The phrase structure of the copula

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Abstract

In this paper I argue that the copula is not semantically empty when it occurs together with a complement. Evidence in favor of this is provided with data from Norwegian, where the copula appears to play a role with respect to s-selection. Previous accounts of copulas, like the small clause analysis and the predication phrase analysis, do not reflect the semantic contribution from the copula. If we maintain that identical thematic relationships should have identical syntactic structure, then these analyses are insufficient. Instead, I will propose to analyze the copula as a *v* or a V, i.e. as merged in the verb phrase. Such an analysis also enables us to account structurally for the Case variation found with post-copular elements in Germanic. The idea is that the functional structure above the VP varies according to the Case relations found in a given language. This hypothesis is further corroborated by looking at unaccusatives, where we find the same variation for Case with in situ arguments.

1. Introduction[1]

The notion of theta-roles has played an important part in generative grammar, and it is fair to say that our understanding of the phenomenon has increased during the developments, currently under the Minimalist Program. However,

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some aspects related to theta-roles do not seem to be well understood. I will show that the phrase structure of the copula is one such instance. Consider (1).

(1)   He is a good player.

Since Koopman and Sportiche (1988, 1991) suggested what has become known as the 'verb phrase internal subject hypothesis' (see McCloskey 1997 for a review of its history), it has been assumed that all θ-roles are assigned within the VP. In most accounts, the copula is an exception to this general treatment, and few accounts assume that theta-roles are assigned in a similar fashion in (1) as in (2).

(2)   He gave John a book.

In (2), the verb *gave* has three theta roles, each assigned to its respective DP. However, within the minimalist spirit, a theory of *phrase structure* which postulates an essential difference between (1) and (2) should not be considered a feasible theory (see Hornstein 2001: chapter 1 for further related discussion). The goal of this paper is to provide an account where (1) and (2) are treated in the same way. I will discuss data from Norwegian that indicate presence of thematic properties with copulas. These data further show that it is not the complement of the verb alone that selects the external argument but both the complement and the verb. I also discuss the Case variation found in copular clauses in Germanic, using Norwegian, Swedish and Danish as typical cases. Two previous suggestions about how to analyze copulas are shown to be empirically inferior. In my proposal, the copula is analyzed as part of the verb phrase.. The latter is further divided according to the presence or non-presence of a functional projection, which makes it possible to handle the Case variation.

My paper is organized in the following way. Section 2 discusses some data from Norwegian which suggest the presence of theta-roles also with copulas. The Case variation found on the post-copular elements is also presented. In section 3, I critically review the two major proposals about how to analyze copulas and conclude that they cannot solve the puzzles presented in section 2. Section 4 is my suggestion as to how the phrase structure of the copula should be analyzed and to how we can give a structural account of the variation in Case patterns. Section 5 summarizes the paper.

2. Theta-roles, Case, and copulas

Theta-roles have been an important research theme for a long time, and it has been a common and rarely challenged assumption that the copula is semantically empty and hence does not assign theta-roles. In this section, I present data from Norwegian indicating that copulas assign theta-roles after all when they have a complement. If theta-roles are understood as labels for both semantic roles, category selection and semantic selection, we have to conclude that copulas too have theta-roles when they are part of a predicate. Further, I discuss the Case variation found in Norwegian with respect to the post-copular element, a variation that also resembles the general variation among the Germanic languages.

2.1. Theta-roles

An important suggestion, going back to Marantz (1984), says that it is the entire VP (the verb and its internal argument) that assigns the verb's external θ-role, and not only the verb (Chomsky 1986, Radford 2004, Hornstein, Nunes and Grohmann 2005). In other words, θ-roles are "a property of the position of

merger and its (*very local*) configuration" (Chomsky 1995: 313, my emphasis).[2]
Evidence in favor of these arguments comes from sentences such as (3)
(Hornstein, Nunes and Grohmann 2005: 77, building on Marantz 1984).[3]

(3) a. She took the book.

   b. She took a rest.

   c. She took a bus.

   d. She took a nap.

   e. She took offence.

   f. She took office.

   g. She took her medicine.

   h. She took her time.

What is crucial about (3) is that the theta-role of the external argument differs
between the sentences, something which could not be attributed to the verb only.
The differences are, however, easily explained when taking both the verb and
the internal argument into account. In what follows I will take for granted that
the external theta-role is a function of the complex V + complement.

   It is commonly assumed that a sentence with a copula needs a predicate
with a lexical content. The latter means that the predicate needs to have
semantics, and the copula on its own is not able to fulfill this. In addition, there
has to be a subject. Some data showing this is provided in (4).

(4) a. Eg er *(på fjellet).

    I COP on mountain.DEF

    'I am on the mountain.'

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[2] See Williams (1994) for further elaboration on the importance of locality.
[3] See also Di Sciullo (1996) for similar arguments applied to morphological selection.

b.   … at *(han) er   i huset.

      that   he COP in house.DEF

     '… that he is in the house.'

c.   Det   er på fjellet.

     it/*EXPL COP on mountain.DEF

     'It is on the mountain.'

(4a) illustrates the need for a predicate and (4b) and (4c) illustrate the need for a subject. I assume that the PPs in (4) are adjuncts since they do not have a θ- role (cf. Baker 2003: 318, but contra e.g. Higginbotham 1985), and thus they do not enter into theta-relations. Furthermore, it is also a common assumption that the internal argument is responsible for selecting the subject, that is, the post-copular element decides what can be able to be a subject. Hence the subject gets its role from the internal argument:[4]

(5) a.   Han er ein gut./#Han er ein stein.

      he COP a boy/ he COP a   stone

      'He is a boy'/#'He is a stone'

  b.   Universitetet   er ei kunnskapskjelde./#Universitetet er eit

      university.DEF   COP a knowledge.source/ university.DEF COP a

      geni.

      genius

      'The university is a source of knowledge'/#'The university is a

      genius'

  c.   Skrivebordet er   høgt./*Skrivebordet er levande.

      desk.DEF   COP tall/   desk.DEF   COP living

      'The desk is tall.'/#'The desk is living.'

