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Compound Adjectives in English

A descriptive approach to their morphology and functions

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To my mother

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Introduction

The topic of the present dissertation is the investigation of compound adjectives in English. The aim, declared in the subtitle, is to give a descriptive overview of this vast and much-neglected aspect of the English language.

The Kaleidoscopic variety of this class of compounds, together with its vital productivity in Present English, particularly in written language, have provided the stimuli to the present analysis that aims at giving some deeper insight on this rich and living phenomenon, which is far from marginal in English, despite the little attention it has so far received.

The approach chosen for this purpose is twofold, namely morphological and functional. The morphological perspective focuses on the identification of the combinatory patterns of compound adjectives, as well as on the morphological properties of the constituents. The functional view deals with the notion of adjectivehood, both in its semantic and syntactic implications, and points to analyse this notion applied to the class of compound adjectives.

This study can be divided into three main parts. The first part (chapter I) concerns compounding in general, as the fundamental basis for any further analysis. The second part (chapter 2) consists of a general review of what is generally defined as the state of the art on compound adjectives. The third part (chapter 3 and 4) is devoted to the classification and to the morphological-functional analysis of the class of compound adjectives.

Chapter I introduces the basic notion of compounding, starting from the definitions given by various scholars, and looks at its collocation within general morphology. The chapter proceeds to present the main properties of compounding, such as binarity, recursivity and headedness; the latter being crucial to the general classification of compounds. Successively, it is given a brief review of the various compound classes in English with reference to the notion of compound prototypicality and non-prototypicality. Finally, a section is devoted to the notion of compoundhood in relation and in contrast to syntax. Here, various criteria for compoundhood are introduced, starting from the well-known concept of syntactic atoms, passing through syntactic tests to semantic and phonological criteria.

Chapter two is devoted to the literature on compound adjectives that stands out for its fragmentary and sporadic nature, which once more remarks the scarce attention devoted to this category, especially in recent years. The works are divided according to the type of publication, namely handbooks, monographs, articles and single contributions. Handbooks provide quick sketches of classifications, while articles generally focus on one specific pattern within the class. Monographs represent more exhaustive contributions, although they have the disadvantages of being quite outdated and orientated towards the sole transformational approach.

Chapter three presents a proposal of classification for compound adjectives that relies on morphological and semantic criteria at the same time, which partially takes advantage of the previous classification proposed by Marchand, 1969. The data used for the classification and the observations is mainly drawn from the British National Corpus (BNC, henceforth), but also from other sources, which have provided useful information. Each subgroup identified is analysed in its semantic and morphological characteristics with reference to the notions of grammatical productivity and analogy. Particular attention has been devoted to restrictive/specifying compounds, as in *fire-resistant*, for which some families of compounds are identified. After endocentric compounds, the chapter deals with copulative compounds, which have been analysed and classified in relation to the nominal head. Participial compounds, given their special collocation inside the class of compound adjectives¹, are dealt separately in the following chapter. The final section is dedicated to exocentric compounds and borderline formations, whose status of compound adjectives is often questionable, due to their formal and semantic characteristics.

Chapter four concentrates on the functional analysis of compound adjectives according to the notion of adjectivehood and prototypicality. The various subgroups of compound adjectives are tested and particular attention is devoted to participial compounds. In this context, they are classified and distinguished into synthetic and non-synthetic, then consequently analysed for their adjectival status. The data for participial compounds are drawn from two subcorpora of the ICAME

¹ They do not contain proper adjectives but participles, with which they share some common functions.

corpus. Finally, putting together the observations made so far, the chapter closes with a proposal of collocation of compound adjectives inside the variegated class of adjectives, which is graphically realised according to a centre-periphery approach.

Chapter I

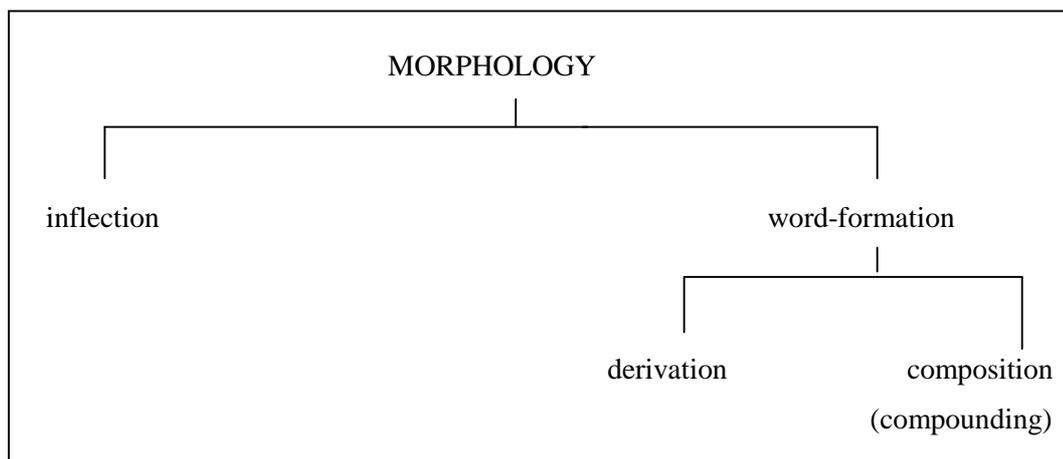
Compounding

0. Introduction

In this chapter I focus on the vast topic of compounding and on the most relevant notions and issues related to it. I begin by defining compounding in general terms and I later investigate its inherent nature and how it collocates within general morphology, according to various theoretical approaches. I then introduce the crucial notion of head, which is functional to the classification of compounds.

1. What is compounding? Definitions and relevant characteristics

Compounding is one of the branches of morphology, which deals with word-formation. It is a powerful process of compacting information and enriching vocabulary within a language, exploiting previously existing lexical items. The following scheme visualises its place in morphology¹.



(Bauer, 1983:34)

The process of compounding, with compounds as a result of it, has been

¹ Within word-formation, the scheme does not include other non-concatenative morphological phenomena, such as backformation, conversion and abbreviation (blending, acronyms, clipping).

variously defined by linguists over time and, although definitions obviously share a common conceptual core, differences can be identified. Let us look more closely at some definitions and comment on them.

	Author	Definition
(1)	(Adams, 1973: 30)	“A compound word is usually understood to be the result of the (fixed) combination of two free forms, or words that have an otherwise independent existence <u>These items</u> though clearly composed of two elements, <u>have the identifying characteristics of single words: their constituents may not be separated by other forms, and their order is fixed.</u> ”
(2)	(Bauer, 1983:28)	“ <u>When two (or more) elements</u> which could potentially be used as stems are combined to form another stem, the form is said to be a compound. A compound lexeme (or simply a compound) can thus be defined as a lexeme containing two or more potential stems. Since each potential stem contains at least one root, <u>a compound must contain at least two roots.</u> ”
(3)	(Castairs-McCarthy 2002: 142)	“ a word containing <u>more than one root</u> (or combining form)”
(4)	(Dressler, 2005)	“Compounds thus can be loosely defined as <u>grammatical combinations of words</u> , i.e. lexical items or lexemes, to form new words.”
(5)	(Fabb, 1998:66)	“A compound is a word which consists of <u>two or more words.</u> ”
(6)	(Marchand, 1969:11)	“The coining of new words proceeds by way of <u>combining linguistic elements on the basis of a determinant/determinatum relationship</u> called syntagma. When two or more words are combined into a morphological unit on the basis just stated, we speak of a compound.
(7)	(Matthews, 1991: 82)	“Compounding is a process by which a compound lexeme is derived from <u>two or more simpler lexemes.</u> ”
(8)	(Plag, 2003:135)	“ ... a compound is a word that consists of two elements, the first of which is either a root, a word, a phrase, the second of which is either a root or a word.”

