COPULAR CLAUSES IN ENGLISH*

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1. Introduction

English has copular verb *be* as exemplified in sentences like (1) and (2).

(1) a. John is honest.
b. John is a philosopher.

(2) a. John is the Mayor of Cambridge.
b. A picture of the wall was the cause of the riot. (Moro, 1997)

Sentences in (1) and (2) appear to express that the pre-verbal elements are related to post-verbal elements in the same way. However, sentences in (1) and those in (2) behave differently. For example, if post-verbal elements are placed before *be* and pre-verbal elements are placed after *be*, the resultant sentences are unacceptable for (1) as in (3), but acceptable for (2) as in (4).

(3) a. *Honest is John.
b. *A philosopher is John.

(4) a. The Mayor of Cambridge is John.
b. The cause of the riot was a picture of the wall.

Sentences like (2) and sentences like (4) again appear to express the same meanings, but there are some syntactic differences between them. Both of them appear in an ECM construction as in (5), but only sentences in (2) are possible in a Small Clause construction as in (6): sentences in (4) are impossible in a Small Clause construction as in (6b).

(5) a. John considers a picture of the wall to be the cause of the riot.
b. John considers the cause of the riot to be a picture of the wall.

(6) a. John considers a picture of the wall the cause of the riot.
b. *John considers the cause of the riot a picture of the wall.

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Sentences like (1) are called predicational clauses, and sentences like (4) are called specificational clauses. There have been two positions as to the differences between sentences in (1) and those in (4). One position claims that the specificational clause is an inverted predicational clause, and that the predicational clause and specificational clause involve one and the same *be*. Heggie (1988), Moro (1997), and Mikkelsen (2005), among others, take this position. They claim that *the cause of the riot* in (4b), for example, is an underlying predicate, and has been inverted from the post-copular position by a rule called Predicate Raising. The other position claims that the specificational clause is not derived by inversion. Rothstein (2001), for example, claims that there is no inversion involved in (4): the apparent subjects, i. e., *the Mayor of Cambridge* in (4a) and *the cause of the riot* in (4b), are in fact the subjects. She proposes that the specificational clause is a subtype of equative clauses. Heycock and Kroch (1997) and Heycock and Kroch (1999) also argue against inversion. The former specifically claims that the IP Spec in copular sentences is the landing site of the subject of the small clause complement of I, just as it is the landing site of the subject of the VP complement of I. They propose that both predicative copular clauses and equative copular clauses exist.

This paper argues that inversion is involved in sentences like (4). That is, this paper argues that *the Mayor of Cambridge* in (4a) and *the cause of the riot* in (4b) are inverted from the post-copular position, but they are not an underlying predicate. Rather, this paper argues that both predicational clauses and equative clauses exist, and only equative clauses allow inversion. In other words, this paper takes in a part of Moro's and Mikkelsen's positions, and a part of Rothstein's and Heycock and Kroch's positions, denying parts of both the former position and the latter position. The argument is based on consideration of the Locative Inversion construction and its Case checking properties, and also consideration of the cleft construction of the Locative Inversion construction and the specificational clauses. Consideration of syntactic properties of pseudo-cleft constructions further supports the conclusion.

The organization of this paper is as follows. Section 1 discusses the difference between predicational clauses and specificational clauses. It discusses the referential status of the subject of the specificational clauses and argues that it is not a predicate and nonreferential but it is weakly referential. It is also argued that if we distinguish a predicate and a weakly referential argument, it is possible to formulate the generalization about the impossibility of predicate inversion. Section 3 discusses Locative Inversion sentences and argues that a DP that is covertly Case checked cannot be clefted. Then the structure and the derivation of copular clauses are analyzed in terms of cleftability. Section 4 discusses the theoretical status of DP's in copular clauses.

2. Predicational Clauses vs. Specificational Clauses

2. 1. Higgins (1979)

Higgins (1979), together with Akmajian (1979), paved the way for the study of copular clauses in English. Akmajian notes that sentence (7a) identifies, or specifies some entity, and in sentence (7b) given qualities (*short and fat*) are predicated of some individual (*the first candidate for the trip to Mars*): sentence (7a) tells us who the candidate is, but from sentence (7b) we only know what he is, but we do not know who he is.

(7) a. The first candidate for the trip to Mars was Spiro Agnew.
b. The first candidate for the trip to Mars was short and fat.

Akmajian distinguishes two senses of the copula: the specificational sense ((7a)) and the predicational sense ((7b)). The difference between (7a) and (7b) appears elsewhere, too. Akmajian notes that specificational sentence (7a) can be reversed as in (8a), but predicational sentence (7b) may not as in (8b).

(8) a. Spiro Agnew was the first candidate for the trip to Mars.
b. *Short and fat was the first candidate for the trip to Mars.

With this idea of specificational sentences and predicational sentences, Higgins discusses pseudo-cleft sentences. Higgins notes that sentence (9) is ambiguous. In one reading, this sentence states something similar to *John is silly*. In other words, a property (*being silly*) is directly predicated of John. Higgins expresses this as (10). Higgins says that this is the specificational reading of (9). In the other reading, the subject of this sentence refers to some job or position that John holds, and the sentence states that the job or position is silly. This can be expressed as (11). Higgins says that this is the predicational reading of (9).

(9) What John is is silly.

(10) John is this / the following: silly.

(11) John is an X. X-hood / (Being) an X is silly.

Higgins then discusses the important notion of syntactic connectedness. Consider (12a) and (12b). (12a) is not ambiguous; it has only the specificational reading, something like (13).[1] On the other hand, (12b), which is also unambiguous, has only the predicational reading: it states that some property that John has is important to him.

(12) a. ?What $John_i$ is is important to $himself_i$.
b. What $John_i$ is is important to him_i.

[1] Higgins puts a question mark against (12a) and (13) because it is slightly odd that one is important to oneself.

(13) ?John$_i$ is important to himself$_i$.

Higgins states that the sentence with a specificational reading exhibits syntactic connectedness, while the sentence with a predicational reading does not. As further examples, consider (14a, b).

(14) a. What John$_i$ is is too fond of himself$_i$.
b. *What John$_i$ is is too fond of him$_i$.

Since *fond* does not allow a non-human subject, the sentence cannot be a predicational sentence. As the sentence is specificational, ***himself***, but not ***him***, is selected. Occurrence and non-occurrence of syntactic connectedness show the importance of the distinction between the specificational sense and the predicational sense of *be*. We will discuss syntactic connectedness and how to deal with it in Section 2. 8.

Higgins continues to discuss pseudo-cleft sentences. Consider (15). Higgins argues that (15) is ambiguous: it has the specificational and the predicational reading.

(15) What I am pointing at is a cat.

Higgins argues that in the specificational reading, the subject (***what I am pointing at***) is not referential: the subject limits a domain, and a post-copular noun (*a cat*) identifies a particular member of that domain. (We will discuss the referential status of the subject of the specificational sentence (***what I am pointing at***) in Section 3. 4.) Higgins expresses this as (16).

(16) {x: what I am pointing at x} = {a cat}

On the other hand, in the predicational reading, the subject (***what I am pointing at***) is referential. A particular object is picked up by the referential noun phrase---an object at the end of my pointing. The sentence expresses that something ("cathood" in this case) is predicated of the object: it expresses something like (17). We will discuss the referentiality of the subject of the pseudo-cleft sentences in Section 2. 5.

(17) What I am pointing at is feline.

Higgins also discusses an Identity sentence like (18a) and an Identificational sentence like (18b) in addition to the Specificational and Predicational sentences. Identificational sentences have deictic uses of *this* or *that*. We will restrict the discussion in this paper to Specificational and Predicational sentences.

(18) a. The evening star is the morning star. (Identiy)
b. That is Joe Smith. (Identificational)

2. 2. Heggie (1988)

Let us consider other works on the treatment of specificational clauses and predicational clauses. Heggie (1988) derives (19a) and (19b) from the same underlying structure (20).[2]

(19) a. John is the teacher.
b. The teacher is John.

(20) [$_{IP}$ __ I [$_{VP}$ be [$_{SC}$ John [the teacher]]]]

John in (20) moves to IP Spec (with *be* also moving to I), and (19a) is derived as (21a). For (19b), Heggie claims that after *John* has moved to IP Spec (with *be* also moving to I), *the teacher* moves to CP Spec and *be* is raised to C by Subject-Aux Inversion. The structure for (19b) that Heggie proposes is (21b).

