Chapter 3

Degree Phrases

part II

The Internal Structure

3.1 Introduction

In the preceding chapter I discussed the structural status of degree phrases that are used as adverbials. This chapter is concerned with the internal structure of degree phrases like comparatives and adverbial phrases involved in so AP ... that constructions:

(1)  a  Janna walked faster yesterday than she ever did  
   b  Janna heeft gisteren sneller gelopen dan ooit  
       Janna has yesterday faster walked than ever  
   c  Ze liep zo snel dat niemand haar bij kon houden  
       she walked so fast that nobody her up could keep  
`She walked so fast that noone could keep up with her'

Faster, sneller `faster' and zo snel `so fast' in (1a-c) are degree phrases consisting of a degree head with an AP complement (an analysis originally proposed by Abney 1987).

For the moment, we will not consider the subclauses in (1a-c), but focus on the internal syntax of degree phrases. Chapter 4 will take up the question of whether the subclauses in (1a-c) (which are dependent on the degree elements -er and so) are generated externally or internally to the degree phrase. Several analyses of the dependency between result or comparative clauses and the degree heads they occur with will be presented there.

In this chapter I will discuss the internal structure of degree phrases such as faster and zo snel `so fast' and argue for the following (cf. Abney 1987):
Doetjes (1997) and Doetjes, Neeleman & Van der Koot (1998) independently arrived at similar conclusions. Their work will be woven into section 3.5 and the rest of this chapter. They provide an interesting semantics of degree items that I will take over in part.

Section 3.3 will present some very interesting data that were originally discussed by Corver (1994, 1997): *how, so, too* etc. on the one hand, and *more, less, most* etc. on the other, show different behavior in a number of syntactic environments. On the basis of these data degree phrases like *more intelligent* and *so fast* will be argued to differ structurally. Their different behavior leads Corver (1994, 1997) to the conclusion that the two groups are to be analyzed differently as well. The conclusions that he draws will be discussed in section 3.4. Although I agree with the position that *more intelligent* and *so fast* differ structurally, as do Doetjes, Neeleman & Van der Koot (1998), but do not agree with Corver's analysis of how they differ. I will show in section 3.5 that his conclusions are incorrect and present an alternative analysis. The consequences of my analysis will be spelled out in sections 3.6 to 3.8.1

### 3.2 Corver 1990

Corver (1990) applies Abney's (1987) proposal to consider degree elements as heads selecting adjective, adverb and quantifier phrases to Dutch. Abney argued that determiners in a noun phrase behave like the functional head Infl (which projects IP) in sentences. So instead of the traditional analysis of determiners as specifiers in the NP, he proposed to have a determiner project a DP, with the NP as sister to D0. This mirrors the IP/VP relationship. Analogously, Abney analysed

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In Abney (1987, p.301) adjectives, adverbs and quantifiers are distinguished from each other by their values for the features [+/-Q] and [+/-Adv].

The full structure Corver (1990) assumes for degree phrases is the following:

(i) \[ \text{spec} \quad \text{Deg} \quad \text{spec} \quad \text{mod} \quad \text{A compl} \]

\[ \text{degp deg'} \quad \text{ap a'} \quad \text{a' a'} \]

The specifier of the degree phrase may be filled with e.g. measure phrases. Modifiers like erger `very', vreselijk `extremely' appear in the `mod' position (Corver 1990, p.41):

(ii) a \[ \text{spec} \quad \text{I} \quad \text{VP} \]

\[ \text{ip i'} \quad \text{vp v'} \]

\[ \text{IP} \]

b \[ \text{spec} \quad \text{D} \quad \text{NP} \]

\[ \text{dp d'} \quad \text{np n'} \]

\[ \text{DP} \]

c \[ \text{spec} \quad \text{Deg} \quad \text{spec} \quad \text{A} \quad \text{AP} \]

\[ \text{degp deg'} \quad \text{ap a'} \quad \text{a' a'} \]

Corver (1990) distinguishes the following Dutch and English items as instances of the degree head:

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The specifier of the degree phrase may be filled with e.g. measure phrases. Modifiers like erger `very', vreselijk `extremely' appear in the `mod' position (Corver 1990, p.41):

(ii) a \[ \text{spec} \quad \text{I} \quad \text{vp v'} \quad \text{vp v'} \quad \text{VP} \]

\[ \text{IP} \]

b \[ \text{spec} \quad \text{D} \quad \text{np n'} \quad \text{np n'} \quad \text{NP} \]

\[ \text{DP} \]

c \[ \text{spec} \quad \text{Deg} \quad \text{spec} \quad \text{A} \quad \text{AP} \]

\[ \text{degp deg'} \quad \text{ap a'} \quad \text{a' a'} \]

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In Corver (1994, 1997), he argues that the items in (4b) should be distinguished from the first group of four items. The data on which he based this distinction is presented in the next section. Section 3.4 presents Corver's interpretation of these data. In section 3.4.2 and subsequent sections this interpretation is argued to be incorrect.

3.3 Arguments to distinguish *so*, *too* etc. from *more*, *less* etc.

*How*, *so*, *too* etc. on the one hand, and *more*, *less*, *most* etc. on the other, show different behavior in a number of syntactic environments. Corver (1994b, pp.5-7) presents examples of *so*-pronominalization in English, extraction of a clitic-pronominal element in Dutch and split topicalization in Dutch.

First, consider *so*-pronominalization in English. *So* is a proform that can replace a variety of phrases, like parts of a clause, a CP, an AP or a DegP. In the pronominalization cases presented by Corver, *more* etc. can cooccur with *so* (the pro-form). *Too*, *as* and *so* (the degree head) etc. cannot cooccur with *so* (the pro-form):

(5) Al seems afraid of Hillary, and Bill seems *so too*

(6) a Al is afraid of Bill, but *[less so ]* is Hillary
b Of all the careless people, noone is *[more so than Bill]*
c John is *good at mathematics*. He seems *[enough so to enter our graduate program]*

(7) a * Al is afraid of Bill. Maybe he is *[too so ]*
b * John is *fond of Mary*. Maybe he is *[as so as Bill]*
c * The weather was hot in Cairo: *[so so that we stayed indoors all day]*
d * John told me he was afraid of spiders, but I wonder *[how so ]* he really is
An interesting phenomenon is what Corver terms *much*-support: whereas *so, too* etc. cannot cooccur with *so* by itself, the following sentences, with *much* following the degree head, are grammatical:4

(8)  

a. Al is afraid of Bill. Maybe he is [too much so ]  

b. John is fond of Mary. Maybe he is [as much so as Bill]  

c. The weather was hot in Cairo: [so much so that we stayed indoors all day]  

(Quirk et al. 1985)  

d. John told me he was afraid of spiders, but I wonder [how much so ] he really is  

Secondly, in Dutch *meer* `more' etc. permit extraction of a clitic-pronominal element, but *te* `too' etc. do not:5

(9)  

a. Piet is bang voor honden, maar Jan is 't [een stuk minder t, dan Piet]  

*Piet is afraid of dogs, but Jan is it a lot less t than Piet*  

b. Jan leek 't, me [meer t, dan Piet]  

*Jan seemed it me more t than Piet*  

c. Ik vind 't, 'm [meer dan genoeg t, ]  

*I consider it him more than enough t*  

(10)  

a * Jan is 't, [een stuk te t, ]  

*Jan is it a lot too t*  

b * Wie is 't, [hoe t, ]?  

*who is it how t*  

c * Wie is 't, [even t, als Marie]?  

*who is it as t as Marie*  

d * Jan is 't, [zo t, dat hij haar niet durft aan te kijken]  

*Jan is it so t that he her not dares at to look*  

4 Note that it is also possible to replace *much* by e.g. *terribly*:

(i)  

a. Al is afraid of Bill: in fact, too terribly so to be able to talk to him  

b. The weather was hot: but I wonder how terribly so it really was  

This observation will be taken up in section 3.7.

5 Please note that `t `it’ in the Dutch examples represents a weakened form of *dat* `that’. It should not be read as a trace.
Again, the ungrammatical examples can be saved: zo `so', te `too' etc. can be supplemented with elements like veel `much', but also with intensifiers like erg `very' or zeer `very':

(11) a Wie is `t, [even zeer/ even erg `t als Marie]? 
   who is it as very/ as very `t as Marie
   `Who is it as badly as Marie?'
b Wie is `t, [hoe erg `t,]? 
   who is it how very `t
   `Who is it how badly?'
c Jan is `t, [zo zeer `t,] dat.... 
   Jan is it so very that
   `Jan is it so badly that...'

In nominal environments as well, minder `less', meer `more' and genoeg `enough' do not cooccur with veel `much' when the noun phrase is extracted as a clitic-pronominal element, while te `too', zo `so' and even `as' do cooccur with veel `much':

(12) a Jan heeft [zoveel boeken] 
   J has so-many books
b Jan heeft [te veel boeken] 
   J has too many books
c Jan heeft [evenveel boeken] 
   J has as-many books
d Jan heeft [HOEveel boeken] ?
   J has how-many books

(13) a Jan heeft er, [een stuk minder `t, dan Piet] 
   Jan has there a lot less `t than Piet
   `Jan has a lot less of them than Piet'
b Jan heeft er, [meer `t, dan Piet] 
   Jan has there more `t than Piet
c Jan heeft er, [meer dan genoeg `t,] 

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6 Corver (1997) does not provide such examples, but only discusses insertion of much. See the discussion in section 3.5 below.

