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Word Order in Hebrew

Edit Doron

1. The analysis of VS in Modern Hebrew: V2 or VSO?

The proper analysis of word order in Modern Hebrew is under debate in the literature. In addition to SV, VS is possible in Modern Hebrew as well, but it is conditional upon a preverbal constituent (loosely referred to in the literature as "Topic"). The debate centers on the nature of the functional head to which V raises in a VS clause: does V raise as far as C, as in the analysis of V2 languages, or does it raise only to I, as in the analysis of VSO languages? The issue under debate may therefore be formulated in the following way: Should the VS order in Modern Hebrew be analysed as V2 or as VSO? The V2 analysis, following Koster (1975), den Besten (1983), Platzak (1983) and many others since, is based on I-raising to C. The VSO analysis, following Chung and McCloskey (1987) and others, is based on V raising to I, with the subject remaining in SpecV, or – in more recent analyses mentioned in section 4 – raising to the Spec of a functional projection lower than I.

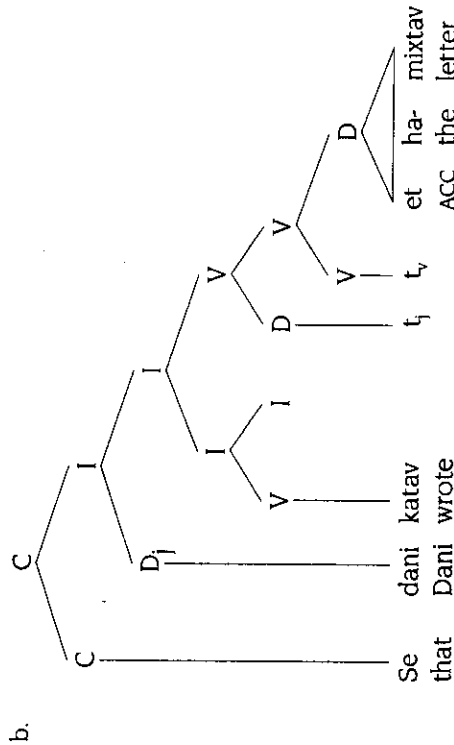
The V2 analysis for Modern Hebrew VS clauses is argued for in Shlonsky and Doron (1992) (henceforth S&D) and Shlonsky (1997), whereas Borer (1995) argues for the VSO analysis. Both approaches assume nevertheless, since Modern Hebrew is clearly not a VSO language, that the EPP-feature of I is strong, and that, accordingly, SpecI is constructed in all clauses. For S&D, SpecI is an A-position in the checking domain of nominative Case, therefore it is the subject which always raises to SpecI. For Borer, nominative Case is checked in SpecV. SpecI is therefore an A' position, where either the subject or a topic is merged.

The arguments which distinguish the two approaches to Modern Hebrew word order often rely on subtle examples. The present paper will present data in favour of the S&D approach which is both novel and simple.