(21) a. [$_{IP}$ John$_i$ I+be$_j$ [$_{VP}$ t_j [$_{SC}$ t_i [the teacher]]]]
b. [$_{CP}$ the teacher$_k$ [$_{C'}$ I+be$_j$ [$_{IP}$ John$_i$ t_j [$_{VP}$ t_j [$_{SC}$ t_i [t_k]]]]]]

This proposal specifically claims that *the teacher* in (19b) is not in the IP Spec position but in the CP Spec position, and that J*ohn* in (19b) is in the IP Spec position, as shown in (21b). However, as Rothstein (2001) and Mikkelsen (2005) convincingly argue, *the teacher* in (19b) cannot be in the CP Spec position, and *John* in (19b) cannot be in the IP Spec position. Consider a sentence like (19b) but with a modal auxiliary. In (22a) *be* precedes *John*. However, since Subject-Aux Inversion has inverted *might*, *be* cannot be inverted before *John*: (22b) should be grammatical. The fact that (22a) is grammatical but (22b) is not shows that *the teacher* cannot be in the CP Spec position and *John* cannot be in the IP Spec position.

(22) a. The teacher might be John.
b. *The teacher might John be.

The claim that *the teacher* in (19b) is in the CP Spec position is crucial in Heggie's explanation of the cleft sentences of copular clauses. Consider sentences (23). *John Smith* in (23a) can appear in the focus position of the cleft sentence as in (24a), but *John Smith* in (23b) cannot as in (24b). Heggie claims that sentence (24b) is ungrammatical because it violates the Doubly-Filled Comp Filter.

(23) a. John Smith is my doctor.
b. My doctor is John Smith.

(24) a. It's John Smith that is my doctor. (Heggie 1988, 81)
b. *It's John Smith that my doctor is. (*ibid*.)

[2] We use SC to represent a Small Clause complement of *be* without going to the categorical nature of Small Clauses.

Heggie claims that cleft sentences are derived by *wh* movement of a Null Operator into CP Spec. The underlying structure of (25a) is (25b), and after *wh*-movement, (25c) is derived.[3] The Null Operator is identified as *an apple pie*, which is in the focus position. Sentence (24a) has an underlying structure like (26a). OP moves to IP Spec, deriving (26b). After *wh*-movement, (26c) is derived; it will be ruled in. Sentence (24b) also has an underlying structure like (26a). Like (24a), OP moves to IP Spec, deriving (26b). *My doctor* then moves to CP Spec so that the sentence becomes an inverted sentence, and *is* also is raised to C, deriving (26d). Now OP raises to CP Spec in order to be identified with *John Smith* in the focus position, deriving (26e).

(25) a. It was an apple pie that Mary ate.
b. [it was an apple pie [$_{CP}$ ___ [$_{C'}$ that [$_{IP}$ Mary [$_{VP}$ ate OP]]]]]
c. [it was an apple pie [$_{CP}$ OP$_i$ [$_{C'}$ that [$_{IP}$ Mary [$_{VP}$ ate t_i]]]]]

(26) a. [it is John Smith [$_{CP}$ ___ [$_{C'}$ that [$_{IP}$ ___ [$_{VP}$ is [$_{SC}$ OP my doctor]]]]]]
b. [it is John Smith [$_{CP}$ ___ [$_{C'}$ that [$_{IP}$ OP$_i$ [$_{VP}$ is [$_{SC}$ t_i my doctor]]]]]]
c. [it is John Smith [$_{CP}$ OP$_i$ [$_{C'}$ that [$_{IP}$ t_i [$_{VP}$ is [$_{SC}$ t_i my doctor]]]]]]
d. [it is John Smith [$_{CP}$ my doctor$_i$ [$_{C'}$ that is$_k$ [$_{IP}$ OP [$_{VP}$ t_k t_i]]]]]
e. [it is John Smith [$_{CP}$ OP$_i$ my doctor$_i$ [$_{C'}$ that is$_k$ [$_{IP}$ t_i [$_{VP}$ t_k t_i]]]]]

Heggie claims that (26e) violates the Doubly-Filled Comp Filter. However, if *my doctor* in (26e) is not in CP Spec and if it does not lead to the Doubly-Filled Comp Filter, the ungrammaticality of (24b) is not accounted for.

2. 3. Moro (1997)

2. 3. 1. *wh*-extraction

Moro (1997) argues that sentences (27a) and (27b) share the same underlying structure (27c). If *a picture on the wall*, which is the Small Clause subject, raises to IP Spec (with *be* also raising to I), (27a) is derived as shown in (27d). Moro argues that *the cause of the riot* in (27c), which is a predicate of the Small Clause, can be raised to IP Spec as in (27e), which Moro claims is the derived structure of (27b). Moro calls the operation "Predicate Raising," but to avoid the possible confusion with raising of *be* into I, we use below the term "inversion."

(27) a. A picture of the wall was the cause of the riot.
b. The cause of the riot was a picture of the wall.
c. [$_{IP}$ _____ [$_{I'}$ I [$_{VP}$ be [$_{SC}$ [$_{DP}$ a picture on the wall] [$_{DP}$ the cause of the riot]]]]]
d. [$_{IP}$ [$_{DP}$ a picture on the wall]$_i$ [$_{I'}$ be$_j$+I [$_{VP}$ t_j [$_{SC}$ t_i [$_{DP}$ the cause of the riot]]]]]

[3] *Be*-raising to I is not shown in (26).

e. [$_{IP}$ [$_{DP}$ the cause of the riot]$_i$ [$_{I'}$ be$_j$+I [$_{VP}$ t_j [$_{SC}$ [$_{DP}$ a picture on the wall] t_i]]]]]

Moro proposes to abandon the rigid clause structure in which IP Spec is always occupied by the subject of a Small Clause or VP and proposes instead that a predicative DP can move to IP Spec in complementary with the subject.

The strongest support for this claim concerns the *wh*-extraction phenomena. Let us first consider a non-copular construction as (28). A *wh*-phrase cannot be extracted from the subject DP, but it can be from the complement DP, as in (28b, c).

(28) a. [$_{DP}$ a picture of the wall] revealed [$_{DP}$ the cause of the riot].
b. *Which wall did [a picture of *t*] reveal [the cause of the riot]?
(from the subject DP)
c. Which riot did [a picture of the wall] reveal [the cause of *t*]?
(from the complement DP)

Now consider (27a), repeated below as (29a). A *wh*-phrase cannot be extracted from the first DP, but it can be from the second DP, as in (29b, c). This is expected if the first DP is considered to be the subject, and the second DP is considered to be the complement.

(29) a. [A picture of the wall] was [the cause of the riot]. (=(27a))
b. *Which wall was [a picture of *t*] [the cause of the riot]?
(from the first DP)
c. Which riot was [a picture of the wall] [the cause of *t*]?
(from the second DP)

Now consider (30a) (=(27b)). *Wh*-extraction is impossible both from the first DP and the second DP. The fact that (30c) is ungrammatical is unexpected if *a picture of which wall* in (30c) is considered to be in the same position as *the cause of which riot* in (29c).

(30) a. [The cause of the riot] was [a picture of the wall]. (=(27b))
b. *Which riot was [the cause of *t*] [a picture of the wall]?
(from the first DP)
c. *Which wall was [the cause of the riot] [a picture of *t*]?
(from the second DP)

Moro argues that if in (30c) *a picture of which wall* is considered to be the subject of the Small Clause, and *the cause of the riot* is the predicate of the Small Clause and inverted to the IP Spec position, the facts about (30b, c) can be accounted for. Moro claims that with this assumption, *the cause of which riot* in (30c) and *a picture of which wall* in (29c) are in the same type of position, i.e., in a left-branch position, as seen in (31b, d).