7 WH-in-situ is possible in Dutch in echo questions. The normal word order in questions would be:
   (i) [Hoeveel boeken], heeft hij `t, ?
       how-many books has he
   (ii) [Hoeveel `t,], heeft hij er, `t, ?
       how-many `t, has he there `t,
   `How many of them does he have?''
Jan has there more than enough t

(14)  a  Jan heeft er [zoveel t ]
       _J has there so-many_

  b  Jan heeft er [te veel t ]
     _J has there too many_

  c  Jan heeft er [evenveel t ]
     _J has there as-many_

  d  Jan heeft er [hoeveel t ] ?
     _J has there how-many t_

The third phenomenon distinguishing the two groups concerns split topicalization in Dutch. Again, _meer_ 'more' etc. do permit topicalization of what Corver claims is their complement, _te_ 'too' etc. do not:

(15)  a  Boeken, denk ik dat hij [meer t, dan Piet] heeft
     _books think I that he more t than Piet has_  
     'Books, I think he has more than Piet does'

  b  Boeken, heeft hij [(meer dan) genoeg t ]
     _books has he more than enough t_

(16)  a  [Bang voor honden], denk ik dat hij [een stuk minder t, dan Piet] is
     _afraid of dogs thing I that he a lot less t than Piet is_  

  b  [Gebrand op revanche], leek Jan mij toen [meer t, dan Jo]
     _keen on revenge seemed Jan to-me then more t than Jo_  
     'Jan seemed to me to be more keen on revenge then than Jo'

(17)  a  * [Bang voor honden], is hij [veel te t, ]
     _afraid of dogs is he much too t_

  a' *? [Bang voor honden], is hij [veel te erg t ] om....
     _afraid of dogs is he much too much t to...

  b  * [Gebrand op revanche], was Jan [zo t, dat 't een obsessie werd]
     _keen on revenge was Jan so t that it an obsession became_

  b' * [Gebrand op revanche], was Jan [zozeer t ], dat 't een obsessie werd
     _keen on revenge was Jan so-very t that it an obsession became_

In sum, we see the following overall pattern. Items like _so, too_ etc. cannot occur without a supporting element (for instance _much_, or _erg/ zeer_ 'very' in Dutch) when the adjective or noun following them is extracted or pronominalized. In contrast, items like _more, less_ etc. do allow their alleged complement to be extracted or pronominalized without any need of _much-support_.

3.4 Corver 1997

Corver (1997) interprets these examples as follows. He proposes to introduce a quantifier phrase into the $[\text{degP} \ [\text{ap}]]$ structure as in (18) below:

(18) a DegP
    spec Deg'
    Deg^0 QP
    spec Q'
    Q^0 AP
    spec A'
    A^0

In that case, the extended adjectival projection involves two functional heads, which may behave differently. Corver claims that the items representing Deg^0 and the Q^0 head do in fact behave differently: he considers so, too etc. to be Deg^0's and more, less, etc. to be Q^0's.

Let us look at ungrammatical examples like *too so (where so is a proform). On the assumption that so replaces AP, Corver claims that the ungrammatical examples can be 'saved' by insertion of much into the Q-position of the following structure:

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8 Corver (1994, 1997) also develops an account of adjectival inflection in prenominal modification as in:
(i) a de snelle auto
   b de snelste auto
   c de snelst mogelijke auto
   d de van zijn vader afhankelijke zoon

His analysis involves an agreement phrase on top of extended projection of the adjective. Unfortunately, a principled account of prenominal modification is beyond the scope of this thesis and I do not discuss this part of his analysis here.

9 Apart from behavioral differences between the more-group and the too-group that he observes, Corver (1994, 1997) has a conceptual argument in favor of introducing a quantifier phrase in the extended adjectival projection. In the nominal system as well, there have been proposals to introduce a quantifier phrase and it is attractive to establish a parallel with the nominal system.
On the assumption that *much* represents a quantifier heading a QP, the behavioral pattern of the two groups of items leads Corver (1994, 1997a) to the hypothesis that *more* etc. (i.e. the items that do not need *much*-support) themselves also represent Q^0. In contrast, the items that do need *much*-support are still analyzed as representing a Deg^0.

Corver (1994b):

Items heading DegP include:
*as, so, too, how, that*

Items heading QP include:
*much, more, less, enough, most, least*

As such, we get the following (still provisional) structures:

(21) a \[ \text{too} \text/ap \text{intelligent } \]
\[ \text{Deg } \text{A +Q } \text{t} \]

At this point, the question arises why we cannot insert *much* into the Q^0 position in (21a): *too much intelligent*. Corver (1994, 1997a) suggests that when the head position of the QP in an (extended) adjectival phrase is not lexically filled by a quantifier, then the adjective moves up to the head of QP (as we will see below, Corver considers the proform so to be a full AP that cannot undergo head-movement).

(22) [Deg \[ A^0_0,+Q^0 \text/t ]]

Of course, the movement of the adjective has to be motivated.

Corver (1997a) assumes that both the degree head and the quantifier head function as operators that bind a referential argument position in adjectival predicates (ibid., p.131). The assumption that a degree head binds an argument

\footnote{Note that Corver (1994, 1997) only provides examples with *much* or *veel* `much` as a `supporter` for the degree heads *too, so, as* etc. He does not consider *erg/zeer* `very`.}
position in an adjectival predicate was introduced by Zwarts (1992), as an instance of Higginbotham's (1985) Theta-binding.\footnote{Theta-binding "relates the open referential argument position of a lexical predicate to an operator, thus restricting the predicate's denotation" (Corver 1997a, p.130).}

Zwarts (ibid., p.144) proposes that an adjectival predicate may have a degree argument $G$ (\(=\) Grade). $G$ is only present in the Theta-grid of gradable measure adjectives like \textit{tall}, not in non-gradable ones like \textit{recursive}.\footnote{Zwarts (1992, p.140) distinguishes three categories of adjectives: gradables ones, subdivided into measure adjectives (cf. \textit{(six feet) tall}) and non-measure adjectives (cf. \textit{\((six\ units)\ pretty\)}, and non-gradable ones (cf. \textit{dead, recursive}).
Gradable measure adjectives have a Grade argument. Gradable non-measure adjectives can acquire it by type-shifting. The type-shift operation maps a property (\textit{pretty}, type $e_p$) to the set of degrees (type $<e_p,b>$) that realizes it (ibid., p.145).
Non-gradable adjectives do not have the Grade argument and cannot undergo type-shifting to acquire it.}

For instance, the lexical entry of these two adjectives could be:

\begin{align*}
(23) & \quad \textit{tall}, \quad +V +N, <1, G> \\
& \quad \textit{recursive}, \quad +V +N, <1>
\end{align*}

where $<1>$ is the thematic argument to be discharged by the subject that \textit{tall} and \textit{recursive} are going to be predicated of. $G$ is the degree argument position. In \textit{too tall} the $\text{Deg}^0$ \textit{too} Theta-binds the $G$ argument of \textit{tall} (Zwarts 1992, p.146).\footnote{The analysis of degree elements as operators goes back to earlier work by Liberman (1974) and Rouveret (1978). Rouveret assumed that \textit{si' so' and trop 'too' in French involve quantification over degrees and extents (ibid., p.175).}}

\begin{align*}
(24) & \quad [\text{degp too}], [\text{ap tall}_{<1,G>}] \\
& \quad [\text{degp so}], [\text{ap beautiful}_{<1,G>}] 
\end{align*}
Theta-binding by Deg$^0$ of the degree position in A$^0$ requires government of A$^0$ by the degree head. According to Corver, this requires movement of the adjectival head to a position closer to Deg$^0$ than the original position of A$^0$, because Q$^0$ would be an intervening governor. Hence, the adjective must move to Q$^0$ to establish the local relationship between Deg$^0$ and A$^0$ that is needed for Theta-binding.

If the adjectival head cannot move, e.g. in the so-pronominalization cases above, much can be inserted in English as a last resort (cf. (25b-c) below). Corver states that the argument position G normally associated with the adjective is now associated with the pro-form so (which he considers to be an AP that cannot undergo head movement) and that the "dummy adjectival quantifier much" (1997a, p.135) copies that argument position. Thus the required head-head relation between the argument G and the degree operator in Deg$^0$ is mediated by much.

Corver assumes the following structures and binding relationships:

\[(26)\]
\[
\begin{align*}
\text{a} & \quad [\text{degp} \text{ too}/\text{so}/\text{as}/\text{how}, \quad \text{[ap} \text{ tall}_{<1,>_{Gi,k}} \text{[ap} \text{ t}_{<1,>_{Gi}}]) \\
\text{b*} & \quad [\text{degp} \text{ too}/\text{so}/\text{as}/\text{how}, \quad \text{[ap} \text{ so}_{<1,>_{Gi}}] \text{[ap} \text{ so}_{<1,>_{Gi}}]) \\
\text{c} & \quad [\text{degp} \text{ too}/\text{so}/\text{as}/\text{how}, \quad \text{[ap} \text{ much}_{<1,>_{Gi}} \text{[ap} \text{ so}_{<1,>_{Gi}}])]
\end{align*}
\]

\[(27)\]
\[
\begin{align*}
\text{a} & \quad [\text{degp} \text{ te} \text{[ap mooi, [ap t}_{<1,>_{Gi}}])] \\
\quad & \quad \text{too beautiful} \\
\text{b*} & \quad [\text{degp} \text{ te} \text{[ap veel [ap mooi ]]}] \\
\quad & \quad \text{too much beautiful}
\end{align*}
\]

Insertion of much in the Q$^0$-position of example (25a) above is blocked for reasons of economy, whereas much is inserted in (25c) to avoid the ungrammaticality of (25b). Corver notes that head-movement is an operation that is applied throughout linguistic theory and therefore can be considered to be universally available. In contrast, insertion of much as in the so-pronominalization cases above is language-particular to (at least) English and Dutch. Hence, on the assumption that language-particular operations are more costly than universally available ones,
Corver claims that A°-to-Q° movement is preferred over and blocks much-insertion.¹⁴

The ungrammaticality of (28) then, is accounted for by economy considerations:

(28)  * [degp too [qp much [ap intelligent]]]

The above example will never occur, since A°-to-Q°-movement is considered less costly than much insertion, and hence much-insertion is blocked.

