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<td>Nishihara, Toshiaki</td>
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Against Bare Infinitive Complements
as VP Small Clauses

Toshiaki NISHIHARA

Abstract

The bare infinitive complements (hereafter, BIC) have been the subject of recent work in the generative grammar. The bare infinitive complements are subcategorized for by perception verbs and a class of verbs with causative meanings. The BICs as in (1) involve and evoke an interesting issue. Even though there is little dispute about the clausal status of the BICs which form constituents, what is controversial is the categorical status of the BICs. Within GB theory in the generative grammar, there have been three prevailing analyses to the categorical status of the BICs: NP analysis, small clause analysis and IP analysis. The main goal of this paper is to provide a phrase structural analysis of the italicized material following the matrix verb in (1): the categorical status of the BICs is not a VP small clause but an IP in the traditional sense.

Key Words: Bare infinitive complements, categorical status, small clause, IP, inflectional head.

0. Introduction

The bare infinitive complements (hereafter, BIC) have been the subject of recent work in the generative grammar. The bare infinitive complements are subcategorized for by perception verbs and a class of verbs with causative meanings. The BICs as in (1) involve and evoke an interesting issue. Even though there is little dispute about the clausal status of the BICs which form constituents, what is controversial is the categorical status of the BICs. Within GB theory in the generative grammar, there have been three prevailing analyses to the categorical status of the BICs: NP analysis, small clause analysis and IP analysis. The main goal of this paper is to provide a phrase structural analysis of the italicized material following the matrix verb in (1): the categorical status of the BICs is not a VP small clause but an IP in the traditional sense.
In section 1, we will discuss Iveland's (1993) arguments in support of the VP small clause analysis for the BIC, and clarify the problems of her analysis. In section 2, we will provide syntactic motivation for analyzing the BIC as the IP, and discuss other syntactic phenomena with respect to the BICs.

1. 0 VP Small Clause Analysis

Iveland (1993) provides the syntactic evidence to argue that the BICs are composed of VP, not IP. The syntactic tests on which Iveland's analysis is based are: VP deletion, VP preposing and negation. Now consider each of the syntactic evidence which Iveland claims is in favor of the VP small clause analysis:

(2) a. *Ruth made it seem possible that everyone would get a second helping but Sharon didn't make.

b. *The preceptors let there be parties at the University but the chancellor wouldn't let. (Iveland 1993: 10)

As is clear from (2), VP deletion is impossible in the embedded complements of the BICs. These facts are argued by Iveland to be consistent solely with the assumption that null VP structures in English are acceptable only when they are properly governed by an Infl that is lexically headed by either modals or do. With this assumption she discusses that the unacceptability of null VP structures in the BIC in (2) is attributed to the fact that there is no Infl in the BIC, which can properly govern the deleted VP. To clarify this point the related structure for the VP small clause analysis is given below.

(3) VP structure
Iveland also discusses that further evidence for VP small clause analysis can be found in another operation that targets VPs: VP preposing. According to Iveland, as discussed in VP deletion, the constraint on VP preposing depends crucially on an Infl element that is lexically headed by full forms of auxiliaries, modals, or do. Now consider (4) and (5):

(4) a. Ellen swore she'd get into Bolte, and get into Bolte she did.
   b. Amy dared Gino to be screaming loudly and sure enough, screaming loudly he was.
   c. *Sue said she would get even, and get even she.

(5) a. *Linda said she would have the doctor examine JR and [the doctor examine JR] she had.
   b. *Linda said she would have the doctor examine JR and [examine JR] she had the doctor.

(Iveland 1993:11)

If the VP analysis is correct, the ungrammaticality of (4c) and (5) is straightforwardly explained by the absence of an Infl node.