(31) a. [$_{C'}$ C [$_{IP}$ [$_{DP}$ the cause of [which riot]] …]]
b. [$_{CP}$ [$_{IP}$ [$_{DP}$ the cause of which riot] I [$_{VP}$ be [$_{SC}$ [$_{DP}$ a picture of the wall] *t*]]]]

c. [$_{V'}$ V [$_{SC}$ [$_{DP}$ a picture of [which wall]] …]]
d. [$_{CP}$ [$_{IP}$ [$_{DP}$ the cause of the riot] I [$_{VP}$ be [$_{SC}$ [$_{DP}$ a picture of which wall] *t*]]]]

Moro argues that not only (29b) and (30b) but also (30c) are ungrammatical because they all violate the Subjacency condition. Moro thus can account for the contrast between (29c) and (30c) by assuming that in (30a) *a picture of the wall* is the underlying subject of the Small Clause, and *the cause of the riot* is the underlying predicate and has been inverted from the predicate position to the IP Spec position.

2. 3. 2. ECM vs. Small Clause

Moro notes that a form like (32a) (=(2b)) can appear in both an ECM construction and a Small Clause construction as in (33a, b), but a form like (32b) (=4b)) is possible in an ECM construction as in (33c), but not in a Small Clause construction as in (33d).

(32) a. A picture of the wall was the cause the riot. (=(2b))
b. The cause of the riot was a picture of the wall. (=(4b))

(33) a. John considers a picture of the wall to be the cause of the riot. (=(5a))
b. John considers the cause of the riot to be a picture of the wall. (=(5b))
c. John considers a picture of the wall the cause of the riot. (=(6a))
d. *John considers the cause of the riot a picture of the wall. (=(6b))

Moro tries to explain this fact by relating it to the difference of the theta-role assignment property of *picture* and *riot.* Moro claims that both *picture* and *riot* assign an external theta-role and an internal theta-role as shown in (34). Moro claims, however, that *picture* assign its external theta-role within its maximal projection but cannot assign it outside its maximal projection as (35a, b). On the other hand, *riot*, Moro claims, can not assign its theta-role inside its maximal domain, but it can outside its maximal projection as in (35c, d).

(34) a. *picture*: <θ-external, θ-internal >
b. *cause*: <θ-external, θ-internal >

(35) a. [$_{DP}$ his$_{\theta\text{-ext.}}$ picture of the wall$_{\theta\text{-int.}}$]
b. *he$_{\theta\text{-ext.}}$ is [a picture of the wall$_{\theta\text{-int.}}$]
c. *[his$_{\theta\text{-ext.}}$ cause of the riot$_{\theta\text{-int.}}$]
d. he$_{\theta\text{-ext.}}$ is [the cause of the riot$_{\theta\text{-int.}}$]

Moro claims that (assuming that theta-role assignment is to the left of the assigner) the contrast between (33c) and (33d) is accounted for since in the former *cause* can assign its role outside its maximal projection, but in the latter *picture* cannot.

Whether the contrast between (33c) and (33d) can be reducible to the difference of θ-role assignment is questionable, however. Consider (36a, b). Williams (1997) notes that

(36a) and (36b) are not synonymous: (36a) and (36b) imply that we know well who the first DP (*John* in (36a) and *Bill* in (36b)) is, but the identity of the second DP (*Bill* in (36a) and *John* in (36b)) is not known. Thus if the same meaning is to be kept, the two DPs cannot be interchanged. Sentence (37) is ungrammatical if it is to have the same meaning as (36a).

(36) a. I consider John Bill.
b. I consider Bill John.

(37) *I consider Bill John. (in the sense of (36a))

The contrast in grammaticality between (36a) and (37) cannot be explained by the difference of the theta-role assignment of *Bill* and *John*, unless a specific proposal is made that relates the theta-role assignment property of a DP to the strength of referentiality of a DP (i. e., whether the identity is known or not known).

2. 3. 3. Predicate Raising

The two DPs in (38a) or (39a) cannot be inverted as in (38b) or (39b), but the two DPs in (40a) can be as in (40b).

(38) a. John is a fool.
b. *A fool is John.
(39) a. John is a doctor.
b. *A doctor is John.

(40) a. John is the Mayor of Cambridge. (=(2a))
b. The Mayor of Cambridge is John. (=(4a))

Moro (1997: 266 fn. 32) tries to account for this fact by claiming that the indefinite article can be licensed only when it is governed by a lexical head at some stage in the derivation. Moro claims that sentence (41) is grammatical since in (41) the indefinite article is governed by a lexical verb *come*, but (38b) and (39b) are ungrammatical because the indefinite article is not governed by a lexical verb: Moro claims that *be* is not a lexical verb.

(41) A fool came.

However, sentences like (42a, b) are acceptable although the indefinite article is not governed by a lexical verb.

(42) a. A box was empty. (Yasui 2004, 3)
b. A boy was sick. (*ibid*.)

Thus Moro's explanation as to why (38b) and (39b) are ungrammatical in terms of government by a lexical verb cannot be sustained.

2. 3. 4. Mikkelsen (2005)

Mikkelsen (2005) also claims that the subject of specificational clauses is an inverted underlying predicate. Mikkelsen tries to exclude (43) with recourse to information structure.

(43) a. *A doctor is John.
b. *Proud of his daughter is John. (Heycock and Kroch 1999, 379)

Mikkelsen claims that in the DP-inverted construction, the initial DP must be Discourse-old. Mikkelsen also claims that an indefinite article must observe the Novelty Condition (Heim 1982). Considering the two conditions, Mikkelsen concludes that a DP with an indefinite article is impossible as the initial element of DP-inversion construction since it must be Discourse-old, and at the same time it must be novel. He says that sentences like (44) is not ungrammatical but infelicitous, and assigns a hash # mark, rather than an asterisk *.[4]

(44) #A doctor is John.

However, Mikkelsen notes that the second sentence of (45) is as infelicitous as (44).[5] In (45) being a doctor is Discourse-old because of the first sentence. Mikkelsen says that the fact that the second sentence of (45) is infelicitous presents a problem for his explanation of (44), and offers other examples. Noting that (46a, b) are felicitous, Mikkelsen says that there are still other factors that play a role in determining the felicity of indefinite specificational subjects. But he leaves questions for further research. Thus unless the felicity of indefinite specificational subjects is accounted for, Mikkelsen's explanation of (44) must be considered inadequate.

(45) Bill is a doctor. #A doctor is John.

(46) a. Bill is a doctor. Another doctor is john.
b. Bill is a doctor. John is a doctor (too).

2. 4. Williams (1983; 1997)

William (1983) discusses predicational pseudo-cleft sentences and specificational pseudo-cleft sentences. Williams agrees with Higgins in that the subject of the predicational pseudo-cleft sentences is a free relative clause, which Williams claims is referential. The

[4] Mikkelsen claims that the initial element of predicative clauses is not subject to the Discourse-old condition since inversion is not involved in predicative clauses. Thus Mikkelsen can account for the grammaticality of (iii) (=(42a)), which Moro's account cannot explain.

(i) A student is here to see you.

(ii) A philosopher was present, and he hijacked the discussion.

(iii)A box was empty.

[5] Mikkelsen attributes the discussion about (45) to Donka Farkas.

underlying structure of predicational pseudo-cleft sentences like (47a) is (48).

(47) a. What John is is important to him. (predicational) (=(12b))
b. What John is is important to himself. (specificational) (=(12a))

(48) [what S] is XP (predicational)

However, Williams disagrees with Higgins as to the derivation of the specificational pseudo-cleft sentences. Higgins argues that there is no inversion involved in specificational pseudo-cleft sentences. Williams, on the other hand, proposes that the underlying structure of specificational pseudo-cleft sentences is (49a), where XP is the subject, and a free relative clause is the predicate. If there is no inversion, (49b) is derived. (50a) (=(47b/12a)) is derived by inverting XP and [*what* S] around *be*; Williams claims that [*what* S] is an underlying predicative DP, and XP is an underlying subject.

(49) a. XP is [what S] (specificational)
b. [Important to himself] is [what John is].

(50) a. What John is is important to himself.
b. [what S] $_{\text{PRED DP}}$ is $\text{XP}_{\text{SUBJECT}}$

Williams claims that since there is inversion involved in specificational pseudo-cleft sentences like (50a), it is expected that XP of a specificational pseudo-cleft sentence acts like a subject, and the free relative clause acts like a post-copular predicate. He claims that the expectation is borne out: XP of a specificational pseudo-cleft sentences raises as (51a), but the free relative clause of a specificational pseudo-cleft sentences does not, as (51b). We will discuss sentences like (51) below in Section 2. 7.

(51) a. *What John is seems to be important to himself.
b. Important to himself seems to be what John is.

