CONSIDERATION ON SENTENCE PREPOSITIONAL PHRASE*

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O. Introduction

Considering the different positions in surface structures that prepositions (hereafter, PP's) occupy, Reinhart has accounted for the difference in acceptability of the sentences below: (Reinhart (1976 : 59))

(1) We sent him to West Point in order to please Ben’s mother.¹
(2) *Rosa tickled him with Ben’s feather.

She assumes that certain PP’s, just like adverbs, are inherently sentential or verb-phrasal, that is, their positions in the tree are fixed. For example, in order to, as Williams (1974, 1975) points out, can only be attached to the S nodes, thus it is a sentential prepositional phrase (henceforth, S-PP). Other S-PP’s discussed in Williams (1974, 1975) are although, since (causal meaning), whether or not, during, before, after, while, because, and with (incidental explanation). He classifies instrumental PP’s such as with, and manner PP’s such as by as verb-phrasal prepositions (henceforth, VP-PP).

In (1), since the first branching node dominating him is the VP, which dominates the sequence sent him to West Point, and the first branching node dominating Ben’s is the PP attached to the S node, him does not c-command² Ben’s. Thus, according to Reinhart’s restriction,³ coreference between him and Ben’s is possible. In (2), on the other hand, since the first branching node dominating him also dominates Ben’s, that is, since him c-commands Ben’s, Reinhart’s restriction correctly blocks coreference between them.

I think that it is reasonable to make a distinction between PP’s not only from a syntactic point of view, but also from a semantic point of view. In what follows I will show first syntactic as well as semantic evidence
which provide adequate support for the claim that PP's should be classified into S–PP's and VP-PP's. Secondly, considering the differences observed in the syntactic, semantic and lexical properties of S–PP's and VP-PP's, I will propose that S–PP's are generated by an underlying phrase structure rule.

1. Sentential and Verb-Phrasal Prepositional Phrases

1.1 The Syntactic Differences between S-PP's and VP-PP's.

Reinhart has provided several syntactic tests classified into three groups to judge whether a given PP is sentential or verb-phrasal:

(I) Two tests with pseudo-clefts (from Ross (1973))

(i) The predicate part of pseudo-cleft sentences can contain only VP material.

(ii) The what-clause, on the other hand, can contain only non-VP material.

We thus get the following two structures:

(3) (i) a. \[ S [\text{what...}] \quad \text{PRED is} \quad [\text{VP...} \quad *S-PP...]] \]

b. \[ S [\text{what...}] \quad \text{PRED is} \quad [\text{VP...} \quad VP-PP...]] \]

(ii) a. \[ S [\text{what...} \quad S-PP...] \quad \text{PRED is} \quad [\text{VP...}]] \]

b. \[ S [\text{what...} \quad *VP-PP...] \quad \text{PRED is} \quad [\text{VP...}]] \]

(Reinhart (1976: 61))

(4) (i) a. *What Rosa did was ride a horse in Ben's picture (S-PP)

b. What Rosa did was find a scratch in Ben's picture. (VP-PP)

(ii) a. What Rosa did in Ben's picture was ride a horse. (S-PP)

b. *What Rosa did in Ben's picture was find a scratch. (VP-PP)

(5) (i) a. *What people do is worship Kissinger in Washington. (S-PP)

b. What the gangsters did was kill Hoffa in Detroit. (VP-PP)

(ii) a. What people do in Washington is worship Kissinger. (S-PP)
b. *What the gangsters did in Detroit was kill Hoffa. (VP-PP)

Applying these tests ((3)-(i, ii)) to the sentences in (4) and (5), we find that they can correctly predict that the PP's in the b-sentences are part of the VP's, for the occurrence of the PP's is possible in the construction in ((3)-(i)-(b)) and blocked in ((3)-(ii)-(b)). On the other hand, they can also predict that the PP's in the a-sentences are part of the S's, not VP's, for the PP's are permitted in the structure in ((3)-(ii)-(a)) and blocked in ((3)-(i)-(a)).

(II) Two tests with VP-preposing (from Ross (1973))

(i) Only constituents inside the VP can be taken along when the VP is preposed.

(ii) When preposing a VP, there is a tendency to move the whole VP. Hence, if a constituent is left following the auxiliary, it is likely to be sentential.

Thus, we get the following structure:

(6) (i) [VP... *S-PP... ]... did...
   (ii) a. VP... did S-PP
        b. VP... did *VP-PP

(7) I wanted Rosa to ride a horse in Ben's picture,
   (i) *and ride a horse in Ben's picture she did. (S-PP)
   (iia) and ride a horse she did, in Ben's picture. (S-PP)

(8) They wanted Rosa to find a scratch in Ben's picture,
   (i) and find a scratch in Ben's picture she did. (VP-PP)
   (iib) *and find a scratch she did in Ben's picture. (VP-PP)

Since in Ben's picture (S-PP) is taken along when the VP is preposed, (7i) is blocked by (6i). The ungrammaticality of (8iib) is due to the fact that in Ben's picture (VP-PP) is not preposed along with the VP.

