In Defense of Rightward Movement

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Until recently, it has been supposed virtually without question that in the English Heavy NP Shift (HNPS) construction, exemplified in (1b), the thematic object appears in a dislocated position at the end of the sentence.

(1) a. Sam stored all the things he really values in a vault.
    b. Sam stored in a vault all the things he really values.

Under the assumptions of GB theory, for example, the sentence final NP in (1b) receives its thematic interpretation as the object of the verb by binding a trace in the position it occupies in (1a), as in (2).

(2) Sam [stored t in a vault] all the things he really values

Larson (1988) challenges this view, proposing instead that the NP appears in a canonical object position in both examples in (1). Its apparent dislocation in (1b) is a reflection of the preposing of a verbal constituent stored in a vault to the left of the object. In the derivation of (1a) on the other hand the verbal constituent that preposes is simply stored. Larson terms this analysis the Light Predicate Raising (LPR) analysis. On the LPR account, examples (1) appear with the deep and surface forms in (3).

(3) a. Sam [stored_t, all the things... t_y] in a vault
    b. Sam [stored in a vault_t, all the things... t_y]

In section 1, we will review the arguments Larson offers in favor of this analysis. Despite these arguments and the originality of the LPR analysis, we think there is reason to prefer the more traditional analysis sketched in (2), as we explain in section 2.

1. The LPR Analysis

Larson presents four arguments that HNPS does not involve the rightward displacement of the NP by Move α. Each of the arguments in (1)–(iv) below hinges on showing a contrast between HNPS and more conventional cases of Move α, such as wh Movement.

(i) P-stranding

Larson observes that while wh Movement allows stranding of P in English, HNPS does not.

(4) a. *We talked to about Joan's problems all of her teachers.
    b. *Mary put the money on yesterday a table that was sitting at the entrance to the hall.

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c. *John took a look at as he was walking by a man who was standing outside his office.
d. *I mailed a letter to on my way to work an old friend from high school.

(5)

a. Who did you talk to about Joan’s problems?
b. Which table did Mary put the money on yesterday?
c. Who did John take a look at as he was walking by?
d. Who did you mail a letter to on your way to work?

On the LPR analysis, the contrast between the respective examples in (4) and (5) is readily captured. Consider for instance the relevant aspects of the D-structure representation that this analysis provides for example (4a).

(6)

```
VP
 / \  
NP  V' / \ 
  / \ 
we V  VP
  / \ 
et PP V'
  /___\ / / \ 
to... V  PP
   / / __\ 
   talk about Joan’s problems
```

In (6), either talk raises to the empty V position, yielding (7a), or talk about Joan’s problems, as a reanalyzed V constituent, raises to the empty V position, yielding (7b).

(7)  
a. We talked to all of her teachers about Joan’s problems.
b. We talked about Joan’s problems to all of her teachers.

Given the structure (6), there is no possibility for talk to form a constituent with to to the exclusion of the preposition’s object, and so there is no possible derivation for the ungrammatical (4a).

(ii) **Bounding effects with adjuncts**

Larson observes that HNPS shows an asymmetry of behavior with subject and object oriented adjunct predicates. In particular, HNPS may apply with the latter, but not with the former. (wth movement shows no such asymmetry of behavior with adjunct predicates. See (10).)

(8)  
a. John never eats fish over two days old raw.
b. John never eats raw fish over two days old.

(9)  
a. John left the reception for the ambassador from Ecuador angry.
b. *John left angry the reception for the ambassador from Ecuador.

(10)  
a. What kind of fish does John eat raw?
b. Which reception did John leave angry?

The LPR analysis provides an account of this asymmetry. Consider the respective D-structures for (8) and (9) in (11).
Larson assumes that the antecedent of an adjunct predicate is the minimally c-commanding argument. The differing positions of subject and object oriented adjunct predicates in (11) follows from the principle in (12).

(12) In the configuration $[V, \lambda P X P]$, the thematic role assigned by $XP$ is identified with the thematic role assigned by $Vi$.

