

Very Exceptional Case-Marking

Marcel den Dikken & Jan-Wouter Zwart
VU Amsterdam (HIL) and University of Groningen

1. INTRODUCTION

Dutch is unique among the Germanic languages in featuring sentences like the one in (1), which is semantically equivalent to the *wh*-construction in (2).¹

- (1) Ik weet hem te wonen
 I know him-ACC to live²
- (2) Ik weet waar hij woont
 I know where he-NOM lives

Constructions of the type in (1) are interesting for several reasons. One immediate question that (1) poses is how the locative semantics expressed by the *te*-infinitive can be given structural shape. But perhaps the most intriguing question posed by constructions of the type in (1) is how the subject of the infinitival clause (*hem* 'him' in (1)) receives Case. Dutch normally does not feature ECM in *te*-infinitival constructions, as the ungrammatical example in (3) shows; the sentence type represented by (1) seems to be the only exception to this generalization.

- (3) * Ik weet hem gek te zijn
 I know him crazy to be

In this paper we will analyze the properties of the very exceptional Case-marking construction in (1). We will argue that the embedded clause in (1) contains an empty locative predicate which raises to the embedded subject position by way of locative inversion. This will enable the logical subject of the embedded clause, *hem* 'him' in (1), to raise to a licensing position in the functional domain of the matrix verb *weten* (the specifier position of AgrOP). This raising to AgrOP is a familiar feature of Dutch standard exceptional Case-marking constructions (4) and control constructions (5) (cf. Vanden Wyngaerd 1989a,b):³

¹ By saying that (1) and (2) are semantically equivalent, we are not saying that the two constructions should receive parallel analyses. In particular, the circumstance that the locative semantics of the embedded clause in (2) is expressed with the aid of a *wh*-operator does not in any way force us to assume that in (1), too, such an operator is present. After all, (2) is only one way of paraphrasing (1); another would be (i):

(i) Ik weet zijn woonplaats
 I know his living-place

(Note that in dialect dictionaries the construction in question is generally found s.l. *waar* 'where'.)

² In the glosses, *live* is always understood as 'have living quarters', never as 'be alive'.

³ We assume raising to the specifier position of AgrOP to account for (at least part of) the more general 'scrambling' phenomenon in Dutch as well, where the direct object is not adjacent to the verb (Vanden Wyngaerd 1989a):

(continued...)

- (4) Ik zie hem komen
I see him-ACC come
"I see him come."
(5) Ik wist hem te vinden
I knew him-ACC to find
"I managed to find him."

We will compare the construction in (1) with these two types of constructions, and argue that the construction in (1) patterns with control constructions rather than with exceptional Case-marking constructions, thus explaining the obligatorily empty character of the locative predicate. Finally, we will compare (1) with the superficially different construction in (6), which is dominant in the Southern Dutch dialects, especially Flemish:

- (6) Ik weet hem wonen
I know him-ACC live
"I know where he lives."

We will argue that (6) must be analyzed exactly like (1). This leads to the conclusion that the presence or absence of *te* is irrelevant for the structural properties of the constructions involved.

We assume the theoretical framework of Chomsky (1993) throughout this paper.

2. DISTRIBUTIONAL PROPERTIES

We will start out discussing the distributional properties of the Standard Dutch construction in (1).

- The MATRIX VERB is always *weten* 'know'; compare (1) with the ungrammatical (7):
- (7) * Ik zie hem te wonen
I see him to live
(intended reading: "I see where he lives")
- The EMBEDDED VERB is always a *positional* verb (*wonen* 'live', *staan* 'stand', *liggen* 'lie', *zitten* 'sit', *hangen* 'hang'):

³ (...continued)

- (i) Ik heb de man *niet* gevonden
I have the man not found
'I did not find the man.'

In the control construction in (5), the object of the embedded verb raises to the specifier position of an AgrOP in the functional domain of the matrix clause. This can be concluded from the fact that the embedded object appears to the left of the sentence negation element *niet* (cf. Koster 1987):

- (ii) Ik wist hem/de man *niet* te vinden
'I did not manage to find him/the man.'

If exceptional Case-marking is to be analyzed as raising to the matrix AgrOP (VandenWyngaerd 1989b), the control constructions in (ii) and (5) (technically) involve 'exceptional Case-marking' of the embedded object.

- (8) Ik weet dat boek te staan
I know that book to stand
- (9) Ik weet dat boek te liggen
I know that book to lie
- (10) Ik weet die kostuums te hangen
I know those suits to hang
- (11) Ik weet die vent te zitten
I know that guy to sit
- (12) * Ik weet die vent te eten
I know that guy to eat

- The EMBEDDED VERB must be *intransitive*:

- (13) * Ik weet (hem) dat boek te leggen (cf. (9))
I know (him) that book to lay
- (14) * Ik weet hem die kostuums te hangen (cf. (10))
I know him those suits to hang

In spite of the fact that the intended semantics of the examples in (13) and (14) is far from unnatural ('I know where he puts that book'; 'I know where he's hanging those suits'), and that the embedded transitive verb used in (14) is actually homophonous to its intransitive counterpart, the sentences in (13)–(14) contrast sharply with the intransitive constructions in (9) and (10).

- No SECONDARY PREDICATES in complement position can be added to the embedded clause:

- (15) * Ik weet dat boek *klaar* te staan/liggen (cf. (8)/(9))
I know that book ready to stand/lie
- (16) * Ik weet die kostuums *uit* te hangen (cf. (10))
I know those suits out to hang (e.g. in the airing cupboard)

Again, even though these examples make perfect sense, they are completely unacceptable.⁴

- Whenever we add an OVERT LOCATIVE PP to examples of the type in (1), this PP is necessarily interpreted as an *adjunct*:

⁴ An apparent counterexample to the generalization that the *weten te wonen*-construction does not allow secondary predication is presented by De Rooy (1969:122), taken from Ward Ruyslinck's *De ontaarde slapers*, a Southern Dutch (Flemish) text:

- (i) sedertdien had ze hem geen ogenblik weten neerzitten
since-then had she him no moment know down-sit

(Recall that in Flemish, the infinitival marker *te* can be left out in the *weten te wonen*-construction.) However, the locative semantics characteristic of the *weten te wonen*-construction is absent from (i). The correct interpretation of (i) is paraphrased in (ii). (ii), involving locative semantics, is not a correct paraphrase of (i):

- (ii) a. She knew that at no moment had he sat down
b. At no moment had she known where he sat down

(i), then, looks like a regular ECM construction of a type that is generally absent from Dutch.