(III) PP preposing

Jackendoff (1972) noted that VP-adverbs cannot be immediately attached to S inside the sentence, while S-adverbs can:

(9) a. John probably was eating a carrot. (S-adv)
b. *John slowly was eating a carrot. (VP-adv)
Reinhart claims that the same difference holds for S-PP's and VP-PP's:

(10) a. Rosa, in Ben's picture (anyway), looks sick. (S-PP)
(10) b. *Rosa, in Ben's picture (anyway), found a scratch. (VP-PP)
(11) a. People, in Washington anyway, worship Kissinger. (S-PP)
   b. *The gangsters, in Detroit (anyway), killed Hoffa. (VP-PP)

Another difference in the syntactic behavior of S-PP's and VP-PP's in sentences involving Gapping is applied. Kuno points out that applying Gapping to sentences with S-PP's often lowers their acceptability: (Kuno (1975b: 169), (1979: 24))

    b. John hit Mary, and Bill Jane.
(13) a. John gave Mary a book, and Bill gave Jane a magazine.
    b. *John gave Mary a book, and Bill Jane a magazine.

(12b) and (13b) are derived from the structures corresponding to (12a) and (13a) by applying Gapping. The unacceptability of (13b) is due to the fact that Gapping does not permit more than two constituents to remain in the second half of the sentence. But this constraint is relaxed in cases where the constituents left over after Gapping are clearly marked for their grammatical function (i.e., PP's, adverbs, etc.):

(14) ?John hit Mary with a stick, and Bill Jane with a belt.

Now, let us compare the following two sentences, where in each case the (b) structure underlies the second half of the corresponding (a) form:

(15) a. John was born in 1950, and Mary conceived in 1951.
    b. \[S_{NP} \text{Mary} \] \[\text{conceived in 1951}] \[VP\]
(16) a. ?John was a grown-up in 1950, and Mary still a small baby in 1951.
    b. \[S_{NP} \text{Mary} \] \[\text{still a small baby} \] \[\text{pp in 1951}] \[VP\]
Kuno suggests that the awkwardness of (16a) seems to be of the same nature as that of (14). Namely, Gapping has left more than two constituents behind, as shown in (16b). On the other hand, the acceptability of (15a) is due to the fact that Gapping has left behind two and only two constituents, as shown in (15b). It follows from his observation that in 1951 in (15a) combines with conceived to form a single constituent (VP), while in 1951 in (16a) does not combine with still a small body to form a single constituent. It is thus reasonable to claim that the PP in (15a) is a VP-PP, and the PP in (16a) is a S-PP.\(^5\)

1.2 The Semantic Differences between S-PP’s and VP-PP’s.

Kuno points out that (17) is ambiguous between the structure represented in (18) and that in (19): (kuno (1975b: 167))

(17) She was robbed in London.

(18) She was robbed in London.

(19) She was robbed in London.

Semantically, when (17) corresponds to (18), it is a statement about the referent of she. On the other hand, when (17) corresponds to (19), it is a statement about what happened in London. Thus, we cannot determine the meaning of the sentence in (17) in isolation. Its meaning is deter-
mined by the context in which it is uttered; it has the structure of (18) when it follows the question in (20), and it has that of (19) when it follows the question in (21):

(20) Where was Mary robbed?
(21) What happened to Mary in London?

It is clear that Kuno's analysis is based on the assumption that PP's attached to the S node convey thematic information and thus, form part of the old information conveyed by the sentence, while PP's attached to the VP node are nonthematic elements and thus, part of the new information. This difference in the function of S-PP's and VP-PP's can be found in questions. Interrogative sentences with normal intonation usually question only the part of the new information of the sentences: (Kuno (1975b: 169), Reinhart (1976: 67))

(22) A : Do people worship Kissinger in Washington? (S-PP)
    B : #No, in Detroit.
(23) A : Did the gangsters kill Hoffa in Washington? (VP-PP)
    B : No, in Detroit.
(24) A : Is Rosa riding a horse in Ben's picture? (S-PP)
    B : #No, in Max's picture.
(25) A : Did Rosa find a scratch in Ben's picture? (VP-PP)
    B : No, in Max's picture.

The appropriateness of (23B) and (25B) is due to the fact that the focus of the questions is on the PP's designating the relevant places. On the contrary, the inappropriateness of the answers in (22A) and (24A) is due to the fact that the focus of the questions is on the VP rather than the PP's. This suggests that it is reasonable to subcategorize PP's into VP-PP's and S-PP's; the former convey new information and the latter old information.

Another reason for making a semantic distinction between S-PP's can be found in the sentences below:

(26) a. Ben's father, anyway, will never allow it.
b. It's Ben's father, anyway, who will never allow it.

(27) a. Rosa looks sick, in Ben's picture anyway.
   b. Rosa found a scratch, in Ben's picture anyway.

   b. The gangsters killed Hoffa, in Detroit anyway.