What is common to all these definitions is clearly the concept of using pre-existing lexical “material” to give rise to new complex formations within the lexicon. Here, I have willingly chosen the blanket-word “material” for its

vagueness, as there is certain variability in the definition of what is actually combined in a compound. Some scholars seem to be more restrictive in their definitions, while others potentially allow broader combinatory patterns. If only “free forms” or words having an independent existence (Adams 1973 and Fabb 1998) are combined into compounds, then combinations containing at least one element with no independent status (also called “combining form” in Castairs-McCarthy 2002) as in *audiobook*, or even two, as in *spectroscopy*², would be ruled out from these definitions. Both cases contain bound morphemes that cannot be considered as affixes but rather as roots, since they bear an autonomous lexical meaning. This means that using the term “word” properly meant is too restrictive, as it does not contemplate cases like the above formations. By contrast, defining a compound as a lexeme made up of at least two stems³ - therefore of at least two roots (Bauer, 1983)- seems to fit a wider range of compound types. Indeed, the term “root” - intended as “the part of the word which is left when all the affixes are taken away” (McCarthy, 1991) – enables us to include the formations seen above. The notion of Marchand (1969) is also quite restrictive, as he deals with right-headed compounds only. As a consequence, exocentric compounds like *birdbrain* and *paleface* are somehow excluded from prototypical compounding and defined as pseudo-compounds, because they are characterised by a compound determinans and a zero or unexpressed determinatum. Probably the most comprehensive definition is given by Plag (2003), who accounts for further types of compound including those containing phrases - such as *do-it-yourself (equipment)* and *good-for-nothing* - although this approach is not shared by all scholars, among whom Dressler (2005), who considers these formations as belonging to “extra-grammatical morphology” because they are not rule-governed.

Other interesting elements emerge from the above definitions with regard to the nature of compounding. Adams (1973) points out that compounds, though articulated, behave as a unit; hence the principle of non-separability, which holds

² This compound belongs to the so-called group of “neoclassical compounds”, which I deal with later on in this chapter.

³ This term may be confusing, as it is sometimes used with different meanings by scholars. By “stem” I intend here a form “to which inflections may be added, but which may already have derivational affixes” (McCarthy, 1991).

for single words, works for compounds as well. As regards single words, the principle claims that no lexical item can be legally inserted within a word and similarly for compounds that the constituents cannot be kept apart through the interpolation of other lexical elements⁴. For this reason, we cannot modify *blackboard* into **black hard board*, as opposed to syntactic constructions like *long road*, whose lexical items can be easily set apart without altering the overall meaning, as in *long (dusty) road*.

Beside the crucial concept of uninterruptability, two further criteria define wordhood, namely positional mobility and internal stability, which hold for compounds too. The former claims that a word can only be moved within a syntactic construction as a unit and consequently, when applied to compounds, a complex word can only be moved in all its constituents, as in example (a) below, in which the whole compound is fronted, but none of its constituents can be separately focused, as examples (b) and (c) show.

(a) *A morphology lecture, she would never give*

(b) **Morphology, she would never give a __ lecture.*

(c) **A lecture, she would never give a morphology __.*

(Spencer, 2005:78)

The latter criterion maintains that the elements within a word, as well as in a compound, present a fixed order that cannot be altered, unless the meaning is radically modified, as for instance in *wallpaper* that is semantically very different from a potential (though unlikely) *paperwall*, or hardly conceivable, as for **chair arm* from *armchair*. Given that these criteria effectively apply to compounds, single words and compounds share the property of being units.

Another characteristic of compounds is that of being “anaphoric islands”, after Postal’s definition (1969), whereby the constituent of a compound cannot be an antecedent of a lexical anaphora, as exemplified in the following examples:

1.

a) Pelts from sheep can be used to keep them warm

b) **Sheep pelts can be used to keep them warm*

2.

⁴ “at least not without losing the compound’s meaning” (Lieber, 1992: 84).

- a) Jones gave a counterargument to my argument
 b) *Jones gave a counterargument to mine

(Postal, 1969:230)

The comparison of sentences (a) and (b) is functional to the identification of the different behaviour of compounds with respect to single words within syntactic constructions. In example a), the nominal anaphora is perfectly grammatical, but it is not in example b) (starred), in which the nominal anaphora is only meant to refer to the left constituent and not to the whole compound.

1.1 Binarity and recursivity

A further feature emerging from the above definitions regards the length of compounds. Compounds are not necessarily restricted to two constituents, although this is the most common case in many languages. Recursivity consists in the possibility of reiterating the process of compounding. As a consequence, after the first compounding process, the subsequent will have a compound as input, instead of a single word. In other words, a compound can be enlarged to more than two constituents by adding new lexical elements. In relation to this, the notion of binarity also emerges, which states that longer compounds can be divided and analysed into binary structures. Therefore a compound like *government food safety measures* is divided into progressive binary units, as follows:

- (a) [N-N] *safety measures*
 (b) [N-[N-N]] *food safety measures*
 (c) [N-[N-[N-N]]] *government food safety measures*

The brackets identify the hierarchic order of the constituents that progressively modify and characterise the rightmost element, namely the head⁵. It should be noted that the head of the final complex compound in (c) remains the same of the core compound in (a), i.e. the word *measures*.

Recursivity is potentially unlimited; however, an excessively articulated

⁵ I focus on this notion later on in the chapter. Here, I simply define it as the most important constituent within the compound, which determines its lexical category and grammatical characteristics.

compound is dispreferred, since the longer the compound, the more difficult to produce and to process. Recursivity is particularly frequent in German and common to English and other Germanic languages, but it is not an essential characteristic of compounding. Other languages, like Italian, seem to be more restrictive, although they may present rare cases of complex compounds.

According to Haider (2001), the restrictions on recursivity depend on a structural constraint, namely the position of the head inside the compound. In his perspective, languages presenting head-final compounds, such as English and German, allow wide recursivity, while languages with head-initial compounds tend to be non-recursive, as in the following examples.

E	<i>catfish</i>	F	<i>poisson chat</i>
	2. [<i>baby [cat fish]</i>]		a. <i>poisson chat</i> (* <i>bébé</i>)
	3. [<i>[deep sea] [baby [cat fish]]</i>]		
I	a. <i>capo stazione</i>		
	b. <i>capo stazione</i> (* <i>piccola</i>)		

However, exceptions demonstrate that such tendency should not be considered absolute. This is the case of the Italian exocentric compound *stuzzicadenti* that can be subject to recursivity, as well as other endocentric compounds, as observed in Dressler (1988)⁶:

I	exocentric compound	[<i>porta(stuzzicadenti)</i>]
	endocentric compounds	[<i>sala (personale viaggiante)</i>] [<i>sala (dirigente capo)</i>] [<i>campo (tiro a volo)</i>] [<i>nave (pesca d'altomare)</i>]

2. Headedness and main compound types

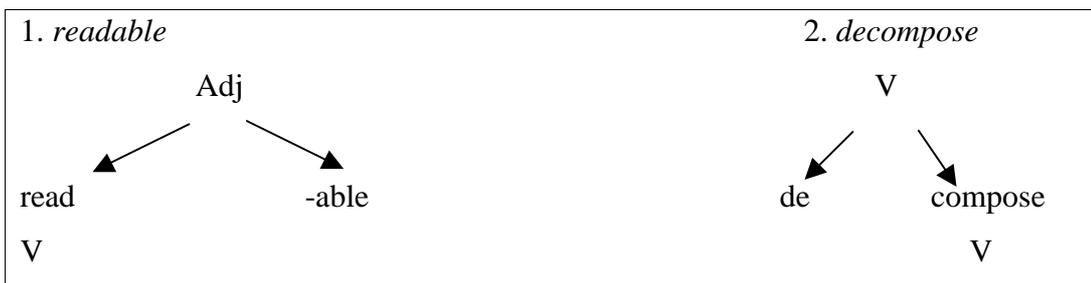
The notion of head pertains both to syntax and morphology⁷ and it is

⁶ However, Scalise (1992) suggests that they may rather be regarded as abbreviated phrases instead of proper compounds. However, this is clearly non-tenable for *portastuzzicadenti*.

