The internal syntax of adjectival quantification in Romance

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ABSTRACT

The theoretical framework of this paper is based on the Extended Adjectival Projection hypothesis first introduced by Corver (1997). In *absolute Measure Phrase constructions* (AMPC), of the "*2m tall*" type, we argue that, in the Romance equivalent "*alto de 2m*", the adjective first merges with the functional item 'de', and then with an inflected functional head, above the MP position. As there is independent motivation that this position is [Spec, QAP], we consider '*de'* as a spell-out of the functional quantifier head QA°. We propose the *Adjectival Linker Hypothesis (ALH)*, in which *'de'* is a binding particle whose function is to allow the projection of absolute measurement expressions in Romance gradable adjectives syntax. The data resulting from the insertion of '*de'* is then crossed with other adjectival expressions in Romance, Germanic and Scandinavian, in which the QA position is alternatively filled by different QA spell-outs. Further Romance data is then confronted with some cases of pseudopartitive adjectival '*de'* in a Small Clause like configuration. We finally introduce a MP parameter to justify how variations affect the adjectival expressions of measurement across languages, and how and why the functional head QA may be null or filled with *'de'*– therefore postulating a phonetically null form as one of its various spell-outs. In the absence of an absolute MP and its related *ALH*, QA is alternatively filled with regular, lexical spell-outs such as superlative suffixes or autonomous morphemes. Lastly, in the case of *relative MP* expressions, a functional head DegA is lexically filled with a degree morpheme, switching the whole adjectival expression to a comparative form.

KEYWORDS

Adjectival phrase, gradable adjectives, quantifier, degree morpheme, measure phrase, predicate inversion, pseudopartitives, small clause

0. Introduction [1]

Within the semantics of gradable adjectives, two complementary cases of adjectival constructions involving expressions of measurement can be identified. In the first case, the interpretation of a gradable adjective is a function of the relation between an *'absolute extension*' and the reference entity. In the second one, the gradable adjective is associated with a

[1]. I would like to thank the two anonymous reviewers for their comments and relevant suggestions, which have greatly benefited this work.

differential or '*relative extension'* in which the adjectival degree is compared to a reference degree by means of a fixed-value quantified expression (Kennedy, 1997).

Now, a fundamental difference between the groups of languages analyzed here - Germanic and Scandinavian languages, on the one hand, and Romance languages on the other - is that, in the first group, gradable adjectives can be freely combined with expressions that denote *'absolute extension´* reading – as *2 m* in (1.a) -or '*relative extension'* reading – as *5 cm* in (1.b) -, whereas, in Romance, the adjective can only be combined with expressions denoting '*relative extension'* reading - (2. b) is grammatical but (2.a) is not:

(1) a. John is [**2 m tall**] *(English)*
b. John is [**5 cm** taller] than Mary

(2) a. * O João é [**2 m**] alto] *(Portuguese)*
b. O João é [mais alto **5 cm**] que a Maria
The João is more tall 5 cm than the Maria

The *'absolute extension'* denotation, however, is partially available in Romance, when the quantified expression is inserted in a PP to the right of the adjectival head (3.b):

(3) a. * [**150 milhões de km distante**], o Sol é uma pequena estrela *(Portuguese)*
150 millions of km distant, the sun is a small star
b. [**Distante de 150 milhões de km**], o Sol é uma pequena estrela
distant of 150 millions of km

The previous examples bring up several issues relevant to the adjectival syntax, such as the apparent adjectival movement away from the *absolute extension*: unlike ***tall*** in (1.a), the adjective ***distante*** in (3.b), is on the left of ***150 milhões de km***. Another intriguing matter is the item '***de'***, whose presence does not seem to be motivated by argument structure. Let us therefore devote our reflection to these questions: (i) How can we account for word order in (1), (2) and (3)? (ii)How do we justify the insertion of ***'de'*** in (3.b)?

1. Adjectival MP constructions

One of the syntactic characteristics of the Germanic and Scandinavian languages is the way quantified expressions, which surface usually as quantified DPs, integrate the functional domain of the adjective. These 'Measure Phrases' (MP) (Ross, 1964) appear to verify superficial adjacency on the left of the head A°, as seen in the examples of *adjectival MP constructions* (*AMPC*) in (4). In these absolute measurement constructions, where the interpretation of the adjective is a function of the relation between an *'absolute extension'* (of fixed value, such as *'2m'*) and the entity referred to, the gradable adjectival system is a head-final AP projection:[2]

(4) **Absolute AMPC {MP+A}*(Germanic and Scandinavian languages)***

a. This door is [**80 cm**] **wide**	*(English)*
b. Ei [**200 kroners**]**dyr** lampe	*(Norwegian)*
one 200 crowns expensive lightbulb	
c. [**100 Tonnen**] **schwer**	*(German)*
100 tons heavy	
d. Jan is [**2 boeken rijk**]	*(Dutch)*
Jan is 2 books rich	

In these languages[3], there is a second type of *adjectival MP construction*, where the MP now receives a *relative reading*: in these *relative* (or *comparative*) *measurement* constructions, the interpretation of the gradable adjective is a function of the difference between the measurement and a reference value, as measured by a '*differential extension*' of fixed value (such as*'20 cm'* in (5)).

(5) **Relative AMPC *(Germanic and Scandinavian languages)***

a. John is **20 cm taller** than Mary *(English)*

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[2]Cf. Martinho (2007:397)

[3]Here are more AMPC examples:

a. [20 grader varmt] vann	(Norwegian)
20 degree hot water	
b. [60 Stundentkilometer schnell]	(German)
60 km-per-hour fast	
c.Der Mann war [zwei Meter hoch]	
The man was two meter tall	
d. Het dorp is [twee kilometer] ver	(Dutch)
The village is two km distant	

b. John ist **20 cm größer** als Mary *(German)*
c. John is **20 cm langer** dan Mary *(Dutch)*
d. John er **20 cm højere** end Mary *(Danish)*
e. John er **20 cm høyere** enn Mary *(Norwegian)*
f. John är **20 cm längre** än Mary *(Swedish)*

The previous constructions are not both available for Romance. First, comparative, *relative constructions* also exist in Romance:

(6) **Relative AMPC *(Romance languages)***

a. O João é **20 cm mais alto** que a Maria *(Portuguese)*
The João is 20 cm more tall than the Maria
b. Jean est **20 cm plus haut** que Marie *(French)*
c. Juan es **20 cm mas alto** que Maria *(Spanish)*
d. Giovanni è **20 centimetri più alto** di Maria *(Italian)*
e. Ion este **20 cm maiin alt** decat Maria *(Romanian)*

In contrast with comparative, the insertion of an absolute expression in the left periphery of Aº is thoroughly discarded. The degraded content of the data in (7) shows that a *non-comparative quantified AP* cannot be head-final in Romance.