One final argument for the VP analysis of the BIC by Iveland derives from negation fact. Her observation owes much to Higginbotham (1983), which argues that negation in the BIC does not function as clausal negation. Iveland claims, depending on Higginbotham's observation, that negation does not take wide scope over the event quantifiers, but takes narrow scope. This suggests that negation in the BIC is not the inflectional negation, and that the BIC is not composed of IP which includes the inflectional negation head.

1.1. Problems

In this subsection several pieces of counter-evidence to the VP analysis are
presented. First, take a look at the example (6):

(6) a.*I believe Mary to be smart, and I believe John to, too.
   b.*Mary believes Bill to be smart, but be smart, I don't believe him to.

If the assumption that Iveland makes is correct, then the ungrammaticality of (6) cannot be accounted for. The sentence is not grammatical although the embedded sentence in (6) includes a lexical head in Infl node which governs the deleted VP. She might argue that (6) does not include Infl elements that are lexically headed by modals or do. If so, she needs another way to explain the parallelism between (5) and (6). (5) and (6) should be explained by the same constraint which targets the VPs, not by the ad-hoc stipulation to exclude (6). The example (6) indicates that the constraint on VP deletion and VP preposing should be stated in a different way. We will return to the definition of the constraint which limits the operation targeting VPs in section 2.

Another piece of evidence for the VP analysis presented by Iveland is negation fact. The argument Iveland presents is, however, dubious. Ritter and Rosen (1993) point out that the inflectional negation is possible in the case of the BIC following a causative verb, make, as observed in (7a). The inflectional negation is also possible in the complement of the perception verb as in (7b).

(7) a. Bill made Ralf not marry Sheila. (Ritter and Rosen 1993: 538)
    b. I'd like to see John not go to prison.

2.0 Syntactic Property of BICs

2.1. IP property of BICs

Section 1 shows that Iveland's arguments for VP small clause analysis depend on the constraint that applies to VP deletion, VP preposing, and negation fact, and they are not empirically supported by the linguistic data. In what follows, we will present several pieces of evidence which show that the BICs are in fact IPs. All of the data below are considered specific to the node IP.

First, sentential adverbs can occur in the BICs. The behavior of sentential adverbs have been discussed in the literature and they are assumed to be in IP
(Jackendoff 1972). The occurrence of the sentential adverbs confirms the assumption that the BIC is IP.

(8) a. I saw the children probably touch the cat’s tail.
   b. I saw the children obviously touch the cat’s tail.

Second, subject-oriented secondary predicates can occur in the BICs. Since the subject-oriented secondary predicates are assumed to be in IP, the BICs can be concluded to be IP.

(9) a. Which community have you seen a member of t walk naked in the park?  
   (Declerck 1984: 115)
   b. I made John walk along the street naked.
   c. I let John walk along the street naked.

Third, pleonastic there can appear in the subject position of the BICs. Pleonastic there is supposed to be inserted into the immediate subject position under IP. Thus the grammaticality of (10) can be explained only on the assumption that the BIC is composed of IP.

(10) a. I’ve never seen there be anyone executed here without being given a chance to confess first.
    b. I saw there arise over the meadow a blue haze.
    c. We let there arise many problems.
    d. John made there be computers available for all the students.

Fourth, extraposition from subject is possible in the BICs. Extraposition from subject is an operation which is widely assumed to attach the extraposed element to the maximal projection immediately dominating it, namely IP (Baltin 1978, 1981, 1987, Terazu 1979, Gueron 1980, Barss 1986, Nakajima 1989). With this assumption and the assumption, along with Chomsky (1986a) and Nakajima (1991b), that the adjunction operation such as rightward movement observes the adjunction condition (11), the grammaticality of (12) indicates that the landing site of the affected element is the embedded IP. This is consistent with the assumption
that the BIC is IP.

(11) Adjunction is possible only to X^max that is non-argument.

(12) I saw the king leaving the country who was banished by thousands of the reformers yesterday.

Fifth, another rightward movement, Heavy NP Shift, shows the IP property of the BICs. Consider (13):

(13) a. Sam believes all his guests to like chocolate very strongly.
    b. Peter saw a man with blond hair leave the room last night.