According to Reinhart (1976: 67), such expressions as anyway or at least indicate topichood. Thus, they cannot modify new information. We can see this fact in (26). In (26a), anyway can attach to the S node dominating the head NP of the sentence, which stands for the thematic element in the unmarked case. On the contrary, in (26b), since anyway presupposes old information, it cannot cooccur with the focused elements in the clefted phrase, which always conveys new information. In (27a) and (28a), anyway cooccurs with S-PP's, while it cannot cooccur with VP-PP's in (27b) and (28b). It follows from this fact, as Reinhart suggests, that S-PP's convey old information and VP-PP's convey new information.

Kuno has suggested that the functional content of an S-PP does not vary with respect to its position in a sentence but that, on the other hand, that of a VP-PP does: (Kuno (1975b: 168), (1978: 25), (1979: 125))

(29) a. John was still a small boy in 1960.
   b. John was born in 1960.

(30) a. In 1960, John was still a small boy.
   b. In 1960, John was born.

Following Kuno's explanation, the sentence in (29a) is a statement which tells 'how John was in 1960', while the sentence in (29b) is a statement 'when John was born'. Now consider (30). Kuno suggests that the (30a) is more or less synonymous with that in (29a), but (30b) means something totally different from that in (29b). It may be readily understood that (29b) is appropriate as an answer to the question in (31) and (30b) as an answer to the question in (32):

(31) When was John born?
(32) What happened in your family in 1960?

It follows from Kuno's observation that the scene-setting thematic adverbs
can be preposed to sentence-initial position without changing the meaning of the sentence. To put it in my terms, VP-PP's cannot be preposed without changing the meaning of the sentence while the position of a S-PP within a sentence does not affect its meaning. Kuno further assumes without demonstration that thematic adverbs originate in sentence initial position, a point which I will discuss in the next section. (Kuno (1975a: 293, 295), (1975b: 172), (1979: 125))

2. The Position of S-PP's in Underlying Structure

2.1 Different PP's, Different Anaphoric Relations.

When we consider whether it is possible for a NP in a sentence initial PP to be coreferential with an NP elsewhere in the sentence, our attention is drawn to the fact that there is a clear-cut difference of acceptability between sentences with S-PP's and those with VP-PP's in sentence initial position:

(33) a. In Ford's home town, he is considered a genius (S-PP)  
   b. *In Hoffa's home town, he was killed by the gangsters. (VP-PP)

(34) a. In Ben's family, he is the genius. (S-PP)  
   b. *In Ben's office, he spends a lot of time. (VP-PP)

(35) a. With Rosa's new job, she'll end up in the hospital. (S-PP)  
   b. *With Rosa's new boss, she doesn't argue. (VP-PP)

It is obvious from the acceptability ratings of these sentences that coreference is possible only in cases where the sentence initial PP is a S-PP, otherwise it is not.

I have already proposed in Kato (1980), Anaphora Restriction I (AR I) in (36), which can correctly account for the sentences in (33b), (34b), and (35b). To repeat the main points of the argument briefly, I have listed the surface structures corresponding to the (b) sentences above in (33b)', (34b)' and (35b)' below:

(33b)' In Hoffa's home town, he was killed by the gangsters [PP]

(34b)' In Ben's office, he spends a lot of time [PP]
(35b)' With Rosa's new boss, she doesn't argue \[_{PP}e\]

(36) *Anaphora Retriction I (AR I)*

In the structure \[S \ldots [_{\alpha_i} \ldots NP_2 \ldots ] \ldots NP_1 \ldots [_{\alpha_i} e ] \ldots ]\], NP_1 and NP_2 are noncoreferential unless NP_1 is the antecedent of NP_2. (where \[_{\alpha_i} e \] is a trace left by preposing transformations)

Since (33b)'–(35b)' match the structural specification in (36) and the NP corresponding to the pronoun in each case is not the antecedent of the NP corresponding to the full NP, AR I correctly blocks coreference between them. If we try to explain the acceptable sentences in (33a)–(35a) in the same fashion, (namely, supposing that the S–PP's in the (a) sentences originated in sentence final position in underlying structure and were subsequently preposed to sentence initial position) we would incorrectly mark them as unacceptable by the application of AR I.

Let us reconsider the suggestive remarks made by Kuno mentioned in the previous section. He has claimed that the functional meaning of S–PP's does not vary with respect to their position in a sentence, while that of VP–PP's does. He has further assumed that thematic adverbs originate in sentence initial position in underlying structure. We will see that much follows from these suggestions.

We can now hypothesize that the S–PP's in (33a)–(35a) are generated in sentence initial position in the base, while the VP–PP's in (33b)–(35b) are generated in the VP. Consequently, we can say the surface structures of the (a) sentences in (33)–(35) do not contain a trace, because no transformations are applied to them. Thus, AR I does not apply to (33a)–(35a), for its application, as its structural description indicates, presupposes the prior application of a preposing transformation. As a result, the sentences in (33a)–(35a) are correctly interpreted as acceptable by the Principle of Anaphora (PA) in (37), proposed in Kato (1980).

(37) *Principle of Anaphora*

NP_1 and NP_2 are noncoreferential unless the perceptual order \[[ \ldots [_{\text{antecedent}} \ldots [_{\text{anaphor}}] \ldots ]\] is kept on the level of perceptual processing.
2.2 S-PP's Originating in Sentence Initial Position

2.2.1 Semantic Considerations:

Kuno points out that the sentence in (38) is ambiguous between the sentences represented in (39a) and (39b): (Kuno (1971: 353))

(38) Many people come to Japan every year.

