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## 'Surface Proforms' in Norwegian and the Definiteness Effect

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## 'SURFACE PROFORMS' IN NORWEGIAN AND THE DEFINITENESS EFFECT<sup>1</sup>

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1.0 Ross (1969) presented an analysis of auxiliaries that is widely, but not universally accepted. (Cf. e.g. Pullum and Wilson 1977, Falk 1984, Netter 1988.) He proposed that auxiliaries are complement taking verbs, and that epistemic modals are raising verbs, while root modals are equi verbs (or control verbs)<sup>2</sup>. One of Ross' arguments for his analysis was that German root modals allow pronominalization of their complements, while epistemic modals do not. Among his examples were 1-2 (Ross 1969:86-87):

1 Ottokar muss singen, und dass musst du auch

Ottokar must sing, and that must you too.

2 \*Ottokar muss Krebs haben, und dass musst du auch

Ottokar must have cancer, and that must you too

---

<sup>1</sup> For discussion and advice I would like to thank Arild Hestvik, Anders Holmberg, Janne Bondi Johannessen, Øystein A. Vangsnes and Arnfinn M. Vonen.

<sup>2</sup> "the epistemic sense ... qualifies the truth value of the sentence containing the modal", "the root sense ... expresses necessity, obligation, permission, volition, or ability on behalf of an agent" (Platzack 1979:44). It should be mentioned that the relation between syntax and semantics has turned out to be somewhat more complicated than Ross assumed, as raising modals can also have root meanings. (Cf. e.g. Pullum and Wilson 1977:784-85.) This is not important to the present paper, however.

In Norwegian, however, the counterparts of both 1 and 2 are possible. Both root and epistemic modals can pronominalize their verbal complement with the pronoun *det* 'it, that (neuter)',<sup>3</sup> cf. 3-4:

- 3 (Kan du strikke?) Ja, jeg kan det  
(Can you knit?) Yes, I can that  
4 (Kan bussen ha kommet nå?) Nei, den kan ikke det  
(Can the bus have come now?) No, it can not that

With the root modals, this pronominalization is what we expect. They are equi verbs, and Norwegian equi verbs always allow an NP object as an alternative to a verbal complement. (Cf. Lødrup 1991a.) However, if the epistemic modals are raising verbs, this pronominalization is certainly not what we expect. With a pronoun instead of a verbal complement, there seems to be nothing to "raise" the subject "from", or to put it another way, there seems to be no way to identify the thematic role of the raised subject. Burzio's generalization predicts that a raising verb should not take an NP object, because it gives no thematic role to its subject. And the difference between epistemic modals and root modals seems to be non-existent.

Pronominalization of the verbal complement is impossible with other raising verbs. Cf. 5:

- 5 (Kan statsråden sies å fremme forskning?) \*Han forekommer meg det  
(Can the minister be said to promote research?) He seems to me that

(This is also true of raising to object, cf. Fretheim 1974.) Pronominalization is, however, also allowed by the non-modal auxiliaries, to which we return in part 1.1.

Epistemic modals taking *det* as an object is not what we expect. However, even if there are problems with this complement pronominalization,<sup>4</sup> it also has interesting properties that follow from more general principles of grammar. I will first show that *det* with epistemic modals is syntactically different from *det* with root modals, cf. a) - d) below. The general point is that *det* with epistemic modals is subject to restrictions that do not concern *det* with root modals.

<sup>3</sup> Pronominalization with epistemic modals is also possible in the other Scandinavian languages. Icelandic allows pronominalization, even if it is somewhat marginal with the modals *skulu* 'shall' and *munu* 'will' (Kjartan Ottósson, personal communication). Danish also allows pronominalization, however, Vikner (1988:10-11) claims that *det* must be topicalized. In Swedish there seems to be some variation. Kiparsky (1970) and Platzack (1979:46) claim that Swedish does not allow pronominalization, Andersson (1974) claims that it does. (Cf. also the discussion section following Kiparsky 1970.)

<sup>4</sup> For example, I do not know why this pronominalization is unacceptable in subordinate clauses. Cf. e.g.  
(Der er en som kan ha sovnet) ??Og der er en som ikke kan det  
(There is someone that can have slept) And there is someone that can not that

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a) Object shift.

