# Another look at Small Clauses<sup>\*</sup>

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## **1** Introduction

Within the Principles and Parameters theory developed over the last twelve years or so, and more recently with the emergence of the Minimalist Programme (Chomsky 1992), the status and structure of Small Clauses (SCs) seems to have remained something of an unresolved issue; as Radford (1988: 519) concludes: 'Needless to say, much research remains to be done concerning the internal structure of Small Clauses, and how they fit into the X-bar framework. Moreover, the relationship between Small Clauses and Exceptional Clauses is problematic'.

In this essay I shall put forward an analysis of SCs that may go some way, I hope, to resolving these issues. What I shall propose is, in fact, probably the most minimal possible hypothesis, that is, that SCs as such do not exist at all, but are actually formally identical to IP clauses (Exceptional Clauses in Radford's terminology). I shall suggest that (at least a sub-set of) so-called Small Clauses are themselves IPs<sup>1</sup>, headed by an empty I<sup>0</sup>, the complement of which is a VP headed by a non-overt copula. As far as I am aware, no such analysis of SCs has previously been proposed, although, as I shall show, there are certain similarities with Hornstein and Lightfoot's (1987) account of these constituents.

After briefly examining some of the properties associated with SCs in part 2, I will put forward my own account of these constituents in part 3, highlighting some of its attendant advantages. I will compare this in some detail with Chomsky's 'Barriers' analysis of SCs, which has become the standard GB account of these constituents. Although, as I shall show, this account is by no means without its problems.

<sup>&</sup>lt;sup>\*</sup>I would like to thank Neil Smith, Rita Manzini and Misi Brody for their valuable comments on an earlier draft of this essay.

<sup>&</sup>lt;sup>1</sup>I shall assume throughout this essay that what I refer to as IP is fully amenable to the 'split INFL' hypothesis (Pollock 1989, Chomsky 1991). For the sake of convenience, however, I shall retain the use of the unitary IP node here.

## 2 'Small Clauses'

## 2.1 Introducing 'Small Clauses'

Consider the following sentences :

(1) i I consider [z Mr. Nyman a genius]
ii I want [z Mr. Nyman in my office]
iii I shall prove [z Mr. Nyman innocent of the charges]

In this essay I shall examine the status and internal structure of the bracketed constituents marked 'Z' in (1) and constructions like them. For example, a specific parallel can be drawn between the sentences in (1) and those in (2), assuming that a raising analysis is adopted in the latter; in both sets of examples the complement constituent marked 'Z' consists of an NP (or NP trace) and a predicate of some sort:

(2) i Mr. Nyman<sub>i</sub> seems  $[_{Z} t_{i}$  happier without his hat on] ii Mr. Nyman<sub>i</sub> appears  $[_{Z} t_{i}$  incapable of such a thing]

These constituents have often been referred to as 'Small Clauses' - '... a clausal structure lacking INFL and the copula' (Chomsky 1981: 107). For the time being, however, I shall refer to them simply as 'Z', firstly so as not to prejudice the issue as to their clausal nature or not, and secondly because the 'Z'-constituents in (1) and (2), with which I shall be dealing in this essay, constitute only a subpart of the constructions that have traditionally been known as 'Small Clauses' - see Williams (1975,1980), Stowell (1981: 263-4) and Chomsky (1986-b: 97).

What, then, can be said about 'Z' ? Clearly in each case a common factor is the presence of the initial NP 'Mr. Nyman' or coindexed trace, while the category of the predicate may range over NP 'a genius', PP 'in my office' or AP 'happier without his hat on' etc. The initial overt NP is assigned Accusative Case by the matrix verb 'consider' etc. as demonstrated by the substitution of the NP's by pronouns in (3) :

- (3) i I consider  $[_{Z}$  her a genius]
  - ii I want  $[_z$  them in my office]

So too the initial NP in 'Z' can be raised to matrix subject position if the Caseassigning properties of the main verb are absorbed. This yields constructions, as in (4), that clearly reflect the parallel with the examples in (2):

- (4) i Mr. Nyman<sub>i</sub> is considered [ $_Z$  t<sub>i</sub> a genius]
  - ii Mr. Nyman<sub>i</sub> is wanted [ $_Z$  t<sub>i</sub> in my office]
  - iii Mr. Nyman<sub>i</sub> shall be proved [ $_{z}$  t<sub>i</sub> innocent of the charges]

The overt accusative case of the Z-initial NP's in (3), coupled with their ability to raise to matrix subject position (4) might initially suggest that these NP's function as the direct objects of the matrix verbs - an analysis analogous to Postal's B-verb raising hypothesis (Postal 1974). Such an analysis, however, is odious to the Principles and Parameters framework for a number of reasons, and I will say no more about it here.<sup>2</sup>

Clearly, in each of the above examples Z constitutes a single unitary constituent which bears the unique internal theta role of the matrix verb. For example, what is considered in (1i) is not 'Mr. Nyman', but the proposition that he is a genius. Similarly, in (2i) what 'seems' to be the case is that 'Mr. Nyman is happier ...'. It is only natural that this consideration should be reflected in the syntax, and any semantic intuitions concerning the unitary nature of Z do indeed seem to be reinforced by overt syntactic evidence. As shown in (5), for example, the NP and predicate that go to make up Z cannot be separated by an adverb :

(5) i \*I shall prove  $[_Z$  Mr. Nyman tomorrow innocent of the charges] ii \*I want  $[_Z$  Mr. Nyman right now in my office]

So too, the unitary propositional nature of Z is highlighted by its direct equivalence with the IP/CP clausal complements in (6/7):

- (6) i I consider [ $_{IP}$  Mr. Nyman to be a genius] ii Mr. Nyman<sub>i</sub> seems [ $_{IP}$  t<sub>i</sub> to be happier without his hat on]
- i I shall prove [<sub>CP</sub> that Mr. Nyman is innocent of the charges]
  ii It appears [<sub>CP</sub> that Mr. Nyman is incapable of such a thing]

In fact all of the above instances of Z have similar IP and CP analogues. This, then, would suggest that Z is some sort of clausal constituent (see Stowell 1981: 258-9) with the initial NP in each case functioning as its subject. Again, we find evidence supporting this claim; in (8) the NP in question must clearly be a subject as it

<sup>&</sup>lt;sup>2</sup> There exists extensive literature dealing with the undesirability of Subject to Object Raising and its incompatibility with core components of current linguistic theory. See, for example, Chomsky (1981,1986-b) and Stowell (1981).

establishes Z as a CFC (Chomsky 1981,1986-b) in which an anaphor must be A-bound and a pronoun A-free :

(8) i  $I_i \text{ consider } [_Z \text{ Mr. Nyman}_j \text{ angry at himself}_j/*him_j]$ ii  $I_i \text{ consider } [_Z \text{ Mr. Nyman}_i \text{ angry with } me_j/*myself_i]$ 

Given the NP's putative status as subject of Z we should predict (via the EPP) that it should be obligatory, as indeed it is shown to be by the presence of the pleonastic 'it' in (9) and the ungrammaticality of (10):

- (9) I find  $[_{z}$  it inconceivable that she could have done that]
- (10) \*I consider  $[_{Z} a genius]^{3}$

# 2.2 The Principles and Parameters analysis of Z

If Z is a unitary clausal constituent, bearing a single theta role, we should expect that it corresponds to a single syntactic node (Chomsky 1981, Safir 1983). The question is, though, which ? The standard Principles and Parameters (P/P) answer to this question has been that in each case Z is a maximal projection of its own embedded predicate. Thus some of the examples already encountered would be analysed as follows:

- (11) i I consider  $[_{NP}$  Mr. Nyman  $[_{N*}$  a genius]]
  - ii I want  $[_{PP}$  Mr. Nyman  $[_{P*}$  in my office]]
  - iii I shall prove  $[_{AP}$  Mr. Nyman  $[_{A*}$  innocent of the charges]]

Here, then, the clausal complement constituent Z corresponds to the maximal projection of the predicate  $P^*/A^*$  etc. This, in fact, is the analysis first proposed by Stowell (1981); the main advantage inherent in this approach is that it allows the selectional properties of the matrix verb access to the category of the predicate contained within the clausal complement. Consider the following examples :

- (12) i I consider  $[_{NP}$  Mr. Nyman  $[_{N*}$  a genius]]
  - ii \*I consider [ $_{PP}$  Mr. Nyman [ $_{P*}$  in my shed]]

<sup>&</sup>lt;sup>3</sup>Any analysis of this example involving PRO is, obviously, inadmissible; we already know from (3) that the initial NP in 'Z' is Case assigned.

