

## MOTIVATING CERTAIN VARIATION PATTERNS IN DEGREE CONSTRUCTIONS: SEMANTICS MEETS GRAMMATICALIZATION

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### ABSTRACT

We analyze patterns of variation in degree constructions as ultimately semantically motivated (Beck et al. 2004); more precisely, as rooted at the (structured) level of logical form via a parameter based on binding. The paper pursues two related objectives. First, we complement the sharp distinction between languages like Japanese vs. English with a case of a language that seems to be parametrically intermediate. We suggest that Modern Romanian is sensitive to largely the same configurations which are conspicuous in the Japanese/English split, but that it marks the relevant dependencies overtly. Second, we probe for the grammaticalization process of the pertinent functional items involved in marking degree dependencies by conducting a diachronic pilot study. In this part of the article, we analyze data from (literary) Old Romanian. We investigate the degree constructions at this stage of the language in preliminary fashion and point out that they display a particularly instable situation with regard to the diagnostics of the degree parameter discussed, a factor which may have enhanced the grammaticalization of the particular strategies under discussion and hence co-motivates the apparently idiosyncratic current distribution in the language.

KEYWORDS: Comparatives; logical form; language change; syntax-semantics interface.

### 1. Introduction

The general goal of the present article is twofold. Firstly, we investigate patterns of cross-linguistic variation in the area of degree constructions that have recently been brought to the attention of theoretical linguists (cf. Beck et al. 2004). (For a typological investigation, see notably Stassen 1985.) We will consider the essential facts by reviewing a stark contrast that obtains between Japanese vs. English. We will argue that it is advantageous to add a language to the considerations relating to degree constructions that behaves neither like Japanese nor like English (while it is sensitive to the setting that distinguishes the two) and will consider the situation in Romanian. We will first

show how the critical degree constructions of the language are connected to the same semantically motivated parameter as the English/Japanese cases. However, the diagnostic constructions in Romanian are by far not as easily available as in English and additional morphosyntactic means are required. What the language implements differently is a special and, crucially for the discussion, overt realization of the pertinent constructions, while non-overt realizations in parallel contexts are barred.

The second major purpose of the paper is to address explicitly the historical process that led to the overt realization in modern Romanian (ModR). We suggest an analysis capitalizing on the functional status of the key elements involved. A major role is played by the diachronic developments involved in the grammaticalization of the morpheme *de*.<sup>1</sup> We discuss evidence in the area of degree constructions from Old Romanian (OR). In this approach it is suggested that the functional vs. lexical status of the morphemes involved at earlier stages of the language is instrumental in better understanding some of the patterns that may appear random from a purely synchronic perspective. The structure of the article is the following. The subsequent Section 2 discusses the major parametric difference in Japanese vs. English. In Section 3, we introduce the in-between cases from (Modern) Romanian, for the key degree constructions of which we propose an analysis on the basis of semantic motivation. Accounting for cross-linguistic variation on a semantic basis presupposes the possibility of semantic variation.<sup>2</sup> The present analysis is a structural one at the level of LF (cf. Gergel 2009). But certain constructions remain puzzling on such basis alone. Given that Romanian shows a particular grammaticalized type of degree constructions, Section 4 therefore offers an initial investigation of the degree constructions of OR and additional patterns of variation focusing on the functional status of the morphemes involved. Section 5 concludes.

## 2. An asymmetry between Japanese and English as an LF-based parameter

As is well-known, English has comparative and superlative morphology (synthetic and analytic, phonologically conditioned). No less important from a semantic point of view which assumes an ontology of degrees (Bresnan 1973; von Stechow 1984; Kennedy 1999; Beck to appear, among others) is the fact that it possesses constructions such as degree-questions and subcomparatives, illustrated in (1) and (2).

- (1) How tall is Peter?
- (2) The desk is taller than the door is wide.

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<sup>1</sup> The analysis proposed only refers to the degree-sensitive *de* of Romanian. As it is well-known, a variety of other uses of cognate morphemes exist (cf. e.g. Kayne 2006; Rubin 2003).

<sup>2</sup> See Matthewson and von Stechow (2008) and references there for some of the difficulties of establishing linguistically powerful *universals* in semantics, unexpectedly perhaps from assumptions generally made in earlier syntactic theory up to the 1990s (cf. Chomsky and Lasnik 1993).

In such constructions, movement for the purposes of compositional interpretation takes place and the degree variable is said to be bound.<sup>3</sup> Abstraction over degrees occurs in the process, in which, analogously to a quantifier over individuals, a (characteristic function of) a set of degrees is produced. A language like German, for example, seems to proceed in this respect quite similarly (cf. Lechner 2004; Bhatt and Takahashi 2007). In particular, both subcomparatives and degree questions are allowed. But certainly not all languages implement such constructions analogously. According to Beck et al. (2004), the cause for variation may run deeper than superficial dissimilarities. A conceptually more profound reason is claimed to lie in a type of intrinsic variation within the compositional component, so that it becomes possible for some languages not to produce the desired logical forms at all. In this sense, it is possible to say that the “syntax”, i.e. here in the sense of the logical forms that would be required, does not allow the binding that is needed for an English-like process of compositional interpretation to proceed. One way such languages circumvent the dilemma is by taking recourse to contextual-based strategies. But they yield negative results when tested for the standard semantics of comparison and degree constructions. Let us next see how.

A prime example of such a language is Japanese, which not only lacks degree morphology, but does not have subcomparatives and bona-fide grammaticalized degree questions (notice that degree questions are in fact paraphrases), as is illustrated in (3) and (4), respectively.

- (3) \*Kono tana-wa [ano doa-ga hiroi yori (mo)] (motto) takai.  
 this shelf-Top [that door-Nom wide YORI (mo)] (more) tall  
 ‘This shelf is taller than that door is wide.’
- (4) John-wa dore-kurai kasikoi no?  
 John-Top which degree smart Q  
 ‘To which degree is John smart?’

Beck et al. (2004) propose to account for such variation through the degree-abstraction parameter, DAP, rendered in (5) below. (See also Kennedy 2008; Shimoyama 2008, among others, for discussion of this and possible related parameters.)

- (5) **DAP:** A language {does/does not} have degree binding in the syntax.