(39) a. Every year, there are many people who come to Japan.
b. There are many people who come to Japan every year.

In (39a), the scope of every is wider than that of many. In (39b), the scope of many is wider than that of every. Kuno explains the two interpretations of (38) by assuming the two underlying structures shown in (40a) and (40b): 8

(40) a. 

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S
\(\text{ADV}
\text{every year
S} = \text{many people come to Japan}
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(40) b. 

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S
\(\text{NP}
\text{many people
VP
\text{come to Japan
ADV
\text{every year}
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(40a) corresponds to the (39a) interpretation of the sentence in (38), and (40b) corresponds to the (39b) interpretation. Kuno suggests that, (40a) can undergo a transformation which lowers the adverb (every year), and attaches it to the lower S node. Thus, (38) is derived without changing the interpretation in (39a). On the other hand, (40b) cannot undergo a transformation which preposes the adverb (every year) without changing its meaning. If the adverb in (40b) is forcibly preposed, its meaning changes to that of (39a).

Let us put this observation above in another way. Consider the sen-
This sentence, as it stands, can receive only the interpretation in (39a), while the sentence in (38), the PP of which is supposed to be postposed, receives two interpretations: one as in (39a), with *every year* attaching to the S node, the other as in (39b), with *every year* attaching to the VP.

The important point here is that Kuno assumes (40a) to underlie the sentence in (38); namely, he claims that *every year* is generated in sentence initial position in the underlying structure. Behind his claim is the well motivated hypothesis that the farther from the underlying structure, the greater the ambiguity. That is, we usually regard the less ambiguous structure as the underlying structure. In relation to this, Holmes (1973) introduces the idea pointed out in Fodor (1971):

Fodor (1971) has argued that the perceptual complexity of a sentence should be increased if the surface order of elements differs from the “canonical” English sentence order, that is, the order in the deep structure. (Holmes (1973: 285))

This argument of Fodor's seems to support the above hypothesis from the perceptual processing point of view.

In the relation between PP position and a quantifier we can find parallels with the relation between adverb position and quantifier scope as shown in the discussion concerning (38)-(41). Consider the sentences below:

(42) In all of Ben's pictures someone is riding a horse. (S–PP)
(43) Someone found scratches in all of Ben's pictures. (VP–PP)
(44) Someone is riding a horse in all of Ben's pictures. (S–PP)
(45) In all of Ben's pictures someone found scratches. (VP–PP)

Reinhart points out that both the sentence in (42), with the S–PP in sentence initial position, and the sentence in (43), with the VP–PP in the sentence final position, are unambiguous with respect to quantifier scope. In (42), the scope of *all* is wider than that of *someone*; thus it has only the
reading that all Ben's pictures are such that someone is riding a horse in them (not necessarily the same person). (43) has also only one scope reading that the scope of someone is wider than that of all. Thus, (43) has only the reading that there is someone such that he found a scratch in all of Ben's pictures. On the other hand, both (44), with the S–PP in the sentence final position, and (45), with the VP–PP in the sentence initial position, are two ways ambiguous. Both sentences have two scope readings: In the first, the scope of all is wider than that of someone; in this case someone may refer to different people in the case of different pictures. In the second, scope of someone is wider than that of all; in this case someone must refer to the same person in the case of all of the pictures.

What is important here is that there is only one scope reading in (42) with the S–PP in sentence initial position and in (43) with the VP–PP in sentence final position. In (44), with S–PP in sentence final position, and in (45), with the VP–PP in sentence initial position, however, there are two scope readings possible in each case. It seems reasonable from these observations to claim that S–PP's are generated in sentence initial position in underlying structure.

2.2.2 Syntactic Considerations:

Now imagine the following two sentence types: (i) one has two S–PP's in sentence initial position; (ii) the other has one S–PP in sentence initial position and another S–PP in sentence final position. If the two S–PP's in the case (i) preserve their category as the S–PP's, while in the case (ii), the sentence initial S–PP preserves the category of S–PP but the S–PP moved into sentence final position tends to change its category from S–PP to VP–PP, then we can reasonably claim that S–PP's are generated in sentence initial position in underlying structure:

(46) In Ben’s home town, he is considered a genius.
(47) With Ben’s marvelous ingenuity, he is considered a genius.
(48) In Ben’s home town, with his marvelous ingenuity, he is considered a genius.

In (46) and (47), the sentence initial PP’s are S–PP’s. (48) thus has two S–PP’s in sentence initial position and is perfectly acceptable. On the
other hand, in (49), comma insertion is obligatory in front of the S-PP (*with his marvelous ingenuity*) moved from sentence initial position in (48). Otherwise, (49) is unacceptable:

(49) In Ben's home town, he is considered a genius *(,) with his marvelous ingenuity.

