Constraints on the attributive use of "predicative-only" adjectives: A reassessment*

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1. Introduction

This article focuses on a class of English adjectives that are subject to important restrictions on their syntactic placement. While core members of the adjective class freely occur in predicative or postnominal as well as in attributive positions, *a*-adjectives have been claimed to be virtually barred from attributive uses (cf. Biber *et al.* 1999: 508; Huddleston and Pullum 2002: 559). Thus, they have been referred to as "predicative-only" adjectives (Jacobsson 1996: 206) or as "never-attributive adjectives" (Huddleston and Pullum 2002: 559). It has however been noted that their acceptability in attributive position increases significantly when they are premodified or coordinated (cf. Bolinger 1965: 151; Quirk *et al.* 1985: 408–409; Bailey 1987: 149; Jacobsson 1996: 218; Huddleston and Pullum 2002: 559).

Despite superficial resemblances in their phonological form, the group of *a*-adjectives encompasses adjectives from heterogeneous sources. Following the etymologies given in the *OED 2 on CD-ROM*, the unstressed initial *a-* originates in the Old English preposition *on/an* 'in, on' in a substantial number of cases: *adrift*, *afloat*, *alive*, *aloof*, *asleep*, *awry* and possibly *askew*. In *akin*, it goes back to a different preposition, *of*. In other lexemes in the group, it stems from one of several Old English prefixes, namely *on-* in *awake*, *a(r)-* in *aghast* and *ashamed* and *ȝe-* in *aware* and (perhaps, additionally) in *ashamed*. Some other members of the group are loanwords from Latin or French that have entered English complete with their initial *a-*: *afraid*, *agog*, *alert* and *averse*.[1] Diverse as they may be in origin, the adjectives under consideration to some extent share the syntactic restriction against unmodified or non-coordinated attributive uses.

It is the aim of the present study to arrive at a detailed reassessment of the positional restrictions bearing on *a*-adjectives. One of the questions that will need to be answered is why premodification or coordination of the adjectives in question is such an important factor licensing their appear-

ance in a syntactic position from which they are barred when occurring in isolation. The argument involves a quantitative corpus-based study of a large set of *a*-adjectives and of the syntactic positions in which they can be found, which provides the basis for the subsequent analyses. In fact, the corpus search yields considerably more attributive uses than would have been expected of adjectives that have been described as "predicative-only". Besides unmodified uses as in example (1), numerous premodified uses of different types are found. These include prefixations, as in (2a), compounds, as in (3a), and adjectives premodified by adverbs, as in (4a). In addition, a sizeable number of *a*-adjectives occur in coordinations with other attributive adjectives, as in (5a). Notice that the corresponding (b) examples, without premodifiers and coordinates, turn out to be considerably less acceptable.

(1) *"Okay, no!" said the prodigy, turning on her Adidas-equipped heel and leaving the* ***aghast assemblage*** *in her wake. (The Times 1994)*

(2) a. *Every movement seemed natural, as if the* ***unaware memory*** *of what to do and how to do it was hidden somewhere inside myself.* (*The Guardian* 1992)
b. **… the aware memory …*

(3) a. *It recommends a with-profit investment bond, ideally retained for five years, as suitable for this* ***risk-averse couple***. (*The Guardian* 1993)
b. **… this averse couple …*

(4) a. *Daniel's life becomes enmeshed with that of the* ***similarly adrift Kate****, a cinema usherette.* (*The Times* 1999)
b. */?*… the adrift Kate …*

(5) a. *He was a lucid man; an* ***alive, happy soul***. (The Daily Mail 1998)
b. */?*… an alive soul …*

In the secondary literature, mainly two types of constraints have been argued to account for the positional restrictions bearing on *a*-adjectives as well as for the redeeming effects of premodification: on the one hand, a semantic constraint (cf. Bolinger 1952: 1133–1137, 1967: 3–4; Leisi 1985: 54; Ferris 1993: 49–52), and on the other, a phonological constraint (cf. Bolinger 1965: 143). In the most detailed study of *a*-adjectives published

to date, Jacobsson (1996: 217) ascribes a greater impact to the semantic effects than to phonological ones.

The bottom-line of Jacobsson's argument is in accordance with the frequently encountered view that syntactic phenomena are subject to underlying semantic motivations, or that syntactic structures and semantic meanings form a close symbiosis with a mutual dependency between them (cf. e.g. Wierzbicka 1988, 1991; Ferris 1993). This view also characterizes the family of approaches that have recently come to be referred to as Construction Grammar, so called due to their focus on constructions, which are defined as conventionalized pairings of form and meaning that are largely independent of the lexical elements filling them (cf. Goldberg 1995: 1–7, 2006: 3).

The bulk of the work presented in the empirical part of this article consists in teasing apart the semantic and phonological constraints and their relative contributions to the positional restrictions imposed on *a*-adjectives. This procedure will allow for a critical reassessment of the explanatory potential of the two (groups of) factors, respectively. It will result in a redressing of the balance between semantic and phonological preferences. The latter have frequently been neglected in the study of syntactic variation and in the linguistic modelling of grammar. Furthermore, the analysis will show that semantic and phonological preferences interact in an item-specific manner: individual adjectives exhibit different degrees of sensitivity to one or the other constraint. In line with recent trends to look for empirical data to confirm (or reject) theoretical claims (cf. Kepser and Reis 2005: 1–6), the study will conclude with some implications for a grammar model, constructionist or other, that is able to integrate the corpus findings.

The present contribution is organized in the following way: section 2 describes the database used for the empirical analyses and details the *a*-adjectives selected for study. Section 3 contextualizes the present-day situation of *a*-adjectives with regard to their history in attributive positions and on the background of attributive structures in general. In section 4, the raw data for Present-day English are laid out and systematized, with particular attention to attributive uses. Section 5 outlines the explanatory approaches that have been adopted in the previous literature. These are then evaluated in section 6 by means of a finer differentiation of the corpus data. Section 7, finally, summarizes the findings and returns to the question of their relevance for a model of grammar.

2. Corpus and items studied

Since the group of *a*-adjectives includes many items with a relatively low textual frequency, the following corpus studies draw on an extremely large electronic database including 40 years of British newspapers and totalling almost 1.5 billion words. Some figures characterizing the newspaper corpus are detailed in table 1; full bibliographical information is provided in a special section towards the end of this contribution.

Table 1. The newspaper corpus

Title	Years	Number of Words
The Daily Mail	1993–2000	207 million words
The Daily Telegraph	1991–2000	371 million words
The Guardian	1990–2000	388 million words
The Times	1990–2000	478 million words
Total		1,444 million words

The diachronic section of this paper draws on a large collection of prose covering three centuries. The earlier corpora are subdivided according to the publication dates of the works included and combine a larger non-dramatic section with a smaller section of dramatic prose. The latest sub-corpus for the late twentieth century is provided by the fictional prose section of the *British National Corpus*. Details of the corpus are provided in Table 2.

Table 2. The diachronic corpus

Title	Years	Number of Words
Eighteenth-Century Fiction (ECF) + English Prose Drama (EPD)	1705–1780	16,100,000 words
Nineteenth-Century Fiction (NCF) + English Prose Drama (EPD)	1782–1903	50,300,000 words
British National Corpus (*BNC*) imaginative prose section	1960–1993	19,700,000 words

The selection of items for study was based on the newspaper corpus. A minor obstacle was provided by the fact that the distinction between *a*-

adjectives and *a*-adverbs is by no means clear (cf. Quirk *et al.* 1985: 408–409; Jacobsson 1996: 206–207). Yet, for the items *abed*, *abroad*, *afar*, *afield*, *afresh*, *ahead*, *aloft*, *apart*, *ashore*, *aside*, *askance*, *aslant* and *astray*, the adverbial status can be taken for granted. In order to obtain the largest possible number of results for the analysis, a list of *a*-adjectives was collected from the *OED* entries, from which those items that never occurred in attributive position in the newspaper corpus were subsequently discarded. This concerned the items *ablaze*, *afire*, *aflame*, *afoot*, *agape*, *aglow*, *ajar*, *akimbo*, *alight*, *alike*, *alone* and *astride*, which can be regarded as true "predicative-only" adjectives. The remaining items, at least some instances of which were found in attributive uses, entered the study, with the exception of *alert*, which occurred so unrestrictedly in this position that its inclusion would have involved little promise of new insights into restrictions bearing on *a*-adjectives in general. Thus, it forms a straightforward exception to the class of "predicative-only" *a*-adjectives (cf. also Quirk *et al.* 1985: 409; Huddleston and Pullum 2002: 559). In addition, its homonyms *alert* (n.) and *alert* (v.) were so frequent as to make a computer-aided search ineffective. The list of *a*-adjectives eventually included in the study is the following (in alphabetical order): *adrift*, *afloat*, *afraid*, *aghast*, *agog*, *akin*, *alive*, *aloof*, *ashamed*, *askew*, *asleep*, *averse*, *awake*, *aware* and *awry*. The set is the same for the synchronic and diachronic study. Note that this inventory lays no claim to exhaustiveness since the word formation pattern *a-* + verb enjoys a certain productivity (*ablaze*, *adance*, *aswim*, *atremble*, etc., are examples of this; cf. *OED 2 on CD-ROM*, s.v. *a*, prep.11).