(13) i Balanescu<sub>i</sub> appears  $[_{AP} t_i [_{A*} miserable]]$ ii \*Balanescu<sub>i</sub> appears  $[_{NP} t_i [_{N*} a genius]]$ 

Now (12ii) can be excluded for the simple reason that 'consider' can be said not to select a PP complement, while it does select an NP. Similarly, 'appear' can be said to select an AP complement but not an NP - thus ruling out (13ii). If, however, the category of the complement were to remain independent of the predicate it contains, then no formal relationship could be expressed between the idiosyncratic selectional properties of the matrix verb and the category of the embedded predicate, making it very difficult to exclude the ungrammatical examples above.

There remains, however, one small problem with this account that concerns the status of the predicate N\*/A\*/P\* constituents inside the maximal projections. Stowell's view is that these predicate constituents are single-bar projections (p. 257); this analysis gives rise to various problems, though, which need not be explored further here, and Chomsky (1986-a) modifies this account somewhat by suggesting that the embedded predicate itself may be a maximal projection. By extension, the Z-type constituent - which must also be an XP - is regarded as being a base-generated adjunction structure. Thus some of the examples above might have the following representation :

- (14) i I consider  $[_{NP} Mr. Nyman [_{NP} a genius]]$ 
  - ii I want  $[_{PP}$  Mr. Nyman  $[_{PP}$  in my office]]
  - iii Mr. Nyman<sub>i</sub> seems  $[_{AP} t_i [_{AP} much happier without his hat on]]$

Here, then, the basic insight of Stowell's original account is preserved; the Z-type clausal complement is described as a unitary, endocentric constituent which, just like the IP/CP analogues in (6) and (7), may consist of a subject and predicate. Moreover, since Z is still seen as being a further projection of the embedded predicate (by base-generated adjunction), the features of this predicate can still be 'visible' to the specific selectional requirements of individual matrix verbs. Thus ungrammatical examples such as those in (12)-(13) and others like them can still be ruled out by a simple selectional mechanism.

## 3 'Small Clauses' as IPs

## **3.1 Introduction**

The apparent advantages and simplicity of the Stowell/Chomsky analysis of Z-type complements outlined above have ensured that this approach has gained general acceptance within the mainstream of P/P literature since 1986. Whatever its attendant advantages, though, the analysis of a Z-clause as a projection of its embedded predicate is by no means without its own associated problems. In this section I will go on to propose a new analysis of Z-type complements, according to which they are taken to be IPs headed by an empty Io node; as I have already shown in part 2, all examples of Z-type complement clauses seem to have a similar IP analogue containing 'to be'. A neat way to capture the parallel between the two structures, I suggest, is to adopt an IP analysis for the former as well as the latter:

- (15) i Balanescu<sub>i</sub> appears [ $_{IP}$  t<sub>i</sub> miserable]
  - ii Balanescu<sub>i</sub> appears  $[_{IP} t_i$  to be miserable]
- (16) i I'd prefer [<sub>IP</sub> the bride in black]
  ii I'd prefer [<sub>IP</sub> the bride to be in black]

Listed in section 3.2 below are some of the problematic areas associated with the analysis of Z-type 'Small Clauses' outlined in Chomsky 1986-a, difficulties which may, I believe, be neatly overcome by the adoption of an IP analysis:

## 3.2 Problems with the 'Barriers' account

(i) - As mentioned above, Chomsky (1986-a) describes Z-type 'Small Clause' complements as base-generated adjunction structures as illustrated in (17):

(17) I can't imagine [PP Noam [PP in a Spiderman costume]]

This analysis entails that in each case the subject NP will be defined as both the sister and daughter of the predicate XP. This, of course, contrasts with the more usual configurational definition of subject as the daughter of XP and the sister of X'. In order to subsume these two distinct configurational characterisations of the subject relation it will be necessary to postulate a new unitary definition whereby the subject is the YP directly dominated by an XP node. This, of course, is a substantial weakening of the traditional definition of subject referred to above, a weakening which could well give rise to problems. For example the condition of being directly dominated by an XP node will apply equally well to all adjoined material - such as adverbials - which, of course, need have nothing to do with the subject relation. Moreover, according to a long-standing proposal going back to Stowell (1981), an adjoined position cannot function as an A-position. In other words, according to this view, an argument will only ever occupy an adjoined position if moved there; thus the base generation of a subject NP in an adjoined position is incompatible with the NP's status as an argument<sup>4</sup>.

Needless to say an IP analysis of Z-complements allows these issues to be sidestepped entirely; in (18) below the subject NP 'Noam' will occupy the [specIP] position, which is uncontroversial in its status as an A-position, and allows the stronger, more widely-accepted definition of subject to be maintained:

(18) I can't imagine [ $_{IP}$  Noam [ $_{\Gamma}$  [ $_{PP}$  in a Spiderman costume]]]<sup>5</sup>

(ii) - Chomsky's 1986-a analysis of Z-type 'Small Clauses' gives rise to a problem with the Case filter. Consider the following examples:

- (19) i Arnold<sub>i</sub> seems  $[_{NP} t_i [_{NP} a \text{ bit of a dunce}]]$ 
  - ii Wagner<sub>i</sub> was considered  $[_{NP} t_i [_{NP} an enemy of the state]]$

The subject NP's here are base-generated within the 'Small Clause' complement. In this position, however, they cannot be assigned Case since there is no finite I within the complement clause and neither of the matrix verbs in these examples assigns Case to its internal argument (Burzio 1986). This gives rise to a violation of the Case filter (Chomsky 1981), and in turn motivates the raising of the NP's to matrix subject position. However, according to Stowell and Chomsky the complement constituents in (19) will also be recognised as NP's, that is as further projections of the embedded predicates 'a bit of a dunce' and 'an enemy of the state'. Why, then, aren't these NP's subject to the Case filter ? In (19i), for example, the clausal constituent [ $_{NP}$  t a bit of

<sup>&</sup>lt;sup>4</sup>The same argument would apply within a minimalist framework, where the A/A'-distinction has been largely superseded by the respective notions of narrow and broad L-relatedness (Chomsky 1992). Note, however, that according to a recent proposal by Kayne (1993) adjunction structures such as that in (17) will be ruled out anyway by virtue of the LCA.