Given the structures in (11), the $V'$ eat raw in (11a) can undergo $V'$ Reanalysis with subsequent movement to the empty $V$ position to the left of the thematic object, deriving (8b), but no parallel derivation of (9b) is possible, given the lack of available constituency for leave angry in (11b).

(iii) The distribution of Indonesian meng-

Chung (1976) observes that the modern Bahasa Indonesian particle meng- affixes to a transitive verb when its object is adjacent to it (13), but not when the object has been dislocated in wh-movement, passive, relative, cleft and topic constructions (14).

(13) a. Mereka (me-)masak ikan untuk saja
3pl TRANS-cook fish for 1sg
'They cooked a fish for me.'

b. Mereka *me-/-ber lasar ke Amerika
3pl TRANS/INTRANS sail to America
'They sailed to America.'

(14) a. Dia (*men-)/pukul oleh mereka
3sg TRANS-PASS-hit by 3pl
'He was hit by them.'

b. Buku itu saja (*mem-)/batja
book the 1sg TRANS-read
'That book I read.'

c. Surat jang anak itu sedang (*mem-)/tulis pandajang-nja tiga halaman letter COMP child the PROG TRANS-write length-its three page
'The letter that the child was writing is three pages long.'

d. Kamu-lah jang saja (*men-)/tunggu
2sg-EMPH COMP 1sg (TRANS)-wait
'It’s you that I’m waiting for.'
e. Apa jang mereka (*me−*)masak untok pesta?
what are 3pl TRANS−cook for party
‘What are they cooking for the party?’

Curiously, the one exception to this generalization is the HNPS construction, in which
meng− affixes to the verb despite the (apparent) surface non−adjacency of its object.

(15) a. Yati me−masak untuk Ali ikan jang di−tangkap oleh kakak−nya kemarmi
Yati TRANS−cook for Ali fish COMP PASS−catch by sibling−her yesterday
‘Yati cooked for Ali the fish caught by her brother yesterday.’

b. Saja mem−beri kepada Ali semua uang jang kamu kasih
1sg TRANS−give to Ali all money COMP 2sg give
‘I gave to Ali all the money you gave to me.’

Rather than appeal to linear order for an account of (13)−(15), as does Chung (1976),
Larson proposes that under the LPR analysis meng− appears only when the object is
adjacent to V in surface form. Since the HNPS examples in (15) are derived by fronting of
a renalyzed V to a position immediately before the heavy NP object, adjacency of the object
to V is satisfied as readily as in the more transparent example in (13a).

(iv) Freezing effects

Wexler and Culicover (1980) observe that extraction from VP in HNPS examples is
apparently blocked, as illustrated in the examples below.

(16) a. Who did John give the picture that was hanging on the wall to?

b. *Who did John give to the picture that was hanging on the wall?

(17) a. *What did Max put in _ all the boxes of home furnishings?

b. *Where did John see yesterday an article about Eastern Europe?

Larson demonstrates that this freezing of VP under HNPS is naturally accommodated under
the LPR analysis. In the relevant structures for (16b)−(17) (see (3)), all lexical material to
the right of V up to the “shifted” NP has been reanalyzed as V. If extraction from a lexical
category is blocked (see Lapointe 1980, DiSciullo and Williams 1987), then the
ungrammatical examples above are not generated on the LPR account.

We will consider below how the properties of HNPS may be accounted for on a
Move α analysis. Before doing so, however, there is one further aspect of Larson’s analysis
that must be addressed. Larson proposes extending the LPR analysis of HNPS to Existential
(ES) and Presentational there Insertion (PTT) sentences such as those in (18a)/(19a) and
(18b)/(19b)/(20), respectively.

(18) a. There was a funny looking statue of Apollo in the foyer.

b. There was in the foyer a funny looking statue of Apollo.

(19) a. There arose a fierce storm off the coast.

b. There arose off the coast the fiercest storm in memory.

(20) a. There entered the room a tall dark stranger.

b. There walked into the room a tall dark stranger.