⁷ In the case of syntax, we talk about the head of a phrase, while for morphology we intend the head of a complex word.

particularly relevant to identify different types of compounds and consequently to categorise them. But what does head of a unit mean? In general terms, Williams (1981) defines the head of X (where X is a complex unit) as the element having the same properties of X. In a more formulaic way, “if both X and the head of X are eligible members of category C, then $X \in C \equiv \text{head of } X \in C$ ” (Williams, 1981:247).

In morphology, he identifies the so-called Right-hand Head Rule (abbr. as RHR henceforth) maintaining that the head of a morphologically complex word is the right-hand member of that word. However, it must be specified that the RHR only represents a preference. As regards affixed words, the notion of head highlights the different nature of suffixes and prefixes. In fact, while suffixes, attaching to the most right-hand member of a root can easily be heads of a complex word, prefixes, attaching on the left, normally do not, as emerges from the following examples:



In example 1, the suffix *-able* carries the information of the lexical class “adjective”, which is the same of the complex word *readable*. Therefore, for the RHR, *-able* is the head of the word. Differently, in example 2, the prefix *de-* primarily attaches to verbs but it does not carry the information of the lexical category. As a consequence, the right-hand constituent *compose*, belonging to the class of verbs, is clearly the only candidate to be head of the complex word. The prefix *en-* constitutes an exception to the rule, since it attaches to nouns and adjectives to regularly form verbs, as in *endanger* and *enlarge*. This characteristic may justify William’s hypothesis of considering it as a head. However, it should be noted that the issue regarding the nature of this prefix remains a much-debated one.

The RHR holds not only for derivatives but also for most compounds. In this case, the right-hand constituent determines both the grammatical and the semantic properties of the compound. As regards grammatical properties, the head covers the role of carrying grammatical information for the whole compound, as for instance grammatical number and gender, which is also referred to as *feature percolation* (Lieber, 1980), i.e. a transmission of features from the head to the whole compound. The most important property of the head is that of assigning the lexical category to the whole compound; hence *humming bird* is a noun, since the head *bird* is a noun, *stonewash* is a verb and *breast-high* is an adjective for the analogous reason. The notion of head is crucial to determine one main distinction within the generic label of “compound”, namely that between endocentric and exocentric compounds. Such distinction may present some difficulties in certain cases. In particular, this becomes apparent with participial compound adjectives, which are not so easily classifiable, as we are going to see in chapter IV.

2.1 Endocentric and exocentric compounds

Endocentric compounds, as their name shows, are headed, in that they have their centre, so to say, inside the compound itself. The relationship between the constituents follows a modifier-head pattern, in which the compound functions as a hyponym of the grammatical head (Bauer, 1983). In other words, the entity, quality or action⁸ denoted by the compound represents a subset of what is denoted by the head; hence, for instance *drawbridge* is a particular kind of bridge, *sea green* is a shade of green and *drip-dry* is a special way of drying. Endocentric compounds represent the most common type and tend to be right-headed, which corresponds to a universal preference according to the Natural Morphology approach (Dresser, 2005). However, left-headed compounds are also attested, as in the case of Romance languages⁹.

As regards exocentric or headless compounds, they are characterised by having no head constituent and, since no formal head can be identified, the lexical category of the compound is not determined by any of the constituents. However, given the qualification of these compounds as “exo-centric”, this means that the

⁸ depending on the lexical class of the compound.

⁹ see for example *caporeparto* (it.).

head is not actually non-existing, but it should be somehow recovered outside the compound. This process of inferring a plausible head not formally expressed may sometimes be a difficult task. If retrieving the head for exocentric compounds like *loudmouth* and *pickpocket* seems rather straightforward¹⁰, it is less so for compounds like *jailbird* and *buttercup*. As a consequence, a further subgroup can be identified within the group of exocentric compounds, namely the so-called possessive or *bahu-vrihi*¹¹ compounds. From a semantic point of view, these compounds specify a property or a characteristic possessed by an unexpressed head-noun that is mostly a person, as for instance in *dare-devil (person)* and *spoilsport (person)*.

More generally, natural languages show a predominance of endocentric over exocentric compounds. According to Natural morphologists, this can be explained through a markedness theory, which maintains a universal preference for unmarked over marked choices in language. Exocentric compounds represent a more marked, thus dispreferred, option in comparison to endocentric ones, according to the semiotic parameters of diagrammaticity (as a form of iconicity) and indexicality. In fact, endocentric compounds, as for instance *photo frame*, show optimal diagrammaticity in that the right-hand constituent is both the morphotactic and the morphosemantic head¹², since *photo frame* is a particular kind of frame and takes the semantic and syntactic features of the head. Differently, the morphosemantic head is external to the compound and the left-hand element governing the right-hand one is not the morphotactic head in exocentric non-productive compounds like *killjoy*. In addition, along the parameter of indexicality, the access to the focal element of the compound, i.e. head, is less immediate in exocentric than in endocentric compounds. In fact, the referent must be inferred in the former, while it is evident in the latter type (Dressler, 2005a).

¹⁰ The head of these compounds may well be a noun like *person*.

¹¹ *Bahu-vrihi* literally means “having much rice”. This terminology dates back to the Sanskrit grammarian Panini, who distinguished the main types of compounds, though not formalising the notion of head of a word.

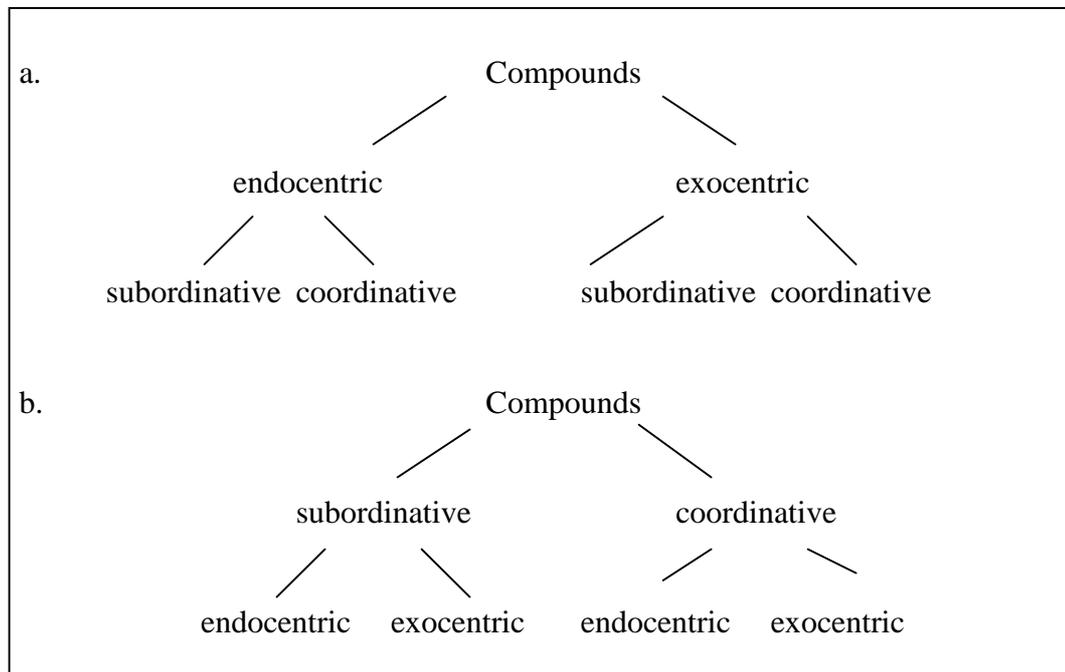
¹² The constituent *frame* takes the inflectional suffix for plural (morphotactic head) and it shares with the compound the main syntactic and semantic characteristics, i.e. it is a countable noun denoting an inanimate concrete entity (morphosemantic head).

