features. Then, the exclusion of [delayed release] from phonolo-
gical theory is desirable.
5.   (31a) might be in the choices of universal grammar.
6.   This rule will be formalized as an autosegmental spreading
rule which spreads [+hi,-bk]. However, I will not pursue this
possibility in this paper.

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INFLECTION-ASSIGNMENT AND PERCEPTION VERB COMPLEMENTS*

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0.   Introduction

This study is an attempt to investigate bare infinitival perception verb
complements (henceforth BIPVCs) in English, of which the underlined parts of
the following sentences are instances:

(1)   a.   I saw John cross the street.
      b.   We heard Jan sing.

Section one will be devoted to explicating what kind of structure should be
assigned to BIPVCs, arguing that they should be analyzed as verbal small
clauses. Section two will propose a rule of Inflection-assignment, showing
that Inflection-assignment analysis would account for the fact that BIPVCs can
follow active perception verbs, but not passive versions. We will furthermore
argue that the Inflection-assignment rule together with a rule of be-support
would provide a compelling account of adjectival, prepositional, and nominal
small clause complements of perception verbs.

1.   Structure of BIPVCs

In the earlier stage of transformational generative grammar, two funda-
mental approaches have emerged as to the structure of BIPVCs: a clausal
analysis (Rosenbaum (1967) and Postal (1974)) and a non-clausal analysis
(Akmajian (1977)). Likewise, within the framework of the Government-Binding
(GB) Theory, these two opposing views have appeared in the literature: a
clausal analysis is adopted by Stowell (1981), Zagona (1982), Rothstein
(1983), and Fabb (1984); a non-clausal analysis by Williams (1983). This
section is concerned with presenting these two analyses and assessing their
validities.

Among various studies positing a clausal analysis of BIPVCs within the
GB-theory, the most extensive treatment is found in Stowell (1981). He claims
that associated with sentence (2) should be structure (3):

(2)   I heard Jack come into the kitchen.
(3)   I heard [$_{VP}$ Jack [$_{\bar{V}}$ come into the kitchen]]   (Stowell, 1981, p. 259)

Under his analysis, BIPVCs are analyzed as small clauses, a term coined to
refer to clauses where the COMP and INFL nodes do not exist. The outstanding
feature of his analysis is that the VP Jack come into the kitchen in (3)
consists of a subject/predicate configuration, which diverges from the tradi-
tional theory of phrase structure (Chomsky (1970) and Jackendoff (1977)) in
which only S and NP are assumed to contain a subject position. He, however,
argues that there is some virtue in this analysis.

The basic virtue is that this analysis is predictable on the basis of the
category-neutral principle of X-bar Theory proposed in Stowell (1981). He
supposes that phrase structure rules are unable to refer to categorial fea-
tures. This would make it impossible for the rules of the base to define the
idiosyncratic properties of the phrases of each syntactic category, i.e. noun
phrases, verb phrases, adjective phrases, etc. Effectively, this would elimi-
nate the categorial component in the traditional sense, and its major em-
pirical effects can be deduced from other components of grammar, namely the
adjacency condition on Case-assignment, the word formation component, etc. He
claims that the category-neutral principle of the base is theoretically desir-
able, because by depriving the phrase structure component of the power to
refer to categorial features, we impose a strong constraint on the descriptive

power of phrase structure rules. Given the validity of this principle, since the LF notion of "clause" is defined in category-neutral terms, any syntactic category may project to include a subject position forming a clause. As would be expected, not only VP but also AP, PP, and NP can project to include a subject position, as exemplified in the following sentences:

(4) a. I consider $[_{AP}$ John $[_{\overline{A}}$ very intelligent$]]$

b. I expect $[_{PP}$ the sailor $[_{\overline{P}}$ off my ship$]]$
(Stowell, 1981, p. 257)

c. $[_{NP}$ John's $[_{\overline{N}}$ tallness$]]$ annoyed me. (Stowell, 1981, p. 254)

Thus, the principle of category-neutral base would allow us to postulate that the BIPVC in (2) is analyzed as a VP which consists of a subject/predicate configuration, and hence as a clausal projection of Verb.

