Weak Pronouns as LF Clitics: Clustering and Adjacency Effects in the Pronominal Systems of German and Hebrew

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WEAK PRONOUNS AS LF CLITICS:
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EFFECTS IN THE PRONOMINAL
SYSTEMS OF GERMAN AND HEBREW

Christopher Laenzlinger & Ur Shlonsky

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pronouns are also subject to an adjacency constraint, as a consequence of the
Head Movement Constraint, operative on LF Incorporation.

1. Introduction

Cardinaletti & Starke (1996) propose a classification of pronominal
elements into strong, weak and clitic forms. Weak pronouns emerge
from their classification as hybrid forms: they share features with both
strong and clitic pronouns. The main theme of the present paper is to
demonstrate that this three-way classification can, and on empirical
grounds should be, reduced to two distinct oppositions. A comparative
study of the pronominal systems of German and Hebrew leads us to
believe that weak pronouns are, in fact, LF clitics, that is, LF-incorporated
X0 elements. In brief, we propose the following classification of pronouns.

(1)  

<table>
<thead>
<tr>
<th></th>
<th>LF</th>
<th>S-structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>X0</td>
<td>weak pronouns</td>
<td>clitics</td>
</tr>
<tr>
<td>XP</td>
<td>strong pronouns</td>
<td>weak/strong pronouns</td>
</tr>
</tbody>
</table>

We follow Cardinaletti & Starke’s claim that strong pronouns are
maximal projections at both S-structure and LF and insofar as they
are moved (for e.g. Case-checking) they move as XPs. Weak pronouns

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are argued by Cardinaletti & Starke to differ from full DPs (including strong pronouns) in that they raise to their Case-checking position (e.g., Spec/AgrO for objects) before S-structure. We shall try to demonstrate that this generalization only partially captures the behaviour of weak pronouns.¹

Clitics are analyzed as heads of DPs which are XP-raised to a Case checking position. From the Case checking position, the clitic head is extracted and incorporated into a local, i.e., c-commanding host. This approach to cliticization, due, by and large, to the original proposals of Sportiche (1990), is assumed in our work. We spell out these points more explicitly in 3.1 below.

Our contribution to the study of pronouns lies in the analysis of weak non-clitic forms. The discussion is mainly concerned with object pronouns. Subject pronouns are briefly discussed in the context of pronominal clustering (6.1).

Pronouns in Germanic have benefitted from many detailed studies in recent years (see among others Cardinaletti 1992, Cardinaletti & Starke 1995, Holmberg 1986, 1991, Haegeman 1993a, 1993b). Our paper is limited in scope and coverage. Within Germanic, we limit ourselves to (Standard) German weak pronouns and in no sense attempt an intra-Germanic comparative study.² Our immediate concern is to compare the syntactic behavior of German weak pronouns with that of Hebrew ones and attempt to sketch out a theory of weak pronouns.

In a nutshell, we argue that the observed behavior of weak pronouns in both German and Hebrew is best analyzed as in (2).

(2) Weak pronouns undergo XP movement in the overt syntax up to a position from which they can incorporate to a licit host in LF.

We hope to show that (2), in conjunction with some ancillary assumptions, explains the following observations.

- The structural position occupied by weak pronouns is not fixed in a given grammar but depends crucially on the position of the pronoun’s LF host. When the latter is displaced, so is the former.
- Weak pronouns typically must be adjacent to their host.³
- Weak pronouns form rigid clusters.

¹ See, in particular, the discussion at the end of 3.2.
² Laenzlinger (1996) carries out a broader comparative study along the lines discussed in the present paper.
³ In 7.2, we explain why this generalization is subject to exceptions in German, where some adverbs can intervene between a weak pronoun and its host. Swedish weak pronouns, which can also be separated from their host (by a subject and, marginally, by an adverb; see Holmberg 1991) will not be discussed in this paper.
2. Properties of weak pronouns in German and Hebrew

Hebrew and German possess personal pronouns which are phonetically ambiguous between strong and weak forms (German es is an exception; it is always weak). They can be disambiguated using some of the diagnostics proposed by Kayne (1975), developed in Cardinaletti & Starke’s work and tabulated in (3).

Weak pronouns differ from strong ones in being unmodifiable and unfocalizable. In addition, they can have inanimate referents. Strong pronouns, on the other hand, are referentially restricted to animate entities. Weak pronouns, like strong ones, are distinguished from clitics in that they are free-standing, independent or unattached words at S-structure.

Let us first employ the diagnostic of contrastive stress. Observe that when pronouns are stressed, they can be separated from the verb e.g. by an adverb. When the pronouns do not receive any particular stress, they must be adjacent to the verb. (4) and (5) are illustrations from Hebrew and German, respectively. Note, moreover, that since stressed pronouns are strong, they must have animate referents. Thus, oto in (4a) and sie in (5a) can refer e.g. to a person but not to a thing, as indicated in the English translations.

(4) a. Dan ra?a kanir?e ?OTO.  
Dan saw-3MS probably ACC-3MS  
‘Dan probably saw him/*it.’

Dan saw-3MS probably ACC-3MS

c. Dan ra?a ?oto kanir?e
Dan saw-3MS ACC-3MS probably

(5) a. Hans sieht wahrscheinlich SIE.  
Hans sees probably ACC-3FS/MPL  
‘Hans probably sees her/them/*it.’

b. *Hans sieht wahrscheinlich sie.  
Hans sees probably ACC-3FS/MPL

c. Hans sieht sie wahrscheinlich
Hans sees ACC-3FS/MPL probably
We have seen that a pronoun coordinated with another DP is perforce a strong form. Thus, the DP ʔoto ve-ʔet Ruti, (‘him and Ruti’), in (6) is not weak and hence can be separated from the verb by an adverb.

(6) Dan raʔa kanirʔe ʔoto ve-ʔet Ruti.

Dan saw-3MS probably ACC-3MS and ACC-Ruti
‘Dan probably saw him and Ruti.’

The same observation holds for German, as shown in (7).

(7) Hans sieht wahrscheinlich sie und Georg.

Hans sees probably ACC-3FS/MPL and George
‘Hans probably sees her/them and Georg.’

The addition of a modifier, e.g. Hebrew rak, German nur (‘only’), to a pronoun renders it strong. It may thus be separated from the verb by an adverb and loses the capacity to refer to inanimate entities.

(8) a. Dan raʔa rak ʔoto.

Dan saw-3MS only ACC-3MS
‘Dan saw only him/*it.’

b. Hans sieht nur sie.

Hans sees only ACC-3FS/MPL
‘Hans sees only them/her/*it.’

Having established that German and Hebrew both possess weak and strong pronouns, we turn to some other properties of weak pronouns. The first thing to notice is that weak pronouns cluster and that the clusters obey a fixed ordering constraint. (9a) and (10a) illustrate the fact that this order is Dative ^ Accusative in Hebrew and Accusative ^ Dative in High German. The control examples in (9b) and (10b) show that the reverse order of pronouns yields ungrammaticality. Furthermore, an adverbial adjunct cannot appear between the two weak pronouns (an indication that they indeed form a cluster).