3. Time depth of the phenomenon

It is a well-established fact that prenominal modifiers in English are subject to important restrictions on their grammatical structure and are much more limited in length and complexity than, for instance, postnominal modifiers (cf. Quirk *et al.* 1985: 1238–1345). Recently, corpus-based diachronic research has however indicated that the syntactic possibilities as well as the use that is made of them have been extended in the past few centuries (cf. Biber and Finegan 1989: 490–491, 499–501; Biber and Clark 2002: 57). In a similar vein, I have shown elsewhere (Schlüter 2005: 143–146) that more numerous and more diverse types of nominal premodification have come into use since the sixteenth century, and that their frequency has increased continuously. More specifically, while Early Modern

English mainly had recourse to simple attributive adjectives, numerous complex attributive structures have since then developed.[2] In terms of Construction Grammar, this diachronic evolution can be viewed as the progressive establishment and increase in complexity of a construction (which constitutes the reverse of the process of functional condensation of a construction, exemplified in Bergs, this volume).

Independently of this, Jacobsson (1996: 143–149) argues that the avoidance of *a*-adjectives in attributive uses "is not as strong as it used to be" (cf. also Bolinger 1967: 12). While he provides no counts to support this quantitative claim, it can be shown that the increasing use of this group of adjectives in prenominal function is an empirical fact. Moreover, it can be hypothesized that there is a direct link between this change and the evolution of complex attributive structures: if *a*-adjectives depend crucially on the presence of a premodifier for their licensing in attributive position, and on the other hand, such complex attributes only gained currency in the course of the Modern English period, it may be assumed that the latter development was a precondition for the former. This furthermore suggests that the constraints (semantic, phonological or other) on the prenominal use of *a*-adjectives have remained very constant. As support for this argument, consider the data in figure 1, which are based on a search of the fifteen *a*-adjectives specified in section 2 in the diachronic corpus and a subsequent manual categorization into (unmodified and premodified) attributive and non-attributive uses.

The columns in this diagram represent the normalized frequencies of attributive *a*-adjectives per 1 million words, with the black column in each pair referring to adjectives occurring in isolation and the grey column referring to such instances that are themselves premodified (where premodification comprises the options illustrated in examples (2)–(4) above). Before the nineteenth century, there is only a single incidence of one of the fifteen *a*-adjectives in attributive position (*an all-alive apprehension*; Samuel Richardson: *Clarissa*, 1748). The relatively large nineteenth-century corpus, while containing only 9 unmodified examples, boasts 25 instances of premodified attributive *a*-adjectives.

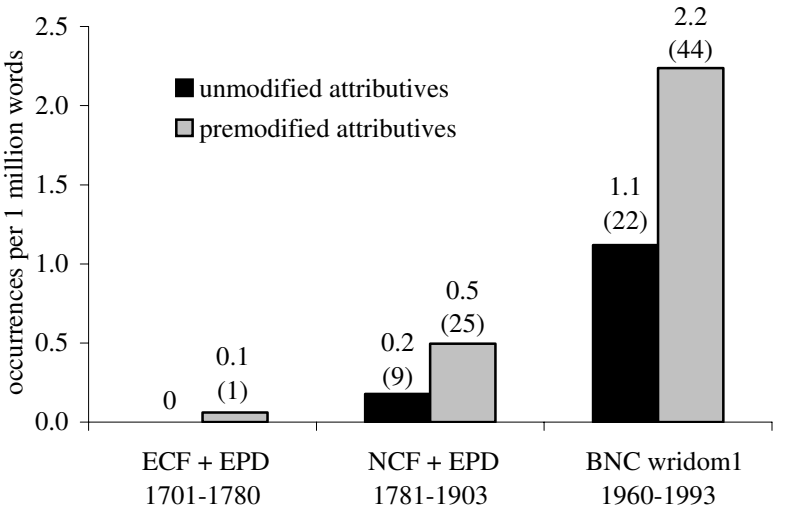

Figure 1. The textual frequencies of unmodified and premodified *a*-adjectives in attributive function from the eighteenth to twentieth centuries (figures in brackets indicate the absolute numbers of examples in the corpus sections)

This can be taken as evidence that premodification has now become an available option, which, in the case of *a*-adjectives, is more frequently resorted to than not. In other words, a premodified *a*-adjective stands a greater chance of being employed prenominally than an unmodified one. The same tendency is greatly enhanced in the data for the late twentieth century: premodified uses are thus heading the change towards prenominal usage, while the unmodified ones follow in their wake, but at a respectful distance.

Though the evidence presented here is only indirect, Jacobsson's intuition has been confirmed: the attributive use of *a*-adjectives is a fairly recent phenomenon. What is more, it can be brought into connection with the more general rise in the grammatical complexity of attributive constructions: this apparently created the favourable circumstances under which this long-avoided usage could establish itself. While the diachronic data described here underline the outstanding importance of premodification for *a*-adjectives, an analysis of the remarkably stable semantic and phonological constraints underlying this effect will have to wait until the present-day situation has been elucidated, which will be done in the next section.

4. Syntactic classification of *a*-adjectives

The class of *a*-adjectives is heterogeneous, not only with regard to the etymological sources of its members, but also concerning their individual syntactic behaviours. This is why Jacobsson (1996: 218) distinguishes three subgroups characterized by the gradually different propensities of their exponents to occur in attributive position.[3] However, his insights are based on informal observation rather than empirical evidence, which leads him to slightly vague conclusions. For Present-day English, there is yet no shortage of data: electronic editions of newspapers provide vast amounts of text in which the actual use that is made of *a*-adjectives in different syntactic positions can be determined. This task has never been undertaken in any systematic way. The large dataset investigated in this section will thus be used to arrive at an empirically founded classification of the set of adjectives under discussion and will also be exploited (in section 6) to shed light on the nature and strength of the constraints underlying their restricted occurrence in attributive position.

In the 40 years of British newspapers listed in table 1 above, the fifteen *a*-adjectives that occurred in attributive uses at all (excluding *alert*; cf. section 2) were subjected to an exhaustive search. Each of the items was preceded by a wildcard so as to capture any prefixed forms (e.g. *unafraid*, *unashamed*, *unaware*). The resulting hits were manually classified into attributive and non-attributive instances. The latter comprise postnominal and predicative instances as illustrated in (6). Among the former, a finer distinction was drawn between three subtypes exemplified in (1) to (5) above: firstly, unmodified attributive uses (including non-coordinated ones);[4] secondly, premodified uses in which the *a*-adjective is preceded by a prefix, by another free morpheme with which it forms a compound, or by an adverbial modifier; and thirdly, cases in which the *a*-adjective does not immediately precede the noun because it is followed by one or more attributive adjective(s) with which it is coordinated.[5]

(6) a. *Many are Americans,* ***agog at*** *life under these ancient beams.* (*The Daily Telegraph* 2000)
b. *The new Royal Court is more eccentrically* ***askew than*** *ever.* (*The Times* 2000)

For expository purposes, the fifteen *a*-adjectives under consideration have been subdivided into three types according to their compatibility with prenominal use. Adjectives of group I occur occasionally in unmodified

attributive uses; members of group II are sporadically used attributively even when they are unmodified, but are more frequently found in this position when premodified; group III adjectives only occur in attributive position on the strict condition that they are premodified. The subdivision thus reflects the degree to which the possibility of attributive uses hinges on the presence of a premodifier. The items assigned to each category are listed in table 3.

Table 3. The syntactic classification of *a*-adjectives

Group	Attributive uses	Examples
group I	unmodified > premodified	aghast, agog, aloof, askew
group II	premodified > unmodified	adrift, alive, ashamed, averse, awake, aware, awry
group III	only premodified	afloat, afraid, akin, asleep

Note that to a large extent, this subdivision is only methodological in nature: while the three groups of adjectives thus distinguished fit into the rough framework set out in table 3, the assignment of an item to groups I, II or III is based on quantitative rather than absolute measures. There are no clear dividing lines between the groups; rather, the syntactic behaviour of each adjective is highly idiosyncratic and deserves to be studied and described on an individual basis. It is also noteworthy that the overlap with Jacobsson's (1996: 218) categorization is only minimal.

The results of the count for group I adjectives (in alphabetical order) are displayed in figure 2. Each bar presents 100% of the occurrences of an adjective in the corpus and is labelled with the total number (N) of examples (across all syntactic uses). Notice that the bars are cut off after the 25% mark. This is because the focus of the discussion is on attributive uses, but over 75% of the occurrences of each item are non-attributive and of little interest for present purposes. Going from left to right, the black segments of the bars represent the share of unmodified (and uncoordinated) attributive uses, the hatched segments indicate the percentage of premodified (prefixed, compounded or adverbially modified) attributive uses, the white segments stand for coordinated attributive uses and the cut-off grey sections represent the large residue of non-attributive examples. Below each bar, the number of examples in each syntactic category and the corresponding percentage are given (except for the non-attributives, which account for the remainder adding up to 100 %).

