

# On the Semantics of Domain Adjectives in English

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## 1. Introduction

As Bolinger (1967) and others since have observed (*e.g.*, Ferris, 1993; Sadler & Arnold, 1994; Svenonius, 1994; Larson, 1998, to name a few), modal adjectives like *visible* are ambiguous in prenominal position (1a). Interestingly, such adjectives are disambiguated when they appear in postnominal position (1b). For example, the difference in (1) is truth-conditional, albeit subtle.

- (1) Suppose that Capella is usually visible, but tonight is obscured by clouds. (Larson, 1998)
- a. The *visible* stars include Capella ⇒ True (Prenominal: Ambiguous)
  - b. The stars *visible* include Capella ⇒ False (Postnominal: Occasion)

In (1), the prenominal variant may be interpreted as picking out either (i) stars that are visible on the particular occasion of viewing (the ‘occasion’ or ‘stage-level’ interpretation) or (ii) stars that are visible in general (the ‘characteristic’ or ‘individual-level’ interpretation). The postnominal variant, in contrast, permits only the former interpretation (i), so that (1b) is false in this context even if Capella numbers among stars which are visible in the sky on most occasions. For reasons that will become clear, I call the modal adjectives that participate in this disambiguation *domain adjectives* (DAs).

In this paper, I argue that any satisfactory account of DAs must address the questions Q1 and Q2 below, and that existing accounts cannot straightforwardly do so.

Q1: What restrictions does English place on DAs?

- a. Which adjectives define the class of DAs, and why?
- b. What determiners can co-occur with prenominal and postnominal DAs, and why?

Q2: How can we provide an explicit compositional semantics for DAs in prenominal and postnominal positions that captures the restrictions in Q1?

I first present several under-appreciated empirical patterns which begin to address the issues in Q1. I then propose a novel account of DAs which cleaves closely to the empirical distribution, while honoring the intuition that DAs modify the restrictor of the determiner with which it occurs. In the next section, I briefly review an intuitive and widely accepted account of DAs and conclude that not only does it commit us to a number of expectations which fail to be confirmed, it is unable to account for several interesting empirical generalizations without considerable modification.

The positive proposal of the project is comprised of the following three claims. First, DAs are internally ‘non-compositional’ – although they appear to be composed of an adjective and the suffix *-able*, they are in fact lexicalized variants which are listed as syntactic wholes in the lexicon. Second, DAs are adjoined to D heads as bare, acategorical elements. Third, as only strong quantifiers (and superlatives) license DAs, I propose that DAs modify the resource situation associated with such elements (F. Schwarz, 2009). In section §3, I sketch a unified syntax and semantics that incorporates these claims directly.

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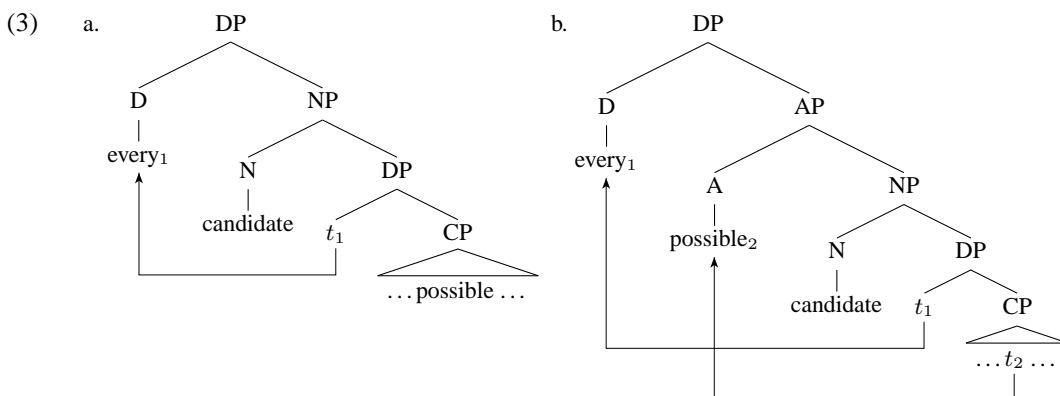
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### 1.1. The reduced relative clause analysis