(9) a. Dan šalax la-hem (*kanirʔe) ʔoto.

Dan sent-3MS DAT-3PL (probably) ACC-3MS
‘Dan (probably) sent it/him to them.’

b. *Dan šalax ʔoto la-hem.

Dan sent-3MS ACC-3MS DAT-3PL

(10) a. Hans sendete sie (*wahrscheinlich) ihnen.

Hans sent ACC-3FS/MPL (probably) DAT-3PL
‘Hans (probably) sent it/her/them to them.’

b. *Hans sendete ihnen sie.

Hans sent DAT-3PL ACC-3FS/MPL

We have seen that a pronoun coordinated with another DP is perforce a strong form. Thus, the DP la-hem vo-la-ruti in (11a) is not a weak form.
and does not cluster with 'oto, the accusative pronoun. Since a cluster is not formed, 'oto must appear closer to the verb than it does when clustering with a true dative weak pronoun. Contrast the unacceptable (11a) with the grammatical (11b).

   Dan sent DAT-3PL and-to-Ruti ACC-3MS
   ‘Dan sent it to them and Ruti.’

   b. Dan šalax 'oto la-hem və-lə-Ruti.
   Dan sent ACC-3MS DAT-3PL and-to-Ruti

   The same observation can be made with respect to German. The pronoun sie in (12a) cannot be a weak form since it appears as a conjunct in a coordinate DP and therefore ihnen, the other pronoun, cannot cluster with it.

   Hans sent ACC-3FS/MPL and Georg DAT-3PL
   ‘Hans sent her/them and Georg to them.’

   b. Hans sendete ihnen sie und Georg.
   Hans sent DAT-3PL ACC-3FS/MPL and Georg

   The data in (11) and (12) further show that weak pronouns must be adjacent to a verb. When they cluster, then it is sufficient for the cluster to be adjacent to the verb, regardless of the order internal to it. In fact, Hebrew and German clusters give rise to opposite orders, as we have seen. We return to this matter in 6.

3. The derivational trajectory of weak pronouns

Notice now, that the S-structure position of weak pronouns is variable, both in Hebrew and in German. In German, an object weak pronoun may either precede the subject and occupy a position adjacent to Comp, or it may immediately follow the subject. We show these two options in root clauses (where the inflected verb is in Comp), (13), and embedded ones, where the lexical complementizer is realized, (14).

(13) a. Wahrscheinlich sieht es Hans.
   Wahrscheinlich sees ACC-3NEUT-S Hans
   ‘Hans probably sees it.’

   b. Wahrscheinlich sieht Hans es heute.4
   Wahrscheinlich sees Hans ACC-3NEUT-S heute.
   ‘Hans probably sees it today.’

4 The presence of the adverb following the weak pronoun in this and similar examples overcomes the marginality which German speakers find in sentences which terminate in a monosyllabic weak pronoun.
Weak pronouns as LF clitics

(14) a. . . daß es Hans wahrscheinlich sieht.  
   . . that ACC-3NEUT-S Hans probably sees  
   ‘. . . that Hans probably sees it.’

b. . . daß Hans es wahrscheinlich sieht.  
   . . that Hans ACC-3NEUT-S probably sees  

In Hebrew, an object weak pronoun might be right-adjacent to the participle in complex tense constructions and to the tensed verb in simple tense structures. In (15a), ṭoto is right-adjacent to the participle šoleʔax and not to the tensed auxiliary. In (15b) it follows the verb.

(15) a. Dan haya šoleʔax ṭoto.  
   Dan was-3MS send-MS ACC-3MS  
   ‘Dan used to send it.’

b. Dan šalax ṭoto.  
   Dan sent-3MS ACC-3MS  
   ‘Dan send it.’

It can be demonstrated that Hebrew main verbs and auxiliaries raise to AgrS\textsuperscript{0} in the overt syntax while participles do not. (The diagnostics which lead to this conclusion are the same as those employed for French in e.g. Pollock (1989). See Shlonsky (1997).) It thus follows that the pronoun ṭoto in (15b) is located in a higher position than that in (15a).

We believe that the variability in the position of weak pronouns in German and Hebrew is a consequence of (16), which will be clarified and somewhat modified later on.

(16) Weak pronouns must be immediately c-commanded by a legitimate LF host.

(16) is a descriptive generalization. To explain why it holds, we propose (17).

(17) Weak pronouns are LF clitics.

At this point, we need to spell out more precisely our assumptions regarding clitics and their manner of attachment and derivation. We turn to this matter in the next section.

3.1. Clitics at S-Structure

Our analysis of weak pronouns is modelled on that of Romance (object) clitics. We assume, following the original proposal of Sportiche (1990), that clitic movement should be decomposed into two distinct chains. An XP chain formed by raising the pronominal DP to its Case position (e.g. Spec/Agr\textsuperscript{0} for direct objects) and an X\textsuperscript{0} chain formed by raising the D\textsuperscript{0} head of the pronoun and incorporating it to I\textsuperscript{0}. To simplify the treatment

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of cliticization in Romance complex tense constructions, we assume that head movement of the clitic pronoun targets Aux\(_0\) which raises further to AgrS\(^0\), while directly targeting the verb in AgrS\(^0\) in simplex tense constructions. The analysis we have in mind for cliticization in complex tense constructions is diagrammed in (18).

The existence of a preliminary stage of XP movement is signalled by the fact that cliticization triggers past participle agreement, as discussed in Kayne (1989) and illustrated by (19).

(19) Je les ai conduites.
    \(I \text{ them have driven-FPL}\)
    ‘I drove them.’

Our fundamental claim is that weak pronouns follow the same derivational trajectory as Romance clitics with the difference that the XP chain is formed at S-structure and the X\(^0\) chain is formed in LF. In order for an X\(^0\) chain to be well-formed, the extraction site and the incorporation site of the head must be in a local configuration such that the head of the chain is the closest c-commanding head or potential antecedent of the chain’s tail. Put simply, the head chain must respect a condition of locality on X\(^0\) chains, i.e. the \textit{Head Movement Constraint} (HMC, Travis 1984 and Baker 1988) or \textit{Relativized Minimality} (Rizzi 1990). Head movement, unlike e.g. wh-movement, is typically local. However, there are cases of head movement giving rise to an apparent unbounded or long-distance dependency. Such cases can come about either if heads are allowed to adjoin to other heads and excorporate or if they can simply skip intervening heads (see e.g. Baker & Hale 1990, Ferguson & Groat 1994,
Roberts 1992, Rivero 1994). We shall assume that these options are highly restricted. In the unmarked case, a head chain is licit if the extraction site of the head is immediately c-commanded by its host.

