

VISIBILITY AND CLAUSAL ARGUMENTS

Elly van Gelderen
Queen's University

ABSTRACT

This paper examines the Visibility Principle (cf. Chomsky 1981; 1986a), which deals with the assignment of theta-roles to elements visible by means of Case. Because it requires arguments to have Case and predicates not to have Case, the principle, in its strong form, is broader than the Case Filter. The assumption that CPs and IPs do not have Case would weaken the Visibility Principle; however, evidence advanced here indicates both that CPs must be Case-marked and that IPs must be visible. Burzio's Generalization, which resembles the Visibility Principle, is examined and reformulated.

1. Introduction

In this paper, I examine an aspect of arguments that has been referred to as the Visibility Principle (cf. Chomsky 1981; 1986a), henceforth V.P. Informally, the V.P. states that theta-roles can only be assigned to elements that are visible by means of Case. The V.P. requires arguments (NP, CP, variable, etc.) to have Case and predicates not to have Case. This principle is therefore far broader than the Case Filter, which applies only to NPs. The V.P. is a second kind of licensing in addition to theta-assignment in requiring that all elements in a sentence be in a particular structural configuration in which they receive Case. I will argue that the V.P. should not be restricted to Case but that other kinds of structural relations be included: Spec-Head Agreement and Tense-dependence. I also show that apparent counterexamples involving CPs can be explained.

The organization of the paper is as follows. In 2., I discuss a detailed formulation of the V.P., some examples of its application and advantages of the V.P. over the Case Filter. I assume throughout (as in, for example, Stowell 1981) that CPs move out of their base generated positions. It is therefore important to examine the relationship between CP and its original position. This is done in 3.

The V.P. and the similar condition referred to as Burzio's Generalization (Chomsky 1986a; Burzio 1986) are discussed in 4. Burzio's Generalization expresses the idea that there is a relationship between the number of theta-roles a verb assigns and the number of Cases. Apart from examining this similarity, it is possible to reformulate Burzio's Generalization to account for non-ergative intransitives and double object verbs, thereby accounting for what is slightly ad-hoc in Burzio (1986).

The problems (e.g. as discussed in Stowell 1981, Chomsky 1981 and Safir 1985) that arise with the visibility of CPs, and a way to circumvent these problems, are outlined in 5. In 6., I discuss an important problem the V.P. faces in relation to IP complements and propose a solution consistent with the V.P. The paper both defends the V.P. and broadens the definition of what visibility is.

2. The Visibility Principle

2.1 A formulation

Chomsky (1981: 336) notes that there is a 'redundancy between Case and theta-theory.' The Case Filter (henceforth CF) states that every lexical NP needs Case (or that every lexical NP is part of a chain with Case) and the theta-criterion requires each argument to be associated with one and only one theta-position. Chomsky (1981: 171; 1986:193) points out that whereas inherent Case (Case determined at d-structure such as genitive and dative) seems to be associated with theta-marking, structural Case (Case determined at s-structure such as nominative and accusative) is not. He tries to integrate Case theory with theta-theory by means of the Visibility Principle: elements are visible to theta-marking only if they have some feature, e.g. Case. So, by introducing a visibility condition on theta-assignment, the redundancy between Case-theory and theta-theory is eliminated since the CF now follows from the theta-criterion.

Before the formulation of the V.P., the Case Filter accounted for the occurrence of phonetically realized NPs in Case marked positions. Assuming the theta-criterion (each argument is associated with one and only one theta-position and each theta-position is associated with one and only one argument) and the V.P., one need no longer stipulate that lexical NPs need Case:

1. 'Suppose that the position \underline{P} is marked with the theta-role \underline{R} and $C = (\alpha_1, \dots, \alpha_n)$ is a chain. Then C is assigned \underline{R} by \underline{P} if and only if for some \underline{i} , α_i is in position \underline{P} and C has Case or is headed by PRO'. Chomsky (1981:334)

Now, every argument needs Case to be visible for theta-marking, but see 2.2 below for a discussion on PRO. The CF applies to lexical NPs only, but the V.P. applies to all arguments and therefore holds for argument NP, CP, IP and trace.

2.2 Application of the V.P.

That an argument NP needs Case is well-known. In (2), John must move as in (3):

2. e seems [John to go].
3. John seems [t to go].

In (2), John is without Case because infinitives do not assign Case to their subjects and seem does not assign Case to an object.¹ Hence, John moves to the position of subject where it is assigned Case by INFL. Both V.P. and CF account for this movement.

