

STRUCTURAL CASE, SPECIFIER-HEAD RELATIONS,  
AND THE CASE OF PREDICATE NPS

ABSTRACT. We argue that in Germanic languages, predicate NPs always receive case structurally. In some languages (English, Frisian, Danish and Norwegian), the copula verb is itself an accusative case assigner; in other languages (Icelandic, Swedish and German), case features from a higher case-assigner are able to penetrate into the VP containing the predicate NP. Under this view, any apparent case 'agreement' between subject and predicate NP is epiphenomenal, due not to a rule of agreement under coindexation, but rather to the fact that both NPs are dependent on I for case, through Spec-head agreement on the one hand, but under government on the other. The hypotheses that predicate NPs are caseless or that they receive default case are shown to be untenable. The Structural Case Hypothesis is shown to provide a simple account of some complex case alternations in Icelandic.

## 0. INTRODUCTION

The question of how predicate NPs get case has received undeservedly little attention in the generative literature; mention has by and large been relegated to footnotes. We hope to show in this paper that they deserve better. Not surprising, perhaps, is the lack of consensus. Consider a simple example, such as (1):

- (1) [<sub>IP</sub> Pat [<sub>I'</sub> [<sub>I</sub> will] [<sub>VP</sub> be [a doctor]]]]

A survey of the literature reveals a wide range of possible analyses as to the source of the m(orphological)-case on the predicate NP:<sup>1</sup>

- (2) Possible sources of m-case on Predicate NPs:
- a. 'Caseless' (Safir 1985: 77, Chomsky 1986: 95, Authier 1991: 726, fn. 5)
  - b. Default case (Babby 1980: 171 ff., Freidin and Babby 1984: 96, fn. 4)
  - c. via Agreement (Einarsson 1945: 133, Andrews 1982, den Besten 1985, Yip *et al.* 1987, Rothstein 1992: fn. 10, Sigurðsson 1991b)
  - d. Structural Case (Sigurðsson 1989, Lasnik 1992, Lee 1989)

According to the Caselessness Hypothesis (2a), predicate NPs like *a doctor* in (1) are exempt from the Case Filter.<sup>2</sup> According to the Default Case Hypothesis (2b), they receive case through some default or last-resort mechanism, because they have no other source of case. Under the Agreement Hypothesis (2c), they 'inherit' nominative case via coindexation with the subject NP *Pat*.

## 1. THE STRUCTURAL CASE HYPOTHESIS

In this paper we argue that a relatively unified analysis of predicate NPs is possible if it is assumed that in the Germanic languages such NPs are always assigned morphological case as an instance of structural case (2d). Under our analysis the basic parameter dividing the Germanic languages is whether or not the copula is itself a source of structural case in a given language. When it is not, we assume that the domain of the copula is transparent to structural case assignment from an external governor.

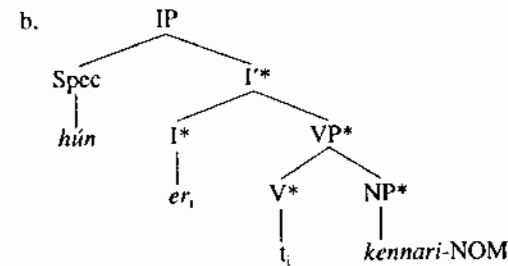
According to the Structural Case Hypothesis, predicate NPs are assigned structural case in the same way as argument NPs. In some languages, e.g. Danish, Norwegian and English,<sup>3,4</sup> the copula is clearly a case assigner and assigns accusative case to the predicate NP, just as a transitive verb assigns accusative to its complement:

- (3) a. Han ser mig/\*jeg    Danish  
he sees me-ACC/\*I-NOM
- b. Det er mig/\*jeg  
it is me-ACC/\*I-NOM
- c. Hvis jeg var dig/\*du, . . .  
if I were you-ACC/\*NOM
- d. He sees me/\*I.    English
- e. That's me/\*I in the picture.
- f. What would you do if you were me/\*I?
- g. You can be me/\*I in the play.

In (3b,c,e-g) the copula assigns accusative case to the predicate NPs, just as the transitive verb assigns accusative case to its complement in (3a,d).

However, in other languages, e.g. Icelandic, Swedish, and German, the predicate NP gets nominative case. We assume that in such languages, Infl (I) is the source of the nominative case. Under the Case Minimality Hypothesis (Sigurðsson 1989, Lee 1989, 1992), Infl can govern into a VP headed by a non-case-assigning verb and therefore assign case to a VP-internal nominal. Consider the Icelandic example in (4) (see Appendix for discussion of Swedish and German):<sup>5</sup>

- (4) a. Hún er kennari/\*kennara.  
she-NOM is teacher-NOM/\*ACC



In (4a) both the subject and the predicate NP must be marked nominative. Following Koopman and Sportiche (1991), we assume that the nominative on the subject NP is licensed by virtue of the Spec(ifier)-Head relation that holds between Spec-IP and I. Following Sigurðsson (1989: ch. 4; 1991b) we adopt the metaphor of the *structural case path* as a term for the domain associated with every structural-case-assigning head. Case and other syntactic features travel along this path. Following Lee (1992), we take this path to include the head itself, the node immediately dominating that head, and all nodes that the head e-commands but are not contained within a more immediate case path. In (4b) we have marked the nodes included within the structural case path of I with asterisks. Since the copula is not a case assigner in Icelandic, the structural case path of I in (4b) includes the predicate NP. Thus, I assigns nominative case to the NP *kennari*.

