1. Since Rosenbaum (1967) proposed the Minimal Distance Principle, the verb promise has remained exceptional in control theory. Chomsky (1980) stipulates two types of control verbs - subject control verbs like try and object control verbs like persuade, a distinction based on the Minimal Distance Principle. He also introduced the feature [+SC] as an exceptional lexical property of promise in order to account for the contrast in (1): ¹

(1)  
   a. Yesterday John promised Mary to leave  
   b. Yesterday John persuaded Mary to leave

Chierchia (1984) proposes the following theta-hierarchy to identify the controller in his meaning postulate schema.

(2) Theme > Goal > Source > Beneficiary > ...

The argument bearing the highest theta-role in the hierarchy is the controller. However, promise is still problematic. Even though a goal-argument Mary appears in (1a), the source-argument John is the controller of to leave.

Klein and Sag (1985) propose that in the function argument structure of a semantic interpretation, the first argument (NP or PP) of a functor in which the translation of a VP occurs is the controller of that VP. Thus, the difference between promise and persuade is:

(3)  
   a. \( \text{VP, V', (VP'), (NP')} \)  
   b. \( \text{VP, V', (NP') (VP')} \)

\( \text{V[10]} \) persuade  
\( \text{V[11]} \) promise

In (3a), persuade combines with VP' before it combines with NP'. Thus, NP' is the first argument to VP' and is the controller of that VP. In contrast, in (3b), promise combines first with NP'. Thus, there is no first NP or PP argument within VP and the subject NP (which does not appear in (3b) is the controller.

While this gives the right results, it is no less stipulative than identifying promise as [+SC].

In Head-Driven Phrase Structure Grammar (hereafter HPSG). Pollard and Sag (1987) (hereafter P&S) account for the contrast in (1) by the obliqueness hierarchy in the SUBCAT list of the verbs. ² They propose the following SUBCAT feature for the two verbs:

(4)  
   a. promise: \( <NP, VP[INF], NP> \)  
   b. persuade: \( <VP[INF], NP, NP> \)

¹ Within the GB framework Ruzicka (1983) accounts for the contrast in (1) by two separate conditions: Thematic Identity Condition for (1a) and Thematic Distinctiveness Condition for (1b).

² I discuss the obliqueness hierarchy more comprehensively in section 2.
The rightmost NP is the subject. So, in (4a), the object NP is more oblique than VP, and thus, the object NP cannot control the VP[INF] complement. In contrast, (4b), the object NP is less oblique than VP[INF] complement, and thus, it must control the VP complement. This analysis is more explicit than the other. But it still does not provide a reason as to why the post-verbal NPs of promise and persuade should be different in SUBCAT and, thus in, obliqueness. ³

We notice that these analyses share one property: the argument requirement of the two verbs are taken to be inviolate, even though the lexical properties of two verbs are obviously different. In the present paper, I propose that the post-verbal NP of promise is not an object complement but rather an adjunct. With this simple adjustment, the contrast in (1) can be accounted for in HPSG without invoking any additional formal mechanisms. The present analysis requires a distinction between promise and persuade, but it does not require that we change the properties of SUBCAT.

2. In HPSG syntactic categories are analyzed as a bundle of syntactic features. There are two distinct subtypes of features. One identifies HEAD features, SUBCAT features, and LEX feature, and the other refers to binding features consisting of the SLASH, REL, and QUE features. A sample lexical entry for persuade in (1b) is shown below:

(5) PHON
SYNTAX
Local
[HEAD
V
VFORM
[ADJUNCT (... ADV ...)]
[SUBCAT <VP,NP,NP>]
[SLASH
REL
QUE]

Note that the complements and adjuncts of a head are introduced by different features. Complements (e.g. Mary, John, and to leave in (1b)) are introduced by the SUBCAT features, and adjuncts (e.g. yesterday in (1b)) by the HEAD features. Binding features are irrelevant for our purposes. The complements in SUBCAT are listed according to the following obliqueness hierarchy.