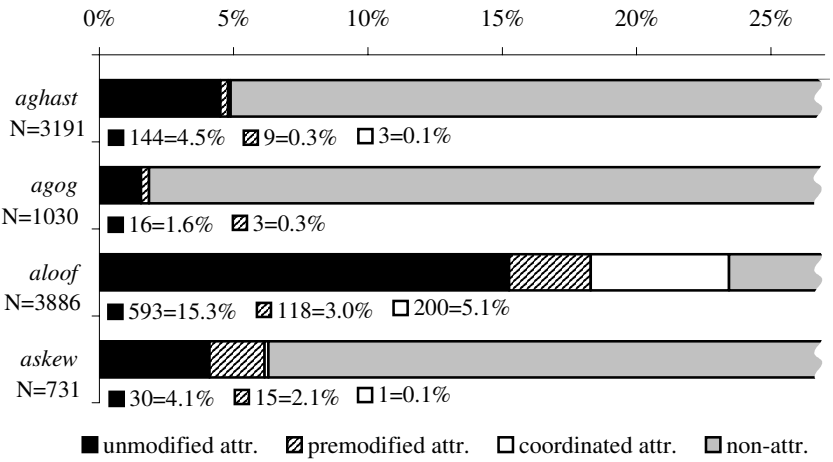

Figure 2. Syntactic classification of attributive and non-attributive uses of the adjectives of group I in a corpus of 40 years of British newspapers

Figure 2 reveals that for each of the four adjectives considered, the corpus contains a more or less considerable number of instances where the adjective occurs on its own in prenominal position (e.g. *aghast sympathy*, *an agog nation*, *an aloof woman*, *an askew stage*). Percentages vary between as much as 15.3% for *aloof* and 1.6% for *agog*, with *aghast* and *askew* ranging slightly above 4%. Thus, these adjectives do not only defy the label "predicative-only", but they also form exceptions to the general rule according to which they are not acceptable in attributive position unless they are premodified.[6]

In addition to unmodified instances, the search yields a restricted number of premodified uses, which for all four adjectives are mostly adverbially premodified cases (e.g. *a mildly aghast passage*, *permanently agog friends*, *a quietly aloof air*, *his pleasingly askew wit*). Moreover, *aloof* quite often occurs in combination with another attributive adjective (e.g. *the aloof, abrasive princess*). In sum, premodification does not seem to play an important role in connection with *aghast*, *agog*, *aloof* and *askew*. While attributive uses are by no means frequent in this class (except, to some extent, for *aloof*), all of them are more common as isolated attributes than as premodified or coordinated ones.

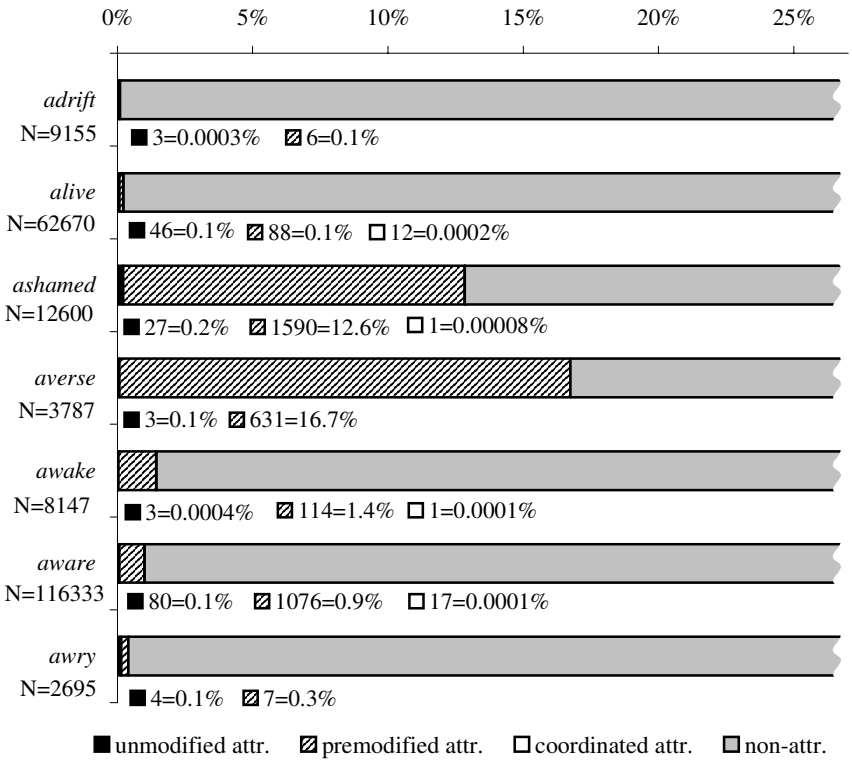

Figure 3. Syntactic classification of attributive and non-attributive uses of the adjectives of group II in a corpus of 40 years of British newspapers

The picture is reversed in group II, which comprises a larger group of 7 *a*-adjectives (see figure 3). None of these occurs in unmodified attributive uses in more than 0.2% of its total occurrences; the largest number of 80 hits in this category is attained by *aware*, which however account for no more than 0.1% of its numerous instances. For *adrift*, *averse*, *awake* and *awry*, the massive corpus yields not even a handful of unmodified attributive examples. In contrast, all of the seven adjectives considered occur in prenominal position somewhat more frequently when they are themselves premodified. In connection with *ashamed* and *averse*, premodification boosts the percentage of attributives well beyond the 10% mark, while for the other members of the group this syntactic position is still rare, depending heavily on the presence of premodifying material of some kind. The premodification types connected with individual adjectives differ widely:

adrift, *alive*, *awake* and *awry* mainly take adverbial premodifiers (e.g. *a curiously adrift Downing Street*, *vigorously alive characters*, *a wide awake Parliament*, *a slightly awry mixture*), *ashamed* typically occurs with a negative prefix (e.g. *an unashamed admirer*), *averse* is often part of a compound (e.g. *risk-averse accountants*), and *aware* occurs frequently either in a compound or with an adverbial modifier (e.g. *self-aware artfulness*, *socially aware policies*). The data in figure 3 thus provide strong support for the importance of premodification. Though premodification strategies vary with the particular adjective considered, they all produce comparable effects by increasing the acceptability of the items in prenominal position.

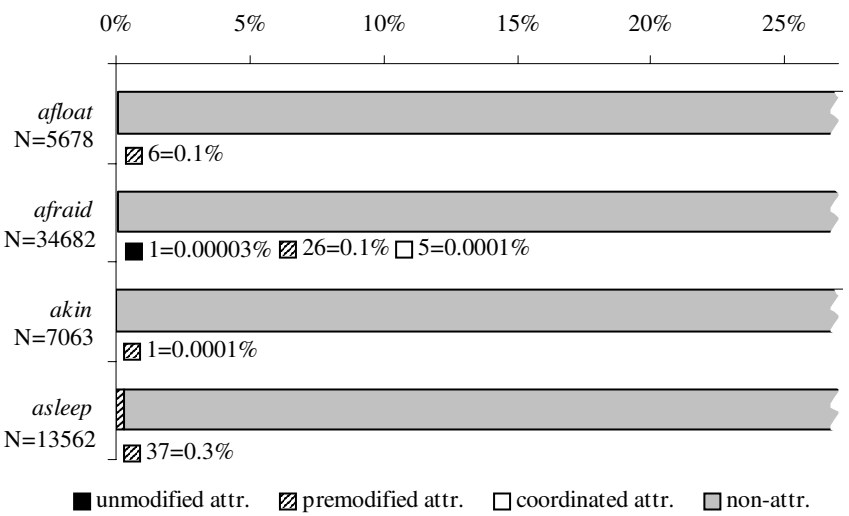

Figure 4. Syntactic classification of attributive and non-attributive uses of the adjectives of group III in a corpus of 40 years of British newspapers

Figure 4 contains the results for the remaining four adjectives, assigned to group III. In this group, there are virtually no unmodified attributive occurrences.[7] All of the adjectives function very rarely in prenominal position, and if they do, they depend obligatorily on the presence of a premodifier or, in five examples involving *afraid*, coordinated material. Prenominal *afloat* is accompanied by adverbial modifiers (e.g. *a barely-afloat growler*); *afraid* is usually prefixed with *un-* (e.g. *unafraid verve*), but also occurs in compounds (e.g. *girl-afraid white men*) or with coordinates (e.g. *afraid and wayward women*); the only attributive instance of *akin* is with

an adverb (*a nearly akin breed*); and *asleep* is always preceded by an adverb (e.g. *fast-asleep Harry*, *their half-asleep eyes*). In view of the extremely low shares of attributive uses, these adjectives might almost be considered as "predicative-only", like the lexemes that have been excluded from the present study (see section 2). However, their inclusion is justified on account of the fact that if they are used exceptionally as attributes, they have to be propped up by supporting material. The precise function of this material will be at the focus of the following sections. Suffice it to bear in mind at this point of the discussion that premodification or coordination is an indispensable precondition for the attributive use of the items *afloat*, *afraid*, *akin* and *asleep*.

