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There is no such thing as a free combination: a usage-based study of specific construals in adverb–adjective combinations[1]

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The study is aimed at revealing collocational adverb–adjective patterns in the British National Corpus (BNC). The adverbs selected for the study include the maximizers *absolutely*, *completely*, *entirely*, *fully*, *perfectly*, *totally*, *utterly*, *wholly.* The study involves searches on both the selected adverbs and the adjectives they modify in a bi-directional fashion. It is claimed that only a cognitive and usage-based approach in terms of underlying conceptual structures can provide an accurate description of collocational patterns. The results show that a large proportion of the adjectives have strong bonds with particular maximizers. This is explained through the basic conceptual structure of Boundedness/Scalarity, i.e. the degree to which the adjective lends itself to a bounded or a scalar construal and the adverb is biased towards a totality construal (which is the kind of construal to be expected from maximizers). The results support the hypothesis that a substantial part of the adverb–adjective combinations investigated are (semi)-prefabricated units, presumably easily accessed by native speakers because the combinations are the result of specific construals and their members have close associative and conceptual links in the mental lexicon.

1 Introduction

The focus of the present study is on degree adverbs as modifiers of adjectives in the British National Corpus (BNC), more specifically on the eight maximizers: *absolutely*, *completely*, *entirely*, *fully*, *perfectly*, *totally*, *utterly* and *wholly.* The study attempts to show that both the maximizers and the adjectives they modify are quite restricted in their choice of collocate. To exemplify, let us assume that a native speaker, or everyday user, of English will find these two adverb–adjective combinations odd:

?This is fully possible

?This is perfectly impossible

As regards *fully*, one common explanation is that this adverb usually modifies deverbal adjectives (e.g. *the truck is fully loaded*, *he's a fully paid up member*), a description that does not match an adjective like *possible*; this adjective apparently does not qualify as an appropriate collocate of *fully* on that account. The adverb *perfectly* is frequently described as having positive connotations, therefore more readily combining with positive, or neutral adjectives (e.g. *she is perfectly happy*, *this is perfectly possible*), which would speak against the choice of *impossible* as a collocate of this adverb.

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Although both of these explanations seem to hold true, this is not the whole story. In order to give a more coherent account of the choice of adverb modifying a given adjective, we have to include in our analysis the adverb's *and* the adjective's constitutive schematic characteristics, that is, conceptual structures such as Boundedness and Scalarity. This is the overall aim of the present study.

This study could be seen as a complement to two earlier studies of degree adverb–adjective combinations, i.e. Paradis (1997, 2001) and Kennedy (2003). Paradis investigated degree modifiers and adjectives in spoken language (the London–Lund Corpus) and in the spoken part of the BNC using a cognitive semantic approach, and Kennedy investigated degree modifier collocations in the BNC using ranking based on mutual information (MI) supplemented by morphological and semantic analyses. Like Kennedy (2003) the present study uses mutual information (MI) scores to ascertain the collocational status of the individual adverb–adjective combinations under investigation. This is complemented with a minimum frequency of occurrence of the combination to counteract the fact that a combination can get high MI scores without being frequent, or, conversely, because one or both of the members occur with high frequency quite generally.

In this study three main questions are addressed: (i) How many and what types of adjectives allow several synonymous modifiers, and which are more restricted in this respect? This general overview thus gives an indication of the number of adjectives that have strong bonds with their modifiers; (ii) Can we discern specific collocational adverb–adjective patterns, and if so, can these be explained through schematic structure, above all the conceptual structures of Boundedness – one of the constitutive features of maximizers, and Scalarity – one of the constitutive features of adjectives (see section 2) – as well as their semantic features; (iii) An additional issue emanating from the first two is to establish which maximizers seem to be biased towards modifying 'extreme' and 'limit' adjectives (defined below), thus preferring a totality construal (which is what we expect from maximizers), and which do not have this bias, but modify adjectives that could also be construed as scalar.

At the core of the cognitive approach adopted in the present study is the assumption that the actual meanings and functions of words are negotiated locally and socially by speakers and hearers on each occasion of use. Needless to say, it is well outside the scope of this study to give a complete account of each occurrence of the adverb–adjective combination in question, as its focus is neither on the meanings of the adjectives and adverbs *per se*, nor on stylistic or sociopragmatic factors, but on more general schematic structures put to use in adverb–adjective construals.

In order to get at more fine-grained schematic structures of the adverbs and adjectives a substudy was carried out involving other degree adverbs, viz. the following two sets of 'downtoners': the 'approximators' *almost*, *nearly* and *virtually*, and the 'minimizers' *hardly* and *barely* (terminology from Quirk *et al.* 1985), as modifiers of a subset of complementary pairs of adjectives. The substudy focuses on the members of certain complementary pairs (e.g. *capable–incapable*, *acceptable–unacceptable*), showing that these are laid out on scales with different terminal points.

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Following a discussion of Boundedness (section 2), which is the basic conceptual structure underlying the present study, there is a presentation of the cognitive, usage-based framework (Bybee 1985; Langacker 1999; Croft & Cruse 2004; Paradis 2005) and its relevance to the present study (section 3). Section 4 focuses on three studies on adverbs of degree modifying adjectives of particular interest to the present study, viz. Allerton (1987), Paradis (1997, 2001) and Kennedy (2003). Section 5 accounts for the method used. The results are presented in section 6, which is divided up as follows: 6.1 gives an overview of the distribution of the eight selected maximizers over the total number of adjective types; 6.2 accounts for 'preferred' choices as defined in the method section; 6.3 shows the results for unbounded, scalar construals as apparent in adjectives that were found to be modified by a booster (*very*) in addition to being modified by a maximizer. Section 7 offers separate accounts of a selection of maximizers with a focus on the extent to which they would modify adjectives that could also be construed as unbounded. Section 8 accounts for a substudy revealing different scales in a selection of complementary adjectival pairs (*acceptable–unacceptable*) as regards maximizers as well as 'downtoners'. Apart from presenting some general conclusions to be drawn from the study, section 9 discusses the contribution of the study as well as its limitations.

2 Boundedness

Maximizers are concerned with 'totality' and 'completeness', which in turn presupposes the presence of boundaries. Indeed, both maximizers and adjectives have boundaries as one of their constitutive features. However, boundaries are in no way restricted to them, because 'conceptualization according to the presence or absence of boundaries seems to be a pervasive characteristic of human cognition' (Paradis 2001: 47). Indeed, 'the generality of scale structure, its importance for a wide range of linguistic phenomena ... justify a prominent place for scale structure in natural language semantics', according to Kennedy & McNally (2005: 348; see also Paradis 2008: 317–18).

Boundedness as a conceptual structure of great generality cutting across linguistic categories has been recognized regarding count and non-count structures in nouns (i.e. *coffees* vs *coffee*), continuous and non-continuous structures in verbs (*laugh* vs *know*), and scalarity and non-scalarity in adjectives (*easy* vs *identical*) (Croft & Cruse 2004: 64; Paradis 2005). Boundedness in adjectives is associated with gradability. Of the three types of gradability in adjectives recognized here, i.e. scalar, extreme and limit, adjectives associated with extreme and limit gradability are expected to be construed as bounded, thus occurring with maximizers. However, there is variation among maximizers in the extent to which they will collocate with bounded or unbounded heads, e.g. *perfectly easy* (unbounded) and *perfectly possible* (bounded). This is one of the issues to be addressed in this study.

Another issue that became apparent in the close analysis of the data was that there is variation also in the bounded construals, which cannot be explained solely on the basis

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of the distinction limit/extreme or the semantics of the adjective. However, regardless of their inherent bias (i.e. towards unbounded and bounded construals) most (if not all) gradable adjectives can be construed as unbounded and bounded through the degree adverb. Even a non-gradable adjective, such as *German*, can be construed as a gradable adjective, as in *He is very German* (construed as unbounded through the booster *very*) and *totally German* (construed as bounded through the maximizer *totally*). In each case the head *German* is reinterpreted as a gradable adjective, which in turn can be construed as either unbounded or bounded (see Traugott 2007: 527 regarding 'reinterpretation'; cf. Aijmer 2011 on expanded uses of *totally* in American English).

