

Filozofická fakulta Univerzity Palackého

Katedra anglistiky a amerikanistiky



**Structural Properties
of Superlative and Ordinal DegPs**

(Diplomová práce)

Structural Properties of Superlative and Ordinal DegPs

(Diplomová práce)

Autor: **Barbora Kašpírová**

Studijní obor: Anglická filologie – Španělská filologie

Vedoucí práce: **Joseph Embley Emonds Prof.**

Počet stran: 66

Počet znaků: 112 777

Olomouc 2016

I declare that I elaborated this paper independently and that I mentioned the absolute list of works cited.

In Olomouc on the day

.....

Acknowledgement

I would like to express my sincere gratitude to my supervisor Prof. Joseph Emonds for sparking my interest in syntax, and for his patience and encouragement throughout my studies.

Abstract

The present paper is concerned with the structural properties of attributive ordinal numerals and superlative constructions. It is an uncontroversial claim that there is a significant number of similarities between ordinals and superlative forms of adjectives which differentiate them from other categories of the pre-nominal field. This thesis takes it even one step further proposing a unified syntactic analysis of ordinals and superlatives. Based on the inherently comparative character of superlative and ordinal expressions, I argue that adjective phrases containing them have the same internal structure organized around a comparative head with the superlative and ordinal markers in its specifier. The comparative head then selects an AP in case of superlatives and a cardinal numeral QP in case of ordinals. I further postulate a functional projection intermediate between D and NP in the functional system of the nominal domain, which I call AGR_{COMPRP} , which is the locus of the comparative interpretation, and whose specifier hosts comparative, superlative and ordinal expressions.

Key words

DegP, adjective phrase, superlative, ordinal numeral, comparative, DP, QP, AGRP, functional projection, degree word, quantifier

Anotace

Tématem této diplomové práce jsou atributivní superlativy a řadové číslovky z pohledu syntaktické struktury. Je obecně známo, že superlativy a řadové číslovky sdílejí řadu vlastností, které je odlišují od ostatních kategorií vyskytujících se v prenominálním poli. Tato práce jde ještě o krok dále a navrhuje pro superlativy a řadové číslovky jednotnou syntaktickou analýzu. Na základě inherentně komparativního charakteru superlativů a řadových číslovek argumentuji, že adjektivní fráze, které tyto výrazy obsahují, mají stejnou vnitřní strukturu uspořádanou kolem komparativního řídicího členu, přičemž superlativní a ordinální morfémy jsou umístěny ve specifikátoru této komparativní hlavy. Komparativní hlava selektuje jako komplement AP v případě superlativu a základní číslovku v případě řadové číslovky. Dále předpokládám, že ve funkčním systému nominální domény mezi D a NP existuje funkční projekce – značím ji AGR_{COMPRP} – která je místem komparativní interpretace a v jejímž specifikátoru se generují adjektivní fráze obsahující komparativní a superlativní konstrukce a řadové číslovky.

Klíčová slova

DegP, adjektivní fráze, superlativ, řadová číslovka, komparativ, DP, QP, AGRP, funkční projekce, stupňovací výraz, kvantifikátor

TABLE OF CONTENTS

1	Introduction.....	9
2	Conceptual Framework.....	12
2.1	X-bar Theory	12
2.2	Lexical Projections and Functional Projections	13
2.3	Case-Assignment and Agreement	15
3	Few Notes on Ordinals and Superlatives.....	17
3.1	Categorial Status of Ordinal Numerals	17
3.1.1	General Ordinals	19
3.2	Degree and Gradability	19
3.3	Attributive Nature of Superlatives and Ordinals.....	21
3.4	Superlative and Ordinal Semantics	22
3.4.1	Expressions of Comparison	22
3.4.2	Quantification.....	22
3.4.3	Absolute and Relative Reading.....	23
4	Structure of Extended Nominal Projection.....	24
4.1	Functional Layers in the Nominal Domain	24
4.1.1	Determiners, Demonstratives and Possessors.....	24
4.1.2	Quantifiers.....	29
4.1.3	Attributive APs	32
4.2	Complex DP Structure.....	34
5	Degree Phrases.....	36
5.1	Degree Words.....	36
5.2	Split Degree Hypothesis	37
5.3	Structure and Gradability	39
5.4	Comparative Constructions	40
5.5	Summary	42
6	Syntax of Superlatives and Ordinal Numerals	43
6.1	Syntactic Structure of Superlative Expressions.....	43
6.2	Syntactic Structure of Ordinal Numerals	47
6.3	Compatibility of Superlatives and Ordinals	50
6.3.1	Ordinal + Superlative + NP.....	50
6.3.2	Superlative + Ordinal + NP.....	52
6.3.3	Co-ordination	53
6.4	AGR _{COMPRP} : Superlative and Ordinal DegPs in the DP	54
6.5	Summary	55

7	Conclusions.....	58
8	České resumé.....	61
	References	65

ABBREVIATIONS AND SYMBOLS USED IN THE THESIS

ACC	accusative
Adv, AdvP	adverb, adverbial phrase
A, AP	adjective, adjective phrase
AGRP	agreement phrase
COMPR	comparative
DAT	dative
Dem	demonstrative
Det	determiner
DP	determiner phrase
DegP	degree phrase
FEM	feminine
GEN	genitive
INS	instrumental
IP	inflection phrase
LOC	locative
LF	logical form
MASC	masculine
NEUTR	neuter
NOM	nominative
N, NP	noun, noun phrase
Ord, OrdP	ordinal numeral, ordinal phrase
PL	plural
Poss	possessive
P, PP	preposition, prepositional phrase
PST	past tense
SG	singular
Spec	specifier
Sup, SupP	superlative, superlative phrase
Q _{CARD}	cardinal numeral
Q, QP	quantifier, quantifier phrase
V, VP	verb, verb phrase
*	ungrammatical

1 INTRODUCTION

The present paper is meant to explore the structural properties of attributive ordinal numerals and superlative constructions, a topic I slightly touched in my BA thesis which discussed morpho-syntactic properties of cardinal and ordinal numerals. As I was examining numerals and their relation to other modifiers in the nominal domain in my BA thesis, I noticed a significant number of similarities between ordinals and superlative forms of adjectives which differentiated them from other categories. This motivated me to take a closer look at these two groups, intuitively seeking a unified syntactic analysis. The topic is even more interesting and worthy of attention because, although there are numerous studies on syntax and semantics of superlative constructions, ordinal numerals still remain surprisingly largely unexplored. From the theoretical point of view, the main goal of the thesis is thus to offer a unified syntactic analysis of superlative degree constructions and ordinal numerals that would be plausible ideally on cross-linguistic grounds. In this paper I will argue for the following claims:

- There is a functional projection intermediate between D and NP which is the locus of comparative interpretation, and which hosts comparative, superlative and ordinal expressions.
- Adjective phrases containing superlative and ordinal expressions have the same internal structure organized around a comparative element.

With respect to the phrasal structure, traditional theories on superlative constructions (Heim 1999, Farkas and Kiss 2000, Sharvit and Stateva 2002) treat them as analogous to comparative constructions. In other words, they assume the comparative morpheme and the superlative morpheme occupy the same syntactic position in the adjectival structure:

- (1) (a) *the highest mountain*
[DP [D the][NP [DegP [Deg **-est**][AP high]][N' mountain]]]
(b) *a higher mountain*
[DP [D a][NP [DegP [Deg **-er**][AP high]][N' mountain]]]

This analysis may work for languages like English which forms comparative and superlative degrees with two different affixes independent of each other, however, looking at superlatives in languages like Czech where the superlative form requires the presence of both the comparative and the superlative degree morphemes (2) suggests that the traditional approach is not plausible universally.

- (2) (a) *nejpomalejší běžec*
most-slow-er runner
'the slowest runner'
(b) **nejpomalý běžec*
most-slow runner

I adopt an alternative analysis (Stateva 2003, Bobaljik 2011) which can account for the superlative structure in languages like Czech, and which supposes that there is an embedded comparative in superlative constructions, or putting it differently, that superlatives are organized around a comparative head (which can be overt as in Czech or null as in English) with the superlative marker in its specifier:

- (3) (a) [DP [D the][NP [DegP **-est** [Deg \emptyset][AP high]][N' mountain]]]
 (b) [DP [NP [DegP **nej-** [Deg **-ejší**][AP pomal-]][N' běžec]]]

Semantically speaking, ordinals are too, like superlatives, inherently comparative. Based on this semantic consideration, I extend the theory about superlatives to the syntactic analysis of ordinals. That is to say, I propose that the comparative aspect of ordinals is reflected in the syntax, and they are too formed around a comparative element.

I further argue that the inherently comparative constituents, i.e. attributive comparative, superlative, and ordinal DegPs, are located in a specialized functional projection between D and NP which occupies a position on the boundary between functional pre-modifiers and descriptive adjectives within the extended nominal domain. This fact is in accordance with the dual character of superlatives, comparatives and ordinals which share some properties with functional categories, mainly Qs, (i.e. relatively high in the nominal structure preceding all other adjectives, not recursive, able to appear with a null nominal head or in partitive constructions, etc.) and simultaneously with descriptive adjectives (the most noticeable is probably the formal similarity in morphologically rich languages).

In terms of conceptual framework, my analysis is carried out from the generative point of view. I follow the X-bar theory of phrase structure representation which presumes that constituents are hierarchically organized around a head, and I adopt the functional-head approach that postulates that a lexical head (N, V, A, Adv, P) projects an extended structure within which the lexical layers (NP, VP, AP, AdvP, PP) are immediately dominated by functional layers.

Since I am interested in the structure of superlative and ordinal constructions and their place in the nominal domain, the main areas of inquiry in this thesis are DP and DegP. The discussion proceeds from larger constituents to smaller elements, first examining the structure of the complex DP, then looking into attributive adjective phrases/degree phrases, and finally analysing the layer in the degree phrases where the comparative, superlative and ordinal morphology is located. The linguistic data used in the thesis are mainly, though not exclusively, English and Czech.

The organization of the thesis is as follows. Chapter 2 outlines the theoretical framework I am adopting as the basis for my analysis and introduces the key concepts and terminology I am using throughout the thesis. In chapter 3 I address some of the more general grammatical and semantic aspects of superlative and ordinal constructions relevant for the following discussion. In chapter 4 I elaborate the complex structural configuration of the extended nominal projection which serves as the foundation for the distributional analysis of superlatives and ordinals with respect to other elements in the pre-nominal field that follows in chapter 6. Chapter 5 is concerned with the internal syntax

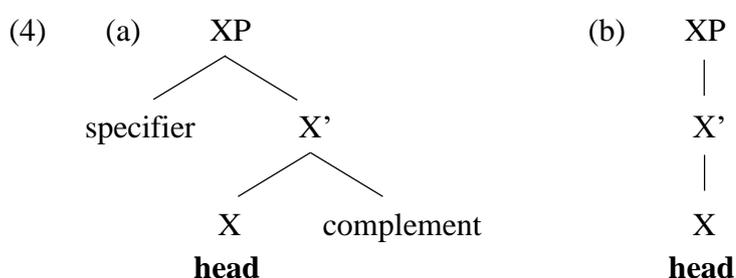
of degree expressions with emphasis on degree phrases containing comparative constructions. The discussion continues in chapter 6 with a look at the structure of superlative and ordinal constructions and a proposal of the novel unified analysis. Finally, chapter 7 summarizes the results and conclusions.

2 CONCEPTUAL FRAMEWORK

The purpose of this chapter is to outline the essential concepts of the syntactic theory I assume throughout the thesis. I introduce the terminology and format of representation of phrase structure I will be using for my analysis and the theoretical perspective within which I will carry out the discussion.

2.1 X-bar Theory

In this thesis I adopt the X-bar format for phrasal structural representation which is based on the assumptions that (i) every constituent is endocentric, in other words, it is organized around a **head**, and (ii) every constituent has three levels of structure, i.e. **projections** of the head: a zero-level category X, an intermediate category X', and a phrasal level category XP.

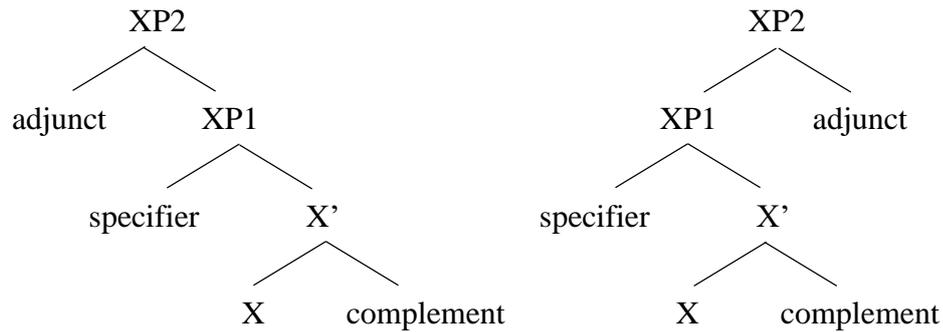


The schema in (4a) shows the layered architecture of phrasal projections proposed in X-bar theory where X is the head of the projection, X' is an intermediate projection which dominates the head and its complement, and XP is a maximal projection which dominates X' and the specifier. It is generally assumed that while the X position is a position hosting head elements, only maximal projections can be placed in specifier and complement positions. Specifiers and complements are optional, in other words, a phrasal head may appear without a complement (as is the case with intransitive verbs) and/or a specifier (4b).¹

The constituents which do not bare a local relation to the head (i.e. they are not complements or specifiers) are then left- or right-adjoined to the maximal projection, or putting it differently, they are sisters of the phrasal node XP. They expand the maximal projection into a higher maximal projection. The structural representation of syntactic adjunction under X-bar theory is the following:

¹ I actually assume binary branching throughout the whole structure. For ease of exposition, I will be using the simplified representation (4b) for structures where Spec and complement positions are not filled with overt material, though I presume they are there.

(5)



Throughout this paper I will be using the three-level system of X-bar theory as a general layout for the representation of phrasal structures.

2.2 Lexical Projections and Functional Projections

The previous section introduced the X-bar format of phrasal structure under which phrases are organized around a head. Two categories of elements participate in the X-bar schema and both can appear in the head position of a phrasal constituent, namely lexical and functional elements.

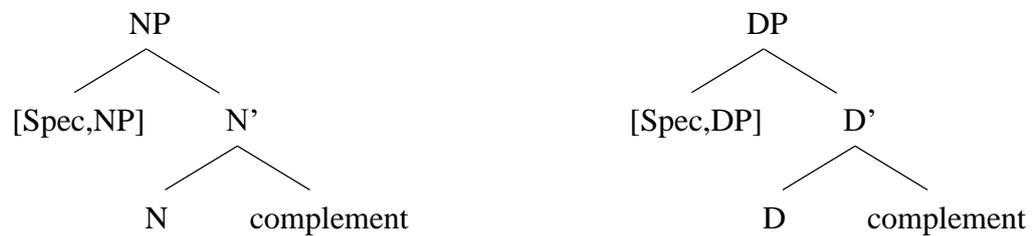
Lexical elements, i.e. nouns (N), verbs (V), adjectives (A), adverbs (Adv) and prepositions (P)², head lexical projections NP, VP, AP, AdvP and PP, respectively. They are open-class items that contribute a referential content to the sentence, and they are relatively flexible with regards to the class of complements they c-select. For example, the verb *ask* can take as a complement a projection of a noun phrase [*Mary asked* [_{DP} *a question*]], an IP [*Mary asked me* [_{IP} *to close the door*]] or a CP [*Mary asked* [_{CP} *if I knew the answer*]].

Functional elements, on the other hand, belong to a closed lexical class and their function in a sentence is purely grammatical, in other words they contribute a non-descriptive content relating information about tense, aspect, agreement, definiteness, number, gender, degree, etc. Abney (1987, 170) proposes five major categories of functional elements: complementizers (C), modals (I), determiners (D), pronouns (D) and degree words (Deg) which head corresponding functional projections CP, IP, DP, DP and DegP. Contrary to the lexical heads, functional elements are very limited with respect to the c-selection of their complements: C selects IP, I selects VP, D selects NP, and Deg selects AP or AdvP.

² In terms of distinguishing functional and lexical categories, prepositions tend to be problematic given their contradictory characteristics: they add semantic content to sentences similarly to other lexical categories (though some prepositions are semantically ‘richer’ than others) but at the same time they constitute a closed class with limited number of items. Since I do not think prepositions head functional projections, I consider them to be a lexical category which is internally hybrid, that is to say some prepositions are more lexical while some are more functional.