*det* can be shifted with root modals (just like other pronouns with other verbs). With epistemic modals, on the other hand, it is very awkward to shift *det*. (See Frøtheim and Nilsen 1988 on corresponding properties of the auxiliary *gjøre* 'do'.) Cf. 6 with a root modal and 7 with an epistemic modal:

- 6 (Kan du strikke votter nå?) Nei, jeg kan-det-ikke ennå  
 (Can you knit mittens now?) No, I can-that-not yet  
 7 (Kan bussen ha kommet nå?) Nei, den kan ikke dét ??Nei, den kan-det-ikke  
 (Can the bus have come now?) No, it can not that No, it can-that-not

b) Relativization.

With root modals, *det* can be relativized, just like other arguments of other verbs. With epistemic modals, this is not possible (as observed by Thráinsson 1979:279-280 for Icelandic). Cf. 8 with a root modal and 9 with an epistemic modal:

- 8 Det jeg kan er lett  
 That I can is easy (i.e. What I can...)  
 9 \*Det bussen kan er ille  
 That the bus can is bad (i.e. What the bus can...)

c) Possible objects.

The root modals do not allow very many different objects. However, all of them can take NPs like *dette* 'this', cf. 10:

- 10 Dette kan/vil/skal/må/bør/tør jeg ikke  
 This I can/will/shall/must/ought/dare not

The epistemic modals, on the other hand, do not take other NPs than *det*, for example *dette* 'this' is impossible. In a sentence like 10, the modals cannot be interpreted as epistemic modals, only as root modals.

d) The form of the antecedent.

With a root modal, there are no special restrictions on the form of a VP antecedent for *det*. With an epistemic modal, on the other hand, there are such restrictions. The modals generally require their verbal complement to be headed by an infinitive. With an epistemic modal this restriction extends to the antecedent of *det* (cf. 4 above), at least as a general tendency. Cf. 11 with a root modal and 12-13 with epistemic modals<sup>5</sup>:

- 11 (Per sjonglerer/har sjonglert) Det kan/skal/må jeg og  
 (Per juggles/has juggled) That I can/shall/must too

<sup>5</sup> Some examples sound better than 12-13, e.g. (i), and some sound worse, e.g. (ii). I do not know what determines the relative acceptability of such sentences.

(i) (Det kommer mange mennesker hit i mai) (?) Det vil det nok i juni også  
 (It comes many people here in May) That it will probably in June too  
 (ii) (Nå tror jeg Per er fremme i Paris?) \*Det kan/skal/må han.  
 (Now I think Per is there in Paris) That he can/shall/must

- 12 (Nå tror jeg Per reiser jorden rundt) ??Det kan/skal/må han  
 (Now I think Per travels around the world) That he can/shall/must  
 13 (Det har kommet penger til Per) ??Det kan/skal/må det i dag også  
 (It has come money to Per) That it can/shall/must today too

The most important difference between *det* with root modals and *det* with epistemic modals concerns the interpretation of *det*. With root modals there are no special restrictions on the interpretation of *det* (apart from what follows from the verb meanings). With epistemic modals, however, the interpretation of *det* is restricted in a very special way. It cannot be deictic; it must have an antecedent in the linguistic context. Proforms with this property are discussed in Hankamer and Sag (1976), Sag and Hankamer (1984). I will call them surface proforms. To see that *det* must have an antecedent in the linguistic context, consider an example. It is snowing, and I am standing by the window. Looking out, I cannot say 14:

- 14 ??Det kan/skal/må det på fjellet også  
 That it can/shall/must on the mountain too

Consider another example. If I look at a man who is juggling, I can say 15:

- 15 Det vil jeg også  
 That I will too

The modal in 15 can only be interpreted as root, not as epistemic. However, if *det* is supplied with an antecedent in the linguistic context, as in 16, the epistemic interpretation is also possible:

- 16 (Nå vil Per sjonglere) Det vil jeg også  
 (Now Per will juggle) That I will too

The fact that *det* is a surface proform with epistemic modals explains the data in a) - d):

- a) *det* does not shift because object shift in Germanic languages is usually restricted to definite (or specific) NPs. (Cf. e.g. Diesing and Jelinek 1993.) Being a surface proform, *det* is not really definite (or specific).  
 b) - c) *det* does not alternate with a relative pronoun or other NPs simply because *det* is the only Norwegian proform that allows a surface interpretation.  
 d) The antecedent of *det* can be restricted because this is a general property of surface proforms<sup>6</sup>. (Cf. Hankamer and Sag 1976, Sag and Hankamer 1984.)

