

Against the Notion "Governing Category"

Arild Hestvik
IMS, University of Stuttgart

1. The proposal

The standard definition of binding domain requires that the domain must contain the *governor* of the element of which the binding domain is being computed, cf. (1):

(1) Chomsky (1981, 1986), Huang (1983):

An anaphor α must be bound in the minimal CFC containing α , a governor of α and a potential binder/accessible SUBJECT for α ²

This paper argues that the governor requirement should be removed from the domain definition for anaphors:

(2) Proposal: A governorless governing category

An anaphor α must be bound in the minimal CFC containing α and a potential binder for α

The result is a binding theory where the domains for anaphors and pronouns differ, hence it can be called an *asymmetric* binding theory (cf. Freidin (1986) for a similar proposal with identical effects):

(3) An asymmetric binding theory:

A. An anaphor α must be bound in the minimal CFC containing α and a potential binder for α

¹I would like to thank J. Grimshaw and R. Jackendoff for helpful comments and suggestions. All possible errors are my own responsibility.

²I define *Complete Functional Complex* (CFC) as follows, drawing freely on Chomsky (1986):

- (i) Complete Functional Complex =_{def} the minimal XP in which all θ -roles of a θ -role assigner are realized in A-positions

I furthermore assume that the notion of *potential binder* is the informal characterization of one of the effects of the BT-compatibility algorithm of Chomsky (1986, 171) on the computation of binding domain for anaphors. The other effect of BT-compatibility is to predict overlapping domains for conditions A and B in the cases discussed by Huang (1983).

- B. A pronoun β must be free in the minimal CFC containing β and a governor of β

Note that the governor requirement must still be part of the definition of the domain in which condition B is to be satisfied, if the analysis of Huang (1983) is adopted. Huang proposed that pronouns do not require accessible SUBJECTs in their domain (but only a subject). Then the governor requirement becomes crucial for pronouns in order to rule out structures like (4):

- (4) *John_i believes [_{IP} him_i to be happy]

With the governor requirement, the binding domain for *him* will be the matrix clause, explaining why the coindexation is ungrammatical. Without the governor requirement, the binding domain would be the embedded IP. Then, since *him_i* is free under any coindexing in the embedded IP, the false prediction that the pronoun should be coindexable with the higher subject would arise. Hence, this paper examines the consequences of removing the governor requirement for anaphors only.³

The proposed theory contradicts the proposal of Chomsky (1986), in which the domain definition is neutral to the anaphor-pronoun distinction, and where the differences in actual binding domains follow from other factors. Also, (3) supports the view that conditions A and B are not two sides of the same thing, but rather are different and independent conditions, pro Kayne (1989) and contra Burzio (1988).

2. The prediction

The asymmetric binding theory makes the same predictions as the standard theory with respect to the syntactic distribution of anaphors, pronouns, and PRO. This alone provides for a conceptual argument for removing the governor requirement for anaphors: The requirement is redundant in the computation of condition A domains, cf. Chomsky (1981), Bouchard (1984).

The contribution of this paper is to give new empirical evidence for the proposal in (2). In particular, I want to show that removing the governor requirement for anaphors has one rather subtle empirical consequence: Namely, it predicts that binding of an exceptionally case-marked subject in the configuration

³In Hestvik (1990), I show that the governor requirement can also be removed for pronouns/condition B under the assumption that pronominals move at LF in the same manner as reflexives.

in (5) should be a case of non-local binding, in the sense of Bouchard (1984) and Lebeaux (1985):

(5) *Prediction:*

In the configuration $[NP_i^1 \ V \ [X_P \ NP_j^2 \ [X' \ \dots]]]$, where V governs NP^2 and NP^1 binds NP^2 , the relation is a non-local binding relation.

Call the binding relation in (5) an *ECM-type binding relation*. I will argue below that the prediction that ECM-type binding is non-local is matched by empirical observations, and that only the governorless definition predicts this, whereas the governor definition predicts the opposite. The conclusion of the paper will be that there is evidence on empirical as well as conceptual grounds that the governorless definition of binding domain for anaphors is the right one.