Another piece of evidence Williams presents that shows that inversion is involved in (50a) is the behavior of XP's and the free relative clauses of specificational pseudo-cleft sentences in a Small Clause construction. Williams notes that for predicational pseudo-cleft sentences, the order of two DP's in the finite clauses are preserved in Small Clause constructions.[6]

(52) What John is is important to him. (=(47a))

(53) a. I consider [what John is] [important to him].
b. *I consider [important to him] [what John is]. (without Heavy NP Shift)

For identificational pseudo-cleft sentences, Williams notes that in Small Clause constructions,

[6] Williams notes that (53b) is grammatical if it is considered to be derived from (53a) by Heavy NP Shift, which is irrelevant to the present discussion.

the surface order of non-inverted pseudo-cleft sentences is preserved as in (54).

(54) a. [Important to himself] is [what John is].
b. [What John is] is [important to himself].
c. I consider [important to himself] [what John is].
d. *I consider [what John is] [important to himself].

William (1997) discusses not only predicational and specificational pseudo-cleft sentences but also predicational and specificational copular clauses. He notes that in specificational copular clauses such as (55) the first DP is less known or less directly knowable. In (55) we know who John is, but wonder who the mayor is, and the specificational clause tells who the mayor is: *John*.

(55) The mayor is John.

Williams notes that the Small Clause construction with *consider* corresponding to (55) is ungrammatical as in (56a), although (56b), which corresponds to (56c), is grammatical.

(56) a. *I consider the Mayor John.
b. I consider John the Mayor.
c. John is the Mayor.

The same thing can be said about a pair of sentences in (57) (=(36)), which are not synonymous as Williams notes: the first DP in each sentence is known but the identity of the second DP is not known.

(57) a. I consider John Bill.
b. I consider Bill John.

Williams's claim about the specificational clauses and their occurrences in a Small Clause construction is interpreted as follows. If a clause contains two DP's, in the underlying structure the first DP is a known DP and the second DP is a less known DP. In a Small Clause construction that order is always preserved.

The difference between a finite clause and an ECM construction on the one hand and a Small Clause construction on the other is that the former has an additional Spec for an item to raise to, but the latter does not have an additional Spec. If one claims that either of the two DP's of the equative clauses can raise to the additional Spec in finite clauses and ECM constructions, either order is possible as in (58). A Small Clause has to preserve the order of the two DP's in the underlying structure: if the second DP in the underlying structure appears before the first DP in the underlying structure, the sentence is ungrammatical as in (59b) since there is no additional Spec for it to raise.

(58) a. I consider [$_{IP}$ _____ [$_{I'}$ to [$_{VP}$ be [$_{SC}$ [John] [the Mayor]]]]]
b. I consider John to be the Mayor.

c. I consider the Mayor to be John.
d. [$_{IP}$ _____ [$_{I'}$ I [$_{VP}$ be [$_{SC}$ [John] [the Mayor]]]]]
e. John is the Mayor.
f. The Mayor is John

(59) a. I consider [$_{SC}$ [John] [the Mayor]]
b. *I consider the Mayor John. (=(56a))

Thus Williams can account for the contrast between (56a) and (56b) if the underlying order of the two DP is shown to be always such that a known DP comes first and a less known DP comes later. We will discuss in Section 4 as to the order of the two DP's in the underlying structure.

Summarizing the discussion in this section, we can conclude that Moro's and Mikkelsen's predicate inversion analysis cannot account for why DP with an indefinite article in predicative clauses cannot invert. On the other hand, Williams can account for the facts about specificational clauses in finite clauses / ECM constructions and Small Clause constructions by the inversion analysis.

2. 5. A Weakly Referential DP

Let us consider the referential status of the second DP's in the underlying structure of the specificational clauses, underlined DPs in (60), which Williams says are less known than the other DP's. Moro, Mikkelsen, and Williams claim that they are predicates; that is to say, they claim that the second DP's in the underlying structure of the specificational clauses are nonreferential.

(60) a. John is the Mayor of Cambridge.
b. The Mayor of Cambridge is John.
c. Important to himself is what John is.
d. What John is is important to himself.

Higgins (1979) also claims that the underlined DP in (61a) is not referential. Rather Higgins claims that they are "superscriptional" since the reading corresponds to the heading of a list (cf. (61b)).[7]

(61) a. What I don't like about John is his tie.
b. {x: what I don't like x about John} = {his tie}

Declerck (1983) clarifies the referential status of the subject of specificational clauses as (62a), which corresponds to the second DP in (62b), by contrasting it with the subject of predicative clauses ((62c)).

[7] Higgins claim that *his tie* in (61a) is not referential but "specificational."

(62) a. The bank robber is John Thomas.
b. John Thomas is the bank robber.
c. John Thomas is a teacher.

Declerck argues that one of the differences between the subject of specificational clauses (which Declerck calls S-identifying sentences) and that of predicational sentences is that the former answers the question of the form "Who / Which (one) is DP?" and the latter answers the question of the form "What is DP?"

(63) a. Q: Who/Which (one) is the bank robber?
A: John Smith is the bank robber.
A: The bank robber is John Smith.
b. Q: What is your friend? – A: He is a teacher.

Declerck claims that *the bank robber* in (62a, b) has a specific referent, but identifying the referent by itself is impossible. Declerck argues that in that sense *the bank robber* in (62a, b) is not nonreferential but "weakly referential." The identification of the referent of the weakly referential DP is made possible by being linked up with the referential DP (*John Smith* in this case) in the clause.

We agree with Declerck in that *the bank robber* in (62a, b) is weakly referential, rather than nonreferential as claimed by Moro, Mikkelsen, and Williams. The difference in referentiality between the subject of a specificational clause and that of a predicational clause is also seen in (64), where *the murderer* can be the antecedent of *he*. (Sentence (64) is suggested by Heycock (1994), who says that *the murderer* in (64) is "relatively referential.") If *the murderer* in (64) were nonreferential, it would not be able to be the antecedent of a pronoun.

(64) Now I realize that the murderer was John. He was wearing size 12 shoes and only John has feet that size.

This contrasts with the post-copular DP of predicational clauses: as Declerck notes the relative pronoun which has as its antecedent the predicative nominal in predicative clauses is *which*, rather than *who* as in (65).

(65) He is a friend of mine, which you are not.

If we claim that *a teacher* in (66a), which is nonreferential, is a predicate, but *the Mayor of Cambridge* in (66c), which is weakly referential, is not a predicate, the following descriptive generalization can be obtained. (We will argue below that *the Mayor of Cambridge* in (66c) is an argument.) Note that since Moro, Mikkelsen, and Williams claim that *a teacher* in (66a) and *the Mayor of Cambridge* in (66c) are both predicates, this descriptive generalization is not possible in their framework.

(66) a. John is a teacher.
b. *A teacher is John.
c. John is the Mayor of Cambridge.
d. The Mayor of Cambridge is John.

(67) A predicate cannot be in IP Spec.

We adopted Declerck's claim that *the Mayor of Cambridge* in (66c) is weakly referential, but there is one difference between Declerck's position and the position argued in this paper. Declerck claims that *the Mayor of Cambridge* in (66d) is an underlying subject, and that the (underlying) subject of a specificational sentence (S-identifying sentence) is always weakly referential. We argue that from the facts about the occurrence of the specificational clauses in Small Clause constructions mentioned in Section 2. 4., in (66d) *the Mayor of Cambridge* is not an underlying subject, but *John* is. We present further evidence that *John* in (64d) is an underlying subject in Section 3. 2. 2.

2. 6. Equative *Be* and Predicative *Be*

Heycock and Kroch (1997; 1999) argue against the predicate inversion analysis of Moro, Heggie, and Williams. Heycock and Kroch (1997) claim that movement of a predicate to IP Spec is not possible and in particular claim that IP Spec in copular clauses is restricted to being the landing site of the subject of a Small Clause, just as it is when I takes a VP complement with an overt subject. Moro and Williams claim that there is only one *be*, and the difference between the predicational clause and the specificational clause is due to whether the subject or the predicate raises to IP Spec. Heycock and Kroch, on the other hand, argue that there are equative *be* and predicative *be*; (68a) is an equative sentence with equative *be* and (68b) is a predicative sentence with predicative *be*.