(14) a. Sam believes to like chocolate very strongly all his guests.
    (Johnson 1988: 603)
    b. John saw leave the room last night a man with long blond hair.

Adverbial phrases in (13), very strongly and last night, can modify the matrix sentence, or the embedded sentence. According to Johnson (1988), once Heavy NP Shift applies to the subject positions in the embedded sentences, the adverbial phrases in (14) can only modify the lower clauses. The inability of the adverbials placed before the shifted NPs to modify the matrix clauses suggests that the moved NPs must be attached to the embedded clauses. This follows naturally if it is assumed that the BICs are IP.

Sixth, the evidence which favors the IP analysis is obtained in the following example:

(15) I've never seen John seem to be out of it before. (Gee 1977: 471)

In (15) the raising verb, seem, is possible when embedded under the perception verb complement. Since it is widely assumed that the subject of raising verb moves from the embedded sentence subject position to [SPEC, IP] in the higher clause, (15) exemplifies the need for IP analysis.
Seventh, as pointed out by Gee (1977), idioms in (16) can occur only in subject position.

(16) a. We heard all hell break loose.
    b. Then we saw the shit hit the fan.

(16) indicates that the perception verb complement includes the subject position. The proposed IP analysis can account for this fact. The final argument which is in favor of the proposed IP analysis comes from the following fact.

(17) a. We made Ruth be writing in pain to give Sharon a good scare.
    (Iveland 1993: 7)
    b. We'll let him be putting his clothes back on when Mary walks in the room.
    (Akmajian, Steele, and Wasow 1979: 40)

Given that the progressive be is a member of Infl elements, the categorical status of the BIC can be concluded to be the IP. We have presented so far that the BICs consist of IPs. This conclusion is further supported by the argument from the language change. In early English, to, which is considered an Infl element, can occur in the BICs. For the evidence of the language change which supports the IP analysis, see Tanaka (1994).

(18) a. Who heard me to deny it or forswear it?
    b. We will make our leisure to attend on yours.

All of the arguments above favor our assumption that the BICs are IPs. This conclusion opposes the assumption made by Iveland (1993) and others, who claim that the BICs are not IP.

2.2. Some related phenomena

The previous section has offered the syntactic motivation to argue that the BICs are IPs. Now we are ready to discuss the syntactic operations and the negation fact that we have observed in section 1, assuming that the categorical status of the BICs is IP. Consider first the operations which target VPs: VP
deletion and VP preposing. These two transformations can be defined along the line of Saito and Murasugi (1993). Saito and Murasugi (1993), following Lobeck (1990) and Zagona (1982), argue that the generalization on VP deletion and VP preposing can be stated as in (19):

(19) A functional head licenses an empty category in its complement position when it agrees with its SPEC.

The parallelism between VP deletion and VP preposing can be observed in (20) and (21):

(20) a. I believe that Mary would win the race, and she did.
    b. I believe that Mary would win the race, and win the race, she did.

(21) a.*Mary believes Bill to be smart, but I don’t believe him to.
    b.*Mary believes Bill to be smart, but be smart, I don’t believe him to.

Saito and Murasugi further argue that (19) is to be explained by the ECP, head government requirement on empty categories.

(22) The Head Licensing Condition on Empty Categories
    a. An empty category must be within a projection of a licensing head.
    b. X is a licensing head iff it is lexical or agree with its SPEC.

Now consider the ungrammaticality of (5) and (6), repeated here as (23) and (24) with the assumption (22).

(23) a.*Linda said she would have the doctor examine JR and [the doctor examine JR] she had.
    b.*Linda said she would have the doctor examine JR and [examine JR] she had the doctor.