Under the two-bar X-bar theory, lexical projections and functional projections have the identical layered structure:

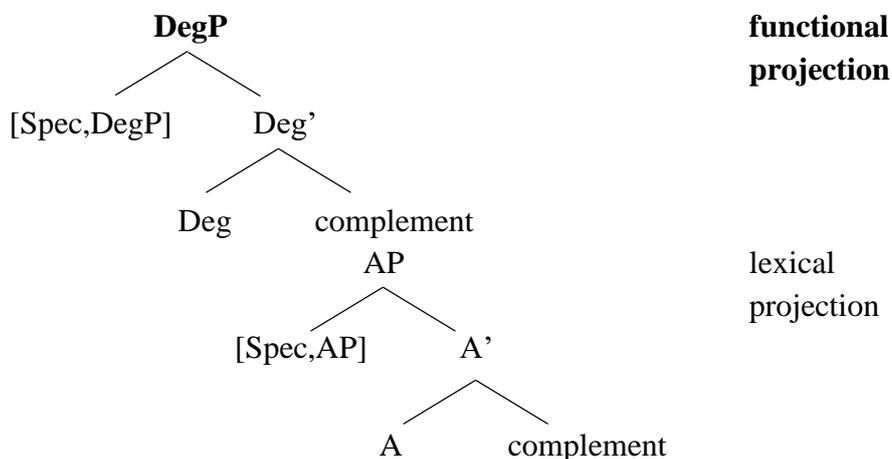
(6)



From the point of view of the structural relation between the functional domain and the lexical domain, in my analysis I will follow the **functional head hypothesis**. This theory assumes that lexical projections are dominated by functional layers (Abney 1987), in other words, functional projections are **extensions** of lexical projections: CP and IP are extended projections of VP, DP is extension of NP and DegP is extension of AP or AdvP. The lexical projections then embody the descriptive nucleus of the extended projection, while the functional projections encode grammatical properties.

Compared to the lexical head hypothesis where the lexical head is the head of the full projection and functional categories appear in the Spec of the lexical projection (Jackendoff 1977), the functional head hypothesis offers extra structural positions for accommodating specifiers within a phrase under the X-bar theory.

(7)



The diagram in (7) shows the internal structure of the extended degree phrase, i.e. DegP, where the lexical projection AP is embedded within a DegP in the complement position of the functional head Deg. We now have a richer structure: apart from [Spec,AP] there are extra positions, namely Deg and [Spec,DegP], available for pre-modifiers of the head adjective. Under the functional head analysis, all types of phrases have a structure parallel with the one sketched out in (7) where the lexical projection is augmented by the functional layer(s).

- (b) *Case* is assigned by a head element *X* to *the head* of the maximal D^{\max}/N^{\max} which is sister to *X*. Case features become a part of the feature complex of the head *D/N* which is spread via NP agreement.³

It follows that the specifier position is a locus for agreement relations, i.e. attributive adjectives, possessives, demonstratives or quantifiers which copy the case, gender and number features of the head *N* are specifiers. On the other hand, when a syntactic element assigns a case to the *N*, it is a syntactic head which takes a projection of the *N* as its complement.

This completes the review of theoretical and methodological preliminaries that sets the scene for the following discussion. In this section I have sketched out a generalized phrasal structure of extended projections and clarified the most important terminology I will be using in the thesis. In the next chapter I will turn to the main topic of this thesis, that is to say superlatives and ordinals and their place in the language system.

³ Y^{\max} , N^{\max} , D^{\max} correspond to *YP*, *NP* and *DP* in the terminology I am using.

3 FEW NOTES ON ORDINALS AND SUPERLATIVES

Before starting with the syntactic analysis, I would like to comment on a few more general concepts related to the topic of superlatives and ordinals which are relevant for the discussion in later chapters. In this chapter I will briefly address the categorial status of ordinals (3.1), the language phenomenon of degree (3.2), the syntactic function superlative and ordinal constructions fulfil in the sentence (3.3), and finally, some aspects of ordinal and superlative semantics (3.4).

3.1 Categorial Status of Ordinal Numerals

In my study I will treat ordinal numerals as **adjectival** in nature.⁴ This view is motivated largely by their formal similarity to adjectives in certain languages. Major part of the evidence that supports this approach comes from morphologically rich languages such as Slavic or Romance where the declension of ordinal numerals is completely adjectival, in other words ordinal numerals are created with adjective-forming affixes. In the same way as adjectives, ordinals too agree with the lexical noun in phi-features and in case (in languages where nouns can differ in case).

They display overt morphological agreement in gender and number with the noun they modify in Spanish, and in gender, number and case in Latin, Czech or Russian, as demonstrated in the examples below:

- (10) (a) Spanish: *la primera experiencia*
the first-sg-fem experience-sg-fem
'the first experience'
la nueva experiencia
the new-sg-fem experience-sg-fem
'the new experience'
- (b) Latin: *decimum exemplum*
tenth-sg-neutr-nom example-sg-neutr-nom
'the tenth example'
bonum exemplum
good-sg-neutr-nom example-sg-neutr-nom
'a good example'

⁴ In some languages it is possible to assign the ordinal meaning to a cardinal numeral via word order marking. When a cardinal follows the head N in an English noun phrase, it is to be interpreted with the ordinal meaning, e.g. *volume two*, *chapter seven*, etc. In this paper I will be concerned solely with ordinals derived by means of a functional ordinal morpheme (overt or null), leaving the non-morphological formation of ordinal expressions aside.

- (c) Czech: *desátý* *rok*
 tenth-sg-masc-nom year-sg-masc-nom
 ‘the tenth year’
nový *rok*
 new-sg-masc-nom year-sg-masc-nom
 ‘a new year’
- (d) Russian: *pjatyj* *god*
 fifth-sg-masc-nom year-sg-masc-nom
 ‘the fifth example’
novyj *god*
 new-sg-masc-nom year-sg-masc-nom
 ‘a new year’

We can find a very strong piece of additional evidence which speaks in favour of the adjectival character of ordinals if we take a closer look at a particular property shared by adjectives and ordinals in Czech. Typical feature of Czech adjectival morphology is a long vowel in the ending of the nominative case which distinguishes adjectives from demonstratives (adjectives *malý, malá, malé, malí* ‘small’ in contrast with demonstratives *ta, ti, to, ty* ‘that’). The long vowels in the nominative ending of Czech ordinal numerals clearly points to their adjectival character.

Table 1 in (11) shows the identical morphology of Czech adjectival and ordinal paradigms:

(11) **Adjectival and Ordinal suffixes in Czech**

	Nom.	Gen.	Dat.	Acc. ⁵	Loc.	Instr.
Adjectival	<i>modrý</i>	<i>modrého</i>	<i>modrému</i>	<i>modrého/ý</i>	<i>modrém</i>	<i>modrým</i>
suffixes	<i>jarní</i>	<i>jarního</i>	<i>jarnímu</i>	<i>jarního/í</i>	<i>jarním</i>	<i>jarním</i>
Ordinal	<i>sedmý</i>	<i>sedmého</i>	<i>sedmému</i>	<i>sedmého/ý</i>	<i>sedmém</i>	<i>sedmým</i>
suffixes	<i>desátý</i>	<i>desátého</i>	<i>desátému</i>	<i>desátého/ý</i>	<i>desátém</i>	<i>desátým</i>
	<i>první</i>	<i>prvního</i>	<i>prvnímu</i>	<i>prvního/í</i>	<i>prvním</i>	<i>prvním</i>
	<i>třetí</i>	<i>třetího</i>	<i>třetímu</i>	<i>třetího/í</i>	<i>třetím</i>	<i>třetím</i>

Table 1: Comparison of Czech adjectival and ordinal singular masculine suffixes.

Even in languages with poor morphology such as English ordinal numerals bear a resemblance to adjectives. They are traditionally believed to be able to appear in sentence

⁵ Animate/inanimate.

positions that are typical for adjectives, namely attributive, predicative, or that of a subject or object complement.⁶

Motivated on the basis of the morpho-syntactic adjectival behaviour of ordinals, I consider the phrases containing them to be DegPs and as such to be generated in Spec of some functional projection in a DP. I will return to the question of the exact position of ordinal numerals within the DP structure in chapter 6.

3.1.1 General Ordinals

In English we come across the so-called ‘general ordinals’ or ‘ordinal adjectives’, i.e. a group of adjectives which resemble ordinals semantically (they are ranking expressions) and grammatically (they precede all other adjectival modifiers in a noun phrase, they can appear in partitive constructions as opposed to ‘regular’ adjectives, etc.). Quirk et al. (1985, 261) classifies them as a subcategory of ordinals. They are adjectives such as *last*, *latter*, *former*, *next*, etc.

- (12) (a) *the last of us* (b) *the latter of the two*
(c) *the former of the two* (d) *next of kin*

There is in fact a diachronic connection between these forms and superlative and comparative forms. They are historical comparatives and superlatives that today are perceived by speakers as independent lexical units unrelated to their positive degree forms (Dušková 1994, 154-5). *Latter* and *last* are comparative and superlative forms of *late*, *next* is a superlative of *near*, and *former* is a comparative of *fore*. The superlative form of *fore* is *first* which is nowadays an inseparable part of English ordinal numeral system.⁷ I consider these forms to be superlatives.

3.2 Degree and Gradability

The concept of degree is known across languages. It is most notably associated with, though not restricted to, categories of adjectives and adverbs.⁸ Traditionally, two types of members can be identified within these categories, namely **gradable** and **non-gradable** adjectives and adverbs. The former are able to express comparison and take degree adverbs as modifiers, the latter are not.

⁶ Following Matushansky (2008), I actually assume superlatives (and I extend his theory to ordinals too) are always attributive even when no overt noun is present. In that case they modify a phonetically empty nominal head. I will return to this point in section 3.3.

⁷ Semantically speaking, *first* is something between an ordinal numeral and a superlative. Therefore, I will try not to use examples with *first* when talking about ordinals, as there is number of contexts where *first* is possible only because of its superlative meaning while other ordinals are not acceptable.

⁸ Huddleston and Pullum (2002, 532) point out that certain nouns and verbs may also be gradable. They claim there can be varying degrees of concepts denoted by nouns such as *success*, *problem*, etc., or verbs like *love*, *like*, *enjoy*, etc. In my study I will, however, restrict my investigation to the grading realized by syntactic degree affixes (bound or free), and leave other types of grading aside.

Among the classes of adjectives⁹ that usually do not allow degree words and degree affixes are adjectival passives (13a), denominal adjectives (13b), adjectives denoting provenance (13c), and ‘absolute’ adjectives (13d).

- (13) (a) **a/the very/more/most written statement*
**writtener/writtenest statement*
- (b) **a/the very/more/most atomic scientist*
**a/the atomicer/atomicest scientist*
- (c) **a/the very/more/most British colony*
**a/the Britisher/Britishest colony*
- (d) **a/the very/more/most perfect match*
**a/the perfecter/perfectest match*

As Quirk (1985, 435) notes, some of the ‘absolute’ adjectives allow the degree adverbs *almost* and *nearly*, nonetheless, they still cannot form neither morphological nor periphrastic comparative and superlative forms so they are not truly gradable. The ability to express comparison thus seems to be the key indicator of gradability. I presume the traditional contrast gradable vs. non-gradable is rather a matter of semantic restrictions than syntactic structure. As we will see in section 5.3 there is no significant difference in terms of structure between gradable and non-gradable adjectives.

The grammatical system of grading comprises three degrees, specifically positive degree which does not express comparison, and comparative and superlative degrees each of which expresses a different kind of comparison of inequality. Comparative orders two objects on a scale according to a degree of some gradable quality or property they possess while superlative indicates that its referent possesses greater degree of the property than everyone/everything else.

Based on the orientation of the scale used for the comparing, two types of comparison of inequality can be identified, specifically comparison of **superiority** (expressing ‘greater degree’) and comparison of **inferiority** (expressing ‘lesser degree’). From the grammatical point of view, the most interesting difference between the two types regards the asymmetry in their formation. It is well known that languages can create comparative and superlative forms either by **periphrasis**, i.e. via degree words phonologically independent on the adjective, or morphologically by **affixation** of bound degree morphemes to the adjective. While this claim is perfectly valid for comparatives and superlatives of superiority, the means of formation of comparison of inferiority are more restricted. After examining an extensive sample of languages, Bobaljik (2012, 4) in his study on universals in morphology of comparison formulates a generalization that ‘no language has a synthetic comparative of inferiority,’ or to put it differently, languages lack inflectional degree affixes of comparison of inferiority and can form this type of comparatives and superlatives only analytically. Universally, the use of comparatives and

⁹ Since my primary focus here is DP and superlative constructions in attributive function, i.e. adjective phrases, I will not be concerned with the adverbial use of superlatives.

superlatives of inferiority is also much less frequent. Where available, adjectives of opposite meaning are preferred (Huddleston and Pullum 2002, 1125). Thus for instance the forms *younger* and *youngest* will be preferred to the periphrastic forms *less old* and *least old*.

In my proposal, the differences between morphological and periphrastic comparative and superlative constructions are only superficial as I believe they have in fact identical D-structure. I will leave the detailed discussion of the structural properties of comparative and superlative degree elements (bound and free) to sections 5.4 and 6.1.

3.3 Attributive Nature of Superlatives and Ordinals

Adjectives are traditionally associated with two syntactic functions, namely attributive and predicative. When they are in an attributive function, they modify a head noun; when in predicative, they do not. Since we consider superlatives and ordinals to be adjectives, they should be able to appear in these two functions as well. However, Matushansky (2008) argues that superlatives are obligatorily **attributive in all contexts**. He bases his claims on facts such as superlatives requiring the presence of a determiner even in the predicative position in many languages or their ability to appear with possessors and prepositions.¹⁰

- (14) (a) *This story is **the** best.*
(b) *Alice found herself **at her** best.*

In the English examples in (14a) and (14b) the superlative adjective combines with a definite article, and with a preposition and a possessive pronoun, respectively. The presence of these elements indicates that there is in fact some nominal projection since normally they cannot appear with a bare adjective as can be seen in (14c-d). Superlatives without an overt noun such as those in the examples above then modify a phonetically empty nominal head under Matushansky's analysis.

- (c) **Alice found herself at (her/its/the) good.*
(d) **Alice found herself (at) her/its/the good.*

I extend Matushansky's theory about the attributive character of superlatives to ordinal numerals which also appear with a determiner even when not modifying an overt noun:

- (15) *John was **the second** to give Mary a telescope.*

¹⁰ Matushansky (2008) in his study provides a number of arguments supporting his theory based on the syntactic and semantic behaviour of superlatives in various languages. I will not be detailing all the linguistic phenomena that led him to his proposal here, though I assume his hypothesis that superlatives are obligatorily attributive in all environments is correct.

Following Matushansky, I conclude that both superlatives and ordinals are able to modify a null head noun as opposed to descriptive adjectives. Since I work on the assumption that superlative and ordinal adjective phrases are always attributes of some head noun, i.e. they are always part of an extended NP projection even when they appear in the predicative position, in this thesis I will be interested only in the structure of DP and its constituents, leaving any constituents above DP and the structural relations between them aside.

3.4 Superlative and Ordinal Semantics

Though the focus in this paper is not on semantics, in this section I will briefly go over some of the principal semantic properties of superlatives and ordinal numerals. In later chapters we will see that certain aspects of superlative and ordinal semantics may have serious implications on the syntactic level.

3.4.1 Expressions of Comparison

It is uncontroversial to claim that there are significant similarities in the semantics of superlatives and ordinal numerals as they express basically the same concept. Huddleston and Pullum (2002) classify both ordinals and superlatives as **ranking expressions**. Ordinals assign a position in a rank ordering with respect to other items from the set in question, counting from the top or from the bottom (1169-70), while superlatives specify the rank of an entity as higher than the rest (416). To phrase it in a different way, they both **inherently express comparison**.

The superlative in (16a) and the ordinal in (16b) both pick out an entity from the set of cars I bought and compare it, in other words rank it with respect to the rest of the entities from the set.

- (16) (a) *the most expensive car I bought*
(b) *the second car I bought*

Huddleston & Pullum (416) point out that given their ranking nature, ordinals and superlatives semantically resemble more definite determiners than descriptive adjectives which only constrain the reference of the noun they modify. From the syntactic point of view, this observation is in accordance with the fact that the structural position they occupy in the pre-nominal field is quite high – superlatives and ordinals typically appear closer to the determiner than descriptive adjectives do. We will see this is true in later chapters.

3.4.2 Quantification

Their ranking character is closely related to the quantificational aspect of the ordinal and superlative semantics. Generally speaking, quantification refers to expressing a quantity or a value on a scale. Doetjes (1997, 141) notes that certain conceptual scales can be realized by different means on the syntactic level. Let us consider the examples in (17):

- (17) (a) *John has **a lot of** confidence.*
(b) *John is the **most** confident person I know.*

The conceptual scale is the same for both sentences in (17), more specifically they both express the value or ‘quantity’ of confidence that John possesses, only the representation in syntax differs. In (17a) the scale is realized as a quantity of the noun while in (17b) the conceptual grade is projected as a grade on the adjective.

- (18) *The **second** car I bought was red.*

Although the ordinal in (18) does not directly express a quantity, it actually implies that there is a set which has a certain number of members. Accordingly, we can say that there is a quantificational component in the semantic make-up of ordinals.