This is due to the fact that the original S-PP, when it is moved into sentence final position, tends to change into a VP-PP interpreted as a modifier of the manner of X below:

(50) \[ S [\text{NP} X] [\text{VP} \text{consider him a genius with his marvelous ingenuity}] \]

Thus, if there is no comma intonation in front of the moved S-PP, its interpretation will be that of a VP-PP. But this interpretation is semantically anomalous. That the comma intonation is obligatory in case (49) is verified by the following sentences whose comma intonations are optional:

(51) Ben is considered a genius *(,) with his marvelous ingenuity.
(52) Ben is considered a genius *(,) in his home town.
(53) People worship Kissinger *(,) with his great achievements.
(54) Rosa looks sick *(,) in Ben's picture.

Now let us consider some cases where the insertion of a comma in front of the sentence final PP makes the sentence unacceptable:

(55) With such enthusiasm, people worship Kissinger, in Washington.
(56) In Washington, people worship Kissinger *(,) with such enthusiasm.

In (56), the PP *with such enthusiasm*, which is originally a sentence initial S-PP, has lost its status as a S-PP and has changed into a VP-PP upon being postposed to sentence final position. This PP, now, functions as a VP-PP which is modifying the manner of people's worshipping Kissinger. But since the comma insertion blocks the functioning of the PP as a VP-
PP, (56) will be unacceptable if a comma is inserted in front of the sentence final PP.

Let us now consider the relation between yes-no question and the position of PP's:

(57) Did they find a scratch in Ben's picture? (VP-PP)
(58) Did the gangsters kill Hoffa in Detroit? (VP-PP)
(59) Did they hit Mary with the whip? (VP-PP)
(60) Did Rosa argue with her new boss? (VP-PP)

It is obvious from these sentences that yes-no questions are possible cases where the sentence final PP's are VP-PP's. On the other hand, yes-no questions are blocked or less acceptable in cases where the sentence final PP's are S-PP's: 10

(61) a. In Washington, do they worship Kissinger?
    b. ?? Do they worship Kissinger in Washington?
(62) a. In Ben's picture, does Rosa look sick?
    b. ?? Does Rosa look sick in Ben's picture?
(63) a. In Ben's home town, is he considered a genius?
    b. ?? Is Ben considered a genius in his home town?
(64) a. With her new job, does she look more cheerful?
    b. ?? Does she look more cheerful with her new job?

This discrepancy seems to be due to the reason mentioned in the previous discussion about the sentences in (46)-(56), that is, the sentence final S-PP's in these cases tend to be interpreted as VP-PP's which seems to bring on semantic anomaly.

Were the (a)-sentences in (61)-(64) derived by an application of PP-Preposing, the (b)-sentences would have to be the underlying sources. But as they stand, the forms in the (b)-sentences are not acceptable. If we allow the grammar to produce abstract structures such as the (b)-sentences, then we must either make PP-Preposing obligatory in just such instances or devise a constraint to prevent the (b)-sentences from being realized as surface structures. It is evident that either of these approaches would be totally ad hoc and hence objectionable. As a result, the only alternative left is our proposal that S-PP's are generated in sentence initial
position in the base.

2.2.3 Lexical Consideration:

When we closely investigate the lexical properties of S-PP's, we will soon notice that there are some S-PP's that cannot appear in sentence final position: (Quirk et. al. (1972))

(65) a. As for that incident, the burglar escaped through the attic window.
   b. *The burglar escaped through the attic window, as for that incident.
(66) a. As for girl friends, John is always surrounded by many pretty girls.
   b. *John is always surrounded by many pretty girls, as for girl friends.
(67) a. With reference to your letter, I confirm my Director's agreement to advance a further sum of $200.
   b. *I confirm my Director's agreement to advance a further sum of $200, with reference to your letter.
(68) I didn't ask her to leave.
   a. On the contrary, I tried to persuade her to stay.
   b. ?? I tried to persuade her to stay, on the contrary.
(69) In order to buy the car, I may draw on my savings, though I am reluctant to do so.
   a. On the other hand, I might approach my parents for a loan.
   b. ?? I might approach my parents for a loan, on the other hand.
(70) Even the largest of whales, the Blue Whale, with a maximum length of about 100 feet and weight of up to 130 tons, can attain 20 knots for about 10 minutes.
   a. By way of contrast, the common dolphin can keep up a speed of 20–22 knots for hours.
   b. ?? The common dolphin can keep up a speed of 20–22 knots for hours, by way of contrast.
(71) A cut of one quarter in the total wages bill would bring only a five per cent saving in the ship's final cost.
   a. By contrast, the price difference between British and Japanese
tankers is now as much as 25 per cent.

b. ?? The price difference between British and Japanese tankers is now as much as 25 per cent, by contrast.

It follows from the acceptability ratings of these sentences in (65)-(71) that S-PP's such as as for and with reference to cannot appear in sentence final position, and that S-PP's such as on the contrary to, on the other hand, by way of contrast, and by contrast are awkward or unnatural in the sentence final position. We can readily recognize that there is a property common to all the S-PP's above: they introduce themes that are in some way contrastive with respect to the previous context. Thus, it is natural for them to appear in sentence initial rather than sentence final position.