Next, let us consider comparatives. Recall that Corver (1994, 1997a) assumes that an item like more heads the quantifier phrase. He also adjusts Zwarts' (1992) analysis and assumes that a Q°-head as well as a Deg°-head can Theta-bind a degree argument of an adjective. A lexicalized Q°-head is close enough to the adjectival head to govern it and discharge the argument position G. This means that neither A°-to-Q° movement nor much-insertion are needed:

(29)  a  [ap more/less, [ap intelligent]<1,Gi>]]
     b  [ap more/less, [ap so]<1,Gi>]]

The Dutch counterparts are:

(30)  a  [ap meer [ap gespecialiseerd]]
      more specialized
     b  Jan is dat [ap meer [ap t]] (dan Piet)
      J is that more _ (than P)

Note Corver's (1997a) assumption that there is no degree projection in comparatives. This might lead one to assume that examples like (31) below are grammatical, contrary to fact:

(31)  * [degp so [ap more [ap beautiful]]]

¹⁴ Chomsky (1995, p.348) concludes that in general the operation Merge should be preferred over (is less costly than) Attract/Move when possible. Since applying Merge amounts to inserting much in this case, Corver's (1997a) economy argument that A-to-Q-movement is preferred over much-insertion is turned around if he would adopt Chomsky's (1995) economy principles.
Corver argues that such examples are excluded because they involve vacuous quantification. Recall that he assumes that both the degree head and the quantifier head are operators that need to bind an argument position. In that case, then, (31) is out because there are two operators (viz. so and more) and only one adjective with an argument position to bind. The degree head so is superfluous, which leads to ungrammaticality.

3.4.1 Much as a dummy

An important aspect of Corver’s (1997a) analysis is that the quantifier much that is used in much-support, is considered to be a dummy. Corver claims that there are two instances of much in the lexicon: a dummy much and a lexical much. Lexical much is generated as an adjectival head and has a Grade argument of its own that will have to be bound. Lexical much appears in degree phrases that function as modifier of e.g. another degree phrase, as in too much too tall (for this sweater to even try it on). Dummy much can be inserted in Q° as a last resort and is claimed to copy someone else’s Grade argument.15

In section 3.7.1 I will argue that much is not a dummy. The next subsection will present the incorrect predictions that Corver’s system of hypotheses makes. One of these incorrect predictions stems from the dummy/lexical much distinction.

3.4.2 Incorrect predictions

The degree phrase system proposed in Corver (1994, 1997) leads to a number of incorrect predictions.

First, recall that Corver (1997a) argues that examples like the following are excluded because they involve vacuous quantification; both Deg° and Q° have to bind an argument position, but there is only one argument position provided by the adjective:

(32) * \[degp so [ap more [ap beautiful ]]]\]

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15 The argument can be bound by degree elements like so or too. However, since Corver (1997) claims that a quantifier head can also bind a Grade argument and that more is such a Q, his system wrongly predicts that * more much should be grammatical as well. See section 3.4.2 for discussion.
Corver assumes two types of structure:

(i) a \[ \text{too much} \]

(ii) a \[ \text{too tall} \]

This raises the question whether Corver’s (1997a) configuration for modification is correct. He assumes that a modifying degree phrase occurs in the specifier position of the phrase it modifies. One could also assume that the quantifier of the modifying degree phrase actually selects the modified degree phrase (DegP in (i-b) above), in which case we would have the general pattern:

[(ii) \[ \text{degp} \[ \text{qp ap} \] \]

where XP is (at least) AP, PP, DegP or NP

Corver mentions this possibility with respect to cases like too (much) different (ibid., p. 151).

Although (ii) seems the more general, and hence an attractive, option, Corver shows that in the modification cases the degree phrase can be extracted from the overall constituent (cf. (iii-a)). This is not possible in the degree phrases that are assigned the structure in (i-b) (cf. (iii-b), Corver 1997, p.152):

Interestingly, examples like the following are grammatical (even if one might need a context to interpret them, cf. section 3.6 as well):

(33) a John is even [more [too tall]] for this suit than Bill is
b Mary is [less [tall]] than Bill (than John is)

In Corver’s system they should be illegitimate, because too tall and taller do not provide a Grade argument for more and less to bind. That is, more and less should be vacuous operators in (33a,b), according to Corver’s assumptions. His system can not predict the grammaticality of the examples.

Second, Corver (1997a) also discusses examples in which a degree phrase modifies another degree phrase. He argues that much in the modifying degree phrase is an instance of an adjectival quantifier much, "lexical much", and not an instance of the “dummy much” quantifier he claims is inserted in so-pronominalization. To the examples in (34) he assigns the structures in (35) (Corver 1997a, p.148):

(34) a John is [as much to tall]
b John is very tall, and Mary is [too much less so to allow her to play tennis with him]

(35) a \[ \text{degp} \[ \text{degp as [ap much t]} \] \]

b \[ \text{degp [ap too [ap much t]]} \]

Corver claims that the "lexical much" in the (34) examples has a Grade argument of its own that needs to be bound by the degree heads as and too, respectively, and hence moves into the empty Q of the QP in the modifying degree phrase.16

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16 Corver assumes two types of structure:
(i) a \[ \text{degp too [ap much [ap so]]} \]
   b \[ \text{degp1 too much [degp2 too tall]} \]

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(ii) \[ \text{degp [ap [xp]]} \]

where XP is (at least) AP, PP, DegP or NP

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What Corver does not mention, however, is that examples with *meer* ‘more’ do not allow *veel* ‘much’ at all. This is most obvious in cases where a degree phrase is modifying a prepositional phrase:

(36) a Piet zit meer (*veel*) in de problemen dan ooit
    *P sits more (much) in the problems than ever
    ‘Piet is more (*much*) in trouble than ever’

b Piet zit te veel/ te diep in de problemen om...
    *P sits too-much/ too deep in the problems to
    ‘Piet is too much/ too deeply in trouble to...’

If Corver is correct that *meer* ‘more’ is a quantifier head and *veel* can be an adjectival predicate, he (incorrectly) predicts *meer veel* to be grammatical:

(37)  * \[ap \text{meer}, [ap \text{veel}_{<1,Gi>}] \]

In (37), there is one A with a Grade argument to be bound. Since *more* is a Q, according to Corver, that can bind the Grade argument, there is no cause for the ungrammaticality of (37) in his system. In addition, there is no reason in Corver’s system why insertion of *veel* ‘much’ in (36a) above should be illegitimate.\(^{17}\)

These incorrect predictions may suggest two things. First, it could be that vacuous quantification is not the cause of the ungrammaticality of (32) above. Second, it could be that -er and *more* are not both instances of Q heading the

---

\(^{17}\) The hypothesis that the PP *in de problemen* ‘in trouble’ might provide a Grade argument that can be bound by *more* cannot be sustained. If that were the case, the PP would be selected by *more*, and could not be separated from it, contrary to fact:

(i) hij zit meer dan ooit in de problemen
    *he sits more than ever in the problems
    ‘More than ever, he is in trouble’
quantifier phrase. In the next sections I will defend an alternative analysis, arguing that neither more nor the comparative morpheme -er are quantifiers (although more does in fact incorporate one).

3.5  More and less are composite forms

The data in section 3.3, provided by Corver (1994, 1997), lead me to an alternative analysis, in which meer ’more’ and minder ‘less’ are composite forms. That is to say, more is the comparative form of much or many and less is the comparative form of little of few (cf. for example Bresnan 1973, Doetjes 1997). As such, more and less (and their Dutch counterparts, for that matter) are full degree phrases, consisting of a Deg⁰ (viz. the bound morpheme -er) and an AP (e.g. much):¹⁸²⁹

\[
\begin{align*}
\text{(38) a } & [\text{degp}_1 \text{much,-er} \ [\text{ap}_1 t ]] \rightarrow [\text{degp}_1 \text{more} \ [\text{ap}_1 t ]] \\
\text{b } & [\text{degp}_1 \text{much,-st} \ [\text{ap}_1 t ]] \rightarrow [\text{degp}_1 \text{most} \ [\text{ap}_1 t ]] \\
\text{c } & [\text{degp}_1 \text{little,-er} \ [\text{ap}_1 t ]] \rightarrow [\text{degp}_1 \text{less} \ [\text{ap}_1 t ]] \\
\text{d } & [\text{degp}_1 \text{little,-st} \ [\text{ap}_1 t ]] \rightarrow [\text{degp}_1 \text{least} \ [\text{ap}_1 t ]] 
\end{align*}
\]

The idea that Q⁰ is associated with Deg⁰ incorporates the suggestion of Bresnan (1973) that more is derived from -er + much or -er + many, and less from -er +

¹⁸ Much, many, little and few (and veel and weinig in Dutch) can be considered adjectival quantifiers, or quantificational adjectives. As such, we can choose to consider them as QPs or APs. As was mentioned in footnote 2, Abney (1987, p.301) distinguished adjectives, adverbs and quantifiers from each other by their values for the features [+/-Q] and [+/-Adv] only.

If we choose to consider them as APs, a degree head uniformly c-selects for APs in Dutch and English: so much and so beautiful would both involve a degree head selecting an AP complement. However, we will see Zapotec examples below, in which even nouns and verbs appear to move to a comparative degree head.