3.4.3 Absolute and Relative Reading

It is worthwhile pointing out one more striking similarity in the semantics of superlatives and ordinals. Superlatives are traditionally associated with two different interpretations, namely ‘absolute’ and ‘relative’ (or ‘comparative’) readings (Heim 1999, Sharvit & Stateva 2002, Bhatt 2006, among others).

In (19a) below *the most expensive telescope* can refer to a telescope which is more expensive than any other telescope which would be the absolute reading of the superlative. In this interpretation the domain-argument of the superlative is a set of all existing telescopes. However, the superlative can be also understood as referring to a telescope which might be relatively cheap but it is more expensive than telescopes that Mary was given by other people. This interpretation is called the relative reading and it compares John to other people who gave Mary a telescope.

- (19) (a) *John gave Mary the most expensive telescope.*

Taking into consideration the shared semantic properties of ordinals and superlatives brought up in the previous subsections, it is no surprise that ordinals also give rise to absolute and relative readings (Bhatt 2006).

- (b) *John gave Mary the second telescope.*

The absolute reading of *the second telescope* in (19b) would be the second telescope that was ever made, and again in this case we are comparing telescopes. The relative reading of the ordinal would refer to the second telescope which Mary received. In this situation we compare the people who gave Mary a telescope.

4 STRUCTURE OF EXTENDED NOMINAL PROJECTION

Since the main object of my inquiry is superlative and ordinal constructions in the attributive use, i.e. occupying some position inside a noun phrase, let us now take a closer look at the nominal domain from the structural point of view. Along the lines of the framework adopted in this thesis, in this chapter I will identify the various layers in the extended nominal projection and determine which positions host which elements in the pre-nominal field. The structure of the nominal domain elaborated in this chapter will serve as the point of departure for the discussion of structural properties of degree phrases and ordinal and superlative constructions in chapters 5 and 6.

4.1 Functional Layers in the Nominal Domain

As has been noted above, noun phrases have a layered structure: the semantic nucleus of the noun phrase, i.e. the lexical projection NP, is embedded under the functional projection DP. Following from the fact that various elements – such as determiners, demonstratives, possessors¹¹, quantifiers, and different classes of adjectives – can appear as prenominal modifiers and are not cross-linguistically in complementary distribution, I adopt the belief that there are additional **functional projections between D and NP** available for accommodating the said elements and also providing landing sites for DP-internal phrasal and head movement (Cinque 1994, Giusti 1992).

4.1.1 *Determiners, Demonstratives and Possessors*

Determiners (Det), demonstrative pronouns (Dem) and possessors (Poss) are typical nominal modifiers. Although in English these items happen to be mutually exclusive (20a), looking closer at examples from other languages where their co-occurrence is grammatical (20b-e) suggests that in fact they do not compete for the same syntactic position within a noun phrase:

- (20) (a) English: **that the friend*
 **the my friend*
 **that my friend*
- (b) Hungarian: *ez a haz* (Haegeman and Guerón 1999, 448)
 this the house
 ‘this house’
- (c) Italian: *la mia amica*
 the my friend
 ‘the friend of mine’

¹¹ Including possessive pronouns and adjectives, and genitive noun phrases.

- (d) Spanish: *un amigo mío*
 a friend mine
 ‘a friend of mine’
- (e) Czech: *ten můj / Maruščin / Marušky*
 that-MASC my-MASC / Mary-POSS-MASC / Mary-GEN-MASC
 přítel
friend-MASC
 ‘that friend of mine/of Mary’s’

In Hungarian a determiner and a demonstrative pronoun can appear together (20b), in Italian and Spanish determiners are compatible with possessive pronouns (20c-d), and in Czech a demonstrative pronoun can co-occur with a pre-nominal possessor (20e). The cross-linguistic evidence we have considered in (20) supports the claim that determiners, demonstratives and possessors do not occupy the same slot within the DP structure, and the consequent need for additional functional layer(s) between the functional head D and the lexical projection NP.

As for **determiners**, they are the only category which can appear in the head position of the functional projection DP. Given the fact that a noun phrase always has either a definite or indefinite interpretation, it seems that the DP is always projected, i.e. noun phrases are universally DPs. In languages that lack articles, the D position is assumed to be filled with a phonetically empty element.

Demonstrative pronouns occupy a position to the left of a determiner as seen in the example from Hungarian in (20b). The fact that demonstratives agree with the head noun in Czech as demonstrated in (20e) suggests that they are specifiers. There is an available Spec position above D and that is [Spec,DP] so I will place demonstratives there.¹²

Regarding pre-nominal **possessors**, Cinque (1994), Crisma (1992), Giusti (1993) observe that there are two positions in the DP available to host them. They originate inside the lexical NP, specifically in [Spec,NP] where they are assigned a θ -role by the noun. In

¹² Spec of DP furthermore serves as an escape hatch for DP-internal movement. It can host elements introduced by *so, such, too, how, that*, etc., which originate in some lower position in the DP structure and move higher (Haegeman and Guerón 1999, 419):

- (i) *too easy a conclusion* (ii) *so vivid a picture*

some languages, e.g. Spanish¹³ or Czech¹⁴ they can under certain conditions remain in their base position while in some languages such as English or Italian they move out of the NP to a higher position in the DP.

Consider the Czech noun phrase in (21a) where the possessive pronoun *můj* moves leftward across the adjective *dobrý*. Leaving the pronoun inside the NP in the surface structure would lead to ungrammaticality (21b).

- (21) (a) *ten můj dobrý přítel* [_{NP} *t_i přítel*]
 that my good friend
 ‘that good friend of mine’
 (b) **ten dobrý přítel* [_{NP} *můj přítel*]

This behaviour is consistent with the fact that possessors are considered subjects of noun phrases, given there is an obvious parallelism between them and clausal subjects which originate VP-internally and move out of the VP to a higher functional projection as well:

- (22) (a) *Italy invaded Albany.*
 [_{IP} **Italy**_i [_T-ed [_{VP} **t_i** [_V invade [_{DP} Albany]]]]]
 (b) *Italy’s invasion of Albany*
 [_{DP} [_{AGRP} **Italy**’_{si} [_{NP} **t_i** [_N invasion [_{PP} of Albany]]]]]

Since [Spec,DP] is reserved for demonstrative pronouns, we need an additional functional projection which can host the moved possessor. I adopt the label AGR(eement)¹⁵ phrases for these projections between D and NP. AGRP is headed by a functional head AGR which selects a projection of N as its complement. The possessor moves out of the NP

¹³ Spanish possessive pronouns can appear in both pre- and post-nominal positions. When pre-nominal they are incompatible with determiners.

- (i) *un amigo mío*
 (ii) *mi amigo*
 (iii) **un/el mi amigo*

¹⁴ In Czech, pronominal possessors move out of the NP as shown in (21). Genitive and possessive noun phrases modifying the head N may move to the higher position (i) or they may stay in Spec of NP (ii). Both word orders are grammatical and there is no difference in interpretation.

- (i) *ten Marušky/Maruščin dobrý přítel* [_{NP} *t_i přítel*]
 that Mary-_{GEN}/Mary-_{POSS} good friend
 (ii) *ten dobrý Marušky/Maruščin přítel* [_{NP} *Marušky/Maruščin přítel*]
 that good Mary-_{GEN}/Mary-_{POSS} friend
 ‘that good friend of Mary’

¹⁵ The denomination Agreement phrase follows from the number and gender agreement between the noun and the adjective phrases generated in Spec positions of AGRPs. I will leave the discussion of the syntactic position of attributive APs in the DP structure to section 4.1.3.

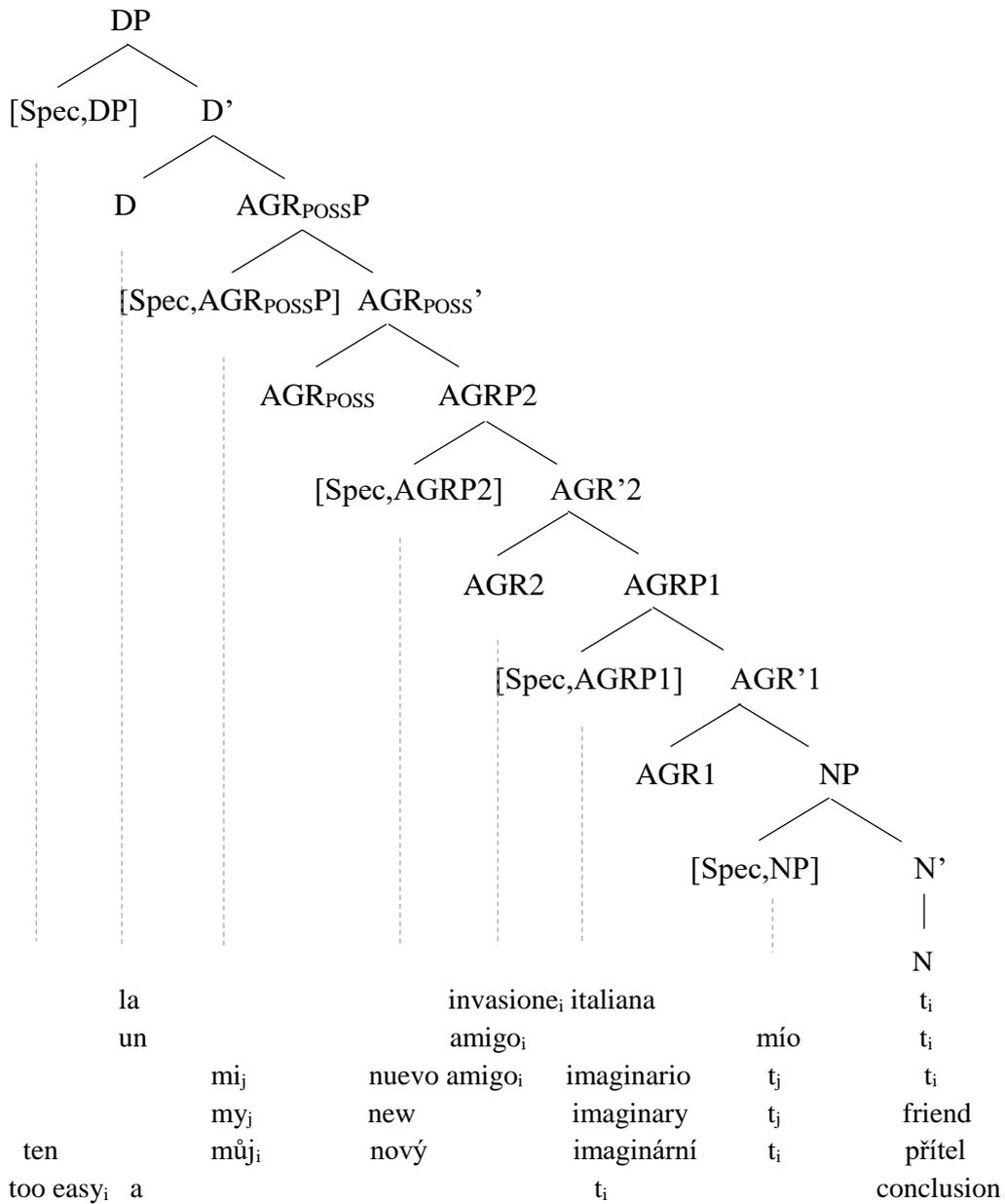
- (24) (a) Italian: *la invasione italiana*
the invasion Italian
‘the Italian invasion’
(b) Spanish: *un amigo mío*

However, the AGRP projection whose head receives the N is different than the projection whose Spec serves as a landing site for the moved possessors as demonstrated by the example from Spanish in (24c) where there is an intervening adjective between the possessor *mi* and the N *amigo*. This indicates that there is more than one functional projection intermediate between D and NP.

- (c) *mi nuevo amigo imaginario*
my new friend imaginary
‘my new imaginary friend’

The representation in (25) below illustrates the extended DP structure with various functional layers dominating the lexical noun phrase. It is clear to see that determiners, demonstratives and possessors are not in complementary distribution as each category occupies a different structural position in the tree. The fact that a single structural representation is able to account for noun phrases from various languages suggests that despite the possible differences in surface word order resulting from movement operations, the D-structure is identical for Romance, Germanic and Slavic DPs.

(25)



For easier orientation in the functional system of the nominal domain, from now on I will use labels **AGRPOSSP** for the functional projection whose specifier serves as a landing site for the possessor and **AGRP** for the projection which receives the moved head noun. I will introduce a more precise label for the projections hosting attributive APs in section 4.1.3.

4.1.2 Quantifiers

Another category associated with the nominal projection are quantifiers (Qs) such as English *many*, *few*, or Czech *mnoho* ‘many/much’, *málo* ‘little/few’, *několik* ‘several’. The group of quantifying noun modifiers includes also the category of cardinal numerals (I will use the abbreviation Q_{CARD} when referring to this subset of quantifiers).

The class of quantifiers is an internally heterogeneous category. This claim cannot be very well tested in English, but it can be documented in Czech. Veselovská (2001) distinguishes two types of Czech quantifying elements, namely existential quantifiers and universal quantifiers which she labels Q_{GEN} and Q_A , respectively.¹⁷

- (i) Q_A : *všichni* ‘all’, *oba* ‘both’, cardinals 2/3/4
- (ii) Q_{GEN} : *mnoho, málo, hodně* ‘plenty’, *kolik* ‘how many’, cardinals higher than ‘4’, etc. (Veselovská 2001, 274)

These two subsets of Qs differ with respect to the syntactic position: Q_{AS} occupy Spec position of a functional projection, whereas Q_{GENS} are syntactic heads. Due to their different location in the nominal structure, they exhibit distinct agreement patterns. In accordance with (9a), Q_{AS} , like other nominal modifiers generated in Spec, are subject to the Spec-head agreement, in other words, they always copy the case, gender and number features of the head N as illustrated in (26).

- (26) (a) *všichni ti jeho dobří přátelé*
 all-NOM those-NOM his-NOM good-NOM friends-NOM
 ‘all those good friends of his’
- (b) *se všemi těmi jeho dobrými přáteli*
 with all-INS those-INS his-INS good-INS friends-INS
 ‘with all those good friends of his’

The behaviour of Q_{GENS} with regard to the case and agreement pattern depends on the grammatical context, i.e. the case imposed on the DP externally. In NOM/ACC cases the Q_{GEN} assigns GEN to the nominal complex (27a), while in non-NOM/ACC cases it does not and the head N is assigned case by a DP-external assigner (27b).¹⁸

¹⁷ Veselovská identifies also a third subcategory of Czech quantifiers, i.e. group nouns (Q_N), which comprises items such as *trocha* ‘a bit of’, *spousta* ‘plenty of’, *hromada* ‘a pile of’. Semantically speaking, they are quantificational expressions. With respect to their morpho-syntactic properties, they are, however, fully nominal. They function as syntactic heads selecting a DP to which they assign GEN. The structure of the noun phrase containing Q_N is thus the same as that of the noun phrase containing a noun post-modified by a GEN DP complement. Since Q_{NS} are not truly a part of the pre-nominal modifying field, I will not be concerned with this type of quantifying expressions any further here.

¹⁸ Veselovská (2001) explains the mixed behaviour of Q_{GEN} in terms of distinct levels of insertion into derivation. Based on the assumptions that: (i) lexical cases (non-NOM/ACC) are assigned at D-structure, whereas configurational cases (NOM/ACC) are assigned at S-structure, and (ii) elements lacking semantic features f can be inserted into a derivation late, she argues that Q_{GEN} (lacking semantic features f) is absent at D-structure when a lexical case is assigned. Consequently, the lexical case is assigned to the highest lexical head, i.e. N. At S-structure, Q_{GEN} enters the derivation. If the NP has been already assigned a lexical case at D-structure, Q_{GEN} does not impose GEN on it. In case the structural environment assigns a configurational case to the DP, the nominal complex is still unmarked for case at the point of Q_{GEN} insertion which means it can be assigned GEN by Q_{GEN} .