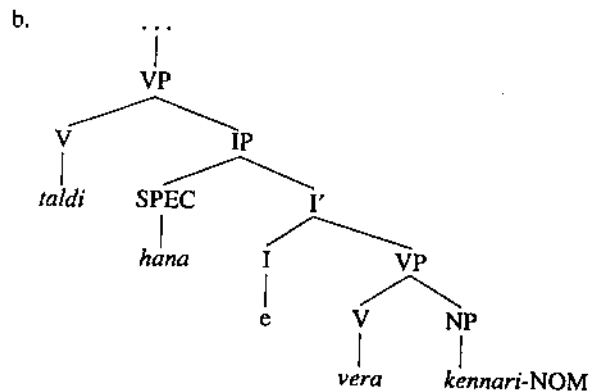
Predicate NPs in Icelandic also occur uniformly in the nominative case in sentences involving so-called PRO<sup>arb</sup>, as illustrated in (5):

- (5) [<sub>CP</sub> Að PRO vera kennari/\*kennara] er mikilvægt  
to be teacher-NOM/\*ACC is important

The CP boundary is presumably an absolute barrier to government by case assignment from the matrix I. Here we depart from an assumption of much current work within the principles and parameters framework and follow Sigurðsson (1989: 183–191) in assuming that PRO is in Icelandic – and perhaps universally – assigned case in the same way as the lexical subject of a finite clause. In an example such as (5), the lower (non-finite) I serves as a nominative case assigner for PRO via Spec-Head agreement. Likewise, this same (non-finite) I serves as a source of nominative case for the predicate NP *kennari* via government, in a fashion completely analogous to the finite example (4).

Let us now turn to a slightly more complicated example, one in which a clause containing a copular construction is embedded under an Exceptional Case Marking (ECM) verb like *telja* 'believe'. Consider example (6):

- (6) a. Ég taldi hana/\*hún vera kennara/\*kennari.  
 I believed her-ACC/\*she-NOM to-be teacher-ACC/\*NOM  
 'I believed her to be a teacher'



The question now is why the predicate NP in (6) occurs in the accusative rather than the nominative, as in (5), given the set of assumptions made above. In other words, how does the accusative case assigned by the matrix verb *telja* penetrate into the embedded VP? Our answer is the following: we propose that *telja* assigns accusative case to the Spec-IP under government (by virtue of governing IP, *telja* also governs Spec-IP). A Spec-Head relationship holds between the NP *hana* and the lower I, and thus the two share syntactic features. We suggest that morphological cases are syntactically non-atomic complexes of case features, in the spirit of Jakobson (1936). A number of such analyses have been proposed in the literature; we assume the feature decomposition of case from Zaenen and Maling (1984/1990: 148) shown in (7):

(7) Case Features:

-OBJ	-OBL	NOM
+OBJ	-OBL	ACC
+OBJ	+OBL	DAT
-OBJ	+OBL	GEN

For the present purposes, the only crucial aspect is that the case features for NOM both take [-] values. We suggest then that the [+OBJ] feature assigned by the matrix ECM verb gains entry to the embedded I via the Spec-Head relation between the latter and the embedded subject. In an intuitive sense, the positive [+OBJ] feature is then able to override the negative [-OBJ] feature value inherent in the embedded I, and from there to spread along the structural case path.

To summarize so far, we propose that predicate NPs always receive case structurally: either the copula verb is itself an accusative case assigner,

or case features (typically, nominative from I, but in certain instances, accusative from a higher V) are able to penetrate into the VP containing the predicate NP. Under this view, any apparent case 'agreement' between subject and predicate NP is epiphenomenal, due not to a rule of agreement under coindexation, but due to the fact that both NPs are 'dependent' on I – albeit through quite distinct mechanisms – for case.

Let us turn now to a brief consideration of the other three hypotheses outlined in (2a-c).

## 2. ALTERNATIVES TO THE STRUCTURAL CASE HYPOTHESIS

### 2.1. Caselessness

The Caselessness hypothesis would seem implausible on the face of it, since predicate NPs clearly bear m-case in languages which exhibit m-case on argument NPs.<sup>6</sup> Moreover, contrary to Authier's (1991) claim, adjacency effects similar to those generally assumed to hold for unambiguous instances of structural case marking are observed in the relation between the English copula and predicate NP:

- (8) a. John gave (\*yesterday) Bill a book. (Authier 1991: 726, 8b)  
 b. John was (\*yesterday) a slob.  
 c. John was surely a fool.  
 d. John has surely been a fool.  
 e.\*John has been surely a fool.

Just as adverbs cannot generally occur between a verb and its object(s), as shown in (8a), most adverbs cannot occur in the position between the copula and the predicate NP, as shown in (8b), and for adverbs that can, like *surely*, as illustrated in (8c), the apparent non-adjacency can be attributed to the raising of the finite verb to I – a movement that only auxiliaries and *be* undergo in English. This is further confirmed by the contrast between (8d) and (8e). When the adverb *surely* occurs unambiguously between the copula and the predicate NP (as in 8e, in contrast with 8c and 8d), the structure is ill-formed. Thus, predicate nominals in English exhibit the same adjacency effects as NP-complements to transitive verbs; hence there is nothing to be gained by assuming they are Caseless. (See Lasnik 1992, for further discussion.)

### 2.2. Default Case

The Default Case Hypothesis is in essence represented by Freidin and Babby (1984: 96, fn. 4). Noting that left-dislocated NPs and predicate NPs in Russian receive nominative case, just as subjects do, they suggest this is so because all three are in the same relevant structural configuration. While

this suggestion is not compatible with more current views of phrase structure, it could easily be reinterpreted as the hypothesis that left-dislocated NPs and predicate NPs receive case through a default mechanism. Within Germanic, however, there are counterexamples to the assumed correlation between the case of left-dislocated NPs and the case of predicate NPs in (unembedded) copular constructions. Consider, for example, the following data from Frisian (Jarich Hoekstra, p.c.):

- (9) a. Ik, ik praat net botte goed Frysk  
I-NOM I-NOM speak not very well Frisian  
b. At ik dy wie, soe ik  
If I you-ACC were, would I . . .

As (9a) shows, the nominative is the case of left dislocation, while the accusative is the case of predicate NPs in the relevant constructions (9b). Moreover, a Default Case Hypothesis cannot account for the case alternations in a language like Icelandic, in which predicate NPs occur in the nominative in some syntactic contexts, e.g. (4)–(5), but in the accusative in others, e.g. (6).

### 2.3. Case Agreement

This leaves us with the choice between the two hypotheses stated in (10): structural case or an independent mechanism of case agreement under predication.

- (10) a. *Case Agreement Hypothesis*: a predicate NP agrees in m-case with the NP it is predicated of.  
b. *Structural Case Hypothesis*: a predicate NP gets m-case either from V or, in languages where copular verbs are not accusative case-assigners, case from I.