<sup>&</sup>lt;sup>5</sup>Given the VP-internal hypothesis (Sportiche 1988, Koopman/Sportiche 1990) it might be asked from where exactly the subject NP originates in such clauses, seeing that the IP appears to contain no VP. This issue will be addressed at a later stage.

a dunce] occurs as an NP, the internal argument of a verb which doesn't assign it Case. Even if formal considerations such as the Case filter can be done away with in a Minimalist framework, the question remains unanswered as to why the 'Small Clause' NP's in (19) are not subject to the same criterion that motivates the raising of the subject NP's 'Arnold' and 'Wagner' at Spellout. As far as I am aware, the only possible solution would be to devise an ad hoc and potentially dangerous stipulation exempting propositional NP's from the Case filter - or, within a minimalist framework, to stipulate that propositional NP's have weak features which need not be checked until after Spellout. Again this whole issue can be ignored if we adopt an IP analysis for Ztype complements.

(iii) - Another advantage of the IP analysis of Z-type 'Small Clauses' over the P/P account is that it entails a reduction in the number of entries in individual verbs' subcategorisation frames. According to Chomsky's analysis the verb 'seem', for instance, must c-select an AP, PP, NP, IP and CP complements, as illustrated by the examples below:

- (20) i Virginia<sub>i</sub> seems  $[_{AP} t_i sad]$ 
  - ii She<sub>i</sub> seems [ $_{PP}$  t<sub>i</sub> in a bad state]
  - iii Arnold<sub>i</sub> seems [ $_{NP}$  t<sub>i</sub> a bit of a Dunce]
  - iv Arnold<sub>i</sub> seems [ $_{IP}$  t<sub>i</sub> to be a bit of a dunce]
  - v It seems [<sub>CP</sub> that Arnold might have been a body-builder]

The IP analysis of Z, however, will subsume the AP, PP and NP complements in the first three examples; (20iv) offers independent evidence that 'seem' must select an IP anyway, thus in adopting an IP analysis of the 'Small clauses' no extra entry is required in the verb's subcategorisation frame. Indeed, the net result is that 'seem' need only select an IP or CP complement instead of AP/PP/NP/IP/CP - a reduction of 60 %. A similar pruning of selectional inventories can be achieved with all of the matrix verbs discussed so far, such as 'consider', 'want', 'imagine', 'find' and 'appear'. Again, this points to a tidier, more economical approach.

(iv) - Related to this last point is the matter of complement opacity; by this I refer to a matrix verb's inability to 'see' into the maximal projection of its complement. One consequence of this, as discussed in section 2.2, is that the matrix verb is unable to specify anything other than the categorial features of the complement itself, and has no access to anything inside this complement constituent. This, however, raises a potential problem for the 'Barriers' account of 'Small Clauses'; consider the following example:

## (21) Wally finds $[_{AP} \text{ syntax } [_{AP} \text{ tedious}]]$

Chomsky's analysis of such Z-type constituents as base-generated adjunction structures entails that the complement 'syntax tedious' and the embedded predicate 'tedious' are formally identical in terms of their category and projection; they are both AP's. If, then, the verb 'find' selects an AP complement, why are the sentences in (22) ungrammatical ?

(22) i \*Wally finds [AP tedious]
ii \*Miranda found [AP very happy indeed]

Similarly, while 'want' in (23i) seems to select a PP, according to Chomsky, the presence of PP complements in (23ii-iii) renders the examples ungrammatical:

- (23) i Nancy wants  $[_{PP}$  her quiche  $[_{PP}$  on a plate]]
  - ii \*Nancy wants [<sub>PP</sub> on a plate]
  - iii \*I want [<sub>PP</sub> in a dinghy]

Evidently, the crucial factor here is that all the grammatical examples have as their complement a propositional Z-type constituent containing a subject NP and a predicate. The point is, though, that since a matrix verb is unable to see beyond the category of its complement XP, it should also, consequently, be incapable of determining the presence or absence of a subject NP inside the same XP. Thus as far as c-selection is concerned, there seems to exist no formal mechanism by which (22) and (23ii-iii) could be excluded in relation to (21) and (23i).

If, however, we adopt an IP analysis of Z-type 'Small Clauses', then this will apply to the propositional complements in (21) and (23i). As a result of this, the genuine AP's/PP's in the ungrammatical examples above can all be ruled out by reference to the selectional properties of the relevant matrix verb; 'find', for example selects an IP but not an AP. In other words, the presence of a subject NP in the complements of the grammatical examples will be automatically reflected by the complements' IP status. Thus the problem of opacity is neatly overcome.

(v) - Another potential problem with Stowell and Chomsky's analysis of Z-type 'Small Clauses' is that it allows a propositional constituent in the semantics to correspond to a whole range of syntactic nodes; so far we have seen examples of clausal complements which, according to their account, are described as being NP's, PP's or AP's. The point is, though, that these seem to be just about the only examples of NP/PP/AP's functioning as propositional constituents. There appears to be some sort

of vicious circle here whereby a broader syntactic definition of 'propositional unit' allows 'Small Clauses' to be analysed as NP/PP/AP while examples of the same 'Small Clauses' are virtually the only constituents motivating such a broadening in syntactic definition in the first place.

The adoption of an IP analysis of these Z-type clauses, however, allows a unique one-to-one relationship to be maintained between propositional units in the semantics and the IP node in the syntax. Quite simply, all clausal material, both matrix and subordinate, will correspond with an IP node, bearing in mind of course that this itself may be embedded within a CP:

- (24) i  $[_{CP} [_{IP} chasing sheep is best left to shepherds]]$ 
  - ii  $[_{CP} [_{IP} Chomsky_i seems [_{IP} t_i to be able to levitate] ]]$
  - iii  $[_{CP} [_{IP} \text{ we don't consider } [_{IP} \text{ this ability normal}]]$

Indeed, in Minimalism the correspondence between IP and clausal constituents is, I think, something of a logical necessity. After all, in order for the features of a subject and its predicate to be checked with respect to one another it is necessary that both elements find themselves in a spec-head configuration in some sort of AGR projection (Chomsky 1992). I assume, following Pollock (1989) and Chomsky (1991) that AGR will be an integral part of what I refer to as IP.

In this way, following Chomsky (1981) and Safir (1983), not only does a proposition correspond to a constituent in the syntax, it may actually be seen to correspond uniquely to a single, specific constituent - IP. This point goes some way towards resolving the long-standing debate concerning s-selection and c-selection (Pesetsky 1982, Chomsky 1986-b); with the proposal outlined here it need no longer be stated that a particular verb s-selects a propositional argument. Instead the potential of a verb's complement to be clausal/propositional may be reliably inferred from the presence of an IP in its c-selection frame.<sup>6</sup>

## 3.3 Passing the buck

So far I have attempted to demonstrate how an IP analysis of Z-type clausal complements may serve to overcome a variety of difficulties associated with the

<sup>&</sup>lt;sup>6</sup>It is of course possible that neither c nor s-selection is required within a Minimalist framework. However, I think that a fully developed system of features and feature checking will, eventually, impose an array of structural constraints not so very different from those stated via c-selection frames. If so, then the absence of any need to s-select propositional constituents will still be a positive advantage of the approach outlined here.

standard Principles and Parameters account of these constituents - as presented in Chomsky 1986-a. In part 2, however, I described what appears to be an inherent advantage of the P/P analysis, one which should perhaps be matched by any other approach; Stowell and Chomsky view Z-type 'Small Clauses' as projections of their embedded predicates, thus allowing the matrix verb selectional access to the features of this predicate. In this way, it was shown, ungrammatical examples such as (25) below may successfully be excluded in that 'consider' can be said not to select a PP complement

(25) \*I consider [ $_{PP}$  my friends [ $_{PP}$  on the roof]]

An IP analysis of the complement constituent would of course not allow examples such as (25) to be excluded in this way, since the matrix verb would have no access to the category of an XP embedded inside an IP.