3. Local vs. non-local binding

Before discussing the evidence, a brief preliminary discussion about local vs. non-local binding is in order. Note first that the notion of local binding here should not be confused with the notion of local binding in the sense of *minimality*, where *local binding* is understood as binding holding between x and y iff there is no z such that x binds z and z binds y , (cf. Rizzi (1986), (to appear) for discussion). The notion of locality relevant here is the one of local *domains*.

The necessity for making a distinction between local and non-local binding was first raised in work by Bouchard (1984) and Lebeaux (1985). Lebeaux (p. 345) defined local and non-local binding as follows:

(6) *Lebeaux (1985, 345):*

α is locally bound iff α is bound within the minimal NP or S containing α and a governor for α . Otherwise, α is non-locally bound.

The idea is that local binding is the "core" or "prototypical" binding relation. In other words, local binding is a situation where the antecedent and the anaphor are both contained inside the same "core" or "prototypical" binding domain.

- (7) a. *Local binding:* Binding within the "core" binding domain
 b. *Non-local binding:* Binding from outside the "core" binding domain

From this we can derive the notion *local domain*:

- (8) $\text{local domain}(\alpha) =_{\text{def}}$ the minimal NP or S containing α and its governor

The notion of local domain is of course the notion of Governing Category (Chomsky 1981), but without the *accessible SUBJECT* condition, which is the mechanism for various forms of "long-distance" binding. The intuition is that when we remove this mechanism, we remain with the core binding domain, i.e. (8) under the governing category theory.

These notions can be updated into the theory of Chomsky (1986) as follows: "NP or S" corresponds to the notion CFC, and the "long-distance binding" mechanism is the BT-compatibility algorithm (Chomsky 1986, 171). Therefore, local or "core" binding domain can be defined in more current terms as follows:

(9) *Updated:*

- a. $\text{local domain}(\alpha) =_{\text{def}}$ the minimal CFC containing α and its governor
- b. α is locally bound $=_{\text{def}}$ α is bound in its local domain

So the intuition is that the notion *local binding domain* is derivative of the general notion *anaphoric binding domain*, in the sense that the set of local binding domains constitute a proper subset of the set of anaphoric binding domains, and is defined in terms of this more general notion. I.e., local binding domain for anaphors is the subset of binding domains for anaphors, such that the binding takes place inside the prototypical anaphoric binding domain, where the prototypical domain is the domain computed without "domain extension" mechanisms.⁴

Therefore, a consequence of the proposal in (2), since (2) proposes to change the general notion of anaphoric binding domain, is that the definition of local binding automatically will be redefined as follows:

(10) *Consequence of (2):*

- a. $\text{local domain}(\alpha) =_{\text{def}}$ the minimal CFC containing α
- b. α is locally bound $=_{\text{def}}$ α is bound within the minimal CFC containing α

⁴The governor requirement could itself be considered a domain extension mechanism, in which case the notion local binding and local binding domain discussed here would have a less direct relation to the general notion of anaphoric domain. The notion of local binding domain and its effects would then be related to semantic distinctions that are made at the level of argument structure (cf. Grimshaw (in press)) or conceptual structure (cf. Jackendoff (1983)).

As mentioned in the introduction, the only case where this difference in definition of local binding domain has any consequence, is in the ECM-context, and in particular for an anaphor as the subject of the ECM-clause. Consider again the configuration in (4), repeated here as (11):

- (11) [S NP_i¹ [VP V [X_P NP_i² [X' X.....]]]]
 a. local domain(NP²) by (10) = XP
 b. local domain(NP²) by (9) = S

Suppose XP = IP, or SC. Then the higher verb will govern the embedded subject NP². Under the definition of local domain (9), which is based on the governing category definition of binding domain, the local domain of NP² will be the matrix S. Under the definition of local binding (10), however, which is based on the governorless definition of binding domain, the local domain for NP² will be the embedded XP. Hence, according to the governor definition, the binding relation in (11) is a local binding relation, whereas under the governorless definition, the binding relation is non-local.

I will in the rest of the paper consider data that support viewing the binding relation in (11) as a non-local binding relation.