How can we choose between these two hypotheses? Agreement is surely the traditional view; traditional grammars all contain statements like the following:

Nouns used as modifiers, predicatives or appositives of other nouns must agree in case, and often agree in number (and sometimes in gender) with the nouns they modify or describe (Einarsson 1945: 133)

This view is also found in the generative literature (Andrews 1982b, Anderson 1990, Yip *et al.* 1987). Rothstein (1992: 138, fn. 10) suggests 'that the morphological case that predicate and adverbial nominals bear in many languages is an agreement mechanism, to be distinguished from the structural Case relation . . .'

The Agreement Hypothesis appears to account straightforwardly for all the Icelandic data discussed thus far.<sup>7</sup> One might ask, therefore, whether

there are any empirical or conceptual reasons for preferring the Structural Case hypothesis over Case Agreement. Conceptually, the Structural Case Hypothesis is more compatible with much current work in syntax. Well studied instances of both overt and abstract agreement have been shown to involve a Spec-head relationship. For example, Roberts (1993: 19) defines agreement as just such a structural relationship. If the Agreement Hypothesis were correct, it would have to be based on a semantic relationship between two phrasal projections, not a syntactic relationship between a Specifier and its Head. Given the existence of languages like Danish and English, it seems to us more natural to attribute the observed parametric variation to a difference in the case-assigning properties of copular verbs than to claim that entirely different case-assigning mechanisms are operative.

Moreover, there is a very simple and compelling empirical reason to pursue the Structural Case hypothesis: sometimes the m-case on predicate NPs differs from the m-case on predicate APs in the same structural configuration. Hence, different mechanisms must underlie their case-marking. In a certain syntactic context in Icelandic, while predicate APs are susceptible to the kind of 'superficial' agreement that the Agreement Hypothesis might lead us to expect, predicate NPs are restricted by a well-established restriction on structural case assignment.

Consider constructions involving controlled PRO in Icelandic. As illustrated in (11), it is possible for both predicate APs and predicate NPs to occur in either nominative or accusative when PRO is controlled by a matrix controller bearing structural accusative case.

- (11) a. Jón bað mig<sub>i</sub> [<sub>CP</sub> að PRO<sub>i</sub> vera  
Jón asked me-ACC to be  
fljótur/fljótan] Pred AP  
quick-NOM/quick-ACC  
b. Jón bað mig<sub>i</sub> [<sub>CP</sub> að PRO<sub>i</sub> vera  
Jón asked me-ACC to be  
dyravörður/dyravörð] Pred NP  
doorkeeper-NOM/ACC

Let us consider this to be an instance of the phenomena traditionally known as **Case Attraction**. Under our assumptions it is not obvious why this alternation is possible. However, let us assume that the case of the controller may optionally be copied onto PRO (as long as PRO is not assigned lexical case by the embedded predicate). Then the paradigm in (11) above and in (12)–(13) below will follow straightforwardly. In (11), PRO may either receive structural nominative from I or it may receive structural accusative via Case Attraction. In either case, I will serve as the source for case features for the predicate NP through the mechanisms already familiar from the discussion above of (5) for the nominative and (6) for the accusative.

At this point, it might appear that predicate APs receive case features in the same way. A different picture emerges, however, when we consider controllers bearing lexically assigned inherent case, as illustrated in (12). Consider first predicate APs.

- (12) a. Jón skipaði Haraldi<sub>i</sub> [<sub>CP</sub> að PRO<sub>i</sub> vera  
Jón ordered Harold-DAT to be  
fljótur/%fljótum] Pred AP  
quick-NOM/%DAT
- b. Hana<sub>i</sub> langar [<sub>CP</sub> að PRO<sub>i</sub> vera stillt/%stillta] Pred AP  
she-ACC longs to be calm-NOM/%ACC

The percent sign indicates that only some speakers allow attraction into the dative case of the controller; for other speakers, only nominative is possible.<sup>8</sup>

What is significant is that predicate NPs do not exhibit the same behavior, as first noted by Ottósson (1990). Observe the contrasts between (12) and (13): unlike predicate APs, a predicate NP cannot 'inherit' the case of its controller if that case is lexically assigned.

- (13) a. Jón skipði Haraldi<sub>i</sub> [<sub>CP</sub> að PRO<sub>i</sub> vera  
Jón ordered Harold-DAT to be  
dyravörður/\*dyraverði] Pred NP  
doorkeeper-NOM/\*DAT
- b. Hana<sub>i</sub> langar [<sub>CP</sub> að PRO<sub>i</sub> vera(verða)  
she-ACC longs to be(become)  
dyravörður/\*dyravörð] Pred NP  
doorkeeper-NOM/\*ACC

In (13a) a lexically case-marked dative object controls PRO; in (13b) a lexically case marked accusative subject does. In both instances the predicate NP must occur in the nominative. It is worth emphasizing that the judgments for the examples in (12)–(13) are robust, and even speakers who do not themselves like dative on predicate APs (under case attraction) get the contrast. Andrews (1990: 231, fn. 25), citing Friðjónsson (1977), notes that examples like (12) are 'quite rare in normal usage,' and that it is unclear how these complications could be learned. This would certainly be even more true of (13). In any case, the child has strikingly little evidence in the primary linguistic data for the complete syntactic paradigm. Poverty of the stimulus arguments further suggest that Universal Grammar must dictate that predicate NPs differ from predicate APs in how they are assigned case. These contrasts between predicate APs and predicate NPs undermine the view that predicate NPs 'inherit' the case of

the NP with which they are presumably co-indexed. On the other hand, the fact that inherent case on a controller cannot be transmitted to predicate NPs indicates that the shared case marking in examples (4)–(6) is epiphenomenal.

The fact that only nominative is possible on the predicate NPs in (13) is exactly what is expected if predicate NPs are structurally case-marked. It is well known that syntactic features can never be transmitted from a lexically case-marked subject to I, as illustrated in (14) (adapted from Sigurðsson 1991b: 32):

- (14) a. Strákana langaði/\*lönguðu heim  
the-boys-ACC wanted-3sg/\*-3pg homeward  
'the boys wanted to go home'
- b. Strákunum var/\*voru  
the-boys-DAT be-PST-3sl/\*-3pl  
kalt/\*köldum  
cold-neut-sg-NOM/\*masc-pl-DAT  
'the boys were cold'

In (14a–b) the verb cannot agree with a lexically case-marked subject, and in (14b) number, gender, and case features cannot be transmitted to the 'predicate AP'. In Sigurðsson's terms, lexical case features cannot travel along a structural case path.<sup>9</sup> Thus, even if lexically assigned case features are attracted to PRO in (13), they cannot gain access to any NPs with I', since they cannot be transmitted to I via the Spec-Head relation.