For an expressed proform to be a surface proform is rather unusual. However, English *so* is in some contexts, e.g. in sentences like 17:

<sup>6</sup> It should be mentioned that surface proforms do not necessarily restrict all morphosyntactic features of their antecedent. For example, zero proforms with epistemic modals in English seem to tolerate a tensed antecedent, cf. e.g. *Bob entered the competition and Paul may*.

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17 (Do you think that Per plays golf?) I hope so

On the other hand, zero proforms are often surface proforms. (See Hankamer and Sag 1976, Sag and Hankamer 1984.) Cf. e.g. 18 with VP deletion and 19 with sluicing:

18 John was cheating and Mary was, too  
19 Someone bought beer, but I don't know who

Zero proforms are to some extent possible with epistemic modals in Norwegian, but not with ordinary raising verbs. Cf. 20-21:

20 (Bussen kan ha kommet nå) ?Kan den virkelig?  
(The bus can have come now) Can it really?  
21 (Kan statsråden sies å fremme forskning?) \*Han forekommer meg  
(Can the minister be said to promote research?) He seems to me

The possibility of a zero proform with epistemic modals is marginal. For some reason it is most acceptable in questions. To the extent that a zero proform is possible, it can only have an antecedent in the linguistic context. Again, this is not true of root modals. They can take a zero proform without an antecedent in the linguistic context. (This is also possible with other equi verbs, e.g. *prøve* 'try'.) If I see a man dive from a cliff, I can say 22 to my friend, while my friend can reply 23<sup>7</sup>. 22 and 23 are not marginal in the way 20 is.

22 Skal vi?  
Shall we?  
23 Jeg vil/tør/kan ikke  
I will/dare/can not

In a generative grammar, surface proforms are fundamentally different from proforms that can be deictic (Hankamer and Sag 1976, Sag and Hankamer 1984). The important point is that constructions with surface proforms behave syntactically as if the surface proform was replaced by its antecedent. To check standard conditions on well-formedness (like subcategorization, theta-marking, case-marking, etc) it is necessary to assume that the antecedent replaces the surface proform at some level of representation<sup>8</sup>. Consider e.g. 24 and 25, in which *Mary* and *who* must get their theta role from (copies of) *cheating* and *bought*, respectively:

24 John was cheating and Mary was, too  
25 Someone bought beer, but I don't know who

<sup>7</sup> The root modals also occur without a verbal complement in sentences with a locative like *Jeg vil ut* 'I want (to go) out'. This is impossible with the epistemic modals.

<sup>8</sup> As an alternative to a treatment in syntax, a semantic approach could be possible, along the lines of semantic approaches to VP-ellipsis in English. (See e.g. the papers in Berman and Hestvik 1992.) I will not discuss this possibility here.

How this replacement is carried out is, of course, dependent on the organization of the grammar. However, the fact that the antecedent does not have to be in the same sentence as the surface proform, and not even uttered by the same speaker, seems to require a weakening of the border of sentence grammar proper.

Within the framework of Lexical Functional Grammar, LFG, functional structure is the level of representation where standard conditions on syntactic well-formedness are checked. It is therefore necessary to assume that surface proforms are replaced by their antecedents in functional structure. (Cf. the treatment of sluicing in Levin 1982.) 26, assumed to have an epistemic modal, has the (simplified) functional structure 27:

26 Han skal spille golf  
He shall play golf

27

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The subject of the modal gets its thematic role by being identified with the subject of the verbal complement. (This is indicated by the curved line.) This identification is given in the lexical entry of the auxiliary. The lexical entry also contains the restriction on the form of the verbal complement. Consider 28:

28 (Skal han spille golf?) Han skal det  
(Shall he play golf?) He shall that

I assume that the antecedent of *det* is copied in and replaces *det* at functional structure. 28 then gets the same functional structure as 26, as given in 27. (But this assumption will be modified below.) The facts about the thematic role of the subject and the restriction on the form of the antecedent then follow. The restrictions on the form of the verbal complement guarantee that the right part of the preceding sentence is copied in, and that the epistemic modals do not get ordinary NP objects or other complements.