While the data from figures 2, 3 and 4 suggest that premodification plays a prominent role in attributive uses, one might suspect that it is exactly as frequent and important in non-attributive uses. That this is not the case can be shown by means of a comparison of attributive and other uses. Figure 5 picks out two group II adjectives, *ashamed* and *aware*.

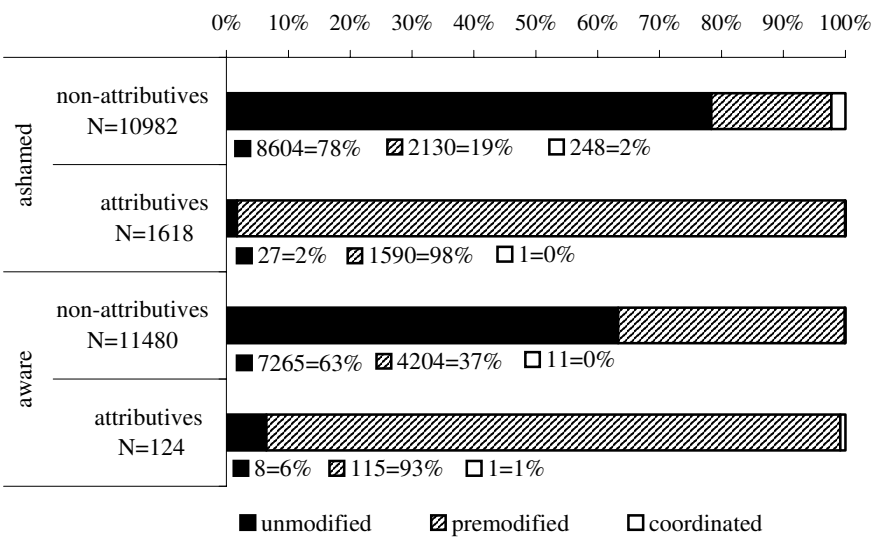

Figure 5. Premodification and coordination (or lack thereof) of non-attributive and attributive uses of two representative *a*-adjectives in a corpus of 40 years of British newspapers (for *aware*, only 1 randomly selected example in 10 is counted)

That these are representative is evident from an informal survey of the corpus data. For the extremely frequent *aware*, only about 1 randomly selected occurrence in 10 entered the count in figure 5. The two bars for each adjective represent 100 % of the non-attributive and attributive uses, respectively. As before, the black segments indicate the proportion of unmodified uses, the hatched segments that of premodified uses and the white segments that of coordinated uses. It is immediately apparent from this juxtaposition of non-attributive and attributive uses that unmodified and premodified uses are unevenly distributed: while non-attributives do without additional modifiers in 78% and 63% of the cases respectively, this is true of only 2 or 6% of the attributive uses. In turn, 98% of attributive *ashamed* carry the negative prefix *un-* and 93% of attributive *aware* are either prefixed, compounded or adverbially modified. The differences displayed in figure 5 are statistically highly significant.[8] Incidentally, the effect of coordination is not nearly so striking as that of premodification.

The results of the syntactic classification of *a*-adjectives can be summarized as follows: the presence of premodifying material is not only a frequent feature in attributive as opposed to non-attributive uses; what is more, it is also paramount to the acceptability of prenominal uses for the majority of the *a*-adjectives considered. While the relatively small group I (*aghast*, *agog*, *aloof*, *askew*) is largely independent of the presence of a premodifier, the largest group II (*adrift*, *alive*, *ashamed*, *averse*, *awake*, *aware*, *awry*) is obviously highly dependent on it, and group III adjectives (*afloat*, *afraid*, *akin*, *asleep*) do not occur without it (or a coordinate adjective) at all. What remains to be clarified are the reasons underlying this astonishing effect.

5. Discussion of previous accounts

The literature provides a handful of different explanations that are proposed to account for the near-incompatibility of *a*-adjectives with unmodified attributive use. The two most wide-ranging ones will be discussed and contrasted in this section and the following. However, this does not preclude the possibility that the others contribute to making single *a*-adjectives preceding a noun so objectionable.

Firstly, for some members of this group, their etymological origin as prepositional phrases goes some way towards explaining their limitation to predicative and postnominal uses (e.g. *adrift*, *afloat*, *akin*, *alive*, *aloof*, *askew*, *asleep*, *awry* and many more; cf. Jespersen 1913: 332; Markus

1997: 490; for a critical assessment see Jacobsson 1996: 208–209). The syntactic restrictions attached to their provenance might thus be perpetuated in the modern lexemes despite their morphological opacity. However, it is not completely impossible to find prepositional phrases in attributive position (e.g. *an on-board camera*, *an in-depth analysis*, *an off-the-cuff answer*). Moreover, for those adjectives that derive from ancient participles formed with the Old English *ge*-prefix (e.g. *aware*, perhaps also *ashamed*), for those originating in adjectives carrying Old English prefixes (e.g. *aghast*, *ashamed*, *awake*), and for a number of Romance loanwords (e.g. *afraid*, *agog*, *averse*), no similar historical account is available. What is more, it is not obvious how this problem would be averted by the use of premodifying material.

A second account that likewise applies only to a subgroup of the *a*-adjectives considered hinges on the fact that certain adjectives obligatorily require a complement without which their interpretation remains incomplete (cf. Jespersen 1913: 332; Jacobsson 1996: 209). This is particularly true of *averse*, *aware* and *akin*, and also of *ashamed* and *afraid*, but it is less true of the other members of the class. Crucially, adjectives followed by complements are typically barred from prenominal position. The compounded and adverbially premodified uses found in the corpus to some extent take care of this problem by preposing the logical complement to the adjective in question (e.g. *risk-averse* 'averse to risks', *environmentally aware* 'aware of the environment').

A third contributing factor militating against the placement of an *a*-adjective immediately following a definite or indefinite article is the seeming contradictoriness of *the* preceding what looks like an indefinite article and the putative awkwardness of *an* followed by another unstressed *a*- (cf. Jespersen 1913: 333). This would explain why any premodifier intervening between article and adjective improves the situation. The explanatory force of this argument is however limited to collocations involving the two articles; other determiners or noun phrases without articles are not affected (e.g. *his aloof attitude*, *aware parents*).

Two more promising approaches involve factors that are situated outside the realm of syntax, one semantic and one phonological. On the semantic side, it has been pointed out by several researchers that attributive uses on the one hand and predicative or postnominal uses on the other have different meanings *qua* constructions. Thus, Bolinger (1952: 1133–1137; 1967: 3–4) shows that adjectives occurring in attributive position have a strong tendency to encode a permanent (characteristic or habitual) property associated with the referent of the noun. In contrast, the property desig-

nated by predicative or postnominal adjectives may apply to the noun's referent only temporarily, on a specific occasion. A similar distinction is described by Quirk *et al.* (1985: 1242–1243) and Leisi (1985: 54). More recently, Ferris (1993: 49–51) argues that attributive adjectives and their head nouns contract a meaning relationship of simple qualification, which serves to identify the referent of the noun. In contrast, predicative and postnominal adjectives share the function of assigning a property to the referent of their head, which amounts to a fully fledged predication about a referent that is independently identified. While Bolinger's and Ferris's views exhibit slight differences of detail, there is a large degree of overlap, which Ferris (1993: 53) motivates as follows:

> When one is aiming simply to identify an entity for a hearer, in the nature of things one will tend to find enduring characteristics more reliable as the means of doing so, although there will certainly be a proportion of cases where some "occasional" property is just as useful. But if it is desirable to *assign* a property to an entity, then that will far more frequently, although not invariably, be needed precisely when the property is *not* an inherent quality of the entity in question; … (italics in the original)

Crucially, many of the *a*-adjectives typically have a temporary, occasional meaning (which may in turn be due to their origin as prepositional phrases or participles). Thus, being *awake* or *asleep*, *alive* or dead, *ashamed*, *aware* or *afraid* of something, *aghast* at a scene or *agog* to do something are usually transitory states; someone who is *adrift*, *afloat*, *askew* or *awry* is displaced from his/her usual position. As a consequence, *a*-adjectives are typically inappropriate as characteristic or identifying properties of their referent expressions (cf. Bolinger 1967: 12). If an equivalent meaning is needed to qualify a referent permanently, the English lexicon offers several alternatives, for instance *afraid – fearful*, *alike – similar*, *alive – lively*, *aslant – slanting* (cf. Bolinger 1965: 146; Quirk *et al.* 1985: 409).

The underlying semantic reason behind the distributional restrictions bearing on *a*-adjectives can thus be described as a clash between syntactic meanings and lexical meanings, or in Ferris's (1993: 2) words, "the facts in question are natural consequences of interaction between the meanings of the syntactic constructions as constructions, and the lexical meaning of the individual items that appear in them." In this respect, Ferris's account can be seen as an early constructionist approach to grammar, focusing on the close interrelations between semantic and syntactic structures.