(6) In the SUBCAT list <α,β,γ>, we define the obliqueness hierarchy as $\alpha <\beta <\gamma$ where $\alpha$ is the most oblique and $\gamma$ is the least oblique complement. ⁴

That is, the leftmost element is the most oblique complement and the rightmost element is the least oblique complement. Thus, in HPSG all arguments including subject are subcategorized by the verb Head: the subject argument is simply least oblique complement. This aspect of HPSG differentiates it from GPSS and GB. The obliqueness hierarchy also defines control relationships.

³ Volume 2 of Pollard and Sag (1987) may address this issue, but it is not yet available.

⁴ By the symbol ‘<<’ I mean the relation between two elements: the antecedent is more oblique than the following. This is different from ‘<’ which means that the antecedents greater than the following.
In the obliqueness hierarchy (6), the most oblique complement is controlled by the less oblique complement. Given (6) and (7), a subject complement will never be a controller if an object complement is present. This is the account of the object - control verb persuade.

3. If the SUBCAT of promise is identical to persuade, promise remains a problem. However, if the post-verbal NP which has been considered the object of promise is not the object but rather an adjunct, the problem evaporates. According to this idea, the NP does not appear in the SUBCAT list of the verb promise but rather in the ADJUNCT list:

\[
\begin{array}{c}
\text{PHON} \\
\text{promise} \\
\text{SYNTAX|Local} \\
\text{HEAD} \\
\text{MAJ} \quad \text{V} \\
\text{VFORM} \quad \text{FIN} \\
\text{ADJUNCT} \{ \ldots \text{NP} \ldots \} \\
\text{SUBCAT <VP,NP>}
\end{array}
\]

promise takes a VP and an NP as its complements, but the post-verbal NP is an adjunct. In (8), by Principle (7), the subject NP is the only possible candidate for the controller of the VP.

One difference between persuade and promise consistent with the difference between (5) and (8) has been noticed in the literature. While persuade undergoes passivization, promise does not.

(9) a. John appeared to Mary to kill himself.
   b. *John was promised by Mary to kill himself.

If the post-verbal NP of promise is an object-argument, there is no reason why it does not undergo passivization. Were it not the object-argument, it should not undergo passivization. In English there is no case where an adjunct undergoes passivization. Two other verbs show us this fact clearly.

(10) a. John appeared to Mary to be good.
    b. *Mary was appeared to to be good.

(11) a. John appealed to Mary to be good.
    b. Mary was appealed to to be good by John.

In (10) to Mary is an adjunct, and thus, it cannot undergo passivization. But in (11) to Mary is a complement, and thus, it undergoes passivization. With this evidence we can conclude that the post-verbal NP of promise is an adjunct. While the passivization difference has been noticed, another difference has gone unnoticed without remark.

(12) a. *To Mary, John persuaded to leave.
    b. To Mary, John promised to leave.

Promise allows preposing of the NP as a PP but persuade does not. It seems to be a mystery that

\[\text{Klein and Sag (1985) point out that it is not the case that all oblique objects are marked by preposition (promise), nor that all preposition-marked NPs are oblique objects (appeal).}\]
the preposition to appears in preposed but not in post-verbal position with promise. We notice the
same situation in WH-constructions and Relative clauses.

(13) a. Who did John persuade to leave.
    b. *Who did John promise to leave.

(14) a. The man who John persuaded to leave is my brother.
    b. *The man John promised to leave is my brother.

The verb persuade allows WH-constructions and relativization, but promise does not appear to.
Interestingly enough, with the preposition to, promise allows both.

(15) a. To whom did John promise to leave.
    b. The man to whom John promised to leave is my brother.