While the parameter is motivated through its semantics, it is stated in configurational terms. The idea is that it applies at the level of LF, i.e. of the structures that are the appropriate input to semantic interpretation. (See Beck et al. [to appear] for applications of the LF-variationist approach to degree constructions.) Crucially for current purposes,

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<sup>3</sup> The binding process takes place at the level of logical form, LF (cf. Büring 2005 and Heim and Kratzer 1998 for the framework specifications which we follow).

constructions that hinge on degree binding are not available in Japanese. (Hence it is also impossible to give phrase-structure trees of such structures in this language – given that they do not provide anything of the sort.) Notice also the selective nature of the parameter within the grammar of Japanese. Thus, the DAP does not imply that Japanese cannot have abstraction in general (over variables that are different from degrees). It is just that the (LF-)syntax, according to the DAP, does not license the binding configuration between the abstract and the necessary lower <d> slot for subcomparatives or degree-questions to appear grammaticalized as such. The only option for a compositional interpretation is to take recourse to other means, namely contextual comparison or paraphrases.

The immediate question for present purposes is whether this type of yes/no variation is the only possible one within the framework assumption regarding the DAP. While, for example, the Germanic languages seem, by and large, to yield fairly similar results to English, it is well-known that the comparative and degree constructions in Romance exhibit a wide range of variation in general.<sup>4</sup> We focus on Romanian in this context, since we will argue that it shows not only variation, but an interesting relationship to the DAP.

Given the theoretical role of degree binding, a consequent question that arises is whether there are languages which show effects of the process overtly, with English having the constructions (which presuppose binding) and Japanese lacking them altogether. Let us note that degree binding is effectively an application of the research on quantification to degrees (Heim 2001, 2006). Overt parallels to quantifier raising (QR) have, for instance, often been suggested in the pertinent literature (see Johnson and Tomioka 1997; Johnson 2000; Bobaljik and Wurmbrand 2008, among others, for discussion). On the simplest level of description, we will argue that Romanian shows certain effects of degree-binding overtly. However, we need to investigate not just visibility in the sense of “overt movement”, but rather the visibility of a binder–bindee configuration. We will show that this is the case in Romanian (which generally has overt syntactic movement independently), but importantly marks the degree variables bound over under the appropriate conditions.

Regarding the selective nature of the DAP within the variables of a language, Romanian, does not treat dependencies of other variables in the same way as degree variables either. Moreover, it has ‘compared to’ structures, too (and other paraphrases are available, of course, e.g. via nominalizations both for subcomparatives and degree questions). But it also has a visible morphosyntactic way out. If particular morphosyntactic means are inserted, the key structures are rescued. It is in this sense that the language shows certain effects of degree binding overtly. The proposal will be, in simplified terms, as follows: the derivation takes an unmarked adjective in the language in general. But when a gradable adjective is to be spelled out that is bound over due to movement

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<sup>4</sup> Cf. Price (1990), Reglero (2007), Grosu (1994), among others, for points of variation in some syntactic domains in Romance; see Pancheva (2006) and Krasikova (2008) for variation within Slavic.

of a degree variable, the derivation takes overt functional material thus marking the extraction site and the dependency.<sup>5</sup>

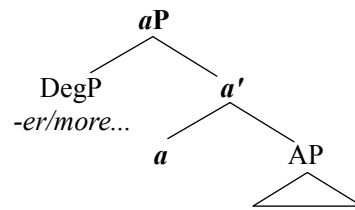
### 3. An analysis for the parametric constructions in Romanian

In this section, we present the apparently intermediate case of Romanian with respect to the DAP. After spelling out the structural assumptions, we offer an analysis which we phrase in terms of visibility of the extraction site and the degree dependency.

#### 3.1. The local configuration in the adjectival projection

Following Embick (2007), who argues on independent morphological grounds, we assume the *local* structure in (6) below for a gradable adjectival projection.

(6) Structure containing *more* in the specifier and a functional head under *a*:



The structure in (6) provides a head position under *a* and keeps the comparative morphology in a non-projective position (e.g. Bresnan 1973), from which we will later be able to extract (Spec,*aP*). We adopt (6) and next show that it makes the right predictions in conjunction with the observations on the binding mechanisms available in Romanian. First, current Romanian has only analytic and hence none of the affixal comparative morphemes from Latin (unlike most other varieties of Romance, which show some synthetic relics, e.g. in some of the morphemes for ‘better’). (7) below illustrates positive and comparative forms in Romanian.

(7a) Pâinea e bună.  
bread.the is good  
‘The bread is good.’

<sup>5</sup> The analysis for ModR is presented in Section 3 and more details can be found in Gergel (2009). A note of clarification regarding the model of grammar used. The traditional Y or T model of generative grammar used in GB does not allow the LF component to impose requirements on the output given that it allows no such connections. But a significant body of recent research has observed that precisely such requirements are empirically necessitated (see Bobaljik and Wurmbrand 2008 for one overview).

- (7b) Covrigul e **mai** bun (decât pâinea).  
 pretzel.the is more good (than bread.the)  
 ‘The pretzel is better (than the bread).’

The word *mai* ‘more’ has its base-position in Spec,*aP*. Given the local configurations, we next illustrate a global analysis in which binding of degrees is involved.

### 3.2. Analysis of interrogatives of degree

ModR does not have simplex degree questions (i.e. degree questions obtained by simply merging the relevant items from a numeration and doing the necessary movement operations, as for instance in English.) This is illustrated in (8).

- (8) (a) \*Cât Ion e inteligent?                      (d) \*Cât Ion inteligent e?  
 (b) \*Cât inteligent e Ion?                      (e) \*Cât inteligent Ion e?  
 (c) \*Cât e inteligent Ion?                      (f) \*Cât e Ion inteligent?  
 WH Ion is intelligent (and permutations for constituents  $X_i$ ,  $2 \leq i \leq 4$  above)  
 ‘How intelligent is Ion?’

Thus, degree questions seem to be missing at first sight in Romanian (i.e. under use of the regular strategies). This may be all the more surprising since Romanian is different in two crucial ways from Japanese. It has (i) mechanisms of movement visibly operative in the grammar and (ii) some (analytic) comparative morphemes, as noted. Furthermore, while degree questions are not a cross-linguistic universal, they are not *generally* barred; that is, neither within Romance nor within languages on the Balkan *sprachbund*. Degree questions are allowed, for examples, in Italian, and for instance Bulgarian (unlike Russian) has bona-fide degree questions, as is illustrated in (9) and (10) below (cf. Beck et al. [to appear]; Rizzi 1990; Krasikova 2008).


- (9) Quanto è alto?                                      (Italian)  
 how is (he) tall  
 ‘How tall is he?’
- (10) Колко е висок Венци?                      (Bulgarian)  
 how\_much is tall Ventzi  
 ‘How tall is Ventzi?’