Further support for Stowell's (1981) analysis would come from subcategorization facts. Assuming the locality of subcategorization, which states that items are subcategorized with respect to the range of sister constituents they do or do not permit, the matrix verb should be unable to specify the categorial features of anything other than the embedded clause itself. In the event that small clauses have the categorial status of S, as has often been assumed, the matrix verb should be indifferent to the categorial status of the small clause predicate. But, this is not borne out:

(5) a. *I consider $[_{PP}$ John off my ship$]$
b. *I consider $[_{Prtp}$ John killed by the enemy$]$

(6) *I expect $[_{AP}$ that sailor very stupid$]$

(7) a. *We feared $[_{AP}$ John very stupid$]$
b. *We feared $[_{PP}$ John off my ship already$]$ (Stowell, 1981, p. 259)

Note that the insertion of *to be* before the small clause predicates in (5)-(7) would render the sentences grammatical.

(8) a. I consider $[_S$ John to be off my ship$]$
b. I consider $[_S$ John to have been killed by the enemy$]$

(9) I expect $[_S$ that sailor to be very stupid$]$

(10) a. We feared $[_S$ John to be very stupid$]$
b. We feared $[_S$ John to be off the ship already$]$

If the theory of subcategorization rules out the selection of subconstituents of an embedded clause, then it must be accepted that small clauses are projections of the predicate that they contain, whence the verb is simply subcategorizing for the category of small clauses themselves.

Contrary to Stowell (1981), Williams (1983) argues that BIPVCs should not be analyzed as clauses, but rather as independent sequences of NP-VP. Under his analysis, associated with sentence (11) would be structure (12):

(11) I saw John leave.
(12) I [saw John [leave]]   (Williams, 1983, p. 302)

One of the most interesting aspects of his analysis concerns the definition of "subject." If BIPVCs are clausal, a purely structural definition of "subject" can be given, such as "[NP,S]" (Chomsky (1965)) and "the argument of X or $\overline{X}$ which is directly dominated by $\overline{\overline{X}}$" (Stowell (1983)). On the other hand, if they are not clausal, then no such structural definition of "subject" can be given. Williams (1980; 1981; 1983), however, offers another view of "subject" that can be taken - "subject as external argument." From this perspective, "subject" is defined as a relation between an NP and any predicate

phrase.

(13) Subject as external argument
The subject of a predicative phrase XP is the single argument of X that is located outside of the maximal projection of X.
(Williams, 1983, p. 287)

Given this view of "subject", we can say that in (12) *John* is the subject of *leave* without assuming that there is a clausal node that dominates the subject-predicate pair. To indicate subject-predicate relations, Williams (1980) proposes a rule of predication which converts S-structure to predicate structure where subject-predicate relations are expressed by co-indexing. Following this convention, sentence (11) would be assigned predicate structure (14):

(14) I_i [saw John$_j$ [leave]$_{VPj}$]$_{VPi}$

He claims that there is evidence against a small clause analysis of BIPVCs in favor of a predication analysis of them. Such evidence is provided by Quantifier scope facts. He points out that BIPVCs do not take subjects with narrow scope, as illustrated in (15):

(15) John saw someone leave.
= $\exists x$ (John saw x leave)
$\neq$ John saw $[\exists x [x$ leave$]]$ (Williams, 1983, p. 302)

Under a small clause analysis, there is no reason for the narrow scope reading to be missing. A small clause analysis would assign to sentence (15) the following structure:

(16) John saw [someone leave]

There is no reason why Quantifier Rule cannot apply to this structure, deriving the LF-representation (17), which stands for the reading which does not occur.

(17) *John saw [someone$_i$ [x_i leave]]

Under a predication analysis, by contrast, the absence of the narrow-scope reading would automatically follow from the fact that there is no clausal node that could serve as the scope for the narrow reading.

He argues that in addition to allowing us to account for Quantifier scope facts, a predication analysis has another virtue. It would permit a solution to the puzzling fact that the bare infinitive construction cannot follow passive perception verbs, as given in (18).

(18) *John was seen leave.   (Williams, 1983, p. 303)

He proposes Filter (19), which says that any sequence of $V_{\alpha PrP}$ immediately followed by $VP_{\alpha PrP}$ is ill-formed.

(19) *$V_{\alpha PrP} VP_{\alpha PrP}$ (t is invisible) (Williams, 1983, p. 303)

Sentence (18) would be ruled out in terms of Filter (19), since it contains the V_{-PrP} *seen* immediately followed by the VP_{-PrP} *leave*. Furthermore, this Filter would correctly predict that present participles, unlike the bare infinitive construction, can follow passive perception verbs, as (20) below indicates:

(20) John was seen leaving.   (Williams, 1983, p. 303)

Sentence (20) can be distinguished from sentence (18) by assuming that bare infinitives and present participles are different verb forms. Suppose that they differ on the feature ±PrP. In sentence (20), the V_{-PrP} *seen* is immediately followed by the VP_{+PrP} *leaving*, whence it would be exempt from Filter (19). The remainder of this section will be concerned with validating these two competing analyses of BIPVCs, i.e. a small clause analysis and a predication analysis, arguing that there is a compelling syntactic argument which undermines a predication analysis.