I believe, however, that this apparent advantage of the P/P account of these constituents is, in fact, entirely spurious. Indeed, the syntactic exclusion of examples such as (25) can instead be shown to be an actual problem for the theory. Quite apart from the potential disadvantages associated with Chomsky's analysis, outlined in section 3.2, there seems to be no reason why examples like (25) should be ruled out on syntactic grounds in the first place; while the sentence is certainly bad (in some sense) its inadmissibility would actually appear to have nothing to do with the selectional properties of the matrix verb or the fact that the complement clause is analysed as a PP. In (26), for example, 'consider' clearly does select a 'PP' complement:

(26) I consider [ $_{PP}$  the team [ $_{PP}$  in no fit state to play]]

Indeed, the very example cited by Stowell (1981: 259) as evidence supporting his analysis can, given an adequate supporting context, be construed as a perfectly acceptable sentence :

(27) i \*I consider [<sub>PP</sub> John [<sub>PP</sub> off my ship]]
ii I consider [<sub>PP</sub> John [<sub>PP</sub> off my ship]] as soon as he sets foot on the gangway.
(example from Hornstein and Lightfoot 1987)

This, then, suggests that it is the semantic nature of the predicate, rather than its syntactic category, that determines the acceptability or otherwise of a sentence. Consider also the following examples:

| (28) | i<br>ii | *I want [ <sub>NP</sub> Eric [ <sub>NP</sub> a friend]]<br>*We want [ <sub>AP</sub> the contract [ <sub>AP</sub> fair]]                                 |
|------|---------|---|
| (29) | i<br>ii | *Mr. Nyman <sub>i</sub> seems $[_{NP} t_i [_{NP} a \text{ composer}]]$<br>*Mr. Nyman <sub>i</sub> seems $[_{PP} t_i [_{PP} \text{ under his piano}]]^7$ |

From these analyses it should be inferred that 'want' selects neither a propositional NP nor an AP complement, while 'seem' fails to select an NP or a PP. This could then be said to account for the above sentences' ungrammaticality. (30)-(31), however, prove that any such conclusion is false:

| (30) | i<br>ii | I want [ $_{NP}$ these men [ $_{NP}$ heroes]] by the end of their training.<br>I want [ $_{AP}$ my porridge [ $_{AP}$ salty]]   |
|------|---------|---|
| (31) | i<br>ii | Greenaway <sub>i</sub> seems [ $_{NP}$ t <sub>i</sub> [ $_{NP}$ a real pervert]]<br>Greenaway <sub>i</sub> seems [ $_{PP}$ t <sub>i</sub> [ $_{PP}$ out of his mind]] |

In fact, for just about any unacceptable example of a Z-type clause it can similarly be shown that the substitution of the embedded predicate with another predicate of the same category may yield a perfectly acceptable construction.

So far, then, the evidence actually suggests that ill-formed examples of Z cannot and should not be excluded on syntactic grounds. Instead the unacceptability of individual examples would appear to arise from a complex interaction between the semantic properties of the matrix verb and those of the predicate inside the complement. It is not really within the scope of this essay to explore what exactly are the semantic principles at work here; this is not, however, just a question of 'passing the buck'. Rather it is a matter of passing the buck back where it rightfully belongs; an investigation of 'Small Clauses' as syntactic phenomena need not, I think, include speculation as to their semantic structure - although see section 3.6.

The important point here is that ill-formed examples of Z-type 'Small Clauses' cannot and should not be excluded by reference to any putative relationship between the matrix verb and the syntactic category of the complement clause's predicate. Therefore to analyse the complement clause itself as a projection of its embedded

<sup>&</sup>lt;sup>7</sup>Note that all these examples become fully acceptable when the Z-type 'Small Clause' complement is replaced by its IP analogue:

<sup>(</sup>i) I want  $[_{IP}$  Eric to be a friend]

<sup>(</sup>ii) Mr. Nyman<sub>i</sub> seems  $[_{IP} t_i$  to be under his piano] etc.

I will say more about this later.

predicate - as Stowell and Chomsky do - actually yields no real benefit at all, but instead only seems to give rise to redundancy and needless complexity within the grammar. In this way the fact that an IP analysis of these constituents specifically isolates the predicate XP from the selectional properties of the matrix verb may be construed as a positive advantage rather than as a failing in relation to the P/P account. In each case all that the matrix verb will select is an IP constituent; this, by definition, will be a propositional argument dominating a subject NP. It is then up to the operation of the relevant semantic principles to either exclude or sanction the resulting construction.

## 3.4 An apparent problem

I have suggested so far that Z-type 'Small Clause' complements may be analysed as IPs. In this respect my account is broadly consistent with that of Hornstein and Lightfoot (1987). They too take Z-type complement clauses to be IPs, the head of which they describe as an empty Io.

(32) I consider [ $_{IP}$  Mr. Nyman Io [ $_{NP}$  a genius]]

There remain, however, important differences between their account and that advocated here. Firstly, H/L's analysis of Z-type constituents as IPs is inspired largely by broader concerns that have no real bearing on the nature or properties of 'Small Clauses' as such. Instead their article is primarily a defence of Predication Theory (Napoli 1989) from which their IP analysis of Z falls out as something of a necessary conclusion. Consequently they fail even to refer to many of the advantages inherent in the IPo analysis that I tried to highlight in section 3,1.

More importantly, I believe that Hornstein and Lightfoot's account is deficient in its treatment of the internal structure of these IPo constituents. So far in this essay I have dealt mainly with the putative IP status of Z-type 'Small Clauses' without saying anything about their internal configuration; it is this issue that I shall explore in the remainder of this work.

An inherent property of Z-type 'Small Clauses' seems to be the absence of a verb; that is to say that the presence of a verb in such a construction has the effect of rendering the complement a standard IP/CP clause:

- (33) i Wally found  $[_Z \text{ syntax } [_{AP} \text{ dull}]]$ 
  - ii Wally found  $[_{IP}$  syntax to  $[_{VP}$  be  $[_{AP}$  dull]]]
  - iii Wally found [ $_{CP}$  that [ $_{IP}$  syntax [ $_{VP}$  was [ $_{AP}$  dull]]]]

For the Principles and Parameters analysis (discussed above) this fact is unproblematic; why after all should a PP/AP/NP complement contain a verb ? For an IP analysis of these constituents, however, the absence of VP predicates remains something of a mystery. Hornstein and Lightfoot's answer to this problem is essentially stipulative; they state that in an IPo 'Small Clause' complement the sister of the head Io may only be an AP, PP or NP (precisely the range of predicates occurring in these constructions). The head of a normal IP clause, on the other hand, can only be a sister of a VP: 'If INFL is [+/- tense], the complement must be a VP; if INFL is empty ... the complement may be NP, PP or AP but not VP' (H/L 1987: 28). In this respect, then, non-finite IP complement clauses (33ii) pattern with CP's (33iii) and matrix structures, in that the functional projection IP takes a VP complement. Ztype constituents (33i), on the other hand, are shown to have a distinct internal structure, formally defined as follows:

(34)  $[_{IPo} NP [_{Io'} Io XP ]]$  - where XP is a variable over NP, PP and AP.

This story, however, seems to be objectionable on three separate counts:

(i) - It is ad hoc and stipulative; Hornstein and Lightfoot suggest an internal structure for IPo's that is totally different from that of other clausal constituents, without offering any principled reason as to why this should be so.