(68) a. Honest is what I want a man to be. (an equative sentence)
b. John is what I want a man to be (i.e. he's honest). (a predicative sentence)

The first argument against the predicate inversion analysis by Heycock and Kroch is based on a pair of sentences like (69).

(69) a. What she did was run the marathon.
b. Run the marathon was what she did.

Williams claims that *what she did* in (69a) is an underlying predicate and has been inverted from the predicate position and that *what she did* in (69b) is in the canonical predicate position without any movement. Heycock and Kroch claim that if it is so, *what she did* in (69b) should undergo the same syntactic operations as other predicates, but it does not. In (70a, b) *run the marathon* and *honest* are preposed. However, *what she did* cannot be as in (70c).

(70) a. She said she would run the marathon; and run the marathon, she did.
b. She said that she was honest, and honest she was.
c. *She said that run the marathon was what she would do; and what she did, run the marathon was.

However, this argument does not apply to the inversion analysis that claims that *what she did* in (69b) is not a predicate, a claim proposed in this paper. If *honest* in (70b) and *what she did* in (70c) were both predicates, *honest* and *what she did* would behave similarly. However, this paper claims that *honest* in (70b) is a predicate but *what she did* in (70c), being weakly referential, is an argument. Thus that they should behave differently is expected in the position proposed in this paper, too.

Their second argument concerns a Small Clause construction. Heycock and Kroch note that although (71b) and (71d) are grammatical, (72b) and (72d) are not, and claim that on an inversion analysis all of them should be perfect.

(71) a. This book is what you should read next.
b. I consider this book what you should read next.
c. That it was raining was what he should have said.
d. ?I considered that it was raining what he should have said.

(72) a. Honest is what John is.
b. *I consider honest what John is.
c. Read poetry was what he does best.
d. *I consider read poetry what he does best.

However, note that an AP and a VP are degraded also in an ECM construction as (73). They should be grammatical in Heycock and Kroch's approach, too. Since the Case marking in a Small Clause construction and an ECM construction is "exceptional," it should be reasonable to suppose that an AP and a VP are not Case marked in these constructions, but only a DP and a CP can be Case marked. Thus their second argument is not sustained.

(73) a. ?*I consider honest to be what John is.
b. ?*I consider read poetry to be what he does best.

Their third argument concerns a pair of sentences in (74) (=(68)). Heycock and Kroch argue that (75a) is grammatical since (74a) is an equative sentence, but (75b) is not since (74b) is a predicative sentence. They claim that under predicate inversion analysis, there is no explanation for the clear difference in grammaticality between (75a) and (75b).

(74) a. Honest is what I want a man to be.
b. John is what I want a man to be (i.e. he's honest).

(75) a. What I want a man to be is honest.
b. *What I want a man to be is John.

This argument is against the position that claims that both (74a) and (74b) have the same *be*, i. e., the position that claims that both of them are predicative. This paper, however, claims that (74a) is a specificational pseudo-cleft sentence, with *honest* as the subject and *what I want a man to be* as a weakly referential pseudo-cleft clause. It can be inverted producing (75a). On the other hand, (74b) is a predicative clause, with *John* as the subject and *what I want a man to be* as a predicate. It states that *what I want a man to be* is predicated of *John*. Being a predicative sentence, it cannot be inverted. Hence (75b) is ungrammatical. (This explanation is the same as Heycock and Kroch's explanation, except that they do not allow inversion.)

Their fifth argument is that if sentences (76a, b) have the same underlying structure (76c), and if (76a) is derived by regular Raising and (76b) is derived by inversion, then nothing can prevent (77a) from being derived. This is because (77a, b, c) have the same underlying structure (77d), and if either *Kim* or *the best candidate* can be extracted from the Small Clause in (76c), then either *Kim* or *the best candidate* should be able to be extracted from the Small Clause in (77d).

(76) a. Kim is the best candidate.
b. The best candidate is Kim.
c. [$_{IP}$ __ I [$_{VP}$ Kim [$_{V'}$ be [the best candidate]]]]

(77) a. *The best candidate is considered Kim.
b. Kim is considered the best candidate.
c. I consider Kim the best candidate.
d. I consider [Kim [the best candidate]]

This is solved by adopting the notion of Equidistance suggested by Chomsky (1995). *Be*, being a raising verb, raises to I, as (78) shows. Chomsky argues that in (79a), if Y adjoins to X, forming the chain (Y, *t*) with the minimal domain {Spec$_1$, Spec$_2$, ZP}, then Spec$_1$ and Spec$_2$ are equidistant from ZP (or anything it contains). In (79b) after *be*-raising, *the best candidate* can raise IP Spec crossing *Kim*.

(78) John is$_i$ not t_i happy. (cf. John does not seem happy.)

(79) a. [$_{XP}$ Spec$_1$ [$_{X'}$ X [$_{YP}$ Spec$_2$ [$_{Y'}$ Y ZP]]]]
b. [$_{IP}$ ___ be$_i$+I [$_{VP}$ Kim [$_{V'}$ t_i [the best candidate]]]]

Now consider (77a, b). They have an underlying structure like (80a). I assume that in a Small Clause construction of the specificational sense of *be*, there is a null verb which has the same function as the specificational *be*.[8] Even if the passive *be* raises to I as in (80b), *the best*

[8] In (80) the Small Clause part is represented as VP_2, but since the head is a null verb, it could be represented as SC: the choice is not important.

candidate cannot raise to IP Spec over *Kim*, since the minimal domain here is {IP Spec, VP_1 Spec, and VP_2}. Thus (77a) is not derived even if (76b) is derived by inversion. Thus Heycock and Kroch's argument against inversion cannot be sustained.[9]

(80) a. [$_{IP}$ __ I [$_{VP1}$ is considered [$_{VP2}$ Kim [$_{V2'}$ *e* [the best candidate]]]]]
b. [$_{IP}$ __ be$_i$+I [$_{VP1}$ t_i considered [$_{VP2}$ Kim [$_{V2'}$ *e* [the best candidate]]]]]

2. 7. Predicational Clauses vs. Specificational Pseudo-cleft Sentences

We noted that a predicative clause does not invert: sentences (81) are ungrammatical. Heycock and Kroch (1999) discuss sentences like (82). The pre-copular elements in (82) are the same as the ones in (81). The pre-copular elements in (82) occupy the IP Spec position since they raise as (83a) and they allow the subject-Aux inversion as (83b). Noting the contrast in grammaticality between (81) and (82), Heycock and Kroch claim that the generalization is not that a particular category (AP, for example) is prohibited from appearing in the IP Spec position. They claim rather that whenever an apparently inverse sentence lacks an equative interpretation, the sentence is ungrammatical.

(81) a. *A doctor is John.
b. *Proud of his daughters is John.
c. *Intelligent is John.

(82) a. Proud of his daughter is what he is.
b. Intelligent is what he thinks he is.

(83) a. Proud of his daughters seems to be what he is.
b. Is intelligent what he thinks he is?

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[9] Heycock and Kroch (1997) argue that there is no inversion into IP Spec, but they argue that inversion into CP Spec is possible: in (i), (ii), and (iii) DP's have been inverted into CP Spec, rather than into IP Spec.

(i) The paintings by O'Keefe were wonderful. ??(Even more) impressive were the murals by Rivers.

(ii) Voting *for* the amendment were the senators from Maine.

(iii) Delinquency is a menace to our society. Also a menace are/*is factory closings and fascist propaganda.

In these sentences the verb agrees with the post-copular DP. On the other hand, in a specificational clause the verb agrees with the pre-copular DP.

(iv) The biggest problem is/*are factory closings.

In sentences (i) – (iii) the fronted predicate does not invert with the auxiliary in a yes-no question as in (v), which also shows that inversion is into CP Spec.

(v) *Are also a menace to society factory closings?

This paper agrees with Heycock and Kroch in that in (i) – (iii) DP's are inverted into CP Spec, but it disagrees with them and claims that inversion into IP Spec is also possible.

If Heycock and Kroch's claim were sustained, the generalization mentioned above, repeated below as (84), would not be sustained. Notice, however, that sentences in (82) are specificational pseudo-cleft sentences. This paper argues that if we consider the LF form of specificational pseudo-cleft sentences, the generalization (84) is sustained.