One such argument as would undermine a predication analysis can be formulated in relation to familiar constituency tests. A small clause analysis and a predication analysis would assign structures (21) and (22) respectively to sentence (1)(a):

(21) I saw [John cross the street]
(22) I saw John [cross the street]

The difference between the two analyses resides in the fact that while a small clause analysis expects BIPVCs to form an unitary syntactic constituent, a predication analysis does not. Various syntactic constituency tests would reveal that it is a clausal analysis which would make the correct prediction.

Right-node Raising

(23) ?I saw, but Mary didn't see, John dance with Jane.

Pseudo-clefting

(24) ?What I saw was the children eat their lunch.

Equative "Colon" Construction

(25) ?We saw what we had all hoped to see: John dance with Jane.

It is usually assumed that only single constituents can appear in the "Right-node", postcopular, and "postcolon" positions in Right-node Raising construction, Pseudo-cleft sentences, and Equative sentences, respectively. We take it that the marginal status of the sentences in (23)-(25) stems from the fact that the subject NPs of BIPVCs in (23)-(25) will not be assigned any Case structurally although an objective Case is derivatively assigned to them by analogy with sentences (26)-(28), respectively:

(26) I saw John dance with Mary.
(27) I saw the children eat their lunch.
(28) We saw John dance with Mary.

In the face of this evidence, we are inclined to believe that a small clause analysis of BIPVCs should be preferred over a predication analysis of them.

At the same time, however, we have to reckon with evidence which has led Williams (1983) to posit a predication analysis of BIPVCs: Quantifier scope facts. Let us consider what the following example demonstrates:

(29) a. I saw no-one step forward.
    b. = ~∃x (I saw x step forward)
    c. = I saw [~∃x (x step forward)]   (Kayne, 1981, p. 334)

This data shows that although the wide scope reading (b) is prominent, the narrow scope reading (c) seems to be fairly admissible, a fact which proves to be observationally inadequate Williams' (1983) claim mentioned above that BIPVCs do not permit subjects with narrow scope. Thus, Quantifier scope facts, which are adduced in support of a predication analysis and against a small clause analysis, do not add little credence to a predication analysis which they do not also add to a small clause analysis. To conclude, although Quantifier scope facts are not telling, the syntactic constituency tests would suggest that a small clause analysis of BIPVCs is more plausible than a predication analysis of them.

One might argue that a small clause analysis of BIPVCs does not necessarily follow from the foregoing considerations, since the argument adduced from the syntactic constituency tests in favor of a small clause analysis would follow equally as well from a "big" clause analysis, where BIPVCs are "big" clauses of the form COMP-NP-INFL-VP with the COMP and INFL nodes left empty, as given schematically in (30):

(30) I saw [$_{\bar{S}}$ COMP [$_S$ John INFL cross the street]]

However, this possibility is negated, since there is evidence in favor of a small clause analysis and against a predication analysis, which comes from the fact that BIPVCs cannot normally contain a sentence negation. Kroch (1979) and Linebarger (1980) point out that sentences such as (31) are ambiguous:

(31) Everyone did not budge from his seat for 20 minutes.

Sentence (31) is ambiguous as between the two interpretations paraphrased informally in (32) [1]:

(32) a. It is not the case that everyone budged from his seat for 20 minutes.
    b. For everyone, it is not the case that he budged from his seat for 20 minutes.

While (32)(a) is an instance of sentence negation, (32)(b) is one of VP-negation. By contrast, sentence (33) is unambiguous; It has only the VP-negation reading:

(33) We saw everyone not budge from his seat for 20 minutes.

Let us assume that while in the case of sentence negation *not* is associated with the INFL node, in the case of VP-negation it is associated with the Specifier of V. If this conjecture is correct, under a small clause analysis, the lack of the sentence negation reading in (33) could be accounted for by the fact that there does not exist any INFL node in BIPVCs. A "big" clause analysis, however, would not offer such an account, which maintains that the missing constituent, which could be realized as *to*, is in fact categorially present [2].