2. Problems for the VSO analysis

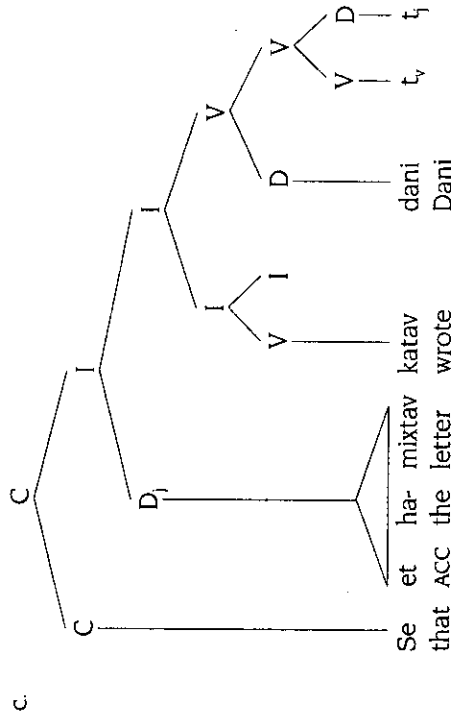
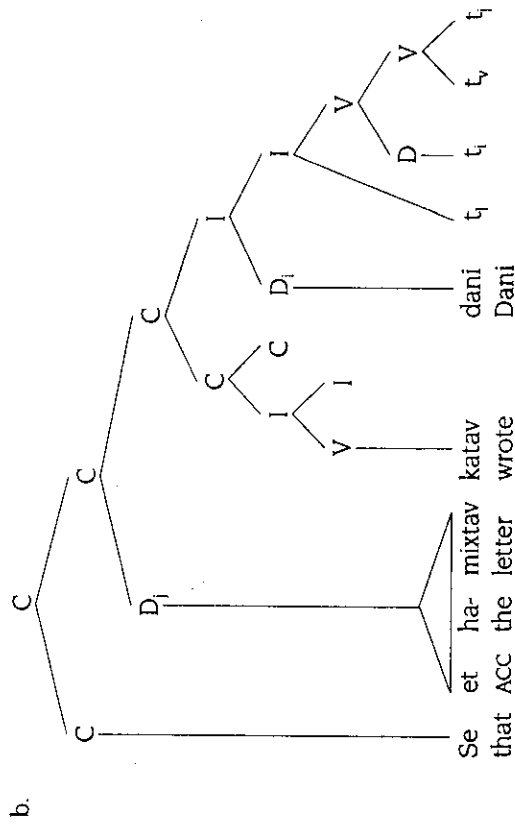
The two accounts, S&D's and Borer's, assign the same structure to SVO sentences, both main and embedded, such as (1):¹

- (1) a. (Sama'ti Se-) dani katav et ha-mixtav
 (I-heard that) Dani wrote ACC the letter
 'I've heard that Dani has written the letter.'



Yet the analyses differ substantially for sentences where the subject follows the tensed verb, both in main clauses and in embedded clauses, as in (2a):

- (2) a. (Sama'ti Se-) et ha-mixtav katav dani
 (I-heard that) ACC the letter wrote Dani
 'I've heard that it is Dani who has written the letter.'



According to Borer, the structure of the VS sentence in (2) is the same as that of the SV sentence in (1), while S&D assign the two sentences very different structures. For Borer, V raises to I in both examples, and both the subject in (1) and the topic in (2) raise to SpecI, while the subject in (2) remains in SpecV. For S&D, I raises to C in (2) but not in (1). The subject raises to SpecI in both (1) and (2), while the topic in (2) raises to SpecC.²

S&D attribute the assignment of different positions to subjects and topics to their different syntactic properties. A preverbal subject does not block extraction from the clause, whereas a topic does.

¹ ACC = accusative Case.

² A similar analysis of the Germanic V2 phenomenon is proposed in Travis (1984) and Zwart (1993).

on the other hand, the topic *the letters* is positioned in SpecI, thereby creating an island for the extraction of the operator *to whom*:

- (5) a. le mi dina xoSevet Se dani haya kotev et ha-mixtavim
to whom Dina thinks that Dani was writing ACC the letters
'To whom does Dina think Dani used to write the letters?'
- b. *le mi dina xoSevet Se et ha-mixtavim haya dani kotev
to whom Dina thinks that ACC the letters was Dani writing

For S&D, it is not necessary to postulate an additional functional head F, since the sentential complement involves one CP layer in (5a) and two in (5b). Yet the postulation of F does not solve the problem. As argued by Borer, F is a functional head lower than NEG, and therefore when *hayya* precedes NEG, this indicates that F has raised to I. But not even then does a pre-Aux subject block extraction, though clearly such a subject is in SpecI (e.g. *the students* in (6)):

- (6) leyad eyzo Sagrirut ha-studentim hayu lo legamrey
by which embassy the students were NEG completely
muxanim le-hafgin lema'an ha-memSala
willing to demonstrate for the government
'By which embassy were the students not completely willing to demonstrate for the government?'