- (17) Ik weet hem in Amsterdam te wonen
 I know him in Amsterdam to live
 "I know where he lives in Amsterdam"
 *"I know that he lives in Amsterdam"

In this example, the locative PP *in Amsterdam* is an adjunct specifying the (unexpressed) location of the embedded subject's living quarters. A sentence of this type is appropriate in a context in which the referent of the embedded subject NP *him* has an apartment in several towns, say Amsterdam and Groningen, only the location of his premises in Amsterdam being known to the speaker.⁵

- The EMBEDDED SUBJECT exhibits the properties of ECM-subjects in preceding matrix sentence adverbials and displaying accusative Case morphology (with pronominals):

- (18) Ik weet *hem* niet te wonen
 I know him-ACC not to live
 "I don't know where he lives."

As we noted earlier on, this property of the construction at hand is perhaps the most elusive one, Dutch featuring no ECM with *te*-infinitives anywhere else in the grammar (except in the obsolete idiomatic expression *Een ieder acht z'n uil een valk te zijn* 'Everyone believes his owl to be a falcon').⁶

- Dutch appears to be the ONLY Germanic language featuring (1). In standard Dutch (1), *te* is obligatory; dialects in the Northeast (Groningen, Drente) and the South (especially throughout Belgium) leave out *te* (see (6)); in Brabant and Zeeland, varieties with and without *te* can both be found (cf. De Rooy 1969).

3. LOCATIVE SEMANTICS AND THE RESTRICTIONS ON THE EMBEDDED VERB

Now that we have sketched out the basic properties of the construction in (1), let us approach its analysis from the perspective of the restrictions on the embedded verb in this construction.

We have pointed out that the embedded verb is always an *intransitive positional* verb (*hangen* 'hang', *liggen* 'lie', *staan* 'stand', *wonen* 'live', *zitten* 'sit'). Mulder and Wehrmann (1989)

⁵ Adjunct PPs may appear in postverbal position, but predicative PPs may not (Hoekstra 1984). This test confirms the status of *in Amsterdam* in (17) as an adjunct:

- (i) Ik weet hem te wonen in Amsterdam
 'I know where he lives in Amsterdam.'
 (ii) Hij wil (in Amsterdam) wonen (*in Amsterdam)
 'He wants to live in Amsterdam.'

⁶ Overdiep (1934) notes that ECM with *te*-infinitives in Dutch improves when the ECM subject is *wh*-moved (cf. Kayne 1984:5 for a similar effect in French):

- (i) a. * Ik acht Piet de geschiktste kandidaat te zijn
 I consider Peter the most-suitable candidate to be
 b. ?? Wie acht je de geschiktste kandidaat te zijn?
 Who consider you the most-suitable candidate to be

We will refrain from discussing this effect in this article.

and Hoekstra and Mulder (1990) have shown that when combined with a locative secondary predicate, these basically unergative verbs may shift to ergativity. In this analysis, the relevant verbs take a locational small clause (SC) complement, consisting of a locative predicate and a subject, which shows up as the surface subject of the sentence.

Thus, a verb like Dutch *zitten* 'sit', which is basically unergative, may turn into a raising verb in the presence of a SC predicate like *op de stoel*, as in the examples in (19):

- (19) a. De man zit (op de stoel)
the man sits (on the chair)
b. de *(op de stoel) gezeten man
the *(on the chair) seated man

The distribution of prenominal attributive past participles is generally taken to be a reliable test for ergativity (cf. Hoekstra 1984). Accepting this, the fact that *gezetten*, the past participle of *zitten*, can be used attributively only if a locative PP like *op de stoel* is present suggests that *zitten* shifts to ergativity in the presence of such a secondary predicate.

That positional verbs can undergo ergative shifts is perhaps even clearer in the example in (20).

- (20) De knikkers zitten in de zak
the marbles sit in the bag
"The marbles are in the bag."

It will be obvious that in this example the marbles are not literally sitting. The verb *zitten* in this case is not predicated of the subject, therefore. Instead, *zitten* behaves essentially like a copula, the surface subject *de knikkers* 'the marbles' being θ -marked by the locative PP *in de zak* 'in the bag'. This PP is the predicate of the SC in the complement of the (ergative) verb, as illustrated in the structure in (21) (word order irrelevant).

- (21) [_{IP} e [_{VP} V [_{SC} NP PP]]]

When we now return to the construction in (1), we can structurally represent the locative semantics of the infinitive by postulating a SC in the complement of the infinitive. The predicate of this SC is an empty locative predicate. This analysis is roughly represented in (22):

- (22) [_{weet} [_{IP} (te) *wonen* [_{SC} *hem* [_{PP} \emptyset]]]]]

Initial support for an analysis of this type comes from the fact that the Dutch verb *wonen* 'live' cannot be used without a locative PP:

- (23) De man woont *(in Amsterdam)
the man lives in Amsterdam

Postulating an empty locational predicate in the structure of the construction in (1) allows *wonen* to meet its selectional requirements here, too. In addition, it explains the fact that no secondary predicates in complement position are possible (cf. (15)/(16)), and the fact that overt locative PPs in the embedded infinitive, as in the example in (17), can only be interpreted as adjuncts.

The latter two properties of the construction in (1) fall out from the fact that the predicate position of the verb's complement SC is occupied by the empty locative predicate in (22), and hence cannot be taken up by any other secondary predicates. Particles like *uit* 'out' in (15) are generated as the predicate of the verb's complement SC, as argued in Den Dikken (1995), and hence are incompatible with the empty locative predicate of the embedded infinitival clause in *weten te wonen* constructions. The AP *klaar* found in *klaar staan* 'stand ready' is likewise the predicate of a complement-SC, and is hence expected to be in complementary distribution with the empty locative predicate in (22) as well. This is borne out by (16). And by the same token, the locative PP *in Amsterdam* cannot be generated in the predicate position of the infinitival verb in (17) since this position is occupied by the empty locational predicate. It may only survive as an adjunct, then.⁷

The latter conclusion, however, also raises a problem. The ungrammaticality of (17) under the intended reading is only explained if we know why *wonen* in this type of construction requires the presence of an *empty* locative predicate, whereas under normal circumstances, as (23) illustrates, the locative predicate selected by *wonen* has to be *overt*.