This closes our discussion of the structure of BIPVCs. This section has first explicated two kinds of approaches to the analysis of BIPVCs within the framework of GB-theory, i.e. a small clause analysis and a predication analysis, showing that the syntactic constituency tests would suggest that the former is to be preferred over the latter. We have furthermore argued that Negative scope facts would deny the possibility of analyzing BIPVCs as "big" clauses where COMP and INFL nodes are left empty.

2. Inflection-assignment

The previous section has discussed some issues in connection with the structure of BIPVCs, arguing for a verbal small clause analysis of them. This section will propose a rule of Inflection-assignment, which maintains that perception verbs can assign an abstract Inflection to their clausal complements, thereby leading to a compelling account of complement clause phenomena with perception verbs.

The main body of data to be dealt with in this section is illustrated in the following paradigms:

(34) a. I saw John steal the car.
    b. *John was seen steal the car.
(35) a. *I saw John to steal the car.
    b. John was seen to steal the car.

Section 2.1 will suggest that the fact that infinitival perception verb complements (IPVCs) are illicit as the complements of active perception verbs, of which (35)(a) is a representative, should fall under the purview not of syntax, but of semantics. It will be argued that IPVCs can, in fact, follow active perception verbs, and what makes sentences such as (35)(a) deviant is a semantic constraint on the complement clause predicate. Section 2.2 will attempt to provide an account of the puzzling and long-known fact that passive perception verbs can be followed by IPVCs but not BIPVCs, of which the (b) examples in (34)-(35) are instances. We will argue that the deviance of sentences such as (34)(b) is due to a morphological requirement on verbs, which states that verbs must be assigned an abstract Inflection. Section 2.3 will extend the discussion of Inflection-assignment analysis, dealing with adjectival, prepositional, and nominal clausal complements of perception verbs.

2.1 A Semantic Constraint on *To*-infinitival Complements

The discussion to follow argues that the IPVCs can, in fact, follow active perception verbs, and it is a semantic constraint on their complement clause predicate that is responsible for the ill-formedness of sentences such

as (35)(a).

Observations of the (a) examples in (34)-(35) might lead one to postulate that active perception verbs can be followed by BIPVCs, but not by IPVCs. This generalization, however, turns out to fail the test of observational adequacy in the face of the sentences in (36), in which active perception verbs are followed by IPVCs.

(36) a. I could see John to be a complete charlatan.

(Akmajian, 1977, p. 452)

 b. I heard him to be very foolish.

 c. They all felt the plan to be unwise.

 d. I perceived the tail of the dead rat to be two yards long.

What does account for the deviance of sentence (34)(b) then? Careful observation of the examples in (34)-(36) reveals that while the IPVC in (34)(b) contains a non-stative predicate, *i.e. steal*, the IPVCs in (36) a stative one, *i.e. be*. In the light of this observation, we may postulate a semantic constraint on IPVCs of active perception verbs, which maintains that they can only contain a stative predicate. In other words, although sentence (34)(b) is syntactically well-formed, it is semantically ill-formed with contravention of this semantic constraint [3].

As evidence supporting this contention, consider the following sentences:

(37) a. We saw Harry to resemble his father.

 b. *As years went by, we saw Harry to resemble his father more and more.

(38) a. *I saw John to steal the car.

 b. I saw John to have stolen the car.

(39) a. *I saw Mary to wear a beautiful dress.

 b. I saw Mary to be wearing a beautiful dress.

Let us consider (37) first. The semantic constraint put forward here would correctly predict that while sentence (37)(a) is well-formed, sentence (37)(b) is not, the reason being that while in the former the verb *resemble* is used as a stative predicate, in the latter it is as a dynamic one. Similarly, on the supposition that perfective and progressive forms would make a predicate higher in stativity, the difference in grammaticalness between the (a) and (b) sentences in (38)-(39) will directly follow from this semantic constraint.

But this analysis is not without difficulties, difficulties such as explaining why this semantic constraint does not hold in the case of IPVCs of passive perception verbs, as was seen in (35)(b). The consideration raised here do not offer a way of handling this active-passive asymmetry. No further discussion will be devoted to this point other than pointing out that the same phenomena is noted in the case of other Exceptional Case-marking verbs, such as *believe*, as illustrated in the following paradigms:

(40) a. *I believed John to steal the car.

 b. John is believed to steal cars for a living.

Cf. (41) a. I believed John to have stolen the car.

 b. John was believed to have stolen the car.