Why, then, is it possible for the predicate APs in (12) to agree with lexically case marked controllers of PRO, and why, on the other hand, is agreement between lexically case marked subject and 'predicate AP' not possible in (14b)? The examples in (12) and (14b) also differ with respect to gender and number agreement, which is obligatory in (12), but impossible in (14b). In other words, in the examples in (11a) and (12), even when there is no case attraction, there must still be number and gender agreement. This suggests that in general APs, perhaps due to their inherent underspecification for  $\phi$ -features, must have access to syntactic features of the NPs of which they are predicated. Examples in which 'impersonal' predicates appear, such as (14b), may be thought of as examples of 'indirect' predication. The oblique case subject is in some sense not modified directly by the AP, but rather is the experiencer of a state of the world denoted perhaps by the entire VP. Perhaps in just such instances, the small clause analysis of the copular sentence is not appropriate. In any case, it is apparent that the syntactic behavior of predicate NPs is readily understood as a special case of the syntactic behavior of argument NPs in these constructions, while the syntactic behavior of predicate APs reflects the expected 'agreeing'

behavior of modifiers. We suggest that this is because NPs are prototypically arguments, while APs are prototypically modifiers.

### 3. IMPLICATIONS FOR GB CASE THEORY

We have assumed that copular predicates in Danish, Norwegian and English assign structural accusative Case. If this analysis is correct, then it undermines two theoretical constructs often associated with GB: Burzio's (1986: 178-179) Generalization, which states that if a verb fails to assign a theta role to its external argument, then it fails to assign accusative Case, and Chomsky's (1986: 135) Chain Condition, which requires that a CHAIN contain 'exactly one Case-marked position' if it is to be Case-marked, and thus 'visible' for the Theta Criterion. Assuming the Small Clause analysis of copular constructions, the structure of a 'simple' matrix clause with a copular verb will thus be as in (15):

(15)  $[NP_1^i [is_j [VP t_j [sc t_i NP^2]]]]$

A representation like (15) in Danish-type languages will violate Burzio's Generalization, because the verb fails to assign a theta role to an external argument, since it does not have one; nevertheless, it assigns accusative Case to NP<sup>2</sup>. Furthermore, the CHAIN  $\{NP_1^i, t_i\}$  violates the Chain Condition because both positions are Case marked, given that the structural Case Path which carries accusative to NP<sup>2</sup> will also include t<sub>i</sub>.

In this connection, it is perhaps interesting to note that there are two distinct types of violations of the proposed Chain condition. In the type illustrated in (15), it is the position of NP<sup>1</sup> at S-structure that determines the actual morphological Case of the NP. The structural accusative assigned to t<sub>i</sub> is simply ignored. Under the assumption that oblique subjects in Icelandic are VP-internal at D-structure, the opposite is true of the CHAINS of which they are members: it is the case lexically associated with the argument that determines the actual morphological Case of the NP, not the structural case that would normally be assigned to an NP in subject position at S-structure (usually nominative, but accusative in ECM constructions). In both types of violations it is a structural case which is ignored by morphology. It is not even the case that a chain can have two Case-marked positions as long as one of them is structural and one of them is inherent Case (as Belletti 1988 speculates); in structures like (15), both of the Case-marked positions would be receiving structural Case.

Similar conclusions about the Chain Condition must be reached on entirely independent grounds. There are languages where passive verbs, which by hypothesis do not assign a subject theta-role, nonetheless assign accusative case to their retained objects. One such language is classical Greek:

- (16) a. hoúnek' ára sphéas oímas Moús'  
 since indeed them-ACC poems-ACC Muse-NOM  
 edídakse  
 taught  
 'since indeed the Muse has taught them poems' (Homcr, Od. 8.480)
- b. didáksomai lógous  
 teach-1sg.pass.fut. speeches-ACC  
 'I shall be taught speeches' (Euripides, Andromache 739)

There is no evidence in favor of treating the accusative in (16) as inherent case associated with a particular thematic role; note in particular that in monotransitive uses, the accusative theme passivizes, becoming nominative. Nor is Classical Greek in any way atypical in this respect; the same patterns hold in English and Imbabura Quechua, as shown in (17):

- (17) a. I was given them/\*they for Christmas
- b. can-ga cuintu-ta (wawa) villa-shca ca-rca-ngui  
 you-TOP story-ACC (child) tell-pass be-pst-2sg  
 'Were you told the story by the child?' (Jake 1985: 66, 17b)

In both of the examples in (17) the retained object is assigned accusative case. (For further discussion and evidence from ECM constructions cross-linguistically, see Yoon and Yoon 1990, and Yoon 1991.)

### 4. SIGURÐSSON'S PUZZLE

In this section we extend the mechanisms that we have used to account for the case of predicate NPs in Icelandic to a larger range of predicates in that language, viz., those that take nominative objects. Our analysis provides a solution to the puzzle noted by Sigurðsson (1989: 206), namely that the nominative objects of dative-nominative verbs obligatorily retain their nominative when embedded under an ECM verb,<sup>10</sup> whereas predicate nominatives obligatorily switch to accusative. The contrast is illustrated in (18)-(19):

- (18) a. Hún er kennari/\*kennara (- 4)  
 she-NOM is teacher-NOM/\*ACC
- b. Henni leiðist Haraldur/\*Harald  
 her-DAT is-bored-by Harald-NOM/\*ACC  
 'she is bored by Harald'

- (19) a. Ég taldi [hana/\*hún vera  
I believed her-ACC/\*she-NOM to-be  
kennara/\*kennari] (- 6)  
teacher-ACC/\*NOM  
'I believed her to be a teacher'
- b. Ég taldi [henni leiðast Haraldur/\*Harald]  
I believed her-DAT to-bore Harold-NOM/\*ACC  
'I believed her to be bored by Harold'

Sentence (18a) is a familiar example of a finite clause with a copular verb; sentence (18b) is an example of a finite clause with a verb that takes a dative subject (*henni*) and a nominative object (*Haraldur*). In (19) these predicates are embedded under the ECM verb *telja* 'believe'. As noted by Sigurðsson (1989: 206, fn. 6), the post-verbal NPs do not behave alike in these two constructions: the predicate NP must be accusative, while the nominative object 'retains' its nominative case.

