The nature of quantification of high-degree: 'very', 'many', and the exclamative

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0. Introduction

In this paper, we will reflect on the nature of high-degree quantification, i.e. meanings like 'many' and 'very'.[1] An alternative, and more traditional, name for quantification of high-degree is 'elative'. In contrast to the quantification of *maximal* degree, such as 'all' and 'whole', semanticists have not assigned a satisfactorily abstract representation to the elative. One cannot define 'many' in terms of say '80%' or as 'more than half', since this would predict that a sentence like 'many publications of this institute were written by the cleaning woman, but not more than 50%' would be a contradiction, *quod non*. Any definition in terms of percentage is doomed to failure. Neither can we say that the meaning of 'many' is vague or fuzzy. Although the extension (or 'reference'), i.e. the set to which 'many' refers in a specific context may be fuzzy, its intension (or 'meaning') is precise. It is this meaning that we will study in this paper.

Model-theoretical approaches, which are — in their traditional application — extensional in nature, have failed to capture the meaning 'many' with sufficient precision. Therefore, we will study this type of quantification from an *interpretive* point of view, that is, we investigate whether we can find a particular *syntactic* configuration that underlies this type of quantification. Formulated in a sufficiently abstract way, it is this syntactic configuration that is equal for all instances of 'many' be it English *many*, or Dutch *veel*, or any other context with quantification of high degree.

A first indication that high-degree is interpretive can be found in Dutch sentences like (1a/b): although there is no word present on (1a/b) that can be held lexically responsible for it, the 'many'/'very' reading is present, besides an exclamative effect.

(1)	a	Een boeken dat Jan leest	c	Jan leest <u>veel</u> boeken
		'John reads many books', EXCL[2]		'John reads many books'
	b	Intelligent dat Jan is	d	Jan is <u>heel</u> intelligent
		intelligent that John is		'John is very intelligent'
		'John is very intelligent', EXCL		

[2] There is another reading of this construction: the CRAZY reading. The exclamative reading is retained (i.e. 'John reads crazy books', EXCL). We will discuss this reading in a forthcoming study.

Apparently, there must be a non-lexical source of this quantificational reading. We will show that it is syntactic structure. The syntactic configuration that induces elative interpretation is what we will investigate in the first part of this paper. In the second part, we will argue that the elative readings of (1c) and (1d), which are seemingly a result of interpretation by the lexicon, are equally results of *structure*. The same configurational rules will turn out to hold in these cases.

1. Configurations of High Degree

WH-words can not only have an interrogative reading but also an indefinite reading (Postma 1994). Consider the Dutch paradigm in (2).

(2) a   Wat heb je gedaan?
          what have you done
     b   Jan heeft wat gedaan
          John has what done
          'John has done something'

In (2a), we have a WH-word which has moved to specCP. It acquires an interrogative interpretation. In (2b), on the other hand, the WH-word remains *in situ* without stress: it acquires the *indefinite* interpretation. In other words, the Dutch WH-word *wat* can mean both 'what' and 'something'. When moved to Comp, the interrogative reading is the only one available.

There is a third reading of Dutch *wat*, discussed in Bennis (1995): the exclamative reading. Bennis argues that the exclamative reading is not triggered lexically either. Syntactic structure determines the interpretation. For Dutch, Bennis locates the triggering factor in the structural/adjunct nature of *the extraction slot of WAT*: a *structural* extraction slot correlates with the *interrogative* interpretation of *wat*. *Adjunct* extraction is tied to the *exclamative* reading, as illustrated in (3).

(3)			extraction slot	reading
	a	Wat lachte Jan! what laughed John 'John laughed a lot', EXCL	adjunct	exclamative
	b	Wat zag Jan? what saw John	structural	interrogative

The sentences in (2) and (3) contain the morpheme *wat*, but this morpheme in each case has a distinct semantic effect. The semantic effect of *wat* seems to be determined by 1. the position of the morpheme, 2. the structural relations of the morpheme with its context. The contexts rendered in Bennis (1995) are given in (4).