If a topic replaces the subject in (6) (e.g. *for the government* in (7)), it again blocks extraction, yet (6) and (7) have exactly the same structure under Borer's approach. For S&D, while the subject is in SpecI, the topic is in SpecC — thereby preventing an additional specifier, since Modern Hebrew does not allow multiple specifiers of C:

- (7) *leyad eyzo Sagrirut lema'an ha-memSala hayu
by which embassy for the government were
ha-studentim lo legamrey muxanim le-hafgin
the students NEG completely willing to demonstrate

3. Subject-verb agreement in Biblical Hebrew

This section compares Subject-Verb agreement in Modern Hebrew and Biblical Hebrew. In SVO clauses, there is no difference between them. Agreement to a conjoined preverbal subject both in Modern Hebrew and in Biblical Hebrew is strictly to the full conjoined subject rather than to one of its conjuncts (see Gesenius 1910: §146d, Joüon 1923: §150p).⁶

⁶ There is a handful of examples where agreement to a preverbal conjoined subject is singular in Biblical Hebrew. Practically all of them are explained by Gesenius (1910) §146e and Joüon (1923) §150p as mass term conjunction:

- (3) a. le mi dina xoSevet Se dani katav et ha-mixtav
to whom Dina thinks that Dani wrote ACC the letter
'To whom does Dina think that Dani has written the letter?'
- b. *le mi dina xoSevet Se et ha-mixtav katav dani
to whom Dina thinks that ACC the letter wrote Dani

According to S&D, it is the CP recursion in (3b) which blocks extraction. The structure of the relevant clause is as in (2b), where C selects another C, yet does not L-mark it.³ The impossibility of extraction from a non L-marked CP explains the islandhood of the embedded clause of (3b), in the same way in which it explains the islandhood of Huang's (1982) CED (subjects and adjuncts). In (3a), on the other hand, there is no CP-recursion, as is shown by the structure in (1b), C selects I.⁴

When the declarative complement in (3b), which involves CP-recursion, is replaced by an interrogative complement, which involves but one CP layer, the result becomes grammatical, as shown in (4); as has been known since Reinhart (1979), weak subadjacency violations such as a *wh*-island do not result in ungrammaticality in Hebrew:

- (4) le mi dina yoda'at eyze mixtav katav dani
to whom Dina knows what letter wrote Dani
'To whom does Dina know what letter Dani has written?'

Yet under Borer's analysis, it is not clear why a topic in SpecI in (3b) (cf. her analysis (2c)) should block extraction any more than a *wh*-phrase in SpecC in (4).⁵ Borer's analysis also wrongly predicts that the contrast in extractability between SV and Topic-V structures should disappear when the subject has clearly raised out of VP, for example when the subject precedes the auxiliary *hayya*. Yet the same contrast holds between S-Aux and Topic-Aux which does between SV and Topic-V. Borer therefore adds to the structure a functional head F between V and I, which provides the pre-Aux subject with a Spec position lower than SpecI. In (5a), accordingly, the subject *dani* is positioned in SpecF, so that the *wh*-phrase *to whom* may leave a trace in SpecI. In (5b),

³ A different analysis of CP recursion is offered in Shlonsky (1994).

⁴ In the GB theory, both CPs in (2b) and (3b) are barriers, cf. Chomsky (1986) and Lasnik & Saito (1992), which results in a strong subadjacency violation. Structures with a single CP barrier, e.g. (1b), (3a) and also (4) below, give rise to a weak subadjacency violation. For a Minimalist account, see Collins (1994).

⁵ Borer suggests that minimality might be weakened for the extraction of elements of the same kind. Thus, the movement of operators, such as *wh*-phrases, is allowed over other operators, as in (4), but not over topics, as in (3b). Topics are not operators: they indeed do not induce weak-crossover. But this explanation makes the wrong prediction, as noted in the appendix of Borer (1995): it is possible to extract a topic over a *wh*-phrase, as shown in (i). Borer suggests that long-scrambled topics are operators, but this is questionable, since they do not give rise to weak-crossover effects any more than short-scrambled topics.