These facts suggest that this semantic restriction on complement clause predicate and its active-passive asymmetry might be characteristic of Exceptional Case-marking verbs in common [4].

2.2 Inflection-assignment Rule

The previous section has shown that IPVCs are not illicit syntactically as the complement of active perception verbs, and that the ill-formedness of sentences such as (35)(a) will be due to a semantic constraint on the complement clause predicate. Directing attention now to BIPVCs, the discussion below will argue that the difference in grammaticalness between the (a) and (b) examples in (34) can be accounted for by postulating that perception verbs can assign an abstract Inflection to their clausal complements.

Before beginning, a morphological property of verbs is in order. Let us postulate the morphological requirement for verbs (42), essentially following Rothstein (1983):

(42) Verbs have a morphological "slot" for an abstract Inflection, and require an abstract Inflection in order to be morphologically well-formed.

On the supposition that an abstract Inflection is assigned to VPs by virtue of the configurations in which they appear and percolates down to their heads, this requirement follows from Inflection Filter (42), the function of which is to make Inflectionless VP illegitimate.

(42) Inflection Filter

 *VP, where VP has no Inflection

As Emonds (1976) points out, however, verbs appear to surface without any Inflection in the following four cases:

(43) (i) The finite present tense verbs that are not third-person singular forms

 (ii) The verbs with the infinitive marker *to*

 (iii) The verbs that follow the auxiliary *do* and the modals (including deleted modals such as in the present subjunctive and the imperative construction)

 (iv) The verbs that introduce complement after a few transitive constructions such as *see*-NP-VP, *hear*-NP-VP, etc.

(Emonds, 1976, p. 220)

Assuming that the infinitive marker *to*, auxiliary *do*, and modals are generated under the INFL node, cases (i)-(iii) can be handled in terms of the fact that INFL assigns an abstract Inflection to the contiguous predicate, which is a sister node of INFL, and subsequently to its head. Since verbs in cases (i)-(iii) would be assigned an abstract Inflection by INFL, there is no violation of Inflection Filter (42). Turning now to the main issue, namely case (iv) in (43), Emonds (1976) claims that the infinitive marker *to* is latent in BIPVCs and appears overtly in passive, such as *seen*-NP-*to*-VP, *heard*-NP-*to*-VP, etc. But, this possibility is negated because the discussion in the previous section showed that BIPVCs should be analyzed as verbal small clauses in which the COMP and INFL nodes are not present. The arguments to follow are meant to show that it is the perception verbs which assign an abstract Inflection to the verbs in BIPVCs.

Let us postulate the Inflection-assignment rule (44) [5]:

(44) A verb of a certain type can assign an abstract Inflection to their clausal complements, subsequently to their heads through the percolation convention.

The heart of this proposal is that some verbs, namely perception verbs, can assign an abstract Inflection to their clausal complements while others not, just as some verbs, namely transitive verbs, can assign abstract Case to their immediately following NPs while others not. On the basis of the foregoing discussion, sentence (34)(a) will be analyzed in the following fashion:

(45) I saw [$_{Vi}$ John steal the car]   (i>0)

In (45), the verb *see* assigns an abstract Inflection to its clausal complement *John steal the car*, subsequently to its head *steal*, whence there is no violation of Inflection Filter (42).

Another interesting fact about this analysis is that it makes it possible to account for the resistance of BIPVCs to matrix passivization, as illustrated in (34)(b), with which the following structure is associated after the application of NP-Movement:

(46) *John$_i$ was seen [$_{Vi}$ t$_i$ steal the car]

The ungrammaticality of (46) can be accounted for by assuming that passive morphology "absorbs" an abstract Inflection along with abstract Case: the

clausal complement with the passive verb as its governor is not assigned an abstract Inflection. Given the validity of the abstract Inflection absorption, the passive participle *seen* in (46) would fail to assign any abstract Inflection to its clausal complement t_j *steal the car* and and therefore to its head, namely, the verb *steal*. So, the verb *steal* fails to be assigned any abstract Inflection, whence they fall foul of Inflection Filter (42). Thus, the Inflection-assignment rule together with the abstract Inflection absorption would correctly predict the fact that while active perception verbs can be followed by BIPVCs, passive ones cannot [6].

Some perception verbs, however, can be followed by BIPVCs, but not IPVCs, as given in (47)-(49):

(47) a. I watched her cross the square.
b. *She was watched cross the square.
c. *I watched her to be foolish.
d. *She was watched to cross the square.