In view of the observation that degree heads cross-linguistically do not uniformly c-select for just one syntactic category anyway, I consider much to head a quantifier phrase with certain adjectival characteristics. One of these characteristics is that it may carry inflection in prenominal positions:

(i)   a  veel boeken  
      many books

b  de vele boeken  
   the many books

¹⁹ Depending on the theoretical framework, (a) the quantifier moves up to pick up the degree morpheme, (b) more etc. are inserted as such from the lexicon and the degree morpheme represents a feature that needs to be checked in the degree head, or (c) the quantificational feature moves up to the degree feature and then lexical insertion (at Spell Out) gives us more instead of much.
Corver (1997b) mentions this alternative analysis in a footnote (fn. 24), but argues that in that case it is unclear why a combination of the non-comparative form of the quantifier veel `much/many' or weinig `little/few' and an adjective is ungrammatical (cf. Jackendoff 1977 for English). Recall that he assumes that a quantifier head can Theta-bind the Grade argument of a gradable adjective:

(i) * [ veel [ lang ] ] / * [ much [ long ] ]

If much is indeed a Q, capable of saturating the G position of tall, the ungrammaticality of (i) is unpredicted.

Doetjes (1997, p.106 ff.) argues that * much intelligent is ungrammatical because it is blocked by the existence of very intelligent, which expresses almost the same meaning as much A would. She analyzes very as a Deg. The reason why selection of the adjective by very can block modification by much is that a degree head is highly specified for almost exclusively selecting APs, whereas much is underspecified in the sense that it is insensitive to the syntactic category of what it adjoins to. In Doetjes' words, much is the Elsewhere form. That is: apply a degree head like very with APs; elsewhere, one can use much to express about the same meaning.

Similarly, modification of an adjective by more (the underspecified Elsewhere form) is claimed to be blocked by the availability of a synthetic comparative with the degree head -er (cf. taller / * more tall). In Zapotec, however, both forms cooccur (cf. footnote 22).

Doetjes (1997, p.98 and overview pp.103-104) assigns the same structures to so much and more as defended here. She considers more to be a complex degree quantifier (DQ), consisting of a degree head (the comparative morpheme) and an adjectival degree quantifier, much:


The adjectival degree quantifier much has a Grade argument position (following Zwarts 1992) that is bound by the degree head.

This language is spoken in a part of Mexico. The full name is San Lucas Quiavini Zapotec.
In all these cases, it is also possible to combine the -ER morpheme with Maa(z) (which could be taken from Spanish más 'more/ -ER', but the status of which is not entirely clear). This yields the periphrastic comparatives Maa(z)-ru’-en’-en ‘more content’, Maa(z)-ru’-nsehes ‘more fast’, Maa(z)-ru’-utaisy ‘more slept’ and Maa(z)-ru’-mni’ny ‘more child’ (cf. Galant in prep., p.7-8).

Actually, Corver himself (1997a, p. 130, fn. 17) notes that more is the comparative form of much, arguing that it provides evidence for the adjectival nature of much (and of many, few etc.). In Dutch as well, the comparative form of the quantifier veel ‘much/ many’ is known to be meer ‘more’ (cf. Van Dale dictionary 1984), which is also used in periphrastic comparative constructions. Similarly, minder ‘less’ is the comparative form of weinig ‘little/ few’. All this supports the assumption that the quantifier head is associated with the degree head -er / -st in syntax to form the English more and most or the Dutch counterpart meer and meest.

Similar to the movement of the quantifier to combine with the degree head in more, an adjective can also combine with the comparative and superlative degree morphemes -er / -st. Consider adjectives with synthetic comparative and superlative forms. The following examples show that adjectives are also able to combine with the degree morphemes:

(40) a interessant/ interessanter/ interessants
interesting/ interesting-er/ interesting-st
b mooi/ mooier/ mooist
beautiful/ beautiful-er/ beautiful-st

(41) a quick/ quicker/ quickest
b fast/ faster/ fastest

(42) a [degp -er [ap fast]] --> [degp fast-er [ap t]] --> faster
b [degp -er [ap mooi]] --> [degp mooi-er [ap t]] --> mooier

(43) a [degp -st [ap fast]] --> [degp fast-st [ap t]] --> fastest
b [degp -st [ap mooi]] --> [degp mooi-st [ap t]] --> mooist

Interestingly, Zapotec allows predicates of more syntactic categories to be combined with the comparative -ru’ morpheme. Predicatives that can move to Deg⁰ include adjectives, adverbs and, surprisingly from a Dutch or English point of view, verbs and nouns.23

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23 In all these cases, it is also possible to combine the -ER morpheme with Maa(z) (which could be taken from Spanish más ‘more/ -ER’, but the status of which is not entirely clear). This yields the periphrastic comparatives Maa(z)-ru’-en’-en ‘more content’, Maa(z)-ru’-nsehes ‘more fast’, Maa(z)-ru’-utaisy ‘more slept’ and Maa(z)-ru’-mni’ny ‘more child’ (cf. Galant in prep., p.7-8).
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Doetjes, Van der Koot & Neeleman (1998) also consider more to be a full XP. They do not go into its syntactic category. In the semantics they provide, more and too have an identical meaning. I will argue in the appendix that this is incorrect, due to the complex nature of more.

(44) Contenn-ru' nu' Jwany cah Useh
    "Juan is more content than José"

(45) Nnsehes-ru' rzh:unny Rodrieg cah Liieb
    "Rodrigo runs faster than Felipe"

(46) Utaisy-ru' Rodrieg cah Liieb
    "Rodrigo slept more than Felipe"

(47) Mni'ny-ru' Jwany cah Useh
    "Juan is more of a child than José"

Apparently, the choice of which lexical categories can be selected by a degree head is a language specific matter. In Zapotec the comparative morpheme can select quantifiers, adjectives, nouns and verbs that move up to it; in Dutch and English only adjectives, some adverbs (e.g. vaak `often', vaker, vaakst) and quantifiers like much or little move to the comparative degree head.

I conclude that the comparative and superlative morphemes -er/-st represent degree heads. This implies that more/ most are not quantifiers, as Corver (1994, 1997) suggests, but composite forms representing the combination of a degree head and a quantificational head: more, most, less and least are full degree phrases.\(^{24}\)

Before reanalysing the data in section 3.3, let us first look at degree phrases in environments other than AP. In all these environments, more occurs on its own, and degree heads like too team up with much or other APs to form a full degree phrase before combining with elements of other syntactic category. At the end of the next section I will argue that both more etc. and too much (or degree phrases with other heads) are adjuncts.

3.6 More and too much as adjuncts in environments other than AP

\(^{24}\) Doetjes, Van der Koot & Neeleman (1998) also consider more to be a full XP. They do not go into its syntactic category. In the semantics they provide, more and too have an identical meaning. I will argue in the appendix that this is incorrect, due to the complex nature of more.
In the previous section I analyzed more, most, less and least as full degree phrases with an incorporated quantifier like much or little. This explains why they never cooccur with much in any environment in which degree heads like so, too or as select much (or other intensifiers in Dutch). Both too much and more (to provide an example of both groups) are degree phrases. Below we will see that they adjoin to the phrases that they modify.

Apart from the adjectival and nominal environments that were discussed by Corver (1994, 1997) (cf. more/ too intelligent and more/ too many books, respectively), more and too much and the other members of their respective groups also occur as modifiers of prepositional phrases, degree phrases and indefinite noun phrases. In addition, they occur as modifiers in the verbal domain. This section presents examples of these environments and claim that more etc. and too much etc. are adjoined to the phrases they modify.

First, consider again the noun phrase examples from section 3.3:

(48) a hij heeft zoveel boeken dat...
   *he has so-many books that*
   he has so many books that
   `He has so many of them that...'

b hij heeft er zoveel dat...
   *he has there so many that*
   he has there so many that
   `He has so many of them that...'

c hij heeft meer (*veel) boeken dan ik
   *he has more (many) books than I*
   he has more (many) books than I
   `He has more of them than I do'

d hij heeft er meer (*veel) dan ik
   *he has there more (many) than I*
   he has there more (many) than I
   `He has more of them than I do'

(49) a Janna heeft er [een stuk minder t dan Piet]
   *Janna has there a lot less t than Piet*
   Janna has a lot less of them than Piet'

b Janna heeft er [meer t dan Piet]
   *Janna has there more t than Piet*
   Janna has more of them than Piet'

c Janna heeft er [meer dan genoeg t ]
   *Janna has there more than enough t*
   Janna has more than enough of them'

(49') a Janna heeft er [zoveel t ]
   *Janna has there so-many*
   Janna has so many of them'

b Janna heeft er [te veel t ]
   *Janna has there too many t*
   Janna has too many of them'
Doetjes, Neeleman & Van der Koot (1998) follow Doetjes (1997) in analyzing the modifiers as right-adjoined to VP. I present their structures here for the sake of illustration.

In addition, Doetjes, Neeleman & Van der Koot (DNK, 1998) provide examples of *more* as modifiers of noun phrases that have gradient properties. In contrast, degree heads like *too*, *as* cannot select these noun phrases. The latter can, however, select *much* to form a full degree phrase and then modify the noun phrase by adjoining to it (DNK 1998, p.6 & p.12, exx. (13),(14) and (31)):

(50) a He is [dp more [dp a linguist]] than a psychologist  
   b He is [dp less [ap a typical Hollywood celebrity]] than any of his neighbours  
   c He is [ap [ap man] enough] for Sue

(51) a * He is [degp too [ap a scientist]] to care about such problems  
   b * He is [degp as [ap a typical Hollywood celebrity]] as Robin W.  
   c * It’s [degp very [ap time for coffee]] now  
   d * I wonder [degp how [ap man]] he really is t_i

(52) a He is [dp [degp too much] [ap a scientist]] to care about such problems  
   b He is [dp [degp as much] [ap a typical Hollywood celebrity]] as Robin W.  
   c It’s [dp [degp very much] [ap time for coffee]] now  
   d I wonder [dp [degp how much] [ap man]] he really is t_i

Second, Doetjes, Neeleman & Van der Koot (1998) provide examples of *more* as a modifier in the verbal domain. Again, the degree heads *too*, *as* etc. have to select for instance *much* to form a DegP that can function as a modifier (DNK 1998, p.6 & p.12-13, exx. (15),(16) and (32)).