We will return to this problem below. First, however, we have to illustrate a further property of the construction in (1), involving raising of the empty locative predicate to the subject position of the embedded clause.

4. PREDICATE RAISING

Recall from examples (13)/(14) that the embedded verb in *weten te wonen*-constructions must be intransitive. This property of the construction does not automatically follow from the presence of a locative predicate. It is plausible that transitive verbs like *put* select a complement Small Clause containing a locative predicate. Nevertheless, when a construction with Dutch *leggen* 'put' is embedded under *weten*, in a way comparable to (1), no grammatical result is possible:

- (26) * Ik weet Piet het boek op de tafel te leggen
I know Pete the book on the table to put
- (27) * Ik weet Piet het boek \emptyset te leggen
I know Pete the book \emptyset to put

The ungrammaticality of (26) is expected, since Dutch generally does not allow ECM with *te*-infinitives. However, this restriction was seen not to apply if the embedded clause contains an

⁷ It is perhaps interesting to note that while all verbs embeddable under *weten* in the construction in (1) mean something like 'to find oneself', the very verb *zich bevinden*, which literally means 'to find oneself', cannot be used in this construction:

- (i) * Ik weet dat boek zich te bevinden
I know that book REFL to BE-find

This *prima facie* surprising fact can now be made sense of quite easily, once we acknowledge that the verb *bevinden* is both morphologically and syntactically complex. It consists of the verb *vinden* 'find' and the prefix *be-*, which Hoekstra, Lansu and Westerduin (1987) and others have analyzed as the affixal predicate of the verb's SC complement. Now, given that the prefix *be-* in (i) is essentially the same type of element as the particle *uit* 'out' in (16) and the adjective *klaar* 'ready' in (15), we may understand why it, too, competes with the empty locative particle in the structure in (22), and hence cannot be found in *weten* constructions of the type in (1).

empty locative predicate, as in (1). (27) shows that the exception only holds if the embedded verb does not have an external argument.

In Hoekstra and Mulder's (1990) analysis of locative inversion, there is an intimate connection between the presence of a locational predicate and the absence of an external argument. In their analysis, not only the Small Clause subject, but also the locational predicate of the Small Clause may raise to the structural subject position:

(28) $[_{IP} PP_i [_{VP} V [_{SC} NP t_i]]]$ (cf. (21))

This predicate raising is illustrated in the following well-known case of locative inversion:

(29) Down the hill rolled the baby carriage

(30) $[_{IP} [_{PP} \text{down the hill}]_i \text{Infl} [_{VP} \text{rolled} [_{SC} \text{the baby carriage} [_{PP} t_i]]]]$

In the analysis of Hoekstra and Mulder (1990), the locative predicate *down the hill* moves to the structural subject position. This movement makes it possible for the subject of the SC (*the baby carriage*) to be assigned nominative Case indirectly, via the trace of the raised predicate.

It follows from Burzio's Generalization that in this situation the verb may not have an external argument (which would compete with the SC-predicate for the structural subject position, cf. Burzio 1986).

Assuming this analysis to be basically correct, we may conjecture that the empty locational predicate that we identified in the *weten te wonen*-construction must raise to a subject position internal to the embedded clause. This is illustrated in (31):

(31) $[\text{weet} [_{IP} [_{PP} \emptyset]_i (\text{te}) \text{wonen} [_{SC} \text{hem } t_i]]]$ (cf. (22))

We may also conjecture that predicate raising in (31) bars the presence of an external argument to the embedded verb *wonen*, as expressed in Burzio's Generalization. This would explain the obligatorily intransitive (in fact, ergative) character of the embedded verb in *weten te wonen*-constructions.

However, the analysis also raises a number of questions. First, in Hoekstra and Mulder's analysis of locative inversion, predicate raising serves to facilitate nominative Case assignment to the SC-subject. In *weten te wonen*-constructions, however, this cannot be the motivation for predicate raising, since the SC-subject is assigned Accusative Case. Moreover, as suggested by examples like (18), this Accusative Case is not assigned to the SC-subject *in situ* (whether directly or via the trace of the raised predicate), but in the functional domain of the matrix verb. Second, it is not clear that the embedded predicate, if it raises, would be in competition for some licensing position with the external argument of the embedded verb. After all, the specifier position of IP (whether specified as AgrSP or TP) does not appear to be a licensing position for the subject of the embedded verb, as no Case can be assigned in the absence of tense/agreement features. Third, it is unclear why the locative predicate in *weten te wonen*-constructions *must* move to the embedded subject position. In regular locative inversion constructions, there is always the option of raising the SC-subject and leaving the predicate in place.⁸ Finally, as before,

⁸ In this respect, *weten te wonen*-constructions resemble *there*-constructions, under the analysis of Hoekstra & Mulder (1990) and Moro (1993), in which *there* is a Small Clause predicate which raises to the subject position

(continued...)

the obligatorily empty character of the locative predicate in (31) remains a mystery under this analysis.

We will address these problems in the sections that follow. At this point we merely wish to note that, if these problems can be solved, we have an account of four out of the seven properties of *weten* constructions listed above: we then know why the embedded verb must be intransitive, for otherwise predicate raising is impossible; we know why the embedded verb must be a positional verb, since locative inversion (the type of predicate raising that we are concerned with) by its very nature involves locative phrases; we know why no complement secondary predicates can be inserted in the infinitival clause, since they would compete with the empty locative particle for the single position in the verb's SC complement; and we know, basically by the same token, why overt locative PPs in the infinitival clause must be interpreted as adjuncts.

What we have not yet accounted for are the following properties of the construction: the matrix verb can only be *weten*, the Small Clause subject is assigned accusative Case in the functional domain of the matrix verb, and the distribution of the construction among the Germanic dialects is very restricted.

5. WETEN AS A CONTROL VERB

Let us first address the question of the nature of the Dutch verb *weten* 'know'. This will help to elucidate some of the remaining problems in our analysis of the *weten te wonen*-construction.