3.2. Clitics in LF

We argue that German/Hebrew weak pronouns pattern derivationally like Romance clitics in that they involve the formation of two chains, an XP chain at S-structure and a head-chain in LF. In this section we address two related questions. What is the driving force or reason for weak pronoun LF cliticization and how can one characterize more precisely the difference between German/Hebrew LF cliticization and Romance syntactic cliticization?

Like clitic movement, the first step in weak pronoun displacement consists of XP movement to the Case-checking position, e.g. Spec/AgrO for objects. We adopt Chomsky’s (1991) view that syntactic XP movement is triggered by the presence of strong features on the moved element.

There is some rather clear evidence that weak pronouns in German must be higher than Spec/AgrO, that is, that these pronouns must continue to move as XPs higher than their Case checking position. The relevant data are drawn from a construction known as Remnant VP topicalization (RVT, see den Besten & Webelhuth 1990, Haider 1990) and illustrated in (20).

(20) Das Buch nicht gelesen hat Hans gestern.
    *the book not read has Hans yesterday.*
    ‘Hans did not read the book yesterday.’

In (20), a constituent comprising a scrambled DP, negation and the verb is raised to topic position. Since scrambled definite arguments in German must be at least as high as Spec/AgrO, it seems reasonable to assume that the raised category is at least an AgrOP (and perhaps a larger clausal chunk, see Haegeman 1995).

While bare object weak pronouns cannot be topicalized in German, it is not immediately clear why weak pronouns cannot be carried along by RVT. Contrast (20) with the ungrammatical (21).

(21) *Es nicht gelesen hat Hans gestern.
    *it-ACC not read has Hans yesterday.*
    ‘Hans did not read it yesterday.’

Our approach provides a straightforward explanation for this contrast. If weak pronouns must be positioned in a cliticizable position at the input to LF, they are naturally illicit in (21), there being no host into which they can incorporate. If weak pronouns need only move as XPs to check Case, then one expects them to be licensed in Spec/AgrO and hence to be
moveable along with V in RVT. Such an approach to weak pronouns requires additional assumptions to rule out (21). Our analysis does not.\(^5\)

To account for the head-movement step in clitic movement, we follow Laenzlinger (1996) and Rizzi (1996) and assume that clitics are D heads containing strong V features. These must be checked against a verbal head. The difference between syntactic and LF cliticization can be characterized in terms of the strength of the V features. Syntactic clitic heads have strong V features while LF clitics have weak ones. Weak pronouns thus procrastinate head-movement to LF. Romance clitics effect both XP and X\(^0\) movement prior to Spellout, while weak pronouns effect only XP movement before Spellout and postpone X\(^0\) movement to LF.

4. German LF Clitics

There is a systematic optionality in the positioning of weak pronouns in German. In particular, object pronouns can either precede or follow the subject. Consider first the case where the pronoun appears to the left of the subject in both root (V2) and embedded clauses, as in (13a) and (14a), repeated below.

(13) a. Wahrscheinlich sieht es Hans.
   probably sees ACC-3NEUT-S Hans
   ‘Hans probably sees it.’

(14) a. . . . daß es Hans wahrscheinlich sieht.
   . . . that ACC-3NEUT-S Hans probably sees
   ‘. . . that Hans probably sees it.’

In (13a) the pronoun is c-commanded by the raised verb in C\(^0\). This verbal complex naturally includes V features.

In (14a), C\(^0\) is filled by \(dál\). Many Germanic dialects are endowed with agreeing complementizers, i.e. variants of \(dál\) manifesting agreement with the clausal subject (see Bayer 1984, Haegeman 1992, Hoekstra & Maracz 1989, Shlonsky 1994, Zwart 1993a, 1993c). Suppose that German \(dál\) is also an agreeing complementizer, except that its agreement features are not overtly manifested. Thus, \(dál\) has V-related (Agr) features against which the weak pronoun can check features. The parallel behaviour of weak object pronouns in root and embedded clauses is therefore handled, in our system, by assuming that in both contexts, the LF-host for the pronoun is a V-related Comp.

Since the pronoun has raised -qua XP- to a position which is immediately c-commanded by its LF-host, namely Comp, head movement or LF-cliticization can take place and locality is respected in both (13a) and (14a).

\(^5\) Reconstruction of the VP or AgrOP constituent at LF, a possibility mentioned by a reviewer, would still leave the weak pronoun too low for it to cliticize to its host, given the locality of head movement. See 4.
(14a). The schema in (22) illustrates the position of the weak pronoun in relation to Comp, incorporating the assumption that the pronominal DP is adjoined to AgrSP at Spellout.

(22)

The (b) examples in (13) and (14), repeated below, show the other option of object pronoun placement in German, i.e. to the right of the clausal subject.

(13) b. Wahrscheinlich sieht Hans es heute.
   probably sees Hans ACC-3NEUT-S today
   ‘Hans probably sees it today.’

(14) b. . . daß Hans es wahrscheinlich sieht.
   . . that Hans ACC-3NEUT-S probably sees
   ‘. . Hans probably sees it.’

We critically assume that definite subjects in German are in Spec/AgrS. Consequently, the fact that the object weak pronouns in (13b) and (14b) are lower than the subject necessarily implies that they occupy lower positions than the pronouns in (13a) and (14a).

The problem that needs to be contended with is that the pronoun is separated from its LF host by the clausal subject. This problem, however, only arises if pronominal incorporation to C⁰ is effected in the syntactic or phonological component. If that were the case, we might expect that the pronoun be linearly adjacent to its host for morpho-phonological reasons.

In our view, weak pronouns are cliticized or incorporated only in LF. If adjacency between host and clitic is a necessary correlate of cliticization which feeds morphology and phonology, then the intervention of a subject between a clitic and its host is irrelevant for LF cliticization. Similar remarks hold for adverbial intervention, discussed in 7 below.

Let us assume that the pronominal DP is adjoined to TP at S-structure in (13b) and (14b). thus, there are two S-structure positions for German weak pronouns. They may be adjoined either to AgrSP or to TP.⁶

⁶ The idea that Germanic weak pronouns are adjoined maximal projections is developed in
Let us first discuss the case of a TP-adjoined weak pronoun in a V2 context, as in (13b). Following the standard view, we take V2 sentences to involve the overt raising of AgrS\(^0\) to Comp. The relevant aspect of the derivation of (13b) is diagrammed in (23), where AgrS\(^0\) is taken to be on the right, following the traditional view.\(^7\)

![Diagram (23)](image)

Although the closest potential incorporation host for a pronoun adjoined to TP is the V-related AgrS\(^0\), we would like to argue that the pronoun does not cliticize to this head in LF, but rather to C\(^0\), exactly as in the cases where the pronoun is adjoined to AgrSP at S-structure (see the discussion of (13a) and (14a) above). In V2 contexts, AgrS\(^0\) raises to C\(^0\) so that, strictly speaking, AgrS\(^0\) is no longer in its canonical position at this level. One could then rule out incorporation of the pronoun to AgrS\(^0\) on grounds that traces of heads cannot serve as incorporation hosts (cf. Kayne 1989).