The reduced relative clause analysis (RRCA) is an elegant and intuitive approach to the Bolinger contrast and has rightly garnered much support for English (Larson, 1998, 2000b) and a variety of other languages, including Slovenian, (Larson & Marusic, 2004), Japanese, Korean, Chinese, Turkish (Larson & Takahashi, 2007), Greek (Alexiadou, 2005), and a wide range of Romance languages (Cinque, 2010). On Larson's influential variant, the RRCA proposes that postnominal DAs merge as postnominal reduced relative clauses, formed via Antecedent Contained Deletion (ACD; Sag, 1976; Williams, 1977; May, 1985; among many others). Larson (2000a) argues that DAs take a null complement, elided via Null Complement Anaphora (NCA), so that the underlying structure of (2a) is akin to (2c) rather than (2b).<sup>1</sup>

- (2) a. John met every candidate *possible*  
 b. ?? John met every candidate that was *possible*  
 c. John met every candidate ~~that it was possible for him to meet~~

In particular, Larson (1998, 2000b) adopts a DP-shell approach, so that the determiner is merged low in the structure, forming a constituent with the relative clause CP. The determiner raises to the upper D position, and the adjective may remain in postnominal position (3a) or raise to an AP position dominating the NP to derive the prenominal order (3b).



Although Larson proposed that the second, optional movement is driven by case, it remains largely stipulated in the RRCA. Nevertheless, the account straightforwardly captures a wide range of distributional data (as detailed in Larson & Marusic, 2004 and Larson & Takahashi, 2007).

Even with the intuitive RC paraphrase, the semantics for these expressions under the RRCA is not simple. Building from now-famous ambiguities like *Olga is a beautiful dancer*, in which *beautiful* may modify either Olga herself or her dancing abilities, Larson (1998) proposed two distinct structural positions for adjectival modification within the DP. In (4),  $\alpha$  corresponds to DP modification, and  $\beta$ , NP modification. The structural differences map onto a semantic distinction, as well. Larson (1998) posited a Generic operator  $\Gamma$ , which scopes high within the NP and binds an event argument associated with the nominal predicate, generating a generic reading à la Chierchia (1995). Thus, while NP modifiers are interpreted as *individual-level* via  $\Gamma$ , DP modifiers *escape* the  $\Gamma$  operator and are interpreted as *stage level*. In other words, DAs are claimed to be DP modifiers, based generated in postnominal position.

- (4)  $[_{DP} D \alpha [_{NP} \Gamma e. \beta N ] \alpha ]$ , where  $\alpha$  = DP modifier and  $\beta$  = NP modifier

The basic account is capable of explaining a wide range of distributional patterns. For example, in (5) *visible* appears twice prenominally with distinct meanings.

<sup>1</sup> Possibly because NCA is thought to be an instance of 'deep anaphora' (Hankamer & Sag, 1976), the term 'implicit' is often used interchangeably with 'reduced' in the RRCA literature.

- (5) The visible *s-level* visible stars include Capella  
*s-level i-level*

Further, Larson (1998:12–13) notes that, as predicted, (6a) is coherent while (6b) is not. He explains this fact by appealing to the inherent clash in (6b) between stars which are *intrinsically invisible* and those which merely happen to be visible on the particular occasion of utterance.

- (6) a. The invisible visible stars include Capella (Coherent)  
 b. # The visible invisible stars include Capella (Incoherent)

Despite its empirical power and conceptual simplicity, I present several issues which challenge the core expectations of the RRCA. Three cases are described in detail in §2. Importantly, with the exception of modal superlatives (see §4.2 for discussion), the semantic analyses that have been offered by previous accounts reside almost entirely at the level of paraphrase, and, to my knowledge, no formal, compositional semantic treatment of these cases has been provided. I sketch such a treatment in §3.

## 2. Licensing DAs

### 2.1. Limitations on adjectival class

There are two important, and often ignored, restrictions on the *kind* of adjective that may appear as a DA: the first is lexical, the second morphological. In the first case, the class of adjectives participating in the pattern of interest is highly constrained. As illustrated in (7), only a relatively small subset of *-able* adjectives are licensed post-nominally with the meaning of interest.<sup>2</sup>

- (7) John looked at every
- |   |             |             |   |        |   |             |              |   |
|---|-------------|-------------|---|--------|---|-------------|--------------|---|
| { | possible    | likeable    | } | person | { | possible    | *likeable    | } |
|   | conceivable | remarkable  |   |        |   | conceivable | *remarkable  |   |
|   | imaginable  | presentable |   |        |   | imaginable  | *presentable |   |
|   | available   | marketable  |   |        |   | available   | *marketable  |   |
|   | visible     | followable  |   |        |   | visible     | *followable  |   |
|   | responsible | electable   |   |        |   | responsible | *electable   |   |

In the second case, postnominal DAs are intolerant to morphological complexity (beyond the apparent *-able* affixation) without additional clausal material, as in *without a telescope* (8c). The case below is particularly problematic for the RRCA, because, as noted, Larson derives cases like (8a) from (8b).<sup>3</sup> Neither observation is expected under the RRCA.