These facts together with preposing lead us to the conclusion that the post-verbal NP of promise
always appears as PP in initial position. But we still cannot explain why, in the post-verbal
position, the PP appears without the preposition to. We leave this problem open. Interestingly,
in Korean the corresponding to to postposition eke appears in any position as we will see in the
following section. (See footnote 5.) However, if the post-verbal NP is a complement, it cannot be
preposed with the preposition to. On the other hand, if it is an adjunct, it can be preposed with
the preposition to, because preposing is one of the properties of adjuncts. If we examine the
simple sentences with a PP complement or with a PP adjunct, we notice that passivization are
mutually exclusive. PP complements never undergo preposing:

(16) a. *At John Bill laughed.
    b. *About John Bill talked.

PP complements undergo passivization:

(17) a. John was laughed at.
    b. John was talked about.

However, with PP adjuncts the situation is reversed. PP adjuncts undergo preposing:

(18) a. To New York John sent the message.
    b. From Bill John bought the book.

But PP adjuncts do not undergo passivization:

(19) a. *New York was sent the message to.
    b. *Bill was bought the book from.

With this evidence we conclude that passivization is the property of complements but preposing is

6 Within GB framework it is also difficult to explain this. Even though by Case theory the
post-verbal NP is accounted for, GB cannot explain why the preposed NP must have the preposition
to as its Case assigner, because promise is assumed to be the Case assigner in it.

7 The sentences in (13) are good with stress on the preposed PP according to my information.
But they are bad in normal speech.
the property of adjuncts. In this respect the NP adjacent to promise shares the adjunct property. The positional possibilities of adjunct is accounted for by Linear Precedence 2 (LP2) of HPSG. According to LP2 adjuncts can precede any element whose head feature is [+V], but complements cannot.

(20) COMPLEMENT [MAJ -V] << [LEX -]

LP2 says that any complement whose head feature is [-V] must precede any other phrasal element. Accordingly, LP2 allows that an adjunct may precede or follow a VP complement because it leaves their relative position unspecified. We can explain the contrast in (12a) and (12b) using LP2. Since in (12a) the preposed NP is an object complement it can not precede the least oblique complement subject. In (12b) however, the preposed NP is an adjunct, and thus, it can precede the whole S because the whole S has as its head feature [+V]. In addition to this, LP2 provides us a explanation of the constituent order of the following structures:

(21) a. John was persuaded by Mary to go.
    b. John was persuaded to go by Mary

(22) a. John appears to Mary to be good.
    b. John appears to be good to Mary.

With LP2 and our assumption that the post-verbal NP of promise is not the object but rather an adjunct, we should have the following structure:

(23) a. *John promised to leave (to) Mary

This is clearly problematic to the present analysis. We leave this problem open.

4. Korean provides us with more drastic evidence in support of our conclusion. Four differences between sultukha ‘persuade’ and yaksokha ‘promise’ exist. First, sultukha ‘persuade’ allows passivization, but yaksokha ‘promise’ does not:

     NOM to leave COMP persuaded SM
     ‘John persuaded Mary to leave’

        NOM leave COMP was persuaded SM
        ‘Mary was persuaded to leave’

     NOM to leave COMP promised SM
     ‘John promised Mary to leave’

8 The abbreviations used in the Korean data are:

    NOM - Nominative Marker
    COMP - Complementizer
    ACC - Accusative Marker
    SM - Sentential Marker
    PL - Plural Marker
b. *Mary-ka [tteña ketta ko] yaksok tweat ta
   NOM leave COMP was promised SM

Second, even though the order of elements preceding a verb is relatively free, sultukha does not allow PP preposing over the subject PP while yaksokha does. 9

(26) a. ??*Mary-eke John-i [tteña torok] sultukhet ta
   b. Mary-eke John-i [tteña ketta ko] yaksokhet ta

In (26a) the pre-verbal PP of sultukha is not allowed to be proposed, while in (26b) the pre-verbal PP of yaksokha is.