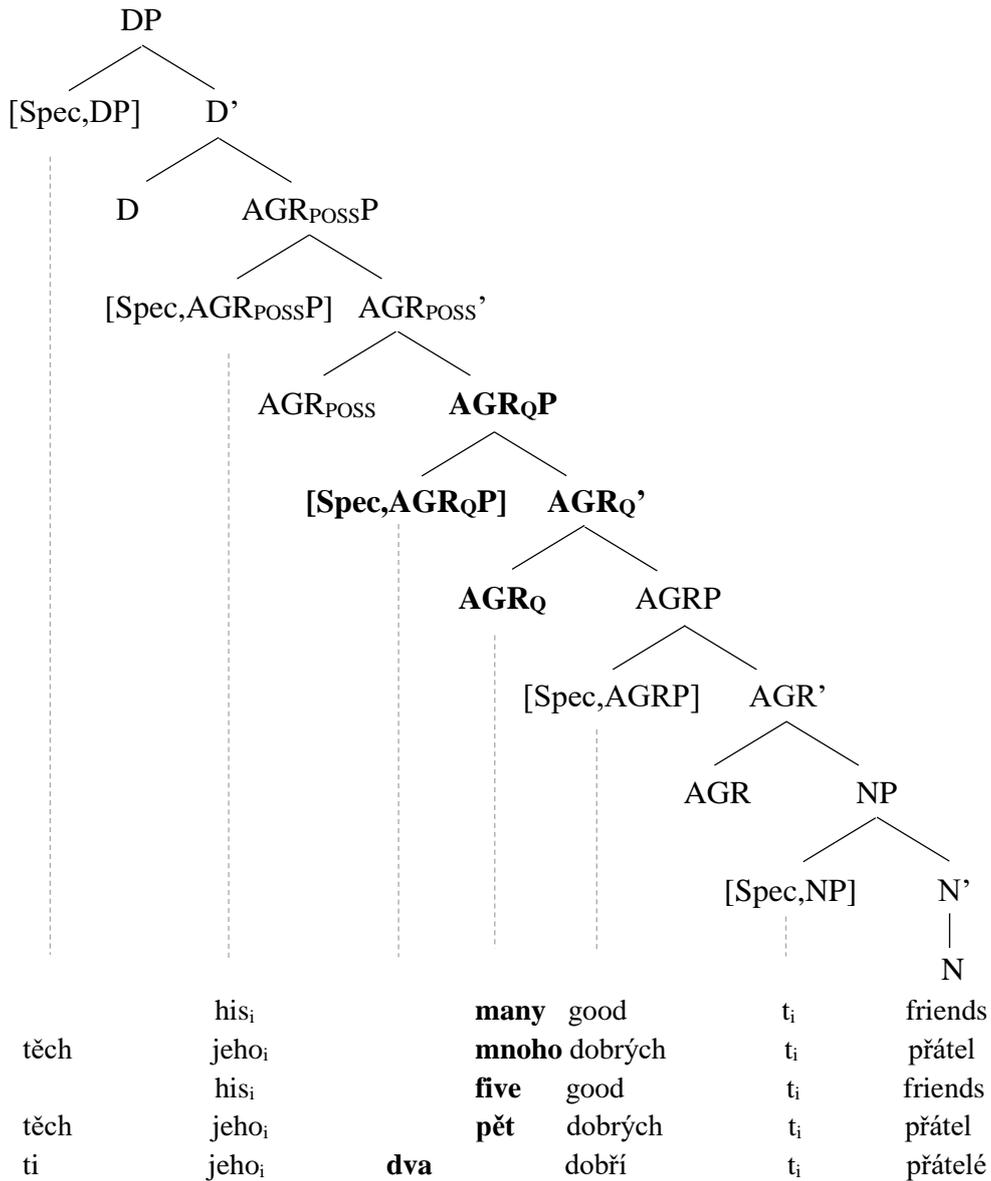
- (27) (a) *těch jeho mnoho / pět dobrých přátel*
 those-GEN his-GEN many-NOM/five-NOM good-GEN friends-GEN
 ‘the many stupid excuses of his’
- (b) *s těmi jeho mnoha / pěti dobrými přáteli*
 with those-INS his-INS many-INS/five-INS good-INS friends-INS
 ‘his five very pretty daughters’

Now let us turn to the distribution of quantifiers with respect to other nominal pre-modifiers. I assume that, same as the noun modifiers already discussed above, Qs are located within a functional projection. Considering what has been said in this section, Q_A would be located in Spec and Q_{GEN} in head position of the projection. If we look at the examples in (27) and (28a) below, we see that one such projection available to accommodate Qs (I will label this projection **AGR_QP**) is inside the DP, more specifically below AGR_{POSSP} and above the functional projection hosting APs.

- (28) (a) *his many/five good friends*
 (b) *all those years*
 (c) *mnoho/pět těch jeho dobrých přátel*

However, examples in (26) and (28b-c) show that also some higher position above DP must be available for quantifiers. Since it is not of great importance to the central discussion, I will leave the question of the higher QP projection whose head selects the DP as its complement open here.

(29)



To sum up the discussion so far, we have established which positions in the DP structure are filled with determiners, possessors, demonstratives and quantifiers. In the subsequent section I will look in more detail at the distribution of another class of noun pre-modifiers, namely adjective phrases.

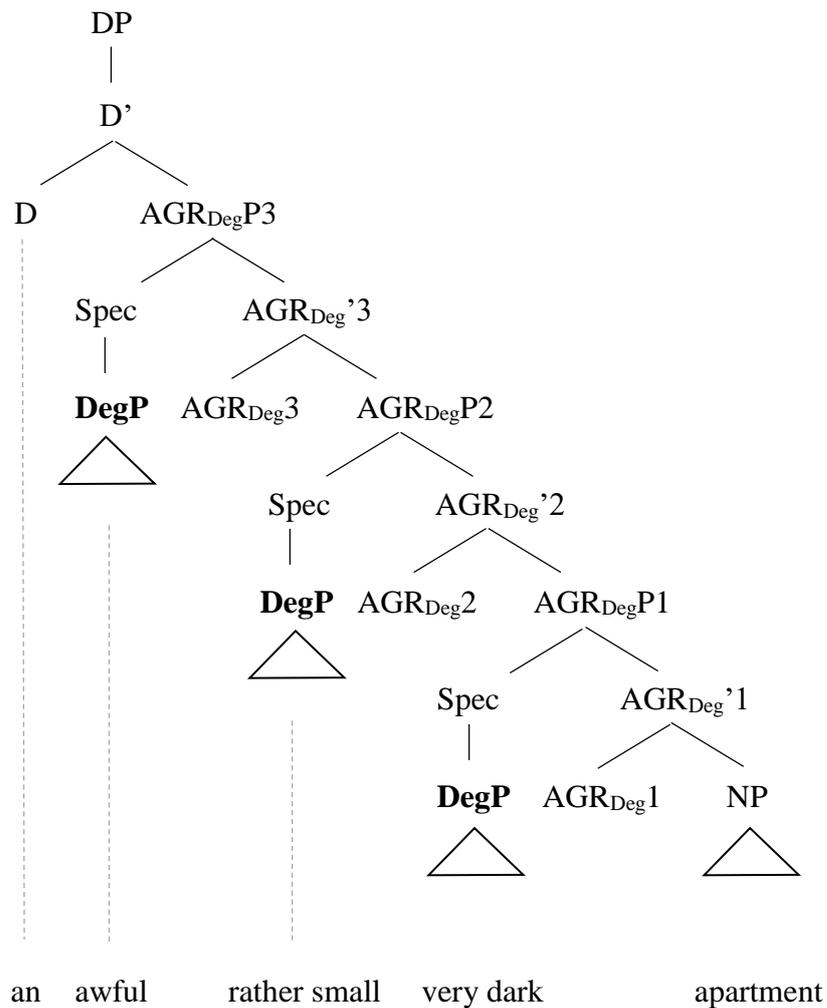
4.1.3 Attributive APs

In this section I will look at how the attributive APs are incorporated into the DP structure proposed in (29). Following Cinque (1993) and Crisma (1993), I assume that adjective phrases are generated in **specifier positions of AGRPs**. I favour the generation-in-Spec hypothesis over the proposal that APs are adjoined to the maximal projection (Adger 2003) because it accounts nicely for the universal regularities found in the relative ordering of different classes of adjectives and it also limits the number of adjectival modifiers that can appear in a single DP.

Cinque (1993) suggests that the universal unmarked order of attributive APs follows from the hierarchical ordering of the functional projections in whose Spec they appear (with respect to the head noun). Crisma (1993) proposes to divide adjectives into subcategories according to their interpretation; each subcategory then has one and only one position available in the structure (Spec of a specialized functional projection) which is fixed, and recursion is not allowed.

The generation-in-Spec analysis has a further advantage. Given their placement in the specifier, adjectives are able to copy the features of the head noun under the Spec-head agreement.

(30)



(30) is a structural representation of a DP which contains multiple adjectival modifiers.¹⁹ It shows where these adjectives are generated: Spec of functional projections below

¹⁹ (30) is a first approximation to attributive APs. I will refine the internal structure of DegPs in chapter 5. For now, let us just assume that there is a functional layer headed by the functional degree words *rather* and *very* which in turn select the lexical APs *small* and *dark*, respectively, as their complements.

AGR_QP and above NP. I will use the label **AGR_{Deg}P_s** for these DP-internal functional projections whose specifier hosts attributive APs.²⁰

Following the assumption that the functional head hypothesis can be extended to the adjectival system (Abney 1987, Corver 1997), i.e. lexical adjectives are dominated by a functional degree head, I will presume that DegPs are in fact generated in Spec of AGR_{Deg}P_s, rather than APs.

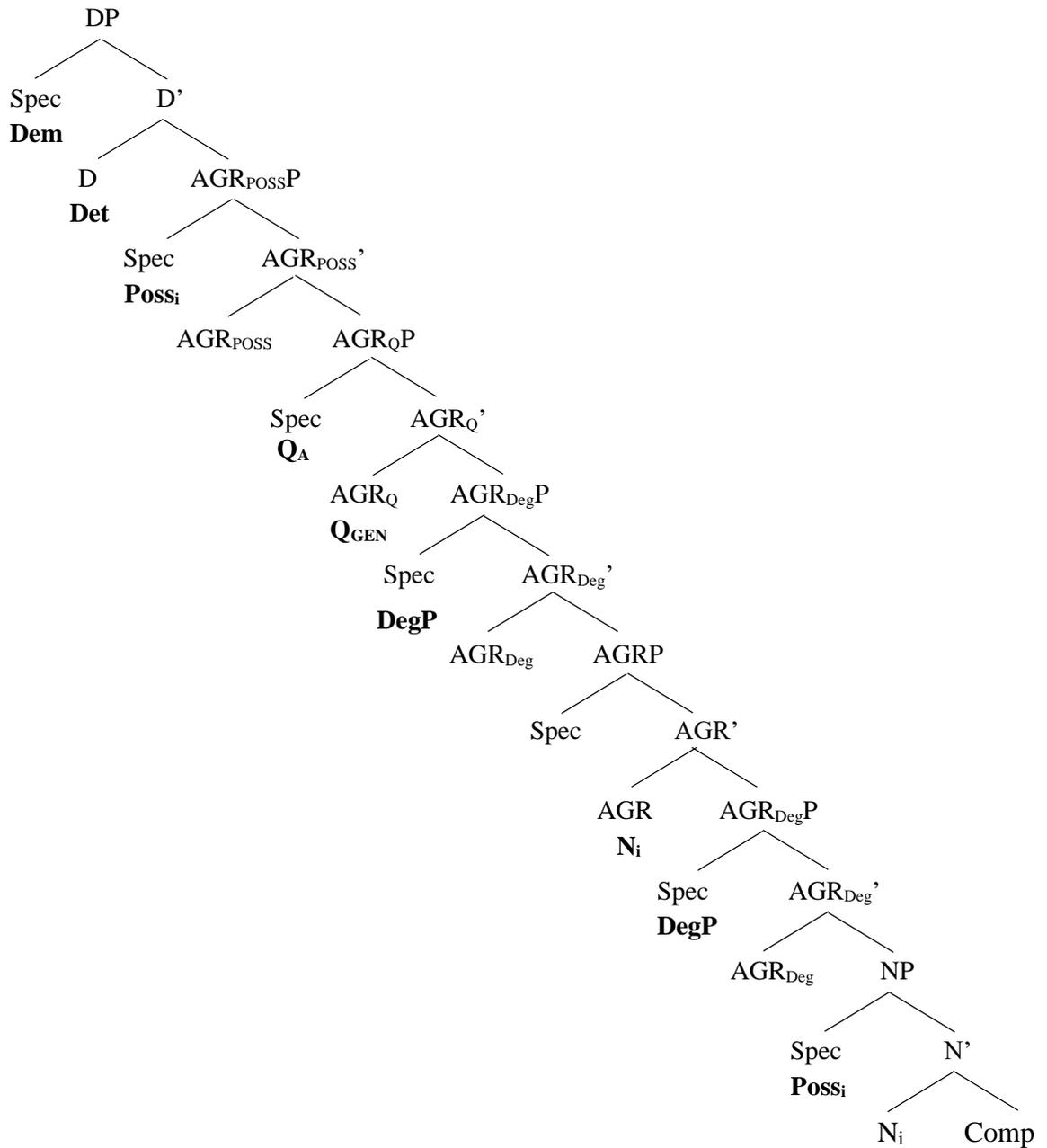
4.2 Complex DP Structure

To summarize chapter 4, I present a structural representation of the complex DP (31) which I assume to be valid cross-linguistically (the language-specific variations being results of movement operations). It is a layered structure – the lexical projection NP is augmented by various functional projections. I work on the assumption that determiners, demonstratives and possessors occupy different slots in the structure – D, [SpecDP] and [SpecNP]/[SpecAGR_{POSS}], respectively – and that DegPs are generated in the Spec of functional projections which are located below D and above NP.

²⁰ The specialized functional projections can be labelled according to the type of AP its specifier hosts. For instance, in terms of Haegeman and Guéron (1999, 459) the AGR_{Deg}P₁ in the schema in (31) is ColP whose specifier hosts a colour AP, the AGR_{Deg}P₂ is SiP and its specifier hosts a size AP, and the AGR_{Deg}P₃ is EvP and its Spec is a position for an evaluating AP.

Since the differentiating between distinct classes of adjectives is irrelevant for my analysis, I will be using the label AGR_{Deg}P for all the projections hosting DegPs and I will just add numbers where needed to distinguish one functional projection from another.

(31)



I have mentioned above that the DP projection is always present in the noun phrase. However, I do not know if the rest of the functional system of the nominal domain must be always projected. I remain agnostic about this issue since the fact whether the projections are absent or are in fact projected but filled with phonetically empty material does not affect my analysis. If there is no overt material in the functional projections between D and NP in the structures I present here, I will just leave those layers out from the representation.

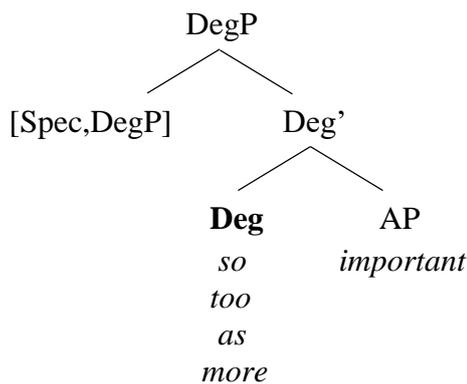
5 DEGREE PHRASES

As stated in chapter 3, I adopt the stand that ordinals as well as superlatives are DegPs generated in the Spec position of a DP-internal functional projection. Therefore, when examining their structural properties, I will be concerned with the internal structure of DegP. Since my theory about superlatives is predicated on the assumption that there is a comparative underlying every superlative, I will take a closer look also at the syntactic structure of comparative constructions.

5.1 Degree Words

Within the lines of Abney (1987), DegPs are functional projections headed by degree words (Deg), i.e. functional elements pertaining to the adjectival system, which take AP as their complement in the same way D takes NP (or a projection of NP). The class of degree words consists of items like *so*, *too*, *as*, *how*, *more*, *less*, *enough*, *very*, *quite*, *rather*, *somewhat*, etc. Semantically, these items specify the degree or extent of the property denoted by the adjective.

(32)



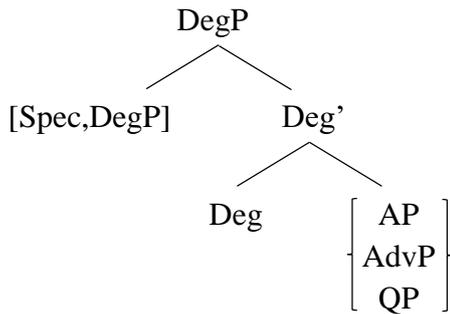
Abney observes that the functional head Deg may select not only adjectives but also other categories, more specifically quantifiers and adverbs – as its complement:

(33) (a) *too big* (b) *too many* (c) *too quickly*
 as big *as much* *as hungrily*

(34) Czech:
 (a) *příliš velký* (b) *příliš mnoho* (c) *příliš rychle*
 ‘too big’ ‘too much/many’ ‘too quickly’

He explains this by claiming that quantifiers and adverbs are in fact subclasses of adjectives, and that, consequently, adjective phrases, quantifier phrases and adverb phrases are identical in terms of internal structure, in other words, they are all DegPs with the structural representation shown in (35).

(35)



5.2 Split Degree Hypothesis

Some have pointed out that in fact there is not one uniform category of functional degree elements but rather two separate classes which differ significantly in terms of their distributional properties (Bresnan 1973, Corver 1997, Doetjes et al. 1998). They propose there should be drawn a line between the degree expressions such as the one in (36a) and that in (36b).