Considering the pairs in (65)-(71), the problem which I have already discussed in relation to (61)-(64) arises again. Namely, if the (a)-sentences above were derived by an application of PP-preposing, the (b)-sentences would have to be the underlying source. But as they stand, the forms in the (b)-sentences fail to underlie acceptable sentences. If we allow the grammar to produce abstract structures such as the (b)-sentences, then we must either make PP-Preposing obligatory in just such instances or devise a constraint to prevent them from being realized as surface structures. It is obvious that either of these approaches would be totally ad hoc and hence untenable. It is thus quite reasonable to claim that S-PP's are generated in sentence initial position in underlying structure.

3. The Underlying Phrase Structure Rule of S-PP's

Since we choose not to generate S-PP's transformationally, the only other way to generate them is by means of phrase structure rules in the base component.

It is generally assumed within COMP Theory developed in Bresnan (1972) that if there is a transformation of PP-preposing, the PP's are moved into the COMP position. Since it is currently believed that there is only one COMP position in a sentence, if a PP is preposed, the COMP is filled and no other constituent, such as a WH-word, Q (uestion), or Imp (erative), can be moved into the COMP. Alternatively, if the COMP is filled by moved WH-word, or Q, or Imp marker, PP-preposing cannot be applied.
Contrary to this assumption, Reinhart gives evidence which shows that the constraint above holds only with respect to VP-PP's, not S-PP's: (Reinhart (1976: 71))

(72) a. In Washington, who do they worship? (S-PP)
   b. *In Detroit, who did the gangsters kill? (VP-PP)
(73) a. In Ben's picture, does Rosa look her best? (S-PP)
   b. *In Ben's picture, does Rosa find a scratch? (VP-PP)
(74) a. With her new job, why can't Rosa be more cheerful? (S-PP)
   b. *With her new boss, why doesn't Rosa argue? (VP-PP)

The unacceptability of the (b)-sentences in (72)-(74) is surely due to the fact that WH-word cannot move into the COMP, which has been already filled by the moved VP-PP. The same is true in the cases of yes-no questions and imperative sentences: (Reinhart(1976: 71-2))

(75) a. In Ben's picture, does Rosa look her best? (S-PP)
   b. *In Ben's picture, did Rosa find a scratch? (VP-PP)
(76) a. With her new job, can she spend more money? (S-PP)
   b. *With her boss, does she argue? (VP-PP)
(77) a. In my next picture, look more cheerful, please! (S-PP)
   b. *In my next picture, find a scratch, if you can! (VP-PP)
(78) a. With your new job, go spend more money! (S-PP)
   b. *With your boss, stop arguing! (VP-PP)

Since all the (a)-sentences are acceptable, Reinhart suggests that the moved S-PP's may attach not to the COMP but to the higher node which dominates S. She assumes here that the higher node in question may be E (xpression), as proposed by Banfield (1973). As a result, we entertain the following two structures:

(79) a. preposed S-PP's
   b. preposed VP-PP's

Regardless of the original position of S-PP's in sentence, the following
prediction follows from the structure in (79a):

(80) *WH*-questions and *Questions* are possible in sentences with two initial S-PP’s

(81) In Washington, with the great contributions to the security of US, don’t people worship kissinger?

(82) On Friday, with the poor security arrangements, who wouldn’t be able to walk off with the office football pool?

Thus, I agree with Reinhart’s proposal in relation to (79) except for her inclusion of the expression “preposed” in (79a), for I assume that S-PP’s are generated in sentence initial position in the base, by the following base phrase structure rule:

\[
\text{(83) } \text{S} \rightarrow \text{S-PP} \quad \text{S} \quad \text{S-PP} \quad \text{S}
\]

4. Further Generalization of the Underlying Phrase Structure Rule of S-PP’s

4.1. Rodman’s Arguments Against Left Dislocation

Rodman (1974) offers mainly four arguments against the existence of Left Dislocation as in (84) as a grammatical transformation. The first argument is due to the fact that to modify the rule of Left Dislocation proposed by Ross (1967) in (84) to produce any of the sentences of (85) from underlying *Many boys would like to kiss Sarah Bernstein.* would comprise a grave complication to the grammar.

\[
\text{(84) } X \rightarrow \text{NP} \quad \text{OPTIONAL } \rightarrow \quad Y
\]

\[
\begin{array}{c}
1 \quad 2 \quad 3 \\
2\#[1 \quad 2 \quad 3] \\
+ \text{PRO}
\end{array}
\]

\[
\text{(85) As for } \\
\text{Speaking of } \\
\text{If’s funny about } \\
\text{On the subject of } \\
\text{Sarah Bernstein, many boys would like to kiss her.}
\]

As the second argument, consider the following data:

As for
Me and Lenny, he's gonna go get some bunnies and I'm gonna go get my six shooter.

*Me, Lenny, he's gonna go get some bunnies and I'm gonna go get my six shooter.

Repeated applications of the putative rule of Left Dislocation given as in (84) to its own output will not help account for (86), for the strings in (87) are not well formed.