(84) A predicate cannot be in IP Spec. (=(67))

2. 8. LF movement of Specificational Pseudo-cleft Sentences (Bošković 1997)

Bošković (1997) discusses the LF form of the specificational pseudo-cleft sentences. As noted in section 2. 1., specificational pseudo-cleft sentences exhibit the connectivity effect between the *wh*-clause and the post-*be* constituent, but predicative pseudo-cleft sentences do not as (85). In order to account for the difference in connectivity between the two, Bošković claims that while predicative pseudo-cleft sentences have a free relative clause as subject and no movement is involved, for specificational pseudo-cleft sentences XP's undergo LF movement. The discussion has the following form. He first notes that it is often assumed that anaphors undergo LF movement: the LF of (86a) is often considered to be (86b).

(85) a. What John is is important to himself.
b. What John is is important to him.

(86) a. John likes himself.
b. John himself$_i$+ INFL likes t_i

Bošković claims that *what* in a specificational pseudo-cleft is a surface anaphor in the sentence of Hankamer and Sag (1976), and that a surface anaphor has to have a linguistic antecedent and it must be replaced by its antecedent at some level of representation. The post-*be* element replaces the chain headed by *what* in LF, and "deletes" *what*.

As evidence Bošković offers the contrast between *wonder* and *ask*. Though both *wonder* and *ask* allow an indirect question as in (87a, b), *wonder* does not allow a DP complement as (87c), whereas *ask* does as (87d). The difference between *wonder* and *ask* appears also in such pseudo-cleft sentences as (88). However, in (88) *the time* does not immediately follow *wonder* or *ask*. If *the time* replaces the chained headed by *what* in LF, the facts about (88) can be explained.

(87) a. I wondered what the time was.
b. I asked what the time was.
c. *I wondered the time.
d. I asked the time.

(88) a. ?*What John wondered was the time.
b. What John asked was the time.

Bošković also claims that the LF movement analysis of specificational pseudo-cleft sentences explain the difference in grammaticality between (89a) and (89b). A *wh*-clause in predicational pseudo-cleft sentences raises, but that of specificational pseudo-cleft sentences does not. Bošković adopts the copy theory of A-movement: the derived structure of (90) is (91). Bošković assumes that LF movement moves XP's into the head of the chain created by the overt movement of the *wh*-element. Bošković further assumes that given a chain, all members of the chain that are not involved in the interpretation must be deleted at LF under identity with the remaining member of the chain. Now, as the result of the movement of XP into the head of the chain, the two members of the chain are not identical. Thus deletion is impossible, and LF contains an element which is not involved in the interpretation, and the sentence is ungrammatical.

(89) a. What John is seems to be silly.
b. *What John is seems to be proud.

(90) *What John is turned out to be important to himself.

(91) [what John is] turned out [what John is] to be important to himself

Thus Bošković can account for the contrast between (89a) and (89b) by LF movement of XP's.[10]

If we adopt Bošković's analysis of LF movement of specificational pseudo-cleft sentences, the LF form of (92) does not have *proud of his daughter* or *intelligent* in the IP Spec position. Thus if the generalization (93) is considered to be effective in LF, it blocks only sentences (94), and we can retain the generalization as it is.

(92) a. Proud of his daughter is what he is. (=(82a))
b. Intelligent is what he thinks he is. (=(82b))

(93) A predicate cannot be in IP Spec.

(94) a. *A doctor is John (=(81a))
b. *Proud of his daughters is John. (=(81b)

[10] Heycock and Kroch (1997) discuss the contrast between (i) and (ii) noted by Williams.

(i) Proud of himself seems to be what John is.
(ii)*What John is seems to be proud of himself.

However, they claim that they do not expect (ii) to be ungrammatical since (iii) is acceptable.

(iii) Especially dishonest seems to have been the Rockefeller family.

Note, however, that in (ii) the free relative clause raises (hence the sentence is ungrammatical), and in (iii) an AP raises. Bošković can account for the contrast in grammaticality between (ii) and (iii): in (ii) LF movement of XP renders LF deletion of the superfluous member impossible, but in (iii) no LF movement is involved. Heycock and Kroch cannot explain the contrast between (i) and (iii) on the one hand and (ii) on the other.

A predicate is a theta-assigner: it assigns a theta-role to an argument. An A-position is occupied by an argument. Thus it can be said that a theta-assigner cannot be in an A-position, a position where an argument, which is assigned a theta-role, appears. The descriptive generalization (93) follows from this condition.

Summarizing the discussion so far, we can conclude that Heycock and Kroch's argument is directed against the inversion analysis which inverts an underlying predicate. Heycock and Kroch argue that equative sentences and predicative sentences exist, which we agree with. Heycock and Kroch argue against inversion. However, I will argue below that the post-*be* element in equative sentences can be inverted, but the post-*be* element predicative sentences cannot be inverted (cf. (93)).

2. 9. An Argument vs. a Predicate

Rothstein (2001) argues that the pre-copular DP in (95) is not an inverted predicate as Moro and Williams claim. She notes that while a predicative expression can be modified by non-restrictive relative clauses headed by *which* as (96a), the pre-copular DP in specificational clauses can be modified by non-restrictive relative clauses headed by *who* as (96b).

(95) The leader is Mary.

(96) a. They think John mean, which is a horrible thing to be.
b. The (alleged) murderer, who was acquitted yesterday, is John.

Cf. *The murderer, which is a horrible thing to be, is John.

Rothstein argues that the fact that the pre-copular DP in specificational clauses can be the antecedent of a pronoun as (97) (=(62)) also shows that it is not an inverted predicate.

(97) Now I realize that the murderer was John. He was wearing size 12 shoes and only John has feet that size.

She argues that the pre-copular DP of (95) behaves as an argument, and that it is the subject of the sentence. This paper agrees with Rothstein in that the pre-copular DP in specificational clauses is an argument. Rothstein claims that a predicational clause like (98a) has a structure like (98b), and a sentence like (99a) has a structure like (99b).[11] If we adopt the VP-internal subject hypothesis, (99b) will be shown as (99c). Both the pre-copular DP and the post-copular DP are arguments; both can be modified by non-restrictive relative clauses headed by *who*, as (100). This paper, however, differs from Rothstein and claims that

[11] A sentence like (99a) is ambiguous. (99c) shows the structure of an equative reading of (99a), but (99a) has also a predicative reading, which can be shown as (i).

(i) [$_{IP}$ Mary [$_{VP}$ is [$_{SC}$ *t* [the leader]]]]

inversion is involved in specificational clauses like (101a) (=(95)) or (101b). The next section clarifies the point.

(98) a. Mary is a clever woman.
b. [$_{IP}$ Mary [$_{VP}$ is [$_{SC}$ *t* [a clever woman]]]]

(99) a. Mary is the leader.
b. [$_{IP}$ Mary [$_{VP}$ is [$_{DP}$ the leader]]]
c. [$_{IP}$ ___ I [$_{VP}$ Mary [$_{V'}$ is [$_{DP}$ the leader]]]]

(100) Mary, who you know from the tennis club, is Professor Smith, who teaches maths at the university.

(101) a. The leader is Mary.
b. The Mayor of Cambridge is John.

3. Analysis

3. 1. Locative Inversion Sentences

Consider Locative Inversion sentences like (102b, d). Bresnan (1993) shows that locative phrases of Locative Inversion sentences raise as (103). This fact indicates that locative phrases of Locative Inversion sentences occupy the IP Spec position.[12]

(102) a. A lamp was in the corner.
b. In the corner was a lamp.
c. The tax collector came back to the village.
d. Back to the village came the tax collector.

(103) a. [Over my windowsill] seems [$_{IP}$ *t* [to have crawled an entire army of ants]]. (Bresnan 1994)
b. [In these villages] are likely [$_{IP}$ *t* [to be located a cathedral]]. (*ibid.*)

3. 1. 1. Branigan (2000)

Lasnik and Saito (1991) argue that the subject of an ECM complement binds an anaphor contained in the matrix clause but the subject of a tensed complement does not as in (104). Branigan (2000) notes that Locative Inversion constructions are acceptable in embedded ECM complement clauses, and that with such embedded clauses, the inverted subject of Locative Inversion constructions binds an anaphor contained in the main clause as in (105), but if Locative Inversion constructions are tensed embedded clause, the inverted

[12] It could be argued that the locative phrases in (102b, d) occupy a Spec position higher than the IP Spec position. The point here, however, is that the locative phrases move to the IP Spec position satisfying EPP; the ultimate position of the locative phrases is not important.

subject does not bind an anaphor contained in the main clause as in (106).