The puzzle for Romanian finds a straightforward empirical solution. The addition of the morpheme *de* allows legitimate degree questions (with an orthogonal alternation with pied-piping; cf. Grosu 1994; Gergel 2009 for further discussion):<sup>6</sup>

<sup>6</sup> A similar pattern with interrogatives obtains in Chilean Spanish (H. Campos, p.c.):

- (11) Cât e **de** inteligent Ion?      (12) Cât **de** inteligent e Ion?  
 how is DE intelligent Ion      how DE intelligent is Ion  
 ‘How intelligent is Ion?’      ‘How intelligent is Ion?’

The basic LF we propose for interrogatives is as in (13).

- (13) [Cât I e [aP \_ \*(de) [AP înalt] ] ]?  
 how is (pro) DE tall
- 

A clear observation can then be culled: when the edge of the aP is extracted from, *de* is the appropriate exponent in the head position of the aP.

### 3.3. Subcomparatives

On a fairly standard analysis of degree constructions, which is adopted here (cf. von Stechow 1984; Heim 2006; Beck [to appear]), the subcomparative plays an important role in revealing the internal mechanics of degree constructions. In terms of the DAP, recall that it involves binding and abstraction over degrees. And indeed, we encounter a similar incongruity in this domain in Romanian, as in the case of degree interrogatives. Subcomparative structures are at first sight not licensed:

- (14) \*Stîlpul e mai înalt decât groapa e(ste) adîncă.  
 pole.D is more tall than hole.D is deep  
 ‘The pole is taller than the hole is deep.’

Subcomparative structures in Romanian improve, however, under a set of conditions, to the inclusion of subject-verb inversion (for which we assume lower subjects) and, the ingredient of immediate interest for current purposes, the insertion of *de*:

- (15) Maria e mai deşteaptă decât e Zamfira de frumoasă.  
 Maria is more clever than is Zamfira DE beautiful  
 ‘Maria is cleverer than Zamfira is beautiful.’ (Grosu 1994)

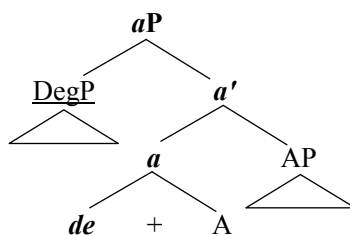
- (i) ¿Cómo es Juan *de* inteligente?      (ii) ¿Cómo *de* inteligente es Juan?  
 how is Juan *de* intelligent      how *de* intelligent is Juan  
 ‘How intelligent is Juan?’      ‘How intelligent is Juan?’

Cf. also the *cuan-de* constructions of Old Spanish (mainly as rhetorical questions). Last-resort insertions are notoriously picky. The current analysis is proposed for Romanian only, but it appears that subset effects can obtain elsewhere (cf. proper subset domains in which *do*-support is replicated in Germanic dialects vs. the wider range of its well-known more systematic use in Modern English).

- (16) Stîlpul e mai înalt decât e groapa de adîncă.  
 pole.D is more tall than is hole.D DE deep  
 ‘The pole is taller than the hole is deep.’

The descriptive generalization emerging so far is summarized in (17). More precisely, the site of insertion for the morpheme *de* is as schematized in (18), cf. (6).

- (17) In degree constructions such as degree questions and subcomparatives, *de* is inserted within the adjectival projection, left-adjacent to the adjective.
- (18) Local configuration for *de*-insertion:



The question is what precisely motivates the last-resort character of *de*-insertion. We see there is an empirical connection to the DAP and have already noticed that extraction of a degree (and hence abstraction and binding) is involved in degree questions. The mechanism for subcomparatives is quite similar. Consider the LF for the subcomparative structure given in (19) (cf. especially Heim 2001, 2006 for the classical QR implementation in comparative clauses).

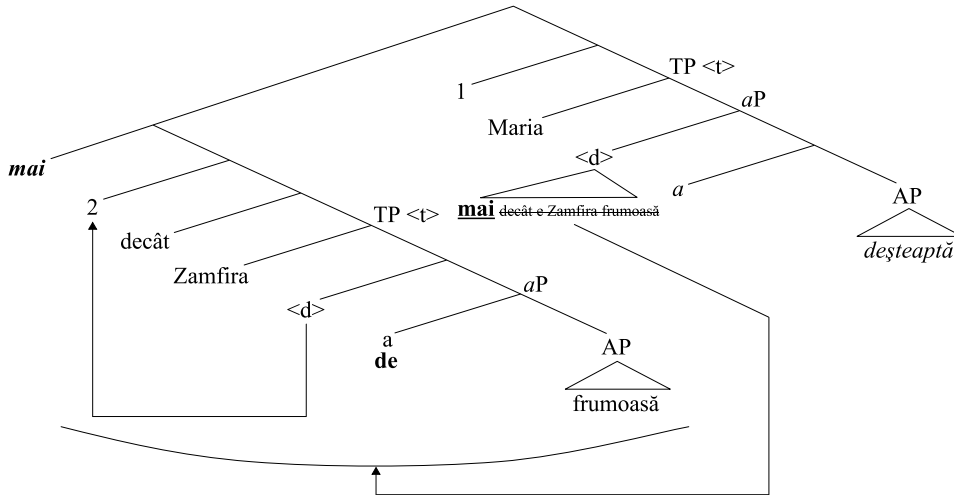
The derivational history of (19) consists of three main steps: (i) QR over degrees within the *decât* ‘than’ clause; (ii) QR of the entire subordinate (notice that *mai* ‘more’ itself is PF-stranded here and does not move along with the complement); (iii) extraposition of the PF-representation of the subordinate (not shown in (19)).

Crucially, we then observe, as in degree questions, that the relevant type of *de* is inserted at an extraction site of type <d>. Both questions and subcomparatives are key configurations for the DAP and share the feature of being realized as overt dependencies. Let us add two more observations to clarify the analysis<sup>7</sup>. First, if there is no LF-movement (e.g., taking a given sentences with a gradable adjective), *de* is *not* inserted, being in fact ungrammatical. That is, *de*-insertion appears to be indeed a last-resort type of mechanism realizing the dependency. Second, and in the same vein, *mai* ‘more’, does

<sup>7</sup> See also especially Hulk and Verheugd (1994: 18) for the general intuition of marking LF-dependencies, suggested there on the basis of a case study conducted on French. Additional discussion of the LF-dependencies of degree in Romanian can be found in Gergel (2009).



(19) Subcomparative global structure (relevant part for interpretation)<sup>8</sup>



Legend: **mai** = PF representation only; *mai* = LF only.

not trigger *de*-insertion either; cf. e.g. the very matrix clause in (19). Recall, however, that ‘more’ occupies the Spec,*aP* position.