Weten 'know' is obviously semantically related to the verb *kennen* 'know'. Yet the two verbs differ remarkably in their distribution. *Kennen*, for instance, does not take clausal complements of any kind:

- (32) Ik weet/*ken dat hij komt
 I know that he comes

It is not surprising, then, that *kennen* does not appear as the matrix verb in *weten te wonen*-constructions:

- (33) * Ik ken hem te wonen
 I know him to live

On the other hand, both *weten* and *kennen* appear to take noun phrase complements:

- (34) Ik ken/weet de oplossing
 I know the solution

Yet it makes quite a difference which verb is selected. *Ik ken de oplossing* means 'I am familiar with the solution', whereas *Ik weet de oplossing* is more properly paraphrased as 'I know where the solution lies'. The hidden locativity in the latter paraphrase is even clearer in an example like (35):

⁸ (...continued)
obligatorily.

- (35) Ik ken/weet een bakker
I know a baker/bakery

Bakker 'baker' can be used to refer to a person who is a baker, but also to refer to the place where a baker makes or sells his bread. *Ik ken een bakker* means 'I am acquainted with a baker', whereas *Ik weet een bakker* means 'I know where there is a bakery'.

The similarity of the latter paraphrase with the *weten te wonen*-construction is striking. Consider in this respect the interpretation of the following construction, with an overt locative element *hier* 'here'.

- (36) Ik weet hier een bakker
I know here a bakery

Hier in (36) can only have an adjunct interpretation. Thus, (36) does not mean 'I know that a bakery is at this place' but 'I know where in this area there is a bakery'. As we have seen, the obligatory adjunct interpretation of a locative element is one of the properties of the *weten te wonen*-construction (cf. (17)).

Above, we explained the obligatory adjunct interpretation of overt locative material in (14) by assuming that there is an empty locative predicate in the embedded clause. By the same token, we are led to assume that there is an empty locative predicate in (36).

This suggests that *weten* in fact always selects a propositional complement, whereas *kennen* always selects a noun phrase complement. Strange as it may seem, this leads to the conclusion that constructions in which *weten* appears to select a noun phrase complement (such as (34)-(36)) are exceptional Case-marking constructions.

This conclusion may be supported by the observation that what appears to be the object of *weten* cannot be passivized, in contrast to the object of *kennen*:

- (37) De oplossing wordt door iedereen gekend/*geweten
the solution is by everyone known

As is well known, exceptionally Casemarked noun phrases cannot be passivized in Dutch (De Geest 1972):⁹

- (38) Ik hoor Kaatje zingen - *Kaatje wordt horen zingen
I hear Cathy sing - Cathy is heard sing
(39) Ik probeer hem te vinden - *Hij wordt geprobeerd te vinden
I try him to find - He is tried to find

At this point, we may conclude that *weten* either selects a tensed complement clause, as in (32), or a (nontensed) Small Clause complement containing a locative predicate, as in (34)-(36). The *weten te wonen*-construction can then be analyzed as a more complicated version of the second type, with the locative predicate embedded under a locational verb. Note, however, that this still does not explain why the locative predicate has to be empty.

⁹ See note 3 for the idea that the object of the embedded clause in (39) is Case-marked in the specifier position of a matrix AgrOP, technically constituting a case of exceptional Case-marking.

In order to propose a solution to this problem, we would like to suggest that, when it selects a nontensed complement, *weten* is really a control verb. The locative predicate is then to be considered a PRO element, controlled by the verb *weten* itself. We can now exploit this to force predicate inversion in the complement of *weten* in the *weten te wonen*-construction.

The observations regarding the difference between *kennen* and *weten* made above suggest that *weten* incorporates an element of knowing (presumably also present in *kennen*) and an element of location. We would like to assume that it is this element of location that controls the empty predicate in the complement domain of *weten*.

It is well known that the dependent element in the control relation, PRO, must occupy the subject position of the complement to the control verb (cf. Chomsky 1981). Thus, the following is not a possible control construction:

(40) * John tries the dog to bite PRO

It has been noticed that neither the theory of Case, nor the theory of government provides an adequate explanation for the subject restriction on control (see, among others, Andrews 1982, Koster 1987, Zwart 1988, Vanden Wyngaerd 1994). At the same time, it has been noticed that if the control complement contains an unaccusative or passive verb, PRO must appear in the subject position, even though standard mechanisms for explaining such raising (Case licensing) are inoperative in control constructions. In other words, PRO raises to the subject position in (41), even though there can be no Case theoretic explanation for the raising:¹⁰

(41) John tried [PRO_i to arrive t_i on time]

Thus, it appears to be the case that PRO must be in a subject position, and that this requirement is strong enough to force a raising operation independently of considerations of Case and government.

Whatever explains this generalization will also explain the raising of the empty locative predicate in *weten te wonen*-constructions. Since, as we have proposed, the empty predicate is controlled by the matrix verb *weten*, it will have to raise to the subject position of the complement of *weten*.

Thus, the hypothesis that *weten* is essentially a control verb explains one of the mysterious properties of the *weten te wonen*-construction, namely the obligatory raising to subject of the empty locative predicate.

At the same time, this hypothesis goes a long way towards explaining another mystery, namely the fact that the locative predicate in *weten te wonen*-constructions is obligatorily empty. That PRO must be empty is a well established, if not fully explained property of control constructions.

Finally, we have an explanation for the fact that the matrix verb in (1) can only be *weten*. This is explained by our assumption that *weten* has the lexical property of incorporating an element of locative semantics, and thus becomes available as a controller for the empty locative predicate.

¹⁰ We will address the hypothesis that PRO is assigned a Null Case below (cf. Chomsky and Lasnik 1993, Martin 1992).

6. THE POSITION OF THE CONTROLLEE

Let us summarize our analysis of the construction in (1) so far.

Weten takes a clausal complement and controls a locative PRO. The complement of *weten* therefore must contain a locative predicate, which must raise to the structural subject position of the complement. In the *weten te wonen*-construction, the locative predicate is contained in a Small Clause, embedded under a positional verb (*wonen, zitten*, etc.). The raising of the predicate to the subject position is therefore comparable to locative inversion as analyzed in Hoekstra and Mulder (1990).

Notice, however, that predicate raising is motivated differently in the two types of construction. In locative inversion constructions, predicate raising serves to license the Small Clause subject in an indirect way, through the trace of the raised predicate. In the *weten te wonen*-constructions predicate raising is necessary to meet the requirements on control configurations.