We would like, however, to pursue a more radical line and claim that the trace of AgrS\(^0\) movement to C\(^0\) is invisible (perhaps deleted or unrepresented) in the LF component. The regularity of I\(\rightarrow\)C movement in Germanic (whether at S-structure or in LF, in both root and embedded

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\(^7\) Nothing crucial rests on this assumption, however. Note that we do not need to assume, with Cardinaletti (1992), that AgrSP is head-initial, because we do not take weak pronouns to be syntactic clitics.

Halpern & Fontana (1993). To account for the fact that object pronouns can either precede or follow the subject, these authors propose that they can be adjoined to two distinct positions, IP and I', which naturally translate into AgrsP and TP under the Split-Infl hypothesis. We differ from Halpern & Fontana in arguing that weak pronouns are heads in LF, incorporated, as we show below, to a unique host.

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clauses) can be thought of as a procedure for extending the IP projection into the CP layer (cf. Platzack 1986, for the idea that I→C movement in Germanic involves the conflation of the IP and the CP projections.) Consequently, the trace of AgrS⁰ can be considered to be redundant in LF since its content is effectively included in the verbal or inflectional complex in Comp. With the head of AgrSP invisible in LF, the only legitimate host for weak pronoun incorporation is C⁰. We shall argue below that Hebrew lacks regular I→C movement and, as a consequence, does not give rise to AgrS⁰ transparency effects.

Let us now consider the case of a pronoun to the right of the subject in embedded clauses, i.e. in (14b). The analysis proposed for (13b) in the preceding paragraphs, can be extended to this case, if Zwart’s (1993b, 1993c) argument to the effect that AgrS⁰ raises to C⁰ in the overt syntax in Dutch can be generalized to German. Then, the derivation diagrammed in (23) holds equally well of embedded as of root clauses.

There is a further complication, though, depending on whether AgrS⁰ movement to C⁰ in embedded clauses takes place in the overt syntax or at LF. In 7.2 below, we explore the possibility that a judgement split among German speakers concerning adjacency effects on pronoun incorporation can be attributed to a difference in the level of application of AgrS⁰ movement to Comp in embedded clauses.

Let us suppose, then, that there exists an option – at least in certain varieties of German – to postpone AgrS⁰ raising in embedded clauses to the LF component. If this option is taken, then the pronominal DP adjoined to TP at S-structure is adjacent to AgrS⁰ in LF. AgrS⁰ then hosts the pronominal head and the two raise to the Comp system as a single complex head.

We have argued that the optionality of weak pronoun placement is not maintained in LF. Although the pronoun may either appear adjoined to TP or to AgrSP at S-structure, it invariably ends up as a clitic in the Comp domain in LF.

5. Hebrew LF Clitics

In this section, we discuss the Hebrew examples in (15), repeated below.

(15) a. Dan haya šole’ax ʔoto.
   *Dan was-3MS send-MS ACC-3MS
   ‘Dan used to send it.’

b. Dan šalax ʔoto.
   *Dan sent-3MS ACC-3MS
   ‘Dan sent it.’

Notice, first, that when a participle appears in the clause, the pronoun must be right-adjacent to it and cannot appear any higher. Compare (15a) and (24).
Dan was-3MS ACC-3MS send-MS

A major difference thus emerges between German and Hebrew. German weak pronouns are not LF-cliticizable to the participle whereas in Hebrew, they must target the participle. Let us assume, with Friedemann & Siloni (1993) and Siloni (1994) that the participle in Hebrew is raised to an Agr⁰, namely AgrPart⁰. Assume further that AgrPartP is hierarchically higher than AgrOP. The pronoun ʔoto in (15a) raises to Spec/AgrO for Case checking. In LF, its closest potential host is the participle. The derivation we have in mind for (15a) is illustrated in (25). We take the pronoun to raise as an XP to Spec/AgrO, where it checks its Case features. From this position it can cliticize in LF directly to AgrPart⁰ (containing the raised participle).

Thus, we see that the pronoun in this example raises to a lower position than its German counterpart. This is so because it has an LF host lower in the clause. In German, the participle does not raise beyond AgrOP. An object pronoun cannot be cliticized onto the participle, since it is not c-commanded by it and must raise higher to seek a V-related host.⁸

In a Hebrew simplex clause, such as (15b), where no participle appears

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⁸ We thank an anonymous Studia Linguistica reviewer for the suggestion to cast the difference between German and Hebrew in these terms.
in the structure, there is perforce no AgrPartP. The pronoun here must therefore raise higher and adjoin to TP since AgrS⁰, which hosts the verb, is the closest potential host in LF. Thus, the derivation of (15b) is at least in part equivalent to that of German pronouns to the right of the clausal subject. This derivation is illustrated in (26) where the verb is in AgrS⁰ and not in the Comp domain and AgrS is head-initial.

Hebrew verbs may raise to Comp in a configuration reminiscent of, but not identical to Germanic V2. In particular, I to C is optional; it is possible in embedded clauses with an overt complementizer and a strict V2 constraint is not obeyed. This is illustrated by the examples in (27), both of which are not grammatically well-formed in a V2 language like German (see Shlonsky 1997 for further discussion).

\[(26)\]

\[
\begin{array}{c}
\text{AgrSP} \\
/ & / \\
\text{subject} & \text{AgrS}^0 & \text{TP} \\
\downarrow & \downarrow & \downarrow \\
\text{DP} & \text{TP} & \text{D°} \\
\text{weak pronoun} & \end{array}
\]

(27) a. [mipney še ba-pšita ha-leilit ʿacra
because that in-the-raid the nightly detain(PAST)-3FS
ha-mištara peš'īlim rabim], hæxlatnu lə-ʔargen
the-police activists many decide(PAST)-1PL to-organize
hafgana.
demonstration
‘Because the police arrested many activists in the nightly raid, we decided to organize a demonstration.’

b. la-yeled ha-ze kinor lo hayiti kone.
for the-boy the-this violin NEG be(PAST)-1S buy-MS
‘I wouldn’t buy a violin for this boy.’
lit. ‘For this boy, a violin, I wouldn’t buy.’

\[^9\] The pronouns’ V-features cannot be legitimated by adjunction to the trace of T°. Either because traces are simply illicit hosts for incorporation (Baker 1988), or because the trace of T° lacks V-features.
When I moves to C, there is no option for the pronoun, it must precede the subject. Compare the two examples in (28).

    yesterday sent.3MS ACC-3MS Dan
    ‘Yesterday, Dan sent it.’

b. *?etmol šalax Dan ?oto.
    yesterday sent.3MS Dan ACC-3MS

In (28a), the pronoun is adjoined to AgrSP and cliticizes to the agreeing verb in Comp in LF.