(7) **Absolute AMPC {MP+A}*(Romance languages)***

a. * O João é/está [**cem quilos gordo**] *(Portuguese)*
The João is one hundred kilos fat

b. * Jean est [**2m] haut**] *(French)*
c. * L'uomo era [**due metri**] **alto** *(Italian)*
d. * Este hombre es [**80 años viejo**] *(Spanish)*

However, Romance reveals a variant of the *AMPC*, in which the absolute expression is post-adjectival and preceded by '***de'***:

(8) **Absolute AMPC{A+de+MP}*(Romance languages)*** [4]

a. Eis o estreito da Formosa, [**extenso** de **160 quilómetros**] *(Portuguese)*

[4] The adjectives which can take a MP preceded by 'de' as an argument are the *gradable adjectives on their positive antonym form*. Therefore, not all Romance adjectives accept MP, only *positive gradable predicates* like (in Portuguese) ***longo, profundo, alto, velho.*** *Negative antonyms* (***novo, curto, baixo***…) cannot have MP arguments. Cf. Kennedy & Svenonius (2005), Schwarzschild (2005).

Here is the strait of Taiwan, long of 160 km
b. Esta ciudad es [**vieja** de **mil años**] *(Spanish)*
This city is old of a thousand years
c.Un pont [**long** de **2 km**] a été construit *(French)*[5]
A bridge long of 2 km has been built
d. Un pod **largă de 30 m** căzut *(Romanian)*
A bridge wide of 30m fallen

The main question that these data raise is the relation between the constructions of *absolute MP* in (4) - in which the measurement is pre-adjectival - and the constructions of *absolute MP* in (8) - in which the measurement is inserted in a prepositional construction.

2. Internal AP structure

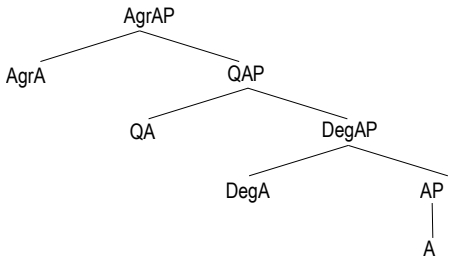
As initially suggested by Corver (1997) for the Germanic languages and extended to Romance by Martinho (2007), the extended adjectival phrase reveals several internal functional projections, including two positions associated with the quantification of adjectival properties and with the comparison between adjectival properties. These positions appear encoded in syntax by both QAP and DEGAP internal functional projections.[6] A higher AgrAP projection is also suggested in order to account for (Romance) adjectival morphology. Here is a simplified phrasal structure of the extended gradable AP:[7]

(9) FIGURE 1 -QAP / DEGAP hypothesis

[5] French seems to be very resourceful with *AMPC* constructions:
a. Des murs [épais de 2m] isolent bien
b. Une salle [large de 8m 50] exige des meubles énormes
c. Un immeuble [haut de 10 étages] s'est effondré durant le séisme
d. Ma famille est [riche de 20 membres]
e. Ce vin est au moins [vieux de 5 ans]

[6]. The original Corver proposal, which applies mainly to Dutch, relies on the DegA morpheme selecting the QA morpheme. Therefore, Corver refers to the order DEGAP – QAP. In Portuguese (and Romance), however, autonomous degree morphemes ("***mais, menos, tão***") are adjacent to the adjectival head, and quantifiers ("***muito, pouco, bastante"…)*** are not. In order to account for this hierarchy, we propose to reassign Corver's labels according to Romance morphemes, and to consider items like "***muito***" as QA quantifiers (and not degrees) and "***mais***" as a DegA degree. These options, which do not modify the Corver general proposal, are assumed in the "QAP/DEG AP hypothesis", from (9) to (12).

[7]. Presumably, the functional phrases DegAP and QAP are not projected when the adjective is not a gradable predicate.



A clear benefit of the *QAP / DEGAP hypothesis* is that it harmonizes the adjectival syntax framework in the typology of the analyzed languages, as follows:

QAP/DEG AP hypothesis

(10) a. [$_{QAP}$ muito [$_{DEGAP}$ maior]] *(Portuguese)*
b. [$_{DEGAP}$ mais [$_{AP}$ inteligente]]
c. [$_{QAP}$ inteligentíssimo]
d. [$_{QAP}$ muito [$_{DEGAP}$ mais [$_{AP}$ inteligente]]]

(11) a. [$_{QAP}$ much [$_{DEGAP}$ bigger]] *(English)*
b. [$_{DEGAP}$ more [$_{AP}$ intelligent]]
c. [$_{QAP}$ 2 meters $_{QA}$ [$_{DEGAP}$ [$_{AP}$ tall]]]
d. [$_{QAP}$ much [$_{DEGAP}$ more [$_{AP}$ intelligent]]]

The functional structure of the gradable adjectives shown in (9) is summarized in (12):[8]

(12) **Functional structure of gradable adjectives**

(a) AgrA selects QAP as its internal argument
(b) QA selects DegAP as its internal argument
(c) DegA selects AP as its internal argument
(d) Aº verifies and merges with its morphemes DegAº, QAº and AgrAº

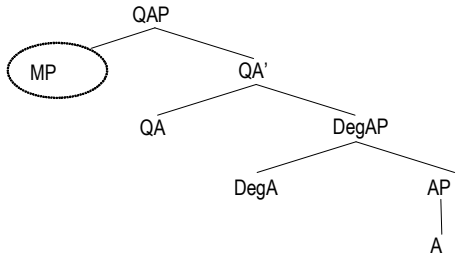
Some parameters apply: in Germanic and Scandinavian, QAº is an empty head, whereas in Romance QAº is filled with lexical material. A linear difference is related to the predicate movement up to the AgrAº position, which does occur in Romance.

From the perspective of (9) and (12) above, it is suggested that the adjectival MPs are quantified DPs inserted in a specifier position. The *QAP / DEGAP hypothesis* supports the idea that MPs are in fact specifiers of a functional head within the adjectival system. First, since an

[8]Cf. Martinho (2007)

absolute MP is associated with a measurement of the adjectival extension, its semantics naturally associates it with the set of absolute *QA expressions*, as (in Portuguese) ***muito, bastante***. The representation of the proposed structure in Martinho (2007:373) is as follows:

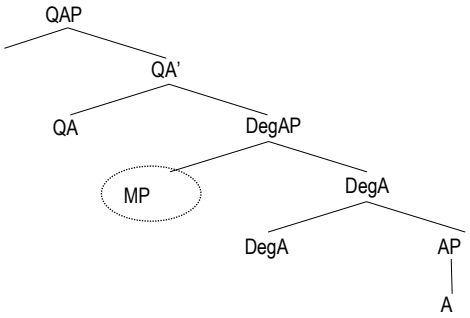
(13) FIGURE 2 - **Structural position of adjectival absolute MP**



In (13) it is assumed that an *absolute MP* is inserted in [Spec, QAP], as it is a quantified operator in a specifier configuration in order to set a value for the adjectival variable in its scope.