Some maximizers are quite constrained in their combinatorial potential. For example, a relatively 'new' maximizer like *just* can only construe a bounded meaning in gradable adjectives, more specifically, in extreme adjectives, denoting the top member of a set, as in *just marvellous!* (see Bolinger 1972; Erman 1997; note that *just* in this construction is regarded as a marker of an informal style by Quirk *et al.* 1985). This means that **just German* would not work if we wanted to convey the meaning 'totally German', since with non-gradables the original focus reading of *just* takes over. Furthermore, *just* cannot combine with a scalar adjective to coerce either a bounded reading (e.g. 'totally nice') or an unbounded reading, as in 'very nice' (except to render a pragmatic meaning, as in *he's just nice*). In order for scalar and non-gradable adjectives to be pushed up by *just*, the intensifier has to be combined with another intensifier of the right kind, normally *so*, as in *They were just so nice*, or *He is just so German.* Other intensifiers suffering similar construal constraints are, for example, *simply* and *literally.* In order for the latter two to take part in bounded construals they, too, have to be combined with the top member of a set, *simply gorgeous*, *literally brilliant.*

Among studies focusing on degree modifiers using the notions of boundedness and scale, Simon-Vandenbergen's study (2008) of the two adverbs *definitely* and *certainly* deserves special mention. Apart from boundedness and scale, Simon-Vandenbergen also uses other distinctive features, such as dialogic function, premodification and register. She concludes that the two adverbs have different profiles with regard to the selected features, *certainly* being construed as bounded, contrastive, preferably in the public register, while *definitely* tends to be construed as scalar, indicating involvement, and primarily being used in the private register.

Kennedy & McNally (2005), also operating with bounded and unbounded representations, use a different scale model from the one used in the present study, positing two subtypes of combined structures, lower closed and upper closed scales, particularly suited to analyse deverbal adjectives (2005: 365). The modifiers in focus include *well*, *much* and *very* combined with deverbal adjectives (e.g. *acquainted*, *documented*, *appreciated*), derived from the event structure of the underlying verb. Kennedy & McNally show that the three modifiers prefer different deverbal adjectives, which can partly be explained by the scalar properties of the underlying verb, and partly in terms of whether the adjective shows properties of relative or absolute adjectives.

Using an array of statistical operations in his investigation of boosters and maximizers, among them hierarchical cluster analysis, Desagulier (forthcoming) found

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that the four selected boosters in focus (*rather*, *quite*, *fairly* and *pretty*) indeed cluster together so as to form a homogeneous paradigm, while among the maximizers two clusters could be discerned. We will have reason to get back to the two last studies in the discussion of individual maximizers (section 7): to Kennedy & McNally (2005) in view of adjectives derived from verbs with an incremental argument, and to Desagulier (forthcoming) because his clusters have affinities with the behaviour of some of the maximizers of the present study. Both studies, like Paradis (1997, 2001), Allerton (1987) and the present study, also take the properties of the adjectives into consideration.

We will now turn our attention to the usage-based approach more generally.

3 The usage-based model

The term 'usage-based model' was coined by Bybee (1985) and is one of the key notions in Cognitive Grammar. Collocational as well as morphological structures are viewed as the outcomes of networks of connections as opposed to discrete building blocks (Bybee 1985). As the term suggests, the usage-based model springs from the actual use of the linguistic system and a speaker's knowledge of this use including its conventions. Contrary to what was believed in generative theory, lower-level schemas characterized by regularities of only limited scope may be more essential to language structure than high-level schemas representing the broadest generalizations (Langacker 1999). The importance of Langacker´s framework for formulaic language in general and collocations in particular is obvious. The bottom-up approach allows for irregularities and idiosyncrasies typical of many conventionalized expressions (whether single words, collocations, or other conventionalized combinations of words), but also for perfectly regular patterns.

Paradis (2005) emphasizes that the meanings of words are negotiated in actual usage through specific construals, that is in the way schematic structures operate on content structures on each occasion of use. The type of construal of interest in the present study is the schematic structure of degree, in this article expressed as a degree adverb, operating on the content structure of property, expressed as an adjective. Content structures and schematic structures are ontologies in conceptual space (Cruse & Togia 1995; Paradis 2001, 2005), and language usage is in the interface between these and construals as apparent in e.g. adverb–adjective combinations. While ontologies (content as well as schematic) are based on our perception of the world, construals are based on general cognitive processes.

The relevance of approaching word combinations such as those of concern in the present study from a usage-based, cognitive perspective is the following: what appear to be random and irregular combinations (with seemingly interchangeable members) on the surface may, on closer examination, turn out to be highly rational choices governed by schematic operations and cognitive processes. Furthermore, the bi-directional method chosen for this purpose allows us to view selectional constraints from the perspective of both parts of the combination.

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4 Three earlier studies of degree adverbs

The three main studies selected for closer analysis in the present study are Allerton (1987), Paradis (1997) and Kennedy (2003). They have been selected first of all because their focus is on maximizers and, secondly, because they use different methods and frameworks. However, we will start by considering Quirk *et al.*'s (1985) definition of adverbs modifying adjectives. They write: 'Most commonly, the modifying adverb is a scaling device called an intensifier, which co-occurs with a gradable adjective' (1985: 445). However, as pointed out by Paradis, their subsequent discussion and subdivision of intensifiers only relates to degree modifiers in their capacity as modifiers of verbs, i.e. as subjuncts (1997: 23). Two main groups are distinguished: amplifiers (maximizers, e.g. *completely*, and boosters, e.g. *very much*) and downtoners (approximators, e.g. *almost*, compromisers, e.g. *more or less*, diminishers, e.g. *partly*, and minimizers, e.g. *barely*). The former have the effect of scaling upwards from an assumed norm (*entirely free*, *highly relevant)*, while the latter scale downwards from an assumed norm (*almost impossible*, *partly true*, *hardly aware*).

It should be noted that both Allerton and Paradis see Quirk *et al.*'s classification as deficient among other things because they do not take the properties of the adjective into consideration (Allerton 1987: 18–19; Paradis 1997: 25).

As pointed out above these three studies are quite different among themselves. Allerton's study (1987) attempts to provide a comprehensive classification of modifiers, but is largely introspective and not empirically founded (see also Desagulier forthcoming). In contrast, Paradis (1997) and Kennedy (2003) are both based on corpora. However, they differ in perspective in that Kennedy offers morphosyntactic explanations (foremost based on type of affixation) as well as semantic explanations (e.g. the adjectives modified having negative or positive associations) for the collocational patterns he identified, while Paradis' study, like the present one, uses a cognitive, conceptual framework.

4.1 Allerton

Allerton in his 1987 paper refers to the type of degree adverbs addressed in the present study as 'intensifiers' (see Quirk *et al.* 1985). Degree is the main but not the only class of intensifier (Allerton 1987: 16). Assigning intensifiers to either a syntactic or semantic subcategory is problematic according to Allerton. He writes: 'neither the syntactic nor the semantic basis for the intensifier class is really decisive' (1987: 16). He finally settles for a classification that is largely semantic and ultimately hinges on the notion of gradability. The intensifiers are thus subdivided into three subclasses (*scalar*, *telic* and *absolutive*), each with 'its own kind of grading and with a relatively complex relationship to the semantic subclasses of adjectives' (1987: 18).