(53) a He [vp [vp likes venison] more] than his family does  
   b He [vp [vp lives like a celebrity] less] than he would like to  
   c He [vp [vp loves Mary] enough] to marry her

(54) a * He [degp too [vp likes venison]] for his own good  
   b * He [degp as [vp lives like a typical Hollywood celebrity]] as Robin W.  
   c * He [degp very [vp loves Mary]] indeed

---

25 Doetjes, Neeleman & Van der Koot (1998) follow Doetjes (1997) in analyzing the modifiers as right-adjoined to VP. I present their structures here for the sake of illustration.
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(55) a. He [\text{vp} [\text{vp likes venison}] [\text{degp too much}]] for his own good
b. He [\text{vp} [\text{vp lives like a typical Hollywood celebrity}] [\text{degp as much}]] as Robin W.
c. He [\text{vp} [\text{vp loves Mary}] [\text{degp very much}]] indeed

Third, consider examples in which a degree phrase is a modifier of a prepositional phrase. Again, degree items like zo `so', te `too' etc. must select \textit{veel `much'} or other intensifiers like diep `deep(ly)' to form a degree phrase. \textit{Meer `more'} or other synthetic comparatives like dieper `deeper' are full degree phrases and occur as modifiers by themselves:

(56) a. Piet zit [meer (*veel) [in de problemen]] dan ooit
    \textit{Piet sits more much in the problems than ever}
    `Piet is more (*much) in trouble than ever'

b. Piet zit [dieper [in de problemen]] dan ooit
    \textit{Piet sits deeper in the problems than ever}
    `Piet finds himself more deeply in trouble than ever'

(57) a. Piet zit [te *(veel) [in de problemen]] om...
    \textit{Piet sits too much in the problems to}
    `Piet is too *(much) in trouble to...'

b. Piet zit [te diep [in de problemen]] om...
    \textit{Piet sits too deep in the problems to}
    `Piet is too deeply in trouble to...'

(58) a. He is [\text{pp} more [\text{pp on drugs}]] than any of his friends
b. He is [\text{pp} less [\text{pp into syntax}]] than he was before
   c. He is [\text{pp} enough [\text{pp over the limit}]] to be arrested

(59) a. * He is [\text{degp too} [\text{pp on drugs}]] indeed
b. * I wonder [\text{degp how} [\text{pp into syntax}]], he really is t_i
   c. * He is [\text{degp as} [\text{pp over the limit}]] as Bill

(60) a. He is [\text{pp [degp too much]} [\text{pp under scrutiny}]] to be elected this time
b. He is [\text{pp [degp as much]} [\text{pp over the limit}]] as Bill
   c. He is [\text{pp [degp very much]} [\text{pp on drugs}]] indeed
   d. I wonder [\text{pp [degp how much]} [\text{pp into syntax}]], he really is t_i

\[\text{(58) taken and (59) & (60) adapted from Doetjes, Neeleman & Van der Koot (1998)}\]

\[\text{26 It is important to note that not only veel `much', but also erg `very'}, \text{zeer `very'}, \text{diep `deeply'} \text{etc. can support the degree head. For discussion of the significance of this observation see section 3.7.1.}\]
Fourth, consider the following examples, in which a degree phrase is modifying another degree phrase:\textsuperscript{27}

(61)  
\begin{itemize}
  \item a Sneeuwwitje is [zoveel [mooier dan haar stiefmoeder]] dat deze haar wil laten vermoorden
    \textit{Snowwhite is so-much beautiful-er than her stepmother that this-one her want let kill}
    `Snowwhite is so much more beautiful than her stepmother that the latter wants to have her killed'
  
  \item a' Sneeuwwitje is [mooier dan haar stiefmoeder]; zóveel (mooier dan haar stiefmoeder) dat deze haar wil laten vermoorden
    \textit{Snowwhite is beautiful-er than her stepmother; so-much (beautiful-er than her stepmother) that this-one her want let kill}
    `Snowwhite is more beautiful than her stepmother; so much so that the latter wants to have her killed'
  
  \item b Sneeuwwitje is [zoveel [te mooi voor haar eigen bestwil]] dat ze voor haar leven moet vrezen
    \textit{Snowwhite is so-much too beautiful for her own well-being that she for her life must fear}
    `Snowwhite is so much too beautiful for her own good that she has to fear for her life'
  
  \item b' Sneeuwwitje is [te mooi voor haar eigen bestwil]; zóveel (te mooi voor haar eigen bestwil) dat ze voor haar leven moet vrezen
    \textit{Snowwhite is too beautiful for her own well-being; so much (too beautiful for her own well-being) that she for her life must fear}
    `Snowwhite is too beautiful for her own good; so much so that she has to fear for her life'
\end{itemize}

In these examples as well, the degree head zo `so' selects \textit{veel} `much'. Notice in addition that in the (61a') and (61b') examples, so-pronominalization occurs in the English translations: so is a proform for the degree phrases here.

Now look at \textit{more} or \textit{less} modifying another degree phrase. First consider an example in which they modify another comparative. Such examples are a little awkward, but judgments can still be checked. Consider a scenario in which John is taller than Mary, but Janna is even taller than John. In that case, Janna is `more

\begin{itemize}
  \item a Mary doesn't have \textit{as} many \textit{too} many [marbles] \textit{as} Jane
  
  \item b \textit{As} many more people than I invited came to the party \textit{as} you predicted
\end{itemize}

\textsuperscript{27} Bresnan (1973, p. 339) and Andrews (1975, p.164) provide examples like the following:

(i)  
\begin{itemize}
  \item a Mary doesn't have \textit{as} many \textit{too} many [marbles] \textit{as} Jane
  
  \item b \textit{As} many more people than I invited came to the party \textit{as} you predicted
[taller than Mary] than John is. In other words, the extent to which Janna is taller than Mary is greater than the extent to which John is taller than Mary.\footnote{In section 3.4.2 we already saw that the following examples constitute a problem for Corver's (1994, 1997) analysis, which incorrectly predicts that they are ungrammatical:}

\begin{enumerate}
\item a)](i) John is more than Bill is
\item b) Mary is less than Bill (than John)
\end{enumerate}
For the sake of illustration I will adopt the assumption in Doetjes, Neeleman & Van der Koot (1998) that the PP van zijn vader `on his father' as well as the DegP meer `more' is adjoined to the projection of the adjective afhankelijk `dependent'.

Interestingly, zo `so' behaves like a Deg in some, but like a DegP in other cases:

(i)  
(a) te *(veel) boeken / zo *(veel) boeken  
too many books / so many books  
(b) te *(veel) mooi / zo *(veel) mooi  
too much beautiful / so much beautiful  
(c) *(te veel) zo mooi / (zo veel) te mooi  
too much too beautiful / so much too beautiful  
(d) te *(van zijn vader) afhankelijk / zo (van zijn vader) afhankelijk  
too of his father dependent / so of his father dependent  
(e) * te `n man / zo`n man  
too a man / so a man (`such a man')
(67) a Hij is [[te veel] [afhankelijk van zijn vader]] om zelfstandig te kunnen beslissen
*He is too much dependent on his father to be able to decide on his own*
b Hij is [[van zijn vader] [te veel] afhankelijk t]] om...
c Hij is [[te veel] [[van zijn vader] afhankelijk t]] om...

(68) a Hij is [te [afhankelijk van zijn vader]] om zelfstandig te kunnen beslissen
*He is too dependent on his father to be able to decide on his own*
b Hij is [[van zijn vader] [te [afhankelijk t]]] om...
c *Hij is [te [[van zijn vader] [afhankelijk t]]] om...

Adapting data like the ones in (64) and (65), we see that more can be pied-piped by the WH-degree phrase hoeveel `how much'. In the following examples, aanmerkelijk `considerably' modifies (and is adjoined to) meer `more':

(69) a Ze zeggen dat hij [[aanmerkelijk meer] [aan de drugs]] is dan Maria, maar [hoeveel meer] hij werkelijk [t [aan de drugs]] is weet niemand
*They say that he's considerably more on drugs than Maria, but how much more he really is on drugs nobody knows*
b Ze zeggen dat hij [[aanmerkelijk meer] [als een beroemdheid leeft]] dan Sean C., maar [hoeveel meer] hij werkelijk [t [als een beroemdheid leeft]] is nog maar de vraag
*They say he lives like a celebrity considerably more than Sean C., but how much more he really lives like a celebrity is questionable*

(70) Hij is [[aanmerkelijk meer] [[van zijn vader] [afhankelijk t]]] dan Janna, maar [hoeveel meer] hij [t [[van zijn vader] afhankelijk t]]] is weet niemand
*He is considerably more dependent on is father than Janna but how much more he is dependent on his father, nobody knows'
These extraction data support the claim that *more*, as well degree phrases like *too much*, adjoins to the phrase it modifies.

The next section will address the question whether *much* in *too much so* or in e.g. *too much too tall* is a dummy.