2.2 Subordinative and coordinative compounds

Although distinct in terms of presence of a head, yet the compounds so far considered share the common property of being subordinative compounds, in that the constituents are hierarchically ordered. In other words, in endocentric and exocentric compounds, one element is semantically and structurally dependent on the other. This hierarchical order is evident for endocentric compounds in relation to the aforementioned notion of head, but this also holds true for exocentric compounds, as exemplified by the bahu-vrihi compound *killjoy*, where “joy” is syntactically subordinated to “kill”.

However, subordination is not the only possible relationship holding in a compound. In fact, there are also compounds showing an equal hierarchical status of the constituents, as for instance in *sofa bed* and *user-system (interface)*. These compounds are called coordinative. However, to a deeper analysis, we can remark a substantial difference between them. Actually, a *sofa-bed* denotes an object that is at the same time a sofa and a bed, thus the compound is in some way a hyponym of both constituents (Bauer, 1983) and it is generally defined as copulative. In a wider perspective, we can consider this kind of compounds as provided with two heads. On the other hand, a compound like *user-system (interface)* does not denote any entity on its own, but rather it establishes a double ground of application of the noun that the compound refers to. Therefore, despite being hierarchically equal, none of the constituents is a candidate for headedness. As a consequence, within the class of coordinative compounds, we can draw a further distinction between endocentric and exocentric compounds. As observed by Bisetto&Scalise (2005), it is relevant to notice that the subordination-coordination¹³ axis intersects the endocentricity-exocentricity axis, determining further subclassifications. The following schemes summarize the categorization so far outlined. Depending on the criterion adopted first, two optional; basically equivalent classifications (a. and b.) are available.

¹³The term coordination is used by Bisetto&Scalise with reference to copulative compounds.



3. Differences in classification

This basic categorization seems quite linear and straightforward. However, this is not always the case, as demonstrated by various different classifications proposed by scholars. Firstly, there is a certain terminological variability that may lead to a different labelling of the same subcategories and, secondly, classifications can be rather language-specific, therefore not applicable to more than one language¹⁴.

This is what occurs in the distinction between *root* or *primary compounds* and *secondary* or *synthetic compounds*, also defined as *verbal compounds* (Castairs-McCarthy, 2002), which is based on the discriminating presence of a deverbal head. The right-hand stem is non-deverbal and deverbal in primary and secondary compounds respectively. In secondary compounds, like *truck driver*, the head derives from a verb and is preceded by a left-hand constituent fulfilling the function of an argument of such verb (someone who drives a *truck/trucks*),

¹⁴ For this reason I will not include more specific classifications, such as the one proposed by Scalise (1994) for Italian compounds, namely the distinction between *loose* and *strict compounds*, which is not pertinent for English.

normally the internal argument. This seems to be a straightforward distinction within the class of compounds; but it is not so for certain formations, as in the case of compounds adjectives like *syntax-related* and *London-based*, whose second constituents are not so clearly deverbal.

Other classifications include the so-called *phrasal compounds* that are constituted by entire phrases, as for instance in *lady-in-waiting* and *forget-me-not*. This approach to compounding is often rejected by scholars as “non rule-governed” (as already mentioned at paragraph 1), because it deals with lexicalised forms of syntactic constructions, where no morphological process is actually involved.

As regards terminology, there is clearly some discrepancy in labelling compounds. Apart from the main classification mentioned in the previous paragraph, scholars often choose different labels to identify the same subgroups. An interesting case concerns coordinative compounds that seem to be subject to quite a lot of variation. Bauer (1983) distinguishes between *appositional* and *copulative compounds* (or *dvandva* according to the Sanskrit name), that is between cases like *maidservant* and *Alsace-Lorraine*. Plag (2003) defines the whole class as *copulative compounds* and uses the labels *appositional* and *coordinative* for the subgroups of the type *poet-singer* and *doctor-patient (gap)*¹⁵, respectively. Finally, and more generically, Fabb (1998) invariably defines this group as *co-ordinate*, *dvandva* or *appositional compounds*. These different positions simply re-define the already mentioned subclassification into endocentric and exocentric coordinative compounds, but they also represent an example of terminological variability within compounding.

4. Brief review of compound patterns

We have so far made reference to nominal compounds mainly. This happens because this is the largest and most productive class in all languages, which logically corresponds to the need for defining and labelling new objects, entities and concepts. However, it is necessary to mention minor groups belonging to

¹⁵The substantial difference between these two types of compound, applied to adjectival formations, is dealt with in chapter 3.

other lexical classes. Here I briefly review the compound patterns of English, taking into consideration the three main lexical classes (nouns, verbs and adjectives) and adding to them the closed class of particles¹⁶.

		RIGHT-HAND constituent			
		N	V	Adj	P.cle
LEFT-HAND Constituent	N	<i>cornbread</i>	<i>stone-wash</i>	<i>girl-crazy</i>	<i>sit-in ?</i>
	V	<i>drawbridge,</i> <i>cut-throat</i>	<i>drip-dry</i>	<i>(failsafe)</i> <i>stand-alone?</i>	<i>see-through, ?</i> <i>breakthrough ?</i>
	Adj	<i>blackboard</i>	<i>blindfold</i>	<i>purplish-red</i>	
	P.cle	<i>in-vitro?</i>	<i>overeat</i>	<i>ingrown ?</i>	<i>into , within ?</i>

The table shows some problematic patterns (signalled with a question mark) that will be examined in the following paragraphs¹⁷.

4.1 Compound nouns

Noun compounds represent the largest as well as the most widely investigated class of compounds. The semantic relationships holding between the constituents are manifold and cannot be easily enumerated. N-N compounds are mainly endocentric, while only a limited group is represented by exocentric compounds like *skinhead* and *blue-collar*, in which the referent of the compound does not correspond to that denoted by the head. But, it is worth underlining that their semantic motivation, i.e. a metonymic one, is grounded on their respective heads. Within the category of N-N compounds we can also include productive formations like *driving license* and *answering machine* that are called activity nouns. Another subgroup with a N-N pattern is represented by coordinative compounds like *poet-painter* and *astronomer-physician*.

¹⁶ It should be taken into account that the table does not make reference to the lexical class of the compound, but simply to the single constituents.

¹⁷ In particular, the P.cle-P.cle pattern (as for instance in *onto* and *within*) represents a closed, non-extendible set of combinations that is very limited in number. This pattern is totally unproductive, due to the sole combination of grammatical words that renders this pattern a borderline case of compounding, often rejected as such by scholars.