Why is the option of leaving the pronoun adjoined to TP in I→C contexts not available in Hebrew, while it is available in German? That is, what explains the contrast between the ungrammatical (28b) and the acceptable (13b)?

To account for the German case, we assumed that the trace of AgrS⁰ is invisible in LF and the only licit host for LF-cliticization is therefore the verb or Agr in Comp. Evidently, things work differently in Hebrew. German and perhaps all V2 languages are characterized by a regular process associating AgrS⁰ with Comp. There is some mechanism extending the verbal projection to Comp in many Germanic languages.

Hebrew has no V2 effects and no regular process of I→C movement (inversion is optional or stylistic, to quote Borer 1984). AgrS⁰ is thus a potential host for pronouns in Hebrew. When AgrS⁰ is raised to Comp, however, its trace is not deleted and the pronoun must be located higher than the trace to effectively incorporate the verbal complex in Comp. If the weak pronoun were adjoined to TP, then the trace of AgrS⁰ would constitute a barrier and block LF-incorporation to C⁰. The only option in a language like Hebrew is, therefore, to adjoin the pronoun as an XP to AgrSP.

6. Clusters

In a manner very much reminiscent of Romance clitics, weak pronouns in both German and Hebrew form cluster-like complexes. No lexical material can intervene between two weak pronouns, as shown in (29). Yet, the order of the pronouns in the cluster is reversed in the two languages. It is [ACC^DAT] in the variant of High German described by Lenerz (1977) and [DAT^ACC] in Hebrew, compare (29a) with (29b).
(29) a. Hans sendete sie (*wahrscheinlich) ihnen.  
\hspace{1cm} \textit{Hans sent ACC-3FS/MPL probably DAT-3PL}  
\hspace{1cm} ‘Hans sent it/her/them probably to them.’  
\hspace{1cm} \textit{Dan sent-3MS DAT-3PL probably ACC-3MS}  
\hspace{1cm} ‘Dan sent it/him probably to them.’

Recall that at S-structure, the weak pronouns are XP categories. The clusters they form are not, as in Romance, the product of X₀ incorporation and the formation of a complex head (see Laenzlinger 1993a). Rather, German/Hebrew clusters are formed by left-adjoining one pronominal DP to another and then raising them as a unit. The difference in the ordering of object pronouns within clusters is reducible to and explicable by an independent difference between the two languages.

We propose that dative and accusative pronouns in German each access a distinct Spec position via A-movement. We consider the first step of pronoun movement within the German Mittlefeld to be a subcase of argument scrambling, for which a number of non-thematic A-positions must independently be posited (Fanselow 1990, Haeberli 1993, Haegeman 1993b and others).

We further hold that the hierarchical organization of these Specs is such that the position for dativess c-commands the position for accusatives. We label these positions AgrIOP and AgrOP. Note that the unmarked order of scrambled arguments in German is, indeed, DAT^ACC, as established by Lenerz (1977) and illustrated in (30).

(30) . . . daß Hans den Studenten die Bücher sendete.  
\hspace{1cm} \textit{. . . that Hans the student (DAT) the books (ACC) sent}  
\hspace{1cm} ‘. . . that Hans sent the books to the students.’

A pronominal cluster is derived by raising the accusative pronoun from its (scrambled) Spec position and left-adjoining it to the dative pronoun, whence the order ACC^DAT. This is illustrated in (31). Further XP movement (e.g. adjunction to TP or to AgrSP) affects these adjoined pronouns as a unit, as a cluster.\textsuperscript{10}

\textsuperscript{10} Suppose, on the contrary, that the derivation of the cluster proceeds in the following manner. After attaining their respective Case checking positions, the pronouns do not form a cluster. Rather, the direct object is raised (above the indirect object) and adjoined to TP or AgrSP and subsequently, the indirect object is left adjoined to the direct object. This derivation would give rise to the order DAT^ACC within the cluster, unattested in Standard German. To rule out this option, we can appeal to a derivational economy condition assigning a lower cost to derivations involving fewer steps (see Zwart 1993b). Consider the fact that the derivation of the improper order of pronouns involves more movement steps than the derivation actually attested.
Hebrew lacks scrambling and thus, by hypothesis, it lacks the gamut of Mittelfeld A-positions available in German. There is an AgrOP position accessed by the direct object pronoun in participial constructions, viz. (15a) above. On the basis of comparative data from Arabic dialects, Shlonsky (1997) argues that there is only a single AgrP between VP and TP. We shall not rehearse that argument here but only presuppose its validity. In the absence of a second object AgrP above VP, the derivation of clusters proceeds as in (32). The accusative pronoun moves to Spec/AgrO (for Case checking) and the dative pronoun left-adjoins to the accusative pronoun. This yields the order DAT \textsuperscript{^\textdagger}ACC. Further raising treats these adjoined pronouns as a unit, as in German.

The order of elements within a cluster in both German and Hebrew mirrors their derivation. The pronoun on the left edge of the cluster is adjoined to the pronoun immediately on its right.

6.1. Clustering and subject pronouns

Both Hebrew and German also have weak subject pronouns. Let us consider what happens when a subject weak pronoun is present in a sentence containing a pronominal cluster.\footnote{Subject pronouns triggering V2 are clearly a problem for our analysis of weak pronouns, since they have no visible host to incorporate to in LF. The problem arises elsewhere (e.g.}

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The data in (33) and (34) contrast the position of a full subject and that of a pronominal subject. In both German and Hebrew, the subject pronoun must precede all the others. This is shown in the contrast between (33b,c) and (34b,c). While the two languages differ in the order of object pronouns, they are the same w.r.t. the position of the subject pronoun.

(33) a. Gestern sendete sie ihm Hans.  
*yesterday sent ACC-3FS/MPL DAT-3PL Hans  
‘Yesterday Hans sent it to them.’

b. *Gestern sendete sie ihm er.  
*yesterday sent ACC-3FS/MPL DAT-3PL NOM-3MS  
‘Yesterday he sent it to them.’

c. Gestern sendete er sie ihm.  
*yesterday sent NOM-3MS ACC-3FS/MPL DAT-3PL  
‘Yesterday he sent it to them.’

*yesterday sent DAT-3PL ACC-3MS Dani  
‘Yesterday Dani sent it to them.’

b. *?etmol šalax la-hem ?oto hu.  
*yesterday sent DAT-3PL ACC-3MS NOM-3MS  
‘Yesterday he sent it to them.’

c. ?etmol šalax hu la-hem ?oto  
*yesterday sent NOM-3MS DAT-3PL ACC-3MS  
‘Yesterday he sent it to them.’