4. The data

4.1 Strict identity under VP-ellipsis

Bouchard and Lebeaux's motivation for making the distinction between local and non-local binding was that non-locally bound anaphors behaved differently from locally bound anaphors. In particular, they argued that non-locally bound anaphors shared the following properties with free pronominals (I will, however, argue immediately below that only property (12a) is a good test property):

- (12) *Properties of non-locally bound anaphors (Bouchard 1984, Lebeaux 1985):*
- admit strict identity interpretation under VP-ellipsis
 - are in free variation with pronouns
 - do not require a c-commanding antecedent
 - take split antecedents

The prediction of the governor-definition (9) is then that the anaphor bound as in (11) should have none of the properties in (12), whereas the prediction of the governorless definition of local domain is that the anaphor should have those properties.

The following data clearly show that an anaphor in an ECM-type binding relation clearly admits the strict identity interpretation under VP-ellipsis, thus supporting the prediction that it is a non-local type of binding:

- (13) *Non-local property of ECM-binding: strict identity under VP-ellipsis*
- a. John considered himself to be competent, and so did Bill/the committee
 - (i) Bill considered Bill to be competent (sloppy)
 - (ii) Bill/the committee considered John to be competent (strict)
 - b. Mary considered herself OK, and so did the doctor
 - (i) The doctor considered the doctor OK (sloppy)
 - (ii) The doctor considered Mary OK (strict)
 - c. John believes himself to be a genius, and so does Bill/his mother
 - (i) Bill believes Bill to be a genius (sloppy)
 - (ii) Bill/his mother believes John to be a genius (strict)

Compare this with an undisputed case of local binding, which does not admit the strict identity interpretation⁵:

- (14)
- a. Ok John likes John, and Bill likes Bill
 - b. *John likes John, and Bill likes John

Under the definition of local binding using the governor, the ECM-constructions should pattern with (14), since it would be a local binding relation. Under the governorless definition, however, the possibility for strict identity interpretation in (13) is expected. Hence, the paradigm in (13) is strong evidence that ECM-binding is non-local.⁶

⁵In fact, Sag (1976) reports that any bound anaphor, local or non-local, can have the strict interpretation. The current work is based on the reports of Bouchard and Lebeaux, who states that locally bound anaphors can never have the strict interpretation. This discrepancy suggests that there might be some "dialect differences."

⁶Bouchard (1984) defined local binding as the equivalence of *antecedent government*. If the basic claim of this paper is correct, Bouchard's analysis is beyond any hope of salvation, for the following reason: Consider (i) and (ii):

- (i) John_i was killed t_i
- (ii) John_i was believed [t_i to be happy]

For the purposes of the ECP (assuming Chomsky 1986b), antecedent government must

4.1.1 Other tests for local/non-local binding

Note that Bouchard and Lebeaux's theories said that all the properties of (12) should obtain under non-local binding. However, this is not the case in the ECM-type non-local binding. With respect to the other tests, it appears to behave like local binding:

(15) *Local binding properties?*

- a. *no split antecedents*: *When John_i came in, Mary_j expected themselves_{i+j} to leave
cf. When John_i came in, Mary_j lost the picture of themselves_{i+j}
- b. *no free variation with pronouns*: *John_i believes him_i to be happy
cf. John_i likes those pictures of him_i
- c. *no non-c-commanding antecedent*: *John_i's agency considered himself_i the best candidate
cf. John_i's agency thought it seemed likely that pictures of himself_i would win the campaign

So apparently, three out of four tests treat the ECM-type binding relation as local. This suggests, perhaps, that the evidence more strongly supports treating ECM-binding as local binding.⁷

I will propose that this is not so, because (I will claim) the three tests applied in (15) are not directly related to the local/non-local distinction, contra Bouchard and Lebeaux.

Consider first the property of being in free variation with pronouns. Under the assumption taken here that condition A and condition B domains differ, it is not expected that this property should always hold for non-local anaphor binding. It will hold in some cases of non-local anaphor binding, namely the cases where condition B domains and non-local anaphor domains coincide. But in the ECM-case, the domains differ, because of the governor requirement for pronouns. In other hold in both cases. If the claim of this paper is correct, namely that there is a distinction between (iii) and (iv), such that (iii) is local binding whereas (iv) is non-local binding,

- (iii) John_i killed himself_i
- (iv) John_i believes [himself_i to be happy]

then clearly antecedent government cannot cut the pie in the right way, since one would not want to say that antecedent government holds in (ii) but not (iv).