On the other hand, the *QAP / DEGAP hypothesis* also supports the idea that a *relative MP* can be inserted in the specifier position of the DegA functional head, as in (14). The MP is then associated with the measurement difference of the extension of an adjectival predicate, and its semantics naturally links it to the set of comparative, *DegA expressions*, as (in Portuguese) ***mais, menos***, in contrast with absolute, *QA expressions*.

(14) FIGURE 3 - **Structural position of adjectival comparative MP**



The relevant data is explained as follows: in Germanic and Scandinavian, the MP in [Spec, QAP] precedes the lexical head A°, as in (15.a) - in which case an *absolute measurement*

reading is set - or the MP precedes A° by means of the DegAP functional projection, as in (15.b) –in which case a *relative / comparative reading* is set:[9]

(15) a. John is [$_{QAP}$[$_{MP}$**2 m**] **tall**]
b. John is [$_{DEGAP}$ [$_{MP}$ **5 cm**] [$_{DEGA}$ taller] [than Mary]] [10]

Also in Romance, the *relative MP* insertion implies that the DegAº head is lexically filled, in order to license its specifier. It is then, strictly speaking, a *comparative construction*, in which the MP is a quantified expression with a *relative reading*, as in (16.b), with the comparative morpheme ***mais*** in DegAº. However, in Romance, as shown before, there is no such configuration denoting an *absolute measurement* extension, as in (16.a):

(16) a. * o João é [$_{QAP}$[$_{MP}$**2 m**] **alto**]
b. o João é [$_{AGRAP}$ [**mais alto**$_i$] [$_{DEGAP}$[$_{MP}$ **5 cm**] [$_{DEGA}$**X**$_i$]] [que a Maria]] [11] *(relative measurement)*

Starting, on the one hand, from the general principle of an equivalence between the semantics of the adjective and its syntax, and, on the other hand, from the idea that the semantics of gradable adjectives can be syntactically projected in an operator / variable configuration, we can turn back to the initial questions. What mechanism appears to prohibit expressions like ***** [$_{QAP}$ [$_{MP}$ **…**]**A**] in Romance? Why is an intermediate ***'de'*** necessary?

3. Absolute MPs with ***'de'***

The *'absolute extension'* denotation, as we have seen, is partially available in Romance for gradable adjectives – the ones whose semantics involves an act of measurement –, when this measurement is an *absolute MP* to the right of the adjectival head. The adjective is on the

[9]DegAº must be filled (with a comparative morpheme) in order for the DegAP to be projected
[10] We assume the proposal that the term of comparison may be described as an adjunction to the adjectival degree (Cf. for example Kennedy & Svenonius, 2005). The term of comparison (an elliptical sentence in Portuguese) directly denotes a reference degree to which the adjectival degree is compared to. This reference term is not relevant in order to describe the internal syntax of absolute MPs in adjectival phrases.
[11] Cf. previous note.

left and disjointed from the MP by ***'de'***. This construction does not seem to be very productive in modern Portuguese as in Portuguese literary and historical texts, but it occurs systematically through Romance, especially in Spanish and French. Let's look at some examples in modern and classical Portuguese and other Romance languages:[12]

(17) a. É um debate [já **velho** de muitos anos] *(Portuguese)*
b. O atual estado do piso é bem pior do que o antigo tapete verde, [**velho** de vinte anos]
c. O Cairo é um megalópolis [**velho** de 5000 anos] que estica às pirâmides
d. Queria eu dizer, excelentíssima senhora, que o juízo em mim, [**velho** de cinquenta anos], não se recomenda, lastima-se[13]
e. O que é melhorzinho em «Noiva Procura-se» é roubado a um filme [**velho** de 75 anos]
f. Será que o corrimão, [**velho** de trezentos anos], guarda a lembrança da mão de Baudelaire?
g. O Brasil das cartas da professora, embora [**velho** de 120 anos], é atualíssimo
h. Em verdade é um assunto que, de certa forma, pode-se considerar [**velho** de alguns anos]

(18) a. Pensaba en él, cuando, [ya **viejo** de ochenta años], regresa a su casa *(Spanish)*
b. Este creador a la vez [**viejo** de mil años] y conmovedoramente infantil
c. Un jabón [**viejo** de 3.000 años] realizado según las tradiciones ancestrales
d. Un hombre [**alto** de casi dos metros]
e. Un montículo cónico [**alto** de cuatro metros] domina el complejo
f. El cerro de Tucuragua, [**alto** de mil doscientos metros]

19) a. Jean est [**haut** de 2m] *(French)*
b. Un pont [**long** de 2 km] a été construit
c. Ce vin est au moins [**vieux** de 5 ans]
d. Des murs [**épais** de 2m] isolent bien

Although the adjectival *'absolute MP construction* 'does not apply to all gradable adjectives, the absolute quantified expression can appear indeed as a post-adjectival phrase containing the MP, actually reversing the pre-adjectival position which is typical of Germanic languages. Equivalence between the Germanic / Scandinavian sequence {MP-A} and the Romance sequence {A-de-MP} is thus postulated.

[12] As noted, these examples have, in Portuguese, a low frequency. The adjective "***velho***" seems to be an exception in this context. All these examples are from Martinho (2007, and most of them come from online databases such as CETEM (in Portuguese) and, for other Romance languages, mainly from Google's search for recurring adjectival expressions (blogs, publications, social networks, press, etc.) and online corpora. Due to their extension, these examples are not all translated to English.

[13] Camilo Castelo Branco, "Gracejos que matam", in *Novelas do Minho* , Tomo II.

It should be noted that the insertion of ***'de'*** is only possible, as in (20.a), with *absolute measurement constructions*, and is disqualified with *relative measurement constructions* (20.b):

(20) a. O João é **alto** *(de) 2m *(absolute measurement)*
b. O João é mais **alto** (*de) 5 cm que a Maria *(relative measurement)*

Another note relates to the exact position of ***'de'*** in the AP structure: if the position of the *relative MP* is [Spec, DegAP], as is suggested in (21.a), then the question arises as to what is the position of ***'de'*** in (21.b):

(21) a. O asteroide está **[**$_{DEGAP}$ [$_{MP}$ **5 milhões de km] [**$_{DEGA}$ **mais [**$_{AP}$ **distante]]]** do que se pensava
b. Um asteroide [$_{?}$**distante [**$_{?}$ **de [**$_{MP}$**55 milhões de km]]]** foi identificado
An asteroide far **of** 55 millions de km has been identified

In fact, it should be possible to account for this position in the theoretical framework outlined above. Let us therefore examine the possibility that the *{A-de-MP} construction* fits within the internal structure of the extended adjectival projection introduced in (9), (13) and (14). The insertion of ***'de'*** between the adjective and its MP can thus be explained if we accept that this preposition is a *spell-out* of a functional head.