(4)   *Wat* is an open variable. Its interpretation is not determined by the
        lexicon, but *by the syntactic configuration*:

  a   If the quantificational domain is CP: → WH or EXCL
          if *wat* is extracted from a structural position: → WH-reading
          if *wat* is extracted from an adjunct position: → EXCL-reading
  b   If the quantificational domain is VP: → ∃-reading

We cannot illustrate all aspects of (4). In many cases, the strict structural determin-
ation of meaning as given in (4) is obscured. For instance, a sentence like (5) is
ambiguous: it can be interpreted 1. as an exclamative and 2. as an interrogation.

(5)   Wat stonden ze daar te lachen
        what stood they there to laugh
  a   'How much they laughed!'   excl. + manner
  b   'For what (reason)/*how much are you laughing?' interrog. + causal

Interpretation does not seem to be fully determined by structure in (5). However,
this is only seemingly so. The *exclamative* reading (5a) is interpreted in a *manner*
way, i.e. as a VP-adjunct 'much!'. The *interrogative* reading (5b), on the other
hand, only obtains with *causal* interpretation: 'for what', i.e. we may assume that
there is an empty preposition and *wat* is extracted from a *structural* position.[3] This
makes (5) in full agreement with the interpretive generalization in (4). We will take
the interpretive scheme in (4) as a starting point.

    What Bennis leaves undiscussed is the precise *meaning* of exclamative sentences
like (3a). The quantification involved is not *just* the exclamative effect. In addition
to it, the sentence receives a 'much' reading, i.e. a quantification of high-degree, as
indicated in the glosses of (3a). We will demonstrate that quantification of high-
degree ('much') and the exclamative have an underlying configuration in common.
The exclamative will turn out to be a quantification of high-degree *at the proposit-
ional level*.

    In order to evaluate the significance of the extraction slot in the Dutch sentences
in (3), it is useful to study WH-constituents with a slightly more complex structure:
wat (voor) een boeken. The variant *wat voor een boeken* receives an interrogative
reading, whereas *wat ∅ een boeken* receives an exclamative reading, as illustrated
in (6)/(7).

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[3] Evidence for the empty preposition in the causal reading 'for what' is the fact that the interpretation 'p$_e$
what' is favoured by the addition of dummy *daar*. In Dutch, dummy *daar* typically licenses ethical
Datives, i.e. pronouns with an empty Dative preposition, cf. (i).
  (i)   Hij stond me daar te lachen!
           he stood me there to laugh
           'He laughed' (and I have a specific attitude to it)
  At some deeper level, ethical dative constructions and exclamatives seem to be related.

			P2	reading
(6)	a	Wat$_i$ heb je [$_{CP}$ t$_i$ **voor** [een boeken]] gekocht? what have you for a books bought	yes	interrogative
	b	[Wat **voor** [een boeken]] heb je gekocht? [what for books] have you bought	yes	interrogative
(7)	a	Wat heb je [$_{CP}$ t$_i$ ∅ [een boeken]] gekocht what have you a books bought	no	exclamative
	b	[Wat ∅ [een boeken]] heb je gekocht what a books have you bought	no	exclamative

Bennis discusses these constructions from a slightly different point of view. Basing himself on Kayne's hypothesis that noun phrases may contain a complementizer, Bennis argues that the *wat voor*-construction in (6) shows an overt realization of a complementizer within the noun phrase (*voor* being the complementizer) and that the WH-word *wat* resides in specCP. Bennis uses the CP-analysis of NPs to make it understandable why Dutch *wat* can be extracted from the noun phrase *wat een boeken*. In these cases, *wat* undergoes movement from specCP to specCP.

If noun phrases contain a second position (henceforth: P2), just as clauses, we can re-interpret Bennis's analysis, and say that the Dutch *wat-voor* construction realizes an overt 'P2'-effect within the noun phrase.[4] What we see is that the interrogative/ exclamative alternation corresponds to a particular configuration *within* the noun phrase. In languages such as English and French, the exclamative does not seem to correspond to any overt property within the noun phrase. In these languages, exclamative and interrogative WH-sentences exhibit different properties at the *sentential* level, as exemplified in (8)-(9).