(24) a.*I believe Mary to be smart, and I believe John to, too.
    b.*Mary believes Bill to be smart, but be smart, I don’t believe him.
Given that the BICs in (23) consist of IP, then each of the complements in question contains a null head. The embedded INFL in the second conjunct, the null head, is not a licensing head since it does not satisfy (b) condition in (22). Therefore (22) excludes (23). The condition (22) excludes (24) likewise.

Now consider the negation fact. As discussed in the previous section, the inflectional negation, which does not require that not be stressed, can be possible in the BIC as in (7). This is easily explained on the assumption that the BIC is IP including the inflectional head.

Further consequence can be obtained if we assume the BICs are IPs. Now consider the scope ambiguity of a quantified subject in the BIC. Kayne (1981) points out that in (25) the wide scope reading is prominent in a context such as, 'Did you see anyone step forward and steal the jewel? No, sir...'.

(25) I saw no one step forward.

As to the quantified NPs in subject position in perception verb complements, Reuland (1983) also points out an interesting fact. He claims that both wide and narrow scope interpretation for the quantified subjects are possible. Assuming that the BICs are the IPs, the scope interpretation facts can be accounted for as will be seen below.

(26) a. I saw no one step forward.
   b. I saw someone leave.

Given that a quantified phrase undergoes Quantifier Raising in LF and the scope of a quantified phrase is determined in terms of its m-command domain, along with May (1985) and Nakajima (1991b), the scope ambiguity of the quantified subjects in (26) can be explained. Since Quantifier Raising adjoins a quantified phrase to a non-argument maximal projection in accordance with (11), the quantified subjects in (26) can be adjoined either to the embedded IP, or to the matrix VP. The relevant derived structure is (27):
When the quantified subject in (26) adjoins to the embedded IP, it is m-commanded by the matrix VP. The narrow scope interpretation results from this relation between the quantified subject and the matrix V. When the quantified subject adjoins to the matrix VP, it m-commands the matrix V, resulting in the wide scope interpretation.

3.0 Conclusion

We have considered the categorical status of the BICs, and argued that it is not VP small clause, but it is IP in the traditional sense. This conclusion comes from various types of syntactic evidence which shows the property peculiar to the IP node. We have also discussed the phenomena which support the assumption that the BICs are IPs. If the conclusion made here is correct, it follows that the categorical status of the BICs is uniformly IP. I believe that this is a desirable consequence in the literature.

Notes

I would like to express my deepest gratitude to Catherine Jackson who acted as an informant and corrected stylistic errors. My special thanks go to Mark Tiedemann and Dawn Bowlus who acted as informants. The responsibility of remaining inadequacies is my own.

1. Napoli (1988) claims that BICs are non-constituents which consist of the NPs followed by VPs. See Safir (1993) as the arguments against Napoli’s analysis.

2. Arguments against the NP analysis of the BICs can be found in Gee (1977) and Barss (1985). See Nakajima (1991b) as to Small clause analysis of the complements following perception verbs. Nakajima (1991b) claims that the BIC complement which is subcategorized for by perception verbs is small clause consisting of Agr phrase. Nishihara (1993) offers an analysis of
complements following perception verbs as IPs, providing several counter
evidence to Nakajima's analysis. Safir (1993) also argues that the comple-
ments of the perception verbs can be IP or VP, depending on the semantic
property of the complements.

3. Ritter and Rosen discuss two types of negation. One is the inflectional
negation head, and the other is adverbial negation, which is assumed to be
adjoined to some projection V. They claim that the two types of negation can
be distinguished in that only adverbial negation must be stressed.

4. The constraint on there in the subjects of the BICs is discussed in Safir (1993).

5. The progressive be cannot appear in the complement of a perception verb.
Given that the categorical status of the complement following the perception
verb is IP, the progressive be can appear in the complement. I leave this
question open.

6. Nishihara (in preparation) discusses the syntactic property of the null func-
tional head in BICs and the functional head in ECM complements as well.

7. Note that Williams (1983) claims that the narrow scope interpretation is only
possible in the case of the complement following a perception verb.

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