With regard to the question of what premodification does to avert this conflict, Jacobsson (1996: 211) observes that it shifts the focus of attention from the state expressed by the *a*-adjective to the material premodifying the adjective and thereby to the specific degree or quality of the state. Enlarging on this rather vague notion, it will be argued here that, more precisely, premodification often transforms a temporary meaning into a characterizing one. Consider the examples in (7).

(7) a. *He admires writers of extremes, solitary,* ***unafraid individuals*** *who step outside conventional society in search of radical self-expression*. (*The Times* 1997)
b. *Now we need a cultural analysis subtle enough to account for such* ***self-aware consumers***. (*The Times* 2000)
c. *The long dead John Wesley has something as important to say to his generation as the* ***very much alive Pope John Paul II***. (*The Daily Mail* 1996)

When one is *afraid* of something, this property is usually confined to the limited period of time during which the potential danger persists, whereas being *unafraid* is a permanent trait of a fearless person. Similarly, the temporal extent of being *aware* of a problem depends on the possibly limited existence of that problem, but *self-awareness* is a characteristic of a person. Being (still) *alive*, though it lasts for a lifetime, is usually viewed in contrast to being (already) dead and is thus temporary, but together with the degree modifier *very much* it becomes an epithet of a personality used in a figurative sense.

However, not all a-adjectives that are premodified instantly convert to characterizing meanings. Thus, in (8a), the journalists mentioned were respectfully agog on that particular occasion, but may revert to their usual selves right after leaving the room. In (8b), the piece of advice itself indicates that even wide awake toddlers will at some point fall asleep if given the right treatment.

(8) a. *The man all Australia believes has the Ashes at his fingertips addressed a roomful of* ***respectfully agog journalists*** *yesterday* (*The Daily Mail* 1997)
b. *Drive* ***wide awake toddlers*** *round in the car until they sleep*. (*The Guardian* 1994)

The five exemplary cases given in (7) and (8) illustrate that the affinity between attributive adjectives and permanent meanings advocated by Bolinger (1952, 1967) is actually only a tendency that is not free from exceptions. But similarly, Ferris's (1993) alternative view is confronted with some counterexamples. Thus, Pope John Paul II in example (7c) certainly need not be identified, and similarly, *respectfully agog* in (8a), rather than disambiguating the roomful of journalists, ascribes an occasional property to them, which is part of the new information conveyed by the sentence. The overlap between Bolinger's and Ferris's approaches is however considerable: cases like (7a–b) satisfy both of them, while example (8a) runs counter to both.

With nouns referring to abstract concepts or attitudes instead of concrete persons or objects, the situation is entirely different. In instances like those in (9), the concepts of *outlook* and *regard* have no extension in time or space. As a result, the preceding *a*-adjectives automatically take on a characterizing meaning and thereby inherently satisfy Bolinger's criterion. In contrast, Ferris's (1993) distinction between referent identification and quality assignment has been developed with reference to concrete entities. Its transfer to the domain of abstract concepts is less than clear. It appears that abstract nouns like those in (9) do not lend themselves to referent identification; rather, the attributes seem to ascribe particular qualities to their referents, as would be the case in predicative uses.

(9) a. *Although there is little to suggest a particularly* ***socially aware outlook*** *in breezy hit singles such as Pure, Perfect and Marvellous their lyrics have been quoted by both right and left wing politicians*. (*The Daily Telegraph* 1996)
b. *Ten years of teaching history in Japan have left me with an* ***unashamed regard*** *for the country and its gentle people*, … (*The Times* 2000)

For the analysis described in section 6, the semantic criterion of permanent vs. temporary meaning, gleaned from Bolinger, has been applied to the corpus data. The adoption of Ferris' criterion might have led to slightly different results, but this was not pursued any further since a decision about identification vs. property assignment would have required consideration of a larger context. In an extensive dataset like the one investigated here, this would hardly have been feasible, especially in view of cases like (9), which defy an easy categorization.

Turning now to the phonological side, *a*-adjectives incur an additional problem. All *a*-adjectives included in the present study are disyllables (and there are only a few longer items in this group, e.g. *akimbo*, *atremble*). Since the initial *a-* cannot be stressed, the lexical stress in these words falls regularly on the second syllable. However, the overwhelming majority of English nouns are stressed on their initial syllables: according to a count outlined in Schlüter (2005: 63), this is the expected stress pattern of about 85 % of nouns in running text. Thus, in 85% of the cases in which an isolated *a*-adjective precedes a noun, this constellation gives rise to an adjacency of two stressed syllables, referred as a stress clash. It has been shown that such clashes are subject to a general avoidance tendency codified as the Principle of Rhythmic Alternation, i.e. the tendency for stressed and unstressed syllables to alternate with one another (cf. Couper-Kuhlen 1986: 60).[9] In many cases of attribute-noun sequences, in particular with most common monosyllabic adjectives, there is no easy way out; in cases where there is a convenient alternative, this may step into the breach; and in the case of particularly sensitive adjectives, this may result in a total avoidance of prenominal uses. Their rhythmic incompatibility has been argued to create an obstacle to the prenominal occurrence of *a*-adjectives, which accounts for their striking rarity in attributive uses (cf. Fijn van Draat 1912: 23–24; Bolinger 1965: 143; Minkova 1990: 327; Schlüter 2005: 79–85). The role of premodification as a factor alleviating these restrictions is illustrated in the examples under (10).[10]

(10) a. *As a hungover and **únaware Réinke** gave a master class to students in a kibbutz, …* (*The Daily Mail* 1996)
b. ***Nutrítion-awàre rúgby plàyers** have long since eschewed a half-time orange in favour of a Jaffa Cake*. (*The Daily Mail* 1994)
c. *Over the years, it has staged exhibitions and lectures and the staff have taken calls from **cúlturally-awàre tóurists** and Moore groupies planning pilgrimages*. (*The Daily Mail* 2000)

In (10a), *aware* is preceded by a negative prefix. While this does not alter the stress on the adjective in its citation form or in predicative position, in a rhythmically precarious context like this, followed by an initially stressed noun, the prefix provides an additional stressable syllable to the left. This is exploited by the English stress shift rule (cf. e.g. Giegerich 1985: 211–212; Couper-Kuhlen 1986: 61), which moves the stress leftwards from the clashing position to the prefix. (10b) illustrates a case where *aware* is part of a compound. By virtue of the ordinary English

compound stress rule (cf. e.g. Couper-Kuhlen 1986: 28; Hayes 1984: 43), the primary stress in this complex lexeme is located on the first element, so that *aware* itself retains only a secondary stress.[11] In (10c), finally, *aware* is premodified by an adverb, but would normally (i.e. in predicative position) remain more strongly stressed than its modifier. Adverb and adjective however form a sufficiently close unit for the stress shift rule to move the stress from right to left. In each of the cases exemplified in (10), the resultant structure is thus free from clashing stresses.

The presence of premodifying material is not the only way in which rhythmically acceptable attributive structures can be achieved. Coordinated uses in which the *a*-adjective is followed by another adjective (typically connected with it by *and*, *or*, *but* or a comma) are likewise apt to avert a stress clash, as indicated in example (11). In addition, even non-coordinated unmodified attributive uses do not lead to stress clashes if a noninitially stressed noun is involved, as in example (12). Before initially stressed nouns, however, single *a*-adjectives inevitably produce a stress clash, which is illustrated in (13). As in the case of the semantic constraint against temporary meanings, a given dataset of attributive *a*-adjectives will thus contain a yet-to-be-determined number of infractions of the phonological constraint.

(11) *wondering how, with our widespread love of bawdiness, we ever came to accept the Puritan revolution, and finding the most* ***alíve and intélligent péople*** *in our industrial cities.* (*The Daily Mail* 1999)

(12) *Part of the fun of this sort of programme is watching the victims'* ***aghást expréssions*** *as their cherished gardens are trashed in the name of art.* (*The Daily Telegraph* 1997)

(13) *Until recently Tony Blair was like the* ***alóof pílot*** *of a U2 spy plane.* (*The Daily Telegraph* 1995)

The existence of counterexamples like (13) leads Jacobsson (1996: 213) to reject the phonological account as insufficient. As has already been shown, there is however no lack of counterevidence for the semantic approach, which is nevertheless favoured by Jacobsson. It remains to be seen which of the two turns out to possess more explanatory force.

The above discussion should suffice to detail the circumstances under which the semantic and phonological criteria for attributive use will be judged to be satisfied or violated. To recapitulate, among the corpus examples quoted in this section, all except those in (8) were considered to satisfy the constraint against temporal meanings in attributive position, as advocated by Bolinger (1952, 1967). By contrast, only example (13) was counted as an infraction of the rhythmic constraint against stress clashes within attributive structures. While the examples discussed so far represent an arbitrary selection from among the corpus data, the following section will lead up to a quantitative assessment of the relative constraint weights.