We see, then, that epistemic modals are raising verbs even if they can pronominalize their verbal complement. So there is no reason to doubt Ross' analysis of epistemic modals (pace Hagen 1979).

There is, however, a problem involved. What is the grammatical relation of *det*? We could say that *det* has the same grammatical relation as a verbal complement, that is the grammatical relation VCOMP. This would make things easy. Sentences with *det* would satisfy the regular subcategorization requirement of the epistemic modals, and all restrictions on their regular verbal complement would also be restrictions on (the copy of) the antecedent of *det*.

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The problem with the assumption that *det* is a VCOMP is that it makes things too easy. The prediction made is that surface pronominalization is possible with the verbal complements of all raising verbs, and we would need ad hoc stipulations to avoid it. Since our point of departure was that this kind of pronominalization was not to be expected, this is certainly not what we want. Let us say, then, that *det* is an object, or to be more precise a direct object. This assumption implies that its replacement in functional structure is also an object (contrary to the assumption made above). This forces us to state the modal's information about its verbal complement so that it is also true of an object. This might seem to be rather clumsy, but we will see in part 2.0 that there is more evidence for the object analysis<sup>9</sup>.

## 1.1 The non-modal auxiliaries

In Norwegian all raising auxiliaries take surface proforms. Cf. 29-31 with the traditional non-modal auxiliaries:

- 29 (Har du sunget?) Jeg har det  
(Have you sung?) I have that  
30 (Er han forsvunnet?) Han er det  
(Is he disappeared?) He is that  
31 (Ble han kysset?) Han ble det  
(Was he kissed?) He was that

These are all raising verbs. There are also some other raising verbs that could be considered auxiliaries, *pleie* 'use to', *behøve* 'need', *treng* 'need'; and *gjøre* 'do', which is used with VP-topicalization (Fretheim and Nilsen 1988, Lødrup 1990). These verbs also take surface proforms. Cf. 32-33:

- 32 (Pleier du å synge?) Jeg pleier det  
(Do you use to sing?) I use that  
33 (Liker du jordbær?) Jeg gjør det  
(Do you like strawberries?) I do that

With these auxiliaries *det* has the same properties as with the epistemic modals<sup>10</sup>. Again, *det* must have an antecedent in the linguistic context. When I look at a man who is juggling, I cannot say 34:

- 34 ??Det har jeg også  
That I have too

<sup>9</sup> An argument for the object analysis is that it makes it possible to have different restrictions on the VCOMP of the auxiliary and the antecedent of *det*. This possibility is especially useful when we come to the non-modal auxiliaries.

<sup>10</sup> In note 4 it was mentioned that *det* with epistemic modals is unacceptable in subordinate clauses. This is not true of *det* with non-modal auxiliaries, at least not to the same extent. Cf. e.g. (Der er en som har sovet) Og der er en som ikke har det (There is someone that has slept) And there is someone that has not that



Let us go through the list of restrictions on surface proforms with raising modals, using *ha* 'have' as a representative for the non-modal raising auxiliaries:

a) Object shift.

Again it is very awkward to shift *det*, cf. 35:

- 35 (Har du vært i Paris?) Nei, jeg har ikke dét ??Nei, jeg har-det-ikke  
(Have you been in Paris?) No, I have not that No, I have-that-not

b) Relativization.

Again, *det* cannot be relativized, cf. 36:

- 36 \*Det jeg har er ille  
That I have is bad (i.e. What I have...)

c) Possible objects.

Again, the auxiliary does not take other NPs than *det*. In a sentence like 37, the verb cannot be interpreted as an auxiliary, only as a main verb.

- 37 \*Dette har han (\* with auxiliary *ha*)  
This he has

d) The form of the antecedent.

Again, there are restrictions on the form of the antecedent for *det*. Cf. 38:

- 38 (Per kan bo i utlandet nå) ??Det har jeg nettopp  
(Per can live abroad now) That I have just

It should be mentioned, however, that the restrictions on the antecedent of *det* are practiced more liberally by *pleie* 'use to', *behøve* 'need' and *trengje* 'need'; and especially *gjøre* 'do' is very liberal towards the form of the antecedent of *det*.

