also discard
         Chelswu threw out his letters, and so did Yengmi

                                                                        Korean

If Chinese can have variables as empty objects, we have two different structures for the second part of (15), given in (22):

(22)   a   [$_{IP}$ Yengmi-to [$_{VP}$ [e] t] peli-ss-ta]
       b   [$_{CP}$ TOP [$_{C'}$ Op$_i$ [$_{IP}$ Yengmi-to [$_{VP}$ [e$_i$] t] peli-ss-ta]]]

The operator in (22b) is itself dependent on salient elements in either the physical or the linguistic context for interpretation. In this case it will be coreferent with the letters mentioned earlier. Because it has to be strictly coreferent with an earlier expression, it is not possible to derive sloppy

readings in this way. All in all this means that in the VPA environments we have two sources for strict readings, and one for sloppy readings, as strict readings can either result from object deletion or from VPA. Sloppy readings, on the other hand, can only result from VPA.

It is obvious now that the difference between Hebrew and the other languages lies in the fact that the VPA-strategy is not available in Hebrew when different lexical verbs are used, whereas in the other languages we can either have the VPA, or the object-variable strategy. As to the question why there should be this difference, there seem to be two possibilities: we can either capitalize on Doron's treatment, who argued that VPA can be licensed in the case of base-generated lexical verbs, or we turn to the nature of the empty category in V-position.

As we saw above, Doron argued that only base-generated lexical verbs can license VPA; we saw, however, that, in view of the multiple output of VPA in English, this cannot be maintained as a necessary condition on the licensing of VPA. Doron also argued that in the case of French, finite verbs are always moved from V to I, and that no base-generation takes place in that language. As French cannot have empty objects, we do not need this distinction anymore to account for the absence of VPA in French. We can, however, use it to distinguish Hebrew from the other languages displaying VPA, which also brings is to the second alternative sketched above.

As we already saw in the above, there are two assumptions, one in Doron (1990a,b), and one in Otani and Whitman (1991), that are diametrically opposed. The former argues that an empty V can only be bound by an occurrence of the same verb, whereas according to the latter the semantic content of the verb in INFL which binds the empty V is insignificant. A possible acount of the differences observed could be formulated in terms of the kind of trace left behind by verb movement in the languages under consideration.

This in turn can be linked to verbs either being base-generated in or moved to the position they are in at S-Structure. It is not clear at this stage which mechanism should be combined with which kind of empty category, in other words, whether we should link base-generation to the ec sensitive to the matrix verb, as Doron does, and verb movement to the verbal ec insensitive to the binding verb, or the other way round.

A final remark concerns the status of Portuguese. After the previous discussion it is not clear whether it belongs to languages behaving like Hebrew, or like the Asian languages. The following example sheds light upon this matter:

(23)   O João amou o pai e o Pedro odiou
            John loves the father and Peter hates
            'John loves his father and Peter hates him'

According to my sources both a sloppy and a strict reading are available here. This would mean that as in the Asian languages, it is possible to have differing verbs in Portuguese.[6]

4. Conclusions

In this article I have discussed VP-Anaphora in languages other than English. It has been shown that the generalisation made by Otani and Whitman that a language will have VPA if it has both verb movement and empty objects is a good start, but that Hebrew constitutes evidence against this claim. Having shown that the distinction base generation versus movement of verbal material was no longer needed to account for the difference between Hebrew and French, I went on to suggest that it could very well be exactly that difference that is responsible for the contrast between Hebrew on the one hand, and the Asian languages and Portuguese on the other.

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[6] Judgements are slightly conflicting here. According to one of my informants only a sloppy reading is available, whereas another claims both a sloppy and a strict reading are available. The lack of a strict reading for one informant may be due to an obligatory reflexive interpretation of *o pai*. The main point to note here, however, is that sloppy readings are possible at all in these contexts.