4. Nominal predicate Inversion

The inversion of the sequences {MP-A} / {A-de-MP} may be advantageously compared to *Predicate Inversion Constructions* (PIC) (Dikken, 1998). We argue that in PICs like ***o idiota do João*** the item ***'de'*** has some properties in common with ***'de'*** in AMPC. Let us first look at a brief presentation of *PIC* and then examine some cross-data.

4.1. ***'de'*** as a possible nominal copula

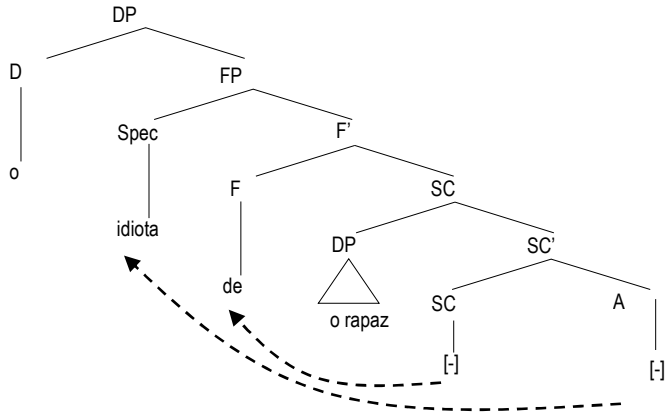
PICs involve the DP insertion of a small clause (SC). The adjectival predicate passes through the SC subject position and ends in the Specifier position of a higher functional projection, selected itself by a Det. In this case, extensible to Romance ***'de'***, the element ***'of'*** corresponds to a *'nominal copula'* and results from raising and subsequent incorporation of the

SC in a functional head. '***of'*** may be seen as the nominal equivalent of the copulative verb ***to be***, which appears in predicate inversion at the sentence level (Dikken, 1998):

(22) a. I consider the most idiot **to be** John *(sentential small clause)*
b. I just met that idiot **of** John *(nominal small clause)*

The parallel between these two constructs favors the hypothesis that '***of'*** corresponds to a copulative particle, whose insertion is justified when the predicate ***idiot*** raises in the internal structure of the DP.[14] The predicate ***idiot*** and its external argument form a SC whose head, spelled out ***'of'***, raises to a functional head Fº- which in turn licenses raising the predicate to [Spec-FP].[15] Likewise, in Romance, *PICs* like "***o idiota do rapaz***", "***uma joia de pessoa***", "***cet idiot de Jean***" or "***un amour d'enfant***" would be described with the predicative element '***de'*** surfacing in the SC head. Therefore, in Portuguese, the representation of "***o idiota do rapaz***" would be as follows in (23), :

(23) FIGURE 4– Phrasal structure of the PIC "***o idiota do rapaz***"



Now, does this element spelled '***de'*** also correspond to some predicative head in *AMPC*s in the extended AP?

4.2. *PIC* vs *AMPC*

[14]Which excludes the possibility that '***of'*** would be related with attribution of case to ***John***.
[15] Here are other examples of PIC:
(i) "A treasure of a child"
(ii) "An idiot of a student"

A first note is that both *PIC* and *AMPC* constructs involve an *absolute degree*: the *PIC* in (24.a) is equivalent to a positive quantification, which the QA ***muito*** in (24.b) and the exclamation in (24.c) confirm. Likewise, the *AMPC* in (25.a) refers to an *absolute degree* (25.b), which the exclamation again confirms in (25.c). That reading is natural since the adjectives that can select an *absolute degree* are *positive polar antonyms*,[16] predicates which have precisely the ability to force an extreme or positive reading:

(24) a. o idiota do rapaz
b. o rapaz é **muito** idiota
c. **que** idiota! (=muito)

(25) a. X é comprido de 15 km
b. X é **muito** comprido
c. **que** comprido! (= muito)

Second, neither the *PIC* nor the *AMPC* admit the insertion of a possessive form, which indicates that the item '***de'*** does not correspond to a case marker. Unlike (26.c), where the possessive '*seu'* and the PP {*de* + DP} are equivalent, in (26.a) and (26.b) '***de'*** cannot select a DP / MP to which he assigns case. The ungrammaticality of (26.b) demonstrates that the referred scale (length) cannot be a possessive, unlike the thematic subject in (26.c), which confirms that '*de'* is not a canonical preposition.

(26) a. * o seu idiota (seu = do rapaz)
b. * a sua ilha comprida (sua = de 15 km)
c. o seu livro (seu = do João)

Thirdly, both *PIC* and *AMPC* are incompatible with explicit adjectival quantifiers, as well as with superlatives. This result should not be surprising if we assume that the predicate

[16] Cf. Schwarzschild (2005) and footnote 4.

in both *PIC* and *AMPC* is already quantified, so the insertion of an explicit quantifying item is redundant:

(27) a. * o **muito** idiota do rapaz
b. * a ilha **muito** comprida de 15 km
c. * que **muito** comprida!
d. * a ilha **mais** comprida de 15 km *(superlative)*
e. * o **mais** idiota do rapaz *(superlative)*

Fourth, in case of A-bar extractions, the sequence {de-MP} cannot be moved to an A-bar position (28). As expected, the extraction from the *PIC* is also not possible (29):

(28) a. * **De 15 km**, Balena é comprida
Of 15 km, Balena is long
b. * **15 km**, Balena é comprida de
c. **Comprida de 15 km**, Balena situa-se...

(29) a. * **Do rapaz**, detesto o idiota
b. **O idiota do rapaz**, tenho pena dele

Finally, the previous observations find confirmation in that it is also not possible to interrogate the internal constituents of the sequence *{de + MP}* or the *PIC*, as shown in (30) and (31):

(30) a. *Quantos km é a ilha comprida de […]? —15 km
b. *O que é que a ilha é […] de 15 km? —comprida

(31) * Que rapaz é o idiota do […]? —o João

Thence, there seems to be, in these cases, a rigid hierarchy between the relevant positions. In the case of *AMPC*, such a constraint can be properly captured within the *QAP/DEGAP hypothesis*: as the sequence *{de + MP}* cannot be extracted out of the AP (28.a), and ***'de'*** cannot be stranded (28.b, 30.a), we will suggest *infra* that data in (28) and (30) is explained if we assume that ***'de'*** **(**in QA^{o}) must incorporate with A^{o} when the adjective moves

in Romance up to AgrA°. The adjective can move to an A-bar position (28.c), but not without its measurement argument.[17]

4.3. Predicative '*de*' and adjectival '*de*'

We can now check if the Romance *AMPC* is somehow related to predicative '***de'*** involving quantification, in the line of the initial proposal for the *PIC* in the DP. First, the predicative '***de'*** - Dikken (1998) suggests "*linker*"- appears, in adjectival constructs, as a mediating element between the adjectival predicate and its quantified argument, and not as a canonical preposition dedicated to case allocation.[18] It could be then considered as the same functional, semantically null item, whose main purpose is to enable the insertion of a SC in the structure.