(i) le ruti dina yoda'at eyze mixtav katav dani
to Ruti Dina knows what letter wrote Dani
[the book that Dani has written is the one that Dani has written]

- (8) u- moSe aharon ve- xur 'alu roS ha- giv' a
and Moses Aaron and Hur climbed(3P) head-of-the-hill
'And Moses, Aaron and Hur went up to the top of the hill.' (Exodus 17:10)

Yet there is a striking difference in Subject-Verb agreement between Modern Hebrew and Biblical Hebrew in clauses with a postverbal subject. In Modern Hebrew, agreement of the verb to a conjoined subject is always plural, even when the subject is postverbal. But in Biblical Hebrew, agreement is usually to the leftmost conjunct of the postverbal subject (cf. Gesenius 1910: §146f, Joüon 1923: §150g). Examples are shown in (9):

- (9) a. va- ta'an raxel ve- le'a va- tomarna l -o
and answered(3fs) Rachel and Leah and said(3FP) to him
ha- od la-nu xelek ve- naxala be-beyt-avi-nu
Q yet to us portion and inheritance in our father's house
'And Rachel and Leah answered and said unto him, Is there yet any
portion or inheritance for us in our father's house?' (Genesis 31:14)
- b. va- yamot nadav ve- avihi lifney avi-hem
but died(3ms) Nadab and Abihu before their father
'But Nadab and Abihu died before their father.' (1 Chronicles 24:2)
- c. va- yisa david ve- ha'am aSer it -o
and lifted(3ms) David and the people who (were) with him
et kol-am va- yivku
ACC their voice and wept(3MP)
'Then David and the people that were with him lifted up their voice and
wept.' (1 Samuel 30:4)

The examples in (9) were chosen so as to make it clear that despite the singular form of the verb, the subject is nevertheless plural. It is implausible to analyse these examples as containing a singular subject combined with a comitative phrase, though this is the interpretation often offered by traditional interpreters of the bible, such as Rabbi Shlomo Yitshaki (1040-1105), and traditional translations such as the King James Bible of 1611, from which the translations of the examples are taken.⁷ (9a)

- (i) ve- kesef ve- zahav yirbe lax
and silver and gold multiply(3ms) to you
'And thy silver and thy gold is multiplied.' (Deuteronomy 8:13)
- Transcription of the Biblical Hebrew examples is based on Modern Hebrew phonology.

⁷ Comitative phrases in Biblical Hebrew are Small Clause adjuncts of the form [sc and DP with him], e.g.
(i) va- yavo noah [sc u- ban-av ve- iSt-o u- neSeY ban-av
and came(3ms) Noah and his-sons and his-wife and his sons'wives
it-ol el ha-teyva mipney meY-ha-mabul
with him to the ark because-of the flood's waters
'And Noah went in, and his sons and his wife and his sons' wives with him, into the ark,
because of the waters of the flood.' (Genesis 7:7)

involves Rachel and Leah both speaking of their father's inheritance: though *answered* is singular, the form *said* which appears later in the sentence is plural. (9b) involves Nadab and Abihu both dying before their father. (9c) involves the idiom *X lifted X's voice* which depends on the identity of the two Xs: there is no lifting anybody's voice but one's own, which entails, since *voice* is inflected for a plural possessor, that the subject of the clause is plural as well. Yet in each one of these examples, the verb which precedes the conjoined subject is marked singular.

But even in Biblical Hebrew there are examples where "full" agreement holds between a verb and a conjoined postverbal subject. In a comprehensive study of the complete prose of the Bible (excluding poetry), Moreshet (1967) found 235 sentences with a conjoined postverbal subject. In 210 of these sentences, agreement is to the left conjunct, as in (9). But there are 25 examples where the verb is marked by full agreement to the conjoined subject. Moreshet was able to discover the following descriptive generalization regarding the distribution of full agreement:

The Moreshet Generalization

The verb in Biblical Hebrew agrees with the leftmost conjunct of a postverbal conjoined subject, unless either (I) or (II) hold:⁸

⁸ The Moreshet Generalization states necessary conditions for full agreement. There exist a couple of apparent counterexamples to this generalization, yet it seems that even those can be explained away. For example:

- (i) va- yekahanu el'azar ve- itamar
and served(3MP) Eleazar and Ithamar

Eleazar and Ithamar executed the priest's office.' (1 Chronicles 24:2)

The verb in (i) exhibits full agreement to the post-verbal subject: *and served (P) Eleazar and Ithamar*, yet neither is there an object clitic, nor is it obvious that the verb is preceded by a topic. But notice that (i) appears the context of a detailed list of all the Temple officials in David's kingdom, at the point where the divisions of high priests, the descendants of Aaron, are listed.