- (36) (a) *Of all the careless people, no one is **more** so than Bill.*
 (b) *John is fond of Mary. *Maybe he is **too** so.* (Doetjes et al. 1998, 4)

Following Bresnan, Corver in his analysis makes a distinction between determiner-like elements (Deg) and quantifier-like elements (Q) within the category of degree words based on the parallels between Dets and Degs, on one hand, and nominal Qs and adjectival Qs, on the other hand. Doetjes et al. use labels class-1 and class-2 to refer to these two distinct subcategories of degree expressions:

- (37) Class 1: *too, as, that, very, how, ...* (Deg)
 Class 2: *more, less, enough, dummy much²¹...* (Q)

Given their largely identical semantics (they both function as existential quantifiers), Doetjes et al. claim that the difference between class-1 items and class-2 items must be in syntax, and they proceed to give an overview of the chief aspects of their syntactic behaviour in which they differ:

- (i) class-1 items do not attach to pro-forms that replace AP, class-2 items do

²¹ Corver (1997) postulates that there is a dummy *much* or *much*-support which is equivalent to the *do*-support of the verbal system. The *much*-support is inserted as a last resort in contexts with certain degree words where the pro-form *so* replaces the AP. (36b) above can be saved if *much*-support is inserted:

- (i) *John is fond of Mary. Maybe he is too much so.*

Class-1 items trigger the dummy-*much*-insertion, while class-2 items do not, as can be seen in (36a).

- (ii) class-1 items select an AP, class-2 items can be combined with any category of the appropriate semantic type
- (iii) class-2 items can appear without an AP, class-1 items cannot
- (iv) class-1 items block adjunction to their sister, class-2 items do not
- (v) class-1 items cannot be topicalized, topicalization of class-2 items is allowed
- (vi) topicalization of AP cannot strand a class-1 item, but it can strand an item of class 2

Doetjes et al. 1998, 12

Both Corver and Doetjes et al. argue in favour of the split degree system hypothesis, i.e. there are two classes of degree expressions which fill different structural positions in the extended adjectival projection²² and manifest different syntactic behaviour, and thus should not be treated as a uniform category. However, they arrive to different conclusions with respect to the structural position of these elements. Doetjes et al. consider only class-1 items to be functional heads which c-select APs as their complements while class-2 items modify maximal projection adjoined to AP. Corver, on the contrary, proposes a rich extended AP structure where class-1 items are functional heads of DegPs and they select functional projections QP headed by class-2 elements. Qs then in turn take APs as complements.

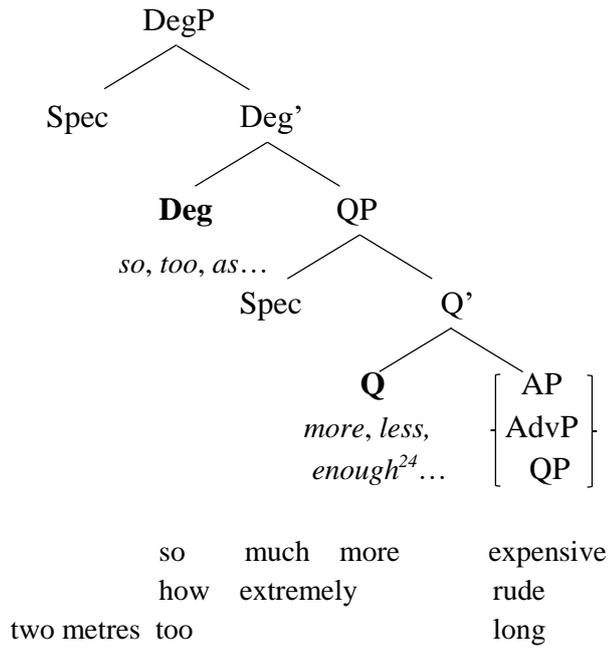
For my analysis I adopt Corver's model of DegP internal structure. I presume there are two classes of functional degree expressions which do not fill the same syntactic position, in other words, the functional layer of the adjectival domain should be split into **two functional projections** dominating the lexical AP. Words such as *more* or *less* are then lower in the structure than expressions like *so*, *as*, *too*, etc. I will be using Corver's category labels QP for the lower projection and DegP for the higher one. With Corver and contrary to Doetjes et al., I believe Qs²³ are not adjuncts but heads which select APs as their complements.

²² Although class-1 degree words and class-2 degree words do not compete for the same syntactic position, they are largely mutually exclusive as illustrated by the examples below. Doetjes et al. (1998, 33-34) claim the near complementary distribution follows from the semantic character of degree words. Since they are existential quantifiers, attaching more than one degree expression to AP would result in vacuous quantification and ungrammaticality.

- (i) *John F. was **very** famous.*
- (ii) *John F. was **more** famous than Marilyn.*
- (iii) **John F. was **very more** famous.*
- (iv) **John F. was **more very** famous.*

²³ The class of the Qs modifying adjectives is not identical to the class of Qs modifying nouns. Bresnan (1973) argues that in English only those Qs which select mass nouns can also take adjectives and adverbs as complements. With adjectives they express degree or extent while with nouns they express amount. She identifies three items with these properties, namely *much*, *little* and *enough*. In her analysis *more* has an underlying structure *-er much*, and *less* has a structure *-er little* which makes them able to appear in Q.

(38)



The scheme in (38) above presents the configuration of the extended adjective phrase where the lexical projection AP is augmented by two functional layers headed by degree words. Spec positions of DegP and QP host modifiers of the degree words such as adverbial phrases or measure phrases.

In the remainder of this chapter and in chapter 6 I will be concerned primarily with QP projection since that is where I suppose superlative and ordinal constructions are located in the structure of DegP.

5.3 Structure and Gradability

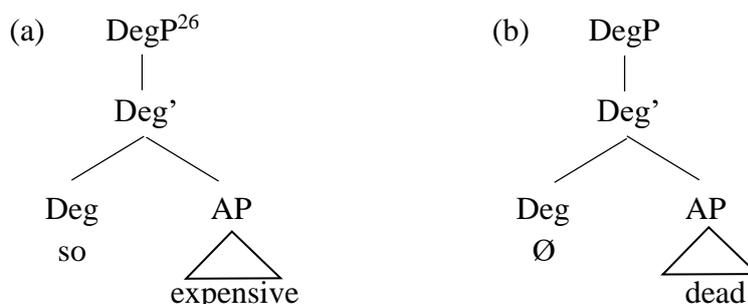
As has been stated in section 3.2, there are certain adjectives that never appear with any kind of degree expression. Zamparelli (1993, 153) and Corver (1997, 314) argue for an analysis under which gradable and non-gradable adjectives differ with respect to their structural properties. They adopt the functional-head format for adjective phrases containing gradable adjective, i.e. the lexical projection AP is embedded within the functional projection DegP, but they suggest that non-gradable adjectives project only AP with no further extensions. Under their approaches gradable adjectives are DegPs while non-gradable adjectives are APs.

²⁴ The standard position of the English quantifier *enough* is after the AP as demonstrated by the example (i) below. I assume the adjective moves from A across *enough* to some higher position in the structure (ii) but I will not be looking further into this issue here.

- (i) It is [a big enough car] to fit six people.
- (ii) [_{DP} a [_{DegP} big_i [_{QP} enough [_{AP} t_i [_{NP} car]]]]]

By contrast, Abney (1987, 192) proposes that there is a Deg position²⁵ in every adjective phrase including those headed by the non-gradable As. If an adjective does not overtly combine with a degree word, he assumes that there is still an empty Deg just like there is always a D even in noun phrases with no overt determiner. The empty Deg is to be interpreted as a ‘positive degree’. It follows that every adjective phrase (including those consisting only of a bare adjective) is a DegP.

(39)



In order to maintain consistency with the functional head theory that I am presupposing in this paper, I adopt Abney’s proposal, i.e. every adjective phrase (like every other type of phrase) has a functional layer dominating the lexical projection. Although certain adjectives resist all degree expressions, I believe that their structural properties are the same as those of the gradable adjectives and that the motivation for their inability to combine with an overt Deg is purely semantical.

5.4 Comparative Constructions

It has been noted in section 3.2, that languages have two devices for building a comparative expression, more specifically they can create either an analytic comparative using a free comparative degree morpheme such as English *more* or Czech *více*, or a synthetic comparative formed with degree affixes such as English *-er* or Czech *-ejší*. The fact that comparative constructions may be created by periphrasis is an indication that the comparative degree element is separate from the adjective in syntax. See the data from English (40) and Czech (41) below:

- (40) (a) *much happier*
 (b) *much more important*
 (c) *less happy*
- (41) (a) *mnohem veselejší*
 much happy-er
 ‘much happier’

²⁵ His model of adjective phrase has only one functional layer, i.e. DegP, so his position Deg corresponds to Deg/Q under my analysis.

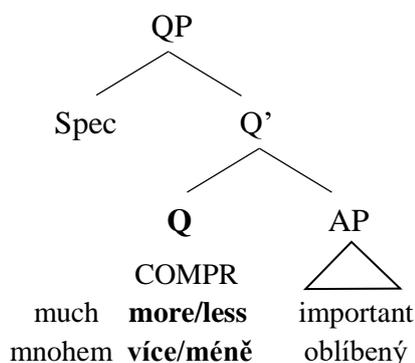
²⁶ For simplicity of exposition, I leave out the QP projection from the trees of structures where there is no overt material in QP.

- (b) *více oblíbený*
more popular
- (c) *méně oblíbený*
less popular

Czech as well as English can form adjectival comparatives by both affixation and periphrasis. In Czech the use of synthetic forms is much more frequent than the use of analytic forms for comparison of superiority (although the analytic comparative of superiority using the degree word *více* ‘more’ is also possible, as seen in (41b)), while comparatives of inferiority are created exclusively with the free degree element *méně* ‘less’ in accordance with what has been said in 3.2.

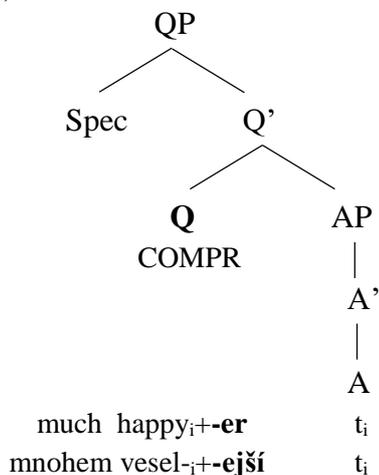
As seen in the previous section, the phonologically independent comparative degree words such as English *more/less* and their Czech equivalents *více/méně* occupy the head position of the functional projection QP (42).

(42)



Based on the assumption that comparative degree elements are syntactically independent from the adjective, I believe that comparative affixes like English *-er* or Czech *-ejší* originate in the same position in the sentence structure as the free degree words, namely the Q position.

(43)



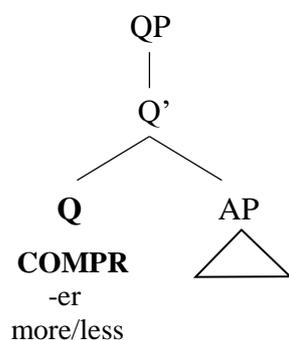
In case that the head of the comparative construction is a bound morpheme, the adjective raises from A to Q where it combines with the comparative affix in order to derive the surface structure (Corver 1997) as demonstrated in (43).

It follows from the discussion in this section that free and bound comparative degree elements have the same syntactic distribution, and, consequently, that despite the difference in surface structure the adjective phrases containing morphological and periphrastic comparative constructions have identical underlying structure.

5.5 Summary

To summarize chapter 5, along the lines of the functional head perspective, I assume that all adjective phrases – gradable as well as non-gradable ones – have the same extended syntactic structure, i.e. the lexical projection augmented by the functional projection headed by a degree element (overt or empty). To put it differently, all adjective phrases are DegPs. I adopted a more articulated structure of degree phrases which captures two different positions for two different classes of degree expressions: Deg and Q. Deg is higher in the structure and selects QP as a complement, Q in turn selects AP as a complement. The functional head Q is a place of comparative degree element (free or bound). Comparative constructions, both synthetic and periphrastic, have the same general internal structure:

(44)



In what follows, I will examine the structure of the adjective phrase containing a superlative expression focusing on the syntactic position of the superlative degree marker, and the D-structure underlying morphological and analytic superlatives.

6 SYNTAX OF SUPERLATIVES AND ORDINAL NUMERALS

The first part of this chapter will be dealing with the internal syntax of superlative and ordinal DegPs. First, I will look at the traditional theories on superlative constructions and their drawbacks. I will adopt an alternative analysis based on the assumption that there is an embedded comparative in the superlative structure. In section 6.2 I will present my proposal for syntactic analysis of ordinal numerals based on the analysis of superlatives.

The second part of chapter 6 is concerned with distribution of attributive superlatives and ordinals with respect to other noun pre-modifiers. I will postulate a functional projection within the nominal functional system whose specifier hosts comparative, superlative and ordinal DegPs.

6.1 Syntactic Structure of Superlative Expressions

Traditionally, analyses of superlatives are drawn on the basis of corresponding theories on comparative constructions, i.e. they assume that superlatives are formed in exactly the same way as comparatives by adding a degree morpheme to the positive form of an adjective. These theories pursue a parallel treatment of structural properties of comparative degree words and superlative degree words (Heim 1999, Farkas and Kiss 2000, Sharvit and Stateva 2002). Farkas and Kiss (2000, 434) argue that the syntactic structure of the noun phrase containing a superlative expression looks like what follows below:

- (45) (a) *the highest mountain*
[DP [D the][NP [DegP [Deg **-est**][AP high]][N⁺ mountain]]]

Under their analysis, the head of a superlative DegP is a superlative morpheme and it occupies the same position in the structure as a comparative morpheme in a comparative construction:

- (b) *a higher mountain*
[DP [D a][NP [DegP [Deg **-er**][AP high]][N⁺ mountain]]]

Examining data from languages like English where comparative and superlative degree is expressed in the surface structure by two morphemes independent of each other, and given their mutual incompatibility, it seems plausible to assume the two degree markers compete for the same syntactic position.

Problems with this approach arise when we turn to languages like Czech where the superlative form of gradable adjectives and gradable adverbs requires the presence of both the comparative and the superlative degree morpheme. Let us consider the examples of Czech adjectives and adverbs in (46):

- (46) (a) *nejpomalejší*
 most-slow-er-ADJ
 ‘the slowest’
- (b) **nejpomalý*
 most-slow
- (c) *nejrychleji*
 most-fast-er-ADV
 ‘the fastest’
- (d) **nejrychle*
 most-fast

In Czech the superlative form is created by attaching the superlative prefix *nej-* to the comparative form of an adjective or adverb. If the comparative suffix (a variant of *-ejší* for adjectives and *-ěji* for adverbs) is not present on the form to which *nej-* is prefixed, the outcome is ungrammatical, as we see from the impossibility of the DegPs such as those in (46b) and (46d). The theory which supposes the same slot for the comparative and superlative morphemes fails to explain cases like this.

I agree with the proposals developed in Stateva (2003) and Bobaljik (2011), that there is a comparative underlying all superlative constructions. Bobaljik formulates the idea in his Containment Hypothesis:

- (47) The representation of the superlative properly contains that of the comparative. (4)²⁷

Working on the presumption that superlatives are formed from comparatives, Stateva in her analysis concludes that the head of the superlative construction is a comparative operator and not the superlative degree word. The default position for the superlative degree morpheme would then be in the specifier of the comparative head, i.e. [Spec,QP].²⁸ The structural representation of the superlative construction is illustrated in (48).

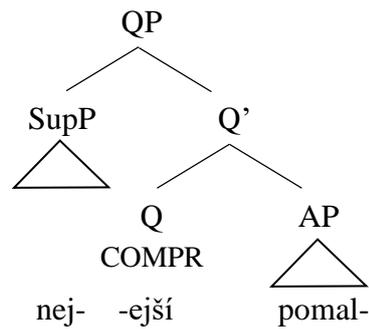
²⁷ Bobaljik’s (2011) argument for the assumption that the comparative is contained in the superlative is that it effectively excludes the ABA suppletion pattern of degree expressions which is in fact unattested across languages. The theory that superlatives are derived from comparatives (and not from the positive forms) by adding some morpheme predicts correctly that if an adjective has a suppletive comparative form, the suppletive allomorph automatically extends to the superlative, unless there is a further suppletion (an ABC pattern).

²⁸ Stateva’s argument that the superlative degree word is located in the specifier of the comparative follows from the examination of the syntactic distribution of measure phrases. Superlatives, in contrast to comparatives, are not able to combine with MPs.

- (i) (a) **The chess set is (the) 5 dollars most expensive.*
 (b) *The chess set is 5 dollars more expensive than every toy.* (Stateva 2003, 276)

Given there is no semantic reason that would prevent MPs from appearing with superlatives, Stateva argues that the motivation is syntactic. The standard position hosting MPs in comparative constructions is [Spec,QP]. The inability of superlatives to take MPs suggests that this position is not available in superlative constructions. Stateva concludes that it is unavailable because it is filled with the superlative element itself, i.e. MPs and superlative degree words are in complementary distribution.