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[4] I have used '#' to mark sentences that are ungrammatical on a literal reading, but they are of course OK with meaning shifts.

d. Han er sint./*Det er sint.

    he COP mad/EXPL COP mad

    'He is mad.'/*'There is mad.'

We see that the complement seems to restrict the external argument alone, not being affected by the presence of the copula. That is, the entire VP selects the subject, but since the copula is empty, it does not contribute in any sense. However, further data give a slightly different picture. The internal argument cannot solely restrict the external argument semantically (6)-(7):

(6) a. Han er rask.

         he COP fast

     b. #Fjellet   er raskt.

         mountain.DEF COP fast

     c. Fjellet   veks raskt.

         mountain.DEF grows fast

     d. #Han blir rask.

          he   becomes fast

(7) a. Datamaskinen/kjøleskapet/#mannen er også lagringsplass.

         computer.DEF/fridge.DEF/man.DEF   COP also storage.space

     b. Mannen/datamaskinen/#kjøleskapet får auka   lagringsplass.

         man.DEF/computer.DEF/fridge.DEF   gets increased storage.space

In (6a) we can say that *he is fast*, but we cannot say that the mountain is fast (6b). However, if we change the verb, the subject *the mountain* is unproblematic. It nevertheless looks as if the copula plays a rather marginal role in the selection of the subject when we have an AP. Although one could say that it is the ability to *be X* that counts (a person can be fast, but a mountain cannot), this does not satisfactorily account for the differences because the overall impact

comes from the complement. (7) is slightly different in that the post-copular element is a noun. Actually, these examples illustrate the partition between nouns and adjectives/prepositions. A noun bears a referential index whereas an adjective is just –N, -V, and a preposition is a functional category (Baker 2003: 21). If we accept these definitions, it is evident that nouns should be different with respect to θ-roles. In the examples above, like (6), it is as said not that clear that it is both the verb and its complement that assign the external role. (7), on the other hand, shows some interesting parallels. We see that only computers and fridges can be said *to be* a storage space; not humans (at least not in the common sense). However, both computers and men can *get* more storage space (in the sense that men get e.g. another bigger house and that computers get something inserted into their hard drive). Now, observe that the latter is not possible with fridges. They have a size, and are commonly not extendable like computers (we cannot extend them inside without increasing the outside size, or removing something from the inside, though that is possible with computers). If the noun selected the external argument, we should not get this contrast with *fridge*, in fact, (7b) should be grammatical with *fridge*. One solution might be to attribute this solely to the verb, but that does not work. We cannot say things like *The computer gets an assistant*, but we can say that *The computer is an assistant*. Hence it is not only the verb *get* that restricts the external argument.

Other interesting data are the following:

(8)   a.   Peter er ein journalist.

           Peter COP a journalist.

           'Peter is a journalist.'

   b.   Peter blir ein journalist.

           Peter COP a journalist.

           'Peter becomes a journalist.'

    c.   Eg kjenner Peter som journalist.

           I   know   Peter *som* journalist

           'I know Peter as a journalist.'

    d.   Vi valde   han til journalist.

           We elected him *til* journalist

           'We elected him as a journalist.'

These data show that a predication can have different realizations. The copulas in (8a) and (8b) are different, and we have different particles in (8c) and (8d). Since we have these different realizations and alternations, this indicates the presence of some semantic content. We find the same with e.g. complementizers (Janne Bondi Johannessen, p.c.), which alternate and thus have different meanings. We have a sentence like *He does not know that she will come* vs. *He does not know if she will come*, where the embedded sentences express different meanings only depending upon the head of the complementizer.

        Further, also a DP can be a predicate (cf. (5a)-(5b) and (7)). On the other hand, a DP predicate does not have a head like AP and PP predicates have (cf. (5c)-(5d) and (6)). Even more puzzling is the fact that a DP cannot be a head in a small clause in Norwegian, though that is perfectly OK with an adjective or a preposition:[5]

(9)   a.   Han gjorde henne glad.

            he made her   happy

           'He made her happy.'

    b.   Han gjorde henne *(til) min venn.

            he made her   to my friend

           'He made her my friend.'

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[5] Thanks to Jan Terje Faarlund for pointing out the relevance of these examples. Note that the English version of (9b) is grammatical, which illustrates that a DP can be a head in a small clause in some languages.

c.　　Ho　er　min venn.

　　　　she COP　my　friend

　　　　'She is my friend.'

These data point towards the same conclusion as the discussion above: copula + DP complement assign a θ-role to the subject. This is as we have seen less clear for AP and PP complements (cf. (4) and (6)). I will however assume that the syntactic structure is similar with both DPs and APs when they function as post-copular elements. Regarding PPs, we do not have any structural differences in copular sentences compared with sentences with an ordinary verb since PPs are adjuncts in both instances (except, of course, those verbs that take a locative etc.). One argument for treating DPs and APs in the same way is that the data in (6) indicated that perhaps it is possible to attribute some content to the copula with APs too.

　　　Further data corroborating my view is provided by sentences such as (11)-(12).

(11)　*The subject has agent-like properties*

　　　a.　　Ho　er　eksekutøren.

　　　　　she COP performer.DEF

　　　　　'She is the performer.'

　　　b.　　Mannen　er　kontrollør.

　　　　　man.DEF COP inspector

　　　　　'The man is inspector.'

(12)　*The subject has experiencer-like properties*

　　　a.　　Ho　er　glad.

　　　　　she COP　happy

　　　　　'She is happy.'

b.   Katten   er   trist.

cat.DEF COP sad

'The cat is sad.'