⁷Thanks to Howard Lasnik for pointing out this problem.

words, the reason this property does not hold in the ECM-case, cf. (15b), is that (15b) is independently ruled out because it contains a pronoun bound in its minimal domain, violating condition B:

(16) *(15b) ruled out independently:*

- a. *[S₁ John_i believes [S₂ him_i to be happy]]
- b. Condition B domain = S₁.

Hence, the lack of the free variation with pronouns property follows from independent principles.

The fact that the property of non-c-commanding antecedents is missing in the ECM-case, cf. (15c), also seems to be related to something else than local vs. non-local binding. Consider (17b), another case of non-local binding, which supposedly should allow non-c-commanding antecedents. However, speakers I have consulted find (17b), an undisputed case of non-local binding, unacceptable:

(17) *No general correlation c-command -- local vs. non-local binding:*

- a. *John's campaign voted for himself
*John's diary describes himself well
- b. ??John's campaign made those pictures of himself
??John's diary contains the old pictures of himself
- c. John's campaign said that the pictures of himself were good
John's diary makes it likely that pictures of himself will be published

There appears to be a scale of acceptability between the cases in (17), ranging from bad (17a), to intermediate (17b), to perfect (17c). However, these judgements do not pattern with local vs. non-local binding, since (17a) is local binding, and (17b,c) are non-local binding cases. Some other principle must therefore be responsible for the non-c-commanding antecedents. Hence, the fact that the ECM-binding does not allow a non-c-commanding antecedent should not be taken as evidence that it is not a non-local binding relation.

This leaves the split antecedents property. I hypothesize that this is also a property not directly caused by the local/non-local distinction. In fact, Zribi-Hertz (1989) argues on the basis of the data in (18) that split antecedenthood is neither a sufficient nor necessary condition for local binding:

(18) [= (81) in Zribi-Hertz (1989, p.720)]

- a. ?*John_i spoke to Mary_j about themselves_{i+j}
- b. John_i whispered secret things to Mary_j about themselves_{i+j}

(18a) illustrates a case where local binding does not allow split antecedents. But (18b), where the anaphor and the antecedents are in the same local domain, does allow split antecedents.⁸ Hence, the test fails to distinguish local from non-local binding, and the lack of split antecedents in ECM-binding should not be taken as evidence that that is a local relation.

To conclude this section: I have showed that the three other tests for local vs. non-local binding from Bouchard and Lebeaux's work do not distinguish between these two binding relation types. Therefore, the fact that ECM-type binding does not exhibit these properties is not a problem for the analysis proposed here. Only strict identity gives a solid indication of whether a binding relation is local or non-local, and this tests supports treating ECM-binding as non-local.

4.2 Norwegian *seg*

Another piece of evidence against the governor requirement comes from the Norwegian anaphor *seg*. This element has the special property that it is an anaphor that cannot be locally bound, cf. Hellan (1980, 1988), Taraldsen (1983), Vikner (1985), Hestvik (1990). The generalization can be stated as follows:

(19) *seg* is an anaphor that must be bound, but cannot be locally bound

Certain other cases of *seg* as in *John barberte seg* 'John shaved' can be shown to be expletive markers of inherent reflexive verbs, and hence not subject to the generalization (19), which only applies to arguments receiving a θ -role in the syntax (cf. the above references).

⁸A possible objection to the admissibility of this datum is the following: (18b) is a case of extraposition, and if the phrase containing the anaphor is reconstructed into its extraction site, it will be a case of non-local binding (at D-str). The reconstructed representation is (i), and would be parallel to (ii), a case of non-local binding:

- (i) John_i whispered [secret things about themselves_{i+j}] to Mary_j
- (ii) John_i showed Mary_j [pictures of themselves_{i+j}]

If this is right, then other evidence must be sought to determine whether split antecedenthood is or is not directly caused by the locality of the binding relation.