Scalar intensifiers range from very high down to zero (i.e. boosters, moderators, diminishers and zeroizers corresponding to Quirk *et al.*'s four subcategories). They represent protypical gradability and include (placed on a continuum in an approximate

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rank order): *infinitely*, *extremely*, *very*, *pretty*, *rather*, *reasonably*, *fairly*, *somewhat*, *slightly*, *not specially*, *not very*, *not at all.* They typically occur with adjectives that are also scalar, such as *big*, *bright* and *pretty*.

Telic intensifiers 'relate the actual degree of the adjectival quality to the degree required for a particular purpose, and place it above or below that mark' (1987: 19). Examples of telic intensifiers include *easily*, *barely*, *only just*, *hardly*, *virtually*, *nearly*, and they occur with adjectives such as *sufficient*, *cooked*, *perceptible*, which are thus also telic. We will get back to the notion of telicity in connection with a discussion of complementary pairs of adjectives where one part has a negative prefix, such as *possible–impossible*, *acceptable–unacceptable*, *capable–incapable*, etc., in terms of preference with regard to choice of maximizer and downtoner (section 8).

Absolutive intensifiers emphasize the 'superlative' type of adjective, i.e. representing the extreme end of a scale. Examples of this subgroup are *absolutely*, *utterly*, *totally* and *entirely*, and typical adjectives occurring with these intensifiers are *ridiculous*, *huge* and *scorching*, which like the corresponding intensifier category are called absolutive.

Realizing that one and the same adjective can, for example, be scalar in one context and telic in another, Allerton (1987: 19–20) introduces four additional groups of adjectives occurring with the above intensifiers. They are the outcome of different mixes of the three main subclasses and include 'scalar-telic' (e.g. *warm*, *late*, *noticeable*), 'scalar-absolutive' (e.g. *different*, *beautiful*), 'telic-absolutive' (e.g. *boiling (hot)*, *dead*, *possible*) and 'scalar-telic-absolutive' (e.g. *dark*, *successful*, *acceptable*).

4.2 Paradis

Following Paradis (1997, 2001, 2005), the present study views maximizers and their co-occurring adjectives from a cognitive, usage-based perspective which assumes that the actual meanings and functions of words are negotiated on each occasion of use. Applied to adjectives, we can learn from the analysis of their actual usage that, although they can be said to be biased towards belonging in one gradable category rather than another, an adjective like *easy*, which is biased towards a scalar construal (as in *very easy*), can be construed as non-scalar when modified by a maximizer (*perfectly easy*). Conversely, an adjective that is typically construed as non-scalar, e.g. *completely bald*, can be construed as scalar through combination with a scalar intensifier like *very* in *very bald* (see Paradis 1997: 161). The fact that one and the same adjective can only have one gradable meaning at once, i.e. on one occasion of use, is not captured in Allerton's scheme. This can be explained through Allerton's choice of method, which is presumably introspective rather than data based.

In her investigation of a set of degree adverbs modifying a selected set of adjectives in spoken British English (the London–Lund Corpus) Paradis (1997) recognizes two main functions of degree adverbs, viz. as reinforcers or as attenuators, which in turn cut across yet two subgroups: totality modifiers, including maximizers and approximators (e.g. *almost*), and scalar modifiers, including boosters (e.g. *very*, *terribly*, *extremely*), moderators (*quite*, *rather*, *fairly*) and diminishers (*a little*, *somewhat*, *slightly*). Paradis'

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main aim was to explore the semantics and construals of adjectives modified by degree adverbs, possible constraints on such combinations, as well as their frequency and collocability. Largely following Allerton, but contributing to a deeper knowledge of the semantics of the adjectives and their combinatorial potential with degree adverbs by viewing them from a cognitive, usage-based perspective, Paradis (1997: 160) recognizes three main types of gradability: 'Scalar' (adjectives laid out on a scale), 'Extreme' (adjectives laid out at the extreme end of a scale) and 'Limit' (adjectives 'indicating a complete transgression of a criterial limit'). The present study uses the same typological and terminological subclassification of gradability as Paradis (1997).

Paradis found that many adjectives are quite stable with regard to type of gradability, and can only be construed as another type through coercion or other contextual clues. For instance, adjectives denoting a property are normally scalar also out of context. However, while she found that this is true of many adjectives, there do exist adjectives which 'are more open to different potential readings and do not have a strong bias towards just one of the three types' (1997: 161). In her study of collocational preferences in the adverb–adjective combinations, Paradis found that, as predicted in view of their functions as maximizers, some of these (notably *quite*, *absolutely*, *completely*, *perfectly*, *totally*, *utterly*) occur with extreme as well as limit adjectives. The odd one out was found to be *entirely*, which only occurred with limit adjectives (1997: 79).

4.3 Kennedy

Kennedy (2003) is a study of more direct relevance for the present study in terms of its overall aim, notably that of mapping out collocational patterns on a large scale using statistical measurements. Kennedy found Biber *et al.*'s claim that degree adverbs are in many cases interchangeable with little or no change in meaning (1999: 564) somewhat speculative and set out to explore 'precisely which degree adverbs tend to collocate with particular adjectives'. In this endeavour, Kennedy conducted a quantitative study of collocational patterns in the British National Corpus (the BNC) involving maximizers and boosters modifying adjectives, using the MI-score (i.e. strength of association measure) for identification of collocations (2003: 471). Kennedy found many interesting patterns, for which he gives morphological and semantic explanations, such as the influence of prefixes (*in/un-*) and derivational and morphosyntactic suffixes (*-ible, -able, -ed*) in the adjective on the choice of a maximizer, as well as the extent to which the maximizer has negative or positive connotations as apparent in the semantics of the modified adjective. All of these explanations are based on primarily lexical and grammatical features of the component parts of the collocation.

In conclusion, tying examples to specific categories, however fine-grained (Allerton 1987), or confining the analysis to lexical and grammatical features (Kennedy 2003) is hazardous, since it presupposes that words have meanings and functions that are independent of actual usage. Indeed, in order to understand why certain adjectives prefer certain types of modifiers and, conversely, why certain modifiers prefer certain types of adjectives, we have to go beyond the lexico-grammatical form of expression,

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notably to our perception of the world in terms of the conceptual structures that lie behind any choice of construal. We may arrive at the same result, but there will be a gain in our understanding of which conceptual structures and cognitive processes are involved in each choice and on each occasion of use.

All this said, we will see below that Allerton's telic intensifier category will prove applicable in a specific type of construal (section 8).

5 Method

Like Kennedy's (2003) study the present study is based on the British National Corpus (BNC), and like in that study, no distinction has been made between written and spoken English, since the majority of the texts in the BNC are written (90% vs 10%). The most important difference between this study and Kennedy's is that the adverb–adjective combinations are viewed from a cognitive perspective taking into account not only semantic factors but also the schematic structure of the adverb and adjective and the type of construal involved. Besides, the present study excludes cases where a maximizer modifies a participial verb, seeing that as a different project.

The first step of the analysis involved establishing which adjectives occurred to the right of the node, i.e. were modified by each of the eight degree adverbs. I used the BNC's search interface 'collocation' > 'restriction' > adjectives. This yielded eight lists, one for each maximizer. The default frequency cut-off point given in the built-in software is 50. Seven of the eight maximizers satisfied this cut-off point, that is co-occurred with 50 different adjective types with a minimum of 5 instances for each adjective type (the only exception being *utterly*, which co-occurred with 41 different adjectives). The search yielded 391 adverb–adjective pairs (7 maximizers x 50 adjectives + 41 for *utterly*). However, if we take Biber *et al.*'s claim seriously, notably that degree adverbs are in many cases interchangeable with little or no change in meaning (1999: 564), each adjective could in theory appear in all eight lists, thus being modified by all eight maximizers. Indeed, there were overlaps between the lists. For example, the adjective *different* was modified by four maximizers (*completely*, *entirely*, *totally*, *wholly*), thus occurring in four maximizer lists. A second step involved making corrections for overlaps, so that each adjective was represented only once. After the elimination of overlaps and pronouns such as *this*, *each*, *any*, which are classified as adjectives in the BNC, there remained a total of 228 adjectives (i.e. 228 different lists, one for each adjective), each of which was scrutinized for the quantification and analysis of the selected eight maximizers. The adjective lists contained a total of 503 maximizer tokens, which, if laid out over 228 adjectives, would imply that each adjective was modified by 2.2 maximizers (503/228). As we will see, the results showed rather varied patterns.