Here we see that it is probably possible to distinguish between the θ-role of the subject in (11) and in (12).[6] In (11) the predicate says that the subject in question is doing something, that is, being the agent in a sense. The ones in (12) differ in that the subject is not doing anything, but experiences something. Traditionally, this difference has been captured by a raising analysis where the subject DP is merged with the AP and then raised. This analysis is unavailable within the framework of Baker (2003) because the only lexical category that can license argument specifiers is verbs (Baker 2003: 20). This conclusion is reached on the basis of careful study of a number of languages and I thus take it as a strong argument in favor of his position. In addition, if my argument that the copula and the complement select the subject, we should avoid such a raising analysis because it violates *Uniformity of Theta Assignment Hypothesis* (UTAH) (Baker 1988).[7] Further support that favors this analysis is provided by the following examples mentioned by Baker (2003: 30):

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[6] Notice that a detail is glossed over in this paper, involving indefinites such as (i)-(ii) (from Diesing 1992:17-18).

(i)   Firemen are available
(ii)   Violists are intelligent

Both examples have bare plural subjects. (i) represents a stage-level predicate (involving temporary states) whereas (ii) represents an individual-state predicate (involving permanent states). Diesing argues that (i) and (ii) have a different syntax corresponding to her Mapping Hypothesis (Diesing 1992: 10). I will not discuss these matters further at this point, as I do not deal with the distinction between indefinites and definites, but see Hallmann (2004) for a view that unifies both types of predicates.

[7] UTAH is a much debated hypothesis, and evidence against it have been put forward my many researchers. I will nevertheless assume that the general intuition behind it is correct.

(13) a.   Chris hungers.

     b.   Chris is hungry.

(14) a.   Mary skis whenever she can.

     b.   Mary is an avid skier.

Baker says that there seems to be no difference in the θ-role that the subjects bear. If the subject in (13a) is a theme, as Baker claims it is, then the one in (13b) is likely to be that too (Baker 2003: 31). Interestingly, he also mentions that the subjects in (14) perhaps both are agents, which I take as supporting the analysis given above. However, Baker later says that 'the copula in English is not involved primarily in the dynamics of theta-role assignment, but rather appears when the lexical head of the clause cannot bear finite tense and agreement morphology' (Baker 2003: 40). The data above have nevertheless shown that the copula does play a role together with the complement. Baker seems to be talking only of the copula itself, and I agree that it seems difficult to point at a very specific semantic content with the copula only. Although, the copula appears to be part of the 'dynamics of theta-role assignment' together with the complement, and as such we have reason to believe that θ-roles are involved in copula configurations (see also Bailyn and Rubin 1991 for similar arguments).[8] I think we need to incorporate this in our analysis of the phrase structure of the copula as copulas in some ways seem to resemble ordinary transitive verb structures when there are two DPs present, although they of course do not have the same amount of semantics as transitive verbs have. Section 4 presents such a suggestion.

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[8] Pereltsvaig (2001) has argued somewhat similarly, but she distinguishes between two different types of copulas based on data from Italian and Russian, as mentioned in the main text. Regarding the 'rich' sentences, she says that 'the copula v^o has a theta-grid which contains only an argumental variable, but lacks a thematic index' (Pereltsvaig 2001: 174), whereas the 'bare' ones do not have any theta-grid (Pereltsvaig 2001: 186). Although I do not discuss the typology of copula constructions, I take her arguments to be supportive of mine. See Rapoport (1987) for yet another suggestion, where the copula is argued to be semantically empty regardless of the syntactic structure.

2.2. Case

The Case system of copula constructions with a pronominal is not uniform across varieties of Norwegian. There is fluctuation between nominative and accusative Case:

(15) Nominative - Nominative

    a.   Det er eg

           it   COP I.NOM

    b.   Læraren   er eg

           teacher.DEF COP I.NOM

(16) Nominative - Accusative

    a.   Det er meg

           it   COP me.ACC

    b.   Læraren   er meg

           Teacher.DEF COP me.ACC

The Norwegian Reference Grammar (Faarlund, Lie and Vannebo 1997: 319, 742) says that one can use both nominative and accusative Case, although accusative is the most common.[9] This is also confirmed by a corpus analysis of the Danish-Norwegian variant (Fossum 1995). What is important at this point is that Norwegian is not the only language where we find this variation. Schütze (2001: 235-236) and Sigurðsson (2006b) give a number of examples from

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[9] I do not discuss cases where the post-copular element has nominative Case when followed by e.g. a relative clause.

Germanic in general.[10] The following examples from Danish and Swedish should suffice to illustrate this (adopted from Mikkelsen 2005: 174).

(17) Det   är   jag/*mig   (Swedish)
      it   COP I.NOM/me.ACC

(18) Det   er   mig/*jeg   (Danish)
      it   COP me.ACC/I.NOM

The variation is probably due to historical circumstances. Danish was the written language in Norway for hundreds of years, but the oral language resembled Old Norse which had the pattern found in Swedish and Icelandic (Faarlund 2004: 17, 131). As mentioned above, Sigurðsson (2006b) has shown that we do not only find this variation within the Scandinavian languages. He also tries to explain the variation, and formulates the following 'universal': "With much greater than chance frequency, *case-rich languages do not assign accusative case to predicative nominals*" (Sigurðsson 2006b: 24, emphasis original). Based on this, he says that languages like English and Danish have changed from a state where the Nominative/Accusative distinction applied to arguments, to a state where the distinction is applied to the first and the second DP of a predicate (Sigurðsson 2006b: 25). The story for the variation in Norwegian would then be that the extension from one state to the other has not happened in all variants. However, there are problems with this account, having to do with the theoretical assumptions that Sigurðsson makes. According to him, Case is not a matter of

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[10] Of course, this variation exists outside the Germanic languages as well. Pereltsvaig (2001) discusses Italian and Russian, where e.g. Russian shows the following kind of variation (Pereltsvaig 2001: 1):

(i)   Čexov   byl pisatel'.   (ii)   Čexov   byl pisatelem.
       Chekhov was writer.NOM   Chekhov was writer.INSTR
       'Chekhov was a writer.'   'Chekhov was a writer.'