What holds then is that either the specifier position or the head position at the site extracted from must be visible to render the entire dependency as visible. We propose that this complementarity effect is due to the following economy condition (cf. Spec-Head agreement, well-known from GB versions of syntactic theory): If the projection of a gradable adjective that is LF-extracted from is realized at PF, it must have functional material to mark the extraction site. This condition is instantiated in the following way. In cases in which the specifier of the *aP* already contains such material, the condition is fulfilled (as in the matrix of a subcomparative). In cases in which such material is not available in the numeration, the condition is satisfied by inserting *de* in the head position of *aP* (as in the subordinate of the subcomparative structure).<sup>9</sup>

To clarify the empirical generalization: English and Japanese are distinct in that only the former allows binding of degrees. Romanian is like English in the sense that it allows such constructions. But it is, in a further taxonomic subdivision, different from English in that it requires the additional morpheme in the loci of binding. We do not use the term “parameters” in the classical GB sense, preferring the non-technical “logical

<sup>8</sup> E.g. the copula is omitted (being semantically trivial). At PF, its most natural surfacing representation is adjacent to the DP in the matrix and to *decît* ‘than’ in the subordinate.

<sup>9</sup> In the terms of Distributed Morphology *de* would be be (the contextually appropriate exponent of) *a*.

options”, given that a theory of parameters at the syntax-semantics interface still needs to be developed (cf. Beck et al. [to appear] for some discussion.)<sup>10</sup>

To summarize the section, we have suggested an explanation starting out from the unusual status of degree binding based on the functional element *de*. Now, if this element developed as a functional means with some use in degree constructions, then it is worth considering its historical trajectory. While we can certainly not achieve a full-scale diachronic study here, we do some of the necessary initial footwork in the next section, by investigating empirically the situation of degree morphology and syntax in Old Romanian.

#### 4. Towards a taxonomy of degree constructions in Old Romanian

In this section, we discuss the status of degree constructions in Old Romanian (OR). We describe the essential morphosyntactic inventory of gradable adjectives and comparatives to then turn to the functional means used (and with hindsight: “not used”) in the pertinent processes. We consider the clausal/phrasal distinction, which had a now-extinct type of phrasal exponent. Subsequently we address certain key diagnostics for the parameterization of degrees (cf. Section 2 above), focusing on degree questions. Furthermore, we address two additional constructions that remain problematic from the perspective of their parametrization in ModR: *too/enough* constructions and degree constructions involving extreme adverbs, cf. *foarte* ‘very’.

##### 4.1. Characteristics of the period and the material analyzed

Old Romanian (OR, *româna veche*) typically refers to Romanian up to, and especially including, the 16th century; cf. Densusianu (1975), Rosetti (1986).<sup>11</sup> Besides the grammars of the language, we have used a selection of primary texts, the exact sources of which are listed in the Appendix. As our main source of primary linguistic data, we base

<sup>10</sup> An anonymous reviewer has brought to my attention the possibility of a generalization in the sense of a single parameter (here in a more classical GB sense), potentially paralleling Chomsky’s (1981) visibility condition on noun phrases, which required them to be case-marked. One way such a generalization could be envisaged is as follows. First, recall that English and Romanian pattern differently from Japanese and similarly to one another, in that they do allow binding over degrees. Next assume that the relevant degree-binding configurations always need to be marked overtly in the languages that allow them, in the way we have suggested for Romanian. Either the head or the specifier position in the *aP* will need to be filled. In order to analyze English along such lines, assume that the head *A* always moves up to *a*. While such a line of reasoning is theoretically very intriguing, this particular stand is not pursued here. The reason for taking the very plain double-layered non-technical notion of parameterization suggested in the main text is just as simple minded: I am not aware of independently motivated evidence that shows Romanian and English to be precise mirror images of one another in filling the head position *a* by merging functional material and moving *A*, respectively.

<sup>11</sup> The oldest written full text preserved in Romanian is a short letter from 1521. See Rosetti (1986) for the intricate situation regarding the earlier written sources.

our discussion on a few selected influential books that are preserved from the sixteenth century (and were in most cases printed at the time). They include (i) the so-called *Palia* ('old book') from the town of Orăștie from 1581–1582 (edited by Pamfil 1968), which is essentially a translation of the initial books of the Old Testament; (ii) the gospels published in 1561 by Coresi (the first printer in the Romanian-speaking territories) (*Tetraevanghelul lui Coresi*; cf. Dimitrescu 1968); (iii) Coresi's liturgy book from 1570 (*Liturghierul lui Coresi*; cf. Mareș 1968), and (iv) the codex of the monastery of Voroneț, a so-far not entirely dated religious manuscript<sup>12</sup> (as well as two related later Bible editions, all in the edition of Sbiera (1885)). While the database is limited in several respects (e.g., besides practical issues such as the direct availability of certain manuscripts in particular libraries, also the more general relative scarcity of documents from early Romanian, intrinsic issues of historical (theoretical) linguistics, etc.), we will see that it allows an initial assessment of degree constructions in texts from OR with a view towards further research in this area as well.<sup>13</sup>

#### 4.2. Gradable adjectives in Old Romanian

Given that the degree constructions of OR have not received a great deal of attention (in fact, we are not aware of grammar-theoretical studies, i.e. beyond the valuable grammars of the language, which however do not address some of the more intricate issues with consequences at the syntax-semantics interface), we first illustrate its basic morphosyntactic mechanism.<sup>14</sup>

Morphologically, the OR adjective has most of the basic characteristics known from ModR. In the positive, the adjective inflects in both predicative and attributive position (as is usual in Romance), with the latter pattern illustrated in (20).<sup>15</sup>

<sup>12</sup> Though this manuscript dates back from the sixteenth century, it is possible that the date of composition of the original after which it was copied was earlier (cf. Sbiera's editorial commentary).

<sup>13</sup> Another issue is, of course, that we are dealing with translations, which in some cases may follow the original slavishly. While some of the texts may be poor as translations, there is at the same time no evidence that they render the translated texts at the expense of becoming unacceptable in the target language – in fact most of them remained highly influential texts of Romanian for a long time. The gospels printed by Coresi constituted, for instance, the standard for the establishment of a literary language (cf. e.g. Dimitrescu's 1963 editorial remarks).