(48) a. I looked at that boy jump.
b. *That boy was looked at jump.
c. *I looked at that boy to be wise.
d. *That boy was looked at to jump.

(49) a. Benjamin listened to him drop his coin into the telephone.
b. *He was listened to drop his coin into the telephone by Benjamin.
c. *Benjamin listened to him to be wise.
d. *He was listened to to drop his coin into the telephone by Benjamin.

There is simply too little evidence to establish any motivated system for handling these facts. For the purpose of the present study, we tentatively conclude that while verbs like *see* subcategorize both "big" and small clause complements, verbs like *watch* subcategorize only small clause complements.

The upshot of all this is that although we have to resort to some idiosyncratic properties of verbs, the analysis put forward here would provide an account of the fact that while BIPVCs can follow active perception verbs but no passive ones, IPVCs can follow passive ones as well as active ones.

2.3 *Be*-support Rule

This section is intended to extend Inflection-assignment analysis to adjectival, prepositional, and nominal small clause complements of perception verbs, and to show that Inflection-assignment cum a rule of *be*-support analysis would lead to a compelling account of them.

In addition to BIPVCs, *i.e.* verbal small clauses, and IPVCs, perception verbs take adjectival, prepositional, and nominal small clauses as their complements, as in (50)-(52) below:

(50) a. I saw John friendly for once.
b. I saw John inside the house.
c. I can see you master of all you survey.

(51) a. I have never heard John obnoxious at a party before.
b. We heard Bob out of this mind.
c. We have never heard Bob a master of several languages.

(52) a. They all felt the plan unwise.
b. He felt himself under the weather this morning.
c. We have never felt ourselves their equals.

Taking the sentences in (50) as examples, associated with them are the structures in (53):

(53) a. I saw [$_{Ai}$ John friendly for once]

b. I saw [$_{Pi}$ John inside the house]

c. I can see [$_{Ni}$ you master of all you survey]

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Most intriguing is the fact that adjectival, prepositional, and nominal small clauses can follow passive perception verbs, which is in marked contrast with verbal small clauses (*i.e.* BIPVCs) as illustrated in the following:

(54) a. John was seen friendly for once.
b. John was seen inside the house.
c. You can be seen master of all you survey.

Cf.(55) *John was seen steal the car.

Associated with the sentences in (54) would be the structures in (56) after the application of NP-Movement:

(56) a. John$_i$ was seen [$_{Ai}$ t_i friendly for once]

b. John$_i$ was seen [$_{Pi}$ t_i insider the house]

c. You$_i$ can be seen [$_{Ni}$ t_i master of all you survey]

Inflection-assignment analysis would permit an account of the difference in grammaticalness between (54) and (55). As was mentioned in an earlier discussion, under our analysis, since the passive participle *seen* would fail to assign any abstract Inflection to its clausal complement, sentence (55) is blocked by the fact that the verb *steal* would fail to be assigned any abstract Inflection, whence it falls foul of Inflection Filter (42). Similarly, since the passive participle *seen* does not assign any abstract Inflection to its clausal complement, the clausal complements in (54), t_j *friendly for once*, t_j *insider the house*, and t_j *a fool*, would fail to be assigned any abstract Inflection. In contrast to sentence (55), however, on the supposition that adjectives, prepositions, and nouns do not have any morphological "slot" for an abstract Inflection, although they would fail to be assigned any abstract Inflection, the heads of the embedded clauses, *friendly*, *inside*, and *fool*, are not morphologically ill-formed. Thus, Inflection-assignment analysis would make the precisely correct prediction: while adjectival, prepositional, and nominal small clauses can follow passive perception verbs, verbal small clauses, *i.e.* BIPVCs, cannot.

The adoption of this analysis would furthermore lead to an account of the fact that English contains sentences such as (57), in which active perception verbs have an occurrence of the copula *be* in their adjectival, prepositional, and nominal small clause complements.

(57) a. I've never seen John be intelligent before. (Gee, 1975, p. 376)
b. I've seen John be a fool before. (Gee, 1975, p. 277)
c. I've never heard there be any decent music sung at this affair. (Gee, 1977, p. 349)

Let us consider (57)(a) as an example. Under Inflection-assignment analysis, the occurrence of the copula *be* in (57)(a) would be accounted for as follows. Let us postulate the following D-structure representation to sentences (57)(a):

(58) I've never seen [$_{Ai}$ John intelligent] before.