(8)	a	Quelle histoire m'a-t-il racontée? what story to-me has he told	V2	interrogative
	b	How stupid is he?	V2	interrogative

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[4] The unstressed indefinite article *een*, [ən], does not move to C^0 either. It is inserted in Num and does not raise to C^0 or D^0, not even at LF for checking, as it is uninflected and completely insensitive for gender. Only the stressed determiner *één/ene* exhibits inflectional gender oppositions, ±N(euter), and we may assume that they move at LF for checking gender in DP. According to the general pattern of Dutch, inflectional gender oppositions only occur in indefinite constructions, cf. (ii)-(iii).

(i)   Dit ene boek [+N] /deze ene man[-N]
         'this single book/this single man'

(ii)   Niemand begreep er ene bal [-N]/*balletje [+N] van
         'nobody understood a single ball of it'

(iii)   Niemand had *ene begrip [+N] voor de situatie
         'nobody had any understanding of the situation'

As inflected *ene* must move for checking, it is incompatible with lexicalization of C^0 by *voor*.

(iv)   Wat voor *ene man[-N]/**ene boek[+N] heb jij gezien?

As a mirror image, unstressed *een* [ən], which is uninflected and insensitive for gender, does combine with a filled C^0, as we have seen in (6). We conclude that it does not move, neither in (6) nor in (7). If it did, we would expect it to be inflected and to exhibit gender sensitivities, contrary to fact.

(9)   a   Quelle histoire il m'a racontée!   no V2   exclamative[5]
          what story he to-me has told
      b   How stupid he is!   no V2   exclamative

These data indicate that there is an interaction between the *interpretation* of WH and the V2-phenomenon. We formulate a tentative generalization in (10).

(10)   WH in specCP without the accompanying instantiation of the comple-
          mentizer (V2/P2) induces the exclamative reading   (first version)

(10) suggests that the exclamative reading is determined by the nature of the *landing site* of WH rather than of the *extraction slot*, as argued by Bennis. This does not mean, however, that Bennis is wrong. In fact, it is quite simple to link (10) to the interpretive rule in (4a). One way is to assume that constituents in specCP-position trigger the P2/V2-process when this position is *structural*. We then tie the exclamative reading to the non-structural position that WH <u>targets</u>. In a system in which specifiers and adjuncts are not distinguishable in terms of X-bar theory (Kayne 1994), it is most natural to adopt (11).

(11)   a   A specifier (specXP) is structural if the head X^0 is lexical
       b   A specifier (specXP) is an adjunct if the head X^0 is not lexical

We then rephrase the context of exclamative reading not in terms of extraction slots or landing sites, but in terms of chains. If we define an adjunct chain as a chain in which one of the members is not structural, we can generalize to (12).

(12)   *Wat* is an open variable. Its interpretation is determined by the
          configuration:
      a   If the quantificational domain is CP: → WH or EXCL
              if *wat* is part of a structural chain   → WH-reading
              <u>if *wat* is part of an adjunct chain   → EXCL-reading</u>
      b   If the quantificational domain is VP   → ∃-reading

Suppose WH is extracted from a structural position. If WH also lands in a structural position, which shows up in the P2-effect, the interrogative reading is induced. If the landing site is an adjunct, which shows up in the absence of the V2-effect, the exclamative reading is induced. Suppose, on the other hand, that the extraction slot

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[5]   In the presence of negation, inversion may happen in French (Grevisse 1986:394ff.), and in Paduan (Benincà 1994).
      (i)   Combien n'ai-je pas ecrits de recits à cette époque!   (French)
      (ii)   Chi no invitarisse-lo par parere importante!   (Paduan)
              who neg invite-s.cl for see.inf important
              'he invites many people in order to seem important'
      We return to the effects of negation below ("inner island effects").

is an adjunct position. Whether it lands in a structural or adjunct position, the exclamative reading obtains, because WH is part of an adjunct chain. Notice that our opposition structural/adjunct is independent of the traditional opposition A/A-bar. In (13) we listed the four possible contexts explicitly.