The V.P. and the CF have different accounts for sentences such as:

4. It seems $_{CP}$ [that John left].

For the CF, it must be Case marked, whereas for the V.P., CP must be Case marked. In Chomsky (1981), it and CP are co-superscripted and it transmits Case to the CP argument since seem does not assign Case to its object. In (5) and (6), CP need not be Case-marked as far as the CF is concerned. Under (1), CP does need Case:

5. I believe $_{CP}$ [that Bill is intelligent].
6. My belief $_{CP}$ [that Bill is intelligent]

Chomsky (1981:337-8) argues both that CPs in sentences such as (5) and (6) do not belong to a chain and that they are theta-marked directly. This approach seems odd in that a distinction is made between CP arguments in chains and those not contained in chains. In sentences such as (4), Chomsky considers (it, CP) to form a chain

since CP is not the head, whereas it is the head in (5) and (6). This distinction between Case assignment to CPs in chains and in non-chains will not need to be made if one argues, as I do below, that all CPs need Case, like NPs. Also, the question whether or not CPs head chains is not relevant if one assumes, as for instance in Stowell (1981), that CPs move away from their base generated positions. A chain formed after movement as in (7) will never have CP as its head, and (5) would be similar. The chain formed will be (t, CP) and will contain both Case and a theta-role, in accordance with (1):

7. I noticed t_i yesterday CP_i [that she was gone].

PPs that look like arguments (as in 'I gave the book to him') are discussed in 4.2. Following Chomsky (1986a), the underlined PP is not assigned Case or a theta-role but the NP is, in accordance with the V.P.

Variables pose no problems. In fact, the V.P correctly predicts that variables, because they are theta-marked, need Case (cf. Chomsky 1986a:95). In (8), the variable, t , is without Case and the sentence is ungrammatical:

8. *Who_i does it seem t_i nice.

Argument PRO's must be visible and in Chomsky (1981) this is stipulated in the last line of (1): a chain is also visible if 'it is headed by PRO.' Chomsky (1986a:97) takes PRO out of the V.P. definition and assumes (p. 104) that PRO has inherent Case,² i.e. PRO need not be assigned Case. Therefore, the phrase 'or is headed by PRO' can be deleted from (1). Chomsky notes that this assumption conceals a problem.

I want to argue that PRO is visible through Spec-Head Agreement as used in Chomsky (1986b:24) and Borer (1986; 1990).³ Chomsky assumes a relationship between a subject and INFL(ection) regardless of whether the latter contains AGR(reement) or not. If AGR is present, nominative Case marking is the result. When AGR is not present, as in infinitival constructions, an abstract feature is shared by the subject and the INFL. For Chomsky, this relationship enables the Spec of IP to be L-marked, whereas I use Spec-Head Agreement to license PRO. Borer (1990) argues for a similar relationship between I and [NP, IP]. If, as is argued here, visibility requires having a structural relationship to the sentence, visibility can be satisfied through (a) Case marking, or

(b) through Spec-head Agreement. In 6., a third kind of visibility is discussed.

2.3 Theoretical advantages of the V.P.

There are two theoretical advantages to the V.P. to be considered before turning to the direct evidence. Even though both the V.P. and the theta-criterion are still needed to account for argument structure, the V.P. runs more parallel to the theta-criterion than does the CF: the theta-criterion and the V.P. are conditions on arguments whereas the CF is a condition on lexical NPs. The theta-criterion and the Case requirement (in whatever form) are closely related. Hence, it seems strange that the CF applies to a subset (NPs) of the set to which the theta-criterion applies. The V.P. has the advantage that it applies to the same group of elements as the theta-criterion.

The second advantage is related to the first in that by assuming the V.P., arguments are shown to share certain properties: all arguments need to be visible, not just a special kind, i.e. NPs. This reduces the burden on the language learner who need not learn which principles apply to which arguments. The V.P. also correctly predicts that predicates,⁴ elements not assigned a theta-role such as VP, PP and AP, and adjuncts do not need Case:

9. John_{VP}[considers [him_{NP}[a fool]]].

A VP, the regular predicate, never needs Case. However, the predicate a fool in (9) is an NP and needs Case under the CF. There are only two Cases assigned in this sentence, one to John and one to him. The V.P. predicts a fool is not Case marked (cf. Chomsky 1986a: 95), which seems the correct result. The CF would have to state that argument NPs need Case, but not predicative ones. Safir (1985: 77) puts it in the following way: a lexical NP in an A-position must have Case. Either addition to the CF is stipulative. But the distinction between arguments and predicates is already present in the V.P.: it is the core of the principle.

2.4 Evidence from English, Urdu and Turkish

Several pieces of evidence from English are presented that indicate that CPs must get Case. Because in English CPs are never Case-marked, infinitival CPs from Urdu and Turkish⁵ that do show Case are discussed.

2.4.1 English

There is direct evidence that CPs need Case and hence that the CF does not suffice. Sentences that indicate this are:

10. *It is considered _{CP}[that she died] to be important.
 11. ?He considers _{CP}[that she died] to be important.

In (10) and (11), the CP must extrapose,⁶ but disregarding this, (11) is much to be preferred over (10). The only difference between the two sentences that might explain the phenomenon is that the CP in brackets in (11) is Case marked, whereas the CP in (10) is not. I am assuming Case transmission is through chains and that CP in (10) does not get Case from it.

There is other evidence. Just like NPs, CPs can be subjects of finite clauses⁷ as in (12), but not of infinitive clauses as in (13). Sentence (13) must be rewritten as (14). Sentence (14) must be read with the right intonation but can be made fully grammatical by extraposition as in (15), cf. footnote 4, without changing the number of Cases that are assigned:

12. _{CP}[That John is nice] is obvious.
 13. *_{CP2}[_{CP1}[That John has changed] to be nice] is obvious.
 14. _{CP2}[That _{CP1}[that John has changed] is nice] is obvious.
 15. _{CP2}[That it is nice _{CP1}[that John has changed]] is obvious.