narrow syntax, but of the morphological module: "Rather, we must see morphology and syntax as distinct 'languages' or codes, mutually understandable but *foreign* to each other" (Sigurðsson 2006b: 1, emphasis original, see also Sigurðsson 2006a). He further says: "Syntactic approaches to the relational cases have little or nothing to say about this variation [in Germanic]: it is unexpected and mysterious under such approaches" (Sigurðsson 2006b: 25). Contrary to this, I claim that we should try to maintain the traditional view that case is a property of narrow syntax, and further, that it is possible to give a straightforward structural analysis of Case (Chomsky 1995, Hornstein, Nunes and Grohmann 2005, Radford 2004, Uriagereka 1998, forthcoming). If this is possible, it should be a powerful argument against the view that Case is a PF-phenomenon. Guided by the following two principles: i) Case assignment should be equal across all varieties and ii) the analysis should be able to deal with the variation found, I present an analysis which does this in section 4.

3. Previous accounts of copulas

We have seen that there are two challenges that an analysis of copulas has to face: i) copulas are not entirely semantically empty, and ii) the Case variation found with the post-copular element. In this section, I will discuss some earlier approaches to copula structure, trying to show that they face difficulties with the data presented in section two. First, I address the approach based on small clauses represented by important work by den Dikken (2006), Lundin (2003), Moro (1995, 1997, 2000) and Stowell (1995). Second, I discuss the predication phrase approach, pioneered by the work of Bowers (1993, 2001), further developed by Åfarli and Eide (2000, 2001, 2003), Adger and Ramchand (2003), Baker (2003), Eide (1996), Eide and Åfarli (1999) and Mikkelsen (2005).

3.1. The small clause approach

Small clauses are clauses consisting of a subject and a predicate with a tenseless verb or without a verb at all. The motivation of small clauses is to uniformly represent "the subject/predicate relation […] syntactically in terms of a pair of sister constituents" (Stowell 1995: 272). Moro (1995: 112) says that the small clause has two sister DPs, where the one to the left is the subject and the one to the right is the predicate. The opposite case is not licit (see Moro 1995 for discussion). There are at least two potential problems with such an analysis. One problem is, as pointed out by Lundin (2003: 23, based on Haegeman 1998), that two maximal projections cannot be sisters if we do not have adjunction. In later works, Moro says that we are actually dealing with adjunction, where the subject DP is adjoined to the predicate DP (Moro 1997: 56):

(19) $[_{DP = SC} [DP_s] [DP_p]]$

In Moro (2000), (19) is the point of departure where one of the DPs needs to move prior to PF in order to satisfy Kayne's LCA (Kayne 1994). Even if adjunction may be the correct analysis, one empirical fact seems to be problematic for such an account: C-command relations with complex reflexives. If adjunction was correct, we would expect mutual C-command under traditional definitions of C-command (e.g. Chomsky 1995: 339). The data in (20) show that this is incorrect.

(20) a.   Han vil   alltid vere seg sjølv
          he   will always COP   REFL SELF
          'He will always be himself.'

    b.   *Seg sjølv vil alltid vere han
           himself   will always COP   him

This follows from principle A of the binding theory (Chomsky 1986, Chomsky 1995) that says that the antecedent needs to C-command its anaphor. Recently, the small clause analysis has been refined, among others by Lundin (2003). She argues that the structure of the small clause has to resemble the phase analysis proposed by Chomsky (2000, 2001). For a small clause to be a phase, its head has to be a *v*P. A possible weakness is that Lundin (2003) does not discuss copulas explicitly, but I will show below that the optimal phrase structure of copulas has to be similar to hers in important ways.[11]

The most recent analysis of copular clauses has been proposed by den Dikken (2006). The structural relationship is as in other suggestions based on small clauses, though the content is somewhat different. He suggests that the copula heads a 'relator phrase', where the subject is in the specifier of a head 'relator' and the predicate in the complement of the 'relator'. An important point is that the 'relator' does not bear a θ-feature, and that it is a functional head (den Dikken 2006: 23). The latter makes it possible for this head to be differently lexically realized. Specifically, den Dikken mentions copulas and prepositions, but his final suggestion is "any head that relates a predicate to its subject" (den Dikken 2006: 16).

There are a couple of important problems concerning the small clause analysis. It says nothing about the semantic content of the copula together with a complement, and the very possibility that θ-roles in fact are involved in such structures. This also leads to a violation of UTAH because identical thematic structure is not assigned identical syntactic structure. The latter applies to both Moro's (1997, 2000) analyses and den Dikken's (2006) because in both analyses we have a different syntactic structure than what we have with ordinary verbs. Further, it faces problems with respect to Case. The only solution I can think of is the one to be presented in the next section, and it will become apparent that

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[11] Nonverbal small clauses are different, but they are always a complement of a verb and as such resemble argument DPs and PPs. See Lundin (2003) for a treatment of these within her phase framework.

this one faces problems too. Finally, a small clause of the kind that Moro and den Dikken propose is incompatible with the view of bare phrase structure (BPS) (Boeckx 2006, Chomsky 1994, 1995, Hornstein 2005) assumed here, where the label is a copy of a lexical item. Furthermore, a particular head of a phrase cannot be lexicalized by different types of lexemes (i.e. a preposition and a verb) and still be an instance of the same phrase.[12] Hence den Dikken's (2006) structure appears to be at best highly problematic within the BPS.

3.2. The predication phrase approach

Mikkelsen (2005) develops the small clause analysis based on the work of Adger and Ramchand (2003), Bowers (1993, 2001), Moro (1995, 1997) and Svenonius (1994). Her base structure is (21), where the specifier is the referential argument and the complement the predicative argument. Specifically, she claims that the copula is merged in a verb phrase above PredP (Mikkelsen 2005: 167).