- (8) The astronomer cursed every ...  
 a. *invisible* visible star.  
 b. \* visible star *invisible*.  
 c. visible star *invisible* without a telescope.

These cases are particularly troubling given that many adjectives banned from postnominal position when bare are fully licit when spelled out in a full relative clause structure. We turn to this point in more detail below.

### 2.2. DAs do not uniformly correlate with relative clauses

Assuming that postnominal DAs are to be treated underlyingly as (implicit or reduced) RCs, the RRCA predicts that postnominal DAs and RCs should match in their distribution. As noted, very few adjectives may appear postnominally as DAs. The RRCA analysis makes one very interesting prediction in this respect: since the RC is to be formed with an adjective taking a null complement, only adjectives taking such a complement should be licensed in postnominal position (Larson, 2000a). This correlation is nearly correct: many, but not all, of the adjectives in (7) are suitably paraphrased with a clausal complement (9).

<sup>2</sup> The list in (7) is not quite exhaustive; a few others, such as *suitable* and *navigable*, remain.

<sup>3</sup> Cinque (2010) observed similar cases, concluding that not all bare adjectives “extrapose”. However, it is not clear to me what independent property prevents them from so doing.

- (9) John looked at every person that (it) was  $\left. \begin{array}{l} \text{possible} \\ \text{conceivable} \\ \text{available} \\ \text{imaginable} \\ \text{? thinkable} \\ \text{?? visible} \\ \text{\# responsible} \end{array} \right\}$  for him to look at.

In addition, there are adjectives which do take clausal complements in precisely the NCA paraphrase proposed by the RRCA, and yet are not licensed in postnominal position.

- (10) John looked at every person  $\left\{ \begin{array}{l} * \text{ manageable.} \\ \text{that (it) was manageable for him to look at.} \end{array} \right\}$

We cannot, at this stage, completely rule out a relative clause analysis of DA structures; yet, given that the elided RC paraphrase is neither necessary nor sufficient to specify the class of DAs, I conclude that the correspondence between DAs and such relative clauses is only apparent. Another analysis must be found.

### 2.3. Restrictions on determiners

The third, and final, observation regarding the licensing of DAs concerns which determiners they may co-occur with. Only selected determiners license DAs in postnominal position (11).

- (11) The committee interviewed  $\left\{ \begin{array}{l|l} ? \text{ each} & * \text{ a} \\ \text{every} & * \text{ the} \\ \text{the best} & * \text{ some} \\ \text{the only} & * \text{ few} \end{array} \right\}$  candidate(s) possible.

As noted already by Larson (2000a), the generalization seems to be that only *strong/universal* determiners and superlatives co-occur with DAs.<sup>4</sup> Given that RCs do co-occur with these determiners, the RRCA does not straightforwardly predict the contrast in (12) below.

- (12) a. John looked at a person that (it) was possible for him to look at.  
b. \* John looked at a person possible.

Without an explicit compositional semantics, however, it is difficult to assess whether the RRCA has the means to derive the meaning of DAs from RCs. In light of the difficulties explored above, I now propose a novel analysis of DAs, which abandons the relative clause paraphrase in favor of direct composition of the domain adjective with the determiner.

## 3. Towards a compositional semantics

Given the very limited distribution and special meaning of DAs, I will propose that DAs are listed in the lexicon as syntactic wholes – *i.e.*, as lexical exceptions (for related ideas, see Aronoff, 1976 and Dowty, 1979). I sketch an account that explores (i) the lexical semantics, (ii) the syntactic configuration, and (iii) the compositional semantics of DA expressions.

<sup>4</sup> There are some interesting exceptions to this generalization. For example, the definite determiner is licensed with DAs in subject position, but is greatly degraded when it appears without additional clausal material or a superlative in object position:

- (1) a. The stars visible include Capella.  
b. Capella is among the stars visible \*(to the naked eye).  
c. Capella is among the \*(brightest) stars visible.