In (12), the CP is the only argument. It is assigned a theta-role and correctly gets nominative Case from AGR. In (13), on the other hand, even though CP2 correctly gets Case from AGR, the sentence is ungrammatical because CP1 does not get Case from the infinitive to be nice. Sentences (14) and (15) are the same as (13) except that Case is assigned since is nice is finite and the sentence contains AGR. In sentences (14) and (15), there are three arguments, three theta-roles and three Cases.

CPs in object position get Case as well:

16. I mentioned (it) to Jane _{CP}[that he had already left].

In (16), it or trace can be argued to transmit Case to the CP. In sentences where the verb is passive, i.e. where no Case is assigned to the object position, there is no subject present (cf. Burzio: 1981; 1986). Hence, the CP in direct object position can get Case from the subject position by free co-indexation of it and the CP:

17. It_i was mentioned t_i to Jane CP_i[that he had already left].

CPs in object position as in (17) get Case as do CPs in subject position.

There is one other piece of evidence from English that CP is Case marked. In Modern English, passives of double object verbs as in (18) and (19) are formed by internalizing the Case to the indirect object. The indirect object moves to subject position and receives nominative Case, whereas the direct object a book receives objective Case from given:

18. He was given t a book.

19. *A book was given him.

When the direct object is a CP, the situation is the same, as shown in:

20. He was told CP[that she had cheated on taxes].

21. *It was told him [that she had cheated on taxes].

All of these constructions present somewhat of a puzzle in that the indirect object in (19) and (21) cannot receive Case from a participle, but it can receive Case in subject position in (18) and (20). It seems as if the Case assigned by the participle can only be assigned to a direct object, not an indirect one. When the indirect object is a CP, the situation is no different. The CP must get its Case through movement to subject position as in (22) or through co-indexation with the subject position as in (23):

22. [That she cheated on taxes] was given credence t in the papers.

23. It was given credence in the papers [that she cheated on taxes].

24. *Credence was given [that she cheated on taxes].

25. *Credence was given the story.

The ungrammaticality of (24) and (25) is not caused by the presence of the direct object credence in subject position because direct objects move freely to subject position in regular passives. Rather, the indirect object CP in (24) and NP in (25) need Case and like the indirect object NP and CP in (19) and (21), this Case cannot be assigned by the participle. If the CP in (24) did not need Case, there would be no reason for the ungrammaticality of that sentence.⁸

2.4.2 Urdu

Apart from ergative Case marking in the past tenses, Urdu distinguishes two Cases: Nominative and Objective. Morphological Case is assigned to infinitival clauses as in (26) and (27) but in these sentences, the infinitival subject could also be analysed as a verbal noun:

26. [ws ke jane me] mesla nehi.
'his go-obj in problem not,' i.e. 'There is no problem in his going.'
27. [mera jana] zeruri hey.
'my go-nom necessary is,' i.e. 'It is necessary for me to go.'

In (26), the infinitive jane is assigned objective Case by the post-position me. This can be seen from the -e ending. In (27), the infinitive is assigned nominative, which can be seen from the -a ending.

Another construction where an infinitive gets nominative Case is (28). Sentence (28) is an ergative construction where ne marks the agent and the nominative (-a ending) is assigned to the object, in this case the infinitival clause:

28. mey ne [PRO wse meded lena] cahi.
'I-erg him-obj help bring want,' i.e. 'I wanted to bring him help.'

2.4.3 Turkish

In Turkish, infinitives show morphological Case marking (cf. Lewis, 1967: 167). As in Urdu, however, it is possible to see the infinitive as a verbal noun and the clause as an NP rather than a CP. In (29), the infinitive is marked for locative case (-ta) and in (30), it is marked for accusative (-i):

29. [PRO bunu yapmakta] beis görmedi.
 'this-acc do-loc harm he saw not,' i.e. 'He saw no harm in doing this.'
30. [PRO evlenmegi] düşünüyorlar.
 'to get married-acc they are contemplating,' i.e. 'They are contemplating getting married.'
 (both examples are from Lewis: 168)

Even though there is evidence in English that CPs must be in Case marked positions, as discussed in this section, it seems strange that this Case does not appear morphologically. Case can be marked on infinitival CPs in e.g. Turkish and Urdu. Further research is needed as to whether there are languages in which Case can appear on finite CPs.

3. The co-indexation of it and CP

If the V.P. is to be preferred over the CF, it and CP in sentences like (23) must be co-indexed. It is shown here that only if they are co-indexed does the 'i-within-i' condition give the right predictions.

There could be another reason that it (or trace) and CP are co-indexed, namely theta-marking. However, a number of people assume that a theta-role can be assigned directly to the position of the extraposed CP, for instance Safir (1985: 188ff) and Bennis (1986: 30; 105-6). In Chomsky (1981: 338), this possibility is left open as well. I examine another possible cause why it and CP are co-indexed, namely because CP needs Case.

The relevant parts of the Binding theory as in Chomsky (1981; 1986a) should be listed at this point. In (31), the three Binding theory principles, generally referred to as principles (A), (B) and (C), are stated. In (32), (33) and (34), conditions are given on

how to determine the governing category within which the principles apply.