<sup>14</sup> Cornilescu (2009) addresses the syntax of comparatives and argues for decomposing *decât* into *de+cât*. While the syntactic reasons for the decomposition are cogent (and particularly interesting in terms of verb movement), the diachronic evidence is related to one argument and it deserves further investigation. The main historical evidence offered is the separated spelling of *decât* in some texts from the 19th century. While certainly true, the separation may also involve subtly different uses of *de* and/or *cât*. Again, this does not detract at all from the syntactic merits and insights of Cornilescu's suggestion. What is much rather the case, is that further diachronic research is strongly to be encouraged regarding the syntax of Romanian (just like in the domain of the semantic variationist approaches pursued here).

<sup>15</sup> Some single attestations, e.g. of the adjective *mare* 'big' in which it does not inflect for the plural do not alter this general picture (Densusianu 1975; Rosetti 1986). Regarding notation, we will give page and para-

- (20) voi curați sântei  
 you.PL clean.PL are.PL  
 ‘you are clean’ (Tetraevanghelul, 157.216r)

A difference from Western Romance (and partly from ModR) obtains in conjunction with the placement of the determiner in definite contexts that involve nouns and adjectives. In (21) the noun, the demonstrative, and the adjective all bear a definite determiner.

- (21) preuții cea mai marii  
 priests.D-PL those.D-PL more big.D-PL  
 ‘those higher priests’ (Liturghierul lui Coresi, 129.5v)

While such patterns may certainly deserve further investigation for their syntactic properties in conjunction with the determiner system, we leave them aside here (cf. Campos 2005; Cornilescu 1992 for properties of the determiner in Eastern Romance).

The comparative and the superlative only allow analytic patterns (i.e. for the comparative, essentially only the *magis* strategy from vulgar Latin); cf. (22).<sup>16</sup>

- (22) mai frumoasă  
 more beautiful (Rosetti 1986, TM, 147,182)

By and large, then, the morphological make-up of the comparative itself has stayed constant from OR. Other potential intervening properties of the language from a structural point of view, such as the overall availability of variable-movement (e.g. *wh*-phrases), do not have seem to have changed significantly either.

#### 4.3. The introducers of comparative constituents and their properties

OR had both a phrasal comparative introduced by the morpheme *de* (‘than’), which is currently virtually extinct in the language in this function,<sup>17</sup> and a(n underlyingly)

graph numbers from the editions used and listed in the Appendix. When paragraphs are not available, we give the number of the line. Examples from other sources, such as the grammars of the language, are given without changing the notation of the sources in any way.

<sup>16</sup> There are no apparent vestiges of the synthetic comparison paradigms potentially to be inherited from Latin (cf., e.g., Ayres-Bennet 1996 for Old French.) Notice furthermore that other adverbs, including especially *mult* ‘much’, are rendered as superlatives by the grammars of OR (cf. Densusianu 1975; Rosetti 1986). We return to *foarte* ‘very’ in section 4.4 below.

<sup>17</sup> In order to refer to the extinct introducer of the phrasal standard of comparison and avoid confusion with the morpheme *de* marking degree dependencies discussed above, we will write *de<sub>phr.</sub>* The two are used in conspicuously distinct configuration and we will keep them distinct here. Moreover, both old and modern varieties of Romance and Romanian show several other uses of cognate morphemes. However, they are easily distinguishable from the one under discussion here.

clausal comparative that was introduced by *decât* ‘than’, a form which continues to be used in ModR. Initial examples in point are (23) and (24) below:

(23) mai vîrtos **de** zăpada  
more virtuous than snow (Liturghierul lui Coresi, 129.9v)

(24) mai iușor va fi Sodomului și Gomorului la ziōa jūdecateei  
more easy will be Sodom.DAT and Gomorrah.DAT at day.the judgment.of  
  
**decât** cētăției ațeiA  
than city.dat this

‘It will be easier for Sodom and Gomorrah on judgment day than for this city.’  
(*Tetraevanghelul*, 83.80r)

By way of inspection, we can suggest an immediate generalization that *decât* could be used in contexts in which *de<sub>phr</sub>* was used, but not vice-versa. This appears as a natural expectation if *decât* is sentential and involves deletion, while *de<sub>phr</sub>* does not allow reconstruction of the structure up to the highest level required by *decât*. But this expectation is not entirely met. We next consider along which lines the division of labor was shaped in the two expressions for ‘than’ used in OR.

First, let us note that in the sixteenth century, which is under investigation here, the use of both variants appears to be wide-spread and the rule rather than the exception. The use of *de* continues in fact into the seventeenth century, but seems to be dying off somewhere in its second half. We can present a consistent clue capitalizing on the edition of OR texts by Sbiera (1885). While Sbiera does not comment on *de<sub>phr</sub>* or degree constructions, the material in the OR texts he edits is telling upon closer inspection. The manuscript of the *Codicele* (lit. codex) found in the monastery of Voroneț has been included in two later Bible editions published in 1648 and 1688, respectively, both also reproduced by Sbiera. While the edition of 1648 kept the uses of *de<sub>phr</sub>* from the codex, its follow-up did not, and changed them all into the other form of ‘than’, namely *decât*. This offers a relatively narrow delimited date of the dying period of *de<sub>phr</sub>*.

The grammatical distribution of the extinct word for ‘than’, *de<sub>phr</sub>*, however, is more intricate than establishing the period in which it came into disuse, even if it is well-known that many languages use a so-called phrasal comparative; moreover, also often in conjunction with a clausal one (Hankamer 1973; see Hofstetter 2008 and references). First in this connection, it is not a condition of being in a tensed clause that determines the use of *decât* and thus delimits it from *de<sub>phr</sub>*. Infinitives could also be introduced by it, cf. (25–26).

(25) mai lesni ăste cămilei pre înlăuntrul ũrechile acului a trēce  
more easy is camel.dat through inside ears.the needle.of to pass

**decât** bogatul în părafiA cerului **a întra**  
 than rich.the in kingdom heaven.of to enter

‘It is easier for the camel to go through the needle eye than for the rich to enter the kindgodm of heaven.’  
 (*Tetraevanghelul*, 63.41r)

- (26) mai vr<sub>k</sub>tos a da **decătu a lua**  
 more virtuous to give than to take  
 ‘It is more virtuous to give than to take.’ (Rosetti 1986, CV, 23, 9–10)

What seems to hold, rather, is that a proposition-denoting constituent requires *decât*, such constituents not being available with *de<sub>phr</sub>* in the sources I found from OR.