### 3.1. Lexical semantics

It is a general consensus that adjectives may be classified into distinct types (see, *e.g.*, Kamp & Partee, 1995 for review). One common analysis for non-subjective adjectives treats them as functions from properties to properties (Montague, 1970; Siegel, 1976). As a first approximation, we might give the following as the denotation for a modal adjective like *possible* in situation semantics.

(13) **Ordinary denotation for *possible*:**

$$\llbracket \text{possible} \rrbracket = \lambda P_{\langle e, \langle s, t \rangle \rangle} \lambda x. \lambda s. \exists s'. s \leq_P s'. P(x)(s')$$

Here, *possible* is a function from properties to properties, *i.e.*, of semantic type  $\langle \langle e, \langle s, t \rangle \rangle, \langle e, \langle s, t \rangle \rangle \rangle$ , such that some individual  $x$  has property  $P$  just in case there is some accessible situation  $s'$  which is a part of situation  $s$ ; that is,  $s \leq_P s'$ . Provided that we treat a noun like *star* as a property, *possible* combines with a sister noun through functional application, with the result being  $\lambda x. \lambda s. \exists s'. s \leq_P s'. \text{star}(x)(s')$ , which picks out the set of objects which are stars in some accessible situation  $s'$ , provided some reference situation  $s$ .

The denotation in (13) can capture the intuitive meaning of the characteristic, or individual-level, interpretation of DAs. If desired, we could even adopt a Larsonian style analysis and posit a  $\Gamma$  operator ranging over situations within the NP.

(14) a.  $\llbracket \text{possible star} \rrbracket = \lambda x. \Gamma s. \exists s'. s \leq_P s'. \text{star}(x)(s')$

b.  $\llbracket \text{John counted every possible star} \rrbracket = \forall x. [\Gamma s. \exists s'. s \leq_P s'. \text{star}(x)(s')] (\text{count}(x)(\text{John})(s))$

However, it is clear that the denotation in (13) is not adequate for the occasion interpretation of a DA. In the DA interpretation, we care about those stars that are accessible (and can be counted) from the actual occasion of utterance. I utilize the notion of a ‘resource situation’  $s_r$  in order to capture the dependence on a privileged, utterance-specific situation (Barwise & Perry, 1983; Cooper, 1993). The term ‘resource situation’ is used in a variety of ways in the literature; for our purposes, we treat resource situations as contextually salient concrete parts of worlds that provide the appropriate domain of quantification (*e.g.*, Kratzer, 2008), and assume that they are syntactically represented as pronouns inside DP (F. Schwarz, 2009, to appear).

Examples (15) and (16) illustrate how the domain of quantification depends on the choice of resource situation  $s_r$ . In the first case, the domain of gifts is limited to those at the truckstop. In the second, the domain is much larger, including gifts found, say, at toy stores and on the Internet.

(15) [Context: John forgot to get his nieces a present before he left to visit them. On his way, John stops off at a truckstop. His choice of gifts is extremely limited.]

*John bought the best gift possible.*

(16) [Context: John has been thinking about what to get his nieces all year. After many months of planning, he decided to get them a toy kitchenette.]

*John bought the best gift possible.*

The examples above suggest that DAs *exhaustify* the domain of objects for all situations accessible to the domain that is given by the resource situation  $s_r$ . In general, which resource situation is under discussion might be underdetermined by the conversation, but we get *different patterns of exhaustification* depending on the properties made relevant by the resource situation when it is made explicit. By utilizing resource situations in our semantics, we can capture the dependency between concrete contextual information and the interpretation of the DA.

To formalize this intuition, I introduce a generalized *accessibility* relation  $\text{ACC}^\alpha(s_r)(s')$  between situations  $s$  and  $s'$ , indexed by some relation  $\alpha$ . There are many ways in which one situation may be accessible from another. For example, we might define accessibility between  $s$  and  $s'$  in terms of *visibility* or *conceivability*, etc. We might index the varieties of accessibility by  $\alpha$ .

(17) **Accessibility relation  $\text{ACC}^\alpha(s_r)(s')$ :**

Let  $\text{ACC}^\alpha(s)(s')$  be an accessibility relation of type  $\alpha$  between situations  $s$  and  $s'$ .