Granted that active perception verbs can assign an abstract Inflection to their clausal complements, the verb *see* in (58) would assign it to its clausal complement, *John intelligent*, and subsequently to its head, *intelligent*. The adjective *intelligent*, however, cannot be assigned any abstract Inflection although it is required by the matrix verb, since adjectives, prepositions, and nouns do not have any morphological "slot" for an abstract Inflection. This difficulty will be resolved by the adoption of a rule of *be*-support (59) essentially following Rothstein (1983) (though in some ways this rule dates back to earlier works in the late 1960s, such as Bach (1967), Fillmore (1968) and Jacobs and Rosenbaum (1968)).

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(59) *Be*-support Rule
Adjoin the copula *be* to the predicate just in case an abstract
Inflection is required, but cannot be assigned to the head of
predicate

In (58), since an abstract Inflection is required by the matrix verb *seen* on
the embedded predicate *intelligent*, but cannot be assigned to its head *intel-
ligent*, the *be*-support rule will be employed to adjoin the copula *be* to the
embedded predicate. The resultant structure will be the following, eschewing
the details of *be*-adjunction:

(60) I've seen [$_{Ai}$ John be intelligent] before

Thus, Inflection assignment cum *be*-support analysis would correctly predict
successful derivations of sentences such as (57) where the copula *be* appears
in the adjectival, prepositional, and nominal small clause complements of
active perception verbs [7].

A testable consequence of this analysis is the prediction that the copula
be never appears in the complements of passive perception verbs, since they
would not assign any abstract Inflection to their clausal complements and
therefore an abstract Inflection is not required on the heads of the embedded
clauses. This prediction turns out to be entirely correct, as (61) below
indicates:

(61) a. *John has never been seen <u>be</u> intelligent before.
     b. *John has been seen <u>be</u> a fool before.

The analysis put forward here would expect present and past participle
forms of verbs to behave like adjectives, prepositions, and nouns, rather than
like verbs, since morphological "slots" of participle forms of verbs are
already filled by the *-ing* and the *-ed* suffix. This prediction is borne out
[8].

(62) a. I saw Daine kissing.
     b. I've never seen a man executed before. (Gee, 1975, p. 376)
(63) a. Daine was seen kissing.
     b. A man has never been seen executed before.
(64) a. *I saw Daine <u>be</u> kissing.
     b. I've never seen a man <u>be</u> executed before. (Gee, 1975, p. 376)
(65) a. *Daine was seen <u>be</u> kissing.
     b. *A man was never been seen <u>be</u> executed before.

An obvious corollary of our proposed Inflection-assignment cum *be*-support
analysis is that the Inflection-assignment rule is not obligatory. If it is
the case that it is obligatory, the copula *be* should always appear in the
adjectival, prepositional, and nominal small clause complements of active
perception verbs, which turns out to be an unfortunate consequence in the fact
of sentences such as (50). The present analysis would impel us to postulate
that active perception verbs may or may not assign an abstract Inflection to
their clausal complements, in the same sense that active transitive verbs may
or may not assign abstract Case to their immediately following NPs. In the
event that active perception verbs take verbal small clauses, *i.e.* BIPVCs, as
their complements, the resultant sentences will be grammatical would they
assign an abstract Inflection to their clausal complements, otherwise it will
fall foul of Inflection Filter (42). On the other hand, when active perception
verbs take adjectival, prepositional, or nominal small clause complements,
the copula *be* will appear in the complement clauses should they be assigned an
abstract Inflection by the matrix verb, otherwise they will surface as they
are.

3. <u>Conclusion</u>

The various considerations brought to bear in this study lead to the
conclusion that an adequate account of complement phenomena of perception

verbs needs to contain the Inflection-assignment rule and the *be*-support rule.
The present analysis differs from earlier ones only insofar as it succeeds in
providing an account of a new collection of syntactic phenomena. It is no
doubt, however, that future study is expected to yield more informative re-
sults.