Rodman's third argument has to do with the following constraint proposed in Emonds (1970):

No two preposing Root Transformation may apply in the same S.

a. Those petunias, what Joanne do with them?
b. Your youngest brother, who did he meet in the east?

If there is a rule of Left Dislocation, it is certainly a preposing Root Transformation. (Emonds (1970: 19f)) But in the derivation of examples in (89), both Left Dislocation and WH-Question have applied. Thus (89) are counterexamples of Emonds' otherwise well motivated constraint.

The fourth argument is based on the fact that there are sentences which have the form of left dislocations, but cannot be produced as the output of the application of (84) for lack of a plausible underlying source:

(As for) the flat tire, John explained (*it) that there had been nails on the ground.

*John explained the flat tire that there had been nails on the ground.

Rodman claims that if (90) were derived by an application of (84), (91) would have to be the underlying source, but as it stands, (91) fails to underlie the well formed sentence in (90). Rodman concludes that the rule of Left Dislocation does not exist, and proposes the following phrase structure rule as the alternative way to generate left dislocations. Fundamentally, I agree with his proposal that left dislocated elements are not derived transformationally, but directly generated in the base.
Masahiro Kato

4.2. Similarities Observed in the Function of S-PP's and Left Dislocations

Since there seems to be the formal similarity between (83) and (92), it may be worth while investigating whether we can find out the characteristic properties that both S-PP's and left dislocations have in common, and thus we can achieve a significant generalization of the grammar.

In section 1.2, I have shown that Kuno (1975b) suggests that S-PP's play the role of "scene-setting" (cf. (29) ff.). That sentence-initial S-PP's are the topic is shown in (93) and (94), where (93b) and (94b) are appropriate as answers to the questions:

(93) a. What happened in Mary's apartment?
   b. In Mary's apartment, a thief assaulted her. (S-PP)

(94) a. Tell me about Mary's apartment.
   b. From Mary's apartment, she could see half of Paris. (S-PP)

The same is true for the left dislocated elements. Rodman mentions that left dislocation is a topic establishing or thematizing operation. (Rodman (1974: 10)) Consider the following examples:

(95) What can you tell me about John?
   Nothing. *But Bill Mary kissed. (Topicalization)
   But Bill, Mary kissed him. (left dislocation)

Since Bill is not an element not previously established as topic Topicalization cannot apply to (95). But left dislocation is possible in this case because of its topic establishing operation.

There are several syntactic properties that both S-PP's and left dislocations have in common: First, Question Formation can be applied if and only if the sentence-initial position is occupied by an S-PP ((96a), (97a)) or by a left dislocated element ((98a), (99a)).

(96) a. In Washington, do they worship Kissinger?
   b. *Do they worship Kissinger in Washington?
(97) a. In Ben's picture, does Rosa look sick?
   b. **Does Rosa look sick in Ben's picture?**
(98) a. That guy, how can you stand him?
   b. *How, that guy, can you stand him?
(99) a. That guy, out of the whole senior class, which girl did he like best?
   b. *Which girl, that guy, out of the whole senior class, did he like best?

Secondly, both S-PP's and left dislocations can occur in subordinate clauses:

(100) a. Ben promised Rosa that in his next picture she would look more attractive.
   b. He told me that in his family he is considered a genius.
(101) a. Mary said that her grades, they weren't too good.
   b. I know that those slacks, they're too tight for me now.

Thirdly, with respect to the anaphoric relation, the sentence-initial full NP's can be the antecedents of the following pronouns in case that those NP's are in S-PP's ((102a), (103a)) or in left dislocated elements ((104a), (105a)), whereas they can not be the antecedents in case that they are in VP-PP's ((102b), (103b)) or in Topicalized elements ((104b), (105b)):

(102) a. In Ford's home town, he is considered a genius.
   b. *In Ford's home town, he was killed by the gangsters.
(103) a. With Rosa's new job, she will end up in the hospital.
   b. *With Rosa's new boss, she doesn't argue.
(104) a. (As for) Sonya, she denies that Hirschel admires her.
   b. *Sonya, she denies that Hirschel admires.
(105) a. Sonya's recipes, an expert has praised them in the contest.
   b. *Sonya's recipes, she will never give you.

We can find another similarity between S-PP's and left dislocations in the syntactic behavior. Let us compare (72)–(74) with the following examples:
The syntactic property which sentences with S-PP's (72)-(74) and those with left dislocated elements in (106) have in common is that certain constituents can precede the WH-words. In other words, in the framework of COMP Theory, both S-PP's and left dislocated elements should attach to the node outside $\bar{S}$.

It is now clear that Rodman's formulation in (84), as it stands, cannot generate those examples in (106), for there is no node for left dislocated elements to attach to inside $\bar{S}$, since $WH$-word fills COMP dominated by $\bar{S}$ node. Thus, it should be reformulated as in (107):

\[(107) \quad \bar{S} \rightarrow (X) \ NP \ \bar{S}\]

According to Rodman (1974), it is not clear whether the list of expressions encompassed by X is closed or not. He suggests as follows:

Syntactically, such expressions should be capable of preceding a noun phrase. Semantically, they typically play the dual role of introducing a noun phrase and of acting as initiating expressions in the overall discourse. (Rodman (1974: 21))

It follows from this suggestion that a preposition is a possible element which can stand for X in (107).