31. (A) An anaphor is bound in its governing category.
 (B) A pronominal is free in its governing category.
 (C) An r-expression is free.
32. A governing category for an element is a maximal projection containing both an accessible subject and a lexical category governing the particular element. (cf. Chomsky 1986a:169, and Chomsky 1981:211)
33. a is accessible to b iff b is in the c-command domain of a and assignment of index a to b would not violate (34). (Chomsky 1981:212)
34. i-within-i condition: $*[{}_i \dots c_i \dots]$. (Chomsky 1981:212; 1986a:174)

The term subject refers to subject of an infinitive, of an NP or of a Small Clause, and to AGR. Chomsky (1986a) explores some ways to eliminate the notion of accessible subject and the i-within-i condition but assumes the Binding theory as in (31) to (34).

Using these principles and conditions, the difference between sentence (35) and sentence (36) can be explained if it and CP are co-indexed (cf. Chomsky 1981:338) as well as it and AGR:

35. They AGR3 think CP_2 [it AGR2 is a pity CP_1 [that NP_a [pictures of each other] AGR1 are hanging there]]].
36. *They AGR1 think CP_2 [it AGR2 bothered each other CP_1 [that Mary came]]].

In (35), NP_a contains a governor of each other (i.e. of) but no subject accessible to each other. CP_1 contains a subject, namely AGR1, but each other cannot take AGR1 as subject because the indexing would violate (33). If NP_a is coindexed with AGR1 according to the SPEC-Head agreement rule and indexation is as in (37), the structure is ungrammatical because it violates (33):

37. NP_{ai} [pictures of [each other]_i] AGR1_i ...

(Only subscripts are used here, unlike Chomsky 1981.)

This is the right prediction because each other has they as its antecedent and CP1 cannot be the right governing category.

Each other cannot take AGR2 as subject either. Again, it and CP are co-indexed as in:

38. They think [it_i AGR2 $_i$ a pity CP_1 [... $each\ other_i$]].

Once more, if [NP, IP], i.e. the SPEC of IP, and INFL are co-indexed, the right predictions result. If it and AGR were not co-indexed, AGR2 would be an accessible subject and each other would have to be bound within CP2. That would not be the right prediction. The subject that is accessible without violating the 'i-within-i' condition is AGR3 and each other must find an antecedent inside the matrix sentence. Such an antecedent is present, namely they:

39. They AGR3 think CP_2 [it_i AGR2 $_i$ a pity CP_1 [... $each\ other_i$...]].

In (36), each other can be co-indexed with AGR2 (because the VP, unlike the CP in (35) is not indexed i and hence, the governing category is CP2. In CP2, no antecedent can be found and as a result, the sentence is ungrammatical.

Sentences (35) and (36) show that if it and CP are co-indexed, the right predictions follow. In sentences such as these, the CP co-indexed with it is assigned an external theta-role. In sentences where the CP is assigned an internal theta-role, the same binding phenomena occur:⁹

40. They AGR3 said CP_2 [that it AGR2 seemed CP_1 [that NP_a [pictures of each other] AGR1 were really cheap]].

Sentence (40) is grammatical and works much the same as (35) except that CP1 is assigned an internal theta-role by seem. CP1 contains a subject for each other, but the structure would violate (34):

41. NP_i [... $each\ other_i$] AGR1 $_i$...

AGR2 cannot be subject for each other either if it and CP1 are co-indexed. The structure would be:

42. CP_{21} [it_i ... CP_{11} [... $each\ other_i$...]].

Therefore, each other in (40), like the one in (35), must be bound in the matrix sentence. This is the correct result and can only be obtained by co-indexing it and CP. In effect, [$it_1 \dots CP_1$] becomes an opaque domain. For an anaphor occurring in the CP, no antecedent needs to be found within this domain and hence, sentences such as (40) are grammatical.

As will be mentioned in 4.1, it and CP do not have a relationship that is relevant to Binding, but their being co-indexed becomes clear from Binding phenomena. The V.P. provides an answer for why this should be. The indexing of it and CP is similar to Spec-head Agreement, i.e. co-indexing of [NP, IP] and AGR, in that the relationship formed through the indices is not relevant to Binding theory or to theta assignment, but to Case marking.

4. Other aspects of the V.P.

In 4.1., I examine whether or not the bi-conditional ('if and only if') is required in (1). In 4.2., the interaction of the V.P. with Burzio's Generalization is examined. The two principles are slightly similar and in, for instance, Chomsky (1986a), the latter is derived from the former. Burzio's Generalization having been formulated on the basis of Romance and Germanic languages, I too have considered only these languages.

4.1. 'iff'

The section of (1) relevant to visibility can be reworded as (A) and (B) below. Whether or not d-structure exists as a separate level or as a level derivable from s-structure is not important since the V.P. is formulated in terms of chains:

43. A: If a chain has Case, then it is assigned a theta-role.
 B: If a chain is assigned a theta-role, then it has Case.
 (PRO is not considered here: cf. 2.2.)