However, although the Romance constructions here analyzed superficially correspond to an inversion of the constituent's linearity with regard to Germanic and Scandinavian, the Romance order between A and its MP only depends on internal AP projections, namely the type and ordering of its internal functional categories. In the AP internal syntax, the ordering is motivated by the necessity for the adjective to check its features (Corver 1997, Martinho 2007). The insertion of '***de'*** in the adjectival domain does not cancel the ascent of the lexical head A°, whose final step is *in fine* triggered by a higher functional category, AgrA (Corver 1997,

[17] Paradigms (28.b) and (30.a) both illustrate *Preposition Stranding* (which is ungrammatical in Portuguese: '***de'*** is not possible if not adjacent to its argument). This could suggest that this linker also has prepositional features, but, as we will see, other explanations for this data may be invoked.

[18] The fact that, in paradigm (i) below, the elliptical answer is possible is another strong argument against a prepositional status for the element '***de'*** :

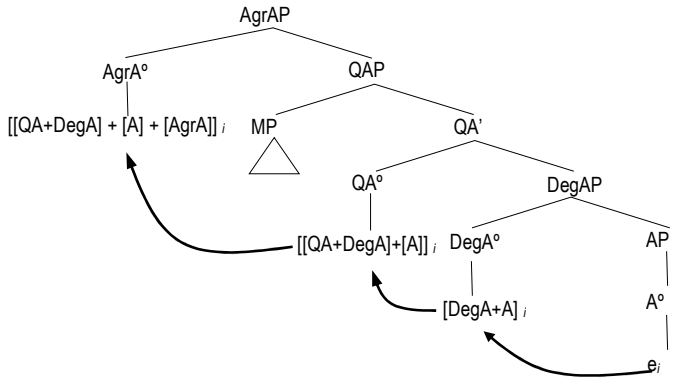
(i) De quantos km é esta ilha comprida? – De 15km.
Of how many km is this island long? – De 15km.

In the interrogative sentence, "*De quantos*" refers to the MP argument extracted from inside the AP extended projection, and raised to the Specifier of the CP with '***de'***. The answer is the elliptical sentence "***de 15km***", which suggests that in both cases the MP cannot survive without the linker '***de'*** (which we assume to surface in QA° in order to license the MP).

Martinho 2007). In *AMPC*, ***'de'*** is inserted in the functional head QAº, and is to be seen as one of the QA spell-outs. We consider it is not as a predicative particle as in *PIC*. [19]

The configuration relation between the adjective and its functional heads determines the raise of the former to its functional domain, so as to check non-interpretable features.[20] The figure 5 in (32) summarizes the previous generalizations, and also includes the higher functional projection AgrAP, which holds the morphological features of the adjective: [21]

(32) FIGURE 5– Adjectival feature checking [22]



Romance data as (33.a) can therefore be figured as in (33.b):

33 a. Uma ponte **alta de 18 metros** foi destruída pela tempestade
A bridge high of 18 meters was destroyed by the storm

b. FIGURE 6 – "*alta de 18 metros*"

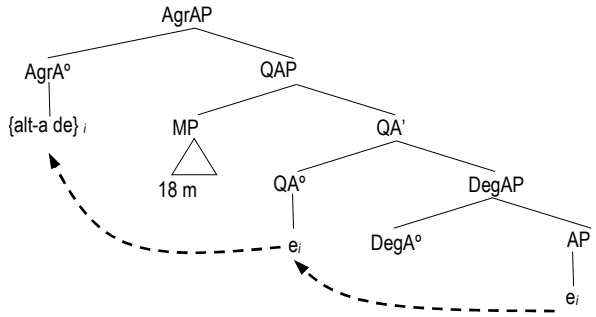
---

[19] An interesting difference between *PIC* and *AMPC*, related to ellipsis, may strengthen this distinction. First, *PIC* does not accept adjective ellipsis, even in contexts known to be able to favor ellipsis (Cf. Martinho, 1998). Therefore, the adjectival predicate in the *PIC* small clause in (i) is not visible to the syntax of ellipsis:
(i). * Estive com o idiota do João e com o [e] do Paulo ([e]=idiota)
I was with the idiot of the João and with the [e] of the Paulo
In (ii), however, in the same kind of coordination structure, the adjectival predicate is now visible to ellipsis:
(ii). Balena é comprida de 15 km e Yaoré [e] de 18 km ([e]=é comprida)
Balena is long **of** 15km and Yaoré [e] **of** 18km
This difference may be related to the fact that the predicate "***idiota***", once moved to [Spec, FP] in the SC in (i), cannot license elliptical, null positions. An obvious and natural conclusion is that in (ii) there is no predicate inversion, and '*de'* is not a predicative particle.

[20] This verification movement, which involves an inflectional head and two quantified, functional heads, could be partially described based on Distributed Morphology -cf. Halle & Marantz (1993) -, more precisely based on the 'Morphological Merger' operation, which adjuncts morphological units into a new unit in the phonology. Indeed, in Romance the adjective manifests several typical situations of morphological composition, such as the synthetic comparison (***'melhor'***), the synthetic superlative (***'gravíssimo'***) and, obviously, the morphological features of number and gender. The 'Morphological Merger' operation therefore seems peaceful in its application to adjectival morphology as the sequence of internal AP heads is rearranged in a single morphological unit at the interface with the phonological level.

[21] For further references on the AgrAP projection, cf. Corver 1997, Martinho 2007.

[22] Cf. Martinho (2007:437)



When an *absolute MP* such as ‘***18 metros’*** is inserted in the QAP specifier, the adjective ***alto*** raises in the structure to verify its absolute measurement, thus incorporating with ‘*de’* in QAº, before climbing up to AgrAº, and producing the final sequence ‘***alta de 18 metros’***. In languages where AgrA is not available or where phi-features are weak or silent, the adjective would raise at most to QAº, which may be why the AP in these latter languages stays head-final, as in ***2m tall***.

Thence, the ‘***de’*** *adjectival linker hypothesis* (*ALH*) confirms, we think, that the *AMPC* corresponds to a construction in which ‘***de’*** is a functional head associated with the syntax of measurement between the gradable adjectival predicate and its *absolute MP* argument. The functional nature of ‘***de’*** in adjectival measurement constructs is related to the fact that this item surfaces in the [QAP, Head] position. More precisely, ‘***de’*** is one of the spell-outs of the QAº head: it is a functional item whose purpose is to project the QAP specifier position, in order to enable the *absolute MP* reading in the derivation. In the *ALH* framework, the *linker* ‘***de’*** is incorporated as the adjective moves up in Romance to QAº and to AgrAº in order to check all its functional features. As a link between the measurement expression and the adjectival predicate, the *linker* ‘***de’*** is a functional item inside the AP and belongs, in Portuguese and

Romance, to the set of QA items.[23]

Lastly, we consider that the *ALH* ‘***de’*** must be distinguished from the predicative ‘***de’***, which, as assumed for *PIC*, is usually interpreted as a Small Clause head in predicate inversion. We now explore this latter distinction in the next section.