- (ii) ve- li-bney-aharon maxlekot-am bney-aharon nadav ve- avihi
and to sons-Aaron their divisions sons-Aaron Nadab and Abihu
el'azar ve- itamar: va- yamot nadav ve- avihi
Eleazar and Ithamar: but died(3ms) Nadab and Abihu
lifney avi-hem u- banim lo hayu la-hem
before their father and sons not were to them
va- yekahanu el'azar ve- itamar
and served(3MP) Eleazar and Ithamar

'Now these are the divisions of the sons of Aaron. The sons of Aaron: Nadab and Abihu, Eleazar and Ithamar. But Nadab and Abihu died before their father, and had no children: therefore Eleazar and Ithamar executed the priest's office.' (1 Chronicles 24:1-2)

The passage in (ii) is an explanation for why there are only two divisions of high priests listed, not four, in spite of the fact that Aaron, the forefather of all high priests, had had four sons (about two centuries prior to David's time). The clause in (i), which is the last clause in (ii), is therefore probably not conjoined to the preceding one, but rather contains it as an adverbial clause, i.e. a topic. Because *Nadab and Abihu had died leaving no children while Aaron was still in office, only Eleazar and Ithamar succeeded him as high priests*. If this is so, then (i) does after all fall under the Moreshet Generalization.

- (I) the verb is preceded by a topic
 (II) the verb is followed by an object clitic

One of the examples provided by Moreshet for (I) is (10), where a preverbal object triggers full agreement between the verb and the conjoined post-verbal subject:

- (10) ve- ha-noteret mimena-a yoxlu aharon u- ban-av
 and the remainder of it will eat(3MP) Aaron and his sons
 'And the remainder thereof shall Aaron and his sons eat.' (Leviticus 6:16)

Examples for (II), where a verb with an object clitic exhibits full agreement to the conjoined post-verbal subject, are shown in (11) and in (12a). (12a) contrasts minimally with (12b), found only a few verses earlier:

- (11) ve- tafsu -b -o av-iv ve- im-o
 then held(3P) to him his father and his mother
 'Then shall his father and his mother lay hold on him.'⁹
 (Deuteronomy 21:19)

- (12) a. va- yerdu -el-av melex yisrael v- ihoSafat
 then descended(3MP) to him king Israel and Jehoshaphat
 u- melex edom
 and king Edom
 'So the king of Israel and Jehoshaphat and the king of Edom went down to him.'¹⁰ (2 Kings 3:12)
- b. va- yelex melex yisrael u- melex yehuda u- melex edom
 then went(3Ms) king Israel and king Judah and king Edom
 va- yasobu derex Siv'at yamim
 and circled(3MP) road seven days
 'So the king of Israel went, and the king of Judah, and the king of Edom; and they fetched a compass of seven day's journey.' (2 Kings 3:9)

At first sight, the two clauses of the Moreshet Generalization do not seem to constitute a natural class of syntactic environments. Yet it is possible to subsume condition (II) under condition (I). According to the analysis proposed for object clitics in Semitic by Doron (1996) and Doron & Heycock (1998), object clitics may be analysed as bound by nominative topics, which are possibly empty if previously mentioned in the discourse, as is clearly the case in (12a). In (11), the sentence actually contains an overt topic, and the object clitic is an e-type pronoun whose antecedent is contained within this topic. The full passage in Deuteronomy is: 'If a man have a stubborn and rebellious son, which will not obey the voice of his father or the voice of his mother, and that, when they

⁹ *him* is interpreted as a stubborn and rebellious son, mentioned earlier.