If condition (A) suffices, the V.P. must take place after Case assignment and cannot function as a restriction on theta-assignment at d-structure, even though it is phrased as a condition on theta-assignment. Condition (B) is a condition on Case assignment. The advantage of this formulation is that the V.P. as an s-structure condition restricts Case marking which is an s-structure rule. It will, however, be shown that both (A) and (B) are needed.

Part (A) is relevant for raising to subject: if Case is assigned to a position that is part of a chain then a theta-role must also be assigned:

44. It seems_{CP}[that he left].

45. *There is danced.

In (44), it is Case marked and is in accordance with (A) because it is part of the chain (it, CP), which contains a position that is theta-marked by seem. Sentence (45) is ungrammatical: Case is assigned to there but a theta-role is not assigned because intransitives do not passivize. Hence, (45) is ruled out by (A).¹⁰

Part (B) is relevant for objects of verbs such as seem, arrive and passives: if the chain contains a theta-marked position, it must contain a Case marked position as well:

46. The story_i was believed t_i.

In (46), t_i is in a theta marked position and hence must be part of a chain that has Case. Through movement, t is part of the chain (the story, t_i) and the sentence is grammatical as expected. Condition (B) is also relevant for the subject of infinitives:

47. *It is important [John to buy a book].

Infinitives do not assign nominative Case. Adjectives do not assign Case to an NP either. John is theta-marked but not Case marked in (47) and this is ungrammatical by (B).

(B) does not account for the ungrammaticality of (45). In fact, (B) is irrelevant because no theta-role is assigned. In its turn, part (A) cannot by itself account for (47): the non-Case marked John is not ruled out by (A). It has no Case and therefore falls outside condition (A).

4.2 Burzio's Generalization

In this section, I examine Burzio's (1981; 1986) Generalization (henceforth BG). Since BG and the V.P. resemble each other, can they be reduced to one principle or are both needed?

One version of BG is (as in Chomsky 1986a: 139):

48. A verb Case-marks an object iff it theta-marks a subject.

The subject position in a finite sentence is always Case marked by AGR, not by the verb. Therefore what underlies BG is that minimally in a sentence, there is one object or subject which gets Case from/in the subject position. Examples the principle explains are:

49. There arrived three men.

50. It seemed that three dogs were present.

In (49), three men is assigned an internal theta-role and gets Case from there via transmission (cf. Safir 1985). In (50), the post-verbal clause gets an internal theta-role from seem and Case via it. Condition (48) is not relevant in these cases because the verb does not assign Case to an object. The condition is relevant in cases such as (51) where since saw assigns Case to the clouds, saw must assign a theta-role to the subject position (one might alternatively say that when the verb theta-marks a subject position, it must assign Case to an object):

51. He saw the clouds.

Before looking at the similarity of BG and the V.P., I will attempt to make (48) more general. There are two problems with BG: (a) intransitive verbs such as in (52); and, (b) double object verbs such as in (53). In (52), go does assign a subject theta-role but does not assign an accusative Case:

52. I went yesterday.

53. Mary was given a book.

In (53), the object a book is assigned a Case but a subject theta-role is not assigned with passives.

Burzio (1986: 186-7), following Marantz (1984: 168ff), argues that Case to direct object in double object structures is assigned 'by the structural configuration.' Therefore, when passivization takes place, the direct object as in (53) can keep receiving Case from the structure, but the regular Case assigned by the verb is internalized. Hence, Burzio claims (48) is not violated. This solution does not work for Dutch (and German). In Dutch, as in 54.

below, the regular Case is given to the indirect object, but is internalized with passivization. In order for Burzio's solution to work, the discontinuous structure Marie and the verb in (54) would have to assign Case to een boek:

54. ...dat ik Marie een boek gaf.
'that I Marie a book gave.'

The most problematic aspect of (54) is that it is the Case given by the structure which is internalized and not the Case that the verb assigns. Burzio and Marantz, however, argue that internalization of Case assigned by the verb is essential to their analysis. I therefore still consider (53) problematic for (48), as well as (52).

The two sentences can be accommodated by changing Burzio's Generalization to:

48. 'A verb assigns x theta-roles iff it assigns x-1 Cases.'

In (52), go assigns one theta-role, but it assigns no Case; in (53), give assigns two theta-roles and one Case to a book. For these two reasons, I assume (48').

A problem with both (48) and (48') is that they are neutral with respect to sentences such as (55) and (56), if one assumes, as I do in 5.2., the distinction (see Chomsky 1986a, 193ff) between structural Case and inherent Case:

55. I put the book on the table.

56. I gave the book to John.

Inherent Case such as genitive and dative is assigned by an element to an NP at d-structure if and only if that verb theta-marks the NP. In (56), to is an inherent Case marker which assigns Case and a theta-role at d-structure (cf. Chomsky 1986a:201). Since the prepositions are assigning Case and theta-roles, (48) and (48') are not relevant since the latter are phrased in terms of the verb. For the V.P., these sentences pose no problems: every element that is theta-marked is also Case marked.