(13)　　　Patterns of variable-extraction　　chain type　reading　realization

		chain type	reading	realization
a	[+ structural] ← [+ structural]	struct.	interrog.	V2 + no adjunct
b	[+ structural] ← [− structural]	adjunct	EXCL.	V2 + adjunct
c	[− structural] ← [+ structural]	adjunct	EXCL.	no V2; no P2
d	[− structural] ← [− structural]	adjunct	EXCL.	no V2 + adjunct

Bennis (1995) only describes the opposition between (13a and b). By restating the context in terms of chains, we can extend the theory to the contexts of (13c and d). Besides these strategies, language has even a 'trick' to turn a context (13a) into an exclamative context, which we call the 'inner island trick', by forcing a non-structural intermediate landing site.

(14)　　*Inner Island Trick*
　　　　[+structural] ← [−structural] ← [+structural] EXCL.

The context of (14) is interpreted as an exclamative on behalf of both (13b) and (13c). We list an example of this strategy in (15b).

(15)　a　Wat dacht de directeur dat Jan op z'n kerfstok had　　　*excl./interrog.
　　　　　what thought the director not that John had misdone
　　　　　'What did the director think John had done wrong?'
　　　b　Wat dacht de directeur niet dat Jan op z'n kerfstok had!　excl./*interrog.
　　　　　what thought the director not that John had misdone
　　　　　'The director thought that John had done wrong *a lot*'

In (15b) an inner island for WH-extraction is created by the negation *niet* 'not'. (A similar strategy is followed in the contexts mentioned in note 5.) For the extraction to be possible, *wat* must carry out an intermediate adjunction, which we assume to be non-structural.[6] This creates the context of (14) which is interpreted as exclamative on behalf of both parts of the chain.[7]

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[6] The non-structural nature of the intermediate adjunction follows from the observation in Rizzi (1991: 17) that negation creates opacities for adjunct variables. The voiding of the negation in the exclamative might be due to the intermediate landing of *wat* in specNeg.

[7] The alternative sequence (i) does not seem to be possible (cf. (ii)), perhaps because of conflicting interpretive impositions by the first and second part of the chain. This might be 'chain uniformity' (Chomsky 1995) at an interpretive level. (The observation of the ungrammaticality of (ii) was made by an anonymous reviewer.)
　　(i)　　　[+structural] ← [+structural] ← [−structural]

Let us now return to the exclamative structure in (7). Bennis notices that the adjunct status of *wat* alone is not enough to license this exclamative use: additional movement to specCP is necessary, as can be seen from the ungrammaticality of (16).

(16)   *Jij hebt [wat ∅ een boeken] gekocht!
        you have what a books bought
        'You bought many books!'

The question is why this accompanying fronting of WH to specCP of the matrix clause is obligatory in exclamatives.

Significantly, if we add the particle *maar* to *wat een boeken,* the sentence with the WH-constituent in situ becomes grammatical (17a,b).[8] At the same time, the exclamative intonation is not necessarily present. The quantification left is only the meaning 'many', i.e. a quantification of high degree over DP.

(17) a   Hij heeft maar [wat een boeken] gelezen[9]
          he has PRT what a books read
          'He has read *many* books'
      b   Die man is maar wat dom
          that man is PRT what stupid
          'that man is *very* stupid'

In view of these facts, it is natural the assume that the quantification that we call 'exclamative' is a special case of a more general quantification of high degree or elative. This elative quantification covers the exclamative, the 'many' reading, and the 'very' reading. If the domain of the elative is the noun phrase, the 'many' reading shows up. If the domain of the elative is the adjective phrase, the 'very' reading shows up. If this elative quantification concerns the whole proposition, the exclamative reading obtains.

It must be noticed that in the case of movement to specCP, the quantification keeps on having constituent scope. As a result, the 'many' reading, or the 'very' reading is also present beside with the exclamative effect.

(ii)   *wat dacht de directeur dat Jan lachte   *interrogative/*exclamative
        what thought the director that John laughed

[8] The reason might be that *maar* provides a local landing site of *wat*, as in (i).
    (i)   [— maar [wat ∅ een boeken]]
                 ⌃̲̲̲̲̲̲̲̲̲̲⌋

The necessity of the extraction has similarities to *heel*-extraction, discussed in section 2.