Notes:
1. Some speakers do not accept the first interpretation.
2. Andrew Radford (personal communication) has suggested that under a "big"
clause analysis we could say that *not* is clitic, and normally cliticizes to an
overt element in INFL (Modal or *to*), but cannot do so if INFL is empty of any
lexical material. Therefore, this data can be handled under a "big" clause
analysis as well.
3. Declerck (1981), Kirsner and Thompson (1976), and Palmer (1974) have
adopted the view that BIPVCs communicate a direct (physical) perception of an
event whereas IPVCs and *that*-complements of perception verbs communicate an
indirect report about or a deducing of a situation. However, as Declerck
(1983) points out, the labels "direct perception" and "indirect perception"
are implausible insofar as direct perception can also be involved when IPVCs
or *that*-complements of perception verbs are used, as illustrated in the exam-
ples below:
    (i) I observed Mary to be knitting a sweater.
    (ii) I observed that Mary was knitting a sweater.
                                              (Declerck, 1983, p. 31)
    It is conceivable that, in (i) and (ii), the deducing is based on some
direct perception of knitting-wool, needles, etc.
    The difficulty with "direct" vs. "indirect" perception interpretation
hypothesis is further compounded by the fact that it would wrongly predict
that perception verbs have indirect perception interpretations in the passive.
    (iii) He was seen to cross the street.
    This is because sentence (iii) is derived through the application of NP-
Movement from D-structure (iv), where the verb *see* takes the *to*-infinitival
complement *he to cross the street*.
    (iv) e was seen [$_S$ he to cross the street]
4. The difficulty with this proposal arises in relation to the fact that the
verb *know* takes *to*-infinitival complements as well as bare infinitival comple-
ments whose predicates are dynamic, as illustrated in the following examples:
    (i) I have never known him to attack anyone.
    (ii) I have never known him break his word.
    I have no explanation for this fact.
5. A similar analysis is adopted by Fabb (1984) and Zagona (1982).
6. Andrew Radford (personal communication) has pointed out to me that sen-
tences such as (i) grammatical:
    (i) %He was seen leave.
    In (i), the passive perception verb *seen* is followed by the bare infini-
tive construction. However, it is entirely conceivable that such cases could
be attributed to reanalysis:
    (ii) He was [$_{VP}$ seen leave]

Evidence supporting this position is observed in the fact that sentence (iii), where the embedded verb takes a complement, is worse than sentence (i).

(iii) ?He was seen leave the house.

7.   Andrew Radford (personal communication) claims that *be*-support analysis is impossible within X-bar syntax. He argues that, under this analysis, sentence (i) would be analysed as in (ii):

(i)   I've seen [$_A$i John intelligent]

(ii) a. I've seen [$_A$i John intelligent]

           --- *Be*-support --->

      b. I've seen [$_V$i John be intelligent]

Since in (ii)(b) *be* is the head of the clause, it is a verbal small clause. But underlyingly it is an adjectival small clause. Thus, the *be*-support rule cannot exist as it changes category labels.

This argument is subverted, however, if we assume that the copula *be* functions simply as an Inflection bearer, and therefore it is Chomsky-adjoined to the predicate, as depicted in (iii):

(iii) [$_{Ai}$ [$_{NP}$ John][$_{AP}$ be [$_{AP}$ intelligent]]]

In (iii), the adjective *intelligent*, not the copula *be*, is the head of the clause *John be intelligent*.

Assuming the *be*-support rule, sentences like (iv) and (v) would be analyzed as in (vi) and (vii), respectively:

(iv) I've never seen him to be intelligent.
(v)   He is intelligent.
(vi) a. I've never seen [$_S$ him [$_{INFL}$ to][$_{AP}$ intelligent]]

           --- *Be*-support --->

      b. I've never seen [$_S$ him [$_{INFL}$ to][$_{AP}$ be intelligent]]

(vii) a. He [$_{INFL}$ e][$_{AP}$ intelligent]   --- *Be*-support --->

      b. He [$_{INFL}$ e][$_{AP}$ be intelligent]   --- Affix-hopping --->

      c. He is intelligent.

In (vi) and (vii), INFL assigns an abstract Inflection to its contiguous predicate and subsequently to its head *intelligent*. Since the adjective *intelligent* cannot be assigned an abstract Inflection, the copula *be* is adjoined to the predicate. Under this analysis, we can dispense with the stipulation that INFL subcategorizes for VP.

(viii) S -> NP INFL VP

Instead, we will assume the following base rule for the expansion of S, where any phrasal node can appear as a sister of INFL:

(ix) S -> NP INFL XP

8.   Contrary to what the present analysis would predict, active perception verbs cannot be followed by NP-be-V-*ing* complements, as illustrated in (64)(a). This may be due to the fact that the progressive *be* is a main verb, thus sentence (64)(a) would violate the semantic constraint on the predicate of BIPVCs which maintains that the predicate of BIPVCs must be dynamic.

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