Third, the accusative marker lul can be attached to the pre-verbal PP of yaksokha. 10

   NOM ACC leave COMP persuaded SM
   b. *John-i Mary-lul [tteña ketta ko] yaksokhet ta
   NOM ACC leave COMP promised SM

Fourth, floated quantifiers behave differently with the two verbs. If motu 'all' follows PP yuja-tuleke 'to women', the quantifier quantifies the object PP as in (28c). In contrast, however, in (29c), even though the quantifier follows the object PP, still the quantifier quantifies the subject PP. 11

   all man PL NOM woman-PL-to leave COMP persuaded SM
   'All the men persuaded women to leave'
   'All the men persuaded women to leave'
   'Men persuaded all the women to leave'

9 (22a) means that speaker persuaded Mary to make John to leave.

10 In Korean we may attach the accusative marker to both indirect object and direct object as shown below:

   i) Mary-ka John-eke pap-lul cuet ta.
      NOM to rice-ACC gave
      'Mary gave John rice'

   ii) Mary-ka John-lul pap-lul cuet ta.

The construction in 11) has been called the double accusative construction.

11 I assume that in Korean all grammatical argument appear not as NPs but rather as PPs. Case markers like ka and lul are treated as postpositions. There seems to be one difference between case-marker and postposition: case-markers assign case to their accompanying NP, but postpositions assign both case and argument role to their accompanying NP. Thus, within HPSG, the head of PP is a case-marker or a postposition. In other words, case-markers or postpositions subcategorize NPs.
   all man PL-NOM woman-PL-to leave COMP promise SM
   ‘All the men promised women to leave’

   ‘All the men promised women to leave’

c. Namja-tul-i yuja-tul-eke motu [ttena ketako] yaksokhet ta
   ‘All the men promised women to leave’

If we follow Miyagawa’s (1987) assumption that quantifier and argument must be the daughters of
the same mother node, we can say that in the case of sultukha the pre-verbal NP and quantifier
are the daughters of VP, and thus, is the object of the verb sultukha. In the case of vaksokha the
pre-verbal NP and quantifier are not the daughters of VP, since if they are, the floated quantifier
cannot quantify the subject PP. We posit them as the daughters of S node as in (30b).

(30)

a. S
   PP[I] V
   PP[EKE] Q VP
   sultukha

b. S
   PP[I] PP[EKE] Q VP
   vaksokha

Thus, the pre-verbal PP of vaksokha is not the object. In this analysis we can explain how the
floated quantifier can quantify the subject PP. Where the quantifier and the subject PP are
daughters of the same mother S, the former quantifies the latter. The present analysis explains
naturally why PP[EKE] of promise is not quantified. The PP[EKE] of vaksokha is not a complement
argument but an adjunct. Adjuncts are not quantified by the floated quantifier. This is supported
by the fact that true PP adjuncts are not quantified by the floating quantifier. 12

(31)

   NOM person-ACC school-at three met SM
   ‘John met person at three school’

   three

(32) a. *John-i erini wa set nolko it ta
   NOM child with three is playing SM
   ‘John is playing with three children’

b. John-i se erini wa nolko it ta

PP adjunct hakkyo-ese is not quantified but the object PP saramlul is quantified in (31a). In (32a),
the NP in PP erini is not quantified by the floated quantifier set. In short, the pre-verbal NP of
vaksokha 'promise' is like a PP adjunct in that it is not quantified by the floated quantifier. This
striking parallel with Korean is evidence in support of a more general difference between promise
and persuade and, thus, in support of the analysis of English alone.

5. As further support, consider two other verbs, appear and appeal. P&S account for these
two verbs by the following different SUBCAT lists:

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12 The sentence (27a) is good with the meaning that John met three person at school.
(34) a. Yesterday John appeared to Mary to be good.
    b. To Mary John appeared to be good.
    c. John appeared to be good to Mary.