(48)



The structure in (48) is organized around the comparative degree head Q which provides the comparison relation.²⁹ Q combines with AP to form Q', and Q' combines with a phrase headed by the superlative degree element.³⁰ Such a structural representation provides space to accommodate all the components of Czech superlative constructions which the unified theory of degree expression was unable to do. Data from other Slavic languages (49-51) provide a strong piece of evidence supporting the above proposed structure for superlative constructions:

(49) Serbo-Croatian:

- (a) *Ivan je najpametniji*
Ivan is most-smart-er
'Ivan is the smartest'
- (b) **Ivan je najpametn*
Ivan is most-smart

(50) Russian:

- (a) *Oleg naibolee vydajuščijsja učenyj*
Oleg most-more outstanding scholar
'Oleg is the most outstanding scholar'
- (b) *Oleg naimenee vydajuščijsja učenyj*
Oleg most-less outstanding scholar
'Oleg is the least outstanding scholar'
- (c) **Ivan naivydajuščijsja učenyj*
Ivan most-outstanding scholar

(Stateva 2003, 284-286)

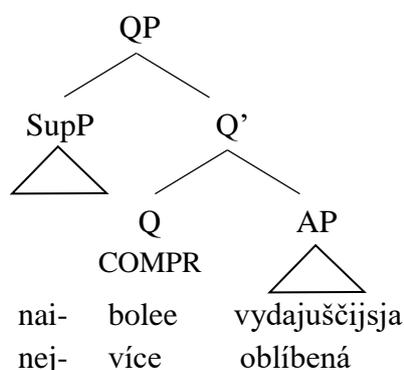
²⁹ As said in 3.4.1, superlatives are essentially expressions of comparison. In both the comparative and the superlative constructions the head degree word provides the degree relation 'greater/smaller than'. The superlative element in the Spec of Q then 'semantically functions as a *than*-clause of sort which directly provides a degree as a standard value for the degree relation' (Stateva 2003, 287).

³⁰ Given the fact that the specifier position can host only maximal projections and not zero-level categories, I assume the superlative element in [Spec,QP] to be of a phrasal character. I will return to the internal structure of the constituent which I labelled here SupP in 6.3.1.

- (51) Czech:
- (a) *nejvíce oblíbená destinace*
 most-more popular destination
 ‘the most popular destination’
- (b) *nejméně oblíbená destinace*
 most-less popular destination
 ‘the least popular destination’

Like in Czech, in Serbo-Croatian and Russian the superlative construction requires both a comparative and a superlative degree element in order to be grammatical. Russian comparative degree words *bolee/menee* ‘more’/‘less’ are phonologically independent as well as Czech *více/méně* ‘more’/‘less’. The word order in Russian and Czech superlative constructions created from analytic comparatives corresponds to the hierarchical structural relations in the proposed structure:

(52)



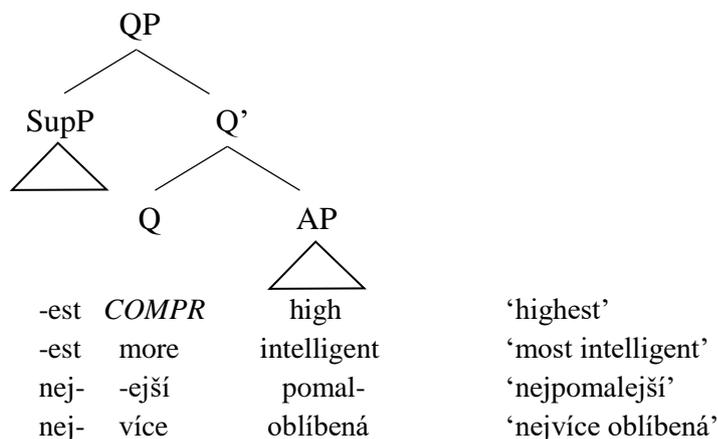
As has been demonstrated, the superlative model organized around the comparative head accommodates in a satisfactory way the superlative structures of Slavic-type languages, but what if we return to the English example from (45a) where there is only one overt degree element present? Stateva presumes that the comparative morpheme located in Q has a phonologically null allomorph which is present in superlative constructions in languages like English.³¹ Thus, there is always some material in Q. Adopting Stateva’s views, I assume the structural representation proposed in (48) to be applicable to superlative constructions crosslinguistically. As she proposes in her study, languages then have two ways of realizing the head of the superlative construction: English-type languages use a null comparative degree element, Slavic-type languages, on the other hand, have an overt comparative marker in Q.

Just like with comparatives, I believe that despite the surface differences in periphrastic and morphological superlative constructions – in case of periphrastic superlatives, the superlative morpheme affixes to the phonologically independent comparative degree word, while in morphological superlatives where there is no independent degree word available it is attached to the adjective – they have the same D-

³¹ In her study, Stateva labels this comparative operator *ER*, however, I will use the label *COMPR* in my analysis.

structure architecture [_{QP} superlative [_{Q'} comparative + positive]]. With both the morphological and the analytic superlatives the comparative degree head (overt or null) selects an AP as a complement, and the intermediate level projection is specified by a superlative element. The structural model proposed in (48) captures nicely the underlying arrangement of all possible superlative forms discussed in this section:

(53)



To briefly sum up, this section has offered empirical evidence – mostly from Slavic languages – that could not be handled by standard syntactic analyses of superlatives, and that led to a postulation of a more refined structural representation of adjective phrases containing a superlative construction. This alternative theory built on proposals elaborated in Stateva (2003) and Bobaljik (2011) turns away from the unified treatment of comparative and superlative degree words and instead argues that these elements occupy distinct positions in the adjectival phrasal structure, more specifically the comparative degree morpheme heads the functional projection QP which dominates the lexical AP while the superlative element is in its Spec. To put it differently, there is a comparative underlying every superlative construction. Crosslinguistically, the Q can be realized either as an overt degree morpheme (Slavic-type languages) or as a null comparative degree operator (English-type languages).

6.2 Syntactic Structure of Ordinal Numerals

In the present section I will examine the structure of adjective phrases containing ordinal numerals. As I said previously, due to the cluster of morpho-syntactic properties they have in common with adjectives, I believe ordinal numerals to be DegPs and as such to be generated in Spec of a functional projection intermediate between DP and NP. I will be dealing with the relation which the functional projection hosting the ordinal bears to the rest of the elements in the nominal domain later. Now let us consider the internal structure of the DegP which contains an ordinal numeral.

Motivated on the basis of their shared semantics, I propose a structural representation of an adjective phrase containing an ordinal numeral parallel to that containing a superlative construction. I believe the ordinal marker to be located somewhere in the QP layer of the extended adjectival projection, similarly to the

superlative marker. As pointed out in 3.4.1, ordinals are **inherently comparative** in nature just like superlatives, and I assume that this comparative component of their meaning is reflected also in the syntactic level. In the previous section we concluded that a comparative is underlying superlative structures and I suppose the same to be true about ordinals, only in ordinal constructions the comparative operator is always phonetically empty.

With respect to the internal structure of attributive superlatives, the lexical level embedded under the degree elements consists of adjectives, in other words the comparative operator c-selects APs as its complements. In case of ordinals, the comparative operator selects a special class of quantifiers, namely cardinal numerals.³² I will label this class Q_{CARD} to differentiate its members from other quantifiers. Traditionally, the forms that express the ordinal meaning are presumed to be created from the cardinal numerals by attaching an ordinal affix. The ordinal marker can be either suffixed or prefixed to the cardinal base (the affixation may trigger some phonetic alterations on the root). See the cardinal and ordinal forms in the Table 2 in (54):

(54) **Cardinal numerals and ordinal numerals**

	Cardinal numeral	Ordinal numeral
English	four	fourth
Czech	osm ‘eight’	osmý ‘eighth’
Latin	decem ‘ten’	decimus ‘tenth’
Chinese	shi ‘ten’	dishi ‘tenth’
Malay	tiga ‘three’	ketiga ‘third’

Table 2: Formation of ordinal forms from cardinal forms by suffixation/prefixation

In analogy to the structural theory about superlatives pursued in this paper, I assume the ordinal marker occupies the same syntactic position as the superlative marker does in the superlative construction, more specifically the Spec position of the projection headed by the comparative operator.³³

³² Following Abney (1987), I assume that the functional head in the extended adjectival projection can take QPs apart from APs as its complement and that the internal structure of both the adjectival DegP and the quantificational DegP is identical as has been pointed out in 5.1.

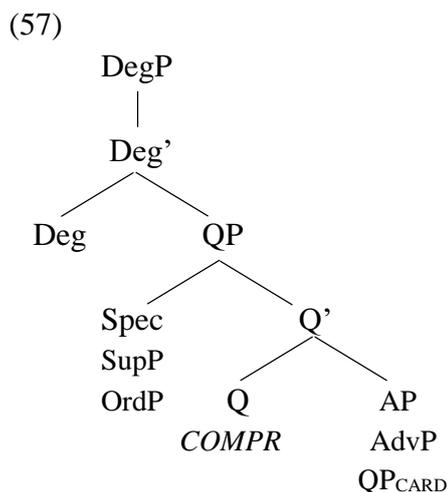
³³ It is worthwhile pointing out that some languages use the same affix to form both superlative degree and ordinal numerals. In Sanskrit one of the possible means of regular superlative formation is attaching the superlative affix *-tama* to the adjective. The same suffix is used to form ordinals from cardinal numerals (Schleicher 2014, 253).

Fairburn (1870) in his comparative study on Indo-European languages and Maori notes that ‘in Maori, ordinal numerals are formed by prefixing to the cardinals *tua*, which originally, no doubt, meant *number* (from the same root as *tátau*, *to count*), as proved by its equivalent in Samoan, *toa*, meaning also in that dialect, *number*.’ He concludes that ‘as the superlative degree really carries the essential idea of *number*, it is very probable that the Sanskrit *tama* ... [was] originally derived from a root signifying number; very likely the identical one from which the Maori *tua* and Samoan *toa* are derived.’ The same goes for other Indo-European languages, as—Greek *to*, Latin *tu*, Gothic and Anglo-Saxon *ta*, and English *th* (314).

Ordinals, like superlatives but in contrast with comparatives, are not able to combine with measure phrases as demonstrated by the English examples in (55) and their Czech equivalents in (56). While both English and Czech comparative forms can take an MP as a specifier, with ordinal forms the combination with MPs is not possible. Again the incompatibility does not seem to stem from semantics so I assume the reason for the ungrammaticality of (56c) and (56c) is the fact that the position which normally hosts MPs is already occupied by the ordinal marker (or rather a constituent headed by the ordinal affix).

- (55) (a) *a* [MP *two seconds*] *faster sprint*
 (b) **the* [MP *two seconds*] *fastest sprint*
 (c) **the* [MP *two seconds*] *third sprint*
- (56) (a) [MP *o dvě vteřiny*] *rychlejší sprint*
 (b) [*MP *o dvě vteřiny*] *nejrychlejší sprint*
 (c) [*MP *o dvě vteřiny*] *třetí sprint*

To summarize what has been said about superlatives and ordinal numerals so far, I believe that both of these constructions are inherently comparative, and I claim that their comparative character is rooted in the syntax, i.e. the head of ordinal and superlative DegPs is the functional comparative operator *COMPR*. This comparative operator (which might be realized overtly or as a null element) merges with AP complements in case of superlative DegPs, or with QP_{CARD} in ordinal DegPs. The superlative and ordinal markers are then located in [Spec,QP]. The uniform structural representation I propose here for ordinal and superlative constructions follows in (57):



Not only do I argue for the common internal structure of superlative and ordinal DegPs, furthermore I propose that these two types of DegPs occupy the same position within the

The fact that superlative and ordinal affixes may have common origin in some languages lends support to the unified syntactic analysis of the superlative and ordinal constructions developed in the present thesis.

DP, in other words they are generated in the specifier of the same specialized functional projection between D and NP. In what follows, I will first look at how mutually compatible the superlative and ordinal modifiers are in the DP structure. Then I will be concerned with the exact position of the DegPs containing an ordinal or a superlative construction with respect to other elements that appear in the nominal domain. The discussion should answer whether the claim that these two types of DegPs actually occupy the same syntactic position within the DP is true.

6.3 Compatibility of Superlatives and Ordinals

The implication of the assumption that superlative and ordinal DegPs compete for the same syntactic position within the structure of the DP is that they should be in a complementary distribution. Let us now examine the combinatory properties of the two types of DegPs in order to determine if they are indeed mutually incompatible.

6.3.1 Ordinal + Superlative + NP

Consider the example (58a) where a sequence of an ordinal followed by a superlative in a single DP is perfectly grammatical.

(58) (a) *John gave Mary* [_{DP} *the second oldest telescope*].

At a first approximation it may look that the example poses a problem for the theory developed here but let us examine a little closer the syntactic relations between the constituents of the string *the second oldest telescope*. One structural possibility is that the head noun *telescope* is being successively modified by *oldest* and by *second*, i.e. the superlative and the ordinal are generated in specifier positions of separate functional projections above the NP. The base position of the ordinal would be higher than that of the superlative in such a structure, the reverse order is ungrammatical (58b).

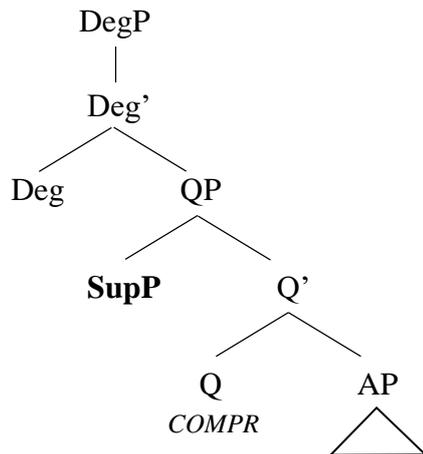
(b) **the oldest second telescope*

However, it appears that the syntactic structure [_{DP} *the* [_{AGRP1} *second* [_{AGRP2} *oldest* [_{NP} *telescope*]]]] is not in accordance with the semantic relations between the constituents of the DP which is being examined here. The domain-argument of the ordinal is not some set of oldest telescopes but rather the degree of the property denoted by the adjective itself, in other words the ordinal assigns a position in a rank ordering on the scale going from the maximal to the minimal amount of the property (in this case the property of being old). Basically, the ordinal specifies the ‘quantity’ of the superlative degree element in the same way certain degree adverbs do (58c).

(c) *the almost/by far/second oldest telescope*
skoro/vůbec/úplně/druhý nejstarší teleskop

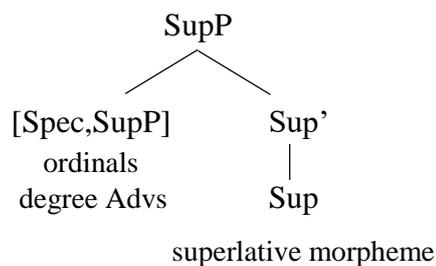
This suggests that in the syntactic structure the ordinal is located somewhere within the superlative DegP and not in a separate functional projection. Let us return to the structure of the extended adjectival projection containing a superlative construction which was proposed in the previous section and is repeated in (59) below. I concluded that in the superlative DegP the base position of the superlative element is the head position of a constituent located in Spec of Q. I label this projection SupP here.

(59)



As stated above, I suppose that the ordinal numeral modifies the superlative degree morpheme rather than the adjective, be it the affixed superlative form (*oldest*) or the bare lexical stem (*old*). This leads me to believe that the ordinal pre-modifier of the superlative actually occupies a position within the SupP, more specifically [Spec,SupP]. The schematic structure of the SupP projection is following:

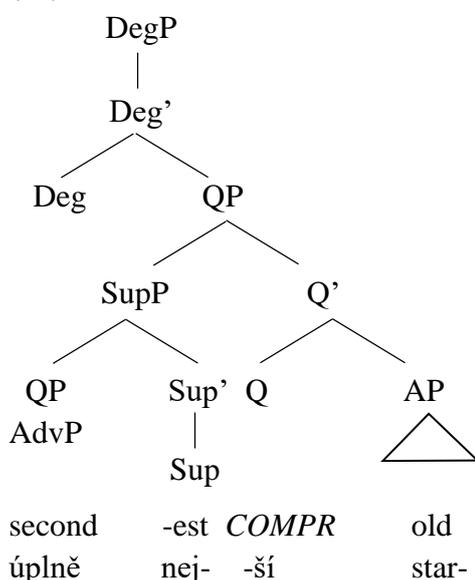
(60)



The discussion in this section has revealed that apparent counter-examples, i.e. sequences of an ordinal numeral followed by a superlative adjective such as the one in (58a) do not pose a problem to our hypothesis because they are not a case of a stacked modification of the head N but rather of a submodification. The permitted combinations are limited to the specifier-head relationship, more specifically the ordinal being in the Spec of the superlative marker, otherwise ordinal and superlative modifiers of the head N are in complementary distribution.

The diagram in (61) schematizes a more articulated internal structure of the superlative DegP which accounts for the example in (58a) as well as for those in (58c).

(61)



6.3.2 Superlative + Ordinal + NP

Now let us consider instances of a superlative adjective followed by an ordinal form in a single DP. We have seen in (58b) that not every superlative-ordinal sequence is grammatical, however, (62a) shows that in some cases it is possible.