In comparison to the previous one, the Adj-N pattern, as in *greenhouse* and *dark room*, may raise doubts on the real nature of such collocations. Especially in the case of less idiosyncratic formations, one can argue if it is a proper compound or rather a noun phrase (Booij, 2003). Discrimination is not always straightforward and various criteria are proposed to distinguish between them, although they may not always be functional or congruent. However, a distinction should be made between processes of lexicalisation and compounding, and between compounds and set phrases. In all cases, the criterion of non-separability is applicable (more at § 6.1).

The V-N pattern is little productive. The verb, in its base form, is linked to the noun by a predicate-direct object relationship when the compound belongs to the exocentric type. Examples of this subgroup are *pickpocket* and *killjoy*.

The reverse pattern, also rare, is N-V, as in *sunshine*, for which we should probably assume a conversion of the lexical class of *shine*.

Moving to the minor class of prepositions, some formations combining prepositions with other major lexical classes are attested, but the question arising here is whether we should reckon them among proper compounds or not. Let us examine a V-P.cle pattern as in *sit-in*, *push-up*, *workout* to understand its function and origin. The examples above play the role of nouns and can be regularly pluralized in *sit-ins*, *push-ups* and *workouts*, by the uncommon procedure of attaching an inflectional –s to a preposition. When qualified as compounds, these formations are clearly of the exocentric type, since none of the constituents mirror the grammatical and semantic properties of the compound. However, if we look at the origin of these structures, we easily notice that they are directly drawn from phrasal verbs through a process of conversion, namely one of nominalization. If conversion, as a diachronic process, is involved here, thus their compound status is in doubt. However, if we look at these formations from a synchronic point of view, the question is whether the P.cle-N pattern is actually an immediately productive process. In this case, I share the opinion of scholars like Plag (2003) that claims that such formations can hardly be accounted for as compounds. As regards the P.cle-N pattern, as in *underpass* and *afterbirth*, it represents a much restricted type of combination, since particles show a very limited capacity to

modify nouns (Spencer, 2003).

4.2 Compound verbs

This class of compounds is relatively uncommon in English. Many cases of compound verbs are not “genuine” compounds, but what Marchand (1969) calls “pseudo-compound verbs”, as they result from either backformation or conversion. Compound verbs like *to handcuff*, *to short-circuit* and *to whitewash* originate from the corresponding N-N or Adj-N noun compounds, through a process of conversion, while *to chain-smoke*, *to air-condition* and *to brainwash* are derived through backformation from nominal compounds *chain-smoker*, *air-conditioning* and *brainwashing* respectively. However, the origin of the compound is not always easy to establish with certainty, as observed by Adams (2001), who quotes the case of *to talent-spot* ambiguously deriving from *talent-spotter* or *talent spotting*. The same can be stated for *to globetrot* and *to sleep-walk*, whose starting point can be either a noun ending in –er or a nominalization in –ing. In other cases, backformations derive from adjective compounds, as for *to spoon feed* that, most likely, originates from the adjective *spoon-fed*. A restricted group of verb compounds presents a V-V pattern, as for instance *to drip-dry* and *to dry-clean* as subordinatives and *to freeze-dry* as coordinative. Such cases can be properly defined as compounds because they are not preceded by prior morphological processes. Besides the main lexical classes so far examined, verbs can also be combined with prepositions in P.cle-V patterns, giving rise to formations like *to download* and *to overcome* that can be variously interpreted as proper compounds (see Bauer, 1983) or, more likely, as inversions of verbs followed by prepositions, as maintained by Plag (2003). In the latter case, their status of compound is more dubious.

4.3 Compound adjectives

This class of compounds has often been neglected by scholars in comparison to the much-debated group of nominal compounds. It represents a minority group with respect to nominal compounds, having a ratio of 1 to 12, as reported by Hart (1994), but it shows a variety of combinatory patterns.

I will not further expand on this group of compounds because it will be the object of the following chapters.

4.4 Compound adverbs

As for the previous class, little attention has been devoted to adverbial compounds by handbooks and grammars. This class of compounds results from the combination of a particle and a noun, as in *online*. Many compounds of this class are somehow ambiguous with respect to the other classes of compounds, in that they can potentially have a double function, i.e. adverbial and adjectival. Their function clearly depends on the syntactic context in which these formations are found. P.cle-N formations assume an adverbial function within a prepositional phrase, as in the following sentence,

Seabirds often come inland to find food.

while they play an adjectival function in front of a noun, therefore in attributive position, as in *The Black sea is a large inland sea.*

Other compounds with this double function are *in-vitro*, *overnight*, *uphill*, and *upstairs* just to mention some of them. These formations should be distinguished from other P.cle-N formations that are used only attributively with an adjectival function as in *in-store (café)*, *off-peak (phone calls)* and *in-depth (analysis)*.

5. Other non-prototypical compounds

Non-prototypical compounding has already been introduced in the previous paragraphs when dealing with copulative and exocentric compounds. Here, I present further formations, which are characterised by constituents (either one or both) that are not autonomous words. In other words, they are characterised by one or two bound roots that are normally found in combination with other lexemes. Two relevant types of non-prototypical compounds are “neoclassical compounds” and “cranberry compounds”.

As suggested by the name, neoclassical compounds are characterised by one or more constituents of classical origin, namely Greek or Latin, but their combination is modern and finds no correspondence in classical languages. This type of word-formation is a widespread process and hardly definable as a

language-specific phenomenon, since it is common to many languages. It is particularly productive in scientific and technical language, where it often has a naming function for new processes, inventions and discoveries. The constituents of neoclassical compounds, also called combining forms¹⁸, are apparently similar to prefixes and suffixes, but they bear a full lexical meaning and they can combine with other combining forms, as in *theocracy* and *bronchitis*, which is not the case with affixes. Therefore their status is that of standard lexemes. Combining forms in neoclassical compounds are generally assigned a fixed position that distinguishes them into two main subgroups, namely initial and final combining forms (Plag, 2003), with few exceptions that can take both positions. Listing all the items within each group is beyond my scope here, but I will mention few cases to present such distinction. Combining forms like, *-logy* and *-graphy*, as stems, can only occupy the right-hand position as in *phraseology* and *discography*, but, as roots, they can occur on the left, as in *logotherapy* and *graphology*. By contrast, other bound roots like *geo-* and *tele-* can only appear as left-hand constituents as in *geopolitics* and *telemarketing*¹⁹. As illustrated in these examples, combining forms can also combine with free lexemes both in the right-hand and in the left-hand position.

Cranberry compounds represent an interesting group, though very limited in number. They all denote various kinds of berries and their first constituents are hapax legomena (Aronoff, 1976:10) because they only occur in one English word. This is the case of *cranberry*, *boysenberry*, *huckleberry*, whose left constituents occur neither in isolation nor in combination with other English words. They play a discriminating function, that is they distinguish between different *berry*-compounds, but their individual meaning is not determined, as it is strictly connected to those of the words in which they occur.

6. Compoundhood

Dealing with word-formation and in particular with compounding raises theoretical problems regarding the separation between the domains of morphology

¹⁸That is bound roots not occurring in isolation but having the lexical properties of free roots.