(104) a. Perry proved [Jill and Tony to have lied] during each other's trials.
(Lasnik and Saito 1991)
b. *Perry proved that [Jill and Tony lied] during each other's trials.

(105) a. The photos [$_{VP}$ showed [$_{IP}$ behind this very hedge to have been hiding Jill and Tony$_i$] during each other$_i$'s trials].
b. Pam [$_{VP}$ proved [$_{IP}$ in this bed to have slept Washington and Lincoln$_i$] in each other$_i$'s biographies].

(106) a. ??The photos [$_{VP}$ showed that [$_{IP}$ behind this very hedge had been hiding Jill and Tony$_i$] during each other$_i$'s trials].
b. ??Pam [$_{VP}$ proved that [$_{IP}$ in this bed had slept Washington and Lincoln$_i$] in each other$_i$'s biographies].

Branigan argues that preposed locative phrases in Locative Inversion constructions occupy IP Spec to satisfy EPP, and the inverted subject has Case features that must be checked for the derivation to converge. These features are not checked in the post-verbal position in (105). He argues that a covert movement analysis provides a straightforward explanation of these facts. Since Case features cannot be checked in the embedded clause, they must be checked in the matrix clause. Covert movement of the inverted subject allows checking to take place. As a result of the covert movement, either the locative phrase itself ((107a)) or its features ((107b)) end up in a position where they c-command *each other*.[13]

(107) a. the photos [Jill and Tony$_i$ [$_{VP}$ showed [$_{IP}$ behind this very hedge to have been hiding t_i] during each other$_i$'s trials]]
b. the photos [$_{VP}$ FF(Jill and Tony)$_i$ -showed [$_{IP}$ behind this very hedge to have been hiding Jill and Tony$_i$] during each other$_i$'s trials]

Summarizing the Case checking properties of the Locative Inversion construction, we can conclude that the locative phrase occupies the IP Spec position, and that the underlying subject is covertly Case-checked. Note that the first point is a direct argument against

[13] It has been argued that covert movement in the case of existential construction does not affect binding relations.

(i) *Perry proved [there to have been framed two suspects$_i$] during each other$_i$'s trials.
(ii) Perry proved [two suspects to have been framed t_i] during each other$_i$'s trials.

Chomsky (1995) claims that if we adopt the LF movement analysis of anaphors and if we assume that the features of associates adjoins to I, rather than to its specifier *there*, the LF form of the head of the matrix of (iii) would be (iv) or (v), depending on how covert operations are ordered. He claims that neither of them is a legitimate binding-theoretic configuration, with An taking FF(*linguists*) as its antecedent. Note that in (107) no expletive-associate relation is held.

(iii) *There seem to each other [*t* to have been many linguists given good job offers]
(iv) [$_I$ An [FF(*linguists*) α]]

Heycock and Kroch, who argue that IP Spec can only be occupied by the underlying subject of VP or SC.

3. 1. 2. The Cleft Construction of Locative Inversion Sentences

Let us consider the cleft construction of Locative Inversion sentences. In the case of a non-Locative-Inversion sentence, both of the subject and the locative phrase are cleftable as (108b, c). However, in the case of a Locative Construction sentence, neither of them are cleftable as (109b, c). (In this paper we will chiefly discuss the ungrammaticality of (109c), touching the ungrammaticality of (109b) very briefly in section 3. 2. 2.)

(108) a. John slept in this bed. (a non-Locative-Inversion sentence)
b. It's John that *t* slept in this bed.
c. It's in this bed that John slept *t*.

(109) a. In this bed slept John. (a Locative Inversion sentence)
b. ??It's in this bed that *t* slept John.
c. *It's John that in this bed slept *t*.

Note that *John* in (109a) must be covertly Case-checked as the previous section made clear. In the following section we will consider the cleft construction of other sentences.

3. 2. 1. The Cleft Construction of Other Sentences

Heggie (1988) shows that an associate of existential sentences is not cleftable as (110b). Delahanty (1982) also shows that if a *that*-clause is not extraposed, it is cleftable as (111b) and (112b), but a *that*-clause in the extraposed construction is not cleftable as (111d) and (112d).

(110) a. There is a man in the garden.
b. *It's a man that there is *t* in the garden. (Heggie 1988, 240)

(111) a. That Fred took Mary to the movies bothers me.
b. It is that Fred took Mary to the movies that *t* bothers me. (Delahanty 1982, 12)
c. It bothers me that Fred took Mary to the movies.
d. *It is that Fred took Mary to the movies that it bothers me *t*. (*ibid.*)

(112) a. That Bill will ever be this late again is unlikely.
b. It is that Bill will be this late again that *t* is unlikely. (*ibid.*)
c. It is unlikely that Bill will be this late again.
d. *It is that Bill will be this late again that it is unlikely *t*. (*ibid.*)

Chomsky (1995: 200) argues that in (113) α is not a proper position for Case checking, and

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(v) [$_{I}$ FF(*linguists*) [An α]]

thus it must raise at LF, adjoining to the LF affix *there*. Chomsky (1986: 133) also argues that in (114) there is a CHAIN (*it*, S).

(113) There is [$_{\alpha}$ a strange man] in the garden.

(114) It is believed that John is intelligent.

In (109a), (110a), (111c), and (112c) the underlined elements undergo covert movement. Thus the following descriptive generalization can be obtained.

(115) An item that (or whose case feature) undergoes LF movement is not cleftable.

If we follow Heggie (1988) concerning the cleft construction, sentences (116b), (117b), and (118b) have underlying structures (116c), (117c), and (118c), respectively. In (116c) *in this bed* moves to IP Spec, deriving the Locative Inversion construction ((116c')).[14] After *wh*-movement of OP, the derived structures will be (116d), (117d), and (118d). In each of the underlying structure (c), an empty OP for cleft sentences corresponds to the underlined DP in (a) sentences. That is, if an empty OP occupies the position where an item (or its case features) undergoes LF movement, then the derived cleft sentence is ungrammatical. We leave for future research as to how the descriptive generalization (115) is related to the movement of an empty OP in the cleft construction.

(116) a. In this bed slept <u>John</u>. (=(109a))
b. *It's John that in this bed slept *t*. (=(109c)
c. It's John [$_{CP}$ ___ [$_{C'}$ that [$_{IP}$ __ I [$_{VP}$ OP [$_{V'}$ slept [in this bed]]]]]]
c'. It's John [$_{CP}$ ___ [$_{C'}$ that [$_{IP}$ [in this bed]$_i$ slept$_j$+I [$_{VP}$ OP [$_{V'}$ t_j t_i]]]]]
d. *It's John [$_{CP}$ OP$_k$ [$_{C'}$ that [$_{IP}$ [in this bed]$_i$ slept$_j$+I [$_{VP}$ t_k [$_{V'}$ t_j t_i]]]]]

(117) a. There is <u>a man</u> in the garden. (=(110a))
b. *It's a man that there is *t* in the garden. (=(110b))
c. It's a man [$_{CP}$ ___ [$_{C'}$ that [$_{IP}$ there is OP in the garden]]]
d. *It's a man [$_{CP}$ OP$_i$ [$_{C'}$ that [$_{IP}$ there is t_i in the garden]]]

(118) a. It is unlikely [<u>that Bill will be this late again</u>]. (=(112c))
b. *It is that [Bill will be this late again] that it is unlikely *t*. (=(112d)
c. It's [that Bill will be this late again] [$_{CP}$ ___ [$_{C'}$ that [$_{IP}$ it is unlikely OP]]]
d. *It's [that Bill will be this late again] [$_{CP}$ OP$_i$ [$_{C'}$ that [$_{IP}$ it is unlikely t_i]]]

3. 2. 2. The Cleft Construction of Specificational Clauses

Now consider the cleft construction of specificational clauses contrasting it with that of equative clauses. Both of the DP's in equative clauses can be clefted as (119). However, neither of the DP's in specificational clauses can be clefted as (120). The situation is parallel

[14] Probably *sleep* moves to I in the Locative Inversion construction.

with the Locative Inversion construction discussed above repeated below as (121). In (121a) *in this bed* occupies IP Spec and *John* is covertly Case-checked. If *the Mayor of Cambridge* in (120a) is considered to occupy IP Spec and if *John* in (121a) is considered to be covertly Case-checked, the facts about (120) can be accounted for like (121).