4.3 Redundancies

Condition (48'), as well as (48), duplicates the V.P. because an additional Case is required (besides the one assigned by AGR) when there is an additional theta-role and vice-versa. Chomsky (1986a:139-40) shows that (48) can be derived from the V.P. (even though the Case Filter is only mentioned there, the same can be done for the V.P.). If a verb assigns two theta-roles (to subject and to object) but does not assign Case, the object has no way to get Case from an expletive in subject position or by movement to the subject position because the subject position is occupied. Thus, (48') is derived from Right to Left from the V.P. If a verb Case-marks an object but does not theta-mark a subject, i.e. assigns one Case and one theta-role, violations such as (57) arise, where there is an expletive. This violates (48') from Left to Right:

57. *There noticed a story.

In (57), a story gets Case and a theta-role from notice but there is Case marked without being theta-marked and therefore also ill-formed by the V.P. Thus, (48') can be derived from the V.P.

What is the difference between the V.P. and Burzio's Generalization? Sentence (47) above, repeated here as (58), shows the difference:

58. *It is important [John to buy a book].

The ungrammatical nature of (58) is accounted for by the V.P. but not by Burzio's Generalization. In (58), buy assigns Case to its object a book and two theta-roles (to John and to a book). Yet the sentence is ungrammatical because John is without Case. Burzio's Generalization is a lexical constraint on argument structure and as such it has nothing to do with Case assignment by AGR. Since it assumes that verbs minimally assign an internal theta-role to an argument which gets Case from the subject position, sentences where infinitival subjects are without Case as in (58) are not ruled ill-formed by (48'), or Burzio's Generalization.

Are there sentences where Burzio's Generalization is needed independently, i.e. where the V.P. is not sufficient? This possibility arises if one allows (as in Chomsky 1981; Safir 1985; Bennis 1986, etc.) certain arguments not to be Case-marked, as for instance CP in:

59. *John seems_{CP}[that she went].

This sentence is ungrammatical by the theta-criterion: there are two arguments and seem only assigns one theta-role, not two. However, the question arises why there are no such verbs that assign two theta-roles without assigning Case if there are arguments that would 'fit' in non-Case marked positions (i.e. CPs). In a system where CPs are not Case marked, Burzio's Generalization is necessary - to ensure that no such verbs occur. In the present paper, I argue that CPs need Case and hence, Burzio's Generalization is not needed in the syntax, but is a condition on the properties of a lexical item..

5. Do all CPs have Case?

In this section, I argue against several claims that CPs are not Case marked.

5.1 Binding theory problems

Safir (1985) argues that CPs do not need Case. His motivation for this is that otherwise a CP would have to form a chain with a Case marked element and would violate Binding condition (C), i.e. R-expressions must be free. In (60), CP is c-commanded by it and it is co-indexed with it and should be ungrammatical:

60. It_i seems CP_i[that James went away].

Chomsky (1981: 218) escapes condition (C) in (60) by distinguishing between subindexing and superindexing. If it and CP are co-superindexed in (60), CP will not be bound to it and (C) is not violated. Rizzi (1982) argues that the binding of an argument by a non-argument is not subject to condition (C). Safir (1985) restricts indexing to one kind by formulating the Unity of Indexing Hypothesis. CPs act like NPs and cannot be bound to it. CPs can therefore not receive Case in any way but Safir argues this is not necessary. Indefinite NPs occurring as complements to non-accusative verbs can get Case through there in sentences such as (61) because they, argues Safir, are exempt from the Binding theory:¹¹

61. There were men in the garden.

In addition, CPs may be exempt from Binding conditions altogether. In Chomsky (1981: 101ff), argument clauses are not seen as r-expressions and hence, need not obey Condition (C). I therefore do not consider (C) an obstacle to the co-indexation of it and CP.

5.2 Complements to adjectives and nouns

As noticed in, for instance, Stowell (1981:204ff) and Chomsky (1981:337), sentences such as (62) and (63) are apparent counterexamples to the V.P.:

62. John was happy [that she left].

63. My belief [that he was mistaken] may be wrong.

In these sentences, the CP is theta-marked by occupying the position of complement to happy and belief, but it is not Case marked. Stowell accounts for (62) by saying 'that this type of exceptional theta-role assignment is limited to a few predicates denoting psychological states: aware, happy, afraid, certain, etc.' (p. 204) and that theta-role assignment in these sentences 'is triggered by a special lexical property of the adjective, which we can interpret as a feature -- call it [+R]' (p. 205). For sentences such as (63), Stowell argues that the CP is not an argument, but that it is an appositive without Case needs. (The CP noun complements that are seen as arguments are infinitival and these need no Case for Stowell. They have inherent Case).

The problem is, however, also solvable assuming Chomsky's (1986a:200ff) distinction between Case Realization and Case Assignment (as worked out in van Gelderen 1986 in more detail). Complements of adjectives and nouns are Case-marked, but the Case is realized as \emptyset on CP as in (62) and (63). The distinction between Case Realization and Assignment only holds for inherent Case, e.g. genitive and dative Case. Inherent Case marking occurs at d-structure when a certain relationship exists between a Case marker and the element on which Case is to be realized at s-structure: inherent Case is assigned by α to an element if and only if α theta-marks this element (cf. Chomsky 1986a:193). A language chooses its Case Realization rules and in English, the realization of inherent Case on a CP is \emptyset as in (62) and (63). Case on an NP is realized by means of inserting a Case marker, e.g. of:

64. John is proud of his catch.

Safir (1985: 73) argues that a problem similar to that in (62) and (63) exists in (65):

- 65 a. John was disgusted [that Mary ate such things].
 b. John was disgusted by the story.