[9] For some speakers of Dutch (17a) has a marginal status. All speakers of Dutch accept (17b) as perfect.

(18) a Wat een boeken heeft hij gelezen   b Wat dom is die man!
          'he has read *many* books!', EXCL   'He is *very* stupid!', EXCL

In terms of Heim-like theories, which describe interpretive effects in terms of
implicit quantifiers, we can, somewhat artificially, say that an implicit quantifier of
high-degree does not only bind an open *sentential* variable but also an open variable
within the DP or AP, i.e. we can describe it as a result of unselective binding. In a
consistently pursued interpretive theory, however, the interpretation ('the quanti-
fier') is not part of the syntactic structure. The interpretation is a result of the
interpretive module that *interprets* structure. We then obtain the interpretive rules in
(19).

(19)   High-Degree Quantification is induced by an open variable in an adjunct
           chain
        a if the domain of quantification is the whole proposition → EXCL
        b if the domain of quantification is NP   → 'many'
        c if the domain of quantification is AP   → 'very'

The interpretive scheme in (19) states that elative interpretation is a result of inter-
preting variable *chains*. A variable chain with adjunct status is interpreted as
'elative' (represented by ↑). The *domain* of quantification defines the nature ('ex-
clamative', 'very', or 'many'). ↑-quantification is, hence, sensitive to scope. The
scheme does not only cover the alternation 'many'/'very' in terms of scope (over
DP/AP), but also why a CP-domain elative ('exclamative') at the same time induces
a lower domain quantification (very/many) as can be observed in (3), (17), (18).
This effect is very much in the spirit of the Scope Principle (Aoun & Li 1993).

2. Lexemes of High Degree

Until now, we made a study of high-degree quantifications that are clearly triggered
by *structure*. In the second half, we explore some interpretive considerations with
respect to the quantification of high degree as it expressed by *simple lexemes*.
    Whereas in languages such as Portuguese one and the same lexeme *muito* can be
used to express ↑, Dutch uses a range of distinct words, e.g. *veel, heel* and *erg*.
Bennis & Wehrmann (1990) show that the choice between *heel* and *erg* is deter-
mined by structural, morphosyntactic factors. A brief inspection of the distinction in
use of *heel* and *veel* as given in (20)-(21) indicates that their distribution is
determined by the structure as well.

(20) a Jan is *veel/heel aardig   (21) a O João é <u>muito</u> simpático
          'John is very kind'
      b Jan heeft veel/*heel boeken   b O João tem <u>muitos</u> livros
          'John has many books'

If we limit ourselves to the elative use of *heel* and *veel* as in (20), we see that Dutch *heel* modifies adjectives and that *veel* modifies nouns.[10] Portuguese uses in both cases *muito* to express ↑. One might be tempted to disregard the difference between *heel* and *veel* as a categorial effect. The two lexemes *heel* and *veel* modify distinct categories, but mean the same.

Not only does such a lexicalist approach fail to give an explanation for the categorial sensitivity, it also disregards some relevant data. For it may not be left unnoticed that the lexeme *heel* has still another meaning. This meaning is quantificational in nature and is semantically a partitive counterpart of the universal quantifier *al* 'all'. *Heel* means 'with *all* its parts'. Portuguese uses in both cases one morpheme: *todo*.

(22) a De <u>hele</u> stad is in rep en roer   (23) A cidade <u>toda</u> está em confusão
     b <u>Heel</u> de stad is in rep en roer
        'The whole city is in disorder'
(24) a <u>Alle</u> burgers zijn ontevreden   (25) <u>Todos</u> os citadãos estam
     b <u>Al</u> de burgers zijn ontevreden   descontentes
        'All citizens are unsatisfied'

We therefore are facing two questions: first, how can one lexeme, *heel,* mean both high degree ('very'/'many') and maximal degree ('whole'/'all')? Second, why would there be a categorial sensitivity in the domain of 'high degree', and would language require two lexemes: *heel* en *veel?* Why would natural language choose for such a curious deviation form one-form/one-content? Are we perhaps mistaken in our lexical conception of quantification?