¹⁰ *him* is interpreted as the prophet Elisha, mentioned earlier.

have chastened him, will not hearken unto them. Then shall his father and his mother lay hold on him, and bring him out unto the elders of his city, and unto the gate of his place.' Therefore, condition (II) does not characterize any examples which do not already fall under (I). The two conditions can accordingly be collapsed to a single condition, namely condition (I):

The Moreshet Generalization (Revised)

The verb in Biblical Hebrew agrees with the leftmost conjunct of a postverbal conjoined subject, unless the verb is preceded by a topic.

In the next section, the Moreshet Generalization is shown to follow from general principles, and its relevance to Modern Hebrew is explained. But first we examine the agreement patterns of Biblical Hebrew in the context of VSO languages in general.

4. Subject-Verb agreement in VSO languages

Disregarding variations of terminology found in different studies, and adopting the present terminology whereby I is that functional head which checks the subject's ϕ -features, then the standard view advocated in the literature is that the subject in VSO languages is positioned lower than I, either in SpecV or in SpecF, where F is a functional head lower than I. This has been argued for in the Celtic languages by Chung & McCloskey (1987), McCloskey (1991, 1996), Koopman & Sportiche (1991), Duffield (1991), Guilfoyle (1993), Bobaljik & Carnie (1996). For Arabic, this view is advocated by Mohammad (1990), Benmamoun (1992) and Fassi (1993).

Yet, the standard analysis of VSO sentences has recently been challenged by Aoun, Benmamoun & Sportiche (1994) (henceforth ABS), on account of its difficulty to explain left-conjunct agreement. Agreement to a postverbal subject in VSO languages is to the first conjunct only. The example in (13a) is from Standard Arabic,¹¹ and the one in (13b) from Modern Irish:

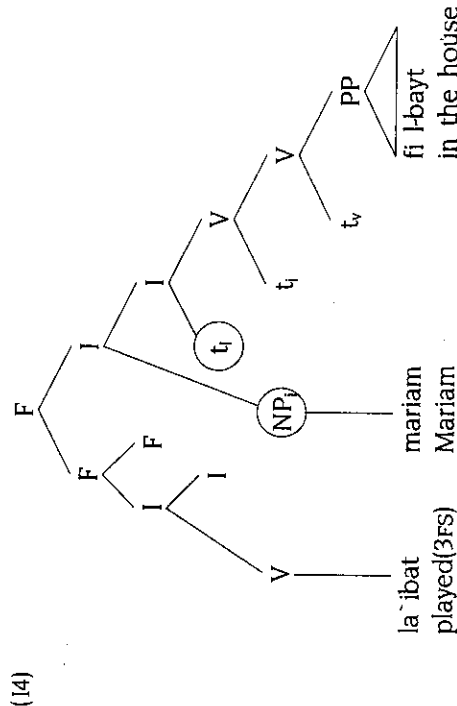
- (13) a. la'ibat mariam wa zayd fi l- bayt
 played(3fs) Mariam and Zayd in the house
 'Mariam and Zayd played in the house.'
 b. dá mbeinn -se agus tusa ann
 if be(CONDIT-1SG) CONTR and you there
 'if you and I were there' (McCloskey and Hale 1984, ex. 31a)

On the other hand, agreement to a conjoined subject in SV clauses in those VSO languages which allow them, such as Standard Arabic and Classical Arabic (see Wright 1862:II§152a) is strictly to the conjoined subject rather than to one of its conjuncts.

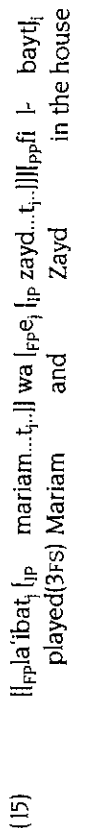
¹¹ For examples from Classical Arabic, see Wright (1862:II§150).

To account for (13), McCloskey (1986) and Benmamoun (1992) proposed that Subject-Verb agreement in a VS configuration is based on government. They redefine government so that it hold between the verb and the subject's leftmost conjunct, thereby accounting for the left-conjunct agreement in (13). ABS are understandably critical of such an approach. It is obviously preferable to uniformly explain the characteristics of agreement on the basis of a single syntactic relation, irrespective of whether the subject precedes or follows the verb, rather than to assume that Subject-Verb agreement is based on a Spec-Head relation when the subject precedes the verb, and on government when the subject follows the verb.