(ii) - The analysis offered in (34) sets a potentially dangerous precedent as far as the complement structure of functional projections is concerned, in that now the head of an IP may select an NP, PP or AP complement. Generally, though, apart from this analysis of 'Small Clauses', I takes a VP complement, as in (33ii/iii). This suggests perhaps that the functional projection IP be uniquely associated with VP, just as DP may be with NP<sup>8</sup>.

(iii) - most importantly, as illustrated in (33), in formally distinguishing the internal structure of IPo's from that of their IP analogues, to a certain extent Hornstein and Lightfoot miss the parallel between the two constituents. That is, while both complement types are IPs, the internal disjunction concerning the sister of the I/Io sets the two constructions apart.

In fact, these three problems associated with Hornstein and Lightfoot's account can be neatly resolved in a very simple way; what I suggest is that Z-type IPo complements may actually contain a VP after all, and may thus be formally identical to normal IP complement clauses. Given that these Z-type 'Small Clauses' are IPo's

<sup>&</sup>lt;sup>8</sup>Abney (1987) is quite unequivocal on this issue; for him the ability of a functional element to f-select only one complement is a defining characteristic: 'The primary property of functional elements is this: they select a unique complement ... C selects IP and I selects VP. C and I do not take typical arguments (NP's, PP's, subordinate clauses), not even as an option' (p. 54-55).

headed by an empty Io node - as I have assumed - why then can't this same Io take a VP complement which is itself headed by an empty Vo node ? Both the Principles and Parameters framework and Minimalism are full of examples of non-overt categories, as Stowell (1981: 254) points out: '...the lack of lexical material in a specific position does not necessarily imply that the position does not exist'. According to this analysis, then, some of the 'Small Clauses' encountered so far would be analysed as follows:

| (35) | i  | I want [ $_{IP}$ Mr. Nyman Io [ $_{VP}$ Vo [ $_{PP}$ in my office]]]                                    |
|------|----|---|
|      | ii | Greenaway <sub>i</sub> seems $[_{IP} t_i \text{ Io} [_{VP} \text{ Vo} [_{NP} a \text{ real pervert}]]]$ |
|      |    |   |

iii Wally finds  $[_{IP}$  syntax Io  $[_{VP}$  Vo  $[_{AP}$  tedious]]]

Indeed if Abney's claims about f-selection are correct (see note 8) then this will be the only possible analysis for the above sentences; if we assume that the clausal complement in each case is an IP, then this will have to take a VP complement

A brief comparison reveals that by the analysis in (35) Z-type 'Small Clauses' can now be seen as being structurally identical to their 'normal' IP analogues:

- (36) i I want  $[_{IP}$  Mr. Nyman to  $[_{VP}$  be  $[_{PP}$  in my office]]]
  - ii Greenaway<sub>i</sub> seems  $[_{IP} t_i \text{ to } [_{VP} \text{ be } [_{NP} \text{ a real pervert}]]]$  etc.

There remains no further need for ad hoc stipulations concerning the sister of Io as opposed to I, and the close correspondence between IPs and IPo's can now be captured in the simplest possible way. As we have seen, for every example of an IPo 'Small Clause' there exists a similar IP equivalent. Within the Principles and Parameters approach advocated by Stowell and Chomsky this fact would remain purely accidental; the complement of 'want' in (35i), for example, would be analysed as a PP while that of 'seem' in (35ii) would be an NP. The intuitive parallel between these constituents and their IP equivalents in (36) would thus remain totally inexpressible according to such an account. The structural identity between the two types of complement that I am proposing, however, allows this pervasive relationship to be reduced to a simple parameter; either the (non-finite) I and V nodes are both filled with lexical material, yielding a standard IP complement clause, or both nodes are simultaneously left empty, giving rise to a Z-type IPo clause. I will say more about the licensing of these constituents later.

In this way my proposal is, I think, the minimal hypothesis as far as the status and structure of Z-type 'Small Clause' is concerned, in that now these constituents as

such don't exist at all<sup>9</sup>; there are instead only IP complement clauses, a proper subset of which may be headed by an empty Io (occurring with a non-overt V). In this way the problem raised by Radford (1988: 519) concerning the relationship between Small Clauses and Exceptional Clauses (IPs) may be neatly resolved.

## 3.5 What is the missing V?

In assuming, as I have, that Z-type complement clauses are IPo's containing a VPo headed by a non-overt V, the question naturally arises as to what this V might actually be.

Recall Chomsky's characterisation of the 'Small Clause', cited on page 2, as '... a clausal structure lacking INFL and the copula' (Chomsky 1981: 107). In this essay I have suggested that rather than lacking INFL (I), Z-type constituents may in fact contain an empty Io - the head of the clausal projection. In much the same way, it is possible, I believe, to maintain that these clauses do not actually lack a copula either, but instead contain one which happens to be non-overt. In this section, then, I shall argue that the Vo node may be identified as a copula which, for some reason, lacks phonological content. There are three basic reasons for supporting such a view:

(i) - The first piece of evidence concerns the type of predicates occurring inside IPo complement clauses. So far the category of clause-internal predicates has been shown to range exclusively over NP, PP and AP. VP, by contrast, has been conspicuous by its absence; generally it seems that Z-type 'Small Clauses' are characterised by the absence of the most likely element to be found in a clause i.e. a verb. So far the absence of VP predicates inside examples of Z has only been described by stipulation; within the 'Barriers' framework it must be specifically stated that Z-type 'Small clauses', being projections of their embedded predicates, can only be of the category NP, PP or AP. According to Hornstein and Lightfoot's analysis, on the other hand, the sister of Io in these constructions has to be stipulated as being one of these constituents alone.

If, however, we accept that Z-type IP complements actually contain a non-overt verb, and that this verb is a copula, then NP, PP and AP are precisely the predicates we would predict to occur in these constructions, for NP/PP/AP are the very

<sup>&</sup>lt;sup>9</sup>It must be stressed that the Z-type IPo complements discussed in this essay are only a subset of the constituents often described as 'Small Clauses'. It may well be the case that these other 'SC' constituents are also amenable to an IPo analysis, but this is too broad a question to be examined in any detail here. See Williams (1975), (1980), (1983), Chomsky (1981: 176-177, 290-292) and Manzini (1983).

constituents which in a main clause must be embedded in an overt copula VP in order to be predicated with an external argument:

- (37) i \*Mr. Nyman a dirty old man. Mr. Nyman is a dirty old man.
  (38) i \*Prince Edward in my shed. ii Prince Edward is in my shed.
  (39) i \*Football boring.
  - ii Football is boring.

VP predicates, though, do not require an additional VP to stand between them and their subject. In this way the putative existence of a non-overt copula in IPo 'Small Clauses' allows us to explain, rather than stipulate, the presence only of NP/PP/AP predicates within these constituents. It seems to be a general property of clausal structures that NP/PP/AP but not VP must occur as the complement of a copula in order to fulfil their predicate role:

(40) i Does the bishop find  $[_{IP}$  football Io  $[_{VP}$  Vo  $[_{AP}$  boring]]]? ii \*I consider  $[_{IP}$  Mr. Nyman Io  $[_{VP}$  Vo  $[_{VP}$  buy dirty magazines]]]

(ii) - The null-copula hypothesis is leant further support by examining properties of the overtly-instantiated copula in matrix clauses. From the above discussion it may be inferred that there are basically two kinds of main clause predicate - VP's and NP/PP/AP's, with the latter embedded in a VP (copula). If this generalisation holds then it supports the claim that the presence of a VP is obligatory in clauses (cf Abney's views on f-selection outlined above whereby a functional projection such as IP may only select a single category of complement i.e. VP).