This discrepancy suggests that the ultimate explanation for predicate raising in either case is missed.¹¹ However, we can generalize over locative inversion constructions and *weten te wonen*-constructions if we assume a construction independent trigger for predicate raising. We assume temporarily that this trigger is provided by the extension of the Projection Principle, as proposed in Chomsky (1981):

(42) Clauses must have a subject in overt syntax.

Obviously, (42) needs to be derived, but we will not attempt to do so in this article.

Notice, however, that (42) is instrumental in accounting for another mysterious property of the *weten te wonen*-construction, namely that fact that the embedded verb may not have an external argument.

In standard locative inversion constructions, this property is neatly explained by Burzio's Generalization (see above). In the *weten te wonen*-construction such an explanation is less straightforward. Since the embedded clause does not have tense and agreement features, the subject position of the embedded clause would not count as a licensing position for the external argument anyhow. It is hard to see how the locative predicate and an external argument could be in competition for the subject position in the embedded clause. Yet it is this competition that derives the obligatory absence of the external argument under Burzio's Generalization.

¹¹ The idea that in locative inversion constructions the Small Clause subject remains *in situ* is not compatible with the idea, advanced in Kayne (1994), that all languages have a basic SVO structure. To see this, consider locative inversion constructions in Dutch (cf. Zwart 1992). If Dutch is head initial, as argued in Zwart (1993, 1994), the Small Clause subject ought to show up to the right of the verb in embedded clauses, contrary to fact:

(i) ..dat er in de kast (een lijk) zit (*een lijk)
that there in the closet (a corpse) sits (a corpse)
"..that there is a corpse in the closet."

In (i), the raised locative predicate is *er* 'there' (cf. Hoekstra and Mulder 1990, Moro 1993), *in de kast* 'in the closet' is an adjunct (as it can appear in postverbal position, not illustrated here; cf. note 5), and the verb *zit* is in a relatively low position, presumably in V. As can be seen, the Small Clause subject must appear to the left of the verb. Adopting the argumentation in Kayne (1994) and Zwart (1993, 1994), we must conclude that the Small Clause subject has also raised to a functional projection. If so, it cannot be licensed *in situ* through the trace of the raised predicate, and licensing of the Small Clause subject appears not to be the trigger for locative inversion.

In other words, one could imagine a derivation of (43) in which the predicate moves to the embedded Spec,IP, while the external argument and the Small Clause subject move to licensing positions in the functional domain of the matrix verb:¹²

(43) * ..dat ik hem dat boek weet te leggen
that I him that book know to put

(44) [_{AgrOP} hem_i [_{AgrOP} [dat boek]_j [_{VP} weet [_{IP} \emptyset_k [_{VP} t_i leggen [_{SC} t_j t_k]]]]]]]

As noted in Chomsky (1993), A-movement generally yields crossing paths rather than nesting paths. But as (44) shows, this requirement would be met in the derivation of (43).

Apparently, if the embedded verb has a syntactically realized external argument, and the embedded clause contains a structural subject position, only the external argument may occupy the structural subject position. We will assume that this generalization is correct, without attempting to derive it here. If so, there can be no syntactically realized external argument of the embedded verb if the embedded predicate must be controlled by the matrix verb *weten*. The ungrammaticality of (43) will then be as expected.

Notice that the analysis of control in *weten*-constructions allows for various other construals. For instance, we cannot exclude the possibility that the controller is not the locative element incorporated in *weten*, but, for instance, the external argument of *weten*. If that is the case, the controllee can no longer be the embedded predicate, but must be a noun phrase.

We predict, then, that in that case the presence of an external argument of the embedded verb will not be blocked. For then, the external argument could move to the embedded subject position and function as the controllee of the matrix subject.

This type of construction is indeed instantiated in Dutch. It is illustrated in (5), repeated here:¹³

(5) Ik wist hem te vinden
I knew him to find
"I managed to find him."

In (5), there is no empty embedded predicate, controlled by the matrix verb *weten*. This can be concluded from the fact that overt locative predicates in the embedded clause are not excluded:

(45) Ik wist hem de sloot in te duwen
I knew him the ditch into to push

¹² On the assumption that scrambling involves movement to AgrOP (see note 3), the position of the sentence negation element *niet* indicates that there must be *two* AgrOPs in the functional domain of the matrix clause, each licensing an argument of the embedded verb:

(i) ..dat ik hem dat boek niet zie lezen
that I him that book not see read
'..that I don't see him read that book'

¹³ The verb *weten* in the construction in (5) may (but need not) feature an element of locative semantics. This might be accounted for on the assumption that *te vinden* may be analyzed as a modal passive taking a Small Clause complement with an empty locative predicate. We will not explore this possibility here.

"I managed to push him into the ditch."
 *"I knew where to push him into the ditch."

Postpositional PPs in Dutch, like *de sloot in* 'the ditch into', are exclusively used as Small Clause predicates (cf. Hoekstra 1984). As the translations indicate, there is no hidden locative predicate present in addition to the overt Small Clause predicate *de sloot in*. As expected, the following sentence is also grammatical, with *Piet* controlling the embedded external argument:

(46) Piet wist het boek op de tafel te leggen (cf. (26))
 Pete knew the book on the table to put
 "Pete managed to put the book on the table."

Thus, the change in the control relation lifts the ban on external arguments. Indeed, as expected, it removes the possibility of having an empty locative predicate in the embedded clause:

(47) Piet wist het boek *(op de tafel) te leggen
 Pete knew the book on the table to put

This supports our hypothesis that the empty predicate is licensed by a relation of control. Consider next the control configuration in (48):¹⁴

(48) ? Piet wist in Amsterdam te wonen
 Pete knew in Amsterdam to live
 "Pete managed to live in Amsterdam."
 *"Pete knew where to live in Amsterdam."

In (48), as in (47), the controllee is the subject of the embedded verb (here, *wonen*). Crucially, *in Amsterdam* in (48) has the reading of a predicate, not of an adjunct. As is clear from the translation, there is no hidden locative predicate in the embedded clause, controlled by the matrix verb *weten*.

This is exactly as predicted by our analysis. The subject of the Small Clause moves to the embedded subject position, where it is controlled by the matrix subject. As a result, the control relation between the matrix verb *weten* and an empty locative predicate cannot be realized. As predicted, the locative predicate must be overt:

(49) * Piet wist te wonen
 Pete knew to live
 "Pete managed to live."