Another parallel with the raising modals is the marginal possibility for a zero proform, cf. 39:

- 39 (Jeg har vært i Paris) ?Har du virkelig?  
(I have been in Paris) Have you really?

The traditional non-modal auxiliaries are not a homogeneous group, however. The verbs *være* 'be' and *bli* 'become' can be used both as auxiliaries and main verbs. As auxiliaries they take a verbal complement, which I have called a VCOMP, as main verbs they take an AP or NP or PP predicate, which I will call an XCOMP. What is important is that not only the auxiliaries, but also the main verbs *være* and *bli* are raising verbs that take the surface proform *det*. Cf. 40:

- 40 (Er/blir Per formann?) Han er/blir det  
(Is/becomes Per chairman?) He is/becomes that

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In fact, all verbs that can take an NP XCOMP, allow *det* as a surface proform. The antecedent does not have to be an NP, it is enough that the verb can take an NP XCOMP, cf. 41.

- 41 (Er/blir Per sint?) Han er/blir det  
(Is/becomes Per angry?) He is/becomes that

Verbs that can only take a non-NP XCOMP, do not allow *det*, cf. 42:

- 42 (Virker Per lur/\*formann?) \*Han virker det  
(Does Per seem smart/chairman?) He seems that

This means that the distribution of *det* with *være* and *bli* follows from independent properties of the main verbs *være* and *bli*.

## 2.0 The definiteness effect

Why must *det* be a surface proform with raising verbs? The reason might seem to be clear. If *det* could be deictic we would be unable to assign a thematic role to the subject. This makes sense independently of a particular grammatical framework, and could maybe be thought of as a kind of "functional" explanation.

There are, however, other constructions in which *det* must be a surface proform. 43-46 suggest that the need for *det* to be a surface proform is part of a more general phenomenon.

- 43 (Har du hørt om grønt slime på boks?) Det finnes ikke det her  
(Have you heard about green slime in cans?) It does not exist that here  
44 (Er det sant at filmen er forbudt for barn?) Det står det på skiltet  
(Is it true that the movie is forbidden for children?) It says that on the sign  
45 (Tror du at alle får premie?) Det ble sagt det  
(Do you think that everybody gets a prize?) It was said that  
46 (Tror du at Per er lur?) Det forekommer meg det  
(Do you think that Per is smart?) It seems to me that

The classification of 43-46 raises certain problems that cannot be discussed here. However, they all have a formal subject, and it is rather obvious that *det* must be an object<sup>11</sup>.

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<sup>11</sup> Apart from the constructions discussed earlier in this paper, the only contexts that seem to require surface *det* in Norwegian are the ones exemplified in 43-46. Or, to be more exact, they are the only contexts where surface *det* is governed by a verb. There are also surface proforms in sentences like (i) - (ii):

(i) Hun reiste i går og det uten å si et ord (from Leira 1987)  
She left yesterday and that without saying a word  
(ii) A: Jeg skjøt kona mi B: Hvorfor det?  
A: I shot my wife B: Why that?

*det* in 43-46 has the essential properties of surface *det* with auxiliaries. Again there must be an antecedent in the linguistic context; *det* cannot be deictic. If I see some green slime in a bag, I cannot say 47:

- 47 \**Det finnes det på boks også*  
It exists that in cans too

Let us go through the list of properties of surface proforms with auxiliaries:

a) Object shift.

Again it is very awkward to shift *det*, cf. 48<sup>12</sup>:

- 48 (Er batterier inkludert?) Det står ikke dét her ??*Det står-det-ikke her*  
(Are batteries included?) It says not that here It says-that-not here

b) Relativization.

Again, *det* cannot be relativized, cf. 49:

- 49 \**grønt slim på boks som det ikke finnes her i byen*  
green slime in cans that it does not exist here in town

c) Possible objects.

Again, the choice of objects is restricted, even if *det* is not the only possibility. *det* only alternates with NPs that are indefinite, not *dette* 'this', etc.

d) The form of the antecedent.