#### 4.1. Nominative as Inherent Case?

At this point, we need to point out that postverbal nominatives cannot be accounted for by assuming that such nominatives are inherent case, lexically assigned by certain verbs. This suggestion occurs frequently in the literature. For example, Platzack and Holmberg (1989: 60), while observing that nominative can be assigned to postverbal NPs in finite clauses in both Swedish and Icelandic (as illustrated in (20)), predict that postverbal nominative is unavailable in control infinitives because there can be no nominative NP in Spec-IP to license it. As support for this prediction, they note the ungrammaticality of the sentences in (21):

- (20) a. Det kom *några flickor* på festen. (Swedish)  
b. Það komu *nokkrar stelpur* í veisluna. (Icelandic)  
there came some girls-NOM to the-party
- (21) a.\*Det kom *många pojkar* på festen utan att komma *några flickor*.  
b.\*Það komu *margir strákar* í veisluna án þess að  
there came many boys-NOM to the-party without to  
koma *nokkrar stelpur*.  
come any girls-NOM  
(Platzack and Holmberg 1989: 61, (18b))

Sentences (21a,b) are indeed ungrammatical, but not for case-theoretic reasons. The postverbal nominative in such control infinitives is out because of a theta-criterion violation, and not because nominative is unavailable.

Postverbal nominatives are possible in control infinitives whenever PRO corresponds to an oblique subject. The availability of nominative case is illustrated by the grammaticality of the following sentences, in which the infinitival clause contains a dative-nominative verb.

- (22) a. Það komu *margir strákar* í skólann án þess að hafa  
there came many boys to school without to have  
*batnað hálsbólga*.  
recovered-from sore-throat-NOM
- b. Það komu *engir stúdentar* án þess að hafa verið  
there came no students-NOM without to have been  
*gefinn styrkur*.  
given scholarship-NOM

Platzack and Holmberg (p. 61, fn. 9) suggest that the nominative in such examples should be analyzed as inherent case licensed by particular verbs and not by INFL. However (22b) shows this suggestion to be untenable since nominative on the object of the passive verb alternates with structural accusative in the active. The Inherent Nominative Case Hypothesis does not account for the fact that nominative is available in infinitives for exactly the same range of verbs as in finite clauses, even where the postverbal nominative is clearly structural. Following Sigurðsson (1991a), we assume that both [+finite] and [-finite] INFL are capable of assigning structural nominative.

#### 4.2. An Alternative Solution

As an alternative to agreement under predication, we have suggested that predicate NPs get case via the same mechanisms as verbal arguments, in particular, that they are assigned case in the same way as 'nominative objects' in languages like Icelandic, German and Korean. This is far from obviously true. The problem is now how to account for the accusative case on predicate NPs embedded under an ECM verb. Sigurðsson (1989: 95) assumes that ECM verbs assign accusative to the small clause node, the accusative percolating from the small clause node to its daughter NPs. The observed contrast is thus a puzzle, since the nominative objects do not bear an inherent case lexically assigned by the dative-nominative verb.

But there are independent reasons to question the assumption that ECM verbs assign their Case directly to their propositional complement, presumably an IP. It is often observed that ECM verbs never assign inherent Case to the infinitival subject, even when these verbs are otherwise inherent Case assigners (as in Latin); this is generally assumed to follow from the fact that inherent Case is theta-linked (Zaenen and Malinger 1984/1990, Zaenen *et al.* 1985, Chomsky 1986: 196). But if an ECM verb theta-marks

its propositional complement and assigns Case directly to IP, there is no reason why that Case could not be an inherent one.

We suggest that the observed contrast is due not to the difference between predicative and argument NPs, but rather to the presence or absence of lexical case marking on the subject. We hypothesize that case assignment is actually indirect, via Specifier position. Then the key to Sigurdsson's puzzle lies in the different conditions under which nominative objects arise. For most verbs, nominative complements arise only in the presence of oblique subjects, which block subject-verb agreement; predicate NPs, on the other hand, occur with nominative subjects, which do not block subject-verb agreement. Lexical case does not travel along a Structural Case Path. Moreover, the presence of a lexically case-marked NP in Spec-IP blocks both agreement and the formation of a Case Path. Although the finite verb cannot agree with the lexically case-marked NP in Spec-IP, it can and indeed must agree in number with the postverbal nominative NP; and the participle agrees in gender as well. Consider the following examples (discussed by Andrews 1990).

- (23) a. *Ég taldi hestana hafa verið*  
 I believed the-horses-ACC to-have been  
*gefna Jóni.*  
 given-ACC-pl-masc John-DAT  
 'I believed the horses to have been given to John'
- b. *Ég taldi Jóni hafa verið gefnir*  
 I believed John-DAT to-have been given  
*hestar/\*gefna hesta.*  
 horses-NOM/\*ACC  
 'I believed John to have been given horses'

In (23a) the past participle in the ECM complement agrees in case, number, and gender with the accusative NP in the embedded Spec-IP. In (23b), however, there is no agreement between the dative case NP in the embedded Spec-IP, but there is agreement in case and in the relevant  $\phi$ -features between the participle and the post-verbal nominative NP.