6. Evaluation of semantic and phonological constraints

So far it has been shown that premodification enhances the statistical probability with which *a*-adjectives can be found before a noun, and two main factors have been discussed that have been proposed in the literature to account for the importance of premodification. Up to this point, the explanatory potential of these semantic and phonological constraints has however remained uncertain. In the following analysis, the cases in which these two constraints are satisfied or violated are quantified and brought into connection with the extent to which individual *a*-adjectives occur prenominally.

The study draws on the same dataset of 40 years of British newspapers as the counts in section 4, now including all attributive and excluding all non-attributive uses. As before, the *a*-adjectives considered are presented in three groups of decreasing affinity with (unmodified) attributive uses. Again, this subdivision only serves expository purposes since there are extreme differences between the adjectives making up one group.

Consider first group I, consisting of the four items *aghast*, *agog*, *aloof* and *askew*, all of which occur occasionally in attributive position even when unmodified. Figure 6 displays the results of the assessment of constraint satisfactions and violations according to the criteria presented in section 5. The black segments of the bars represent attributive uses in which the semantic constraint against temporary meanings is violated; the white segments refer to those uses in which the phonological constraint against stress clashes is violated; the hatched black-and-white segments stand for the cases in which both are violated; and the grey segments indicate the remaining cases in which neither constraint is violated.

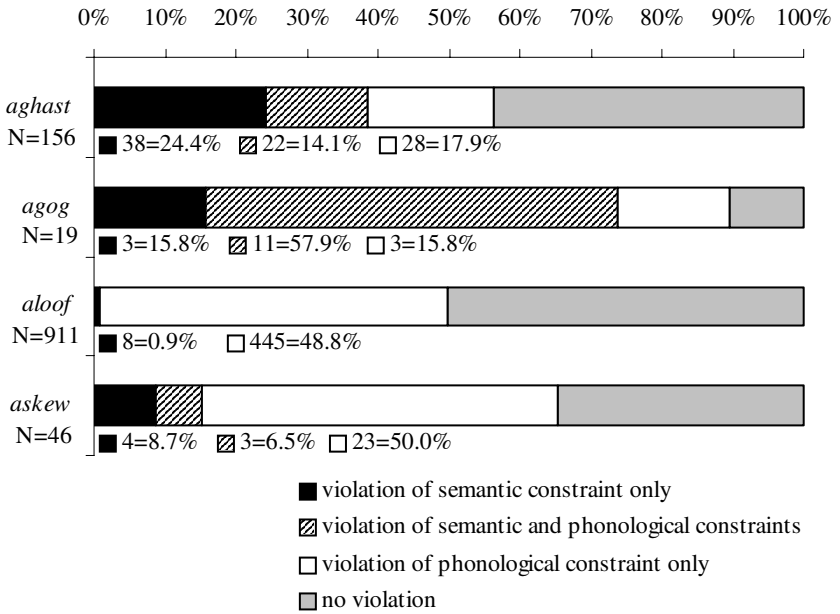

Figure 6. Violations of semantic and phonological constraints in the attributive uses of the adjectives of group I in a corpus of 40 years of British newspapers

The picture afforded by figure 6 is somewhat inconsistent. For a start, in three out of four adjectives we find simultaneous violations of both constraints in the same subset of examples. For *agog*, this is even the most typical case (e.g. *an agog nation*), though this adjective is rarely used as an attribute at all (only in 1.9% of its occurrences; cf. figure 2). This avoidance effect seems to be related to the fact that *agog* does not readily lend itself to premodification: only 3 of the 19 attributive uses are premodified by adverbs, which takes care of the rhythmic problem, and two of these cases are also characterizing (e.g. *permanently agog friends*). *Aghast* and *askew* are somewhat more common in attributive uses (4.9% and 6.3% respectively), but most commonly occur without a premodifier as well. In view of the frequent absence of a premodifier, the shares of 43.6% and 34.8% of conformity with both constraints are however considerable: the adjectives frequently take on a permanent meaning (e.g. *askew roofs*) and/or precede non-initially stressed nouns (e.g. *aghast officials*). The most exceptional *a*-adjective in this class, *aloof*, which has been found to be

particularly frequent in attributive uses (23.1% of its occurrences), is also special in that its meaning is usually one of characterization (e.g. *the aloof star*). Stress clashes are frequent, but if their share does not exceed 50% of the instances, this is due to the fact that *aloof* often occurs before non-initially stressed nouns (e.g. *an aloof observer*), and in coordinated attributive structures tends to appear in non-final position, presumably on account of its end-stress (e.g. *an aloof, mysterious figure*). Note that, thanks to its semantics, *aloof* never violates both constraints at the same time.

The latter effect is most typical of the largest group of *a*-adjectives (group II), which has been defined as sporadically attributive when unmodified, but more commonly when accompanied by premodifying material. Consider the results of the constraint assessment displayed in Figure 7. The results of this analysis are again highly heterogeneous for different adjectives. What unifies them is the fact that attributive uses violating both the semantic and the phonological constraint at the same time do not exceed 1% of the cases, if they exist at all. For instance, *adrift*, *alive* and *awry* are extremely rare in attributive uses (no more than 0.4 % of their total tokens), and are evidently licensed only if they happen to characterize the referent of the noun (often with a figurative meaning, e.g. *this adrift person*), if a stress clash is averted (e.g. *her barely alive baby*), or if both are the case (e.g. *a slightly awry mixture*). The latter adjective, *awry*, always takes on a characterizing function, suggesting that the semantic orientation of attributives is pre-eminent here. These findings suggest that with the three adjectives *adrift*, *alive* and *awry*, a single constraint violation is still tolerated while a twofold one is not: the semantic and phonological constraints work cumulatively.

The remaining four adjectives fall into two pairs: on the one hand, *awake* and *aware*, which have been found to occur in attributive position in 1.4% and 1.0% of their occurrences, occasionally violate the semantic constraint (for *awake* even in more than one third of all cases, e.g. *the half-awake town*), or the rhythmic constraint (e.g. *an aware feminist*), but very rarely both (e.g. *an aware brain*). Figure 3 above shows that premodification of attributive uses is not a very common feature with these adjectives. This entails that constraint violations cannot easily be avoided, and the persistence of violations can, in turn, be made responsible for the relative infrequency of *awake* and *aware* as attributes.

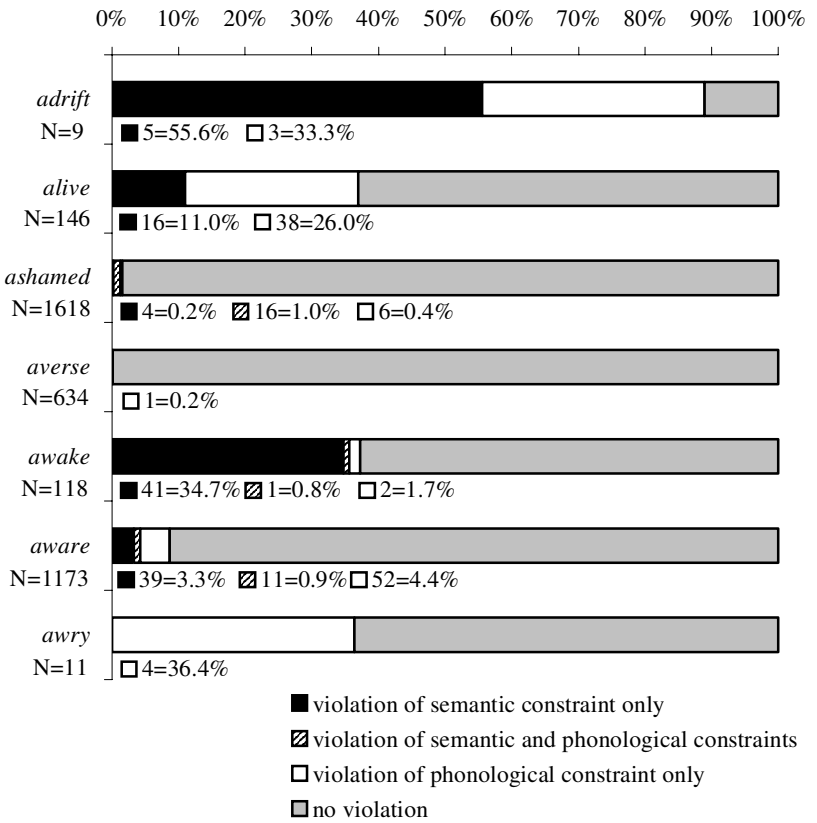

Figure 7. Violations of semantic and phonological constraints in the attributive uses of the adjectives of group II in a corpus of 40 years of British newspapers

The situation is completely different in the cases of *ashamed* and *averse*. Figure 3 indicates that the use of premodifiers is extremely widespread in connection with these adjectives when they occur in prenominal position. As a result of the phonological and semantic effects produced by the premodifiers, the relevant data in figure 7 contain very little evidence of cases incurring any constraint violations at all. And further, since they readily accommodate premodification, *ashamed* and *averse* boast strikingly high shares of attributive uses in figure 3.[12]

This brings us to the third and last group of *a*-adjectives, those that occur in attributive use virtually only when premodified. The results are displayed in figure 8.