5. Adjectival quantification with *de*

Some Romance ‘***de’*** occurrences can be associated with constructions involving *ALH* ‘***de’*** or predicative ‘***de’***.

5.1. Adjectival pseudopartitives

Romance provides convincing data in favor of a double ‘***de’*** particle, namely cases of *adjectival quantifier raising*. The following Romance examples illustrate a type of adjectival pseudopartitive involving ‘***de’*** insertion and quantifier movement:[24]

(34) a. Pierre a beaucoup **de** méchant *(French)*
Pierre has much of evil
b. Pablo es así **de** alto *(Spanish)*
Pablo is that of tall
c. o João tem muito **de** estúpido *(Portuguese)*
The João has much of stupid
d. Ainda há muito **de** feio no mundo *(Brazilian Portuguese)*
Still there is much of ugly in the world
e. Cît **de** frumoasâ e Maria! [25] *(Romanian)*

---

[23] In examples like (33), there does not seem to be an obvious directionality assigned to the way the different items incorporate finally to each other in AgrAº. We can first assume that, in head-to-head movement languages, there would take place a left-branch adjunct operation, which seems to apply correctly to most data in (33.a). The main question, however, would be to explain how the linker ‘***de’*** appears on the right side of the [***alt-a***] sequence. We could here postulate that ‘***de’***, as an autonomous morpheme, does not have to incorporate with the adjectival stem ***alt***- itself, which would account for its right, final positon in the AgrAº complex head. On the other hand, the morpheme ***-a*** is directly dependent on the stem ***alt***- (as all inflectional morphemes in Romance). Thanks to a reviewer to point out this question, for which further research is needed.

[24] Corver (1998) analyzes nominal ‘pseudopartitive constructions' (*N-of-N* - ***a glass of wine***) as cases of internal DP predication by means of a 'small clause’, resulting from a predicate inversion: the base sequence {***wine glass***} would lead to a derived one by moving the predicate ***glass*** to the left of the massive noun ***wine***, with the insertion of the item ***of***. These pseudopartitive constructions are also available for {N-de-N} in Portuguese, in which case ***copo*** in ***copo de vinho*** denotes, by metonymy, a measure – it’s a merological expression, like ***uma garrafa de,*** etc. Cf. Lopes (1971). On pseudopartitives in Portuguese, cf. Brito (1988), Baptista&Ranchhod (1998).

[25] Cf. Grosu (1974), cited by Corver (1997). Based on Romanian examples in (34), Corver suggests ‘***de’*** as a Romance adjectival pseudopartitive morpheme. This implies that ‘***de’*** is not here a QA spell-out, but a grammatical marker close to pseudopartitive particles constructions.

How of beautiful is Maria
f. Maria e enorm **de** fericit
Maria is extremely of happy

These {*QA*+***de***+*A***}** constructions[26] reveal the predicative role of ***'de'*** as a link between an adjectival predicate and its quantified extension. On the *ALH* side, one could first conceive that ***'de'*** is inserted to license a *quantified expression* in [Spec, QAP], as it seems to be the case in ***beaucoup de joli*** or ***muito de feio***. However, it appears that the adjective does not raise in the structure up to AgrA^o, as expected (note that it has no morphological features, as shown in (35)), so the adjective would merge at most with the QA^o head, but not with AgrA^o, which appears to be enigmatic in the *ALH* outline:

(35) a. A blogosfera tem bastante de **bom**
The blogosfera has much of good

b. * A blogosfera tem bastante de **boa**
c. A situação tem muito de **feio**
The situation has much of hugly
d. * A situação tem muito de **feia**

In order to account for the lack of morphology of ***bom*** and ***feio*** in (35), this particular configuration could be better explained in terms of a predicative relationship between the gradable adjective and the quantified expression itself. This relation could be described in terms of a Small Clause (SC) configuration (Corver2004), where *'de'* is inserted in the SC head and the quantified expression raises to the SC Specifier in order to saturate the adjectival extension. As a consequence, the adjective, which ends in the SC head, has no further access to

[26]Here are other {QA+de+A} Romance examples from Martinho (2007):
a. Il y a beaucoup de joli dans ces textes *(French)*
there is much of beautiful in these texts
b. Me la imagino mucho de grande *(Spanish)*
c. Hay mucho de bonito en todo esto
d. Estamos muy orgullosos de tener una playa asi de bonita
b. Morrer pela Pátria não tem nada de doce e, muitas vezes, tem pouco de honroso *(Portuguese)*
c. O jogo tem bastante de sanguinário e profano
d. A blogosfera tem muito de mau, mas tem bastante de bom
e. Esse tipo de discussão tem muito de emocional *(Brazilian Portuguese)*
f. Será bom levar um pouco de bonito para a região sul

morphology, as shown consistently in paradigms (34) and (35). In fact, this kind of predicative ***'de'*** configuration is frequently selected as an internal argument by *light* or existential verbs [27] like "***ter***" or "***haver***," ending in lexicalized sequences like "***ter bastante de bom", "haver muito de bonito***", which may account for the lack of adjectival inflection.[28]

5.2. *Absolute MP* rising

On the same ground, the linear difference illustrated in the paradigm in (36) between (a) and (b) could receive a quantifier raising explanation, in which the *absolute MP* ***2m*** raises when a SC headed by the pseudopartitive ***'de'*** is inserted and is selected as an internal argument by ***'ter'*** (36.b):[29]

(36) a. A Maria é alta de 2m
b. A Maria tem 2m de alto[30]
The Maria has 2m of tall

It is important to clarify that, no matter its apparent sameness, the adjectival ***'de'*** which appears in the *AMPC* ***alta de 2m*** in (36.a) is not of the same nature as the one from the pseudopartitive expression ***2m de alto*** in (36.b). Let's look at the following adjectival paradigms in Romance:[31]

(37) a. Uma colina alta de 400m *(Portuguese)*

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[27]. Cf. footnote 33.