In sum, the alternative control relations that are predicted by our analysis are indeed instantiated. When these alternative control relations are realized, it becomes impossible for the embedded

¹⁴ Sentence (48), like its English translation, is somewhat marginal. We believe that this is due to a violation of the requirement that the subject of the complement of a control verb of the *promise* type must be agentive (cf. Sag and Pollard 1991). Some agentivity must be implied in the complement clause of (48) for the sentence to be felicitous (i.e. 'Pete managed to bring it about that he could live in Amsterdam.').

predicate to be empty (and controlled by the matrix verb). This provides strong support for our analysis of *weten te wonen*-constructions as control constructions, and for our analysis of locative inversion in the embedded part of this construction.

We have now provided an answer to most of the problems for the predicate raising analysis that were identified above. Raising of the empty predicate in *weten te wonen*-constructions is motivated by the need to create a control configuration, where the empty predicate is controlled by the matrix verb *weten*. It also follows that raising is obligatory, that the predicate must be empty in these constructions, and that the matrix verb can only be *weten*. The obligatory absence of an external argument in the embedded clause is explained on our assumption that the external argument has to occupy the structural subject position in the embedded clause, and hence blocks the possibility of predicate raising.

There are two more points we need to address. First, we need to specify how the Small Clause subject in *weten te wonen*-constructions is structurally licensed (assigned Case). Second, we need to account for the limited distribution of the *weten te wonen*-construction among Germanic dialects.

7. (VERY) EXCEPTIONAL CASE-MARKING

So far, we have not been explicit about the status of the complement of *weten* in constructions like (1). We have designated the complement as IP, and have crucially assumed that the IP provides a subject position, which is the designated position for the controllee in control relations.

The exact status of the IP-category becomes relevant when we wish to ascertain how the Small Clause subject is assigned Case. As (18), repeated here, shows, the subject must be licensed in the functional domain of the matrix verb:

- (18) Ik weet *hem* niet te wonen
 I know him-ACC not to live
 "I don't know where he lives."

IP therefore must not block movement of the Small Clause subject to the functional domain of the matrix verb.

It can be concluded from (50) that the complement of *weten* in the *weten te wonen*-construction must be smaller than CP:

- (50) Ik weet hem (*om) te wonen - Ik weet (*om) hem te wonen
 I know him COMP to live - I know COMP him to live

Control constructions in Dutch can be expressed with or without the infinitival complementizer *om*:

- (51) Jan probeert (om) de wedstrijd te winnen
 John tries COMP the match to win

Only when *om* is absent can the embedded object appear to the left of the matrix verb (in embedded clauses):

- (52) ..dat Jan de wedstrijd probeert (*om) te winnen
that John the match tries COMP to win

Traditionally, *om* is considered to signal the CP-status of the embedded clause. If *om* is present, the CP does not allow scrambling of its embedded object to the functional domain of the matrix clause. As (18) and (50) show, the embedded clause in *weten te wonen*-constructions cannot be CP.

Certain control verbs that allow scrambling of elements of the embedded clause to the functional domain of the matrix clause optionally show the Infinitivus Pro Participio effect in the perfect tense:¹⁵

- (53) ..dat hij de wedstrijd heeft proberen/geprobeerd te winnen
that he the match has try/tried to win

In *weten te wonen*-constructions, the infinitive *has* to replace the participle:

- (54) ..dat ik hem heb weten/*geweten te wonen
that I him have know/known to live
"..that I knew where he lived."

In this respect, the *weten te wonen*-construction resembles standard ECM-constructions:

- (55) ..dat ik hem heb zien/*gezien komen
that I him have see/seen come

However, the presence of *te* in (54) suggests that the embedded clause has more structure in *weten te wonen*-constructions than in standard ECM-constructions.

We will assume that in *weten te wonen*-constructions the embedded IP equals a [-tense] TP, whereas the embedded clause in standard ECM-constructions lacks TP altogether.

Our hypothesis that the embedded clause in (1) has some functional structure on top of the VP headed by *wonen* is supported by a comparison of (1) with more standard ECM-like constructions involving *weten*.

As we noticed above, *weten* does not in general allow ECM:

- (56) a. * Ik weet hem vriendelijk
I know him friendly
b. * Ik weet hem een aardige jongen
I know him a nice boy
c. * Ik weet hem in z'n element
I know him in his element
d. * Ik weet hem komen

¹⁵ Other control verbs show the Infinitivus Pro Participio effect obligatorily. Among these is *weten* in the sense of 'manage':

- (i) Ik heb hem weten/*geweten te vinden
I have him know/known to find
"I managed to find him."

I know him come

Nevertheless, there is a class of constructions in which *weten* takes a SC-complement, the subject of which is exceptionally Casemarked in the domain of the matrix verb. This class of constructions is illustrated in (57):

- (57) a. Hij weet zijn gezin veilig
he knows his family safe
b. Hij wist zich verzekerd van de steun van de premier
he knew himself assured of the support of the prime minister

Remarkably, *weten* in these constructions is not a factive verb. Thus (58) does not preserve the presupposition that the family is safe:

- (58) Niemand wist zijn gezin veilig
nobody knew his family safe
"Nobody was sure about the safety of his family."
*"Nobody knew that his family was safe."

In contrast, (59) does not cancel the presupposition that the book is lying somewhere:

- (59) Niemand wist het boek te liggen
nobody knew the book to lie
"Nobody knew where the book was lying."
*"Nobody was sure whether the book was lying somewhere."

As is clear from the translation in (58), the regular ECM constructions with *weten* illustrated in (57) lack hidden locativity.

We assume that the factive character of the embedded clause in *weten te wonen*-constructions is given structural shape by the TP-projection, and that regular, non-factive ECM-complements lack TP.¹⁶

Apart from this difference, we assume that the *weten te wonen*-construction and regular ECM-constructions do not differ with respect to the way in which noun phrases originating in the embedded clause are licensed. We assume, following Vanden Wyngaerd (1989b), that exceptional Case-marking consists in A-movement of a noun phrase from the embedded clause to the specifier position of an Agreement Phrase in the matrix clause.