(21) $[_{PredP} \, XP_{ref} \, [_{Pred'} \, Pred \, XP_{pred} \,]$

The intuition behind (21) is that the predication relation is syntactically mediated by the projection of a functional head Pred. Hence it is a more or less semantic projection. Den Dikken (2006: 15) sums up the differences as follows:

> For me, the RELATOR in the structure of predicational relationships in [21] is an *abstract* functional head – not a novel lexical category, not even a specific functional element (like T or D or some such), but a placeholder for *any* functional head in the structure that mediates a predication relation between two terms.

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[12] However, a head can of course be realized by different tokens of a type.

According to den Dikken, the structure of predication "represents a syntactic configuration" (den Dikken 2006: 16), whereas the PredP-analysis mainly is a semantic configuration.

The Pred has no phonological exponent in English and Danish (Mikkelsen 2005: 167). Eide (1996), Eide and Åfarli (1999) and Åfarli and Eide (2000, 2001, 2003) argue that the word *som* 'as' in Norwegian is an overt exponent of this head. Evidence supporting their view is for example (22), from Eide and Åfarli (1999: 160).[13]

(22) a.　Vi　så　Jon *(som) spøkelse.

　　　　we saw John *som* ghost

　　　　'We saw John as a ghost.'

　　b.　Vi returnerte pakken　*(som) flypost.

　　　　we returned parcel.DEF　*som* air.mail

　　　　'We returned the parcel as air mail.'

The most articulated analysis of PredP in a typological perspective is Baker (2003). He defines verbs as follows: "X is a verb if and only if X is a lexical category and X has a specifier" (Baker 2003: 23). This further motivates the need for the functional category Pred:

> The basic idea is that only verbs are true predicates, with the power to license a specifier, which they typically theta-mark. In contrast, nouns and adjectives need help from a functional category Pred in order to do this (Baker 2003: 20-21).

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[13] Eide and Åfarli (1999) also argue that the copula can be seen as a lexicalization of the Pred head, but the evidence is somewhat unclear. In fact, if they are correct, the copula bears some semantic content (which they partly acknowledge, cf. fn. 14), which can be taken as supportive of my argument in this paper. Furthermore, I then do not see any compelling reason why the copula cannot lexicalize the V head, which is my suggestion.

Thus, Baker follows Chomsky's account of the verb phrase with ordinary verbs, and only uses PredP with nonverbal predication. This is contra Bowers (1993) who says that all verbs have a PredP. Importantly, Baker provides a number of examples from various languages showing that Pred is only overtly manifested in some cases. One such example is the Nigerian language Edo (Baker 2003: 40), who has what Baker calls a 'copular particle' *yé*:

(23) a.   Èmèrí mòsé.

           Mary   be-beautiful(V)

           'Mary is beautiful.'

     b.   Èmèrí *(yé) mòsèmòsè.

           Mary   PRED beautiful (A)

           'Mary is beautiful.'

(23a) shows that when we have a verbal particle the copula particle is illicit (the same sentence is stared with a copula particle present in Baker and Stewart 1997: 33), but the copula particle is necessary when an adjectival predicate is present. I have nothing further to add about these particular structures here, but as will become evident, my proposal presented below can easily handle these cases as well. Li (2005: 95-106) discusses Baker's PredP-analysis, and criticizes some aspects of it. He claims that Baker does not sufficiently justify the argument that Pred is functional, and Li in fact concludes that it is most likely lexical (Li 2005: 101). This is based on the fact that there exists no empirical evidence which favors a functional Pred, but a conceptual reason exists against it: v and Pred contribute in the same way, hence they should be treated on a par (Li 2005: 101).

      There are in my opinion three problems with the PredP analysis beyond those mentioned by Li (2005). The first problem is that it does not reflect the

possible θ-relations that I have claimed exist with the copula and its complement.[14] If my analysis is correct, we should not have a special projection for this structure as it violates UTAH.

The second problem is related to the understanding of phrase structure presented above. According to this, all labels are heads. That is, they are built from one of the lexical items that are part of the concatenation. In (21) this is not possible, and the phrase structure is therefore illicit in the BPS terms assumed here. Note, however, that if the copula should turn out to be entirely devoid of semantic content, i.e. it does not make any semantic contribution together with the complement, my suggestion would be nothing else than another instance of the PredP analysis, just that we have a phonologically realized head that is semantically empty, instead of the other way around. Within the version of phrase structure used here, this is nevertheless a preferable solution.

The third problem is related to Case, a problem which also affects the small clause analyses presented in 3.1. Within these analyses it is difficult to give a straightforward account of Case. The only solution I can think of is the one Mikkelsen (2005: 174) proposes, where she resorts to default Case in the sense developed by Schütze (1997, 2001) to account both for the Case assignment and the Case differences between English, Danish and Swedish. Schütze (2001: 206) defines default Case as follows:

> The default case forms of a language are those that are used to spell out nominal expressions (e.g., DPs) that are not associated with any case feature assigned [note omitted] or otherwise determined by syntactic mechanism.

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[14] Eide and Åfarli (1999: 176) say that: 'The copula is a verb with a very sparse attributive content which functions a little more than a pure lexicalization of the predication operator'. This also speaks in favor of dismissing the analysis, though Eide and Åfarli conclude differently.

This is somewhat similar to Sigurðsson's (2006a, 2006b) suggestion that Case is phonologically realized, which also resembles the view advocated by Distributed Morphology (Halle and Marantz 1993, see Schütze 2001 for discussion). Default Case is assigned to elements that do not get their Case features valued in narrow syntax. However, as Schütze himself concludes: "A language's choice of default case will not be able to explain the division between Germanic languages with NOM versus ACC postcopular case" (Schütze 2001: 238). Thus I do not present this model in its entirety, but I take his conclusion as supportive of the fact that default Case is highly problematic in general (e.g.: how is this kind of Case discovered by the child, and how is it implemented into UG under current minimalist assumptions?), and importantly, it does not solve the Case problems with copulas. We are therefore forced to look for another solution, and in particular we ought to investigate if it is possible to give a structural account of the variation. Such a solution would be preferable on minimalist grounds because it would mean that the computational system can handle this kind of variation too.