Thus, the relevant notion of accessibility in, say, *visible* can be modelled as  $ACC^{visible}(s)(s')$ , in which  $s'$  is an extension of  $s$  such that the objects and properties in  $s'$  are limited to those that are visible from  $s$ . The next step is to provide a denotation for the class of DAs as a whole, using the notion of accessibility defined above, as in (18).

(18) **General domain adjective denotation:**

$$\llbracket EXH^\alpha(P)(s_r) \rrbracket = \lambda P_{\langle e, \langle s, t \rangle \rangle} \cdot \lambda s. \forall s'. ACC^\alpha(s)(s') : \neg \exists y. P(y)(s') \wedge \neg P(y)(s)$$

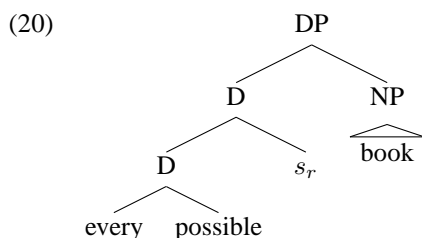
For example, applying a property like *book* and a resource situation  $s_r$  to  $EXH^\alpha$  would yield the denotation in (19), which means that every situation  $s'$  accessible under some relation  $\alpha$  from the resource situation  $s_r$  has same book-objects as  $s_r$ .

$$(19) \quad \llbracket EXH^\alpha(book)(s_r) \rrbracket = \forall s'. ACC^\alpha(s_r)(s') : \neg \exists y. book(y)(s') \wedge \neg book(y)(s_r)$$

In other words, the effect of the adjective is to *constrain* what elements may be considered in possible extensions of the resource situation. An important conceptual objection to this proposal immediately comes to mind, namely, that it posits lexical ambiguity for DAs, endowing them with a highly specialized meaning. Still, I think that a number of responses may be offered in its defense. First, Dowty (1979) proposed that outputs of word formation rules may at times be ‘lexicalized’ and that less productive word formations may also be associated with less predictable meanings (see also Zimmer, 1964 and Horn, 1972). Further, whatever analysis we give for the syntactic structure of DAs, be it simple or complex, the meaning for the DA adjective itself is almost certainly not that of the ordinary meaning of homophonous terms as given in, e.g., (13). Lastly, it may well be that the DA meaning can be derived from select modal adjectives via a meaning postulate or a constrained enrichment process of exhaustification. For reasons of space, I leave evaluation of that final speculation to future research.

### 3.2. Syntactic configuration

As discussed, previous approaches assign DAs a unique syntax: in Larson’s (1998) approach, for example, they are generated postnominally as reduced RCs. In one respect, the account developed here is quite similar: DAs are assigned a different position within syntactic structure than other adjectives. However, I propose that DAs are adjoined directly to the determiner head, as in (20).



There are several motivations for the phrase structure in (20). First, DAs and determiners appear to stand in a unique relation in several languages. In German (B. Schwarz, 2005) and Dutch (Corver, 1990), when the modal adjective *possible* shares its morphology with a superlative, as in (21a), it forces the occasion reading. Otherwise, the adjective must be interpreted as characteristic (21b).<sup>5</sup>

- (21) a. Ich habe das größt möglich.en Geschenk gekauft  
 I have the largest possible.INFL present bought  
 ‘I bought the largest present possible. (Occasion reading)

<sup>5</sup> On a related note, Alexiadou (2005) observed that in Greek an adjective may follow a noun only when the determiner doubles, and results in a non-intersective interpretation.

- (1) ta asteria \*(ta) orata ine poli makria  
 the.PL stars the.PL visible.PL are very away  
 ‘The stars visible are far away’

Interestingly, doublings are not restricted to DAs, but also include other non-subjective adjectives like *alleged* and *former*.

b. Ich habe das größt.en möglich.en Geschenk gekauft  
 I have the largest.INFL possible.INFL present bought

'I bought the largest of the possible presents.'

(Characteristic reading)

For these reasons, B. Schwarz (2005) proposes a non-compositional analysis of the modal superlative, in which [*-est möglich*] forms its own constituent. While the syntax in (20) forms a similar constituent, I show in §3.3 how a semantics may be derived through entirely compositional mechanisms.