### 3.7 *Much* as a dummy?

Corver (1994, 1997), Doetjes (1997) and Doetjes, Neeleman & Van der Koot (1998) all claim that *much* in *too much so* is a dummy. In the next subsection I will argue that this is incorrect.

In Corver’s system, *much* in *too much so* is inserted to function as an intermediary between a degree operator and the proform *so*. It copies the Grade argument that Corver claims is associated with the proform *so* in order to avoid vacuous quantification by *too*. In contrast, he claims that *much* in *too much too tall* is a full lexical *much* that has its own Grade argument.

Doetjes, Neeleman & Van der Koot (1998) argue that *much* in both *too much so* and *too much too tall* is a dummy. They claim that the semantics of *as much on drugs* is completely parallel to that of an example like *as beautiful*: in other words, they claim that *much* in *as much on drugs* does not contribute any semantics of its own. As such, dummy *much* can be introduced into syntax to satisfy the c-selection properties of the degree head without satisfying its s-selection properties.

For example, whenever a Deg⁰ like *too* is going to be merged with a phrase that is not an AP, for instance the PP *on drugs*, we can insert dummy *much* as the complement of Deg⁰, forming the full DegP [*too much*]. This DegP, then, adjoins to the prepositional phrase in question, yielding [*pp [*too much*] [*pp on drugs*]]. The authors assume that the c-selection properties of *too* are satisfied by dummy *much*, whereas the s-selection properties of the degree head are satisfied by the phrase that is modified by the degree phrase, the PP *on drugs*.

In the *so*-pronominalization cases (e.g. *too *(much) so*) that prompted Corver’s (1994, 1997) analysis, Doetjes, Neeleman & Van der Koot (1998) assume that the degree phrase *too much* adjoins to the projection of *so*, just like it adjoins to a PP. They argue (correctly in my view) that *so* is a proform that can substitute numerous categories and hence is underspecified with respect to its categorial

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31 I will argue against this claim in section 3.7.1.
nature (ibid., p.4). As such, the proform so is not an AP like Corver (1994, 1997) suggested, and hence cannot satisfy the c-selectional properties of a Deg:

(71)  This painting is very fragile,

a  *  perhaps a little [degp too [so]]
b  perhaps a little [xp [degp too much] [xp so]]

I agree with the analysis of Doetjes, Neeleman & Van der Koot (1998) in this respect, but not with respect to their position that much is a dummy. In section 3.7.1 I will argue that much does have a semantics of its own, in contrast to their claim that it does not contribute any meaning to the phrase. This is one of the arguments against the position that much is a dummy in both the too much so and too much too tall cases.

3.7.1  Much is not a dummy

In this subsection I argue that much in too much so is not a dummy. There are three arguments against much as a dummy.

First, items other than much can `support' degree heads. If much, or its Dutch counterpart veel, would indeed be a dummy element just copying a Grade argument as Corver (1997a) claims, we would not expect other items to fulfil the same function. Instead of te veel `too much' it is also possible to use: te diep `too deeply', te erg `too very' or te zeer `too very'. Actually, Corver (1990, pp.227-230) provides an extensive paradigm of other modifiers that can be left behind in extraction environments:

(72) a  John is afraid of Bill. In fact [too terribly so] to be able to look him in the eye.
b  John was short of funds, but I don't know [how badly so ]

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32  Examples adapted from Corver (1990). I would like to thank Laurie Stowe and Tim Stowell for their judgments.
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c John is related to Mary, but not [too closely _ ] to prevent them from marrying each other

d Mary is known around Europe, but still not [as widely _ ] as she would like

e This house is insured, though not [too well _ ]

(73) a Janna is bang voor de zee. Zelfs [zo erg _ ] dat ze niet eens in Amsterdam wil wonen
  Janna is afraid of the sea. Even so very _ that she not even in Amsterdam wants live
  `Janna is afraid of the sea. Even [so much so] that she doesn't even want to live in Amsterdam'

b Marie is krap bij kas, maar [hoe krap _ ] weet ik niet
  Marie is tight by cash but how tight know I not
  cf. `John was short of cash, but I don't know how short _ '

c John is verwant aan Marie, maar niet [zo nauw _ ] dat ze niet met elkaar kunnen trouwen
  John is related with Marie but not so closely that they not with each other can marry
  `John and Mary are related, but so closely that they cannot marry each other'

d Peter is bekend met virusziekten, maar [hoe goed _ ] weet ik niet
  Peter is known with virus-diseases but how well _ know I not
  `Peter knows about viral diseases, but how much he knows about them I don't know'

e Dit huis is wel verzekerd, maar niet [zo goed _ ]
  this house is PRT insured but not so well
  `This house is insured, but not very well'

(74) a Janna is bang voor spinnen. Ze is dat, zelfs [zo zeer _ ] dat ze ook kleintjes niet uit haar kamer durft weg te halen
  Janna is afraid of spiders. she is that even so very t that she also small ones not out her room dares away to take
  `Janna is afraid of spiders. In fact, so much so, that she dare not remove even small ones from her room'

(75) a Wie is 't [even zeer/ even erg _ als Marie]?
  who is it as very/ as very as Marie
  `Who is it as badly as Marie?'

b Wie is 't [hoe erg _ ]?
  who is it how very
  `Who is it how badly?'
In the appendix to this chapter I will expand the semantic analysis of Doetjes, Neeleman & Van der Koot (1998) such that it represents the contribution of much. I propose there that much can modify those degree phrases of which the head invokes a reference point and an orientation.

One can hardly claim that terribly and badly in too terribly so and how badly so are dummy quantifiers. Since they appear in the same paradigm as much, it is highly unlikely that the latter is a dummy.

The second reason why much in so much so cannot be a dummy, is that it can be modified. It is entirely unexpected for a dummy element to be modified:

(76) a John is afraid of spiders. In fact, [so much so] that...
   b John is afraid of spiders. In fact, [so terribly much so] that...

(77) a Hij heeft er [zo vreselijk veel _ ]
    he has there so terribly much
    `He has such an awful lot of them'

   b [ _ [advp vreselijk] ap veel [ _ ] ]

   c or: [ _ [degp zo [advp vreselijk]] ap veel [ _ ] ]

Note that it does not matter which of the structures in (77b,c) is the correct one: in either one veel is being modified.

The third reason why much is not a dummy is that it can modify certain degree phrases on its own:

(78) a much too tall for this sweater
   b much taller than Bill
   c much more interesting than this record
   d much less trivial than it seems

Before going into the significance of these examples, we should note that Corver (1997a, p.147) argues that much in too much so is a dummy, because by itself it cannot cooccur with the proform so. He gives the following examples:

(79) a *? This story is interesting, [much so] I think
   b *? John's story is exciting, [much so] I believe

33 In the appendix to this chapter I will expand the semantic analysis of Doetjes, Neeleman & Van der Koot (1998) such that it represents the contribution of much. I propose there that much can modify those degree phrases of which the head invokes a reference point and an orientation.
The following examples seem to be exceptions to this observation (Ernst 1984, p. 174):

(i) a I'm [much in favour of that law]
   b Alice taught home economics [much against her will]
   c *?
   d John is intelligent; as a matter of fact, Sue is [much so] too

Similarly, Doetjes, Neeleman & Van der Koot (1998) state that much in e.g. too much on drugs is a dummy, because its lexical variant cannot modify the PP on its own:

(80) a * He is much on drugs

However, Ernst (1984) does provide such examples in his discussion of the distribution of much as a modifier (ibid., pp. 171-177). He notes that much by itself in postverbal position is most natural in negative, conditional and interrogative sentences (ibid., p. 171):

(81) a * He goes there much
    b He doesn't go there much
    c Does he go there much?
    d If he goes there much, he must be crazy

Much as an adverbial that precedes its modifiee requires that this modifiee has a comparative or equative feel to it. Ernst provides the following examples that are interesting here. In these examples much modifies an adjective or a prepositional phrase (ibid., pp. 172-174):

(82) a George's writing is [much [inferior to Dan's]]
    b George's writing is [much [preferable]]
    c George's writing is [much [improved]]
    d * George's writing is [much [good]]

(83) a George's writing is [much [above the standard]]
    b He was demanding a level of commitment [much [beyond our ability to provide it]]
    c He was demanding a level of commitment [much [above anything we'd been asked for before]]

---

34 The following examples seem to be exceptions to this observation (Ernst 1984, p. 174):

(i) a I'm [much [in favour of that law]]
   b Alice taught home economics [much [against her will]]
Of course, when someone makes a distinction between a dummy element *much* and a lexical element *much*, the examples in (78)-(83) may be claimed to be instances of the lexical variant. Interestingly, however, the interpretation of complex phrases like (84b-c) appears to expand the meaning of (84a):

\[(84)\]

\[\begin{align*}
    a & \quad \text{You are much [too tall (for this sweater)]} \\
    b & \quad \text{This sweater is too much [too small (for John)] for him to even try it on} \\
    c & \quad \text{You are as much [too tall (for this sweater)] as John is}
\end{align*}\]

Someone can be too tall for a sweater to various degrees: a little too tall (but not very much so), much too tall, very much too tall, as much too tall as someone else is, so much too tall that there is no need to try it on, obviously too much too tall to even attempt to try it on, etc.

That is to say, the interpretation of *much* as a modifier (as in (78) and (84a)) is maintained in phrases where it is the complement of a degree head (as in (84b-c)). This implies that *much* in, for instance, *too much so* or *as much too tall* does contribute to the meaning of the entire phrase, which in turn implies that it is not a dummy. I conclude that *much* is definitely able to satisfy the s-selection properties of a degree head, contrary to the claim in Doetjes (1997) and Doetjes, Neeleman & Van der Koot (1998).