Following this line of argumentation, it seems that there are in fact two distinct kinds of VP, corresponding to the two varieties of predicate seen above; on the one hand there are the proper VP predicates, with their own semantic content:

- (41) i Eddie [ $_{VP}$  shot his mother]
  - ii Balanescu [<sub>VP</sub> grinned]
  - iii Lithuania [<sub>VP</sub> exports shampoo]

On the other hand there is the copula 'be'; often this seems to act primarily as a filler, being present simply in order to occupy the obligatory V position within clausal

constituents, and contributing nothing to the semantic content of the proposition<sup>10</sup>. It is for this reason that the copula heads the VP in which NP/PP/AP predicates must be embedded (see also (37-39) above):

- (42) i Eddie [ $_{VP}$  is [ $_{NP}$  a psychopath]]
  - ii Balanescu [<sub>VP</sub> is [<sub>AP</sub> happy]]
  - iii Lithuania  $[_{VP}$  is  $[_{PP}$  in dire economic trouble]]

These examples consist basically of an argument and a predicate; indeed within predicate logic the above sentences could all be expressed by the formula  $\Phi(x)$ , lacking any equivalent of the copula verb<sup>11</sup>. This, then, only serves to highlight the pleonastic nature of the natural language copula.

In these constructions at least, the copula is semantically empty, and serves a purely functional role. If any constituent were to remain non-overt, then, the copula would appear to be an ideal candidate:

- (43) i I consider  $[_{IP} Eddie [_{VP} Vo [_{NP} a psychopath]]]$ 
  - ii We found  $[_{IP}$  Balanescu  $[_{VP}$  Vo  $[_{AP}$  happy]]]
  - iii Lithuania<sub>i</sub> seems  $[_{IP} t_i [_{VP} Vo [_{PP} in dire economic trouble]]]$

In fact this argument isn't just intuitive, and we find direct evidence for this in other languages such as Russian, Georgian and Modern Greek, where often the copula may, or indeed must, be omitted. All I am suggesting, therefore, is that constructions such as those in (43) exemplify a similar operation of 'copula omission' in English, an operation subject to certain constraints that I will go on to explore in section 3.6.

(iii) - there is a third and final piece of evidence supporting the Vo = copula hypothesis; a recurrent theme throughout this essay has been the parallel between IPo 'Small Clause' complements and their IP equivalents:

(44) i I shall prove  $[_{IP}$  Mr. Nyman Io  $[_{VP}$  Vo  $[_{AP}$  guilty of indecency]]] ii I shall prove  $[_{IP}$  Mr. Nyman to  $[_{VP}$  be  $[_{AP}$  guilty of indecency]]]

 $<sup>^{10}</sup>$ As Napoli (1989: 9) points out '**is** is present purely to satisfy needs of the syntax and does not contribute to the semantic interpretation of the sentence in the same way semantically full lexical items do'.

<sup>&</sup>lt;sup>11</sup>In fact the predicate variable  $\Phi$  may also be used to express the full VP predicates in (41). See, for example, Allwood/Andersson /Dahl (1977: 58-61).

- (45) i Arnold<sub>i</sub> seems [ $_{IP}$  t<sub>i</sub> Io [ $_{VP}$  Vo [ $_{NP}$  a bit of a dunce]]]
  - ii Arnold<sub>i</sub> seems  $[_{IP} t_i \text{ to } [_{VP} \text{ be } [_{NP} a \text{ bit of a dunce}]]]$

I have shown that for each particular instance of a Z-type IPo clause there exists a similar IP analogue containing 'to be'. In the light of the preceding discussion the significance of this parallel should now be obvious; in each case what differentiates the IP clause from its IPo 'Small Clause' equivalent is the presence in the former of a non-finite copula.

In the last section I argued that IPs and IPo's are structurally identical, differing only as to whether the V and I nodes are left empty or contain lexical material in the form of 'to be'. If now we regard the Vo in IPo's as being a non-overt copula, then it is possible to bring the two complement structures even closer together. Quite simply IPs and IPo's can be seen as being totally identical, their surface disparity being solely a matter of whether or not an operation of 'copula omission' has occurred:

- (46) i I shall prove  $[_{IP}$  Mr. Nyman (to)  $[_{VP}$  (be)  $[_{AP}$  innocent of indecency]]]
  - ii Arnold<sub>i</sub> seems  $[_{IP} t_i (to) [_{VP} (be) [_{NP} a bit of a dunce]]]$
  - iii I'd prefer [ $_{IP}$  the statue (to) [ $_{VP}$  (be) [ $_{PP}$  on the lawn]]]

In suggesting, then, that the Vo in IPo clauses is a non-overt copula, it is possible to capture fully, in the neatest and simplest way, the inherent similarity that exists between them and their IP equivalents, which all contain an overt non-finite instantiation of the copula. In fact, what I am proposing is that IPo 'Small Clauses' may be derived from these IP analogues by an operation of Copula Omission. Ideally, this operation should be expressible as a particular instantiation of a more general derivational procedure such as 'affect- $\alpha$ ' (Lasnik and Saito 1984). This is to be the subject of the final section of this essay.

# 3.6 Licensing

If IPo 'Small Clauses' are derived from their non-finite IP analogues by an operation of Copula Omission (CO), as I assume, then evidently this operation can't apply anywhere in English, and must be subject to certain constraints. For example, in English CO isn't licensed in matrix clauses. More importantly here, even within IP complement clauses containing a non-finite copula the operation of CO is not necessarily licensed; that is, while it is true that all IPo 'Small Clauses' seem to have an IP analogue containing 'to be', the converse doesn't hold, and there are examples of non-finite IP complements where the omission of the copula leads to an ungrammatical structure:

| (47) | i<br>ii | I believe [ <sub>IP</sub> the contract to be void]<br>*I believe [ <sub>IPo</sub> the contract void] |
|------|---------|--|
| (48) | i<br>ii | Balanescu wants [ $_{IP}$ Eddie to be his friend]<br>*Balanescu wants [ $_{IPo}$ Eddie his friend]   |

I have already argued that such examples cannot and should not be ruled out by reference to subcategorisation properties of the matrix verbs. The question is, then, how can these bad examples be excluded? Or, in other words, what licenses the operation of CO?

This is in fact a highly complex question involving the interaction of several different factors, both semantic and syntactic.

Starting with syntactic considerations, let's assume first of all, in line with a P/P-based approach, that the copula may be freely omitted (furthermore, I assume that this follows from the copula's lack of semantic content, as discussed in section 3.5). The English data examined so far, however, suggest certain constraints on this operation. We know for example that CO is only licensed in a subordinate clause, more specifically a clause bearing the internal argument of a matrix verb such as 'consider' or 'prove'. We know also that CO can only take place in a non-finite IP where the putative I node is left empty, hence the ungrammaticality of examples like (49ii) as opposed to (49i):

(49) i I consider  $[_{IPo}$  Mr. Nyman Io  $[_{VPo}$  Vo  $[_{NP}$  a genius]]] ii \*I consider  $[_{IP}$  Mr. Nyman to  $[_{VPo}$  Vo  $[_{NP}$  a genius]]]

How then might one go about subsuming these disparate criteria which licence CO? One option, I suggest, might be to appeal to the separate notions of verb raising and L-marking.