By (33a), they account for why the PP to Mary in (34a) does not control the VP complement. But (33a) does not account for (34b). In the present analysis, the pre-verbal occurrence of To Mary in (34b) is entirely nonproblematic: Adjuncts have this preposing possibility. We have the following lexical entry for the verb appear:

(35)  
\[
\begin{align*}
\text{PHON} & \quad \text{appear} \\
\text{SYNTAX[Local]} & \\
\text{HEAD} & \quad \text{[MAJ V}} \\
& \quad \text{[VFORM FIN}} \\
& \quad \text{[ADJUNCT \{ADV,PP[TO]\}]} \\
\text{SUBCAT} & \quad \text{<VP,NP>}
\end{align*}
\]

In (35) PP[TO] is not in the SUBCAT but in the ADJUNCT. Thus, the subject NP is the only possible candidate for the controller of the VP. The situation with the verb appeal is slightly more complex:

(36) a. Yesterday John appealed to Mary to leave
    b. John appealed to Mary for Tom to leave
    c. To Mary John appealed to leave

(36a) has both a subject-control interpretation and an object-control interpretation. The latter is entirely straightforward in both P&S and the present analysis. In either, we would have the following lexical entry for the object-control:

(37)  
\[
\begin{align*}
\text{PHON} & \quad \text{appeal} \\
\text{SYNTAX[Local]} & \\
\text{HEAD} & \quad \text{[MAJ V}} \\
& \quad \text{[VFORM FIN}} \\
& \quad \text{[ADJUNCT \{ ... ADV... \}]} \\
\text{SUBCAT} & \quad \text{<VP,(PP[FOR]),PP[TO],NP>}
\end{align*}
\]

According to principle (7). In (36a) to Mary is the controller, because it is less oblique than VP complement. In (36b) however, for Tom is the controller because it is immediately less oblique than the VP, even though it is an optional complement. One apparent problem in this analysis is (36c). In fact, however, To Mary in (36c) must be analyzed as an adjunct, since it has only subject control interpretation.

---

13 Sentence (33b) is suggested to me by Richard Oehrle (Personal Communication).

14 By (PP[FOR]), we mean that it is an optional element.
(38) explains the subject control of *appeal in (36a) and (36c) which cannot be accounted for by P&S. P&S cannot explain this interpretation because they cannot change SUBCAT features by lexical rule. Thus, they might take them entirely different lexical entries. This is not impossible, but it seems more natural to assume that two lexical entries (38) and (37) are related to each other by lexical rule. The solution is provided by Sag (1987).

Sag (1987) suggests the following lexical entry for the passive *persuaded:

(39) Lee was persuaded by Sandy to leave the room.

With (39) we may explain why in (40) the subject NP Lee is the controller of the VP complement but not by Sandy. (40) is related to (5) by a lexical rule. If we compare (40) with (5), we notice on NP missing from the SUBCAT list appears in ADJUNCT as a by-phrase. (See Pollard and Sag (1987) and Sag (1987) for lexical rules.) Given the existence of lexical rules, (37) is similarly related to (38).

6. The passive form of promised has one idiosyncracy.

(41) a. *John was promised to go.
   b. John was promised to be allowed to go.

These sentences seem to be a problem, since in our analysis both should be grammatical. The Control Principle does not exclude (41a). In the present analysis, promise is assumed not to undergo passivization by lexical rule, so it is not related to promised lexically. Thus, (41) is explained by SUBCAT feature and the Subcategorization Principle. We have the following lexical entry for the passive verb promised:

(42) The VFORM of the VP complement must be PASSIVE. Thus, the Subcategorization Principle
excludes (41a), but allows (41b). In (41b), the Control Principle holds. This solution is not damaging because we have an independently motivated mechanism in which the complement form must be specified. Some verbs like bother, and seem require that their subject complement have the NFORM[IT]. With this mechanism promised must specify the VFORM of its VP complement as shown (42).

7. We have examined four verbs, and we have provided an exceptionless account for their control constructions. In addition we have shown that we do not need to make a distinction between subject-control and object-control, since the two follow automatically by Principle (7).

REFERENCES