(62) (a) *the most intelligent second child*

Phrases such as *second child*, *third place*, *tenth anniversary*, etc., are compounds, i.e. the ordinal is not generated in syntax in Spec of an intermediate functional projection; it is a part of the head N in lexicon. The claim that the ordinal in such cases is integral to the head N is corroborated by the fact that the noun and the ordinal resist separation by intrusive material: any pre-modifying adjective will precede the ordinal in (62a) as shown in (62b) despite ordinals being normally higher in the nominal structure than descriptive adjectives. Having an adjective intervene between the ordinal and the N results in ungrammatical structures (62c).

(b) *the most intelligent very tall second child*

(c) **the most intelligent second very tall child*³⁴

³⁴ The word order *the second most intelligent very tall child* is of course acceptable, it has, however a different interpretation than (62a) where the ordinal is bound to the noun denoting ‘a second born child’. On the contrary, the ordinal preceding the superlative would not bare any close relation to the head noun, it would specify the superlative degree marker as was pointed out in 6.3.1.

- (b) **He was the third and young American who won the championship.*
 (c) **He was the youngest and famous American who won the championship.*

The fact that an ordinal and a superlative can be co-ordinated whereas similar pairings of ordinals or superlatives with descriptive adjectives lead to ungrammaticality indicates that the intuition to treat them as a unified category distinct from the category of descriptive adjectives is correct.

Let us summarize the discussion so far. This section has explained the data which at first seemed to challenge the proposal pursued here that superlative and ordinal DegPs occupy the same position within the DP. It has been shown that although superlative and ordinal forms can co-occur in a noun phrase, they actually never successively modify the head N. This leads me to believe they are in complementary distribution, i.e. ordinal and superlative DegPs are generated in the same functional projection between D and NP. In the following section I will explore the location of this functional projection in the nominal structure.

6.4 AGR_{COMPRP}: Superlative and Ordinal DegPs in the DP

In chapter 4 it was established that there is a number of specialized functional projections intermediate between D and NP in the complex DP structure available to host different types of nominal pre-modifiers such as possessors, quantifiers and various classes of adjectives. In this section let us look at the distribution of ordinal and superlative modifiers with respect to these elements that are located between D and NP.

It is an uncontroversial claim that ordinals and superlatives always precede all other adjectives in a noun phrase (65).

- (65) (a) *the **cutest** little white Persian kitten I've seen in my life*
 (b) *the **second** little white Persian kitten I've seen this week*

This implies that the functional projection whose specifier position hosts superlative and ordinal DegPs is relatively high in the functional structure of the noun phrase preceding all the AGR_{DegP}s. For the noun modifiers which appear before superlatives and ordinals let us consider the examples in (66) below:

- (66) (a) *The director was awarded for his three **most successful** biographical films.*
 (b) *Režisér byl oceněn za svůj **třetí** celovečerní film.*
 the director was awarded for his third feature-_{ADJ} film

It is obvious that both superlatives and ordinals are lower in the structure than a possessor raised to AGR_{POSSP}. In the case of superlative DegPs it is also safe to say that they are structurally lower than attributive quantifiers. Regarding ordinals, it is a little more complicated to identify their position with respect to quantifiers due to their mutual incompatibility (66c-d).

- (c) *The director was awarded for his three/many/few (*third) films.*
 (d) *The director was awarded for his (*third) three/many/few films.*

A possible explanation for their incompatibility could be that ordinals actually compete for a syntactic position with cardinal numbers given the fact they cannot co-occur in a single noun phrase. However, I do not believe that theory is correct. As discussed earlier, cardinals are able to assign genitive case to the head noun and since genitive case assignment is realized under government, i.e. head-complement relation, it follows that cardinals are heads. On the other hand, I have asserted that ordinal numerals are in fact largely adjectival and that means they are – like other adjectives – generated in Spec positions. Therefore, I do not adopt the view that ordinals and cardinals occupy the same position in the structure of DP. I assign their incompatibility to semantic factors rather than syntax and continue to assume that ordinal DegPs occupy the same structural position as superlative DegPs.

In my proposal there is a special functional projection below the AGR_{QP} (hosting cardinals and Qs) and above the first AGR_{DegP} (hosting descriptive adjectives) in the nominal structure whose specifier position is the location of attributive comparatives, superlatives and ordinals. Following from the fact that these constructions are organized around the comparative operator, from now on I will label the special projection which hosts them AGR_{COMPRP} .

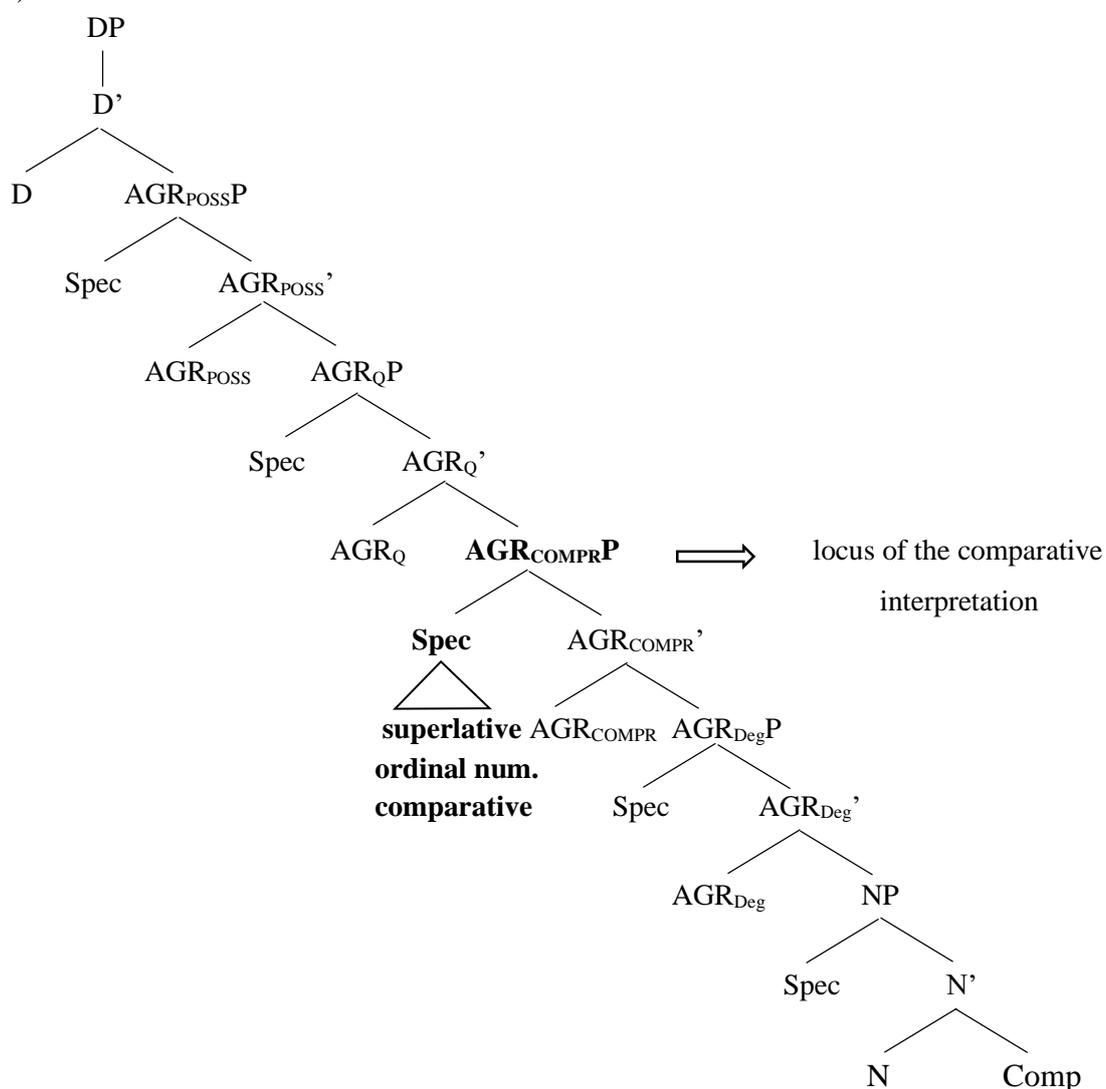
The position of AGR_{COMPRP} between quantifiers and adjectives reflects nicely the heterogeneous character of superlatives and ordinals which manifest similarities with both quantifiers and descriptive adjectives. They resemble quantifiers (and differ from descriptive adjectives) in several important aspects, the major ones being their semantic function (i.e. they too perform an operation of existential quantification), their high position in the nominal structure preceding all other adjectives, their uniqueness (i.e. no recursion is allowed in the case of superlative and ordinal modifiers in the DP), and their ability to appear in partitive or elliptic constructions.

6.5 Summary

To summarize the preceding discussion, let us return to the structure of the complex noun phrase presented in 4.2. We have seen that the head noun projects a rich layered structure: a number of functional projections dominating NP have been established, namely DP, AGR_{POSSP} , AGR_{QP} , AGR_{DegPs} , $AGRP$ and to this list I have now added AGR_{COMPRP} . The functional projection AGR_{COMPRP} has been differentiated from AGR_{DegPs} as the locus of comparative interpretation based on various structural and semantic considerations.

With this in mind, I propose the following syntactic configuration³⁵ for the nominal domain which I assume applies across languages:

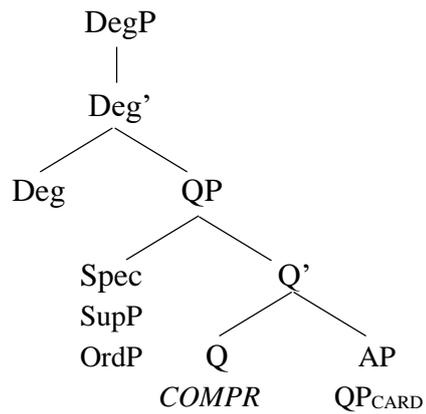
(67)



With respect to the internal structure of AGR_{COMPRP}, the important position for our analysis is Spec of AGR_{COMPR} as it is the position that hosts the superlative and ordinal adjective phrases. Superlative and ordinal DegPs – like other DegPs – then have two functional layers, i.e. DegP and QP, above the lexical projection AP as shown in (68).

³⁵ The representation in (67) does not provide an exhaustive list of functional categories in the nominal domain. These are the functional projections relevant for the nominal grammatical categories of the languages examined in this paper but I suppose there are more functional phrases projected above NP by grammatical elements in other languages.

(68)

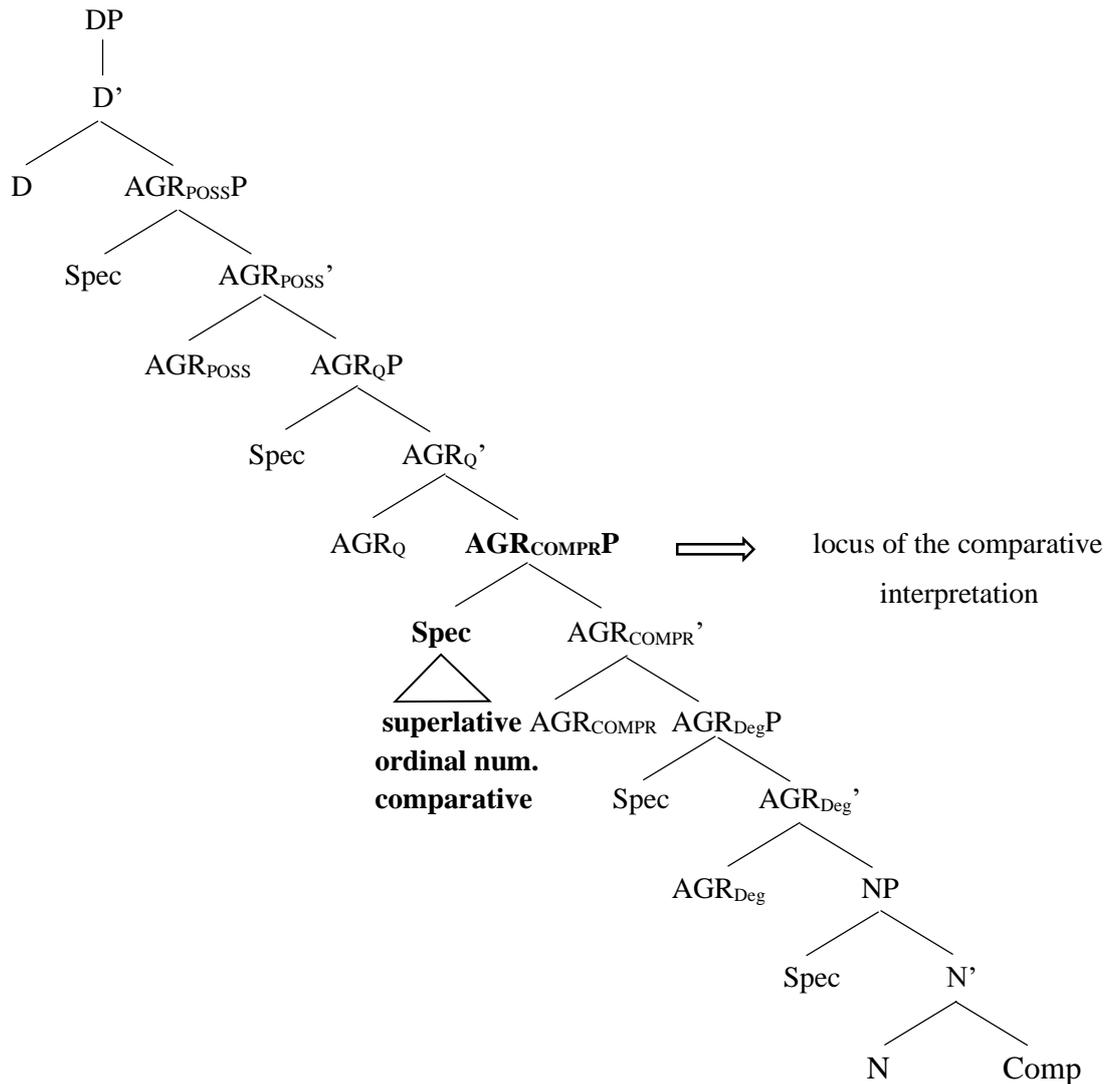


The head of the projection immediately dominating AP or $Q_{\text{CARD}}P$ is the said locus of comparative interpretation: Q is filled with the comparative operator (overt or null) which provides the relation of comparison while Spec of Q is the location of superlative and ordinal marking.

In this representation, the QP projection is headed by the **comparative operator** which can be either overt or phonetically empty. The comparative head Q selects an AP as a complement and takes the superlative marker as a specifier in case of superlatives, or it selects a Q_{CARD}P taking an ordinal marker as a specifier in case of ordinals. I have further argued that the free degree morphemes and the bound degree morphemes are all affixes in syntax occupying the same structural position. In other words, despite differences on the surface, both the constructions created by periphrasis and those created morphologically have the same D-structure.

As for the second point of the discussion, that is the position of superlatives and ordinals within the noun phrase, I came to the conclusion that the DegPs that contain them are generated in the specifier position of a special DP-internal functional projection which I labelled **AGR_{COMPRP}**. Based on the distribution of superlatives and ordinals with respect to other elements in the pre-nominal field, I integrated this projection to the system of hierarchically organized functional projections of the nominal domain. I argue that **AGR_{COMPRP}** is below the projection which hosts nominal quantifiers (**AGR_{QP}**) and above the first of the projections whose Spec hosts descriptive adjectives (**AGR_{DegPs}**), as demonstrated in the scheme in (70) below.

(70)



In my proposal, AGR_{COMPRP} is located on the boundary between the functional categories modifying the head noun (Dets, Qs) and the lexical categories (descriptive adjectives). This corresponds to the fact that superlatives and ordinals (and comparatives) represent kind of a transition between a functional and a lexical category manifesting certain properties of both.

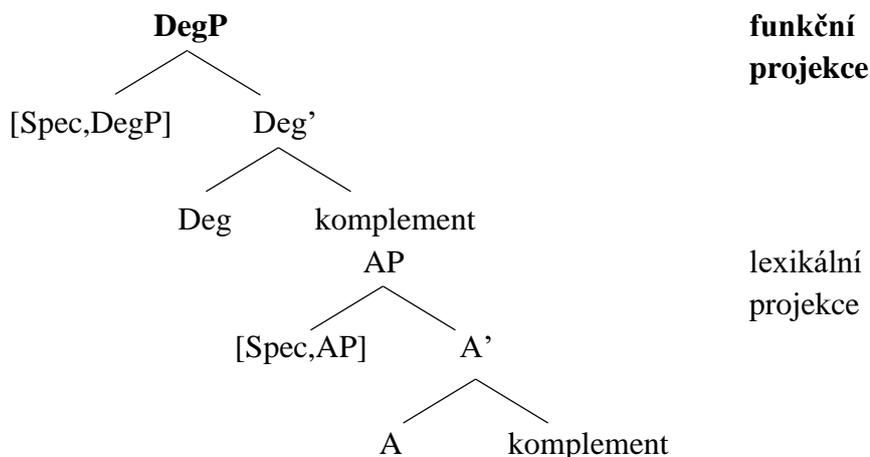
8 ČESKÉ RESUMÉ

Tématem mé diplomové práce jsou atributivní superlativy a řadové číslovky z pohledu syntaktické struktury. Tato práce si klade za cíl především představit rozbor vnitřní struktury atributivních adjektivních frází, které obsahují superlativ nebo řadovou číslovku, a odpovědět na otázku, jak je tento typ adjektivních frází začleněn do širší struktury nominální domény. Ve své práci argumentuji, že:

- jednou z funkčních projekcí v rozšířené nominální frázi je speciální projekce, jejíž specifikátor je vyhrazený pro komparativní a superlativní konstrukce a řadové číslovky.
- adjektivní fráze obsahující řadovou číslovku a adjektivní fráze obsahující superlativ mají stejnou vnitřní strukturu uspořádanou kolem komparativního řídicího členu.