Secondly, there are morphological restrictions on the adjectives which may appear in the postnominal position, e.g., *invisible* was banned in (8). I assume that the adjectival adjunction site in (20) does not permit the phrase structure required for forming complex morphological phrases. The proposed structure is similar to Keyser & Roeper's (1992) analysis of verbal particles like *up* in *call up*, in which particles merge directly to a V head.

Finally, DAs are licensed only by strong determiners and superlatives. Following arguments in F. Schwarz (2009, to appear), I assume that strong determiners are associated with resource situations in their syntax. The section that follows illustrates just how the meaning of DAs can be computed, given the lexical semantics and phrase structure proposed above.

### 3.3. Semantic composition

The semantic type of the denotation in (18) is  $\langle\langle e, \langle s, t \rangle \rangle, \langle s, t \rangle\rangle$ , i.e., a function from properties to propositions. Assuming that a higher type for the determiner as in generalized quantifier theory (Barwise & Cooper, 1981), the determiner and the DA cannot compose via functional application for type reasons. Instead, I propose that DAs are semantically composed with the D head via an application of a generalization of Chung & Ladusaw's (2003) *Restrict*.

With extensive data from Maori and Chamorro, Chung & Ladusaw (2003) motivate an alternate mode of composition, called *Restrict*, which allows predicates like *dog* to modify a transitive verb like *feed*, without saturating a verbal argument, as in (22).

$$(22) \text{ Restrict}(\lambda y. \lambda x. \lambda e. [feed(y)(x)(e)], dog) \\ = \lambda y. \lambda x. \lambda e. [feed(y)(x)(e) \wedge dog(y)]$$

I will assume that *Restrict* may be generalized so that it operates over arguments of various types. The semantic types for a generalized form of *Restrict* are shown in (23), in which the first argument has been intensionalized. *Restrict* composes – as signified by the  $\oplus$  symbol – arbitrary types  $\alpha$  and  $\beta$  within the system of types  $TT$ , and that  $\tau$  is an 'end type', type  $t$  or  $\langle s, t \rangle$ .

$$(23) \text{ Generalize Restrict and intensionalize the first argument:} \\ \langle s, \langle \alpha, \langle \beta, \tau \rangle \rangle \rangle \oplus \langle \beta, \tau \rangle \mapsto \langle s, \langle \alpha, \langle \beta, \tau \rangle \rangle \rangle, \text{ for } \alpha, \beta \in TT; \tau \in \{t, \langle s, t \rangle\}$$

Example (24) illustrates the step-by-step composition of (20), in which (a) the determiner combines with the DA *possible* directly via *Restrict*, so that the DA modifies the restrictor of the quantifier, (b) which then takes the resource situation  $s_r$  as an argument, and (c) combines with the restrictor NP via functional application. I model the accessibility type associated with *possible* as  $\diamond$  in  $EXH^\diamond$  below.

(24) a. **Combine every and possible via Restrict to form a complex D head:**

$$\left[ \left[ \begin{array}{c} D \\ \swarrow \quad \searrow \\ \text{every} \quad \text{possible} \end{array} \right] \right] \\ = \text{Restrict}(\text{every}, \text{possible}) \\ = \text{Restrict}(\lambda s. \lambda P_\alpha. \lambda Q_\beta. \lambda s''. \forall x : [P(x)(s)](\exists s' \leq s'' : Q(x)(s')), \lambda P_\beta. \lambda s. EXH^\diamond(P)(s)) \\ = \lambda s. \lambda P_\alpha. \lambda Q_\beta. \lambda s''. \forall x : EXH^\diamond(P)(s) \wedge [P(x)(s)](\exists s' \leq s'' : Q(x)(s'))$$

b. Feed the resource situation  $s_r$  to the complex D.

$$\begin{aligned}
 & \left[ \left[ \begin{array}{c} \text{D} \\ | \\ \text{every possible} \end{array} \right] s_r \right] \\
 &= [\lambda s. \lambda P_\alpha. \lambda Q_\beta. \lambda s''. \forall x : EXH^\diamond(P)(s) \wedge [P(x)(s)](\exists s' \leq s'' : Q(x)(s'))](s_r) \\
 &= \lambda P_\alpha. \lambda Q_\beta. \lambda s''. \forall x : EXH^\diamond(P)(s_r) \wedge [P(x)(s_r)](\exists s' \leq s'' : Q(x)(s'))
 \end{aligned}$$

c. Saturate the restrictor with the NP *book*.