From the inspection of the data, a further generalization obtains for the restrictions on *de<sub>phr</sub>*. It appears not to have been co-occurring with prepositions that would have directly followed it in the standard of comparison; cf. *cu* ‘with’ in (28) or the object-marking preposition *pre* (*pe* in ModR). (Even though not translatable in English, the phenomenon instantiated by the latter may be well-known as differential object-marking, not only from ModR *pe*, but also e.g. from Spanish *a*, which marks, e.g., animate objects of verbs.) At the same time, it is worth mentioning that there was probably no general ban on multiple *prepositions*, as both the historical record; cf. e.g. (28) with a brief sample of prepositional combinations from OR that included *de* in its function as an original preposition, ‘of’, and the similarly wide range of compound prepositions inherited by ModR seems to argue.<sup>18</sup>

- (27a) și pre Rahila mai vîrtos iubiiA **decît pre** Liia (\*de pre?)  
 and PRE Rachel more virtuously loved.imp than PRE Leah  
 ‘and he loved Rachel more than Leah.’ (*Palia*, 99/5)
- (27b) mai vîrtos vom face cu tine **decît cu** ei (\*de pre?)  
 more virtuously will.1pl do with you than with them  
 ‘We will do better with you than with them.’ (*Palia*, 60/27)

<sup>18</sup> Furthermore, the phrasal *de<sub>phr</sub>* (expectedly) frequently appears with short constituents and also with pronouns, even though it is not the only introducer of pronouns. A place, however, in which it is conspicuously avoided in our database, are dative standards of comparison, where we could only find *decât*, (as illustrated in (i)).

(i) mai bine cum să dau ție **decît** altuia  
 more good how that give.1sg you.DAT than other.DAT

‘It is better if I give her to you than to someone other.’ (*Palia*, 60/27)

The colloquial (unrelated) introducer of phrasal comparative *ca* developed by ModR seems to share this property, in that it is degraded with dative-pronoun standards, but it does not share many of the other properties of *de<sub>phr</sub>*, e.g. its flexible syntax and fronting of the *than*-constituent; see below.

- (28) de la; de-de-supt; de-a-supra; de-a-sînga  
of from; of-of-below; of-at-on; of-on-left

Another interesting peculiarity of  $de_{\text{Phr}}$  in the syntax of OR is as follows. It built (together with the standard of comparison it introduced) a constituent with a fairly flexible syntax in terms of its displacement properties. For comparison, the constituent introduced by *than* can, for example, not appear fronted at the surface level in English. Nor can either the complement of the Romanian ‘than’ which is realized by *decît/decât* (etc. depending on the spelling in use) or the entire complement, be surface-fronted in run-of-the-mill comparative structures. However, in OR the constituent introduced by  $de_{\text{Phr}}$  could have the options shown in (29–31).<sup>19</sup>

- (29) ești [de toți] mai bun  
are.2sg  $DE_{\text{Phr}}$  all more good  
‘Your are better than all the others.’ (Liturghierul lui Coresi, 129.9v)

- (30) ce mai mic **Aste** [de toate sment’ele]  
which more small is  $DE_{\text{Phr}}$  all seeds  
‘which is smaller than all seeds’ (Tetraevanghelul, 56.27r)

- (31) Ț cãnd<sub>K</sub> crește, mai mare [de toate vërzele] **Aste**  
but when grows more big  $DE_{\text{Phr}}$  all plants is  
‘but when it grows, it is becomes larger than all plants’ (*ibid.*)

Finally, let us mention an additional connection which links the original  $DE_{\text{Phr}}$  to the taxonomy of degree-related expressions from the perspective of language change. In ModE, one or two introducers of comparative constituents (depending on the register) are available. Plainly put, the words for ‘than’ which typically come to mind are: the both clausally and phrasally functioning *decât*, ‘than’, and the prescriptively stigmatized but colloquially available phrasal-only *ca*, ‘than’. As for  $DE_{\text{Phr}}$ , it appears to have been lost in the seventeenth century, as noted. Currently, even if we control for other syntactic and lexical changes, none of the modern counterparts of the OR (29–31) above is grammatical if one inserts the morpheme  $de_{\text{Phr}}$  for ‘than’ (while the other markers could license the standards of comparison with the necessary adjustments). However, there is a different context in which a non-clausal comparative constituent is in fact introduced precisely by a relic of  $de_{\text{Phr}}$  in present-day Romanian. This is illustrated in (32).

<sup>19</sup> Grosu and Horvath (2006) present examples from (Modern) Romanian (which are on closer inspection all non-clausal colloquial equatives) and can be fronted, or in other terms, directly merged there. The OR examples may illustrate a similar pattern with comparatives of superiority, but we remain agnostic about whether Grosu and Horvath’s analysis must be pursued. (See Gergel 2009 for an alternative. Not surprisingly from the present perspective, the fronted examples in ModR trigger *de*-insertion.)

- (32) Jgheabul este mai lat [de 150 mm]  
 gutter.the is more wide than 150 mm  
 ‘The gutter is wider [than 150 mm].’ (Adapted after a web-based example.)

What (32) then shows is that comparisons with an explicit degree which is expressed through a measure-phrase are introduced by a specialized form of ‘than’ (namely the re-functionalized former introducer of phrasal comparatives). At this stage, we point this out within our descriptive comparison between OR and ModR, partly also simply because the classical discussions in the literature has focused on the possibility of several languages of having two introducers of ‘than’ and a specialized introducer for comparisons with degrees may be of interest.

Having considered basic morphosyntactic facts, we next set out to investigate the situation regarding diagnostics that can prove relevant to degree *binding* in OR.

#### 4.4. Structures for questions in Old Romanian

An issue for a comparison of the two stages of Romanian is how degree questions were formed in OR.<sup>20</sup> The short answer in this connection is that they may well have had paradigms that diverged from current Romanian and were at the same time internally heterogeneous. We next illustrate how.

The strongest difference is that OR seems to have had some similar (most often in the texts rhetorical) patterns involving gradable adjectives, the current *wh*-word and, crucially, no use of *de*; as illustrated in (33); cf. Densusianu (1975).

- (33a) cîtu e mare  
 how is big (*pro*)  
 ‘How big is he/How big he is.’ (Densusianu 1975, CC1, 171)<sup>21</sup>
- (33b) Cîtu e dulce Domnul  
 how is sweet god.the  
 ‘How wonderful God is.’ (Densusianu 1975, CC2, 177)

Besides *cît(u)* (orig. ‘how much’), *wh*-words such as *cum* ‘how’ occasionally join the pattern, as in the implicit-question context below, from the text of the *Palia*:

<sup>20</sup> Subcomparatives are a notoriously infrequent phenomenon including in languages in which they are generally considered grammatical (cf. e.g. Beck et al. 2004; Snyder 1995; Pinkham 1986). Given their *a priori* scarcity in the even more narrowly restricted historical record, they will be set aside here.