Consider for instance the proposed derivation of (20a). The underlying structure for (20a)
in (21a) undergoes a rule of Pleonastic Subject Projection, which projects an empty VP shell
with a pleonastic subject, as in structure (21b).
V' in (21b) is then eligible for V' reanalysis, and after movement of the reanalyzed V to the empty V position, the derived structure for (20a) is as in (22).

(22)

\[
\text{VP} \\
/ \ \ \\
\text{NP} \ V' \\
\text{there} / \ \ \\
V \ \text{VP} \\
\text{entered the} / \ \ \\
\text{NP} \ t_v \\
a \text{tall...}
\]

Larson proposes a parallel derivation for the ES examples in (18a)/(19a), invoking Pleonastic Subject Projection and verb movement, but not V' reanalysis.

2. A Move α Analysis

It is a consequence of the LPR analysis of PTI and ES that these constructions will give rise to the same basic derived structure as HNPS. Nevertheless, HNPS and PTI at least may be shown to exhibit a variety of asymmetries in possibilities for extraction and in tests of constituent structure. In regard to the latter for example, consider constituent structure tests based on the operations of VP topicalization, ellipsis and pseudoclefting and on parenthetical formation, as below.

(23) a. Everyone said that John would give to Mary all of the money that he won at the track, and give to Mary all of the money that he won at the track he did.
   b. *Mary was told that there would walk into the room someone she barely knew, and walk into her room someone she barely knew there did.

(24) a. Sally noticed in the foyer a famous portrait by Rembrandt, and Bill did too.
   b. *Mary was told that there would walk into the room someone she barely knew, and there did.

(25) a. What John did was give to Mary all of the money that he won at the track.
   b. *What there did was walk into the room a man she barely knew.

(26) a. John bought for Mary a picture of her father in a weird costume, I think.
   b. John, I think, bought for Mary a picture of her father in a weird costume.
   c. *John bought, I think, for Mary a picture of her father in a weird costume.
   d. John bought for Mary, I think, a picture of her father in a weird costume.
(27)  a. There entered the room behind her several uniformed officers, I think.  
b. *There, I think, entered the room behind her several uniformed officers.  
c. *There entered, I think, the room behind her several uniformed officers.  
d. There entered the room behind her, I think, several uniformed officers.

As the comparative judgments in (23)–(27) indicate, the sentence final NP in HNPS and PTI may pattern with the VP under these circumstances only in cases of HNPS.

A LPR analysis of the two constructions provides no account of such cases, since it provides PTI and HNPS the same surface constituent representations. On a Move α account, however, the data in (23)–(27) follow on the assumption that the shifted NP adjoins to IP in PTI but to VP in HNPS.

(28)

```
CP
/ \  
C'  
/ \  
C   IP
/ \  
IP   *NP
/ \  
t_{yp}   I'
/ \  
I   VP
/ \  
VP   NP
/ \  
V..t_{yp}
```

As Rochemont and Culicover (1990) argue, the difference of landing sites in (28) is a function of the antecedent government requirement of the ECP, which requires a local c-commanding antecedent for trace. The distribution of there on our account follows from the head government requirement, by treating there as an overt (lexicalized) trace in the sense of Koopman and Sportiche (1986). In what follows we will assume for concreteness this version of a Move α analysis of PTI and HNPS, but the most important feature of the analysis for our purposes here is that it associates the two constructions with two distinct representations as in (28).

The Move α view also accommodates a range of extraction asymmetries between HNPS and PTI that are unexpected under the LPR account. For instance, neither inversion nor wh movement/relativization are possible in PTI, in contrast to HNPS.

(29)  a. *Which room did there enter a man with long blonde hair?  
b. *I don't remember which room there walked into a man with long blonde hair.  
c. *Did there walk into the room a man with long blonde hair?  
d. *This is the room that there walked into a man with long blonde hair.
(30)  a.  For whom did Bill purchase last week an all expense paid ticket to Europe?
    a’. Which of these people purchased from you last week an all expense paid ticket to Europe?
    b.  I don’t remember for which of his sisters Bill bought in Europe a Fourteenth Century gold ring.
    c.  Did Bill buy for his mother anything she really liked?
    d.  This is the woman from whom Bill purchased last week a brand new convertible with red trim.