Our hypothesis is that the presence of a lexically case-marked NP in Spec-IP blocks Spec-head agreement, thereby blocking transmission of external case along the Structural Case Path. In a simplex clause, this will have the effect of blocking Spec-head agreement, and hence there will be no agreement with an oblique subject. Oblique subjects do not agree in any  $\phi$ -features with the finite verb, nor with a predicate adjective or passive participle; these appear in default (3rd sg. neuter NOM/ACC) instead. The local Structural Case Path will extend downwards into the VP, however, allowing for agreement with any (nominative) NP. When such clauses are

embedded under ECM verbs, the presence of a lexically case-marked NP in Spec-IP will block the assignment of the matrix Structural Case to Spec-IP, and thus block transmission of matrix ACC further into the embedded infinitival. If Spec-IP does not contain a lexically case-marked NP, however, as in (23a), then Spec-head agreement will apply. The matrix ECM verb assigns accusative to the embedded subject, which is then transmitted to the embedded Structural Case path via Spec-head agreement.<sup>11</sup>

## 5. CONCLUSIONS

In this paper we have argued that predicate NPs – although predicates semantically – are treated like VP-internal arguments by Case Theory. In languages in which copular verbs are not Case assigners, such as Icelandic, German, and Swedish, predicate NPs will have to be assigned structural Case from I through some mechanism such as the Structural Case Path (Sigurdsson 1989). We have argued that inherent nominative case is never an option. While we have only begun to investigate the hypothesis that predicate NPs are universally assigned structural case, we believe that this hypothesis is on the right track, and, furthermore, that the study of the mechanisms responsible for the case of predicate NPs is a potentially revealing window on the mechanisms underlying case assignment in Universal Grammar, given that the child's triggering experience for determining which case is to be assigned to predicate NPs in infinitival constructions is extremely limited.

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## NOTES

<sup>1</sup> In addition there appear to be cases of a special Predicative Case (Instrumental in Balto-Slavic and Korean; Essive in Finnish). One might wish to view this case as the lexical case analog of the structural case hypothesis that we will be defending in this paper. Since predicative case is not found in any of the Germanic languages, we will not pursue this matter further here.

<sup>2</sup> This is a consequence of Chomsky's (1981, 1986) suggestion that the Case Filter is not an independent principle of grammar, but derives via the Visibility Condition from the Theta Criterion. Thus, on the assumption that they are not theta-marked, predicate NPs are excluded from the domain of the Case Filter.

<sup>3</sup> The prescriptive rule in English imposing nominative case on predicate NPs (*it is I* in contrast to the 'colloquial' *it's me*) evaporates for virtually all speakers as soon as one extends the data beyond this one learned example, as illustrated in (3e-g). No such prescriptive rule exists for Danish and Norwegian.

On the widespread assumption that agreement is a diagnostic for nominative case, the agreement of the finite verb with the postcopular NP in existential sentences poses a potential problem for our hypothesis (as pointed out to us by Jóhannes Gísli Jónsson (p.c.)). While we have no definitive analysis of this to offer, note that in the natural speech of many speakers (including one of the authors), the finite verb is always 3rd sg: *There's only two possibilities*. To the extent that personal pronouns can occur at all in existential sentences in English (i.e. in the 'list reading'), they are marked accusative, as illustrated in the following dialogue:

- (i) Who could teach this course?      There's always *metus*.  
    \*There is/am always *I*.  
    \*There is/are always *we*.

<sup>4</sup> Interesting confirmation for the hypothesis that the copula can function as an accusative case assign can be found outside the Germanic family. In Standard Literary Arabic, nominal sentences have the following form:

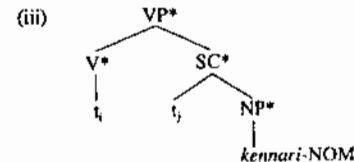
- (i) Zaydun          waziirun/\*waziiran  
     Zaydun-NOM    minister-NOM/\*ACC  
     'Zaydun is a minister'

Here there is no lexical verb, and the predicate NP appears in the nominative case. Such sentences have a present tense interpretation. In the past tense, the lexical verb *kaana* is required:

- (ii) kaana Zaydun waziiran/\*waziiran  
       was    Zaydun minister-ACC/\*NOM

Thus, when the copular verb is overtly present, the predicate NP must appear in the accusative rather than the (agreeing) nominative. The same alternation holds of predicate APs.

<sup>5</sup> Throughout this paper we will generally provide 'simplified' tree structures of the sort given in (4b). These tree structures abstract away from two widely held assumptions: first, that subjects of clauses originate in a VP-internal position (cf. Koopman and Sportiche 1991 and references cited therein) and move to Spec,IP for Case-theoretic (or other – cf. Sigurðsson 1989) reasons; and second, that copular verbs take small clause complements (cf. e.g. Burzio 1986: 148 ff, Hoekstra 1984: 231). Thus, the structure of the VP in (4b) might be more carefully represented as (i):



In (i)  $t_i$  is the trace of the copular verb, and  $t_j$  is the trace of *hún*. In general, these considerations will not be relevant to our discussion.

<sup>6</sup> Korean and Japanese would seem to be exceptions, in that predicate NPs do not bear case-markers; but see Lee (1989) for arguments that they nonetheless receive structural case.

<sup>7</sup> Note that the Agreement Hypothesis cannot account for the facts of languages like Danish and English, since even in finite clauses the subject and the predicate NP do not agree in case. A theory embracing the Agreement Hypothesis for Icelandic would still have to maintain the Structural Case Hypothesis for these other languages.

<sup>8</sup> See Andrews (1982a,b) for discussion. The fact that for at least some speakers inherent case on a controller can be transmitted to predicate APs, as in (12), indicates that an independent mechanism of case agreement is motivated for these constructions, and case agreement is independently motivated for secondary predicates and adjectival adjuncts. (See Friðjónsson 1977; Rögnvaldsson 1984; Andrews 1990: 207; Einarsson 1945; for a different view, see Sigurðsson 1989: 88–95.) Nevertheless, it is not obvious whether the idiosyncratic variation among Icelandic speakers noted here derives from variation with respect to the possibility of attraction of lexical case or with respect to the mechanisms responsible for the assignment of case to predicate APs. Note that our analysis correctly predicts that adjunct NPs should behave like predicate APs with respect to case attraction, since both get case-marked via agreement (cf. Friðjónsson 1980).

<sup>9</sup> But see Sigurðsson 1993 for a different approach to agreement. In essence, Infl agrees with an NP iff it assigns (structural) Case to that NP. Thus, secondary predicates are correctly allowed to agree in case with a lexically case-marked NP argument of the matrix verb.

<sup>10</sup> Sigurðsson (1991b) claims that the data are much fuzzier than previously reported in the literature. We will account here only for the 'standard' judgments, pending further study.