The variability in patterns became apparent in a third phase of the analysis in which each of the 228 adjectives was searched using the same procedure as for the eight maximizers in order to establish how many of the adjectives had (near-)synonymous maximizers. This would thus answer the first research question, viz. the identification of

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general collocational patterns. Based on earlier studies (e.g. Partington 1998; Kennedy 2003; Kennedy & McNally 2005; Desagulier forthcoming), it was hypothesized that the majority of the adjectives would have a restricted number of maximizers. Instances of less than five occurrences were discarded.

In order to find an answer to the second research question, viz. the extent to which particular adjectives and maximizers bond more strongly with one another than others, users' preferred adverb–adjective combinations were examined. The term PREFERRED is exclusively used for adverb–adjectives with an MI score of $\geq$2, which is supposed to be 'high enough to show a substantial association between words' (Kennedy 2003: 473). However, we should remember that thresholds are usually chosen heuristically rather than in any principled way (Inkpen & Hirst 2002). This means that an MI value should be seen as an indication rather than as evidence, implying that an MI score alone will not be sufficient. As a consequence, in the present study MI scores are complemented by an occurrence rate of $\geq$10 in order to compensate for the fact that a high MI score may overestimate low-frequency pairs. In cases where the adjective was modified by more than one maximizer there had to be at least twice the number of that of the second most frequent maximizer modifying this adjective in order for the maximizer to be regarded as the preferred choice by users, apart from satisfying the MI threshold of $\geq$2.

The last research question is concerned with determining which maximizers are biased towards modifying extreme and limit adjectives, thus preferring a totality construal, and which do not have this bias. This called for a suitable booster that was deemed to be frequent enough in the corpus. The booster *very* was chosen for this purpose, because it is one of the most frequent boosters in British English conversation (Biber *et al*. 1999: 545), and the one often used to exemplify the prototypical function of boosters in the literature (see Paradis 1997: 41).

In order to explain why the members of a selected set of complementary pairs, as discussed above, would take different maximizers, a final search was made aimed at finding out whether the same differentiation would also hold for a set of other degree adverbs, combining with these adjectives, viz. approximators (*almost*, *nearly*, *virtually*) and minimizers (*hardly*, *barely*). Approximators are particularly interesting since they indicate an approximation of an absolute maximum.

6 Results

6.1 Number of (near-)synonymous maximizers

As in Paradis (1997) and Kennedy (2003), the results of the present study show that adverb–adjective combinations are not random. The results support the hypothesis that a substantial part of the investigated adverb–adjective combinations are (semi)-prefabricated units, presumably easily accessed by native speakers because their members have close associative links in the mental lexicon (see Wray 2002).

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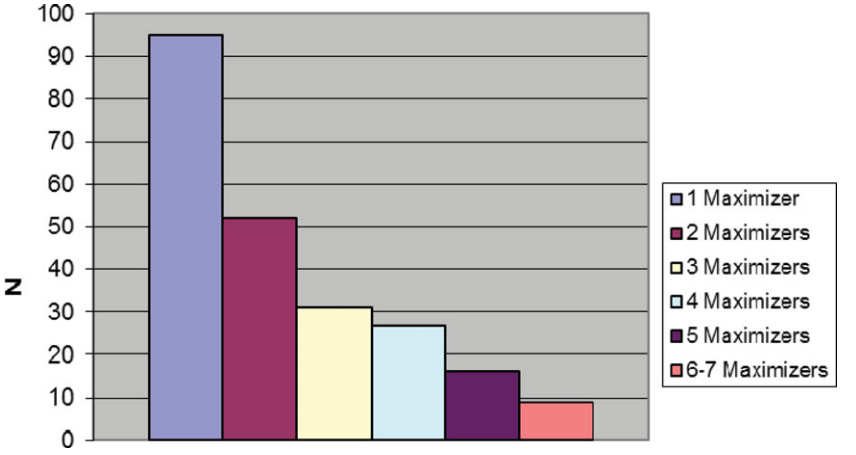


Figure 1. (Colour online) Number (N) of adjective types (228) over six groups of maximizers (1 maximizer, 2 maximizers, etc.)

Out of 228 adjective types, 95 (41.7 per cent) were modified by just one maximizer and another 52 were restricted to being modified by two maximizers (figure 1). Note that throughout the article 'adjectives' always refer to adjective *types*. The terms 'adjectives' and 'adjective types' are used interchangeably.

If we conflate the figures for the first two categories (95 + 52) it becomes clear that 147 out of 228 adjectives (64.5 per cent) were quite restricted in regard to the number of maximizers. There is thus a sharp drop at ≥3 maximizers, i.e. 81 adjectives (35.5 per cent) taking three or more (up to seven) maximizers, with only nine adjectives (3.9 per cent) having 6+ maximizers.

The overall implication of these results is that a majority of the adverb–adjective combinations turn out to constitute collocational patterns. We will look at these in more detail, but let us first examine how the total number of maximizers (503) spread over the eight maximizer types modifying the 228 adjectives (figure 2). The three most frequently used maximizers proved to be *completely*, followed by *totally* and *entirely*. The least frequent maximizer in the data was found to be *utterly*, which tends to have negative associations, and to modify adjectives used hyperbolically (and, hence, an adjectival use that is presumably underrepresented in the BNC).

6.2 Preferred choices

The question as to which maximizers tend to enter into strong bonds with the adjectives they modify will get an answer in the number of 'preferred' choices (as defined above). This search was assumed to reveal more specific adverb–adjective collocational patterns. Results are shown in number of occurrences over a total of 503 maximizer tokens representing eight maximizer types modifying 228 adjectives (figure 3).

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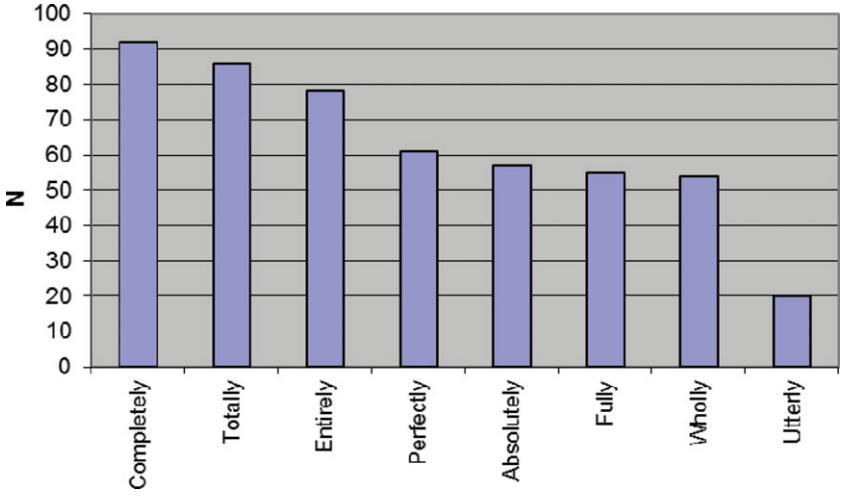


Figure 2. (Colour online) Total number of maximizer tokens (503) over eight maximizer types