On the LPR analysis, the examples of (29) and (30) should be equally bad, since all involve extraction from a lexical category, the reanalyzed V that has undergone raising around the sentence final NP. That there is in fact a distinct contrast of acceptability between these sets of examples is thus unpredicted on this analysis. On the Move α account on the other hand, the contrast may be attributed to the differing structures in (28). As Lasnik and Saito (to appear) and Rochemont (1989) argue, configurations of adjunction to IP give rise to island effects that may be seen as a consequence of Subjacency under appropriate formulations. Thus, topicalization gives rise to the same set of restrictions as PTI, if it too derives by adjunction to IP. (See Rochemont 1989.)

(31)  a.  *Did to Bill you give a book?
    b.  *This is the man to whom a book Mary gave.
    c.  *What would to Bill you give?

With the proper version of Subjacency and the structures in (28), Move α directly provides for the comparative judgments of (29)–(30).

The failed prediction of the LPR analysis concerning examples (29)–(31) is apparently contradicted by Larson’s account of the freezing of VP in cases of HNPS (see (16)–(17)). In fact, the grammaticality of examples (30) suggests that it is mistaken to think that HNPS necessarily results in freezing of the VP. A comparison of these examples with corresponding cases in (32) without preposition stranding reveals that the freezing of VP in cases like (16)–(17) results not from the operation of HNPS per se but from the (leftward) extraction of NP, in contrast to PP.

(32)  a.  *Who did Bill purchase for last week an all expense paid ticket to Europe?
    b.  *I don’t remember which of his sisters Bill bought for in Europe a Fourteenth Century gold ring.
    c.  *This is the woman who Bill purchased from last week a brand new convertible with red trim.

The contrast between (30) and (32) is reminiscent of that noted by Chomsky (1986) for multiple wh extraction.

(33)  a.  *?To whom do you wonder what John gave?
    b.  *Who do you wonder what John gave to?

The second example of (33) is worse than the first, despite the fact that both are apparently violations only of Subjacency. Evidently there is an additional constraint in evidence in the contrast in (33), one restricting extraction of multiple NP’s from the same domain. We contend that it is this constraint that is responsible for the contrast between (16)–(17) and (30).
This proposal that the ungrammaticality of (16)–(17) is due not to a general freezing of VP under HNPS but to a constraint on extraction of multiple NP’s from a single domain is further supported by grammaticality contrasts in cases of multiple adjunction to IP. In both topicalization and PTI, multiple adjunction to IP is possible only if the adjoined phrases are of distinct category types, in particular they are not both NP.  

(34)  
a. *To John, a book on linguistics, I would never give.  
b. *John, a book on linguistics, I would never give to.  
c. A book on linguistics, John, I would never give to.  

(35)  
a. Into this room, there walked twelve jurors and a sheriff.  
b. *This room, there walked into twelve jurors and a sheriff.  

Given the grammaticality of examples (30) and the contrasts between (30) and (16)–(17) and in (33)–(35), it is preferable to conclude that there is no freezing of VP under HNPS, contra Wexler and Culicover (1980) and Larson (1988), except as predicted under the additional grammatical principle restricting extraction of multiple NP’s from a single domain.  

Finally, the Move α account of both HNPS and PTI predicts the adjunct character of the shifted NP under extraction from it.  

(36)  
a. *Which famous actor did there appear in the newspaper a picture of?  
b. *Which famous actor did a picture of appear in the newspaper?  

(37)  
a. John noticed a picture of his mother on the wall.  
b. John noticed on the wall a picture of his mother.  
c. Who did John notice a picture of on the wall?  
d. *Who did John notice on the wall a picture of?  

(38)  
a. It was Bill that John sold Mary a picture of.  
b. *It was Bill that John sold to Mary a picture of.  

(39)  
a. Who did John sell Mary a picture of?  
b. *Who did John sell to Mary a picture of?  