¹⁹ *Cardio-* also represents an interesting case. Again, as a root, it occurs on the left, as in *cardiotonic*, while, as a stem, it appears on the right, as in *brachycardia*.

and syntax. In reality, compounding is the word-formation rule that shows more parallelism with syntax and for this reason it has been and still is a battleground for different theoretical orientations. A lively debate originated within Generative Linguistics, in which two divergent trends emerged. Transformational grammarians maintained the supremacy of a powerful syntax, as the unique constituent of grammar. The Transformationalist View blurred the separation between morphology and syntax. According to this radically syntactic approach, syntax is capable of deriving morphological structures through transformations from syntactic ones (McCarthy, 1991). In other words, word-structure is considered as a special type of phrasal or clause structure. The lexicon is nothing more than a list-like linguistic component (Borer, 1998), a lawless depository of simplex words. In this perspective, the monograph by Lees (1960) analyses nominal compounding, but his approach raises serious difficulties in dealing with ambiguities. Deletion seems to be far too unrestricted and the presence of linguistic material, later deleted, cannot be easily justified. Furthermore, when a compound can be ambiguously interpreted, syntax is not capable of disambiguation, because it provides various underlying sentences for different meanings. Consequently, his syntactic hypothesis does not seem adequate for the description of compounds (Scalise&Guevara, 2005).

On the other hand, scholars of the Lexicalist View maintain a clear-cut separation between grammar and lexicon, as synthesised by Scalise&Bisetto (1998:47):

“We currently believe that a) morphology and syntax account for constructions with different properties and that b) it is possible to distinguish between them”.

Lexicon represents an independent pre-syntactic module with own lexical rules that generate words to be stored in it. Consequently, syntactic rules have no access to the internal structure of words and therefore are unable to create new words. Aronoff’s monograph *Word formation in generative grammar* (1976) officially set the theoretical foundations of a large number of followers, including Selkirk (1982), Di Sciullo&Williams (1987) and Lieber (1992), for over 30 years.

Besides syntacticians that have given an important contribution to the dispute, other scholars have expressed similar views. This is the position of Borer (1988),

shared by Dressler, who admits a clear parallelism (or semantic similarity) between morphological and syntactic structures, but he also points out that morphology and syntax are separate modules.

Indeed, as observed by Spencer (2005), the issue regarding the relationship between morphology and syntax can hardly be approached without recurring to a specific theoretical background. Although he admits that syntax remarkably impinges on morphology, a radically syntactic approach does not appear to be particularly effective in the long term. A “syntax-all-the-way-down” approach prevents progress in research because it tends to produce a flattening effect on the other linguistic components. In this sense, a “splitting” approach seems to be preferable, although in the case of compound adjectives, the gap between the two modules is often very slim, as we will see.

As regards compounding in particular, the issue is summarised by Bauer (1998:64), whose question “how do we know whether a sequence of two words forms a new lexeme or simply a syntactic construction?” again raises the problem of the relationship between morphology and syntax²⁰. Taking into consideration the N-N pattern, he basically reviews the main attitudes of the scholars on this topic and distinguishes between two opposite groups, i.e. splitters and lumpers. The former tends to differentiate between N-N compounds and N-N syntactic constructions, in which the modifier happens to be a noun instead of an adjective. According to the splitters, “phrases and compounds cannot be generated by the same set of rules (Scalise, 1992:198). Bauer maintains that the criteria adopted to distinguish between these two groups are not so clear-cut and, therefore, neither is the distinction. Instead, the latter identifies a unique class, corresponding to compounds. In more general terms²¹, a third position, more flexible than the previous, is proposed by Dressler (2005). Although the scholar supports the distinction between syntactic constructions and compounds, he is inclined to an extensional definition of compound that does not determine discrete divisions, but rather the identification of a continuum, ranging from prototypical compounds,

²⁰This question should take into account idiomatic phrases too, which may also be lexical entries (see footnote 22).

²¹ Here I mean that the focus is not restricted to the sole N-N pattern, but it is expanded to compounds in general.

phrasal compounds (allowing the presence of syntactic indicators) to near areas of grammar, through phases of transition. Far from being an exhaustive review of the various positions on this topic, we can conclude that the issue is still open and worth discussing.

In fact, various criteria - ranging from phonology, syntax to semantics - have been suggested to distinguish between compounds and syntactic structures²². Some of them are more generic, others are more language-specific; however, they cannot be considered definitive (Scalise, 1992). This demonstrates that compoundhood is still a spiny theoretical question whose explanations depend on different approaches to morphology. However, the notion of “atomicity of words” proposed by Di Sciullo&Williams (1987) appears to be broadly applicable and recognised, at least in its general terms. As already suggested in the previous paragraph with reference to the “non-separability of the constituents”, atomicity is of crucial importance to define the nature of compounds.

6.1 Compounds as syntactic atoms

The notion of syntactic atomicity is at the basis of the Lexicalist Hypothesis and it claims that:

“Words are “atomic” at the level of phrasal syntax and phrasal semantics. The words have “features”, or properties, but these features have no structure, and the relation of these features to the internal composition of the word cannot be relevant in syntax...”

(Di Sciullo&Williams, 1987:49)

Words, including compounds that behave as single units, thus sharing the fundamental features of simple words, are impenetrable to syntax. With regards to compounds, this can be effectively proved by applying the test of “lexical

²² The lexicographic criterion that distinguishes compounds from syntactic constructions on the basis of listedness within the lexicon does not seem to be relevant. Indeed some syntactic structures - such as fixed locutions and idiomatic expressions - are listed because of their idiosyncratic meaning. By contrast, many words resulting from productive morphological rules are not listed, as well as nonce formations that, given their nature of occasionalisms, do not reach an established status. Neither can spelling be considered of any value for English, in that compounds can be variably spelt as one word (*handbook*), as hyphenated words (*sofa-bed*) or as separate words (*mobile phone*). Although Bauer (1998) notices a certain tendency of long words to be written separately (probably to facilitate processing) and conversely, of short words to be written together, orthography does not constitute a valid criterion in any case.

insertion” that consists in the insertion of lexical elements between the constituents of the compound. The outcome of such operation makes clear the nature of the complex formation under discussion.

e.g. E *steel bridge* > *steel suspended bridge*

In the example above, the “lexical insertion” test yields a grammatically acceptable result, and then the formation fulfils the criterion of a syntactic construct because syntax contemplates the insertion of lexical material inside a syntagma.

e.g. E *highway* > **high (long) way*

By contrast, the formation is identified as a compound when the result is a non-grammatical unit or the original meaning is radically changed through the insertion.

At the same time, syntactic atomicity implies that inflection and derivation inside the compound is usually not allowed. For instance, suffixes conveying plural meanings are attached outside the compound, namely on the rightmost constituent, e.g. *towelracks*, *family advice services*²³, which should be true of endocentric compounds, as well as of exocentric compounds, as in *pickpockets* and *push-ups*. Although this represents a neat tendency, some marked exceptions are attested, as for instance in *sportsman*, *chips-producer*, *painstaking (job)*, and *data-driven (research)*.

This also holds for derivation, which is legal at the borders of the compound only, as emerges from the examples *ex-truckdriver* and *hounddogish*, for prefixation and suffixation respectively (Lieber, 1992).

6.2 Syntactic tests

Various scholars have proposed syntactic tests as diagnostics of the Lexical Integrity Hypothesis (LIH), which are meant to identify and distinguish compounds from phrasal constructions. By syntactic test I intend trials based on syntactic operations aimed at proving “the phrasal nature of an expression” (Bisetto&Scalise, 1999:37). Some tests are more language-specific, while others are of more general application. However, criticism has been raised against them

²³ Indeed, the word *data* is considered as a singular in some variants of English.

by various scholars, as they are not always reliable.

Among various tests, the “head deletion under coordination test” claims that compounding does not allow deletion of the head of the compound in a coordinative structure formed of two or more compounds sharing the same head. In the following examples, the compounds present a different output when tested against the head deletion test.