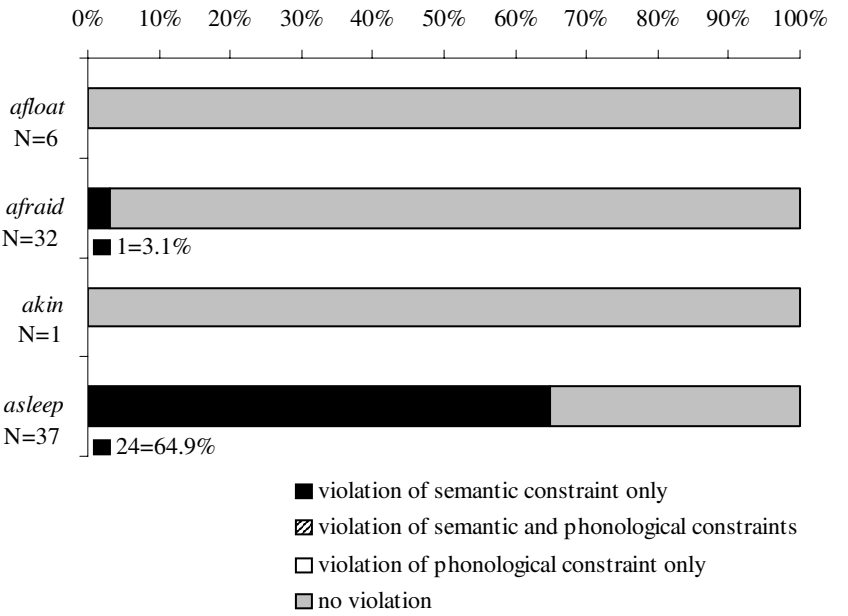

Figure 8. Violations of semantic and phonological constraints in the attributive uses of the adjectives of group III in a corpus of 40 years of British newspapers

First of all, the number of attributive uses is extremely low for all members of this group (cf. figure 4), so that the data underlying this figure are very sparse, in particular for *afloat* and *akin*. Since all attributive uses in this group are by definition premodified, we find no infractions of the rhythmic constraint among the four adjectives under consideration. What is more, the semantic constraint is likewise conformed to in all examples involving *afloat*, *afraid* and *akin* (e.g. *barely-afloat mini-icebergs*, *the unafraid Thomas*, *a nearly akin breed*).[13] In stark contrast, *asleep* is still temporary in about two thirds of its attributive occurrences (e.g. *some half-asleep editor*). In this respect, it is diametrically opposed to *aloof* and *awry*, which

override the rhythmic constraint quite freely, but hardly ever convey temporary meanings when in attributive position.

Incidentally, it is interesting to note that a disproportionately high number of single unmodified attributive *a*-adjectives is followed by nouns that have an unstressed initial syllable. While the ordinary discourse frequency of these nouns runs to 15% (see above), as many as 30% of the nouns collocating with uses of the fifteen *a*-adjectives that are neither premodified nor coordinated exhibit this exceptional stress pattern. This unusually high ratio should suffice to dispel any doubts about the relevance of stress clash avoidance as a factor constraining the prenominal use of *a*-adjectives.

The evaluation of attributive *a*-adjectives provided in this section has various implications that can be summarized as follows. The fifteen adjectives considered show widely discrepant degrees of sensitivity to the prohibition against non-permanent meanings and stress clashes in prenominal position – not just between the three syntactically defined groups, but also within them. Some adjectives easily tolerate infractions of only the semantic or only the phonological constraint, some tolerate neither, and some allow both. In principle, though, the two constraints considered have to be treated on an equal footing, with item-specific rankings rather than a predetermined priority, e.g. of semantics over phonology.

A question that remains open is if and how the specific behaviour of an item from the class of *a*-adjectives can be predicted. To a large extent, this seems to be a matter of the lexical information stored along with each item. One component of this is the phonological aspect: while the stress contour of all adjectives considered is identical, for *aloof* and *askew*, this does not seem to seriously hamper their occurrence in prenominal position; *asleep* and *awake*, on the other hand, depend strongly on the satisfaction of this constraint. The other component is semantic in nature and concerns the appropriateness of an adjective to take on permanent, characterizing meanings (in literal or figurative senses) or, alternatively, its tolerance of infractions to this requirement. *Aloof*, for instance, is typically characterizing when qualifying an individual; similarly, *alive*, *ashamed* and *aware*, while normally temporary in meaning, convert to permanent meanings when premodified. *Agog*, *awake* and *asleep*, in contrast, generally keep their temporary meanings even as attributes, but are by no means frequent in this position. Thus, while semantic and phonological constraints play a prominent role in licensing attributive *a*-adjectives, their importance is far from uniform across all items.

Above and beyond this variegated picture, one overarching generalization is however feasible. Aside from the items of group I (*aghast*, *agog*,

aloof and *askew*), which occasionally occur in attributive uses even in isolation, the frequency with which an *a*-adjective appears in this position by and large depends on its compatibility with premodifiers of different kinds. The adjectives of group II (especially *ashamed*, *averse*, *awake* and *aware*) stand out in this respect, while those of group III (especially *afire*, *afloat* and *akin*) are not very often premodified and are thus extremely rare as attributes. As has been shown, the semantic and rhythmic changes effected by premodification seem to be at the basis of this phenomenon.

The affinity with premodification is a better predictor of attributive uses than, for example the overall textual frequency of the adjective and its resultant entrenchment in the mental lexicon of language users. For instance, *aware*, *alive*, *afraid* and *asleep*, which rank highest in terms of overall frequency, do not even have 1% of attributive uses. In contrast, the moderately frequent *aloof* and *averse* boast shares of 16 % and more and even the least frequent item *askew* reaches more than 6% of attributives.

7. Conclusion

Towards the end of his article, Jacobsson (1996: 218) remarks that in grammatical treatments of positional restrictions on adjectives, "*a*-words, or rather subsets of these, have traditionally been singled out for special attention – which is not to say that their distribution has been correctly described or adequately explained". The present study has taken the description and explanation one step further. Based on a large-scale corpus, it has provided the first quantified evidence of the distributional patterns of all disyllabic *a*-adjectives that were found to occur in prenominal position. The adjectives *aghast*, *agog*, *aloof* and *askew* appear occasionally in attributive position even when not premodified; the largest group, including *adrift*, *alive*, *ashamed*, *averse*, *awake*, *aware* and *awry*, occur attributively more often when they are premodified than when they stand on their own; finally, *afloat*, *afraid*, *akin* and *asleep* only function as attributes when they are premodified. The three groups that emerge show no more than a minimal overlap with Jacobsson's (1996: 218) intuitively based categorization. Within them, individual adjectives exhibit extreme discrepancies in their distributional profiles. In addition to this descriptive readjustment, a revision of the explanatory approach taken in Jacobsson (1996) has been proposed. Focusing on a semantic constraint disfavouring temporary meanings in attributive modifiers and a phonological constraint working against stress clashes between attributes and their head nouns, the study has dem-

onstrated that both contribute to discouraging the attributive use of single *a*-adjectives. Arguably, in the vast majority of attributive uses, premodification however secures the conformity with both types of constraints. This explains the prominent role played by premodifiers in the licensing of attributive *a*-adjectives.

The importance of various premodification strategies (prefixation, compounding, adverbial modification) and of coordinated attributive structures accounts for the fact, confirmed by a diachronic analysis, that the attributive use of *a*-adjectives is a relatively recent phenomenon. Its rise hinges upon the more general increase in the grammatical complexity of attributive constructions which have progressively become available since the nineteenth century.

A quantitative analysis of the proportion of attributive uses in which the semantic and the phonological constraints are satisfied or violated has come to the conclusion that they are not mutually exclusive (and do not rule out the contribution of further constraints, either). To the extent that meaning and rhythm can be weighed against each other, the relation of power is item-specific rather than of a principled nature. While only a few adjectives (e.g. *agog*, *aghast*, *askew*) easily tolerate infractions of both the semantic and the phonological constraint, some show an extreme sensitivity to either one or the other. *Aloof* and *awry*, for instance, rarely violate the semantic criterion. Contra Jacobsson (1996: 211), for some *a*-adjectives in particular (e.g. *awake*, *asleep*), the avoidance of stress clashes turns out to be a more incontrovertible requirement than the semantic specification. For many others (e.g. *ashamed*, *averse*, *aware*, *afloat*, *afraid* and *akin*), there is a strong tendency to conform to both the semantic and the phonological restriction.