The alternative proposed by ABS is an analysis of VSO along the lines of the standard analysis of V2: the subject raises to Spec, while the verb raises to a functional head higher than I (presumably C, yet ABS do not commit themselves, and refer to it as F). Agreement of the subject to the verb is checked in a Spec-Head configuration, prior to the raising of I to F. An example of their analysis is given in (14):



To account for the clash between the singular marking of the verb in (13) and the plurality of the subject, ABS deny that (13) involves a conjoined subject. Rather, what looks like the conjunction of two subjects is actually the conjunction of two clauses which are identical in all their constituents other than the subject. When the clauses are conjoined, the second verb undergoes gapping, whereas the other common constituents all undergo Right Node Raising, as shown in their diagram (56), adapted below as (15):



According to (15), the left conjunct *mariam* is the subject of the singular verb *la'ibat* in the leftmost clause, whereas *zayd* is the subject of a null verb in a different clause. But, if this is so, then the Right-node-raised phrase *play in the house* in (16) below should be singular, since it is extracted ATB from two singular clauses. Yet the participle is obligatorily marked as dual:

- (16) ka.nat mariam wa zayd ya'l'aba.ni fi l- bayt
 was(3FS) Mariam and Zayd play(3MD) in the house
 'Mariam and Zayd used to play in the house.'

The same problem arises if this analysis is applied to Irish. The verbal noun *sit* in (17) must be marked plural:

- (17) bhínn féin agus an sandúine 'nár sui
 was(1SG) EMPH and the old fellow 1P sit(VN)
 'The old fellow and I used to be sitting.' (McCloskey 1986, ex. 37)

ABS's proposal therefore does not solve the problem of left-conjunct agreement in VSO languages. We conclude that there is no reason to maintain their V2-type analysis of VSO, now that the motivation for such an analysis has been shown invalid. Let us then revert to the standard account for VSO, where V raises no further than I, and the subject does not raise to Spec. Within the Minimalist framework, a new solution suggests itself to the problem of left-conjunct agreement. The solution is based on the different properties of covert and overt feature-checking. Since the subject in VSO languages is lower at Spellout than SpecI, there is no overt checking of Subject-Verb agreement in a Spec-Head configuration. Rather, the checking of Subject-Verb agreement is postponed to LF. At LF, categories are not moved to check features in a Spec-Head configuration. Instead, features of one head are attracted by another head. In (18), the agreement features of I are checked by attracting the ϕ -features of the leftmost D⁰ in the subject, which is, the D-head closest to I.¹²

¹² An left-right asymmetry obviously needs to be introduced, either into the structure of conjoined phrases, or into the definition of *closeness*. Under the definition of Chomsky (1995: 356), the two D⁰ in (18) are equidistant from I, yet under the more flexible definition of Collins (1997), any dimension that allows a comparison between them might be used to determine that one D⁰ is closer to I than the other.

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Bare NPs

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1. Introduction

Since Abney (1987) nominal projections have been analyzed as DPs. In particular for Hebrew, it has been assumed that D is an extended projection of N, and that Hebrew noun phrases exhibit an (overt) head movement of N to D (Ritter 1988, 1991, Siloni 1994). This paper examines a particular type of argument-taking nominals, and argues that the properties of these nominals are better accounted for under the hypothesis that they do not project to D. Specifically, the paper is concerned with nominals of the type in (1) and (2) from Modern Hebrew:

- (1) a. ha-bad_i kal le-CVIA e_i
 DEF-fabric easy for-dyeing
 'The fabric is easy to dye.'
- b. heve-nu et ha-bad_i le-CVIA e_i
 brought-1P ACC DEF-fabric for-dyeing
 'We brought the fabric to dye.'
- c. yeS l-anu bad_i le-CVIA e_i
 COP for-1P fabric for-dyeing
 'We have fabric to dye.'
- (2) ha-rofe mamlic al AXILA Sel ha-dganim bi-kviut
 DEF-doctor recommends on eating of DEF-cereal in-regularity
 'The doctor recommends eating the cereal regularly.'