The absence of phonological content does not imply that the omitted copula doesn't actually exist. If then we stipulate that the non-finite I node is empty, as illustrated in (49), then there is no reason why the non-overt V shouldn't raise to this Io in exactly the same way as overt verbs do in finite constructions:

(50) i I'd prefer [ $_{IPo}$  the fish [ $_{Io}$  Vo<sub>j</sub> Io ] [ $_{VPo}$  t<sub>j</sub> [ $_{AP}$  raw]]] ii [ $_{IP}$  The fish [ $_{I}$  is<sub>i</sub> ] [ $_{VP}$  t<sub>i</sub> [ $_{AP}$  raw]]] In this way any constraints on the operation of CO can be formulated in terms of the Io node to which the copula is raised, a potentially desirable result as I shall show. Here then we introduce the notion of L-marking, more specifically the constraints on CO referred to above can be captured by the single condition in (51):

(51) CO is licensed only when the copula is raised to an L-marked Io.

This may require some explanation.

L-marking, as defined in Chomsky (1986-a:16-38), is a relationship said to hold between a lexical head and its theta-governed complement; a lexical head X will L-mark, i - its sister YP if X assigns a  $\theta$ -role to YP, and ii - the specifier and head (Y) of YP (see also Manzini (1992: 53-54). For our purposes the condition of L-marking in (51) will ensure that the operation of CO is constrained in exactly the right ways. For I to be L-marked it must be the head of an IP which is  $\theta$ -marked by a lexical head (here V). Thus CO is predicted only to occur in complement clauses (i.e. non-matrix environments) which are IPs - if embedded in a CP the I will not be L-marked by the C head which is non-lexical. Similarly, the IP clause is predicted to be non-finite; a subject NP<sub>i</sub> occurring in the specifier position of a finite complement IP would be assigned Case both by the finite I head and the matrix V (by ECM) - a violation of the well-formedness conditions on the one-place Chain (NP<sub>i</sub>) (Chomsky 1986-b). Finally, given that the copula must raise to the L-marked I, it follows that this I must be empty, that is it cannot contain the particle 'to'.

The advantage of this approach is that now CO and constraints upon its operation can be expressed purely in terms of lexical idiosyncrasy; any verb that c-selects an IP complement need only specify that this IP may be headed by an empty Io, a copula will then be able to raise to this (L-marked) I and CO will then be licensed to occur. If, however, the verb selects a standard IP complement, then the default presence of the non-finite marker 'to' in the head I will block the raising of any verb, including the copula, to this position, thus ruling out the operation of CO. So, for example, the subcategorisation frame for a verb like 'find' might be as follows: 'find' :V [\_\_NP/CP/IP(o)]. The round brackets in the IP(o) entry reflect the fact that the head of an IP complement may, but need not, be empty:

(52) i Mrs. Herbert found  $[_{IPo}$  Mr. Neville  $[_{Io}$  Vo<sub>j</sub> Io  $] [_{VPo}$  t<sub>j</sub>  $[_{AP}$  insufferable]]] ii Mrs. Herbert found  $[_{IP}$  Mr. Neville  $[_{I}$  to  $] [_{VP}$  be  $[_{AP}$  insufferable]]]

A similar selectional frame could be associated with many of the matrix verbs encountered so far such as 'consider', 'imagine', 'prefer' and 'prove' ('seem' and 'appear' will select only CP and IP(o) owing to their inability to assign Case). Some verbs,

however, notably 'believe', while subcategorising for an IP, will not permit this to be headed by an empty Io, hence the inadmissibility of Z-type 'Small Clause' complement occurring with such verbs (example (47)). The selectional frames of these verbs would simply be as follows: 'believe' :  $V [\_NP/CP/IP]$ .

In this way then the licensing of CO in complement clauses can be specifically tied to lexical properties of individual matrix verbs, thus removing the need for rules and stipulations within the grammar. Referring back to (51), we may state that as an instantiation of 'affect- $\alpha$ ', the (semantically empty) copula may be freely omitted (at PF) provided that it is raised to an L-marked I. In each case what will determine whether or not the I is actually empty, and thus able to accommodate the raised V, are the selectional properties of the L-marking matrix verb.

This, however, is not the whole story. As I mentioned earlier in this section, CO seems to be partially licensed by semantic criteria. Consider the examples below:

- (53) i Arnold<sub>i</sub> seems [<sub>IPo</sub>  $t_i$  [<sub>Io</sub> Vo<sub>j</sub> Io ] [<sub>VPo</sub>  $t_j$  [<sub>NP</sub> a bit of a dunce]]]
  - ii \*Arnold<sub>i</sub> seems [ $_{IPo}$  t<sub>i</sub> [ $_{Io}$  Vo<sub>j</sub> Io ] [ $_{VPo}$  t<sub>j</sub> [ $_{NP}$  an Austrian man]]]
- (54) i I can't imagine [<sub>IPo</sub> you [<sub>Io</sub> Vo<sub>j</sub> Io ] [<sub>VPo</sub> t<sub>j</sub> [<sub>PP</sub> in a school play]]]
  \*I can't imagine [<sub>IPo</sub> Princess Margaret [<sub>Io</sub> Vo<sub>j</sub> Io ] [<sub>VPo</sub> t<sub>j</sub> [<sub>PP</sub> out of prison]]]

From (53i) and (54i) we see that both 'seems' and 'imagine' may select an IPo complement (thus licensing CO). The sentences in (53ii)/(54ii), though, are ungrammatical, in spite of the fact that the category of the embedded predicate is the same as that in each grammatical analogue. Note, however, that both examples can be rescued by the overt appearance of the copula:

(55) i Arnold<sub>i</sub> seems [ $_{IP}$  t<sub>i</sub> to [ $_{VP}$  be [ $_{NP}$  an Austrian man]]] ii I can't imagine [ $_{IP}$  Princess Margaret to [ $_{VP}$  be [ $_{PP}$  out of prison]]] yet.

It thus seems clear that essentially semantic criteria are responsible for licensing CO here. The question is, though, how are the relevant semantic principles, whatever they may be, to be integrated with the syntactic constraints on CO outlined above ? This is a complex issue, especially given the principle of syntactic autonomy. What follows is a speculative attempt to achieve some sort of integration between the syntactic and semantic criteria sanctioning CO.

To a certain extent, it seems that semantic factors do play a role in the syntax; a verb's argument structure, for example, is responsible for determining the syntactic structure of a sentence at every level of representation, via the projection principle. So too an NP's reference, shown by indexation, plays an important part in Binding Theory and the antecedent government clause of the ECP (Chomsky 1986-a, Rizzi 1990). Thus it doesn't seem too far-fetched to suggest that certain semantic properties of words may in fact be inherited from the lexicon and passed through to the syntax, possibly by means of indexation (Chomsky 1965, Rizzi 1991). Exactly what these semantic features are, I do not know, although it doesn't really matter here. All I shall assume is that the relevant semantic properties - which I shall refer to as S-features - are relevant to the operation of CO.

Consider first the possibility that when inserted in the terminal node of a tree, a lexical item projects its indexed S-feature up to the phrasal level:

(56) XP<sub>i</sub> X'<sub>i</sub>

Given, however, that S-features in the syntax reflect semantic properties, it could well be argued that they continue to project beyond the phrasal level and through functional (non-lexical) material that doesn't bear its own S-feature index. The projection of S-features through non-lexical material must somehow be constrained, though, and we will therefore appeal to the notion of governing domain. More precisely we may state that S-projection will only be operational within the governing domain of a head:

(57) A lexical head X<sub>i</sub> will project its S-feature within its governing domain, but may not do so within the S-projection range of another lexical head Y<sub>i</sub>.