Again, the form of the antecedent of *det* is restricted by the verb governing *det*, cf. 50:

- 50 (Hvor så du det grønne slimet?) \**Det finnes ikke det i huset*  
(Where did you see the green slime?) It does not exist that in the house

Askedal (1982) assumed sentences like 45 to represent a problem for the definiteness restriction, which prohibits a definite object to a verb with a formal subject. I would like to interpret the facts differently. What the definiteness restriction says is that sentences like 43-46 should not exist with the ordinary definite pronoun *det*, and this is correct. There is, however, no prohibition against the surface proform *det*. We could say that the surface proform *det* is not definite. The main point is, however, that the definiteness restriction, like other grammatical well-formedness restrictions, should apply at a level where *det* is replaced by its antecedent. And the antecedent can not be definite, cf. 50. We see, then, that the definiteness restriction automatically accounts for the obligatory surface interpretation of *det* in sentences like 43-46.

The definiteness restriction is usually assumed to be a restriction on sentences with a formal subject (e.g. Williams 1984, Safir 1987), and it is often assumed to

<sup>12</sup> The unacceptable answer in 48 is OK if the first *det* is a topicalized object. This analysis is irrelevant here.

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be related to case in some way (e.g. Safir 1987, Belletti 1988). As an alternative I would like to propose that the restriction is more general, and that it is related to thematic roles. (Cf. also Vangsnes 1993.) Let us say that the definiteness restriction concerns a direct object of a verb that does not assign a thematic role to its subject. This means that the surface subject must not be linked to any of the thematic roles of the verb. It is not enough that it is not linked to the external role, because of sentences like 51:

51 Per ble gitt ansvaret

Per was given the responsibility

A complication that I will not discuss further is that the verb must also not assign a role to an "extraposed" clausal complement, because of sentences like 52:

52 Det forundrer meg at jorden er rund

It puzzles me that the earth is round

This generalized definiteness restriction automatically accounts for the surface interpretation of *det* with raising auxiliaries. The point is that they do not assign a role to their subject. This is the reason *det* must be a surface proform. If it were not, *det* would be definite, and this would lead to a violation of the generalized definiteness restriction.

Even if I have not investigated the universality of the generalized definiteness restriction, I would like to point out that it gives a correct prediction when it comes to the locative inversion construction in English. Cf. 53 (from Bresnan 1990):

53 Among the guests was sitting my friend Rose

Bresnan (1990) shows that the subject of 53 is *Among the guests*, and the object is *my friend Rose*. Bresnan shows that the subject PP must be linked to a locative role that is selected by the verb. The correct prediction is then that sentences with locative inversion are not subject to the generalized definiteness restriction. (Chichewa is like English here, cf. Bresnan and Kanerva 1989.)

The generalized definiteness restriction is independently motivated by the fact that a pseudopassive only allows an indefinite object, cf. 54:

54 Barna ble skiftet bleier/\*bleiene på

The children were changed napkins/the-napkins on

Pseudopassives do not give their subjects a thematic role, the role of the subject is contributed by the preposition. (I assume that there is no "reanalysis" of the verb and the preposition as a complex verb. Cf. Lødrup 1991b and references there.)

The generalized definiteness restriction does not cover *det* with the verbs *være* 'be' and *bli* 'become', because they take *det* as an XCOMP, not as an object. We saw that the distribution of *det* with *være* and *bli* follows from independent properties of the main verbs *være* and *bli*. There is also an independent definiteness restriction with such verbs. An NP XCOMP is (usually) not definite. Cf. 55-56:

55 Per er lærer

Per is a teacher

56 Per er læreren

Per is the teacher

*lærer* 'teacher' in 55 is indefinite, and is interpreted as a predicate of its subject. The definite *læreren* 'the teacher' in 56, on the other hand, is not a predicate. It is a referring NP, and should not be considered an XCOMP.

It would be tempting to unify the generalized definiteness restriction and the requirement that an NP XCOMP must be indefinite. However, it is not obvious if this is possible and desirable (Higginbotham 1987, Safir 1987).

### 3.0 Conclusion

The possibility for *det* as an object must be stipulated in the lexical entry of the raising auxiliaries. The properties of surface *det* then follow from more general principles of grammar. And there is no reason to doubt the basic insight of the classical Ross analysis of auxiliaries.

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