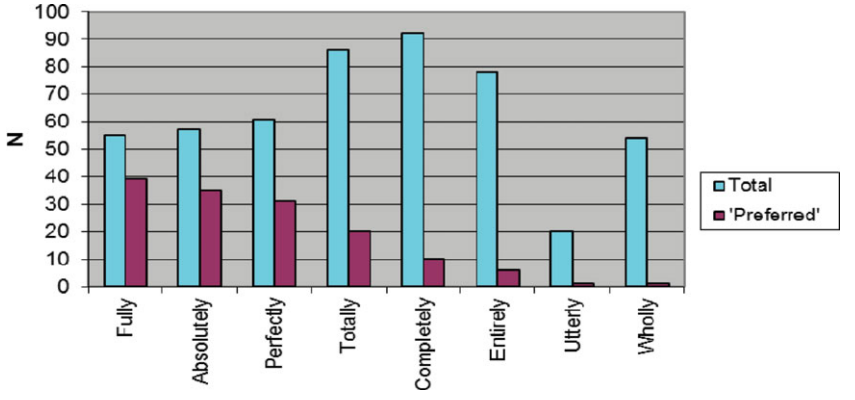


Figure 3. (Colour online) Total number of maximizers (503) and total number of 'preferred' maximizers (141)

We can see in figure 3 that the maximizers *fully*, *absolutely* and *perfectly* have more distinct profiles in terms of a tendency to combine with specific adjectives (30+ occurrences) compared to the other maximizers. We will presently look at each maximizer in more detail to find out why particular maximizers tend to combine with particular types of adjectives. However, in order to be able to do this we need to have data on what adjectives modified by these selected maximizers, thus construed as bounded, could also be construed as unbounded. As mentioned, the booster *very* was chosen to serve as an indication of this.

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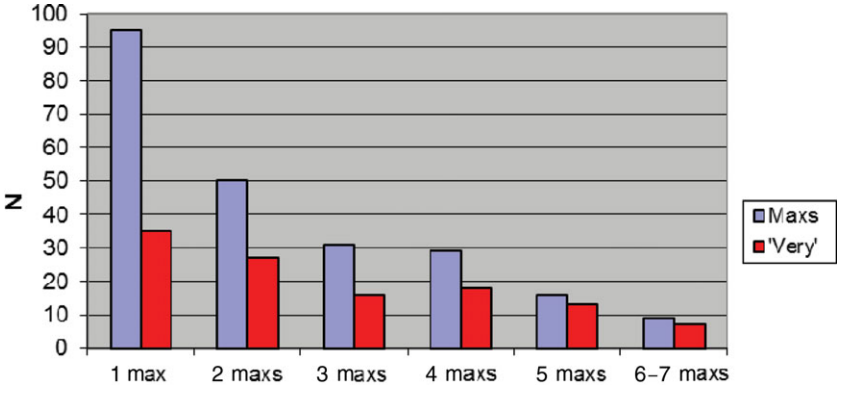


Figure 4. (Colour online) Number of the booster *very* (116) over six groups of maximizers (maxs) modifying 228 adjectives

6.3 Bounded and unbounded construals

The third major research question addressed in this study is which adjectives can be said to have an indeterminate bias, i.e. could be construed as both bounded and unbounded (although of course never on the same occasion of use), and which maximizers tend to combine with such adjectives. Before tackling this question, it will first be shown how adjectives that could also be construed as unbounded through the scalar adverb *very* distribute over the six categories. Figure 4 is organized in terms of the number of maximizers for each adjective (from one maximizer up to six–seven maximizers). This will show whether the number of maximizers that adjectives can take can serve as a basis for predicting the bias of the adjective.

As could be expected, an indeterminate bias in the adjective increases with an increasing number of maximizers, i.e. the more maximizers a given adjective combines with, the higher are the figures for the booster *very*. A tentative explanation for this is that an adjective which is less constrained regarding maximizer choice is less constrained, too, regarding other degree modifiers, whether scalar or totality. However, the actual number of occurrences is sometimes quite low and can therefore only be seen as an indication.

Next we will consider the number of occurrences of the scalar adverb *very* over the individual eight maximizer types, in order to establish which maximizers would typically be used as modifiers of adjectives that are also open to unbounded construals. This is shown in figure 5.

It is clear that the maximizers *entirely* and *perfectly* top the list for modifying adjectives that could also be construed as unbounded. It is worth noting, however, that for all the maximizers, with the exception of *fully*, more than half of the adjectives could be modified by *very.* This can be explained by the fact that the number of occurrences of adjectives modified by scalar *very* were laid out over the total number of individual maximizers, thus including adjectives that can be modified by up to seven different

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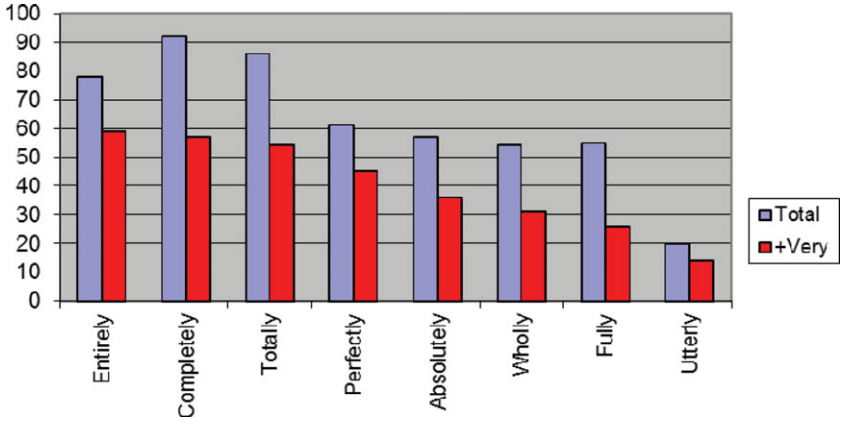


Figure 5. (Colour online) Number of maximizer tokens (503) and number of the booster *very* (322) over eight maximizer types

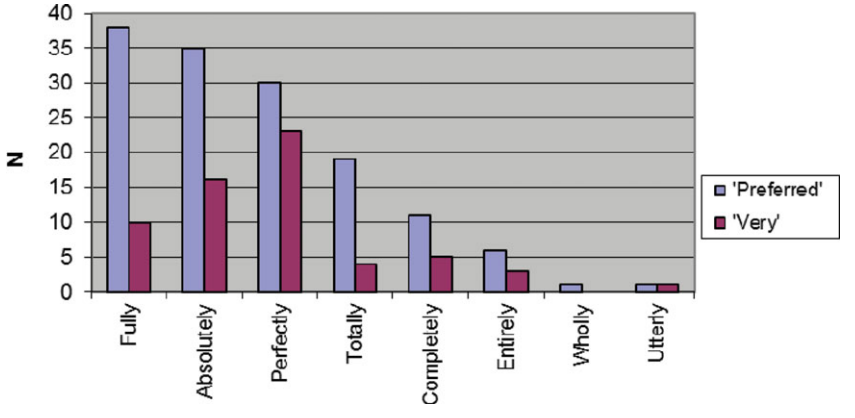


Figure 6. (Colour online) Number of the booster *very* (62) over number of 'preferred' choices (141) over eight maximizers

maximizers. We saw in figure 4 above that the larger the quantity of maximizers is that an adjective can combine with, the higher is the number of *very* modifying that same adjective. Below we will consider frequencies of *very* only in combinations where the maximizer was the 'preferred' choice (figure 6).

What is immediately apparent from the results of the booster *very* over 'preferred' combinations is that adjectives preferably modified by the maximizers *totally* and *fully* tend to be considerably more reluctant to be construed as unbounded. This emerges from their low figures in figure 6 for combinations with the booster *very*, compared to cases when they were not the preferred choice. This contrast does not seem to apply to *perfectly* and *absolutely*, since there is about the same proportion of adjectives construed as unbounded, whether or not these two maximizers are the preferred choice (see figure 5). The low figures for *completely* and *entirely* are explained by either of

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them rarely being the preferred choice (figure 3), although both show high overall numbers of occurrence (figure 2). In other words, for a given adjective these would typically be used together with other maximizers as near-synonyms, thereby showing a less distinct profile.