In section 3.9 I will extend Doetjes, Neeleman & Van der Koot's (1998) analysis of the interpretation of degree phrases in order to properly represent the meaning of *much* in (84).

### 3.8 Summary and conclusion

This chapter started with an interesting set of data, provided by Corver (1994, 1997): *more, less* and some other items behave different from degree heads like *too, as* and *so*.

Corver proposed an analysis in which there is a quantifier phrase in between Deg⁰ and AP: *more, less* etc. are analysed as Q⁰s. However, I argued in section 3.4.2 that his analysis yields incorrect predictions.

Section 3.5 showed that *more* is not a Q⁰, but a full degree phrase headed by the comparative morpheme -er. In addition, I argued in section 3.7 that *much* is not a dummy, in contrast to the assumption in Corver (1997) and Doetjes,
Neeleman & Van der Koot (1998). *Much* does indeed contribute meaning to a phrase it occurs in and hence is able to satisfy the s-selectional properties of a degree head.

In short, I arrived at the following conclusions.

1. *te `too’, even `as’, hoe `how’* etc. are degree heads. They select AP and QP in Dutch and English;35

2. There is no quantifier phrase in between a degree head and its complement AP (contra Corver 1994, 1997);

3. *Meer `more’, meest `most’, minder `less’ and minst `least’* are degree phrases: they consist of a Deg0 and an incorporated quantifier like *veel `much/many’ or *weinig `little’, respectively;

4. The following structures were argued for:

   a. \[\text{degp too/as/how} \text{ap beautiful}]\]
   b. \[\text{degp too/as/how} \text{ap much}]\]
   c. \[\text{degp te/even/hoe too/as/how ap mooi}]\]
   d. \[\text{degp te/even/hoe too/as/how ap veel}]\]
   e. \[\text{degp tall-er/-st} \text{ap t]} \rightarrow \text{degp taller} \text{ap t}]\]
   f. \[\text{degp much-er/-st} \text{ap t]} \rightarrow \text{degp more} \text{ap t}]\]
   g. \[\text{degp lang-er/-st} \text{ap t]} \rightarrow \text{degp langer} \text{ap t}]\]
   h. \[\text{degp veel-er/-st} \text{ap t]} \rightarrow \text{degp meer} \text{ap t}]\]

5. Degree phrases, like *too much* and *more*, can function as modifiers of other degree phrases, prepositional phrases, noun phrases, parts of sentences or of the categorially underspecified proform so. They adjoin to the phrase they modify;

6. As such, the following structures were argued for:

   a. \[\text{degp [degp too much/ more]} [\text{degp too large}]]\]

35 Degree heads may also be combined with nouns and verbs in Zapotec. If *veel `much/many’* is considered an adjective, Deg’s in Dutch and English only select AP.
Much in *too much so* or in *as much too tall* is not a dummy: its function can be fulfilled by other elements as well, it can be modified and it does contribute meaning to the interpretation of such examples.
APPENDIX  The interpretation of degree phrases

Doetjes, Neeleman & Van der Koot (1998, p.17 ff.) provide an interesting semantic analysis for degree phrases.

They analyse a degree phrase like *too famous* or *too tall* as follows. For instance *famous* denotes an ordered set of degrees of fame. *Too* first introduces a contextually defined reference point on the scale of fame (dividing the scale into two subsets) and then selects the subset with the highest degrees of fame. From this selected subset a particular degree of fame is picked by existential quantification (which is an assumption I do not agree with, see below).

\[(85)\]
\[
\text{too tall} \quad \exists p [ p \in \text{UP}(p_{\text{ref}}, \text{FAMOUS})]
\]

The property of *too* to select the subset with the higher degrees of fame is termed "upward oriented" by Doetjes, Neeleman & Van der Koot. It is represented by a function \(\text{UP}\).\(^{36}\)

The comparative morpheme *-er* also introduces a reference point and an orientation (and an existential quantifier).

\[(86)\]
\[
\text{tall-er} \quad \exists p [ p \in \text{UP}(p_{\text{ref}}, \text{FAMOUS})]
\]

They assume that *more* has the same semantics as *-er* and *too* (ibid., p.45). I will come back to this in the section E of this appendix.

A degree operator like *as* only introduces a reference point (and an existential quantifier), but does not have an orientation: it does not select a subset of the set of degrees. Rather, it introduces a function \(\text{AT}\) which states that the selected degree is identified as the reference point:

\[(87)\]
\[
\text{as tall} \quad \exists p [ p \in \text{AT}(p_{\text{ref}}, \text{FAMOUS})]
\]

---

\(^{36}\) Doetjes, Neeleman & Van der Koot (1998) introduce the function \(\text{DOWN}\) for the meaning of *less*. Later on (ibid. p.41), they propose that \(\text{DOWN}\) can be seen as \(\text{UP(REVERSE)}\) instead.

Since I argue that *less* in *less tall* is *little-er*, I only partly agree with this. Rather, the comparative morpheme in *less* has its normal orientation \(\text{UP}\). Since it operates on the scale associated with the meaning of *little*, however, a greater degree of 'little tallness' amounts to a smaller degree of tallness: *increasingly little* means *less and less*. This yields the interpretation that *less* has a downward orientation that is reversed with respect to the interpretation of -*er* itself.
In the following subsections I will briefly discuss the elements of the semantic analysis of Doetjes, Van der Koot (1998).

A  The existential quantifier

Doetjes, Neeleman & Van der Koot (1998) propose that the degree operators introduce an existential quantifier, to account for the illformedness of stacked degree operators in (88):

(88)  

a * too taller  
b * as too famous  
c * more as high  
d * too ten miles high

For instance, if a comparative morpheme introduces existential closure, *too in (88a) cannot be combined with taller, because taller now denotes a single degree (by their claim) and *too needs a set to operate on.37

However, in my view taller than Mary still denotes a set of degrees of tallness: if Mary is five feet tall, taller than Mary is still a set of degrees ranging from five feet something to e.g. seven feet. As such, I do not agree that all degree heads (or degree phrases like more or less) introduce an existential quantifier. Those degree phrases that have an orientation, or in other words, select a subset of degrees, do not introduce an existential quantifier. These degree operators are too, so, more and less (contrasting with as, which does not select a subset of degrees). Rather, I will adopt Zwarts’ (1992, pp.143-147) assumption that the existential closure is provided by a Theme relation that attributes properties and degrees to objects. On the assumption that the copula be is a lexical expression of this Theme...

37 To account for acceptable combinations like too much too tall and less too tall, the authors provide an ingenuous system: when two degree operators occur in a specifier-head configuration (where the modifying phrase is the specifier), the existential quantifier of the head can be deleted under identity with that of its specifier to avoid vacuous quantification (ibid., p.35). Since I do not agree with their assumption that degree heads and degree phrases like too and more introduce an existential quantifier, I will not discuss their proposal except for the following observation.

If it were true that too much too tall is well-formed because the existential quantifier introduced by too in too tall can be deleted under identity with the one in too tall, the prediction is made that *too much as tall is grammatical as well. That is, as is assumed to introduce an existential just like the one in too (ibid., p.21) and in the same configuration as too much too tall this quantifier should be able to delete under identity of the one introduced by too. Given the ungrammaticality of *too much as tall, the deletion-under-identity-account for too much too tall does not hold, unless the authors would like to assume that the two phrases have a different internal structure.
relation (Zwarts 1992, p.147), the existential closure is introduced when the degree phrase occurs in the sentential domain, and not within the degree phrase itself (except when Deg is as).

Looking at the ill-formed examples in (88), then, the explanation of Doetjes, Neeleman & Van der Koot cannot be maintained. Instead, I assume that the (88a-b) examples are out because a degree head cannot select another degree phrase. Example (88c) is ill-formed because as high does not denote a set of degrees and, hence, cannot be modified by more (cf. the discussion below of much as a modifier). Similarly, the modifier ten miles in (88d) identifies the degree of height as the one corresponding to ten miles. Thus, ten miles high does not denote a set and cannot be combined with the degree operator too. In addition, I will assume that ten miles high is a degree phrase: \([\text{degp} \text{ten miles} [\text{degp} \odot [\text{up} \text{high}]]]\) (cf. below for discussion). As such, it does not match the c-selection properties of too either.

To conclude, degree operators like too, so or -er do not introduce existential quantification, in contrast to the assumption in Doetjes, Neeleman & Van der Koot (1998):

\[(89) \quad \text{too tall} \quad [p \in \text{UP}(p_{ref}, \text{TALL})]\]

\[(90) \quad \text{tall-er} \quad [p \in \text{UP}(p_{ref}, \text{TALL})]\]

\[(91) \quad \text{as tall} \quad [p \in \text{AT}(p_{ref}, \text{TALL})]\]

B The reference point

The reference point is contextually determined and can be spelled out by a subclause or phrase that is dependent on the degree head involved. This is the case in:

\[(92) \quad \text{Joan was as famous as Marilyn}\]

\[38\quad \text{As noted by Tim Stowell (pc) the reference point need not per se be a point. It could also be an interval as well, in which case we can capture the intuition that too short and too tall are not adjacent parts of the scale of tallness.}\]
Alternatively, in the case of so, which is a degree head with an upward orientation, the subset that is selected is referred to by a dependent subclause, as in the following result clause:

(93) Leonard is so famous that he’s sick of it

In the case of too the selected subset is the one which is not expressed by the dependent clause:

(94) Leonard is too famous to enjoy it

In this case, Leonard does not enjoy being famous any longer: he is beyond those degrees of fame that are still enjoyable.39

In short, those degree operators that have dependent clauses or phrases are the ones that introduce a reference point (note that Doetjes, Neeleman & Van der Koot analyse more on a par with for instance the degree head too. I will argue against this position below):

(95) a John F. was \[\text{less}\] than Marilyn
    b John F. was \[\text{too}\] to have any privacy
    c John F. was \[\text{as}\] as Marilyn

(96) a * John F. was \[\text{very}\] to have any privacy
    b * John F. was \[\text{very}\] than Marilyn
    c * \[\text{how}\] John F. is to have any privacy
    d * \[\text{how}\] than Marilyn

Doetjes, Neeleman & Van der Koot (1998, p.19, exx.(48)-(49))

In sum, degree operators introduce a reference point on the scale of degrees expressed by an adjectival predicate.