Subject pronouns must first move to their Case-checking position. This position is Spec/AgrS. In Hebrew, a cluster containing a subject pronoun is formed when the verb is in C0. We have argued that in this configuration, the object pronouns must adjoin to AgrSP in the overt syntax (in order to be in a position from which head movement can proceed in LF). We now surmise that the adjunction of the object pronoun cluster to AgrSP is followed by subject pronoun raising from its Case position in Spec/AgrS and left-adjunction to this cluster. This derivation is schematized in (35).
The derivation in (35) is also available in German, in the case where the object pronouns adjoin to AgrSP. However, we have shown that German object weak pronouns avail themselves of another derivational possibility, namely, S-structure adjunction to TP (below the lexical subject). Suppose this option is taken. Then, in the input to the LF component, the subject pronoun will not be part of the pronominal cluster, since it will continue to sit in Spec/AgrS. This is shown in (36) (see above, 4).

(36)

The fact that the subject pronoun is not part of the cluster in (36) is further signalled by the fact that certain types of adverbial material may intervene between the subject pronoun and the object pronouns (while no such material can intervene between the two object pronouns). We return to a detailed discussion of examples like (37) in the following section.

(37) daß er natürlich sie ihm vorstellen wird.

*that he of course 3FS-ACC 3MS-DAT introduce will*

‘... that of course he will introduce her to them.’
Reconsidering the first derivational option in German and the only one available in Hebrew, namely (35), a question arises. Why must the subject pronoun in Spec/AgrS adjoin to the pronominal cluster at S-structure? Why can it not remain in its Case position until LF?

It appears that both Hebrew and German observe a constraint to the effect that subject weak pronouns must precede all others at S-structure. At this point, we have no explanation for this observation. It is conceivable that this constraint is related to an observation of L. Haegeman to the effect that the linear order of scrambled DPs in West Flemish rigidly respect their base linear order (Relation preservation on A-chains, RPAC, Haegeman 1995). See also Haegeman 1993b. Internally to VP, subjects are higher than objects. Perhaps the fact that subject pronouns must be positioned higher than object pronouns is related to this fact.

This subject-first constraint also serves to rule out another possible derivation of weak pronouns in German and Hebrew. We have in mind a situation where the object pronoun is directly adjoined to the subject pronoun. This would give rise to the order illustrated in (33b) in German and (34b) in Hebrew.

Note that adjunction of one pronoun to another is in itself perfectly licit in our system. Indeed, this is precisely what happens in the derivation of direct and indirect object clusters. We conclude that (35) is the only derivation yielding a subject-initial pronominal cluster.

There is another pertinent conclusion which emerges from our analysis. We have tacitly assumed all along that the pronominal XP chain has to be entirely formed at S-structure. We have argued that XP movement is required to raise the pronoun to a position from which it can undergo head movement to its host in LF. The question which now arises is what rules out a situation in which an object pronoun, for example, raises to its Case position at S-structure and then continues to move as an XP in LF, landing in a position in which its head is extracted and incorporated. The observation pertaining to German and Hebrew is that the two chains constituting the derivation of weak pronouns are each formed entirely in one component of the grammar. A pronominal XP chain cannot be formed partly in the overt syntax and partly at LF. Shlonsky (1997) formulates this constraint as in (38) and discusses its empirical coverage and theoretical relevance.

12 Relation preservation on A-chains (p. 153)
For the A-chain C1 C2 Cn, contained in the extended projection of V, if the foot of Ci c-commands the foot of Ci+1, then the head of Ci must c-command the head effect of Ci+1.

13 It should be noted that adjunction of the object pronoun(s) to the subject pronoun would be a more economical derivation than adjunction of the object pronoun(s) to AgrSP followed by adjunction of the subject pronoun to this complex (as in (35)). It follows that our subject first constraint has the effect of blocking the more economical derivation and forcing the less economical one.
7. Adjacency Effects in German

In this section, we discuss the adjacency constraint holding of pronouns and their LF hosts in German. We first discuss these effects in root (V2) clauses and then in embedded ones.

7.1. Adjacency effects in V2 clauses

The example in (5b), repeated below, shows that an adverb cannot intervene between the verb in Comp (the pronoun’s LF host) and the pronoun.

(5) b. *Hans sah wahrscheinlich sie.
   Hans saw probably ACC-3FS/MPL
   ‘Hans probably saw her/them/it.’

The ungrammaticality of (5b) points to a more general situation, in which only a subject can intervene between a weak object pronoun and Comp (see the discussion around (13b) and (14b) in 4 above). While DPs in German can be scrambled to positions above or below the subject, as shown in (39), they are barred from doing so when their position would linearly intervene between a weak pronoun and the verb in Comp, as attested by the ungrammaticality of (40).

   yesterday sent the students-DAT Hans the book-ACC
   ‘Yesterday Hans sent the book to the students.’

b. Gestern sendete Hans den Studenten das Buch.
   yesterday sent Hans the students-DAT the book-ACC

(40) a. *Gestern sendete den Studenten Hans es.
   yesterday sent the students-DAT Hans it-ACC
   ‘Yesterday Hans sent it to the students.’

b. *Gestern sendete Hans den Studenten es.
   yesterday sent Hans the students-DAT it-ACC

In sentences (40a) and (40b), the pronoun es is adjoined to TP at Spellout. We have assumed that in LF, the trace of AgrS⁰ does not count, as it were, as a minimality barrier for incorporation of the pronominal head into C⁰. The intervention effect of the scrambled DPs in (40) can be handled by assuming that scrambling targets specifier positions of some XP (this would explain their behaviour as A elements, see e.g. Haeberli 1993 and references cited therein), the head of which constitutes a barrier to LF incorporation. The intervention of the scrambled DP between the
pronoun and $C^0$ thus gives rise to an ECP effect in LF. The relevant parts of the derivation of (40b) are schematized in (41).

The same mechanism is at work when an object pronoun is adjoined to AgrSP, appearing to the left of the subject, and an argument is scrambled to its left. In such cases, illustrated by the example in (42), the XP housing the scrambled DP is located between $C^0$ and AgrSP.

(42) *Gestern sendete den Studenten es Hans.
    yesterday sent the students-DAT it-ACC Hans
    ‘Yesterday Hans sent it to the students.’

The same pattern of intervention effects is found with adverbial modifiers. Not only (5b), but also the following examples are ungrammatical. Note, crucially, that the linear position of the intervening adverbials in (43) is identical to that of the scrambled DPs in (40a,b) and (42).

(43) a. */??Gestern sendete wahrscheinlich Hans es den
    yesterday sent probably Hans it-ACC the
    students-DAT
    ‘Yesterday Hans probably sent it to the students.’

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b. */??Gestern sendete Hans wahrscheinlich es den
   *yesterday* sent *Hans* probably *it-ACC* the
   Studenten.  
   students-DAT

Given this parallelism, it is reasonable to extend our analysis of the
intervention of scrambling as an ECP effect to the cases of adverbial
intervention. This requires that adverbs be specifiers of maximal projec-
tions, as proposed in Cinque (1996). The head of the phrase housing
wahrscheinlich, ‘probably’, in the sentences in (43) constitutes a minimal-
ity barrier for pronominal incorporation in LF.