The problem is quite similar to the case of *wat.* The semantic effect of *wat* seems to be determined by: 1. the position of the morpheme, 2. structural relations of the morpheme with its context. We concluded to *interpretive* rules, given in (19). We mention these facts for two reasons. In the first place, to show that one morpheme (in this case Dutch *wat*) induces distinct meanings in function of the configuration. The second reason is that the exclamative readings studied thus far are semantically close to the elative reading we are considering now. *Wat lachte Jan!* means something like 'Jan lachte MUITO'. We will therefore extend the interpretive approach to the lexical cases at hand.

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[10]   Adjectives in the comparative behaves as if they were nominal, i.e. they are modified with *veel* and not with *heel*. Portuguese uses in all these cases *muito*, as can be seen from (i).

      (i)   veel/*heel slechter   <u>muito</u> pior
            much/*very worse

     Although comparatives are adjectival in many respects, there is evidence that comparatives are nominal in nature, for instance, modification with *no* and *any* is possible with comparatives but not with superlatives and positives.

      (ii)   no/any house   *no/*any smart
             no/any smarter   *no/*any smartest

Let us therefore return to the two questions mentioned above. Suppose there is a common interpretable component in *heel* 'whole' en *al* 'all'. This is from a semantic point of view not improbable (both ∀), especially since these words correspond in Portuguese with one and the same morpheme *todo*. We will identify this abstract component in Dutch with the liquid /-l/. The question is then why this hypothetical component, /-l/, also shows up in elative contexts: *heel* ('very') en *veel* ('many'). If *al, heel, veel* have a morpheme in common, it can certainly carry no fixed quantificational meaning. Just as *wat*, this common morpheme must induce meaning context-dependently. The configurational environment of /-l/ would then be relevant. In the optimal case, the elative reading of /-l/ can be reduced to the interpretive rule of (7a).

Initial evidence that points into the direction of the interpretive nature of the /-l/ morpheme are the facts in (26). The lexeme *al* receives the ↑-reading in these constructions, rather than the usual ∀-interpretation.

(26)		construction	nature P^0	interpretation
	a	(zij discussieerden) in alle vriendelijkheid	$[-loc]$	↑ 'very kind'
		they discussed in all kindness		
	b	(zij onderhandelden) in alle eerlijkheid	$[-loc]$	↑ 'very honest'
		they negotiated in all honesty		
	c	(zij vertrokken) in alle stilte	$[-loc]$	↑ 'very silent'
		they left in all silence		
	d	(zij vertrokken) in alle vroegte	$[-loc]$	↑ 'very early'
		they left in all earliness		
(27)		De koningin discussieerde in alle dorpen	$[+loc]$	∀
		The queen discussed in all villages		

We conclude that the morpheme *al* does not only induce universal quantification, but also elative quantification. In this respect, *heel* and *al* behave in a parallel fashion. The contexts plays a crucial role in determining which reading is selected. There are several restrictions to the construction: 1. the noun is singular, 2. it is a de-adjectival noun,[11] 3. the preposition is not locative ('case marker'), 4. the construction occurs in an adverbial position. We will see that 2 and 4 will be especially relevant.

The second observation is that *al*-extraction is not possible in elative *al*-constructions.

(28)   Zij vertrokken in alle stilte/*in al de stilte   ↑
               they left in all silence/in all the silence

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[11] It is not excluded that the triggering factor is conceptual rather than morphological, in view of (i).

      (i)   in alle eenvoud   = heel eenvoudig
               in all simplicity   very simple

The data in (i) show, that, in opposition to what happens in English, the adjective *eenvoudig* 'simple' is a derivation form *eenvoud* simplicity, rather than the other way around. This inverted derivational relation does, however, not affect the semantic relations.

In ordinary NP-modifying constituents with ∀-interpretation, extraction is possible (cf. (24b)). This indicates that *al* in the constructions of (28) does not modify the NP *stilte*, but only the adjectival adjunct *stil* within the nominalization, i.e. *al* modifies an adjunct.