Safir (1985) and Belletti and Rizzi (1988) among others argue that psych-verbs such as disgust and worry have two internal arguments and assign one Case. One of the 'objects' must get Case from [NP, IP] as in:

66. a. It_i disgusts John_{CPi} [that she avoids taxes].
 b. The story_i disgusts t_i John.

I take the two arguments to be Goal and Agent. When disgust passivizes as in (65), it no longer assigns Case to the Goal, which moves as in (65). With passivization, the verb assigns inherent Case to Agent (as in regular passives). The Case is realized as by on an NP and as \emptyset on a CP.¹²

By making a distinction between Realization and Assignment of Case, sentences (62), (63) and (65) are in accordance with the V.P. Therefore, the claim that CPs need Case can be sustained.

6. IPs: Tense-Dependence

Sentences (67) and (68) are problematic for the V.P. in that no Case is assigned to the clausal complement, which is an argument:

67. John seems_{IP} [t to be pleasant].

68. John believes_{IP} [Bill to be nice].

In sentence (67), there are two arguments but only one Case and in (68), there are three arguments and only two Cases.

I first examine whether or not it is possible to propose an analysis for (67) and (68) where each argument (IP as well) is assigned Case. Restructuring is a phenomenon described for instance by Rizzi (1978), Burzio (1981) and Piccolo (1985). It occurs in languages such as Italian and involves infinitival complements to certain verbs. The verb and complement are restructured, that is,

analysed as a complex verb. If in (67) seem were a semi-auxiliary and seem to be a complex verb, there would be no IP complement in need of Case. The sentence would contain one argument (John) receiving Case as the subject of a tensed clause. I examine some evidence that might support a complex predicate analysis:

69. It is believed t_j to be obvious by everyone CP_j [that Sally is dangerous].
70. *It is believed t_j to be obvious CP_j [that Sally is dangerous] by everyone.

In (69) and (70), one expects the CP to adjoin to to be obvious if it is indeed base generated in the position indicated by the trace, i.e. as object to is believed. Hence, (70) should be grammatical but is not. The grammaticality of (69) indicates that the CP is adjoined to is believed to be obvious and that this indicates that the clause is base generated as subject of the complex predicate and not as subject of the infinitival clause. In this way, (67) no longer poses a problem for the V.P. because there is now only one argument that is assigned a theta-role and Case. However, the evidence is shaky because (69) could be the result of Extraposition of the CP in (70). The other problem is that (67) and (68) seem related. In both instances, an IP is at issue. It would therefore be preferable to solve them in analogous ways.

Assuming that sentences such as (71) and (68), repeated as (72), are structurally very similar, one could argue that \emptyset in (72), like for in (71), assigns Case to John and that believe assigns Case to the CP. Thus the V.P. would not be violated:

71. I expect CP [for [him to go]].
72. John believes CP [\emptyset [Bill to be nice]].

An analysis as in (72) has been argued for in Kayne (1981). There are, however, arguments against (72). For instance, Stowell (1982) argues that the tense of the complement in sentences such as (72) is dependent on the tense of the matrix verb. The only cases where such dependence manifests itself are constructions without a COMP. I will outline Stowell's proposal not only because it makes clear that an analysis as in (72) is unlikely but also because I will use Stowell's account in proposing an analysis for (67) and (68) that is in accordance with the V.P.

Stowell makes a distinction between (73) and (74):

73. Jim remembered [PRO to lock the door].

74. I remembered [John to be the smartest].

For sentence (73), Stowell argues that 'the tense of the infinitival complement is understood as being unrealized with respect to the tense to the matrix,' thus, 'although the action denoted by the infinitival clause in [(73)] may have taken place in the past, its tense is still unrealized with respect to the time of the action denoted by the matrix itself' (Stowell 1982:563). In (74), 'the understood tense of these complements with respect to the tense of the matrix is determined largely by the meaning of the governing verb' (Stowell 1982:566). Sentence (74) is comparable to a gerundive complement as in (75), which also has no COMP and which can never have an unrealized tense. Sentence (76) is like (73) because its ([finite]) CP has an independent tense:

75. Jim remembers [PRO locking the door].

76. Jim remembered [that she often makes promises].

Stowell's account makes it possible to distinguish between IP and CP complements: CPs can have an independent tense,¹³ but IP complements, like gerunds, cannot. Analysing Exceptional Case marking constructions such as (72), the distinction is lost. I therefore consider another approach.

This second way to deal with (67) and (68) provides a uniform analysis for both sentences. It is based on the difference between (73), a sentence with a CP complement, and (74), a sentence with an IP complement. I argue that CP and NP arguments are licensed by having Case, but that IPs are licensed by having tense. The \bar{C} that is [-finite], i.e. in infinitival CPs, and the \bar{C} that is [+finite], as in (76), can have a tense independent of the tense of the matrix verb, namely a possible future tense and a present respectively. \bar{I} can have an independent tense in the matrix sentence, when \bar{I} is not in the scope of another \bar{V} and the IP is not an argument in need of visibility. If \bar{C} is not present as in (67), (68), (72) and (74), the tense of the \bar{I} is derived from the matrix sentence.