<sup>21</sup> The word *cît(u)* is the same as the one used in degree questions in ModR, i.e. currently spelled *cât* (and the legitimate type of ‘how’ in degree questions, but lit. and originally ‘how much’). The central vowel is represented differently based on several spelling reforms up into recent times (while the final high vowel of the OR word was lost both in spelling and pronunciation).



- (34) ştii bine cum acest nărod e rău  
 know.2sg well how this people is bad  
 ‘You know full well how bad this people is.’ (Palia, 288/27)

Additional strategies become, however, visible (besides the possibility of paraphrases, which we leave aside). Potential support mechanisms of three types can be seen; let us note that none of them stands out as particularly systematic. First, a case, in which the purported support is in fact provided by an adverb *tare* ‘strongly’ is given in (35).

- (35) cât tare cutremurat  
 how strongly shaken (Palia, 95/22)

It is possible to assume that the example is ambiguous, i.e. that it could not only bracket ‘how’ with ‘strongly’, but also ‘how’ with ‘shaken’, with the adverb presumably supporting the construction with additional emphasis.<sup>22</sup>

Second, we can also find the introduction of *de* with the wh-word *cum* in (35), but at the expense of changing the adjective into a noun. This way *de* could certainly function more naturally at its pre-grammaticalized stage as a regular preposition (i.e. selecting a noun rather than an adjective):

- (36) şi acel pământ cum iaste **de** dulceaţă  
 and that land how is DE sweetness  
 ‘and how wonderful that land is’ (Palia, 174/22)

The third type of example, involving again the wh-word *cât*, resembles the ModR pattern, namely in having the supportive morpheme *de* together with an adjective. Thus, even though Coresi in his printings could use adjectives without *de*, (cf. (33) and further examples in Densusianu), *de* appears in the subordinate in (37).

- (37) datoriu aste întâi amu în pace să fie cu toţi, şi inima câtu-i  
 duty is first now in peace that be with all and heart how-him

va fi **de** tare, să-ş păzească cugetul de hitlenie  
 will be DE strong that-him guard thought of unbelief

‘His first duty now is to be at peace with all and, how(ever) his heart is strong, to guard his thoughts against unbelief.’ (Liturghierul lui Coresi, 127.1r)

<sup>22</sup> Compare the Hungarian original of the translated passage (base on the edition of Pamfil 1968: 95).

(i) mely igen Rettenetes  
 how yes/very awful  
 ‘indeed how awful’

All in all then, structures as the ones required for degree questions in ModR may have been highly instable and clearly not yet grammaticalized in their current form in OR.

#### 4.5. Additional degree constructions and the role of functional status

In this section, we focus on two constructions which, even though not discussed in the Japanese/English asymmetry (cf. Section 2), are potentially relevant. They are degree-based but surprisingly show only partial insertion of *de* in ModR and thus pose certain problems. After introducing the pattern in ModR, we investigate the behavior of the relevant constructions in OR. While the analysis of this part cannot be a definite one, we would like to argue that in addition to the given motivation, the phenomenon of grammaticalization of functional material (cf. Cornilescu 2009 and references cited there; see Detges and Waltereit (2002) for insightful general discussion) in the domain of degrees is advantageous in understanding the situation in this additional area as well.

Let us begin by considering the two asymmetries in ModR. ModR has a morpho-syntactic asymmetry in the class of high-scale adverbs, such as *very* vs. *extremely*. It also has an asymmetry in its realization of *too* vs. *enough* constructions. The former context in each pair prohibits *de*-insertion, while the second (obligatorily) triggers it; cf. the patterns in (38) and (39):

- |       |   |       |  |
|-------|---|-------|--|
| (38a) | Carmen e foarte înaltă.<br>Carmen is very tall.<br>'Carmen is very tall.'               | (38b) | Petre e extrem de înalt.<br>Petre is extremely DE tall.<br>'Petre is extremely tall.'          |
| (39a) | Raluca a prea inteligentă.<br>Raluca is too intelligent<br>'Raluca is too intelligent.' | (39b) | Rică e destul de inteligent.<br>Rică is enough DE intelligent<br>'Rică is intelligent enough.' |

The general issue, then, is that while we have degree constructions and quite possibly degree binding is involved, we only witness a selective pattern of *de*-support. Let us first see the general semantic considerations, beginning with the high-scale adverbs. It is not impossible to stipulate that the 'very' and 'extremely' type of adverbs have subtly different semantics, but the problem is that it is relatively hard to find correlating diagnostics (cf. Constantinescu 2007; Corver 2000, among others, for discussions from a narrow-syntactic point of view). One such attempt would be to say that while *extrem* has a more flexible syntax, under which it can be dislocated from the adjective (still requiring *de*, expectedly), *foarte* 'very' does not move in the syntax, and hence it should be seen as reasonable that it does not move at LF either. Subsequently, if it is not moved at LF, there is no *de*-insertion. While this strategy would certainly be consistent with the DAP-account we have proposed above, it may not be sufficient for an explanation. It is therefore that we will dwell a bit more on the grammaticalization and the functional

status of the items that do take *de* and argue that they offer some prospects for better understanding the asymmetric behavior. There are two problems. For one, a displacement strategy in the narrow syntax would for instance fail for correlating e.g. *foarte* ‘very’ in OR, where the adverb did not have to be adjacent to the adjective, cf. (40).

- (40) **foarte** **nărod** **mult** era și nu avă ce mânca.  
 very people much was and not had what eat  
 ‘There were very many people and they did not have what to eat.’  
 (*Tetraevanghelul*, 86.85r)

The second problem is that also internally, within the grammar of ModR, the overt displacement account cannot be entirely satisfactory. The reason is that, moving on to the second asymmetry noted above, *prea* ‘too’, which prohibits *de*-insertion, can be found in some displaced contexts (cf. Constantinescu 2007 and references there).

- (41) **Prea** te crezi **de deștept**.  
 too you think DE clever.  
 ‘You think yourself too clever.’