In order to be able to discuss tendencies in more detail we will now consider each 'preferred' maximizer individually over bounded and unbounded adjectival heads.

7 Analysis of individual maximizers

The focus in this part of the analysis is on maximizers that had strong bonds with the modified adjective, i.e. those which were preferred choices by the users. More than half of the adjectives combining with a restricted ('preferred') set of maximizers were construed as bounded (79/141; 56.0 per cent). However, a considerable number of the adjectives modified by these maximizers turned out to be open also to unbounded construals (62/141; 44.0 per cent); the scalar adverb *very* was taken as an indication of this. As shown below, there is great variation between the individual maximizers.

As expected, the proportion of adjectives that could also combine with the scalar modifier *very* varied across the individual maximizers, with the following overall results. *Perfectly* modified adjectives that in approx. 75 per cent of the cases could also be construed as unbounded (23/31; 74.2 per cent), and in descending order of frequency: *absolutely* (16/35; 45.7 per cent), *completely* (5/11; 45.5 per cent), *fully* (10/39; 25.6 per cent), *totally* (4/19; 21 per cent). *Entirely*, *utterly* and *wholly* had too few examples of 'preferred' choices. The adverbs thus seem to fall into two camps, with *perfectly*, *absolutely* and *completely* forming a group where very high (*perfectly*), or relatively high (*absolutely* and *completely*), proportions of the adjectives were also construed as unbounded (i.e. high figures for *very*). The other group, *fully* and *totally*, turned out to modify adjectives that were more reluctant to be construed as unbounded (low figures for *very*), when they were the 'preferred' choice by users. This indicates that, when 'preferred', their content structure of 'totality' and 'fullness', derived from the adjectives *total* and *full* respectively, is more foregrounded compared to *entirely* and *completely*. The similar behaviour of the degree modifiers *perfectly* and *absolutely* agrees with the results of Desagulier's cluster analysis (forthcoming) where these two modifiers (together with *entirely* and *utterly*) were found to form a homogeneous cluster. In the present study *entirely*, although frequent in the corpus, rarely was the preferred choice, while *utterly* was rare overall, which is explained through the specific genres represented in the BNC.

In order to get a clearer picture we will go through each maximizer and point to specific semantic and schematic structures in the adjective and the adverb that could be said to ultimately influence the choice of either. We recall that the number of adjectives modified by scalar *very* increased with increasing numbers of synonymous maximizers, and that this in turn made the typological class of gradability in the adjective more fluid.

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7.1 Fully

When being the preferred choice, the maximizer *fully* modifies deverbal adjectives in more than half of the instances (*-ed*; 21/38; 55.3 per cent). In many of these the bounded meaning can be explained by the modifier marking the termination, hence extreme point, of a process indicated by the meaning of the underlying process verb. In (1) examples of adjectives modified by *fully* are supplied in alphabetical order. The first group (−Very) are those where the adjective did not combine with scalar *very*; the second group (+Very) includes those adjectives that can also combine with *very* and thus be construed as unbounded:

(1) (a) −Very: *automated, adjustable, air-conditioned, alive, automatic, awake, booked, developed, computerized, conversant, fitted, fledged, funded, illustrated, informed, integrated, justified, laden, licensed, loaded, operational, paid-up, prepared, protected, qualified, restored, trained, turbulent.*

(b) +Very: *active, aware, apparent, comprehensive, conscious, effective, fit, functional, human, involved.*

With the exception of *involved*, which was also construed as unbounded, the *-ed* deverbal adjectives in combination with *fully* were exclusively construed as bounded. They could thus be described as having a bias towards a bounded meaning, and the modifier a bias towards totality construals. This result supports Kennedy & McNally's claim that 'if an adjective is derived from a verb with an incremental argument, that adjective will have a closed scale' and be 'compatible with proportional and endpoint-oriented degree modifiers' (which they exemplify through the degree modifier *fully*; 2005: 363). The bias of deverbal adjectives towards a bounded meaning was rather different from the adjectives that could also combine with *very* (see the examples in 1b). The latter could be described as fluctuating between limit, thus bounded, and scalar, thus unbounded, construal. Indeed, some of them, e.g. *active*, *effective*, *fit*, seem to have more in common with scalar adjectives, therefore having a more indeterminate bias. Summing up, a close analysis of the conceptual structure of adjectives modified by *fully* has shown that this adverb is in no way confined to modifying deverbal adjectives. In fact, nearly half of the adjectives (17/38; 44.7 per cent) did not belong in this category.

7.2 Absolutely

The maximizer *absolutely* is biased towards modifying extreme adjectives, i.e. adjectives with a bounded meaning, but as the lists in (2) show, many of the adjectives could also be construed as unbounded.

(2) (a) −Very: *amazed, amazing, appalling, awful, brilliant, delighted, disgusting, fabulous, fantastic, furious, gorgeous, immaculate, ludicrous, marvellous, perfect, superb, terrific, terrified, thrilled.*

(b) +Very: *beautiful, certain, critical, crucial, delicious, excellent, fascinating, fine, great, lovely, necessary, stupid, sure, terrible, vital, wonderful.*

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All of the adjectives preferring the maximizer *absolutely* are clearly subjective, in that they convey the speaker's assessment or evaluation of a particular phenomenon or state of affairs, and they are either of the extreme or the limit type, which agrees with Paradis' study of spoken English (1997: 78). But, whereas the adjectives that did not combine with a scalar modifier (i.e. those in 2a) are all at the extreme end of a scale (and thus inherently biased towards having a bounded meaning), this is not true of many of the adjectives in the +Very group in (2b), e.g. *beautiful*, *fine*, *lovely*, *stupid*, which more easily lend themselves to unbounded construal. Following Paradis (1997), some of the adjectives in the +Very group have been classified as limit adjectives, e.g. *critical*, *certain*, *necessary*, *sure*. However, according to Paradis, the classification of adjectives into limit and extreme adjectives is not always very clear and 'there are fuzzy readings, since a point/limit is crucial for both of them [limit and extreme adjectives], and since maximizers can both reinforce the utmost point on a scale for extreme adjectives and the complete transgression of a limit for limit adjectives' (1997: 78).

To conclude, extreme adjectives preferring the maximizer *absolutely* do not normally lend themselves to unbounded construal. Only the 'less extreme', or 'more scalar-like', adjectives and the limit adjectives are to be found in the +Very group, and thus also open to unbounded construals.

7.3 Perfectly

In her study of spoken English Paradis found a few extreme adjectives and a couple of adjectives with a basic scalar bias combined with *perfectly*, although the majority were limit ones. In the present study there were no examples of *perfectly* modifying an extreme adjective when the combination was the preferred choice. The vast majority were limit adjectives with a few exceptions (*easy*, *fair* and *happy*), which had a scalar, or at least indeterminate, bias. Many of the limit adjectives when combined with this maximizer involved a boundary that could be paraphrased as 'optimal given the circumstances at the time of use'. It is apparent from the lists in (3) that adjectives combining with this maximizer are frequently also open to scalar construal, as evidenced in the proportion of adjectives modified by *very.*

(3) (a) −Very: *balanced, contestable, feasible, legal, legitimate, ok, possible.*
(b) +Very: *able, acceptable, adequate, capable, competitive, content, easy, fair, genuine, happy, natural, normal, obvious, ordinary, proper, reasonable, respectable, safe, sensible, simple, sound, valid, willing.*

The tendency for *perfectly* to combine with adjectives with indeterminate bias as to type of gradability, in turn, makes the schematic structure of totality more backgrounded in this modifier. This may explain why its content structure of 'perfection' is more foregrounded, and also why all the adjectives modified by this maximizer are basically positive (see Kennedy 2003). However, we will presently look more closely at the schematic structure of this maximizer and co-occurring adjectives in connection with patterns involving a subset of adjectives, viz. complementary adjectives (e.g.