The only possibility in German is for a weak pronoun to linearly
precede a scrambled DP or adverbial modifier. For example, contrast
(40a,b) with (44a,b) and (43b,c) with (45a,b).

(44) a. Gestern sendete es den studenten Hans.
   *yesterday* sent *it-ACC* the students-DAT *Hans*

b. Gestern sendete Hans es den Studenten.
   *yesterday* sent *Hans* it-ACC the students-DAT

(45) a. Gestern sendete Hans es wahrscheinlich den
   *yesterday* sent *Hans* it-ACC probably the
   Studenten.  
   students-DAT

b. Gestern sendete es wahrscheinlich Hans den
   *yesterday* sent *it-ACC probably* *Hans* the
   Studenten.  
   students-DAT

The weak pronouns in (44) and (45) appear immediately to the left of the
scrambled DPs and adverbs. We take the pronouns to be adjoined to the
maximal projections in the specifier of which these items appear. From this
position, their incorporation in LF to C° can be licitly effected. Once again,
we see that weak pronouns do not have a fixed surface position: They raise
to a position from which they can incorporate to a local Agr host in LF.

We have argued that the heads of the maximal projections housing
scrambled DPs and adverbs create a minimality barrier for pronominal
incorporation. However, these heads are transparent to verb movement. In
all the examples above, the presence of scrambling/adverbs has no impact
on verb raising to Comp. We assume that these heads are V-related and that
verb-movement (to Comp) proceeds by successive steps of head-movement.
Cinque (1996) argues that the heads of the projections housing adverbs
belong to the family of contentful or LF-interpretable functional heads (i.e.
Tense, Aspect, Mood and so forth). In this sense, these heads have a radically different status than that of Agr heads. While AgrS⁰ is effectively contained in a verbal chain in a V2 language, for the reasons sketched out in 4, the same cannot be said for the heads associated with adverbs. These heads must leave (contentful) traces, subject to LF interpretative rules. The traces of these heads cannot host LF-clitics and block LF incorporation of the weak pronoun head into the verbal complex in Comp.

Given the fact that not only adverbs, but also scrambled DPs give rise to intervention effects, it seems reasonable to extend the above analysis to the heads of the scrambling projections. Such an extension is further supported by the fact that scrambling has direct impact on the discourse functional structure of the clause (by modifying the topic/focus interpretation, see Abraham (1995).¹⁴

We have thus far surveyed and analyzed intervention effects in root clauses. When we turn our attention to embedded, non V2 clauses, an interesting difference emerges in acceptability judgements among speakers of German. We discuss this difference in the next subsection.

7.2. Adjacency effects in embedded clauses

Some speakers find the sentences in (46) acceptable or slightly marginal, while others consider them to be highly marginal if not unacceptable.

(46) a. (*) . . . daß den Studenten Hans es sendete.
`. . . that Hans sent it to the students.'

b. (*) . . . daß wahrscheinlich Hans es den Studenten sendete.
`. . . that Hans probably sent it to the students.'

Thus, there is a group of speakers for whom adverbs and scrambled DPs do not give rise to an intervention effect in embedded clauses. There is no variation among speakers w.r.t. V2 clauses.

The basic difference between root and embedded clauses in German is

¹⁴ The intervention effects observed for object pronouns constrain the distribution of subject pronouns as well. Consider the examples in (i). As argued above, the scrambled DP or adverb preceding the subject is a specifier of a maximal projection, the head of which blocks LF-incorporation of the pronoun to C⁰.

(i) a. *Gestern sendete den Studenten er das Buch.
`Yesterday he sent the book to the students.'

b. */??Gestern sendete wahrscheinlich er den Studenten das Buch.
`Yesterday he probably sent it to the students.'
that in the former, I → C movement applies visibly and the LF host for the clitic is thus located above the intervening element.

It seems plausible that the same mechanism applies in the grammars of those speakers who reject (46). For these speakers, AgrS₀ raises to C₀ in the overt syntax, as in Zwart (1993b,c). Presumably, the verb itself is incorporated into C₀ in LF.

The grammar in which the sentences in (46) are acceptable differs from the one in which they are not, in that there is a host for the LF clitic below the adverb. Our proposal is to locate the difference between these grammars in a parameter regulating the level of application of AgrS₀ raising to C₀.

For those speakers who accept (46), the weak pronominal head incorporates into AgrS₀ in LF, prior to the latter’s raising to Comp. More precisely, let us assume that in this dialect of German, verb movement to C₀ proceeds stepwise. That is to say, V raises to AgrS₀ and AgrS₀+V raises to Comp carrying along the clitic. This option is diagrammed in (47a).

(47a) Dialect “A”: √(46)

Note that while cliticization, which involves D₀ movement, is subject to a strict adjacency constraint, raising of the composite head [clitic+AgrS₀+V] to C₀ is not blocked by the head of the projection housing the adverb or the scrambled DP. This is so, to recall, since this composite head contains features which must be checked by V. The grammaticality of
the sentences in (46) crucially depends on the clitic’s being able to adjoin to the verbal complex in AgrS°. By doing so, it can be raised to C° without incurring an ECP violation.

The grammar of those speakers who reject (46) is characterized by overt raising of AgrS° (via the head of the scrambling/adverbial XP) to C° in embedded clauses. This is indicated by the dotted arrows in (47b). In LF, the head of the pronominal DP must incorporate to C° (indicated by the solid arrows in (47b)), but it can neither adjoin to the trace of X° – the scrambling/adverbial head – nor can it skip it. Consequently, LF clitic movement gives rise to a HMC violation.

(47b) Dialect “B”: *(46)

While there is variation among speakers regarding the grammaticality of (46a,b), there is no variation regarding adverbial intervention below the subject, as shown by (48).

(48) *... daß Hans gestern es den studenten sendete.
    . . . that Hans yesterday it-ACC the students-DAT sent
    ‘... that Hans sent it to the students yesterday.’

To account for the ungrammaticality of (48), we follow Cinque (1996) and assume that gestern occupies the specifier of an XMAX located between AgrSP and TP. The head of the adverbial XP intervenes between the pronoun and its host, preventing licit LF cliticization.

Another possibility for positioning the adverb is to base-generate in it
Spec/T (gestern, in particular, is a temporal adverb, but presumably modal adverbs such as wahrscheinlich may also be licensed in that position, see Laenzlinger 1996). Thus in (48), T0 would constitute a minimality barrier for pronoun incorporation.

Whether the adverb is in Spec/T or in Spec/X, XP movement would necessarily place the weak pronoun to the left of the adverb, as in the grammatical (48). See the derivation illustrated in (50).

(49) . . . daß Hans es gestern den Studenten sendete.
     . . . that Hans it-ACC yesterday the students-DAT sent
     ‘. . . that Hans sent it yesterday to the students.’