[28]. As a side note, European Portuguese has cases of *'de'* in verbal constructions, where an element *de* appears to link an intransitive verb with a gradable adjective (with an empty degree). Cf. Fonseca (1993):
a. *O João chorou de contente* (= he cried because he was so happy)
b. *O seguro morreu de velho* (= very old)
c. *A maçã caiu de madura* (= it was too mature)
All these cases seem also to be related to a SC insertion headed by a pseudopartitive ***'de'.***

[29]According to Corver (1998), this kind of alternation is due to the fact that ***'de'*** is a nominal copula -so that its SC insertion is justified. Like the pseudopartitive expression "***copo de vinho"***, the quantified expression "***2m de alto"*** also has a quantified reading, in which the measured height is equal to "***2 m"***, and also a reading pointing to the height of the referent. In the case of the adjectival predicate ***alto***, we can therefore conclude that the pseudopartitive reading in {MP-de-A} is confirmed.

[30] In support of the pseudopartitive analysis, we should note that the predicate can surface as an adjective (marginally in Portuguese) or as a noun: *400m de ?alto* $_A$ */ de altura* $_N$. Cf. footnote 31 for a variant of this construction.

[31] There is another nominal construction in Portuguese, showed in (i), which seems to alternate with the adjectival one in (37):
(i) "A colina tem uma altura de 400 metros"
The hill has a height **of** 400 meters
In (i), ***"altura"*** is the nominal form of the predicate. In this particular case, it appears that the absolute MP is inside a indefinite DP which is itself selected as an internal argument by ***ter.*** Cf. footnote 32 about the verb ***ter***.

A hill high **of** 400m
b. ?A colina tem 400m de alto / altura
The hill has 400m **of** high

(38) a. Un pont long de 2 km *(French)*
b. Le pont a 2 km de long / longueur

(39) a. Un hombre viejo de ochenta años *(Spanish)*
b. El hombre tiene ochenta años de viejo

In the previous examples, paradigm (a) refers to an adjectival predicate with *an absolute MP* argument. The paradigm (b), on the other hand, refers to a verbal construction with ***ter / avoir / tener*** and an *absolute MP* inside a Small Clause, the later selected as the verbal internal argument. In the first case, ***'de'*** is a clear *ALH* occurrence, inserted in the QA^{o} head. In the second case, ***'de'*** is the head of a pseudopartitive Small Clause, as testified by the lack of inflection on the adjective. Indeed, in order to account for the lack of morphology, the ***2m de alto*** configuration would better be described in terms of a Small Clause headed by *'de'*, as suggested previously, and it explains, as a consequence, that the adjective loses access to morphology, as shown in paradigms (37) to (39).[32]

6. Summary: the Romance adjectival linker *'de'*

In short, in *AMPC*, the adjective first moves to QA^{o}, where it merges with the functional item ***'de'***, and then to AgrA^{o}, above the *absolute MP*. As there is independent motivation to confirm that the position of MP is [Spec, QAP], it makes sense to consider *'de'* as a possible spell-out of QA^{o} - what we called the *Adjectival Linker Hypothesis* (*ALH*). It is thus set that

[32] As reported in a previous footnote, the item "***alto***" in (37.b) is ambiguous in European Portuguese between N and A: it's not the N "***altura***", and it's not an inflected adjective either. This ambiguous nature may explain why "alto" is here marginal in modern Portuguese, but it should be noted that pairs like "***alto/altura***" are common and grammatical in other Romance languages. The solution lies probably in the semantics of the Portuguese verb "***ter***". This one is usually considered a 'stative verb', but Duarte (2003) suggests that it can also be classified as a 'light verb', and is then able to undergo a *semantic emptying process* in order to integrate a *'complex predicate'* in which the semantic center is moved to the internal argument. When integrating expressions of adjectival measurement, "***ter***" necessarily selects constructions of type (MP-de-N}. The marginality of "***alto***" stems directly from the selection constraints of "***ter***", which are nominal expressions of type (MP-de-N), with N as a term of scale: this type of measurement process would partly exclude in Portuguese the form {MP de-A}. Cf. Duarte (2003). As suggested by the examples in (34) and footnote 26, the same analysis can be extended to Spanish of French verbs "***tener"*** and "***avoir"***.

'de' is not a canonical preposition but rather a *binding particle* whose main function in *AMPC* is to allow the projection of QAP, so as to be able to insert in the derivation, in non-comparative constructions, an *absolute measurement*.

The data resulting from the *ALH* can be crossed with adjectival expressions in which the same position is filled by other spell-outs of QA. Generally, a complementary distribution between these variants is observed, confirming their vocation to occupy the same QA^{o} position. In (40), the [Head, QAP] position is filled with the three possible variants in Portuguese: synthetic superlative suffix, adjectival quantifier, "*linker*". In (41), it is observed that the sentences systematically generate ungrammaticality if several spell-outs co-occur - presumably in the same position. The fact that these adjectival expressions are strongly degraded must be related, we think, to the restrictions on the structure of the adjectival functional system, which in (41) are not respected:

QA^{o} Spell-outs in Portuguese

(40) a. O João é alt-**íssim**-o *(synthetic superlative)*
b. O João é **muito** alto *(adjectival quantifier)*
c. O João é alto **de** 2m *("linker" **de**)*

(41) a. * O João é **muito** alt-**íssim**-o
b. * O João é **muito** alto **de** 2m
c. * O João é alt-**íssim**-o **de** 2m

A parametric variation of the adjectival *absolute* MP can therefore be formulated, based on the fact that the [Head, QAP] position can be both empty and full in *AMPC*:[33]

(42) *Absolute MP* parameter:
(i) Germanic languages: when [Spec, QAP] is filled with an absolute MP, [Head, QAP] is empty
(ii) Romance languages: when [Spec, QAP] is filled with an absolute MP, [Head, QAP] is filled with the '*de*' spell-out

[33] The formulation of a parameter for *relative MPs* is irrelevant because, in all the analyzed languages, a *relative MP* can only be inserted in a comparative adjectival construction with a filled DegA^{o}.

According to (42), ***'de'*** is a phonetic realization of the functional head QA^{o} when an *absolute MP* occupies the [Spec, QAP] position. If, as it seems to be, the adjective incorporates with '*de'* in its rising to AgrA^{o}, a final sequence as ***alto de 2m*** is justified.