In the ungrammatical examples in (36)–(39), the sentence final NP under a Move α analysis appears in an adjoined position where it functions as a barrier to extraction. Again, the LPR analysis provides no account, given that under that analysis the sentence final NP’s are in canonical object position, from which extraction is generally possible (compare (37c), (38a), (39a)). On this account, (36b), (37d), (38b), and (39b) should all be good.  

We have seen in the foregoing discussion that assimilating the analysis of PTI to that of HNPS as Larson does under the LPR analysis mistakenly fails to predict the asymmetries of behavior of the two constructions in extraction and in tests of constituent structure. On the other hand, these asymmetries are properly accommodated under the Move α analysis. We have also proposed two arguments against the LPR analysis of HNPS. First, the LPR analysis falsely predicts a complete freezing of VP under HNPS, but as we have seen, the relevant cases are more profitably tied to a general condition on extraction of multiple NP’s from a single domain. Second, the LPR analysis fails to predict the adjunct island effect on extraction from shifted NP’s in HNPS and PTI. Let us now consider the remaining three arguments Larson advances in favor of the LPR analysis as outlined in section 1.  

2. We will not pursue here whether this additional principle is itself derived from more general grammatical properties. It is somewhat reminiscent of Rizzi’s 1990 Relativized Minimality Condition, which might be reformulated to capture it. Similarly, it is possible that the nesting effect it induces gives rise to the garden path nature of sentences derived in violation of it.
Consider first the distribution of Indonesian *meng-*. On Larson's account the
distribution of this particle is constrained by a requirement that it appear only on NP
adjacent to V in surface form. On a Move α account, its distribution is characterized by a
requirement that it appear only on NP that is governed by V in surface form. Assuming a
projection definition of government for heads, as in Chomsky (1981), then the dislocated NP
in examples (14)–(15) is governed by V only in the case of HNPS, given that HNPS is
derived by adjunction to VP.

Consider next the bounding effects with adjuncts illustrated in (8)–(10). As Larson
observes, HNPS is possible with object but not subject oriented adjunct predicates, and this
asymmetry is readily accommodated on the LPR analysis. How might it be addressed on
a Move α analysis?

Rochemont and Culicover (1990) propose that the interpretation of extraposed
phrases and adjunct predicates is subject to a nested dependency constraint on the relations
between extraposed phrases/adjunct predicates and their respective antecedents. This
nesting effect is illustrated for extraposed phrases and adjunct predicates of various types
in (40)–(42).

(40)  a.  More people talked to a woman at the party that they didn't know than I
       was told would.

       b.  *More people talked to a woman at the party than I was told would that
           they didn't know.

(41)  a.  John ate the meat raw nude.

       b.  *John ate the meat nude raw.

(42)  a.  John approached several women at the party with blond hair nude from the

       waist up.

       b.  *John approached several women at the party nude from the waist up with
           blond hair.

In the examples above, the extraposed phrase/adjunct predicate can be associated with the
subject only when it follows the object oriented extraposed phrase/adjunct predicate, so
displaying a nested effect. The interaction of adjunct predicates and HNPS may be
accommodated if this nesting effect is claimed to hold not just of interpretive dependencies
such as those in (40)–(42), but of all rightward A-bar dependencies, whether derived by
movement or simply interpreted. It is predicted under this view that the nesting effect for
adjunct predicates noted by Larson extends to extraposed phrases as well, as seen below.

(43)  a.  Several people were trying to sing last night some awful song from the sixties

       who simply couldn't sing at all.

       b.  *Several people were trying to sing last night who simply couldn't sing at all
           some awful song from the sixties.

(44)  a.  Mary mailed to someone yesterday that she doesn't like a letter exposing his

       wife's extramarital liaisons.

       b.  *Mary mailed to someone yesterday a letter exposing his wife's extramarital
           liaisons that she doesn't like.

(45)  a.  John heard from more people at the party than he recognized a very rude

       story about his wife.

       b.  *John heard from more people at the party a very rude story about his wife
           than he recognized.