(1) buttercup, honeycup; windmill, flourmill

a. **buttercup and honey_*

b. * *wind_ and flourmill*

(2) iron bars, steel bars

iron _ and steel bars

(Bauer, 1998)

This is also the case of participial compound adjectives like *time-consuming* and *water-polluting (agents)* that easily admit coordinative non-head elements of the type *time and energy-consuming* and *air and water-polluting* (see more in chapter 4). Bauer, quite convincingly, claims that coordination and consequent head deletion is possible in compounding when the noun constituents forming the compound belong to the same domain, that is when the semantic relationship between them is one of parallelisms. This is clear from the instances in (1). *Butter_ and honeycup* are not legally coordinated because the constituents do not present a parallel semantic value. *Buttercup* designates a specific kind of flower and not “a cup used for collecting butter”, while *honeycup* has no such non-compositional meaning and can only be interpreted as “a cup used for collecting honey”. In this case, the unacceptability of coordination is due the idiosyncratic meaning of *buttercup* that finds no correspondence in *honeycup*. Similarly, *windmill* and *flourmill* cannot be coordinated because of the non-parallelism in the semantic relationship between the constituents²⁴.

²⁴ *Windmill* is not a “mill producing wind”, as *flourmill* is not a “mill powered by flour”. A counter-example to the compound in (1b) is *noise and water pollution*. Here the parallelism in the semantic relationship between modifiers and head (as in *air and water pollution*) is not respected,

On the contrary, the compounds in (2) are freely coordinated because the semantic relationship “X is made of Y” holds for both compounds. The same holds in the following example (3), in which deletion involves the non-head constituent.

- (3) steelbars, steelweights
steelbars and _weights

Given this common semantic relationship, deletion turns out to be legal.

As a consequence, this may put into question the absolute reliability of this test and evidences the difficulty in finding unequivocal and ever-valid criteria for compoundhood.

Other syntactic tests for compoundhood are topicalization/focussing, *wh*-movement of the head and the non-head constituent and pronominal reference. With reference to this latter criterion, we have already mentioned at §1 in this chapter that compounds are generally considered as anaphoric islands, even though exceptions are attested (see examples below).

- (4) a. * *buttercup and honey one* (Bauer, 1988)
 b. * *watermills and flour ones* (Bauer, 1988)
 c. **water pollution and air one* (Merlini Barbaresi)²⁵

- (5) a. *watermills and wind ones* (Bauer, 1988)
 b. *a table-spoon and a tea one* (Bauer, 1998)

In reality, compounds do not allow the replacement of the head through the pronoun *one* in the great majority of examples. In example (4a) this is due to the idiosyncratic meaning of the whole compound that has no semantic relationship to its constituents, while in (4b) unacceptability is given by the non-corresponding semantic relationship between the constituents. Although both compounds denote

but the compound is attested and acceptable. (“The Department is working to address air, noise and water pollution” IWS, www.dpiw.tas.gov.au). Consequently, this example makes clear that too clear-cut statements of acceptability vs. non-acceptability should be avoided here.

²⁵Personal communication

a *mill*, the right-hand constituent is linked to the left one by different semantic relations, namely “powered by *water*” and “producing *flour*” respectively. In (4c) the semantic relationship between the compounds is coherent, but unacceptability is determined by a grammatical motivation. In fact, the *one*-substitution is only possible with count nouns.

However, in certain cases a higher degree of acceptability is achieved, as in examples (5). Here the compounds present a more literal reading, that is a more compositional semantics, and as well as a certain semantic parallelism in the relationships between the constituents. Therefore, the possibility of substituting the head of the compound with a pronoun seems to be due to semantic restrictions as well as to grammatical ones. In conclusion, all the above syntactic criteria should not be regarded as absolute principles of distinction between compoundhood and syntax, but rather as a tendency.

6.3 Semantic criteria

Semantic criteria to distinguish compounds from syntactic phrases in a clear-cut manner are not always easy to identify. It is generally assumed that a criterion of identification is represented by the non-compositionality of meaning. In other words, the sum of the different meanings of the constituents is not equal to the meaning of the compound. Non-compositionality is partly due to the fact that, in opposition to syntactic phrases, the relationship between the constituents is not explicit and has to be inferred, and partly because of the metaphorical meaning of certain compounds. However, we can easily notice that semantic opacity and metaphor can be distinctive of some syntactic constructions too, as for idiomatic expressions that are semantically more similar to compounds, since they achieve an established conventional meaning in the lexicon (Dressler, 2005). Let us consider an expression like *kick the bucket*, whose meaning is clearly idiosyncratic and cannot be achieved through the sum of the single semantic values of the constituents. As a consequence, non-compositionality turns out not to be an exclusive characteristics of compounding and, furthermore, it also appears not to be an essential requisite of compounds *tout court*. Compositionality should actually be regarded as a gradual notion rather than discrete, ranging from

more to less compositional. Compounds can exhibit a low level of compositionality as in *loony bin* or a high one as in many participial compound adjectives like *life-saving (equipment)*, whose meaning is easily achievable through the semantic value of each constituent. Semantic transparency on the one hand and lexicalisation on the other contribute to establish the degree of compositionality in the compound.

Two general semantic criteria for compoundhood can be defined as follows.

- (a) compounds denote a unitary concept (Bisetto, 2004)
- (b) compounds have a naming function (Downing, 1977)

Adjectival compounds also appear to comply with criteria (a) and (b), in that the unitary concept they denote describes and names a property of the headnoun, as in *light-emitting diode* or *dark-blue* material. Differently, problematic compounds in terms of criterion (a) are copulative cases like *Anglo-Irish* and *tragicomic* (see more of copulative compounds in chapter 3).

In contrast with the above criteria, syntactic phrases convey a concatenation of concepts and essentially describe or assert rather than name. However, there are compounds that may have a more descriptive function, as in the case compound adjective like *dark-blue*.

In consideration of what we have observed so far, we can claim that semantic criteria are not so easy to handle and that the distinction between compounds and phrases can sometimes be fuzzy. The following diagram proposed by Steinvall (2002:109) effectively summarises the relationship between compounding and syntactic phrases.

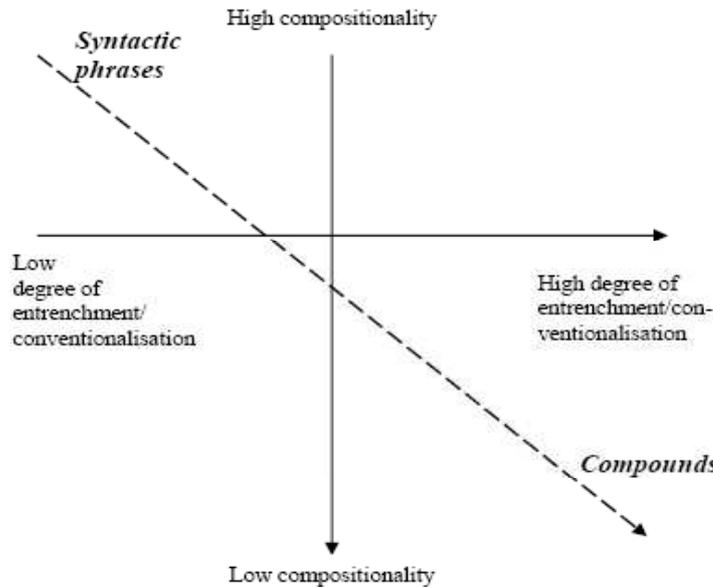


Figure 4.3. Typical characteristics of compounds and syntactic phrases in relation to two cognitive dimensions.