Since *alle* carries nominal inflection, we must assume that *al* undergoes movement to the functional domain of the noun.

(29)   in [$_{DP}$ -e [$_{AP}$ al stil] [$_{NP}$ -te]]]

If (29) is the correct structure, *heel* and *al* also share their interpretive contexts: if it modifies an adjective the elative reading obtains; if it modifies a nominal projection, universal quantification obtains. If we assume that adjectives are not structural, the elative reading corresponds with the formation of an adjunct chain.

Interestingly, the movement of *al* to a higher domain has a parallel with *heel*. When the adverbial *heel* in the meaning of 'very' modifies an attributive adjective, it inherits, especially in the spoken language, the inflection that belongs to the noun (30a). This is never possible with other adverbials (30bc).

(30) a   De heel/hele grote man
          the very/very.infl big.infl man
      b   De zeer/*zere grote man
          the very/very.infl man
      c   De krankzinnig/*krankzinnige grote man
          'The crazily big man'

A possible structure that represents this special behaviour of *heel* is given in (31).

(31)   [$_{DP}$ de [—— AGR^0 [heel groot^0 ... [$_{NP}$ man]]]]

The adjective *groot* undergoes head movement to AGR and receives its usual inflection. The modifier *heel* goes to the nominal domain too, say to specAGRP and receives the same inflection under spec-head agreement (before or after spell-out). If *heel* modifies an adjective, movement creates an adjunct chain, resulting in the elative reading. These effects are not limited to Dutch. In French and Portuguese, *tout* 'all/whole' means 'very' when it modifies adjectives. Significantly, these languages obligatory inflect the adverb *tout* and *todo* adjectivally: *toute petite* and not **tout petite* 'very small'.

In order to prove that the *heel/al* extraction displayed in (29)/(31) is real, we must find opacity effects, i.e. contexts where such movement is blocked and modification with *heel* is ungrammatical. This evidence indeed exists. There is a class of adjectives that resist modification with *heel* as illustrated in (32).

(32) a   *?heel verslaafd aan de drugs   ('very addicted to drugs')
      b   *?heel met de zaak verlegen   ('very embarrassed with the affair')
      c   *?heel verlamd aan beide benen   ('very immobilized at both legs')

It concerns adjectives which subcategorize for a PP. The ungrammaticality of (32) can be attributed to the block on movement of *heel* to specAGR by the PP in an intermediate specFP position, as displayed in (33).[12]

(33)   [— AGR^0 [$_{FP}$ PP F^0 [$_{AP}$ heel verslaafd]]]

Significantly, the class of adjectives that resist *heel*-modification cannot be used in contexts with the inchoative verb *worden*, cf. (34).

(34) a   hij raakt/*wordt verslaafd aan de drugs
      b   hij raakt/*wordt met de zaak verlegen
      c   hij raakt/*wordt verlamd aan beide benen

For these adjectives, inchoative contexts can only be constructed using alternative verbs such as *gaan* 'go' or *raken* 'get'. Whatever the reason of this block on *worden* inchoatives is, it is a typical property of prepositional predicates, as illustrated in (35).

(35) a   hij raakt/*wordt in de war   ('he gets confused')
      b   hij raakt/*wordt uit de gunst ('he gets out of grace')

We conclude that the intervening head, F, whose specifier blocks *heel*-extraction in this particular class of adjectives is an empty preposition. This blocking effect in the presence of *heel* is evidence that movement is involved in *heel*-contexts.

Movement creates an adjunct chain, which is interpreted as high-degree, more specifically: 'very', on behalf of (19c). The relevance of the adjunct status of the extraction slot of *heel* in order to create a quantification of high-degree instead of maximal degree is confirmed when we look at contexts with quantificational readings that are unmistakably induced by structure. As was extensively discussed in Postma (1995), bare coordinative contexts can induce a universal quantification. We give some instances in (36).

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[12] Blocking only concerns interpretive movement of *heel* to specAGRP, not of head movement of the adjective to AGR.