$$\begin{aligned}
 & \left[ \left[ \begin{array}{c} \text{DP} \\ / \quad \backslash \\ \text{D} \quad \text{NP} \\ / \quad \backslash \quad / \quad \backslash \\ \text{every possible } s_r \quad \text{book} \end{array} \right] \right] \\
 &= [\lambda P_\alpha. \lambda Q_\beta. \lambda s''. \forall x : EXH^\diamond(P)(s_r) \wedge [P(x)(s_r)](\exists s' \leq s'' : Q(x)(s')) \\
 &\quad (\lambda x. \lambda s. \text{book}(x)(s))] \\
 &= \lambda Q_\beta. \lambda s''. \forall x : EXH^\diamond(\text{book})(s_r) \wedge [\text{book}(x)(s_r)](\exists s' \leq s'' : Q(x)(s')) \\
 &\rightsquigarrow \text{restriction to books that are accessible from the resource situation } s_r; \\
 &\text{cannot consider books outside of the specific domain provided by the actual situation.}
 \end{aligned}$$

As shown above, the effect of the DA is to limit the sorts of objects in situations accessible from the resource situation. Thus, what books are accessible may vary from resource situation to resource situation, *viz.* (15). The semantic import of a DA, then, is to ensure that, in whatever situation used to evaluate the truth of the sentence, the objects defined by the restrictor are limited to those given by the domain of the particular resource situation of interest. And, as the important properties of the resource situation is typically left for contextual inference, the effect of *using* a DA is to indicate that the domain of quantification is exhaustified by those objects accessible from the resource situation. The exhaustification effect bears some resemblance to Kadmon & Landman's (1993) proposal that *any* widens the domain of quantification, in that both exhaustification and domain widening serve to inform how the quantificational domain is structured. For example, Speaker A might be forgiven for neglecting to consider irrelevant, *e.g.*, rotten, potatoes in (25), and a desperate Speaker B may probe Speaker A's assertion further in this respect. Not so in (26).<sup>6</sup>

- (25) A. Sorry, I don't have potatoes today.  
 B. Not even rotten ones?
- (26) A. Sorry, I don't have any potatoes today.  
 B. # Not even rotten ones?

A parallel pattern seems to hold for DAs, as well: in this case, the issue of whether there are other candidates that could have been interviewed but were not may not be felicitously questioned.

- (27) A. I interviewed every candidate today.  
 B. Even the weird ones?
- (28) A. I interviewed every candidate possible today.  
 B. # Even the weird ones?

Despite its virtues, the analysis has a number of remaining issues. Two of these are briefly discussed in the following section.

<sup>6</sup> While Speaker B's response in (26) and (28) lacks the *information-seeking* reading of interest, it still may be interpreted as expressing *incredulity*.



## 4. Remaining issues

### 4.1. Linear order

The above approach takes the *prenominal* order to be basic, as opposed to the *postnominal order*. Whereas the RRCA proposes that a DA optionally moves to a higher position within the DP for case reasons, the account sketched above has to explain how a DA can appear postnominally. Fortunately, the account is compatible with a few options. Two such options – a movement account and a linearization account – are briefly discussed below.

The first option is to derive the ordering facts from movement. In a leftward movement account, DAs might merge as adjuncts to NP, but raise to the determiner head for interpretation. We might suggest that the movement may be covert or overt. In the former case, we would derive the postnominal order; in the latter, prenominal order. The advantage of this option is that movement is no longer stipulated, but rather driven by interpretive needs. However, the movement pattern itself is potentially quite odd, leaving no trace for reconstruction. Alternatively, the DA might be merged directly to the head, as in (20), but optionally move rightward. In this case, the movement must be overt, and is most likely unmotivated. As such, I think it offers little advantage over other alternatives.

The second option exploits the phrase structure in (20) *without* postulating any movement whatsoever. Rather, the DA is merged to the D head, as above, and is optionally linearized either to prenominal or postnominal position. Following comments from Bobaljik (2002) on the ordering of adverbs, acategorical elements may exploit a gap in the linearization algorithm, which, by hypothesis, initially fails to order such segments. Under the natural assumption that all terminal strings must be linearized prior to Spell Out, the linearization algorithm may face a choice: linearize the acategorical DA *immediately* or *postpone* until the end of the next phase. Assuming that DP is a phase (*e.g.*, Adger, 2000), immediate linearization derives prenominal order, whereas delaying it yields postnominal order.