Here, it is worth noting that such movements may be stylistically marked and perhaps represent cases of PF-displacement, even though they have been often invoked without comment in the literature.<sup>23</sup> What certainly holds, however, is that such displacements cannot be correlated with *de* insertion. At LF, things do not stand much better, however. In a widely accepted analysis (cf. Meier 2003), *too/enough* constructions are also cases of operator/variable configurations which bind degrees. Their behavior is thus of potential interest for *de*-insertion in ModR in view of the account proposed. But, alas, on such standard assumptions, this particular asymmetry in the insertion of functionalized material appears to require more than the (important) configurational factors in order to be fully understood.<sup>24</sup>

The midway summary, as far as the asymmetries in *de*-insertion are concerned, is as follows. The items for ‘very’ and ‘too’ are the exceptions to be accounted for. The question, then, is what is different with *foarte* ‘very’ and *prea* ‘too’ in such a way that prevents *de* insertion in their scope? To find a solution to this puzzle, it is worth looking at the dusty path of history once more and note in this connection that *foarte* ‘very’ and *prea* ‘too’ are not only synchronically but also historically clearly more functional, in

<sup>23</sup> To be fair, they may have not been tested in the syntactic literature with the same rigor with which e.g. Corver (2000) tests degree questions (e.g. as yielding unbounded dependencies but island sensitivity). For example, the displacement of *prea* does not seem to cross CP levels at all.

<sup>24</sup> The semantics of *too/enough* constructions hinges on interactions between comparative operators and modals (cf. e.g. recently Nissenbaum and Schwarz 2009). To the extent that new approaches improve the semantics, we may have additional insight from an LF-based vantage point, though the issues seem orthogonal to our focus and a direct reason for an LF-asymmetry does not seem evident.

the sense that they have grammaticalized and are much farther away from the status of transparent lexical items. First, *foarte* was already a highly functional item in the literary OR of the 16th century we have concerned ourselves with, where it was, e.g., also the marker of the superlative (cf. Rosetti 1986). Second, notice that *pre(a)* was a functional item presumably from the start. It entered the language as the *pre-* prefix imported from Slavic (cf. Rosetti 1986). It originally indicated a high-degree of a particular property. (There are still several, in most cases old-fashioned and/or religiously colored, adjectives in the language that use *prea* in this prefixal way; e.g. *prea-iubitul*, *preas-slăvitul*, ‘much beloved, glorified’ etc.). Thus, for *prea*, the relevant path seems to be that it was a functional item from the OR period on, and it transferred its use, in simplified terms, from ‘very’ to ‘too’. Third, and in contrast, neither the adverbs of the ‘extremely’ class nor *destul* ‘enough’ (which, recall, both trigger *de*-insertion) have ever been on nearly similarly narrow paths of functional status. For the adverbs like *extrem*, it is very easy to see that they are *not* functional. Adverbs of this sort build a large, open class (and the configurations all – expectedly – trigger *de*-insertion); a sample is (42):

- (42)    *extrem/deosebit/nemaipomenit/grozav/fantastic...*                    \*(<sup>ok</sup>**de**)    înaltă  
           *extremely/unusually/unheard-of/awesome/fantastically...*    DE            tall.FEM

The adverb for conveying ‘enough’ is slightly more complex. It is not part of an open class today, but has in its pedigree nonetheless additional uses (clearly closer to lexical/transparent), which the original *pre(a)* ‘too’ lacks. We hypothesize that *destul*, ‘enough’, was not functional in OR. First, *destul* has never had the close-to-prefix status that *prea*, ‘too’ has enjoyed throughout its history. Second, in OR the status of *destul* ‘enough’ must have been not only ‘more’. lexical, but close to decompositionally transparent. Even though, it may be inappropriate to call it part of an open class, there is at least one alternant of it preserved in the records that functioned identically, namely *debiu*. This word was synonymous with *des(ă)tul* in OR, both meaning ‘enough’. Let us illustrate how the two should be alternates in varieties of OR. The word *destul* derives from *de+sătul* (de+‘saturated’, cf. Lat. *satis*). According to Rosetti (1986), it had e.g. a synonym in which the same originally Latin prefix was combined not with the word for ‘saturated, sufficient’ etc. from Latin but with the expression for ‘plenty’ from Hungarian (cf. *bőven* ‘of plenty’ in Hungarian), thus yielding the *de+biu*, the noted form available in some OR texts. In order to morphologically combine original Latin and Hungarian-borrowed elements in this identical fashion, the process must hence have been morphologically productive and transparent in the first place in the OR period. Third, *des(ă)tul* was also a noun in OR (Densusianu 1975); and fourth, the word for ‘enough’ was also used (in fact, almost exclusively in our own limited readings of OR) as an inflected adjective with nouns, a use which it still preserves. Again, *prea*, its counterpart meaning ‘too’, does not share any of these features, but it is rather essentially restricted in its functional use.

Let us now take stock. What seems to have happened in view of the basic facts noted is that *de*-insertion, which became a more systematic mechanism certainly only after the OR period, may well have begun to apply to a significant class of semantically interesting contexts (DAP sensitively), but it did not do so at random. It did not apply in contexts in which a clear functional item was already present, such as with *foarte*, ‘very’ or *prea*, ‘too’. It is in this particular connection that grammaticalization can help us better understand some of the apparent deviances in the insertion of functional material in the most challenging cases.

## 5. Summary and conclusion

We have started out by extending the taxonomy of Beck et al. (2004) to ModR, an intermediate language with regard to the DAP. An overt rescue strategy produces the key diagnostic structures which are barred in truly DAP-negative languages. Given the role played by the functional status of the morphemes participating in degree constructions, we conducted an investigation of OR. A rather systematic degree-sensitive *de*-insertion, which we must regard as posterior to the OR period, did not affect items that were already grammaticalized as fully functional within the adjectival projection. The relevant morpheme *de* is thus *economically* inserted in DAP-sensitive contexts in the process of language change; namely, in such contexts which lack functional material in the *aP*. If the analysis is correct, it strengthens the idea that grammaticalization and compositional semantics interact in intricate and subtle ways in the dynamics of language change.

## APPENDIX OF TEXTS USED AS PRIMARY SOURCES IN THE DIACHRONIC INVESTIGATION

- *Codicele Voronețean cu un vocabulariu și un studiu asupra lui* [The Voroneț Codex with a vocabulary and a study upon it], I.G. Sbiera (ed.). 1885. Cernăuț: Tipografia Archiepiscopală.
- *Liturghierul lui Coresi* [Coresi’s liturgy], A. Mareș (ed.). 1969. Bucharest: Editura Academiei.
- *Palia de la Orăștie 1581–1582* [The old book from (the town of) Orăștie 1581–82], V. Pamfil (ed.) 1968. Bucharest: Editura Academiei.
- *Tetraevanghelul tipărit de Coresi, Brașov 1560–1561* [The four gospels printed by Coresi, (city of) Brașov, 1560–1561], F. Dimitrescu (ed.). 1963. Bucharest: Editura Academiei.

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