<sup>11</sup> Although the passive participle *gefna* 'given' therefore agrees in number, gender and case, *verið* is the invariant supine form. This may simply be a case of defective morphology, since in Italian counterparts, agreement obtains.

## REFERENCES

- Anderson, Stephen R.: 1990, 'The Grammar of Icelandic verbs in *-sr*', in J. Maling and A. Zaenen (eds.), pp. 235–273.  
 Andrews, Avery: 1982a, 'The Representation of Case in Modern Icelandic', in J. Bresnan (ed.), *The Mental Representation of Grammatical Relations*, MIT Press, Cambridge, MA, pp. 427–503.

- Andrews, Avery: 1982b, 'Long Distance Agreement in Modern Icelandic', in P. Jacobson and G.K. Pullum (eds.), *The Nature of Syntactic Representation*, Reidel, Dordrecht, pp. 1-33.
- Andrews, Avery: 1990, 'Case Structures and Control in Modern Icelandic', in J. Maling and A. Zaenen (eds.), pp. 187-234.
- Authier, J.-Marc: 1991, 'V-Governed Expletives, Case Theory, and the Projection Principle', *Linguistic Inquiry* 22, 721-740.
- Babby, Leonard: 1980, 'The Syntax of Surface Case Marking', *Cornell Working Papers in Linguistics* 1, 1-32.
- Belletti, Adriana: 1988, 'The Case of Unaccusatives', *Linguistic Inquiry* 19, 1-34.
- Besten, Hans den: 1985, 'The Ergative Hypothesis and Free Word Order in Dutch and German', in J. Toman (ed.), *Studies in German Grammar*, Foris, Dordrecht, pp. 23-64.
- Burzio, Luigi: 1986, *Italian Syntax: A Government-Binding Approach*, Reidel, Dordrecht.
- Chomsky, Noam: 1981, *Lectures on Government and Binding*, Foris, Dordrecht.
- Chomsky, Noam: 1986, *Knowledge of Language: Its Nature, Origin, and Use*, Praeger, New York.
- Einarsson, Stefán: 1945, *Icelandic: Grammar, Texts, Glossary*, The Johns Hopkins University Press, Baltimore.
- Freidin, Robert and Leonard Babby: 1984, 'On the Interaction of Lexical and Syntactic Properties: Case Structure in Russian', *Cornell Working Papers in Linguistics* 6, 71-103.
- Friðjónsson, Jón: 1977, 'Um sagnfyllingu með nafnhætti' [On Some ACI-Constructions], *Gripla* 2, 132-150.
- Friðjónsson, Jón: 1980, 'Samþyging með afturbeygðum sögnum', *Íslenskt mál* 2, 97-117.
- Hoekstra, Teun: 1984, *Transitivity: Grammatical Relations in Government-Binding Theory*, Foris, Dordrecht.
- Jake, Janice: 1985, *Grammatical Relations in Imbabura Quechua*, Garland, New York.
- Jakobson, Roman: 1936, 'Beitrag zur allgemeinen Kasuslehre: Gesamtbedeutung der russischen Kasus', *Travaux du Cercle Linguistique de Prague* 6, 240-288.
- Koopman, Hilda and Dominique Sportiche: 1991, 'The position of subjects', *Lingua* 85, 211-258.
- Lasnik, Howard: 1992, 'Case and Expletives: Notes towards a Parametric Account', *Linguistic Inquiry* 23, 381-405.
- Lee, Jeong-Shik: 1989, 'Case Assignment to Predicate Nominals and the Case Filter in Korean', *Harvard Studies in Korean Linguistics* III, pp. 277-287.
- Lee, Jeong-Shik: 1992, *Case Alternation in Korean: Case Minimality*, Ph.D. diss., University of Connecticut.
- Maling, Joan and Annie Zaenen (eds.): 1990, *Modern Icelandic Syntax*, Syntax & Semantics #24, Academic Press, San Diego, CA.
- Ottósson, Kjartan G.: 1990, 'Locality Conditions on Lexical Case and Case in Infinitivals', lecture notes, Harvard University, 6 Nov. 1990.
- Platzack, Christer and Anders Holmberg: 1989, 'The Role of AGR and Finiteness', *Working Papers in Scandinavian Syntax* 43, 51-76.
- Roberts, Ian G.: 1993, *Verbs and Diachronic Syntax: A Comparative History of English and French*, Kluwer Academic Publishers, Dordrecht.
- Rögnvaldsson, Eiríkur: 1984, 'Af Lýsingarorðsviðurlögum' [On Adjectival Appositions], *Íslenskt mál* 6: 57-80.
- Rothstein, Susan: 1992, 'Case and NP-Licensing', *Natural Language & Linguistic Theory* 10, 119-139.
- Safir, Kenneth: 1985, *Syntactic Chains*, Cambridge University Press, New York.
- Sigurðsson, Halldór Ármann: 1989, *Verbal Syntax and Case in Icelandic*, Doctoral diss., University of Lund. Reprinted 1992 by the Institute of Linguistics, University of Iceland, Reykjavík.
- Sigurðsson, Halldór Ármann: 1991a, 'Icelandic Case-Marked PRO and the Licensing of Lexical A-positions', *Natural Language & Linguistic Theory* 9, 327-363.

- Sigurðsson, Halldór Ármann: 1991b, 'Beygingarsamræmi', (Agreement), *Íslenskt mál* 12-13, 31-77.
- Sigurðsson, Halldór Ármann: 1993, 'Agreement as Head Visible Feature Government', *Studia Linguistica* 47, 32-56.
- Yip, Moira, Joan Maling and Ray Jackendoff: 1987, 'Case in Tiers', *Language* 63, 217-250.
- Yoon, Jeong-Me: 1991, *The Syntax of A-chains: A Typological Study of ECM and Scrambling*, Doctoral diss., Cornell University.
- Yoon, James and Jeong-Me Yoon: 1990, 'Chain Condition, Ambiguity of Government and Derivational Grammars', *NELS* 21, 415-429.
- Zaenen, Annie and Joan Maling: 1984/1990, 'Unaccusative, Passive, and Quirky Case', *WCCFL IV*. Reprinted in J. Maling and A. Zaenen (eds.), 1990, pp. 137-152.
- Zaenen, Annie, Joan Maling and Höskuldur Thráinsson: 1985, 'Case and Grammatical Functions: The Icelandic Passive', *Natural Language & Linguistic Theory* 3, 441-483.