Thus the Move α account seems as well equipped to deal with the nesting effect for adjunct
predicates with HNPS as is the LPR analysis.
Finally, let us consider how the lack of preposition stranding under HNPS may be accounted for on a Move α analysis. Recall that on this analysis the structures for HNPS and PTI are as illustrated in (46).

\[
(46) \quad \text{IP} \\
\quad / \quad \backslash \\
\quad \text{IP} \quad \text{NP}_1 \\
\quad / \quad \backslash \\
\quad t_1 \quad I' \\
\quad / \quad \backslash \\
\quad I \quad \text{VP} \\
\quad / \quad \backslash \\
\quad \text{VP} \quad \text{NP}_2 \\
\quad / \quad \backslash \\
\quad V \quad t_2
\]

NP\(_1\) is the surface position of the shifted NP in PTI and NP\(_2\) is that for HNPS. Rochemont (1990) argues on the basis of the data in (47) that the shifted NP may be adjoined no higher than the position of NP\(_2\) in (46) for HNPS.

\[
(47) \quad \begin{align*}
\text{a. } & \quad \ast \text{He}_3 \text{ bought a painting that John}_1 \text{ really admires for his mother.} \\
\text{b. } & \quad \ast \text{He}_3 \text{ bought for his mother a painting that John}_1 \text{ really admires.}
\end{align*}
\]

To constrain the landing sites of Move α in such cases, he proposes a reformulation of the Right Roof Constraint (see Ross 1967, Grosu 1973), following a proposal of Rochemont and Culicover (1990). This revised Rightward Movement Condition is given below.

\[
(48) \quad \text{Rightward movement condition: A phrase may not be moved rightward beyond the government domain of any head than governs it.}
\]

In contrast to the Right Roof Constraint, which imposes clause boundedness on rightward movement, (48) imposes phrase boundedness on rightward movement. The clause boundedness of HNPS and PTI is illustrated below.

\[
(49) \quad \begin{align*}
\text{a. } & \quad \text{It was believed by everyone that Mary bought for her mother an ornate Fourteenth Century gold ring.} \\
\text{b. } & \quad \text{?It was believed that Mary bought for her mother an ornate Fourteenth Century gold ring by everyone.} \\
\text{c. } & \quad \ast \text{It was believed that Mary bought for her mother by everyone an ornate Fourteenth Century gold ring.}
\end{align*}
\]

\[
(50) \quad \begin{align*}
\text{a. } & \quad \text{It was believed by everyone that there walked into the room a man with long blond hair.} \\
\text{b. } & \quad \text{?It was believed that there walked into the room a man with long blond hair by everyone.} \\
\text{c. } & \quad \ast \text{It was believed that there walked into the room by everyone a man with long blond hair.}
\end{align*}
\]

The restriction against HNPS of a prepositional object may now be seen as a special case of the phrase boundedness of rightward movement mandated by (48). Moreover, the RMC

3. We assume that by analogy PTI may not adjoin the rightward moved NP higher than IP (i.e. to CP), but relevant evidence is difficult to find.
has at least one further implication for general applications of Move α. In particular, it prevents a successive cyclic derivation of unbounded rightward movement, illustrated schematically in (51), thus accommodating the ungrammatical (c) examples in (49)–(50).

(51) \[
\begin{array}{c}
\text{VP} \\
/ \ \backslash \\
\text{VP} \quad \text{NP}_1 \\
/ \ \backslash \\
\text{V} \quad \text{CP} \\
/ \ \backslash \\
\text{t}_i \quad \text{C}^r \\
/ \ \backslash \\
\text{C} \quad \text{IP}
\end{array}
\]

In (51) rightward movement from \( t_i \) to \( \text{NP}_1 \) is beyond the government domain of \( C \), and so is blocked by the RMC.

To conclude, we have argued that the arguments Larson offers in favor of the LPR analysis of HNPS are accommodated on a properly formulated Move α analysis. Moreover, the extension of the LPR analysis to pleonastic subject constructions fails to capture a range of asymmetries between the latter constructions and HNPS, unlike to Move α analysis. The Move α analysis is therefore to be preferred.

References


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4. See Rochemont and Culicover 1990, Chapter 4 for additional consequences of the RMC.