However, the generalization is based on data that does not take into consideration the ECM-context discussed here. I will argue that the only way this generalization can be maintained is under the governorless definition of binding domain and local domain for binding. Consider first the following data, illustrating the generalization:

(20) *No local binding:*

- a. *John_i fotograferer seg_i
'John photographs himself'
- b. *John_i hater seg_i
'John hates himself'
- c. *John_i snakker om seg_i
'John talks about himself'
- d. *John_i kikker på seg_i
'John looks at himself'
- e. *Johns_i bilde av seg_i
'John's picture of himself'

Apart from this, *seg* is clearly an 'anaphor that must be bound. For instance, it cannot be free:

- (21) a. *John_i hater seg_j
'John hates him'
- b. *[Johns_i far] hater seg_j
'John's father hates him'

Furthermore, it may be bound across a Specified Subject (cf. Pica (1987) for an analysis of Danish *sig* which carries directly over to Norwegian):

(22) *Long-distance/non-local binding (cf. Pica 1987):*

- a. John_i bad [_S Marit fotografere seg_i]
'John asked Mary to photograph himself'
- b. John_i bad Per om [_S PRO ikke å hate seg_i]
'John asked Peter about not to hate himself'
- c. John_i likte [_{NP} Marits bilde av seg_i]
'John liked Mary's picture of himself'
- d. *John_i bad om [at Marit fotograferte seg_i]
'John asked (about) that Mary photographed himself'

These facts all fit the generalization that the element cannot be bound in its local

domain, i.e. roughly the containing NP or S, but must still be bound within the domain of [+Tense] (cf. (22d)), and it cannot remain unbound.

The test is now whether binding of *seg* is possible in the ECM-context. Since it cannot be locally bound, the two definitions of local binding for anaphors make opposite predictions: The governor definition predicts that binding across an ECM-boundary as in (11) should be ungrammatical on a par with the cases in (20). The governorless definition predicts that it should be perfect, since *seg* will be a non-locally bound in (11), as required. The data bears out the prediction of the governorless theory:

(23) '*seg*' in ECM-contexts:

- a. John_i anså [seg_i intelligent]
'John considered himself intelligent'
- b. John_i anser [seg_i for å være kompetent]
'John considers himself for to be competent'
- c. John_i så [seg_i drukne i vannet]
'John saw himself drown in the lake' (i.e. in a dream)
- d. John_i ønsket [seg_i langt vekk]
'John wished himself far away' (lit. that he was far away)

If local domain is defined without governor, then these cases are cases of non-local binding, and the generalization in (19) can be maintained. Hence, the distribution of Norwegian *seg* also support the governorless definition of binding domain.

A possible alternative analysis of the data in (23) is that they have the following structure, i.e. analyzed as inherent reflexive verb constructions:

(24) [VP V-seg PredP]

However, locally bound anaphors in general and *seg* when it occurs with an inherent reflexive verb in particular only have the sloppy reading under VP-ellipsis. This is illustrated in (25):

- (25) a. John vasket seg, og det gjorde Per også
'John washed, and so did Peter' (sloppy only)
- b. John slo seg, og det gjorde Per også
'John got hurt, and so did Peter' (sloppy only)

Under analysis (24), one would expect the cases in (23) to only have sloppy interpretation too. However, they allow the strict identity interpretation:

(26) *Both strict and sloppy identity:*

- a. John anså seg intelligent, og det gjorde komiteen også
'John considered himself intelligent, and so did the committee' (strict)
- b. John anser seg for å være kompetent, og det gjør vi også
'John considers himself to be competent. and so do we' (strict)
- c. John ønsket seg langt vekk, og det gjorde vi også
'John wished himself far away, and so did we' (strict)

This follows if the instances of *seg*-binding above are non-local binding relations.

5. Summary

I have argued that the definition of binding domain for condition A should not contain reference to the governor of the anaphor (whereas this is necessary for pronouns). Since the notion of local binding and local binding domain is based on the notion of anaphoric binding domain, this predicts that binding across an ECM-boundary should be a non-local binding relation. Data from English and Norwegian support this prediction. The discussion also showed that not all the tests for local vs. non-local binding discussed by Lebeaux and Bouchard give uniform results, and I suggested that strict identity is the best diagnostic. Finally, a general consequence of the proposed asymmetric binding theory is that conditions A and B are distinct and independent principles, and not simply two sides of the same coin.

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