    (i)   een aan drugs verslaafde man   (ii)   een aan drugs *?heel/*hele verslaafde man
        a to drugs addicted-infl man   a to drugs very/very-infl addicted-infl man

We conclude indicates that F is empty or part of the adjective, e.g. *ver-*. FP probably belongs to the aspectual domain of the adjectives (These adjectives are all causative, and the PP the CAUSE-argument).

    The slightly distinct judgements for overtly/covertly inflected *heel* in (ii) show that grammar is slightly more tolerant for such movement after spell-out than before spell-out.

(36) a   Het schip verging met <u>man en muis</u>   ∀ 'with everything'
          the ship went down with man and mouse
          'The ship sank entirely'
      b   Zij hebben zich <u>met hand en tand</u> verzet ∀ 'with everything/entirely'
          they have REFL with hand and tooth resisted
      c   Ik steun je door <u>dik en dun</u>   ∀ 'always/entirely'
          I support you through thick and thin

Bare coordinative constructions incidentally occur in adverbial position, as in (37). In these cases, bare coordination does not induce ∀-interpretation, but elative interpretation.

(37) a   Zij klaagden <u>steen en been</u>   ↑ 'very'/'muito'
          they complained stone and bone
      b   Dat is <u>wijd en zijd</u> bekend   ↑ 'very'/'in many places'
          that is wide and side known

The intimate relation between adjunct status and elative interpretation is not limited to Dutch: it is observed in Hebrew (*kol*), Arabic (*kul*), Portuguese (*todo*) and French (*tout*). These lexemes receive a ∀-interpretation whenever they modify nouns, and elative interpretation when they modify adjectives, e.g. French *tout petit* 'very/*entirely small'.
    Similarly, the ambivalent behaviour of the lexical quantifier *al* in (26) and of the analytic constructions in (36)/(37) show that quantificational strings do not carry their meaning inherently but receive their meaning in function of the context. We give the contexts in (38).

(38) a   If *al* modifies an adjunct position, an *elative* quantification is induced
      b   If *al* modifies a structural position, a *universal* quantification is induced

(38a) coincides with the interpretive context of the exclamative/elative in (4a).
    If we now apply this result to the elative and ∀-reading of *heel* (=he + -l), we see that the interpretation of /-l/ must be dependent on its relation with the adjective, rather than to the morpheme /he/. By drawing a strict analogy between 'in alle stilte' and the semantically equivalent 'heel stil', we cannot but conclude to a determiner status of the morpheme /he/, cf. (39a/b).

(39) a   in [$_{DP}$ -e- [[al] stil$_{AP}$] -te$_{NP}$]   in alle stilte   ↑

      b   — [$_{DP}$ D^0 he- [[-al] stil$_{AP}$] ∅- $_{NP}$]   heel stil   ↑

      c   in [[[-al] ve-$_{AP}$] gevallen$_{NP}$]   in veel gevallen   ↑
      d   [$_{DP}$ -e [$_{NP}$ [al] boeken]   alle boeken   ∀

At the same time, the nominal status of /he/ offers an explanation for the need of two elative morphemes *heel* en *veel*. In order for *al* to establish an elative quantification over nouns, a dummy adjective must be inserted to avoid the ∀-reading, cf. (30c), since *al* modifying NP directly results in universal quantification. We can identify this dummy adjective as the /ve/-morpheme. In this way, we also obtain the answer on our second question of why there is a categorial sensitivity of *veel* en *heel*. Further research must provide independent evidence for the adjectival status of the /ve/-morpheme.

3. Conclusions

In Dutch, *wat* and *al* are open variables that receive interpretation in function of the morphosyntactic configuration. The same interpretive contexts apply for the elative interpretations of *al* and *wat*.

Meanings like 'very' and 'many' as well as the exclamative are three realization of one and the same quantification: Quantification of High-Degree or Elative. Whether this quantification is present in a configuration depends on structural properties. If quantification of high-degree occurs at the propositional level, the exclamative effect shows up.

At a more abstract level, we have shown that interpretive theories can fruitfully generalize over syntactic structures that convey a particular interpretation and morphosyntactic structures under the word level.

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