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capable–incapable). To sum up, a close analysis of the conceptual structures of the adverb *perfectly* and the adjectives it modifies has shown that this adverb is not biased towards a totality construal, which partly explains why the combination *perfectly impossible* to many will sound odd.

7.4 Totally

Characteristic features of *totally* are, first of all, that a majority of the adjectives preferably combining with this maximizer are not modified by the scalar modifier *very*, and, secondly, tend to have negative associations, frequently having a negative prefix, as illustrated in the examples in (4) (see also Kennedy 2003). This maximizer thus seems to be biased towards totality construals when being the preferred choice.

(4) (a) −Very: *alien, confused, deaf, devoid, illogical, impractical, incapable, incomprehensible, oblivious, opposed, symmetric, unacceptable, unnecessary, unprepared, unrealistic.*
(b) +Very: *unexpected, unfair, unique, unsuitable.*

Some of the adjectives combining with this maximizer as the preferred choice seem to be evaluative, and many tend to carry a negative meaning, which is thus in sharp contrast to adjectives modified by *perfectly.* The only rather more objective, or neutral, adjectives combining with the maximizer *totally* are *alien*, *deaf*, *devoid* and *symmetric.* There is only one extreme adjective combining with this maximizer, viz. *unique*, and one that could be said to have a scalar bias, viz. *simple.* As with *perfectly*, we will presently look more closely at the modifier *totally* in connection with a subset of complementary adverb–adjective combinations.

7.5 Completely *and* entirely

The maximizer *completely* together with the maximizers *entirely*, *wholly* and *utterly* rarely appeared as the preferred choice (see figure 4). When *completely* was the preferred choice nearly half of the adjectives were construed as unbounded.

(5) (a) −Very: *anonymous, deserted, mad, random, refurbished, untouched.*
(b) +Very: *bald, confidential, dry, empty, fresh.*

As in the case of *fully*, some of the adjectives in the −Very group are deverbal, used in their participle form, and exclusively construed as bounded. However, the basic meaning of 'completeness' inherent in the modifier seems to play a role also when combining with adjectives that can be construed as unbounded, e.g. *bald, dry, empty, confidential.*

The few adjectives preferring the maximizer *entirely* were evenly distributed over −/+Very:

(6) (a) −Very: *absent, consistent, voluntary.*
(b) +Very: *arbitrary, appropriate, devoted.*

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The adjectives that did not combine with *very* (6a) seem to be more objective and conceptualized in terms of 'either/or'.

7.6 Summing up the results

Generally speaking, the examples above suggest that the extreme adjectives, like scalar adjectives, tend to be subjective and evaluative, while many of the limit adjectives are rather more objective, suggesting an either/or reading. However, we should keep in mind that the speaker's overall assessment and evaluation of a certain state of affairs is present in bounded as well as unbounded readings. As mentioned, the classification into extreme, limit and scalar adjectives is not always without problems. For instance, although many of the adjectives modified by *perfectly* are basically limit adjectives, some share criterial features with scalar adjectives, whereas some are of a more neutral, or indeterminate, character (*possible*, *feasible*, *ok*, *normal*, *natural*, *valid* etc.). Likewise some of the adjectives modified by *fully* could be described as fluctuating between limit and scalar meanings. For example, *active*, *effective* and *fit* seem to have more in common with scalar adjectives, thus being in the margin of either gradable category. Indeed, boundaries may be more or less fuzzy. This is the topic of the next section.

8 Asymmetry in complementary adjectives

The results from this study as well as earlier studies suggest that boundaries are fuzzy between the three types of gradable adjectives recognized here, i.e. scalar, extreme and limit adjectives. This can be explained by schematic structures, such as scalarity and boundedness, not being as salient in adjectives as in degree modifiers. In other words, there is 'a great deal of flexibility in the semantic make-up of adjectives, allowing for modification of meaning due to contextual factors' (Paradis 2001: 57). In this section we will focus on adjectives biased towards bounded readings, more specifically limit adjectives. A close analysis of both the maximizer and the adjective showed that some limit adjectives, depending on whether they were in the positive or in the negative, can be modified by different maximizers. More specifically, the focus of this particular substudy is on adjectives that are complementaries and where one part has a negative prefix, e.g. *capable–incapable.* It is argued that what is called a 'canonical' limit type of gradability here is congruent with negatively prefixed limit adjectives, and what could be called a 'peripheral' (i.e. non-canonical) limit type of gradability is apparent in the corresponding positive adjective. It will be shown that such pairs are asymmetric in terms of choice of degree modifiers, and that this *cannot* solely be explained by the adjective or adverb carrying negative or positive connotations.

8.1 Different scales

One characteristic feature of limit adjectives is that their mode of opposition is complementarity, thus differing from scalar and extreme adjectives, whose mode of

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opposition is antonymy (Paradis 1997: 63). While scalar adjectives are laid out on the range of a scale and extreme adjectives at the extreme point of a scale, limit adjectives are associated with the transgression of a limit, as in *dead–alive* and the adjective pairs of interest to the present discussion, e.g. *possible−impossible*. However, a scrutiny of the complementary adjectives among the preferred combinations made clear that the conceptualizations of the boundary differ. The boundary in complementary adjectives like *dead–alive* was construed as absolute and definite (as apparent in the choice of maximizer and downtoner, which was congruent with adjectives with a negative prefix, e.g. *unacceptable* and *incapable*). The boundary in the corresponding positive adjectives, viz. *acceptable* and *capable*, by contrast, seemed to be conceptualized as fluid and indeterminate. This became apparent not only in their differentiated choice of maximizer, but also when combined with other degree adverbs, viz. approximators and minimizers.

The empirical procedure involved two steps: in a first step, singling out the complementary pairs in which one of the members had a negative prefix in the database of preferred combinations, and in a second step establishing which maximizers were involved for each member of the pair. The preferred maximizers indeed differed, and a pattern started to emerge. The negated member of the pair was modified by the maximizer *totally* (i.e. *incapable*, *unacceptable*, *unnecessary* and *unfair*; see the examples in (4a, b)), and the positive part by the maximizers *perfectly* (i.e. *acceptable*, *capable* and *fair*; see example (3b)) and *absolutely* (i.e. *necessary*; see example (2b)). One common explanation for this is that it is the semantics of the maximizer that decides, with *perfectly* having positive associations and *totally* negative ones (see Paradis 1997; Kennedy 2003). This may be true, but it is not the whole story. In fact, the majority of the adjectives with a negative prefix were also modified by other maximizers, e.g. *wholly* and *completely* (although *totally* was the preferred choice in the BNC), which have no negative associations. And the positive members of the investigated complementary pairs (e.g. *capable* and *acceptable*) combined not only with *perfectly*, the preferred choice in the BNC, but also with *entirely* and *absolutely*, both of which are rather more neutral. It is suggested here that the answer is at least in equal measure to be found in the schematic character of the boundary. The negatively prefixed member of the complementary pair is associated with an absolute boundary, much like the canonical limit 'fellow adjectives' (i.e. adjectives also combining with the maximizer *totally*, e.g. *identical*, *symmetric*, *deaf*, *dead*, *alive*). By contrast, the positive counterpart of the complementary pair is associated with a boundary that is more indeterminate. Indeed, many of the positive parts of this type of complementary pair share schematic properties with scalar adjectives, which was also apparent in high figures for unbounded meanings for these adjectives (high figures for the scalar modifier *very*), especially when modified by *perfectly* and *entirely*. We recall that these two maximizers topped the list for co-occurrence with adjectives that were construed as unbounded (see figure 5). This was in sharp contrast to the negative adjectives of these pairs, which were always construed as bounded. As could be expected, negatively prefixed adjectives with a scalar bias, such as *unfair* and *unsuitable*, are

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frequently construed as unbounded (high figures for the booster *very*) like their positive counterparts, i.e. *fair* and *suitable*.