4. A new proposal

Section 3 aimed to show why there is a need for a new perspective on the phrase structure of copulas. In this section, I will give a suggestion for such a perspective. This suggestion rests on the assumptions and arguments presented above, and would of course not be valid if other assumptions were made. In my account the copula is merged in the ordinary verb phrase, which thus ensures that UTAH is fulfilled. This analysis suggests that a phase approach to copulas would solve the question concerning Case variation. Second, I make a short comparison with unaccusative verbs, showing that they resemble one of the Case variants found with copulas.

4.1. The copula as a *v* or a V

When discussing θ-roles, one cannot avoid the question of what exactly a θ-role really is. Some say it is a structural notion related to phrase markers (Hale and Keyser 1993, 2002), others that it is a feature of a given verb (Hornstein 1999, 2001, 2003, Lasnik and Uriagereka 2005, Boeckx and Hornstein 2003, 2004, 2006). I will tentatively assume the latter to hold, adhering to the following criterion (Lasnik and Uriagereka 2005: 225):

(24) Correspondence Criterion on Intelligibility

If a lexical predicate involves *n* semantic features, it must have *n* corresponding arguments.

At the same time, θ–roles also makes it necessary to invoke some notion of locality (Hale and Keyser 2002: 8, Williams 1994), but this is not something that needs to be encoded in the θ-roles themselves. It just follows from how the process of merge operates, and the assumption that all semantic features of a verb (θ-roles) are satisfied within the *v*P (Hale and Keyser 2002). Lasnik and Uriagereka connect this with possible thematic hierarchies (of the sort agent < … < theme), noting that languages fix the order of θ-role mapping, and that this order is close to universal. They therefore suggest that we should introduce the old Theta Criterion again, which is a condition on phrase-markers. Hence, we have two relevant factors when it comes to θ-roles: one semantic and one syntactic. From the latter hierarchical relations also follow, "for the simple reason that […] phrase-markers are hierarchically organized" (Lasnik and Uriagereka 2005: 229). However, beyond 'pure' θ-roles, we also have s-(emantic) selection. In some ways, these two are dealing with the same issue: a demand that some relational properties be satisfied. Pesetsky (1982) offers a thorough discussion of the relationship between θ-roles, c-(ategorial) selection and s-selection. He points at two important factors: First, it is not possible to

unify both θ-roles and c-selection as Chomsky (1981) suggested; evidence from Russian shows that "satisfaction of thematic requirements is independent from the satisfaction of categorial requirements" (Pesetsky 1982: 37). Second, c-selection probably reduces to s-selection (Pesetsky 1982: 181, 204). Thus, s-selection includes c-selection. The question is whether Pesetsky's conclusion about the unification of θ-roles and c-selection is warranted. Evidence like (3) above indicates that it might be possible to unify θ-roles and s-selection (cf. Svenonius 1994), and that the latter is part of the former. I will follow Svenonius's position here and also assume that Chomsky (1981) was correct, being aware that counterexamples might exist though (like the ones pointed out by Pesetsky). Collapsing these notions makes it possible for us to say that θ-roles are labels for various kinds of semantic content: the thematic roles themselves, c-selection and s-selection. The data presented in 2.1 indicates that this is possible, as all the processes seem to be interrelated. As the data also showed, the copula and the complement always select one (external) θ-role.

It is important to remember a crucial detail, which instances of Tough Movement (Chomsky 1981) have taught us. Lasnik and Uriagereka (2005: 229-231) uses the famous (25) as an illustration (see also Hornstein 2001), and say that *John* cannot be inserted as a subject because we do not have a θ-position (25a). Therefore (25b) is also licit.

(25) a.   John is easy (for anyone) to please.
     b.   It is easy (for anyone) to please John.
     c.   __ is easy (for anyone) to please Wh-
     d.   A man who is easy (for anyone) to please is easy (for anyone) to convince

They further point at the fact that *John* is not able to A-move because such a movement would cross over an intervening subject, cf. Relativized Minimality

(Rizzi 1990, Starke 2001). The solution given in Chomsky (1981) is known as Tough Movement, a movement operation similar to *wh*-movement, but in this case of a null operator "that starts its derivational life in the object of *to please*" (Lasnik and Uriagereka 2005: 230) (25c). What the examples in (25) have taught us, is that we cannot insert a subject in a θ-position if the subject does not receive a θ-role. My analysis captures this because I say that the copula and the complement do assign a θ-role, and thus that it is licit to insert a subject into the θ-position of the V. This makes my suggestion different from both of the previous analyses presented in 3.1 and 3.2. They assume a special kind of structure for copula clauses whereas I say that this is not empirically justified. Instead, the data appears to indicate that we should analyze copula clauses similarly to clauses where we have an ordinary verb. Below, I will suggest a specific implementation of this idea.

We need to say something general about Case. It is a common assumption within generative grammar that syntactic rules within narrow syntax apply in identical fashion across languages and that other features take care of the typological variation. We take it as a truism that Case is checked in the same way across all languages, but that the Case in question varies. Within the *v*P analysis, it is assumed that *v* with full argument structure values accusative Case, and that T values nominative Case.[15] Chomsky (2000, 2001, 2004, 2005, 2006) distinguishes between different types of verbs: verbs with full argument structure (*v** in his notation) and verbs without this, like unergatives, unaccusatives and passives. I partly adopt Chomsky's approach in the following.[16]

The view of Case envisioned here entails that the principles of narrow syntax are innate in the child, and not something that needs to be acquired

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[15] Though see Nordström (2006) for arguments that the relation between T and nominative Case is problematic and that *v* is responsible for nominative Case.

[16] See Legate (2003) and Richards (2004) for critical discussion and different conclusions. For criticism of the *v*P in general, see Wechsler (2005) and references therein.