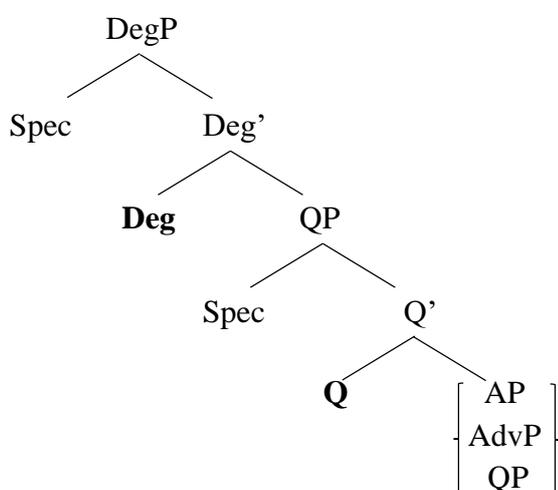
Pro syntaktický rozbor používám formát „X-bar teorie“ frázové struktury. Tento teoretický model je založen na předpokladu, (i) že fráze jsou endocentrické, tzn., že jsou uspořádány kolem řídicího členu – hlavy, který určuje charakter celé fráze a vstupuje do vztahů s okolními strukturami, a (ii) že každá fráze má tři úrovně, a to X (hlava), X' (mezistupeň zahrnující hlavu a její komplement) a XP (kompletní fráze, tzv. maximální projekce, zahrnující X' a specifikátor). Řídicím členem fráze může být jak slovo z lexikální kategorie (N, V, A, Adv, P), tak i slovo (nebo morfém) z funkční kategorie. Lexikální hlava potom promítá lexikální projekci (NP, VP, AP, AdvP, PP), zatímco funkční hlava řídí projekci funkční (DP, CP, IP, DegP). Z hlediska vzájemného vztahu mezi lexikálními a funkčními doménami se přikláním k dnes obecně přijímané teorii, že lexikální kategorie jsou dominovány těmi funkčními, to znamená, že funkční hlava selektuje lexikální projekci jako komplement:

(71)



Co se týče vnitřní architektury adjektivní fráze, soudím, že funkční vrstva je ve skutečnosti rozdělena do dvou samostatných funkčních projekcí, které dominují lexikální projekci AP (Corver, 1997), jak znázorňuje schéma (72). Strukturálně výše je DegP, jejíž hlavou je stupňovací element Deg (např. příslovce *velmi, příliš, tak*). Deg selektuje funkční projekci QP, kterou řídí adjektivní kvantifikátor Q a která bezprostředně dominuje AP. Ve své analýze vycházím z Abney (1987), který tvrdí, že kvantifikátor uvnitř DegP může brát jako komplement také QP a AdvP. Předpokládám, že superlativní konstrukce a řadové číslovky jsou umístěny právě v QP vrstvě a že v případě adjektivního superlativu potom kvantifikátor selektuje AP a u řadové číslovky Q_{CARDP} (tzn. základní číslovku). Jelikož tématem práce jsou adjektivní superlativy v atributivní pozici, rozbořem DegP rozšiřující adverbialní frázi se zde již dále nezabývám.

(72)



Tradiční přístup k analýze superlativů (Heim 1999, Farkas and Kiss 2000, Sharvit and Stateva 2002) vychází z předpokladu, že superlativní afix se v adjektivní frázi nachází na stejné syntaktické pozici jako afix komparativní:

- (73) (a) *the highest mountain*
 [DP [D the][NP [DegP [QP [Q -est][AP high]]][N' mountain]]]
- (b) *a higher mountain*
 [DP [D a][NP [DegP [QP [Q -er][AP high]]][N' mountain]]]

Přestože takováto analýza může být atraktivní pro jazyky, jako je angličtina (73), kde komparativní a superlativní konstrukce jsou tvořeny pomocí dvou různých, na sobě nezávislých afixů, při snaze aplikovat ji na jazyk jako čeština, narazíme na problém. V češtině se totiž superlativ tvoří přidáním superlativního prefixu ke komparativní formě adjektiva (74a). Forma vytvořená spojením superlativního prefixu s pozitivním stupněm adjektiva není gramaticky přijatelná, jak ukazuje (74b):

- (74) (a) *nejpomalejší*
 (b) **nejpomalý*

Vnitřní strukturu českých superlativních konstrukcí dokáže lépe zachytit alternativní analýza (Stateva 2003, Bobaljik 2011), která předpokládá, že řídicím členem Q je i v superlativní adjektivní frázi komparativní element. Tento element může být vyjádřený v jazycích, jako je čeština, nebo nevyjádřený v jazycích jako angličtina. Superlativní prvek je potom specifikátorem této komparativní hlavy.

Ve zde navrhované analýze vycházím z inherentně komparativního charakteru superlativních konstrukcí a řadových číslovek a předpokládám, že tento sémantický rys se odraží i v jejich syntaktické struktuře. Výše jsem přijala hypotézu, že jádrem superlativu je komparativní element, a na základě zmíněného společného významu rozšiřuji tuto teorii i na syntax řadových číslovek. Věřím tedy, že řadové číslovky mají také komparativní syntaktickou hlavu a že afix vyjadřující ordinální význam je specifikátorem komparativní hlavy, analogicky ke struktuře superlativní fráze. To znamená, že superlativy a řadové číslovky mají stejnou syntaktickou strukturu. Vnitřní struktura rozšířené adjektivní projekce obsahující superlativ nebo řadovou číslovku je zobrazena v (75):

(75)

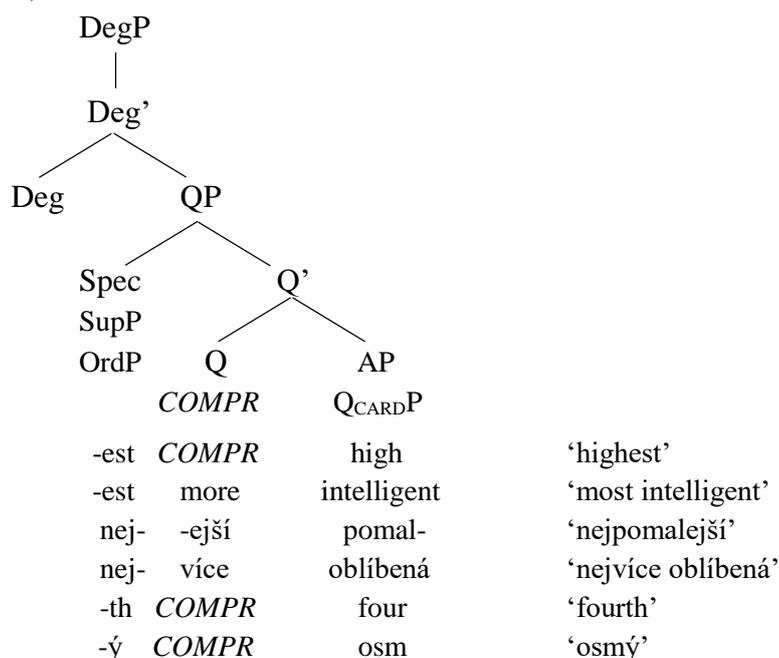
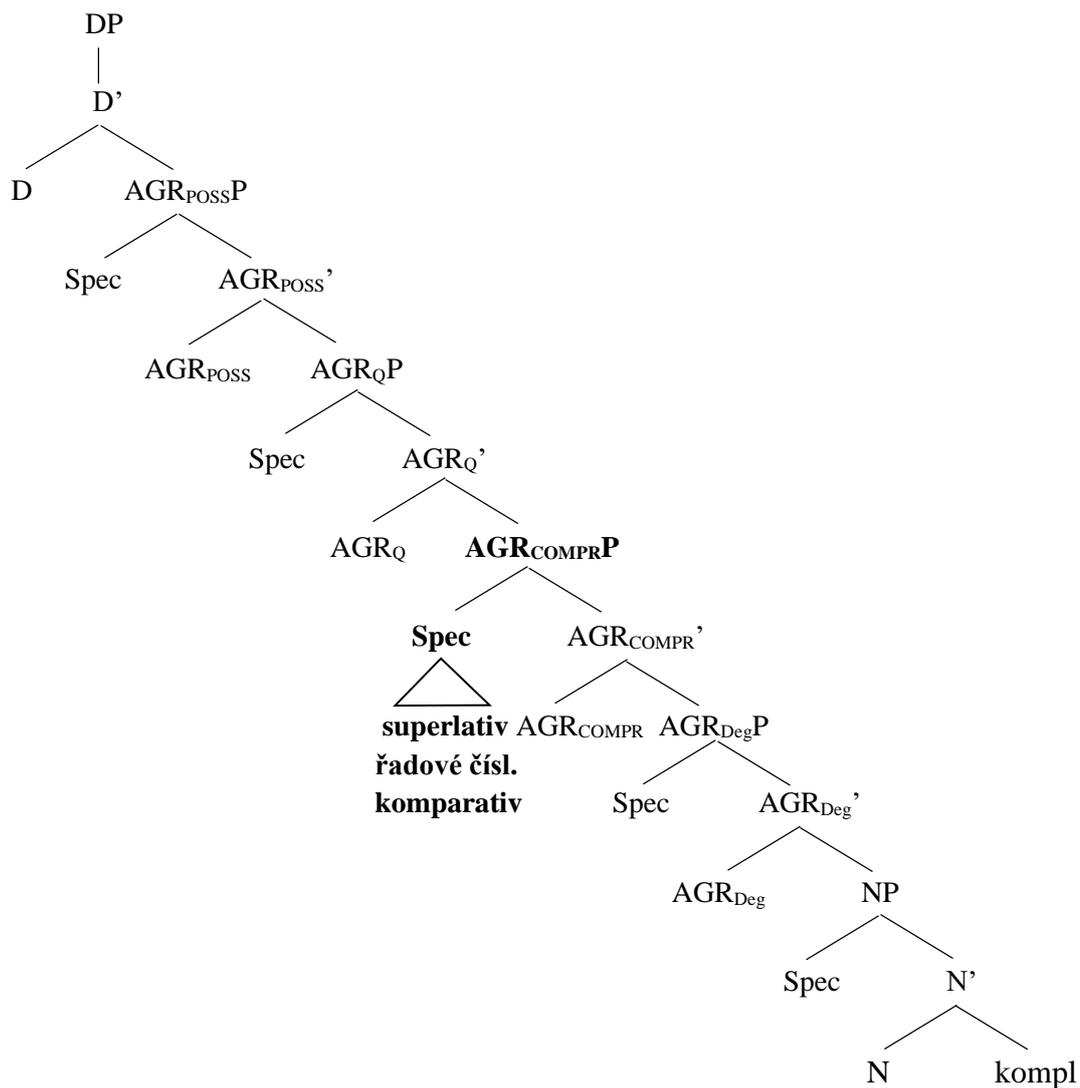


Schéma (75) ukazuje, že i přes možné rozdíly v povrchové struktuře, hloubková struktura je stejná nejen pro konstrukce vytvořené analyticky nebo morfologicky, ale i pro různé jazyky.

Druhá část mé hypotézy předpovídala, že atributivní adjektivní fráze obsahující superlativ nebo řadovou číslovku jsou generovány ve specifikátoru speciální funkční projekce uvnitř DP domény. Na základě analýzy distribuce superlativů a řadových číslovek v nominální frázi jsem tuto funkční projekci skutečně identifikovala a označila ji AGR_{COMPRP}.

(76)



V systému nominálních funkčních vrstev jsem ji umístila mezi projekci, která je místem pro nominální kvantifikátory (AGR_{QP}), a první z projekcí, v jejímž specifikátoru se generují deskriptivní adjektiva (AGR_{DegP}). AGR_{COMPRP} leží tedy na rozmezí mezi funkčními a lexikálními kategoriemi modifikujícími nominální hlavu, jak zachycuje schéma (76).

REFERENCES

- Abney, Steven P. 1987. *The English Noun Phrase in Its Sentential Aspect*. Ph.D. dissertation, MIT, Cambridge, Mass.
- Adger, David. 2003. *Core Syntax: A Minimalist Approach*. Oxford: Oxford University Press.
- Bhatt, Rajesh. 2006. *Covert Modality in Non-finite Contexts*. Berlin: Mouton de Gruyter.
- Bobaljik, Jonathan D. 2012. *Universals in Comparative Morphology: Suppletion, superlatives and the structure of words*. MIT Press.
- Bresnan, Joan W. 1973. 'Syntax of the Comparative Clause Construction in English.' *Linguistic Inquiry*, vol. IV, n. 3.: 275-343.
- Cinque, Guglielmo. 1994. 'On the Evidence for Partial N-Movement in the Romance DP.' In *Paths Towards Universal Grammar: Studies in Honor of Richard S. Kayne*, edited by Cinque, Koster, Pollock, Rizzi, and Zanuttini, 85-110. Washington, D.C.: Georgetown University Press.
- Corver, Norbert. 1997. 'The Internal Syntax of the Dutch Extended Adjectival Projection.' *Natural Language and Linguistic Theory* 15: 289-368.
- Crisma, Paola. 1993. 'On Adjective Placement in Romance and Germanic Event Nominals.' *Rivista di grammatica generativa* 18: 61-100.
- Doetjes, Jenny. 1997. *Quantifiers and Selection: On the Distribution of Quantifying Expressions in French, Dutch and English*. Ph.D. dissertation, Leiden University.
- Doetjes, Jenny, Ad Neeleman, and Hans van de Koot. 1998. 'Degree expressions and the autonomy of syntax.' *UCL Working Papers in Linguistics* 10: 323-368.
- Dušková, Libuše, et al. 1994. *Mluvnice současné angličtiny na pozadí češtiny*. Praha: Academia.
- Fairburn, Edwin. 1870. 'On the Analogy between the Maori and Indo-European Languages.' In *Transactions and Proceedings of the Royal Society of New Zealand*, vol. 3: 313-315.
- Farkas Donka F., and Katalin É. Kiss. 2000. 'On the Comparative and Absolute Readings of Superlatives.' *Natural Language and Linguistic Theory* 18: 417-455.
- Giusti, Guliana. 1992. 'Enclitic Articles and Double Definiteness: A Comparative Analysis of Nominal Structure in Romance and Germanic.' *University of Venice Working Papers in Linguistics*, vol. 3: 83-94.
- Haegeman, Liliane, and Jacqueline Guerón. 1999. *English Grammar: A Generative Perspective*. Blackwell Publishers Ltd.
- Heim, Irene. 1999. 'Notes on Superlatives.' Ms., MIT.
- Huddleston, Rodney, and Geoffrey K. Pullum. 2002. *The Cambridge Grammar of the English Language*. Cambridge: Cambridge University Press.
- Jackendoff, Ray. 1977. *X-bar Syntax: A Study of Phrase Structure*. Cambridge, Mass.: MIT Press.
- Matushansky, Ora. 2008. 'On the Attributive Nature of Superlatives.' *Syntax* 11: 26-90.
- Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech, and Jan Svartvik. 1985. *A Comprehensive Grammar of the English Language*. London: Longman.
- Ritter, Elizabeth. 1992. 'Cross-linguistic Evidence for Number Phrase.' *Canadian Journal of Linguistics* 37: 197-218.

- Schleicher, August. 2014. *A Compendium of the Comparative Grammar of the Indo-European, Sanskrit, Greek and Latin Languages*. Cambridge University Press.
- Sharvit, Yael, and Penka Stateva. 2002. 'Superlative Expressions, Context, and Focus.' *Linguistics and Philosophy* 25: 453-504.
- Stateva, Penka. 2003. 'Superlative *More*.' In *SALT XIII*, edited by R. Young and Y. Zhou, 276-291. Ithaca, NY: Cornell University.
- Veselovská, Ludmila. 2001. 'Agreement patterns of Czech group nouns and quantifiers.' In *Semi-lexical Categories: The Function of Content Words and the Content of Function Words*, edited by Norbert Corver, and Henk van Riemsdijk, 273-320. Berlin-New York: Mouton de Gruyter.
- Zamparelli, Roberto. 1993. 'Pre-nominal Modifiers, Degree Phrases and the Structure of AP.' *Working Papers in Linguistics*, vol. 3, n. 1: 138-163.