The parameter (42) shows how this variation affects the adjectival expressions of measurement, and that there are languages in which the QA functional head is null (***2 m tall***) and others in which it has to be filled (***alto de 2m***). The parameter (42) does not affect, however, adjectival constructions without expressions of absolute measurement or with expressions of relative measurement. In the absence of *absolute MP*, the QA^{o} head is not filled by '*de'* but by spell-outs such as synthetic superlative (***fastest, altíssimo***) or autonomous morphemes such as ***muito*** (***muito alto***) or ***very*** (***very fast***). Therefore, we must add to the various spell-outs of QA^{o} a phonetically null form, which applies to Germanic and Scandinavian. Finally, in the case of *relative MP*, it is the DegA^{o} head that must be lexically filled, then switching the whole adjectival expression to a comparative form. The relative reading may then be compared to a reference degree by means of a fixed-value difference expressed by a quantified expression inserted in [Spec, DegAP]

Contrary to what happens in other Romance languages, no *ALH* occurs in Italian: no '***de'*** *linker* is inserted into [Head, QAP] in *AMPC*. Let's look at the following example:[34]

(43) L'uomo era alto [$_{MP}$ due metri] *(Italian)*
the man was tall two meters

Looking at (43), it is possible to describe the syntax of *AMPC* in Italian based on (42): just as for other Romance languages, and for the same reasons, the adjective ***alto*** raises up to [Head, AgrAP]. In the absence of an explicit *ALH* in Italian *AMPC*, the intermediate sequence,

[34]Cf. Zamparelli (1993)

obtained presumably by *Morphological Merger*, is reduced to {A + MP} and the final sequence is {{A + AgrA°} + MP} as shown in (43). Italian appears in this case to be an intermediate language with respect to the parameter (42), since it verifies the Romance order {A + MP} without *ALH*. The phonetic null variant of the *linker* in QA°, which we considered for Germanic / Scandinavian, should therefore be extended to Italian.

Finally, in cases of adjectival quantifier rising, as in (34), ***'de'*** surfaces as a pseudopartitive particle headed in a Small Clause configuration, which cancels adjectival morphology and qualifies the *absolute MP* as a verbal internal argument.[35]

7. Conclusion

From the initial data, it was proposed that an *absolute MP* is inserted into the AP structure in [Spec, QAP]. The problem is that this configuration constrains the occurrence of adjectival MPs in Romance, limiting their occurrence to adjectival comparatives and excluding absolute measurements. The existence, in Germanic / Scandinavian, of constructions of absolute MP with null QA°, would then introduce an undesirable asymmetry: why, we asked, is Romance prohibiting constructions of the type ***2m alto***, although the ***alto de 2m*** type is accepted, when, in fact, these two constructions should reveal an equivalent cross-linguistic structure?

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[35] If ***'de'*** is pseudopartitive head in Romance, as shown for French, Spanish, Romanian and Portuguese, there seems to be other adjectival pseudopartitive particles available in other languages. Indeed, as pointed by Corver (2004), some Dutch dialects have an emphatic degree construction, with what he calls the "grammatical marker" –e in a Small Clause structure:

(i) Hi rôp ôfgrislike lû (Frisian dialect)
He shouted terrible-E loud
He shouted very loud

He also points the marker –s, which, in modern Dutch, acts as a linking element between the gradable adjective and the degree expression, again in a SC configuration:

(ii) Hel-s koud (Dutch)
Hell-s cold
Very cold

The answer consists of two arguments: (i) the sequence ***2m alto*** is ungrammatical because the adjective must necessarily move in explicit syntax above the absolute MP; (ii) the ***alto de 2m*** sequence is allowed because QA^{o} is filled by ***'de'***, which licenses the absolute MP as its specifier and merges with the adjective. In Romance, this functional *linker* is internal to the AP and has therefore as main goal to project MP expressions.

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REFERENCES

Baptista, J. & Ranchhod, E. M. 1998, Propriétés de Phrases Elémentaires Associées à l'Expression de Grandeurs Mesurables. Exemples du Portugais, in *Actes du 16º Colloque européen sur la grammaire et le lexique comparé*, Klein, Lamiroy & Pierret (eds), Cahiers de L'Institut de Linguistique de Louvain, 24, 3-4, Volume 1, 49-61

Brito, A.M. 1988, *Construções quantitativas e partitivas: um esboço de análise sintáctica*, Prova Complementar de Doutoramento em Linguística Portuguesa, Faculdade de Letras, Universidade do Porto.

Corver, N. 1997. The Internal Syntax Of The Dutch Extended Adjectival Projection, in *Natural Language and Linguistic Theory* 15: 289-368, Kluwer Academic Publishers.

Corver, N. 1998. Predicate Movement in Pseudopartitive Constructions, in *Possessors, Predicates and Movement in the Determiner Phrase*, Alexiadou, A., Wilder, C. (Eds.), Amsterdam, John Benjamins, Volume 22, 215-257

Corver, N. 2004. Some Notes on Emphatic Forms and Displacement in Dutch, in *Triggers*, Breitbarth, A. & van Riemsdijk, H. (eds.), Mouton de Gruyer, The Hague, 137-172

Corver, N. 2013. Lexical categories and (extended) projection. In M. Den Dikken (Ed.), *The Cambridge Handbook of Generative Syntax* (Cambridge Handbooks in Language and Linguistics, pp. 353-424). Cambridge: Cambridge University Press

Dikken, M. den. 1998. Predicate Inversion in DP, *In*: *Possessors, Predicates and Movement in the Determiner Phrase*, Alexiadou, A., Wilder, C. (Eds.), Amsterdam, John Benjamins.

Duarte, I. 2003, Relações gramaticais, esquemas relacionais e ordem de palavras, in Mateus etalii, *Gramática da Língua Portuguesa*, série Linguística, Caminho pp.277-321

Fonseca, J. 1993. *Estudos de Sintaxe, Semântica e Pragmática do Português*. Porto: Porto Editora.

Halle, M. & Marantz, A. 1993, Distributed Morphology and the Pieces of Inflection. In *The View from Building 20*, eds. Kenneth Hale and S. Jay Keyser. MIT Press, Cambridge, 111-176.

Kennedy, C. 1997, *Projecting the Adjective: The Syntax and Semantics of Gradability and Comparison*, PhD thesis, University of California, Santa Cruz

Kennedy, C. & Svenonius, P. (2005) Severing the Degree Argument from the Adjective, Universitat Stuttgart, 17-06-2005 - http://semantics.uchicago.edu/ kennedy/docs/stuttgart-sever.pdf

Lopes, O. 1971, *Gramática Simbólica do Português*, Fundação Calouste Gulbenkian, Lisboa

McNally L., & Kennedy, C. 2008, *Adjective and Adverbs. Syntax, Semantics and Discourse*, Oxford University Press

Martinho, F. 1998. *A Elipse Nominal em Português e Francês*, dissertação de Mestrado, CLUP, Universidade do Porto

Martinho, F. 2007. *Sintaxe e Semântica dos Adjectivos Graduáveis em Português*, tese de Doutoramento, Universidade de Aveiro.

Ross, J. 1964. The grammar of measure phrases in English. Unpublished MIT paper read at the December meeting of the LSA.

Schwarzschild, R. 2005, Measure Phrases as Modifiers of Adjectives, *in* Recherches Linguistiques de Vincennes, 34 | 2005

Stickney, H. 2004. The pseudopartitive and its illusory projections, Ms, University of Massachusetts, Amherst

Zamparelli, R. 1993, Prenominal Modifiers, Degree Phrases and the Structure of AP. In *University of Venice Working Papers in Linguistics*, 138-161