(Chomsky 1986, Guasti 2002). What the child needs to acquire is the different verbs and their s-selection requirements, that is, their θ-properties/-features. Hence, the child has to know the distinctions between transitive and intransitive verbs (and their subclasses), auxiliaries and copulas. Accordingly, the child also discovers which kind of Case that is present. Just as the child is able to distinguish between unaccusatives and unergatives, it is able to distinguish between copulas and other constructions. I will further assume that functional categories are non-universal (cf. Thráinsson 1996: 261, 2003), though the exact nature of this non-universality remains to be worked out.

I assumed above that different verbs have different functional structures. A full transitive verb has a *v*P, but empirical facts seem to show that also unergative verbs have this extended verbal projection. Important evidence comes from Basque, among others (Hornstein, Nunes and Grohmann 2005: 108-109).[17]

(26)   Basque (transitive constructions)

    a. Jonek   Mireni   min **egin** dio.

      Jon.ERG Miren.DAT hurt do AUX

      'Jon hurt Miren.'

    b. Jonek   kandelari putz **egin** dio.

      Jon.ERG candle.DAT blow do AUX

      'Jon blew out the candle.'

(27)   Basque (unergative constructions)

    a. Emakumeak   barre **egin** du.

      Woman.DEF.ERG laugh do AUX

      'The woman has laughed.'

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[17] Thanks to Kleanthes Grohmann and Norbert Hornstein for discussing these data with me.

b. Nik   eztul **egin** dut.

   I.ERG cough do   AUX

   'I have coughed.'

(28)   Basque (unaccusative constructions)

a. Emakumea   erori da.

   Woman.DEF.ABS fallen AUX

   'The woman has fallen.'

b. Kamiokiak   etorri   dira.

   truck.DET.PL arrived AUX

   'The trucks have arrived.'

We see that the light verb *egin* 'do' is not used in unaccusative constructions; hence the light verb projection is not present. However, it is possible to use emphatically (Itziar Laka, p.c. to Christer Platzack, p.c.), which casts some doubt on these data and the hypothesis that the *v*P is not present with all verbs in all languages. However, I'm not sure that emphatic use should be taken as crucial evidence for dismissing with the hypothesis concerning unaccusatives, since emphatic use in general creates differences in several respects. Thus I will continue to assume that the *v*P is not present with all verbs in all languages (following Chomsky's assumptions), and that it is a functional projection that may have different functions. Importantly, it is assumed that the *v* assigns accusative Case as mentioned. In cases where accusative case is not assigned to the verbal complement, like with copulas in one variant of Norwegian and in Sweden, it is likely that the child does not discover the Case-assigning *v* with these verbs. Hence the *v*P should not be present. There seems to be no compelling reason why a *functional structure* cannot differ in this way.[18] After

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[18] Another alternative would be to say that all unaccusatives have a *v*P as well, but that the *v*Ps with different types of verbs have different functions (e.g. that one is a phase and the

all, when we have different types of Case, and we maintain that the Case valuing mechanisms are the same across languages, this seems like a natural step.

This way of thinking seems to get us further towards a structural account of the Case variation found with copulas. Current minimalist tenets exploit the relationship between a probe and a goal (Chomsky 2001, 2004, 2005, 2006). The probe is responsible for valuing the features of the goal, and among these are the Case features. As mentioned, T and *v* are probes in this terminology, and thereby able to value the Case feature of a nominal. A specifier-head relationship (Chomsky 1995) is not necessary, and long distance agreement without movement can therefore be easily handled within this system. Chomsky introduced *phases* in order to handle the computational complexity that derivations are faced with, and current assumptions say that *v*P and CP are phases (Chomsky 2001 and onwards). If we have a phase, the complement of the phase (e.g., the VP of *v*P) is sent to spell-out immediately after the next phase head is merged. Thereby it is inert for further computations. For this reason it is in general impossible for T to assign nominative Case to the internal argument in a clause with a transitive verb.[19]

All of this makes it possible to suggest a phrase structure for the different types of post-copular Cases that we have seen. I suggest the following two structures, where category labels are used for expository convenience, though

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other is not a phase). This would be the stand taken by Collins (1997: 15), except that he also relates the presence/absence of the *v*P to argument structure as well. Nothing crucial would change if further scrutinizing shows that a *v*P is present with all verbs. See also Richards (2004: 91) for implementation of these ideas.

[19] Note that this account of Case is also available under both the analyses presented in section 3 as far as I can see, but these do not, as mentioned, show the θ-relations and do not confirm to the version of BPS assumed here.

there should be no doubt that these structures conform to standard BPS theory.[20, 21]

(29)   Copula version α: Nominative - Nominative: [VP [DP] [V XP]]

(30)   Copula version β: Nominative - Accusative: [vP [DP] [v [VP V XP]]]

In (29) the external argument is merged in Spec-VP and in (30) the external argument is merged in Spec-vP. Only the latter is a phase, and only here do we find accusative Case on the post-copular element. (29) is different because it lacks a vP phase, and therefore T can value both the Case feature of the subject and the post-copular element.[22] Note that we need to assume a slightly different version of Agree in order to make this work, where e.g. the probe can value uninterpretable features within the phase edge as long as it matches the features (see Lohndal 2006 for further details and arguments for why this should not be analyzed as multiple Agree in the sense of Hiraiwa 2001, 2005). When both the complement and the specifier is a DP, the specifier and the complement either have similar Cases or different Cases. Note that I do not assume any differences regarding θ-roles with these structures as it seems very difficult to find any evidence for this.

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[20] It is commonly assumed that the direct object has to move to the outer Spec-vP when accusative Case is valued because Case is valued outside the domain of θ-role assignment (Chomsky 1995, Hornstein, Nunes and Grohmann 2005: 102, Uriagereka 1998: 302-305). I assume this to be correct without further justification.

[21] This suggestion is in general somewhat reminiscent of Platzack (2006), although his Spell-Out rule 'Case as Agree Marker' does not mention phases explicitly.