The obvious locality condition on this movement, that it may not cross a tensed CP-node, is met in the *weten te wonen*-construction. Another condition, noticed in Chomsky (1993), is that in case more than one constituent moves in this fashion, the movements must be crossing rather than nesting. This condition is met, since the predicate moves to the embedded Spec,TP, and the

¹⁶ That regular ECM-complements are not factive is clear from the fact that in (i), in contrast to (ii), it need not be the case that Mary is singing:

- (i) Nobody heard Mary sing
(ii) Nobody heard that Mary was singing

Small Clause subject moves to an Agreement Phrase in the matrix clause, crossing the embedded Spec,TP.¹⁷

Finally, it is worth noting that our analysis allows for licensing of PRO through spec-head agreement with a [-finite] head T, as articulated in Chomsky and Lasnik (1993) and Martin (1992).

8. THE DISTRIBUTION OF THE CONSTRUCTION AND THE PRESENCE OF *te*

In closing, let us address the question of the distribution of the *weten te wonen*-construction among Germanic languages and dialects.

As far as we have been able to ascertain, the construction only appears in Continental West Germanic dialects, in particular Dutch (and its dialects) and Frisian. In German, the construction parallel to (1) is not attested, but Paul (1992:1052, s.l. *wissen*) does mention the construction parallel to (6):

- (6) a. * Ich weiß ihn zu wohnen
I know him to live
b. Ich weiß ihn wohnen
I know him live
"I know where he lives."

We have no information regarding the distribution of (60b) among dialects and registers of German.

The extremely limited distribution of the *weten te wonen*-construction may have to be reduced to idiosyncratic properties of the verb *weten* 'know'. However, this leaves unexplained why verbs of knowing in other languages do not have the same properties, and why the cognate of *weten* in e.g. the Scandinavian languages does not allow the same type of construction. We will refrain from discussing this murky question here.

What we do wish to discuss here is the presence of the infinitival marker *te* in the 'very ECM-construction'. The German example given by Paul lacks the infinitival marker. Interestingly, this is the case in many dialects of Dutch (as was already illustrated in (6)).

- (6) Ik weet hem wonen

De Rooy (1969) presents data on the distribution of the variant without *te*, based on a map for sentence 77 of the *Reeks Nederlandse Dialectatlassen*. He shows that the variant without *te* is the only one used in the dialects of Groningen and Drente (in the Northeast of The Netherlands), in the dialect of Zeeuws Flanders (in the Southwest of The Netherlands), in the dialect of Limburg (in the South East of the Netherlands), and in the dialects spoken in Belgium. The variant with *te* is the only one used in the dialects spoken in North and South Holland, Utrecht,

¹⁷ We ignore for the time being the way the crossing requirement on A-movement has been formalized in Chomsky (1993), viz. in the Equidistance principle. A problem with our assumptions is that the derivation of a subject control construction like *Ik wist hem te vinden* 'I managed to find him' appears to involve nesting paths: the embedded subject moves to Spec,TP, and the object *hem* moves to the matrix clause, crossing both the basic position of the embedded subject inside VP and the Spec,TP position.

Gelderland and Overijssel, basically the area north of the River Maas (Meuse), with the exception of Groningen and Drente. In Zeeland, North Brabant, and the northern part of Limburg, both variants are used.¹⁸

The construction without *te*, exemplified in (6), has exactly the same properties as the Standard Dutch construction in (1), on which we have focused our attention so far. Thus, the embedded clause in (6) shows hidden locativity, and all the features that lead us to suppose that there is an empty predicate which raises to the subject position of the embedded clause. If our analysis is correct, this means that the complement clause in (1) must be a TP, regardless of the presence of the infinitival marker *te*.

The status of *te* is somewhat mysterious. As argued in Zwart (1993), the term 'infinitival marker' is a misnomer, since many infinitivals lack *te*. Moreover, the morphological element expressing non-finiteness is the suffix *-∂* (*-n* in Northeastern dialects), spelled as *-en*. The apparently arbitrary presence or absence of *te* in the *weten te wonen*-construction across dialects seems to confirm the idea that *te* is not a morpheme that spells out 'non-finiteness'.

This, however, does not answer the question why *te* is present in some dialects but not in others. We would like to advance the hypothesis that the *te*-less variant in (6) is the original construction for all dialects, and that the variant with *te* of Standard Dutch (and other dialects) was created by analogy with the control construction *Ik weet hem te vinden* 'I can find him' discussed above and illustrated also in (5) (see Fischer 1994 for a similar suggestion).

This hypothesis predicts that in dialects where (5) is absent, *weten wonen* will never develop into *weten te wonen*. The information from dialect dictionaries of the Flemish dialects (*Idioticons*) leads us to believe *weten te vinden* is indeed absent from these dialects.¹⁹ This would account for the absence of *te* in the dialects spoken in Belgium.²⁰ Presumably, the dialect of Zeeuws Flanders patterns with the Flemish dialects in this respect.

We do not know, however, whether this explanation carries over to the dialects spoken in Limburg, Groningen, and Drente. Similarly, it probably does not explain that German, if it has the *weten (te) wonen*-construction, must have it without *zu*.

A generalization that may be promising, is that all these dialects/languages, unlike Standard Dutch, show a V_2 - V_1 order in verbal clusters in embedded clauses. That is, in verbal clusters the linear order is the mirror image counterpart of the hierarchical order, with auxiliaries following participles, modal verbs following infinitivals, etc:

- (61) a. ..daß er es gemacht hat German
 that he it done has
 "..that he did it."

¹⁸ In the Flemish-speaking area of Northern France (north of Dunkirk), the construction is not attested, with or without infinitival marker.

¹⁹ During our presentation of this material at the CGS Workshop, Liliane Haegeman (West Flemish) told us that *weten te vinden* was part of her dialect. Wim de Geest (East Flemish), however, confirmed our suspicion that the construction would be absent from his dialect. Possibly, *weten te vinden* is making its way into Flanders, without being able to affect the now idiomatic phrase *weten wonen* anymore.

²⁰ Another explanation would capitalize on the fact that many control constructions in these dialects (involving *durven* 'dare', *beginnen* 'start', *proberen* 'try', etc.) lack *te* as well. However, if the control construction *weten te vinden* does not exist in the dialects, this fact is irrelevant. The maps appended to De Rooij's (1969) paper on *durven* + infinitive and *weten* + infinitive constructions display many discrepancies between the two constructions as far as the distribution of *te* is concerned. It would be fruitless, therefore, to try and establish a connection between (6) and *te*-drop in *durven* type constructions.