On a more general, theoretical level, these empirical results have far-reaching implications for a model of grammar accommodating them. For one thing, it has to allow for more interactions between different components of the language system than is common in many conceptions. A long tradition in linguistics has recognized the influence of semantics on syntactic structures, and the close ties between these two are at the focus of the innovative constructionist approach to grammar (cf. Goldberg 1995; 2006; see furthermore the graphic representation quoted from Croft and Cruse 2004: 258 in Bergs, this volume). However, the above analyses have suggested that phonological influences have to be assigned an equally important place in the determination of syntactic constructions. The resulting grammar has to be an interactive one in which semantic and phonological information is co-present in the building of grammatical structure. While

such a possibility is not in principle excluded in Construction Grammar (see again the figure in Bergs, this volume), its exclusive focus on the correspondences between syntax and semantics seems to reject the relevance of other levels of linguistic structure such as morphology and, in particular, phonology. The conspicuous absence of phonology from constructionist accounts is exemplified by the other two contributions in part 2 of the present volume: in Hoffmann's account of preposition placement in relative clauses and in Bergs's study of expressions of futurity, phonological form plays no role whatsoever. Phonology is not exactly ruled out, but the character of the grammatical model that Hoffmann and Bergs embrace distracts from this level of analysis. A critique of this property of Construction Grammar can be found in Hudson (this volume), who advocates a more traditional view of language including morphological and phonological aspects. In this respect, Construction Grammar can be usefully complemented by a more output-oriented model concentrating on the phonological form of grammatical structures, as is the case in Optimality Theory (e.g. Prince and Smolensky 1993; Kager 1999).

Secondly, the empirical analyses indicate that violations of both the semantic and the phonological constraint coincide relatively rarely. This suggests that a violation of only one of the two constraints is frequently tolerated, whereas a simultaneous violation of both constraints is strongly avoided as far as many *a*-adjectives are concerned. This finding indicates that, unlike standard versions of Optimality Theory, the evaluation of constraint violations must be based on additive quantification: if a structure is grammatical or not does not depend on whether it violates a single important constraint, but on how many constraints it violates altogether. The interplay of semantic, phonological and other factors not studied here is thus truly interactive in so far as constraint violations become effective in combination rather than in an either-or fashion. In the literature on Optimality Theory, several models have been proposed and discussed that accommodate different kinds of cumulative constraint interaction (see, for instance, Guy 1997; Boersma 1998; Anttila and Cho 1998; Slade 2003; Jäger and Rosenbach 2006).

Finally, while these variations on the theme of Optimality Theory take care of the additive workings of constraints, the results of the present study challenge the theory in yet another respect. The findings place much of the explanatory load on the lexical specifications of individual adjectives. Though both the semantic constraint and the phonological constraint may be operative for each lexical item, their relative importance seems to vary from one adjective to the next: for some, satisfaction of the permanent

meaning is a necessary precondition; for some, the avoidance of stress clashes is a must, and many others occupy the middle ground between these extremes. For constraint-based grammars, this means that constraint rankings must be item-specific, rather than fixed in a unique and consistent constraint hierarchy. This requirement flies in the face of such rigid formalisms as Optimality Theory. For Construction Grammar, this implies that the inherent meaning of a construction, for instance the characterizing or identifying semantics of attributive structures, is complied with by some lexical items filling them, but not by certain others, which may preserve a temporary interpretation.

This is not the place to elaborate a detailed critique of the various innovative models of grammar that have been developed in the 1990s, or, for that matter, to expand on an alternative and possibly more adequate model.[14] However, the study of *a*-adjectives presented in this contribution can serve as a test case for different conceptions. Thus, the emphasis on constructional meanings that is at the centre of Construction Grammar can usefully be supplemented with the focus on phonological output structures that is characteristic of Optimality Theory. What is more, since even the outwardly homogeneous class of *a*-adjectives has turned out to be extremely heterogeneous with regard to the syntactic behaviour of individual members, a strong lexical component specifying degrees of sensitivity to different constraints is required as well. In a nutshell, the example of the positional restrictions bearing on *a*-adjectives demonstrates that only the best of all models taken together is good enough to come to terms with the complex empirical reality.

Notes

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1. For further remarks on the origin of this class of verbs, see Bolinger (1967: 12); Jacobsson (1996: 208); Huddleston and Pullum (2002: 559); cf. furthermore Bolinger (1967: 3); Bailey (1987: 149); Markus (1997: 490).
2. This includes participles preceded by prefixes or followed by particles, compound attributive adjectives, more or less complex adverbial modifiers and negation of the attribute by *not* or *never*, giving rise to ever more complex prenominal constructions (e.g. *the unlit hall*, *his broken-down state*, *a panic-stricken mole*, *a suitably drunk customer*, *quite an unusual person*, *the never especially upright party*, *the not necessarily safer but altogether more satisfying pursuit of skiing*; cf. Schlüter 2005: 143–146).
3. Compare in this context Quirk *et al*. (1985: 409), who discern only two groups.
4. Instances where the adjective is compared by means of *more*, *most*, *less* or *least* were counted as unmodified attributive uses because the fundamental relations (both semantic and phonological) with the noun in examples like (i) are unaltered with regard to adjectives in their absolute form.
   (i) *They seem to have a generally faster,* ***more alive culture*** *and don't need to turn to drink*. (*The Daily Mail* 1994)
5. Cases where attributive *a*-adjectives occupy the last slot in a coordinated attributive structure and immediately precede the noun were assigned to the unmodified attributive category (or, if they carried a prefix, to the prefixed category). Thus, in (i) below, *aloof* was counted as a coordinated attribute, whereas in (ii) it was considered as an unmodified attributive use.
   (i) *Then, she played an* ***aloof, unruffled wife*** *whose mind teemed with images of sexual violence*. (*The Times* 1997)
   (ii) *The 17th-century colonists who first encountered them wrote of* ***hospitable but aloof tribesmen*** *who occupied vast swathes of what is now North Carolina and Georgia*. (*The Daily Mail* 1998)
6. For *aloof* (as well as *alert*, which is not considered here), this has already been stated in Quirk et al. (1985: 409) and Huddleston and Pullum (2002: 559).
7. The only exceptional unmodified occurrence of *afraid* is a highly marked phrase from a letter to the editor representing a two-word summary of an earlier article.
   (i) *Last week, as at 9 am today, the place was delightfully but depressingly empty; empty not just of "****afraid Americans****" but of over half my usual British and European fellow travellers*. (*The Times* 1991)
8. The results of the chi-square test for *ashamed* (non-attributive vs. attributive) are: $\chi^2 = 4216.62$, df = 2, $p \approx 0$ (***); for *aware*: $\chi^2 = 173.02$, df = 2, $p = 2.69 \cdot 10^{-38}$ (***).
9. For more discussion, see Fijn van Draat (1912), Bolinger (1965), and at greater length Schlüter (2005: 60–149).
10. Acute accents indicate primary stresses, whereas grave accents indicate secondary stresses.

11. There are, of course, some well-known exceptions to this rule typically concerning nominal compounds like *àpple píe*, *sùmmer níght*, *sìlk tíe* (see, for instance, Plag 2006). The type of compound involved in the present study, however, presumably conforms to the compound stress rule, and even if individual items did not, they would be liable to undergo stress shift.
12. In the case of *averse*, and to a lesser extent also *aware*, a major obstacle to their use as attributes seems to be the obligatory presence of a complement (see section 5). The effect of compounding (e.g. *debt-averse*, *design-aware*) and premodification by an adverb (e.g. *historically aware*) is mainly to encode the (near) obligatory complement, whereas the rhythmic and semantic effects are presumably only of secondary importance.
13. The only exception is, once more, the highly idiosyncratic example already quoted in note 7.
14. But see Schlüter (2005: 238–257) for a critical assessment of Optimality Theory applied to empirical corpus data, and Schlüter (2005: 257–306) for an outline of a network model that attempts to integrate multidimensional interactions between phonological, semantic and other factors in the actualization of grammatical structures.

Corpora

BNC

1995 *The British National Corpus.* Version 1.0. BNC Consortium/Oxford University Computing Services.

The Daily Mail

1993–2000 *The Daily Mail*, including *The Mail on Sunday* on CD-ROM. Produced by Financial Times Electronic Publishing. Distributed by Chadwyck-Healey.

The Daily Telegraph

1991–2000 *The Daily Telegraph*, including *The Sunday Telegraph* on CD-ROM. Produced by Financial Times Electronic Publishing. Distributed by Chadwyck-Healey. Database copyright: The Telegraph Group Ltd. Software copyright: Personal Library Software Inc.

ECF

1996 *Eighteenth-Century Fiction.* Electronic Book Technologies Inc./Chadwyck-Healey. Cambridge.

EPD

1996/1997 *English Prose Drama.* Electronic Book Technologies Inc./Chadwyck-Healey. Cambridge.

The Guardian

1990–2000 *The Guardian*, including *The Observer* on CD-ROM. Copyright: Guardian Newspapers Ltd. Software copyright: Chadwyck-Healey.

NCF

1999/2000 *Nineteenth-Century Fiction.* Electronic Book Technologies Inc./Chadwyck-Healey. Cambridge.

The Times

1990–2000 *The Times*, including *The Sunday Times* Compact Disc Edition. Copyright: Times Newspapers Ltd., Software copyright: Chadwyck-Healey.

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Part 3 Constructions and lexicalism