---

39 There is a negation in the semantics of too, which also allows for negative polarity items in the dependent subclause, such as ook maar lit. ‘too but’ (the English NPI even):

(i) Hij is te beroemd om er ook nog maar één seconde van te genieten
    \(he\ is\ too\ famous\ to\ there\ too\ still\ but\ one\ second\ of\ to\ enjoy\)
    ‘He’s too famous to enjoy even one second of it’
C The orientation

Most degree operators have an orientation. Those that have an orientation, but do not introduce a reference point, are very or that: they are used to refer to relatively high degrees.

Other degree operators, for instance too, introduce both a reference point and an orientation. The degree phrases projected by such operators can be modified by a phrase which indicates the distance between the reference point and the degree that is selected, in the direction indicated by their orientation. Doetjes, Neeleman & Van der Koot (1998, p.20) propose that considerably is such a modifier. Consider the contrast in (97)-(98):

(97)  
\begin{align*}  
\text{a} & \quad \text{John F. was [degp considerably [degp taller]] than Marilyn} \\
\text{b} & \quad \text{John F. was [degp considerably [degp too famous]] to have any privacy}
\end{align*}

(98)  
\begin{align*}  
\text{a} & \quad \text{John F. was [degp considerably [degp as famous]] as Marilyn} \\
\text{b} & \quad \text{John F. was [degp [degp \circ famous] [considerably enough]] to have bodyguards}
\end{align*}

Interestingly, much appears to be a modifier with the same function as considerably in (97) (cf. (99)). Recall that this was one of the arguments in section 3.7.1 against an analysis of much as a dummy. Much does contribute meaning to a phrase like too much too tall: it expresses information about the distance between the intended degree or being too tall and the reference point that is introduced by too in too tall (cf. (100b), in the notation used by Doetjes, Neeleman & Van der Koot, but leaving out the existential quantifier). In all examples in (99), much modifies a degree phrase: more in (99a), less in (99b) and too famous in (99c):

(99)  
\begin{align*}  
\text{a} & \quad \text{John F. was [degp [degp2 much more] [degp \circ famous]] than Marilyn} \\
\text{b} & \quad \text{John F. was [degp [degp2 much less] [degp \circ famous]] than Marilyn} \\
\text{c} & \quad \text{John F. was [degp much [degp too famous]] to have any privacy}
\end{align*}

---

40 Since the modifier takes a reference point as one argument, the degree operator of the modified phrase has to introduce a reference point, in order to allow for this type of modification.
The aim of Doetjes, Neeleman & Van der Koot (1998) is to prove that categorial selection is not derived from semantic selection, or, in other words, that syntax is autonomous. More and too are not identical, syntactically: the former is a full phrase, the latter a degree head. If more and too do indeed share the same semantics, this supports the authors' point that syntactic behaviour and c-selection are not reducable to semantics and to s-selection properties, since their different syntactic behaviour cannot be the result of a different meaning. In my analysis, however, more and too not only differ syntactically, but also semantically. This implies that my analysis does not serve the purpose of Doetjes, Neeleman & Van der Koot to prove that syntax is autonomous.

D Overview

Looking at the properties of the degree operators, we arrive at the following overview (adapted from Doetjes, Neeleman & Van der Koot (1998, p.21, ex. (52)):

<table>
<thead>
<tr>
<th>Reference point</th>
<th>Orientation</th>
<th>No orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td>-er</td>
<td>as</td>
<td>enough</td>
</tr>
<tr>
<td>too</td>
<td></td>
<td></td>
</tr>
<tr>
<td>very</td>
<td></td>
<td></td>
</tr>
<tr>
<td>how</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

E The meaning of much and more

Since Doetjes, Neeleman & Van der Koot (1998) analyze much as a dummy that is just inserted to satisfy the categorial selection properties of a degree head, they do not assign it any independent semantics. As such, they claim that as and as much share the exact same semantics, as do too and too much (ibid., p.23). Since they do not acknowledge the presence of much incorporated into more (nor the semantic contribution of much), they also assign the same meaning to the degree phrase more and the degree head too. In section 3.7.1 I argued that the meaning of e.g. as much too tall builds on that of much too tall. In other words, the meaning

\[
\begin{align*}
\text{considerably too tall} & : [ p \in UP(p_{ref}, TALL) \land \text{CONSIDERABLE}(p, p_{ref}) ] \\
\text{much too tall} & : [ p \in UP(p_{ref}, TALL) \land \text{MUCH}(p, p_{ref}) ]
\end{align*}
\]
of *much* as a modifier in *much too tall* is maintained in the meaning of *as much too tall*. *Much too tall* denotes a set of degrees of tallness that are at a considerable distance from the reference point introduced by *too* in *too tall*. The zero degree of ‘muchness’ is the reference point introduced by *too*. As in *as much too tall* introduces a second reference point on the scale of MUCH and maps this onto the scale of TALL:

\[
\begin{array}{cccc}
\text{TALL} & & & \\
\hline
\text{p}_{\text{ref1}} & \text{as} & \text{p}_{\text{ref2}} & \text{MUCH}
\end{array}
\]

(102) \hspace{1cm} \textit{as much too tall}

If *too much* modifies *too tall*, *too* in *too much* also introduces a second reference point on the scale of MUCH. The difference with the previous example is that in this case the function UP applies again, and the upper part of the MUCH scale is mapped onto the TALL scale:

\[
\begin{array}{cccc}
\text{TALL} & & & \\
\hline
\text{p}_{\text{ref1}} & \text{too} & \text{p}_{\text{ref2}} & \text{MUCH}
\end{array}
\]

(103) \hspace{1cm} \textit{too much too tall}

Looking at the paradigm in (101), it is possible to make a generalization as to which degree phrases may be modified by *much*: only those degree phrases of which the head Deg\(^0\) invokes both a reference point and an orientation can be modified by it. The empty slot is intriguing. It should be filled by a degree operator which does not introduce a reference point and does not have an orientation. Recall Zwarts’ (1992) assumption that every AP has a DegP on top: if there is no overt degree element, there is a covert or lexically empty one. The empty operator saturates the G argument of the adjective. Plausibly, it does not introduce a reference point, nor does it have an orientation. That is to say, the covert degree head is a natural candidate for the empty slot in Doetjes, Neeleman, & Van der Koot’s table. In light
Another explanation is provided by Doetjes (1997). She assumes that comparison is expressed by the degree head -er or by modification by more. The most restricted form is selection by -er, because the degree head only selects APs (and QPs). More is the Elsewhere form, in the sense that it occurs wherever the bound morpheme cannot: the Elsewhere form can be blocked by the possibility of the more restricted form. As such, *more tall is ungrammatical because selection by -er as in taller is possible.

This account of the ungrammaticality extends to phrases of other syntactic categories. Since a degree head does not select a prepositional phrase, for instance, the Elsewhere form occurs:

(104)  * [degp [much] [degp ◦ [ap tall]]]

Given the analogy between too much and more and given that more incorporates a quantifier like much, I propose to analyze more in the same vein as too much (cf. (85)):

(105) much-er = more [ p ∈ UP(p_ref, MUCH)]

<table>
<thead>
<tr>
<th>Orientation</th>
<th>No orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reference point</strong></td>
<td>(much) tall-er</td>
</tr>
<tr>
<td></td>
<td>(much) more</td>
</tr>
<tr>
<td></td>
<td>(much) too tall</td>
</tr>
<tr>
<td><strong>No reference point</strong></td>
<td>(*much) very tall</td>
</tr>
<tr>
<td></td>
<td>(*much) how tall</td>
</tr>
<tr>
<td></td>
<td>(*much) ◦ tall</td>
</tr>
</tbody>
</table>

42 Another explanation is provided by Doetjes (1997). She assumes that comparison is expressed by the degree head -er or by modification by more. The most restricted form is selection by -er, because the degree head only selects APs (and QPs). More is the Elsewhere form, in the sense that it occurs wherever the bound morpheme cannot: the Elsewhere form can be blocked by the possibility of the more restricted form. As such, *more tall is ungrammatical because selection by -er as in taller is possible.

This account of the ungrammaticality extends to phrases of other syntactic categories. Since a degree head does not select a prepositional phrase, for instance, the Elsewhere form occurs:

(i) a *-er on drugs
   b more on drugs

Similarly, very and much seem to share the same meaning. Doetjes analyses very as a Deg°, that only selects APs (and QPs). Much, however, can adjoin to numerous categories and is the Elsewhere form. Since very tall is grammatical, *much tall is blocked.

Note however, that a restricted form need not always absolutely block the Elsewhere form. That is, for some (derived) adjectival predicates the synthetic comparative is not exclusive. For instance, I would accept both forms in (ii):

(ii) ingetogen-er / meer ingetogen
    modest-er     more modest
In sum, *much* does contribute meaning to the interpretation of degree phrases it occurs in. This implies that the meaning of *too much* is not exactly identical to that of *too* as a degree head. It also implies that the meaning of *more* is not exactly identical to that of the comparative degree morpheme *-er*, nor to that of *too*, contrary to the claims in Doetjes, Neeleman & Van der Koot (1998).