- (62) b. * ..daß er es hat gemacht
 a. ..daß er es machen kann
 that he it do can
 "..that he can do it."
 b. * ..daß er es kann machen

The dialects of Groningen, Drente, and Limburg pattern with German in this respect. In Standard Dutch, both (61a) and (61b) are acceptable (with a clear preference for (61a) in colloquial Dutch), but the modal verb has to precede the infinitival.

In control constructions, German allows two word orders for some verbs:

- (63) a. ..daß er zu kommen versucht
 that he to come tries
 "..that he tries to come."
 b. ..daß er versucht zu kommen

Standard Dutch, however, only allows the order in (63b):

- (64) a. * ..dat hij te komen probeert Dutch
 that he to come tries
 b. ..dat hij probeert te komen
 "..that he tries to come."

We would like to suggest that the subject control *weten te*-construction in (5) will only influence the *weten wonen*-construction and yield a *weten te wonen*-construction if the verb-complement order is fixed, as in (64). If the verb-complement order is fixed, the *weten te*-construction may easily acquire an idiomatic character. This in turn increases the chance of contamination with parallel constructions, like the *weten wonen*-construction.

In order to test this hypothesis, we would have to gather more data from the relevant dialects. This, then, is a question we have to leave for further study.

9. CONCLUSION

Let us now sum up our major findings. We have presented an analysis of the Dutch construction in (1) which centers around the following instrumental claims:

1. *Weten* 'know' may incorporate an element of locative semantics; if it does, *weten* controls an empty locative predicate in its complement domain.
2. The complement of *weten* in this case is a TP.
3. The empty locative predicate is raised to the Spec,TP as an instance of locative inversion; it is generated as the predicate of a Small Clause, embedded under a locational verb like *wonen*, *zitten*, etc.
4. The subject of the locative predicate is licensed in the specifier position of an AgrOP in the functional domain of the matrix verb *weten*.
5. The element *te* has come to be present in (1) on the analogy of the subject control construction in (5).

In this way, the seemingly very exceptional character of the Case-marking of the embedded subject in (1) can be analyzed in the same way as regular exceptional Case-marking in AcI-constructions and control constructions in Dutch.

REFERENCES

- Andrews, A. (1982). 'The Representation of Case in Modern Icelandic,' In J. Bresnan, ed., *The Mental Representation of Grammatical Relations*. MIT Press, Cambridge.
- Burzio, L. (1986). *Italian Syntax. A Government Binding Approach*. Reidel, Dordrecht.
- Chomsky, N. (1981). *Lectures on Government and Binding*. Foris, Dordrecht.
- Chomsky, N. (1993). 'A Minimalist Program for Linguistic Theory,' In K. Hale and S.J. Keyser, eds., *The View from Building 20*. MIT Press, Cambridge. 1-52.
- Chomsky, N. and H. Lasnik (1993). 'The Theory of Principles and Parameters,' In J. Jacobs *et al.*, eds., *Syntax: An International Handbook of Contemporary Research*, Vol. 1, 506-569. Mouton de Gruyter, Berlin.
- Dikken, M. den (1995). *Particles*. Oxford University Press, New York.
- Fischer, O. (1994). 'The Fortunes of the Latin-type accusative and infinitive construction in Dutch and English compared,' In T. Swan, E. Mørck, and O. Janson, eds., *Language Contact and Linguistic Change. Older Germanic Languages in a Comparative Perspective*. Mouton de Gruyter, Berlin.
- Geest, W. de (1972). *Complementaire constructies bij verba sentiendi in het Nederlands*. Dissertation, University of Nijmegen.
- Hoekstra, T., M. Lansu, and M. Westerdun (1987). 'Complexe verba,' *Glott* 10, 61-79.
- Hoekstra, T. and R. Mulder (1990). 'Unergatives as Copular Verbs. Locational and Existential Predication,' *The Linguistic Review* 7, 1-79.
- Kayne, R.S. (1981). 'On Certain Differences between French and English,' *Linguistic Inquiry* 12, 349-371.
- Kayne, R.S. (1984). *Connectedness and Binary Branching*. Foris, Dordrecht.
- Kayne, R.S. (1994). *The Antisymmetry of Syntax*. MIT Press, Cambridge.
- Koster, J. (1987). *Domains and Dynasties. The Radical Autonomy of Syntax*. Foris, Dordrecht.
- Martin, R. (1992). 'On the Distribution and Case Features of PRO.' Ms, University of Connecticut, Storrs.
- Mulder, R. and P. Wehrmann (1989). 'Locational Verbs as Unaccusatives.' In H. Bennis and A. van Kemenade, eds., *Linguistics in the Netherlands 1989*. Foris, Dordrecht.
- Overdiep, G. (1934). 'Ieder meent zijn uil een valk te zijn,' *Onze Taaltuin* 3, 85-91.
- Paul, H. (1992). *Deutsches Wörterbuch*. 9th edition, revised by H. Henze and G. Objartel. Max Niemeyer, Tübingen.
- Rooy, J. de (1969). 'Een beetje te,' *Taal en Tongval* 21, 120-122.
- Sag, I.A. and C. Pollard (1991). 'An Integrated Theory of Complement Control,' *Language* 67, 63-113.
- Wyngaerd, G. Vanden (1989a). 'Object Shift as an A-movement Rule,' *MIT Working Papers in Linguistics* 11, 256-271.
- Wyngaerd, G. Vanden (1989b). 'Raising to Object in Dutch and English,' *Dutch Working Papers in English Language and Linguistics* 14. Department of English, University of Leiden.
- Wyngaerd, G. Vanden (1994). *PRO-legomena. Distribution and Reference of Infinitival Subjects*. Mouton de Gruyter, Berlin.

- Zwart, C.J.W. (1988). 'The First Case. The Nominative as a Default Case and Consequences for Control Theory,' MA thesis, University of Groningen.
- Zwart, C.J.W. (1992). 'Dutch Expletives and Small Clause Predicate Raising,' *Proceedings of NELS 22*, 477-491.
- Zwart, C.J.W. (1993). *Dutch Syntax. A Minimalist Approach*. Dissertation, University of Groningen.
- Zwart, C.J.W. (1994). 'Dutch is Head Initial,' *The Linguistic Review* 11, 377-406.