8.2 Other degree modifiers: downtoners

To provide more evidence for the present proposal that the set of complementary adjectival pairs investigated are laid out on scales with different terminal points, a third search involved a selected set of other degree adverbs. More precisely, two groups of downtoners were investigated (the approximators *almost*, *nearly* and *virtually*, and the minimizers *hardly* and *barely*), in an attempt to sort out which downtoners tend to combine with which types of adjectives in terms of gradability. Both approximators and minimizers are associated with boundaries, but the approximators were hypothesized to occur with adjectives associated with an absolute boundary close to the maximum end of a scale, and the minimizers with adjectives associated with a more fluid boundary where the adverb by convention marks something as further away from the maximum. In fact, the minimizers *hardly* and *barely* seem to indicate that something is 'more' than implied. For example, *barely possible* by convention indicates that whatever is at stake could be rephrased as 'only just possible'. This agrees with certain diminishers. For instance, something described as *slightly difficult* normally means 'slightly *too* difficult', and according to Paradis (2001: 63), 'this is true of the whole set' (e.g. *slightly*, *somewhat*, *a bit* etc.).

As expected, like the maximizer *totally*, the approximators (*almost*, *nearly* and *virtually*) turned out to combine with adjectives that are more objective and associated with an absolute boundary. Apart from adjectives with a negative prefix, such as *inevitable*, *invisible*, *impossible*, *unchanged*, *indistinguishable*, the relevant corpus examples included adjectives with a bias towards bounded readings, such as *identical*, *total*, *universal*, *perfect*, *unique*, *complete*, *unanimous*, *dead*, *asleep.* In contrast, the minimizers *hardly* and *barely*, apart from combining with the positive counterparts of the kind of complementary pairs investigated in this article (i.e. *audible*, *visible*, *distinguishable*, *adequate*, *sufficient*, *conscious*, *noticeable*, *necessary*, *possible*), turned out to occur with adjectives that were rather more subjective and evaluative (*surprising*, *likely*, *fair*, *able*, *appropriate*, *daring*), and hence closer to scalar adjectives. In order to be able to distinguish adjectives with an indeterminate boundary from those with an absolute boundary, it is suggested that one of Allerton's categories is a potential candidate for the task, notably the 'telic' category. As examples for this category Allerton (1987) gives the adjectives *sufficient*, *cooked* and *perceptible*, on the basis of their close relationship to his telic intensifier category (e.g. *barely*, *hardly*, *not quite*). An adjective of the telic type could be defined as 'having a degree that is optimal (or required) for a particular purpose'. This 'peripheral', non-canonical, limit category could then be distinguished from the category defined by Paradis as 'the complete transgression of a limit' (1997: 78) and 'conceptualized in terms of either-or' (1997: 57), here referred to as the 'canonical' limit category. Based on these findings it is suggested that the positive members of those complementary pairs that have negatively

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prefixed members have a non-canonical limit (or telic) type of gradability. By contrast, the negatively prefixed members of complementary pairs are of the canonical limit type. The central criterion for distinguishing between these two types of scale was to be found in the quality of the schematic boundary, the former being indeterminate (fuzzy) and the latter determinate and absolute. This was apparent in the choice of distinct types of degree modifiers as well as the schematic properties of other adjectives modified by these degree modifiers.

9 Conclusions

The cognitive, usage-based approach adopted in this study has shown that adverb–adjective combinations are influenced by the type of gradability inherent in the adjective (i.e. 'scalar', 'extreme' or 'limit') as well as by the bias of the modifier. The method applied is bi-directional in that each adjective was scrutinized with respect to the number and type of maximizers it combined with. Furthermore, in order to develop a clearer picture of the schematic structures gradability and boundedness, each adjective was examined as to whether it also combines with other degree modifiers, viz. scalar degree modifier *very*, or a couple of downtoners, i.e. approximators and minimizers.

It should be stressed again that the data of the present study were exclusively taken from the British National Corpus (BNC). This explains why a partly similar study based on the Corpus of Contemporary American (COCA) arrives at somewhat different results (Desagulier forthcoming). The adverbs focused on in the present article were eight totality modifiers, or maximizers (i.e. *absolutely*, *completely*, *entirely*, *fully*, *perfectly*, *totally*, *utterly*, *wholly*). The results show that 147 of the 228 adjectives investigated (i.e. 64.5 per cent) turned out to combine with one or two maximizers (see figure 1). Furthermore, it was shown that the fewer maximizers a given adjective tends to combine with, the more it is biased towards an inherent bounded meaning, which is what we expect from adjectives modified by totality modifiers. Conversely, it was found that the more maximizers an adjective tends to combine with, the more likely the adjective is to also be construed as unbounded, hence being indeterminate between unbounded (or scalar) and bounded (totality) meanings. This was made apparent through a complementary search into the number of the scalar modifier *very* for each of the 228 adjectives.

When combined with adjectives, the maximizers *fully*, *totally*, *absolutely* and *perfectly* turned out to display a dinstinctive behaviour by having partially different profiles. More specifically, adjectives preferably combining with *fully* and *totally* were rarely construed as unbounded. However, unlike *totally* (see below), *fully* kept this profile also when occurring with adjectives that combined with other maximizers, which means that this maximizer is biased towards totality construals. This is in sharp contrast to adjectives modified by *perfectly*, which were typically construed as unbounded (as is evident in high numbers for the scalar modifier *very*). In other words, *perfectly* is biased towards combining with scalar adjectives or with adjectives indeterminate concerning their type of gradability. Adjectives combining with *absolutely* turned out to fall into two

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groups, extreme and limit adjectives. Those that were of the extreme type were rarely construed as unbounded, whereas some of the limit ones preferring this maximizer were. Finally, when *entirely*, *completely* and *totally* were not the preferred choice, there was more indeterminacy with regard to type of gradability in the adjective, so that adjectives modified by these maximizers were frequently also construed as unbounded.

In a substudy, complementary pairs where one of the members had a negative prefix (e.g. *capable–incapable*) were scrutinized to establish (a) the quality of the schematic boundary of the adjective, and (b) the extent to which this differs between the members of the pairs. It was found that such complementary pairs of adjectives were laid out on scales with different terminal points, so that the negatively prefixed members tended to be associated with a more determinate, or absolute, boundary, thus sharing schematic features with canonical limit adjectives. In contrast, the positive member of such pairs tended to be construed as having a more indeterminate, or fuzzy, boundary, which was found to coincide with Allerton's 'telic' gradability type. The former attracted the maximizers *totally*, *completely* and *absolutely* as well as the approximators *almost*, *nearly* and *virtually*, whereas the latter attracted the maximizers *entirely* and *perfectly* as well as the minimizers (or 'telic intensifiers' in Allerton 1987: 18) *barely* and *hardly.* Not only distinct selections of degree adverbs showed this combinatorial behaviour but also 'fellow' adjectives, i.e. other adjectives occurring in the same combinations.

In conclusion, going back to the two examples of adverb–adjective combinations that were assessed as marked in the Introduction (*?fully possible* and *?perfectly impossible*), the study has shown that adjectives, even complementary pairs like *possible–impossible*, are laid out on different scales, which influences the choice of maximizer (and other degree adverbs). The major advantage of the cognitive approach advanced here over an analysis confined to a semantic and/or morphosyntactic analysis is the following: viewing the selected adverb–adjective combinations from a cognitive perspective in terms of (a) construals and (b) the constitutive features of the adverb *and* the adjective allows us to give a more coherent account of the underlying conceptual structures that ultimately guide users' choice of construction.

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