With this much in mind, let us reexamine the formal similarity between (83) and (107). S-PP's usually consist of prepositions and noun phrases. Thus, (83) may be rewritten as in (108):

\[(108) \quad \bar{S} \rightarrow P \ NP \ \bar{S}\]

Then, if we substitute P(reposition) for X in the parenthesis in (107), we get the same formulation as in (108). This means that it is quite reasonable to collapse the two formulations, (83) and (108), into one as in (109) in terms of the parenthesis notation developed in Chomsky and Halle (1968):

\[(109) \quad \bar{S} \rightarrow ((P) \ NP) \ \bar{S}\]
In passing, since it is not every sentence that has thematic materials designated as S-PP in (83) and as (X) NP in (107), these materials should be specified as optional ones in the rule schema. Note that this specification is reasonably realized in (107), making use of parentheses.

(107) is expanded as follows, regardless of the ordering of rule application:

\[(110)\]
\[
\begin{align*}
(110a) \ S & \rightarrow \ P \ \text{NP} \ \bar{S} \quad (=(108)=(83)) \\
(110b) \ S & \rightarrow \ \text{NP} \ \bar{S} \quad (=(107)) \\
(110c) \ S & \rightarrow \ \bar{S}
\end{align*}
\]

The following sentences with S-PP's are derived by (110a):

\[(111)\]
\[
\begin{align*}
(111a) \ & \text{In Ford's home town, he is considered a genius.} \\
(111b) \ & \text{As for Sonya's recipes, she will never give them to you.} \\
(111c) \ & \text{With such enthusiasm, people worship Kissinger.}
\end{align*}
\]

The following left dislocations are derived by (110b):

\[(112)\]
\[
\begin{align*}
(112a) \ & \text{Sarah Bernstein, many boys would like to kiss her.} \\
(112b) \ & \text{Sonnya, she denies that Hirschel admires her.} \\
(112c) \ & \text{Harry, Bill has warned Harry that he must not steal any more apples.}
\end{align*}
\]

Considering the sentences above, it seems quite reasonable to claim that the proposed underlying phrase structure rule in (109) is capable of generating the entire class of left dislocations and the sentences with sentence-initial S-PP's in a uniform way. In this sense, we achieve a significant generalization of the grammar of English.

* * * * * * * * * * * * * * * * *

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FOOTNOTES:

1. Throughout the discussion, coreference will be indicated by italicized coreferential NP's.
2. $C$ (constituent)-command:
   Node $A$ c-commands node $B$ if neither $A$ nor $B$ dominates the other and the first branching node which dominates $A$ dominates $B$. (Reinhart (1976: 32))

Syntactic domain in terms of c-command:
The domain of a node $A$ consists of $A$ together with all and only the nodes c-commanded by $A$. (OR: The domain of a node $A$ is the subtree dominated by the first branching node which dominates $A$.) (Reinhart (1976: 33))

3. Coreference restriction in terms of c-command
   Two NP's cannot be coreferential if one is in the syntactic domain of the other and is not a pronoun (where the domain is defined by the c-command relation) (Reinhart (1976: 125)) Consider the following sentences:
   
   (i) *Near Dan, he saw a snake.
   (ii) Near him, Dan saw a snake.
   
   Under the c-command definition of domain, NP (Dan) is c-commanded by NP (he) in (i), that is, Dan is in the domain of he. Thus, the coreference restriction correctly blocks a coreferential reading, for Dan is not pronominalized. In (ii), NP (Dan) is not in the domain of NP (him), since the first branching node dominating him is PP, which attaches to S node, and thus does not dominate Dan. Therefore nothing blocks coreference in (ii).
4. A similar test is proposed in Kuno (1975b: 169).
5. In Kuno's terms, he uses thematic adverbs instead of our S-PP's and non-thematic adverbs instead of our VP-PP's. Although there may be peripheral differences between Kuno's concepts and ours, I will assume for the purpose of this paper that Kuno's thematic adverbs and non-thematic adverbs, at least the ones actually appear in his papers, correspond roughly to our S-PP's and VP-PP's, respectively.
6. "$\#$ stands for pragmatic or semantic awkwardness.
7. Kuno calls the in 1960 in (29a) "a scene-setting thematic adverb" and the in 1960 in (29b) "a time-specifying adverb", which falls in his "non-thematic adverb" category.
8. In (40), Kuno assumes, merely for ease of exposition, that quantifiers appear as constituents of noun phrases in deep structure.
9. This was pointed out to me by Atsuro Tsubomoto.
10. This was pointed out to me by Prof. Nakau.
11. Reinhart suggests the following:

Alternatively it is possible that these PP's are not moved at all and
that they can be generated both in final and in higher initial positions. (Reinhart (1976: 72))

12. In order to avoid the terminological ambiguity, I use the term ‘Left Dislocation’ as a transformational rule and ‘left dislocation’ as a sentence which contains a left dislocated element as in (85).


References:


(昭和55年4月30日受理)