Other interesting facts regarding linear order remain. On this account, morphologically complex modal adjectives are correctly banned from postnominal position (29a); yet, they are incorrectly banned from prenominal position (29b).

- (29) The astronomer cursed every ...
- a. \* star invisible.
  - b. invisible star.

This example appears to initially present a counterexample to the blanket restriction on morphological complexity proposed in §3. However, prenominal adjectives with complex morphology, *e.g.*, *invisible*, may, in fact, represent a different phenomena, as they pattern differently from morphologically simple adjectives with respect to superlatives. Example (30) illustrates the difference in interpretation.

- (30) The astronomer discovered that the largest ...
- a. { visible | # invisible } star exploded that evening.
  - b. star that was { visible | invisible } to him exploded that evening.

In example (30a), *invisible* does not have the occasion reading, but only the characteristic reading, even though a characteristic reading is sensical in context (30b). Potentially, adjectives like *invisible* are not DAs, but acquire similar meanings in some other way. Whatever the final judgment on these examples is, there is good evidence to support the claim that morphologically complex adjectives do not pattern with DAs on all counts, suggesting that example like (29b) may not actually be counterexamples to the central claim.

Naturally, the linearization account must be spelled out in far greater detail before it can be rigorously assessed. However, it does afford a natural relation between the DA and the D licenser, while giving us a handle on the optionality observed in the distribution of DAs. Such an approach may even be able to extend to other cases involving optionality, including adverbs and particles in particle-verb constructions.

## 4.2. Modal superlatives

In concentrating on a concrete semantics for DAs, I have very nearly ignored the closely related issue of a semantics for so-called modal superlatives (B. Schwarz, 2005; Romero, 2010), *i.e.*, DAs that are licensed by a superlative morpheme. Any account of DAs should likewise extend to these constructions. As in Romero (2010), the DA and the *-est* morpheme would form a single interpretive unit, and its interpretation would derive from fully compositional means. Unlike Romero (2010), however, this interpretive unit would not be derived by movement from a postnominal relative clause. The analysis would arguably be simpler in the sense that it modifies the restrictor associated with the *-est* morpheme directly so that the DA again limits the elements considered in the comparison class, as desired. Although I cannot offer a formal analysis of these expressions here, I expect that the analysis offered above may indeed carry over.

## 5. Conclusion

In this paper, I presented a variety of new or under-appreciated facts regarding a class of *-able* adjectives appearing in postnominal position, adjectives which I have called *domain adjectives* (DAs). I argued that DAs cannot be treated as implicit relative clauses, despite the intuitive advantages of so doing, and offered another analysis in its stead.

The paper explored three core observations. First, DAs constitute a restricted lexical and distributional class and appear to avoid morphological complexity. Second, they do not uniformly correlate with the relative clause paraphrase that is often used to explain their meaning. For these reasons, DAs were argued to be listed lexically, as bare, acategorical segments. Third, DAs co-occur only with universal determiners and superlatives. This fact was incorporated directly into the semantic analysis, which claimed that DAs modify the resource situation associated with just such elements.

One of the key claims of the proposal was that DAs, as a class, are *lexically exceptional*. Evidence for this exceptionality manifests in a variety of ways. For one, the class of DAs is highly restricted – even adjectives with similar meanings do not function as DAs. For another, the meaning of a DA is distinct from its homophonous counterparts. The dual semantic treatment is likely to hold on any account, including the RRCA. Lastly, DAs were claimed to occupy a unique phrase structure, in that they form a complex determiner with select determiner heads. When appearing in prenominal position, certain modal adjectives are thus lexically, and structurally, ambiguous. The two types of ambiguity are likely correlated: DAs are licensed in structures like (20) by virtue of their specialized meanings. In general, we are taught to be suspicious of exceptionality, and that analyses which are similar to well-understood structures are (rightly) to be preferred over specialized ones. And, yet, the exceptionality exhibited in DA constructions seems to beget even more exceptional behavior, traversing syntax, semantics, and lexical meaning. I think this is as good evidence that we'll encounter for exceptionality as any.

Whatever value of the proposal above, I hope that bringing these complicated distributional patterns to the fore, and attempting a unified compositional semantics, will pave the way for other, more comprehensive, analyses.

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