[22] This also takes care of nominative Case with objects of passive verbs, as in Icelandic. Example (i) shows the passive of a ditransitive verb with a subject in oblique case (Ottósson 1994: 110).

(i)   Í gær   voru konunginum   gefnir hestar
         Yesterday were king.DEF.DAT. given horses.NOM
         'Yesterday, the king was given horses'

A passive VP does not constitute a phase, and is therefore accessible for Case valuation by T. I do not attempt to cover this large area in any detail. See Zaenen and Maling (1990) for an overview of Case, passives and unaccusatives in Icelandic.

Nonverbal predication deserves a short comment since most of the analyses in section three handle these cases as well. First, consider the claim that in Norwegian *som* is an overt realization of the Pred head (section 3.2). These instances can be equally well handled if we treat *som* as a preposition which is another of its functions (Faarlund, Lie and Vannebo 1997). In (22a), repeated here as (31a) the part containing *som* is really an (optional) modifier of the DP. This is also the case in (31b), where *til sjef* is not necessary in order to derive a grammatical sentence.[23]

(31) a.   Vi så   Jon *(som) spøkelse.
            we saw John *som*   ghost
            'We saw John as a ghost.'
      b.   Vi valde han til sjef.
            we chose him *til* boss
            'We chose him as boss.'

In sum, I therefore see no compelling reason for invoking a PredP in cases of nonverbal predication. And in any case, they can be handled under the approach in Lundin (2003), though they are not discussed further here as they go beyond the scope of this article.

4.2. Unaccusatives as a variant of copulas

Let us for a moment have a look at unaccusative verbs and their Case properties. The following structure is commonly assumed for unaccusative verbs (cf., e.g,

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[23] There is a potential problem with this analysis, as the topicalization of (31b) is ungrammatical, contrary to what we would expect (Christer Platzack, p.c.):

(i)   *Han til sjef   valde vi.
           he *til* boss chose we

Hornstein, Nunes and Grohmann 2005: 107, Levin and Rappaport Hovav 1995: 3):

(32) [_{VP} V DP]

As is evident, there is no *v*P phase with unaccusatives according to customary assumptions. Evidence for this is provided from the Basque data in 4.1. Unaccusatives and Case is a somewhat murky area as the complement of these verbs in most cases are promoted to subject. When DP remains within the VP, it is hard to test the Case in Norwegian, because the lack of Case on DPs. Pronouns are inflected for Case, but due to the definiteness constraint they are impossible as the post verbal DP. However, a possible test is the following sentence (Jan Terje Faarlund, p.c.):

(33) Nå   manglar det bare deg/*du.
      Now misses   EXPL only you.ACC/you.NOM
      'Now you are the only one missing.'

(33) contains the unaccusative verb *mangle* 'miss', and we have an expletive in SpecTP. The object is the pronoun *deg* 'you' which has accusative Case. Since the subject is in the canonical subject position, and there is an adverb below it, we can conclude that the pronoun stays in situ in the VP. We see that it is only possible to have accusative Case on the internal argument, which is expected given that the same variety of Norwegian uses accusative Case on the post-copular elements. Thus unaccusatives in Norwegian have accusative Case on the DP when it does not move out of the VP, which entails that a *v*P is present with unaccusatives in Norwegian (contrary to Chomsky's analysis, but in line with Legate 2003, Platzack 2006 and Richards 2004). Looking at other languages, we find that German unaccusatives have a different Case property (34), which also

correlates with the Case found with copulas (35). The same is true for Icelandic ((36)-(37), Kjartan Ottósson, p.c.).

(34) Es kam ein/*einen Mann.

    it   came a.NOM/ACC man

    'There came a man.'

(35) Das sind wir/*uns.

    it   COP we.NOM/us.ACC

    'It is us.'

(36) Það hefur komið maður/*mann.

    it   has come man.NOM/*man.AKK

    'There has come a man.'

(37) Það erum við/*okkur.

    it   COP we.NOM/*us.AKK

    'It is us.'

These data tell us that the common Case with unaccusatives seems to resemble the Case found with copulas. This also conforms to the situation in English: "The *there*-insertion variant is, in any event, possible by virtue of a Case transmission mechanism assigning nominative to the post verbal subject (see Safir 1982, 172 et passim)" (Hale and Keyser 2002: 192).

What we see is that unaccusatives resemble the adequate copula version in the given language: When the unaccusative has accusative Case, like in Norwegian, the copula has too. When the unaccusative has nominative Case, like in German, the copula has nominative Case too. The overall conclusion emerging from these data is that the *v*P is a functional projection that varies with respect to Case. As such, I partly follow those who assume that e.g. unaccusatives do not have a *v*P and partly those who assume that all verbs have the same functional projection. The difference is that I suggest that the presence

of the functional projection is closely tied to Case relations. For transitives this correlates with argument structure, which was the original motivation for the extended verbal projection (Chomsky 1995, Kratzer 1996). If my suggestion proves to be correct, it makes it hard to arrive at a close connection between argument structure and the extended verbal projection in general. However, I will have to leave this question for future investigations.

5. Conclusion

This paper's central aim was to put forward a new proposal concerning the phrase structure of copulas. I have argued that copulas are not devoid of semantic content, which also argues in favor of the presence of θ-roles with these verbs when they have a complement. Locality plays an important role concerning both θ-roles and s-selection, and I have argued that both the verb and the complement contribute with respect to deciding the properties of the subject. This, I claimed, motivates an analysis of copulas as part of the verb phrase, just like most other verbs. Such an analysis also enabled us to handle the Case variation on the post-copular element found in Germanic. I developed an analysis within the phase framework saying that nominative is found when the verb phrase is not a phase. Finally, I showed a similarity between copulas and unaccusative verbs with respect to Case which I claimed license the need for different functional projections in different languages. The latter conclusion may seem a bit ad hoc, but I think the conclusion is quite natural on the assumption that functional projections are created according to what the child discovers in the input.

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