If one thinks of the Case requirement on arguments as the necessity of CP and NP to occupy certain structural positions, one could think in the same way about the Tense-Dependence of IPs. IP

arguments must be in positions that are in the scope of a tense. Then, 'visible' for NP and CP means having Case, for PRO it means having a relationship with I, but for IP it means having tense. All IPs, as well as PROs, NPs and CPs, are 'visible.'

7. Conclusion

This paper is a defence of the Visibility Principle: arguments must be visible. Argument CPs pose a problem because it often seems unclear whether or not they are part of a Case-marked chain. I show that in all those 'unclear' cases, Case is in fact assigned to CP. The need for CP to have Case explains for instance the ungrammaticality of (24), (10) versus (11), and (12) versus (13). I also extend the V.P. to include PRO and IP. The Case requirement is one way of being structurally visible; Spec-Head Agreement and Tense-Dependence are two others.

In addition, I examine other issues relevant to the V.P.: its relationship to Burzio's Generalization and the co-indexing of it and CP when the former transmits Case.

NOTES

1. Belletti (1988) argues that unaccusative verbs sometimes assign partitive Case to an object. However, seem does not qualify for various reasons: partitive Case cannot be assigned across boundaries, there should be a Definiteness Effect, etc.
2. Inherent Case means that an element is base generated with Case features. Below, it will also be used in a different sense: genitive and dative Case assigned at d-structure.
3. Hornstein and Lightfoot (1987) worry about PRO's visibility as well and propose that visibility means having Case or 'appearing in an OBLIGATORY POSITION' (p. 46), i.e. in the subject position.
4. In languages where predicates show Case, this Case is identical to the Case of the subject and can therefore be seen as a way of expressing the relationship between a subject and a predicate, cf. Muysken 1989.

5. For Urdu, I use Barker's Spoken Urdu and for Turkish, I use Lewis' Turkish Grammar.
6. I will not examine the reasons why CPs extrapose but see Reuland (1981) or Stowell (1981) for instance. Incidentally, (10) is one of the few counter-examples to Stowell's Case Resistance Principle, that CPs must extrapose when they occur in a Case marked position.
7. Perhaps as in Koster (1978: 57ff), CPs are base generated in TOPIC position binding the empty category in subject position. According to Stowell (1981), CPs do not appear in the actual subject position either.
8. In Dutch, there exists a curious phenomenon involving these constructions. When the direct object is a CP in sentences such as (20), either the NP moves to subject position and the CP remains Case-marked by the participle or the CP gets Case from the subject position and the NP remains in object position receiving Case from the participle.
 - i. De reizigers voor Geldermalsen worden verzocht [om over te stappen].
'the travellers for Geldermalsen are requested [for to change trains].'
 - ii. De reizigers voor Geldermalsen wordt verzocht [om over te stappen].
'the travellers for Geldermalsen is requested [for to change trains].'

In regular double object passives, a construction such as (i) is not possible, as (iii) shows. The regular construction is (iv):

- iii. *Hij werd het boek gegeven.
'he was the book given.'
- iv. Het boek werd hem gegeven.
'the book was him given.'

However, construction (i) seems to be possible with a very limited number of verbs. For instance, with vertellen 'tell,' only a construction as in (ii) is possible. Rijpma & Schuringa (1978: 252) argue that with certain verbs (e.g. in (i)) the

indirect object has become direct object. If (i) were a general phenomenon, one would have to say that CPs in Dutch can get any kind of Case as opposed to NPs which need a particular Case (cf. (iii)).

9. However, see Manzini (1983) for a framework that differentiates between the two.
10. As is well-known, there are languages such as Dutch and German where (33) is grammatical:
 - i. Er werd gedanst.

However, in cases such as (i), it can be said that an implicit argument is present that requires Case which it gets from er. Perhaps the implicit argument is present in the passive participle ending as argued by Roberts (1987). Another possibility is that er is an adverb and does not need Case or a theta-role (cf. Koster 1986 and Bennis 1986). Adopting either solution, the V.P. is not violated in (i).

11. There are other ways to avoid a Condition (C) violation. Belletti (1988) proposes that seem assigns partitive to indefinite objects. As a result, there does not transmit Case and is not co-indexed with the post-verbal NP.
12. Verbs such as prove are unlike (65a) and are problematic:
 - i. *His guilt was proven that John had the money.
 - ii. His guilt was proven by the fact that John had the money.

They may be explained by the exceptional character of verbs with a clausal subject and a clausal object. In (i), it is not clear whether the clause is d-structure subject or object. It is therefore necessary to change it to (ii). The same lack of clarity can be seen with regular actives involving prove when the clausal subject extraposes:

- iii. It shows that he is rich that he bought an island.

For instance, Emonds (1976: 123) regards (iii) ungrammatical.

13. One would expect a for-infinitival to exhibit an independent tense as well. It is impossible to test this because verbs such as remember and recall do not take a for-complement.

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