(119) a. John is the Mayor of Cambridge. (an equative clause)
b. It's John that *t* is the Mayor of Cambridge.
c. It's the Mayor of Cambridge that John is *t*.

(120) a. The Mayor of Cambridge is John. (a specificational clause)
b. ?*It is the Mayor of Cambridge that *t* is John.
c. *It's John that the Mayor of Cambridge is *t*.

(121) a. In this bed slept John. (a locative inversion sentence)
b. ??It's in this bed that *t* slept John.
c. *It's John that in this bed slept *t*.

Sentence (120c) has the underlying structure (122a), where OP (corresponding to *John*) is the underlying subject, and *the Mayor of Cambridge* is the underlying post-copular element. *The Mayor of Cambridge* moves to IP Spec deriving a specificational clause, and we get (122b), assuming that *be* moves to I. The derived structure of (120c) is (122c).

(122) a. It's John [$_{CP}$ ___ [that [$_{IP}$ ___ [$_{I'}$ I [$_{VP}$ OP is the Mayor of Cambridge]]]]]
b. It's John [$_{CP}$ ___ [that [$_{IP}$ the Mayor of Cambridge$_i$ [$_{I'}$ is$_j$+I [$_{VP}$ OP t_j t_i]]]]]
c. *It's John [$_{CP}$ OP$_k$ [that [$_{IP}$ the Mayor of Cambridge$_i$ [$_{I'}$ is$_j$+I [$_{VP}$ t_k t_j t_i]]]]]

If we claim that *John* in (120a) is the underlying subject, which is covertly Case-checked, the fact that (120c) is ungrammatical is accounted for.

Before leaving this topic, let us briefly discuss (120b) and (121b), repeated below as (123a, b). Again the facts are parallel. In (124c) and (125c) *John* must be covertly Case-checked. In both (124c) and (125c) IP Spec is occupied by a trace; probably it could be said that an item can covertly move only to an overt position.

(123) a. ?*It is the Mayor of Cambridge that *t* is John. (=(120b))
b. ??It's in this bed that *t* slept John. (=(121b))

(124) a. It's the Mayor of Cambridge [$_{CP}$ ___ [that [$_{IP}$ ___ [$_{I'}$ I [$_{VP}$ John is OP]]]]]
b. It's the Mayor of Cambridge [$_{CP}$ ___ [that [$_{IP}$ OP$_i$ [$_{I'}$ is$_j$+I [$_{VP}$ John t_j t_i]]]]]
c. ?*It's the Mayor of Cambridge [$_{CP}$ OP$_i$ [that [$_{IP}$ t_i [$_{I'}$ is$_j$+I [$_{VP}$ John t_j t_i]]]]]

(125) a. It's in this bed [$_{CP}$ ___ [that [$_{IP}$ ___ [$_{I'}$ I [$_{VP}$ John slept OP]]]]]
b. It's in this bed [$_{CP}$ ___ [that [$_{IP}$ OP$_i$ [$_{I'}$ slept$_j$+I [$_{VP}$ John t_j t_i]]]]]
c. ?? It's in this bed [$_{CP}$ OP$_i$ [that [$_{IP}$ t_i [$_{I'}$ slept$_j$+I [$_{VP}$ John t_j t_i]]]]]

3. 4. Conclusion

Summarizing the discussion so far, this paper claims the following.

(131) (I) *Be* has a predicative use and an equative use (cf. Heycock and Kroch).
(II) A predicative use of *be* takes a Small Clause complement, and an equative use of *be* takes as a complement a DP argument (cf. Rothstein), which is weakly referential (cf. Declerck).
(III) An equative use of *be* allows inversion, deriving the specificational clause.[15]

4. Discussion

4. 1. The function of the Equative Use of *Be*: Referential Identification

This paper argues that *the Mayor of Cambridge* in (132) is weakly referential. The identification of the referent does not happen through the use of the word but through the fact that the word is linked up with a strongly referential DP in the specificational clause. Thus the function of the equative use of *be* is to referentially identify the complement DP: the complement DP is referentially identified to the subject of equative *be*, which is strongly referential.

(132) John is the Mayor of Cambridge.

4. 2. Case

Let us discuss the Case properties of DP's in equative clauses and specificational clauses. By way of contrast, let us first review the Case properties of DP's in non-Locative-Inversion constructions and Locative Inversion constructions.

(133) a. John slept in this bed. (=108a)
b. In this bed slept John. (=109a)

In (133a) *John* is Case-checked in the IP Spec position by I, but *in this bed*, being a PP, in not

[15] Heycock (1994) argues against a position that claims that proposes that there are two (uses of) *be*'s, one of which allows inversion, a position argued in this paper. Her argument concerns intensive reflexives, discussed in Heggie. She claims that if *the organizer of our group* in (iii) is an inverted argument, the fact that (iii) is ungrammatical cannot be explained.

(i) John himself is the organizer of our group.
(ii) The organizer of our group himself is dissatisfied.
(iii) *The organizer of our group himself is John.

Note, however, that *John* in (i) and *the organizer of our group* in (ii) are strongly referential. This paper claims that *the organizer of our group* in (iii) is weakly referential: *the organizer of our group* has a specific referent, but the identification of the referent is not possible. It can be said that an intensive reflexive is not attached to a weakly referential DP since the reference of the DP cannot be identifiable: you cannot intensify a referent if the referent is not identifiable.

Case-checked. In (133b) *in this bed* satisfies EPP in the IP Spec position, and *John* is covertly Case-checked.

Consider now equative clauses and specificational clauses:

(134) a. John is the Mayor of Cambridge.
b. The Mayor of Cambridge is John.

John in (134a) is Case-checked in the IP Spec position by I. In (134b) *the Mayor of Cambridge* in (134b) satisfies EPP in the IP Spec position, and *John* is covertly Case-checked. The remaining DP is *the Mayor of Cambridge* in (134a). Safir (1985), who distinguishes predicational *be* and identicational *be*, claims that the latter assigns Case to the complement DP. Then *the Mayor of Cambridge* in (134b) would be Case-checked. However, if it were Case-checked, it should be frozen in the place and should not be able to move to IP Spec in the specificational clause ((134b)). Thus it follows that *the Mayor of Cambridge* in (134a) is not Case-checked. This paper argues that *the Mayor of Cambridge* in (134a) is an argument. However, if it is not Case-checked, it should violate the Case filter:

(135) Every overt argument must be assigned Case.

One might argue that *the Mayor of Cambridge* in (134a) is covertly Case-checked, like *John* in (134b). However, if it is so, the generalization about cleftability will be lost: *the Mayor of Cambridge* in (134a) is cleftable, but *John* in (134b) is not.

The point here is that *the Mayor of Cambridge* in (134) is weakly referential. A weakly referential DP appears only in the underlying complement position of the equative use of *be*. In contrast, *the Mayor of Cambridge* in (136) is strongly referential.

(136) a. John met the Mayor of Cambridge.
b. The Mayor of Cambridge visited London.

The Mayor of Cambridge in (136) is Case-checked by I or V. On the other hand, weakly referential DP is referentially identified by the equative use of *be*. It can then be argued that an argument is licensed in the construction either by being Case-checked (a strongly referential argument) or by being referentially identified (a weakly referential argument). If the Case filter applies only to strongly referential arguments as (137), *the Mayor of Cambridge* in (134a) does not violate the revised Case filter.[16]

[16] The theta-role properties of DP's in equative clauses and specificational clauses are not fully understood. If the two DP's are arguments, it appears that they must receive a theta-role:

(i) Each argument is assigned one and only one theta role.

A predicate use of *be* does not assign a theta-role: the argument is assigned a theta-role by the predicate. Rothstein (2001) claims that if there is one *be* with two uses (a predicative use and an equative use), and if one use does not assign a theta-role, the other use should not assign a theta-role either. That is, the two arguments in equative clauses and specificational clauses have no means to

(137) Every overt strongly referential argument must be assigned Case.

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receive theta-roles. Therefore, if (i) is revised and if we claim that it applies only to arguments that have means to receive their theta-roles ((iii)), the arguments of equative clauses and specificational clauses will not violate the condition.

(ii) Each argument of a theta-assigning verb or predicate is assigned one and only one theta role.