In this way, a possible map of S-projection might be as follows:

(58)  $XP_i$   $ZP_j X'_i$   $Z'_j X_i YP_i$   $Z_j spec_i Y'_i$  $Y_i WP_k$ 

Take  $Z_j$  and  $X_i$  to be lexical heads.  $Z_j$  S-projects up to the limit of its governing domain (ZP<sub>j</sub>), and no further.  $X_i$  similarly projects its S-feature up to its phrasal level (XP<sub>i</sub>). However, while  $X_i$  governs ZP<sub>j</sub>, it doesn't assign its S-feature to it since ZP<sub>j</sub> constitutes the S-projection range of another lexical head ( $Z_j$ ). Assume, then, that YP is a functional projection and as such lacks its own S-feature. Since YP lies within the governing domain of  $X_i$ , which has an S-feature,  $X_i$  will project its S-feature into YP and into all elements dominated by YP which also happen to lie within the governing domain of  $X_i$ . Thus the S-feature of the governing element  $X_i$  is also inherited by the head and specifier of YP, assuming the latter too is non-lexical. However X doesn't S-project into WP<sub>k</sub>, since the complement position of YP<sub>i</sub> no longer lies within the governing domain of  $X_i$ , and in any case WP<sub>k</sub> evidently constitutes the S-projection range of another lexical head (W<sub>k</sub>). What, then, does all this mean for 'Small Clause' complements and Copula Omission (CO)? Consider the representation in (59):



The situation here is essentially not so very different from that in (58); the complement of  $V_j$  is an IPo, a functional projection without its own S-feature. IPo, I'o and the head Io are all governed by the matrix verb  $V_j$ , and thus all acquire its S-feature index - IPo<sub>j</sub> etc. Even though  $V_j$  governs the subject NP<sub>k</sub> in the specifier position of IPo<sub>j</sub>, it doesn't assign its S-index to it since NP<sub>k</sub> is the S-projection range of N<sub>k</sub>, another lexical head. The main question here, though, concerns the S-feature associated with the putative empty copula V<sub>2</sub>.

I have already pointed out that in some sense the copula is semantically empty. This might suggest that it lacks an S-feature altogether, like a functional element. Let's assume, however, that all lexical material in a well-formed structure must have an S-feature index. Bearing in mind that a copula cannot occur in isolation, and must be associated with a predicate complement of some sort, it is possible that the copula, being lexical, may have to inherit the S-feature index of its complement predicate. Thus the copula V, V' and VP in (59) will all bear the index 'l' passed on from the predicate NP<sub>1</sub>'a genius<sub>1</sub>'. As can be seen from the representation in (60), this argument has an important implication.

(60)VP. V' -IPo<sub>i</sub> Vi  $NP_k$ Ι'Ο<sub>j</sub> Ioj  $VP_1$ IO<sub>1</sub>+(BE<sub>1</sub>) V'<sub>1</sub> V<sub>1</sub>  $NP_1$  $(BE_1)$ consider, Mr. Nyman<sub>k</sub> [e<sub>i+1</sub>] Ι a genius,

Assuming that  $Io_j$  bears the S-feature of the matrix  $V_j$  via government by the latter, and assuming that the copula  $V_1$  bears the S-feature index of the NP<sub>1</sub> predicate via inheritance, then clearly if the copula  $V_1$  raises to the empty  $Io_j$ , then these two S-features will come together, yielding an empty category  $[e_{j+1}]$  of the type shown in  $(60)^{12}$ :

In this way we may achieve precisely the interaction of semantic S-features that is required; the putative omitted copula, in raising to Io combines the S-indices of both the matrix verb 'consider<sub>j</sub>' and the clause-internal predicate NP<sub>1</sub>'a genius'. These of course are exactly the constituents whose semantic properties were thought to play

<sup>&</sup>lt;sup>12</sup>Note also that given the restrictions on S-projection outlined in (57), this combining of Sindices is predicted only to occur in L-marked IPo clauses containing a copula; if embedded in a CP, IP will not be governed by the matrix verb head and thus will not receive an S-index. So too the inheritance of a complement predicate's S-feature is shown to be restricted to the semantically empty copula.

a role in the licensing of CO, unlike those of the NP subject, for example, which appear to be irrelevant. All we need do then in formulating an account of CO licensing is appeal to some notion of **agreement**; if the S-feature indices of the predicate and the matrix verb form an acceptable combination when brought together by the raising of V to I (i.e. if they agree) then the operation of CO will be licensed within that particular complement clause. So, for example, the combination of  $Io_j$  and  $(BE_1)$  in (60) is evidently acceptable; the 'j' and 'l' S-feature indices agree and, consequently, CO is sanctioned. Consider, however, (61):



Here, when the copula  $V_p$  is raised to the  $Io_m$  node the two S-feature indices brought together do not agree, and thus CO is not licensed. If, however, the matrix verb 'imagine' selected an ordinary IP complement, then the head  $I_m$  would be filled by the non-finite marker 'to', thus preventing the raising of the copula  $V_p$  to this node. In this way the non-agreeing S-features 'm' and 'p' would be kept apart, the copula would remain overt and the sentence would be grammatical:



The criteria by which two S-features may or may not agree is, I think, a matter for a semantic theory. The important point here is that the above discussion offers a tentative account of how these relevant semantic considerations, whatever they are, may be integrated into a syntactic definition of CO and its licensing. In the light of this, then, the single constraint on Copula Omission stated in (51) may be reformulated along the following lines:

(63) CO is licensed only when -The copula  $(V_x)$  is raised to an L-marked  $I_y$ , where x and y agree.

## **4** Conclusion

The final section of part 3 of this essay was undoubtedly rather speculative. It represents, however, the last logical step in a chain of reasoning originating in the central claim of this work: 'Small Clauses' (SCs) of the type discussed here don't exist. I have argued that these constituents are instead IP complement clauses, containing a subject and a verb just like any other clause. The only difference is that in some of these IP complements, if the verb is a copula, it may be deleted at PF. This operation of Copula Omission is, I suggested, just a particular instantiation of the syntactic derivation Affect- $\alpha$ , one which occurs in many languages but which happens to be heavily constrained in English. Thus any given example of an SC can simply be taken as an occurrence of CO within a complement clause. This analysis enjoys three basic advantages over the 'Barriers' version. Firstly, it overcomes in a neat and principled

way various problems associated with the latter account raised in 3.2. Secondly, the idea that SCs are formally identical to other clauses has the advantage of being the minimal hypothesis, in that now we need no longer countenance the existence of NP/PP/AP clausal complements but may instead establish a unique correlation between clauses and IPs. Thirdly, the CO analysis allows for the relatively non-stipulative integration of apparently vital semantic criteria into an account of 'Small Clause' phenomena, an integration which might, I think, remain elusive for any other approach. Evidently, though, there is far more to be said about many of the issues raised here, particularly with respect to the Minimalist programme and its related notions of feature checking and Procrastinate (Chomsky 1992)<sup>13</sup>. Whatever the potential pitfalls of my argument, however, I hope at least to have shown that there may well be more to 'Small Clauses' than their apparently diminutive size.

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<sup>&</sup>lt;sup>13</sup>Given the principle of Full Interpretation (Chomsky 1986-b,1992) it seems likely that the semantically empty copula will delete at LF. With respect to the principle of Procrastinate, this then raises the question of what motivates, or forces, the operation of CO at Spellout in certain contexts in English.

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