(50) 

The adoption of Cinque’s and Laenzlinger’s proposals regarding Mittelfeld adverb placement can be used to explain an interesting counterexample to the claim that no lexical material can intervene between a weak pronoun and its host.

The example in (51) is taken (and slightly modified) from Polletto & Tomaselli (1993). Note that even though an adverb is present in a position between the subject and the weak pronoun, it does not give rise to an intervention effect.

(51) . . . daß Hans natürlich sie ihm vorstellen wird.
     . . . that Hans of course 3FS-ACC 3MS-DAT introduce will
     ‘. . . that of course Hans will introduce her to them.’

Cardinaletti (1992) stresses the fact that the intervening adverb, natürlich, much be focalized. Let us assume that this difference reflects a configurational or derivational one. Suppose that focalization has the syntactic reflex of moving the adverb and adjoining it to TP. The derivation of (51) then, proceeds as in (52). First the adverb is moved and then the weak pronoun is adjoined to TP on its left. From this position, the pronominal head can licitly cliticize in LF.
Our analysis of weak pronouns predicts that intervention effects should be clearly observable in Hebrew. We have already seen that when the verb is raised to C⁰, the subject cannot intervene between it and a weak pronoun adjoined to TP. We argued that the closest host for the pronoun is the verbal complex in C⁰ and the trace of AgrS⁰ creates a minimality barrier for LF pronoun incorporation (on the status of the trace of AgrS⁰ in German, see 4). The relevant pair of examples, (28a,b), is repeated below.

   *yesterday sent-3MS ACC-3MS Dan
   ‘Yesterday, Dan sent it.’

b. *?etmol šalax Dan ?oto.
   *yesterday sent-3MS Dan ACC-3MS

Let us now consider examples of adverbial intervention between a pronoun adjoined to AgrSP and the verbal complex in Comp. The relevant contrast is given in (53). (53a) shows that a pronoun cannot be separated from the verb in Comp by an adverb. (53b) illustrates the acceptable word order, with the pronoun linearly adjacent to the verb in Comp.

   *yesterday wrote probably it-ACC Dani
   ‘Yesterday Dani probably wrote it.’

   *yesterday wrote it-ACC probably Dani
   ‘Yesterday Dani probably wrote it.’

Our explanation for this pattern is the same one we proposed for German. Pre-IP adverbs are specifiers of some (perhaps topic) projection, the head of which is a minimality barrier for pronominal incorporation in LF (but not for verb-movement). In the grammatical example (53b), the pronominal XP is adjoined to the maximal projection housing the adverb.
The same pattern is observed in the case of Hebrew subject weak pronouns. Compare (54a) and (54b).

(54) a. *?etmol katav kanir?e hu sipur.  
   *yesterday wrote probably he-NOM story  
   ‘Yesterday he probably wrote a story.’

   b. ?etmol katav hu kanir?e sipur.  
   *yesterday wrote he-NOM probably story  
   ‘Yesterday he probably wrote a story.’

To conclude the discussion of intervention effects in Hebrew, let us turn back to the example in (4b), repeated below, which shows an intervention effect below the subject.

   Dan saw-3MS probably ACC-3MS  
   ‘Dan probably saw him/*it.’

The analysis of the German example (48) in 7.2 above can be carried over to the Hebrew case: there are two options for positioning the adverb, namely, as a base-generated specifier of TP or in the specifier of an XP between AgrSP and TP. In both cases, a pronoun to the right of the adverb, is too far from AgrS0, its LF host, and incorporation is blocked. The pronominal XP must therefore move in the overt syntax and left-adjoin to TP, giving rise to the order pronoun ^adverb.

To conclude, let us briefly mention the existence of intervention effects on pronominal incorporation to a participle. While adverbs can precede a non-pronominal object of a participial form, they cannot precede weak pronouns. Contrast the examples in (55).

   in-youth-his was Dan love-MS much cats.  
   ‘In his youth, Dan used to like cats very much.’

   in-youth-his was Dan love-MS much them  
   ‘In his youth, Dan used to like them very much.’

We argued above that the LF host for the weak pronoun is the participle. Once again, the intervening adverb is associated with an X^MAX, the head of which creates a minimality barrier for cliticization.

9. Summary and conclusion

The basic claim of this paper is that weak pronouns are XPs at S-structure and clitics, i.e. heads, in LF. In order to licitly cliticize in LF, weak pronouns must be located, at the input to LF, in a position close enough to their LF host so that head movement can take place without incurring a violation of the Head Movement Constraint. Two types of chains are
thus formed. The first is an XP chain formed in the overt syntax, which connects the base position of the pronominal DP to its S-structure position. This chain minimally extends to the pronoun’s Case-checking position (Spec/AgrO for objects, Spec/AgrS for subjects). The chain is extended beyond this position if the Spec position in which Case checking is effected is not near enough to an LF V-related host. We have seen that Hebrew post-participial weak pronouns need not move beyond Spec/AgrO because the head of the agreement projection immediately c-commanding it, namely AgrPart⁰, which contains the participle, is a licit host for (LF) clitics. In German, and in Hebrew simple tenses, the pronoun must move higher and extend its XP chain beyond its Case checking position so as to be located, at the input to the LF component, in a cliticizable position. We have implicitly shown that this is the only structural constraint on pronoun movement. In particular, weak pronouns, unlike, say, scrambled DPs, do not target a pre-labelled position. They can move to Spec positions, adjoin and even multiply adjoin, as long as structure preservation is not violated (XP to XP, head to head).

In LF, a head chain is formed by head movement of the pronominal head and incorporation to its host. In Hebrew, this host is the participial agreement head in complex tense constructions and AgrS⁰ in simple tense ones. The situation is different in German: Participial agreement heads cannot be clitic hosts. In addition, the intimate relation between AgrS⁰ and Comp transforms the latter into the unique clitic host at LF.

We further investigated pronominal clusters in German and Hebrew and analyzed them as involving XP adjunction in the overt syntax. Finally, we studied the effect of adverbs and scrambled DPs which disrupt the adjacency between the LF host and the pronoun. Fundamentally, the adjacency requirement can be reduced, in our analysis, to the HMC. No head can intervene between the pronoun and its host since its presence would block head movement in LF. This approach entails that adverbs or scrambled DPs do not, in and of themselves, disrupt the adjacency, rather, these elements are taken to be associated with XPs the head of which forms a barrier to LF movement. Whereas in Hebrew, adjacency is rigid in that no element can intervene between the pronoun and its host, matters are much more complex in German. In all varieties of Standard German, subjects can intervene between a clitic and its host. No HMC violation arises, because the intervening head, namely AgrS⁰, is not visible or is inactive in LF. Some German speakers allow for the intervention of pre-subject adverbs between the pronoun and Comp in embedded clauses. We argue that for such speakers, the cliticization of the pronominal head can target AgrS⁰ which then raises to Comp at LF. This option is not available in German varieties in which AgrS movement to Comp is effected in the overt syntax.
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Weak pronouns as LF clitics


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