## APPENDIX

German and Swedish are Germanic languages that share with Icelandic the property of having copular verbs that are not case assigners, as illustrated in (24).

- |         |                                     |           |
|---------|-------------------------------------|-----------|
| (24) a. | Det är jag/du/*mig/*dig             | (Swedish) |
|         | It is I-NOM/you-NOM/*I-ACC/*you-ACC |           |
| b.      | Das bin ich/ *das ist mich          | (German)  |
|         | that am I-NOM/ that is me-ACC       |           |

Therefore, it would be interesting to examine the extent to which these languages share with Icelandic the other properties discussed in the main body of this paper. We have consulted five Swedish speakers and nine German speakers, both linguists and non-linguists, asking them for their judgments about the choice of nominative or accusative for predicate NPs in a range of embedded contexts. While some of the judgments seemed to be robust and consistent across speakers, others are quite delicate and subject to idiolectal variation. In fact, some of our consultants complained that our examples were among the most difficult sentences they had ever been asked to judge. In many cases our consultants reported free variation between nominative and accusative or merely a preference for one or the other. It also seems that the person of the subject of the predication can affect the case on the predicate NP in German, with first person subjects skewing the preferences in the direction of nominative on the predicate NP. This type of inter- and intra-idiolectal variation is markedly different from the robust and stable intuitions associated with most of the Icelandic data discussed in the main body of this paper. What variability there is among and/or within individual grammars of Icelandic is quite systematic and amenable to standard syntactic analysis. However, a strictly structural approach is poorly equipped to account for the type of judgments given by our Swedish and German consultants. This state of affairs requires further investigation, perhaps from variationist and functional perspectives as well.

In Swedish, there may be a certain degree of normative pressure to prefer the nonnominative Case for pronouns whenever a pronoun is not straightforwardly the object of a Verb or a Preposition, but in German, on the other hand, to prefer superficial case matching – at least in 'coherent' (i.e., non-extraposed) infinitival constructions. Furthermore, there is some indication that contemporary Swedish is at the beginning stages of the change that Danish and Norwegian have already completed, viz., the reanalysis of copular verbs as accusative Case assigners. It is also possible that in German there is a certain 'garden path' effect in sentences involving embedded copular constructions, such that the hearer is expecting a non-copular (and therefore accusative-Case-assigning) verb at the end of the embedded infinitival.

One puzzling observation, first suggested to us by Hubert Truckenbrodt, is that the per-

missive sense of *let* skews the judgments for some (though not all) speakers in the direction of greater preference for the nominative. This is true of both Swedish and German. Consider the following contrast:

- (25) a. Regissören lät mig  
the-director LET me-ACC  
vara *du* eftersom jag insisterade. (Swedish)  
be you-NOM because I insisted (permissive reading)
- b. Regissören lät mig vara *dig* mot min  
the-director LET me be you-ACC against my  
vilja  
will (causative reading)
- (26) a. Laß den Peter doch *der Mörder* sein. (German)  
let Peter after-all the murderer-NOM be (permissive reading)
- b. Laß den Peter doch *den Mörder* sein.  
let Peter after-all the murderer-ACC be (causative reading)

Note that these data are presented in a highly idealized form. Although we have found some speakers of each of the two languages who find that the nominative is better with permissive *let* than with causative *let*, this is not to suggest that the accusative is impossible with permissive *let* for these speakers.

The challenge in accounting for data such as these lies in the apparent need for building some degree of optionality into the system. In our discussion of Icelandic, it was possible to do so at one point by stipulating the possibility of optional Case Attraction for controlled PRO. However, the variability observed in German and Swedish does not seem to be reducible to such a relatively simple factor. Since our general framework is not well suited to this task, we will leave the study of the case of predicate NPs in German and Swedish as a topic for future research.

## CROSSOVER, CHAIN FORMATION, AND UNAMBIGUOUS BINDING

**ABSTRACT.** This paper addresses the question of what derives (strong) crossover effects. Investigating the behaviour of different movement types with respect to crossover (on the basis of data mainly from German, but also from Italian and English), I conclude that crossover effects show up with *wh*-movement, clitic (i.e., head) movement, scrambling, and topicalization, whereas they do not occur with A-movement (as in passive and raising constructions) and dative movement. Thus, the correct descriptive generalization seems to be that Case-driven movement does not induce crossover effects, whereas other movement types do. Given this state of affairs, it turns out that Rizzi's (1986) analysis of crossover effects, which involves a local binding constraint on chain formation, is empirically too strong – it does not allow Case-driven movement across a co-indexed item. Moreover, the distribution of crossover effects and of improper movement is strikingly similar; improper movement, too, only occurs with movement types which are not Case-driven. This calls for a unified approach. The chain formation approach, however, cannot be generalized so as to cover improper movement. I will argue that the Principle of Unambiguous Binding (PUB), developed in Müller and Sternefeld (1993) as a constraint against improper movement, accounts for the distribution of crossover effects straightforwardly, if it is understood in a strictly representational sense.

### 0. INTRODUCTION

In this paper, I will pursue two goals. First, I will argue that Rizzi's (1986) account of crossover effects in terms of a local binding constraint on chain formation is empirically too strong. On the basis of data mainly from German (but also from Italian and English), I contend that crossover effects occur in constructions involving *wh*-movement, topicalization, scrambling, and head movement, but, contrary to Rizzi's assumptions, do not show up with Case-driven movement, i.e., A-movement in passive and raising constructions, and dative movement in double object constructions.

My second and more specific goal, then, is to develop a different approach to crossover effects. It turns out that Case-driven movement does not only fail to induce crossover effects; what is more, it does not prohibit subsequent movement to another type of position either (i.e., it does not give rise to improper movement). In contrast, other movement types, which are not Case-driven, do both. This suggests that a unified approach should be developed which subsumes improper movement and crossover. In Müller and Sternefeld (1993), it is argued that various kinds of improper movement can be excluded by a condition which requires variables to be bound in an unambiguous way, viz., the Principle of Unambiguous Binding (PUB). This principle was originally developed in order to account for asymmetries between various kinds of A-bar movement by postulating a lack of inter-