The axes of compositionality (vertical) and entrenchment²⁶ or conventionalisation (horizontal) are diagonally cut by a line, whose extremes are represented by syntactic phrases (generally characterised by high compositionality and low conventionalisation) and compounds (generally characterised by high conventionalisation and low compositionality). Within these extremes a wide range of variation occurs, thus establishing what can be defined a continuum along which compounds and phrases move.

Though absent from Steinvall's diagram, Multiword lexical units (MWLUs, henceforth) represent a good example of this continuum, as they collocate at some point along it. MWLUs are actually groups of words, like *United States*, *European Community*, *Human Rights*, whose main property is that of occurring together more often than expected by chance, and consequently there exists a high level of cohesiveness between each word of the unit characterised by some kind of attraction between its components (Dias&Guilloré.). The status of MWLUs is that of phrases, but it shares some characteristics with compounds, as for instance that of denoting a single concept.

²⁶The term belongs to the cognitive approach to which the study refers.

6.4 Phonological criteria

As regards phonology, it should be pointed that stress assignment in compounds has been under debate for quite a long time. It is generally assumed that English compounds, especially nominal compounds, are characterised by leftward stress, as claimed by Chomsky&Halle (1969) who introduced the Compound Stress Rule and the Nuclear Stress Rule to distinguish between phrases and compounds. The Nuclear Stress Rule applies to phrases and assigns primary stress to the rightmost sonority peak, while the Compound Rule assigns it to the leftmost in the string. According to Chomsky&Halle, as the former holds not only for noun phrases, but also for verb and adjective phrases, the latter applies to lexical categories in general, thus to compound nouns, adjectives and verbs in English. However, the stress pattern of compounds does not seem to be such a straightforward issue, and a certain range of variability in stress assignment is attested. Here, we recognize a gradability of phenomena. In the case of major rules, exceptions are few and, therefore, they do not deny the rule itself. Structures commonly recognised as compounds can be stressed on the right-hand constituent as in *apple pìe*, *silk tìe* and *geologist-astrònomer*. Stress variability increases if we consider compounds belonging to other lexical categories, such as compound adjectives, as noted by Lieber (1992) and Yamada (1981, 1984). As a consequence, stress cannot be adopted as a valid criterion of distinction between compounds and phrases, or at least it is not so for all languages. And, in any case, phonological criteria only hold for languages that present a prosodic distinction between compounds and phrases, like English and Turkish (Dressler, 2005).

Although we have made it clear that stress pattern cannot determine compound, the question arising regards the source of stress variability in N-N formations especially. Assuming that it cannot be casual, a rationale should be identified. The literature on this subject essentially presents three explanations. The first finds its reason in structural factors. In particular, the syntactic relation between the constituents should determine the stress pattern of the compound. An example of such approach is represented by Giegerich (2004), who explains the different stress in formations like *wàtch maker* and *steel brìdge* by recurring to the syntactic role of the constituents. In both cases, the right-hand element constitutes

the head noun but the modifier plays different roles. In *watchmaker* it works as a complement of the head, which has a deverbal origin. According to the scholar, the relationship between the constituents of secondary compounds (as in the case of *watch maker*) is generated lexically, which would explain the fore-stress, typical of compounds. Differently, the modifier simply plays the role of an attribute in *steel bridge*, where the semantic relationship linking the constituents is that of “X made of Y”. The compound is here generated syntactically and therefore presents a phrasal end-stress.

Another explanation to stress variability in N-N compounds is represented by semantic approaches, as Ladd’s (1984). The scholar proposes a destressing hypothesis based on the semantic function of the modifier. In other words, he claims that phrasal stress occurs when the modifier does not contribute to the categorisation of the head, but only to its description. The distinction conveyed through the stress pattern is well exemplified by the minimal pair *gréen house* and *green hóuse*. In the latter case, the modifier only provides a descriptive detail of the head, while in the former it is useful to the subcategorisation of the head itself, which is deaccented to signal its partial contribution to the identification of the category expressed by the whole compound.

A third approach to stress variability is based on the idea of analogy, whereby stress assignment is influenced by the existing N-N compounds. The investigations by Plag et al. (2006) go into this direction. They base their claim on a large amount of spoken data²⁷ that have been acoustically measured and tested on the three approaches mentioned. Their study has proved that the structural explanation is only rarely tenable and mainly for compounds whose head ends in the *-er* suffix, but it is not successful for other compounds. The same holds for the semantic hypothesis that resulted in much lower stress predictability than reported in the literature. The analogical hypothesis relies on the influence the right-hand constituent can have on other compounds belonging to the same family, that is sharing the same right-hand constituent. Starting from the observation that formations containing *avenue*, *street*, *lane* etc as right-hand constituents all behave the same way within their respective families, the hypothesis claims that

²⁷Taken from the Boston Radio Speech Corpus.

compounds with different right-hand constituents generally present different stress patterns; conversely, those sharing a common right-hand constituent analogically share the same pattern (Plag, 2006). In conclusion, the data show a significant level of stress predictability by adopting the analogical approach that appears to be the best predictor in comparison to the other models.

6.5 Conclusions

This first chapter has essentially introduced some fundamentals of morphological compounding that constitute the necessary requisites for any investigation in this field. Besides providing basic, widely recognised notions and terminology, the chapter has also given space to some problematic theoretical insights that still make of compounding an interesting issue and battlefield for the various linguistic approaches. The following chapter is devoted to reviewing the literature on the class of compound adjectives, which is the core of the present work.

Chapter II

Compound Adjectives. An introduction

0. Introduction

After an introductory chapter on compounding, I now move on to the main topic of my dissertation, i.e. compound adjectives. The reasons for focussing on this morphological phenomenon are many, i.e. 1) the peculiarity and the frequency of this form of compounding in English, 2) the scanty quantity of studies on this topic, which leaves space to new research and 3) the difficulty of translating such form into Italian and in general romance languages, due to the remarkable cross-linguistic differences. As a matter of fact, adjectival compounding has been largely neglected by studies on English morphology, compared to the much-debated and widely investigated class of nominal compounds. This is probably motivated by the fact that nominal compounds represent a much more consistent group from a quantitative and qualitative point of view. As already mentioned in chapter I, the ratio between the two classes is established at 1:12, for compound adjectives and compound nouns respectively (Hart, 1994). Despite being a “minority” group, compound adjectives deserve a more detailed analysis to account for their peculiarities.

1. Literature on compound adjectives

As mentioned above, the literature on compound adjectives in English is rather scarce and fragmentary, with a remarkable lack of recent studies. In this paragraph I present a brief review of the works on this subject divided according to the type of publication. Despite being very simplistic, this criterion turns out to be the most efficient to organize the heterogeneous material collected.

1.1 Handbooks

Handbooks of English morphology present a synthetic overview of all the word-formation processes active in the language and generally devote particular

attention to nominal compounding as the most common formation, while far less attention is given to adjectival compounds. To my knowledge, despite brief sketches of classification by scholars such as Jespersen¹ (1942), Bauer² (1983), Quirk et al. (1985) and Plag (2003), the only detailed accounts of these formations are provided by Marchand (1969) and Adams (1973). On the whole, the two scholars propose different approaches and divergent treatments of this class of formations that result in non-overlapping classifications. Marchand's classification includes nine types of compound adjectives, also corresponding to different stress patterns. Participial compounds are treated as separate subgroups with respect to adjectives properly defined and subdivided according to the lexical class of the modifier, either nominal or adjectival. His description is probably the most detailed. Still quite exhaustive is Adams's classification, which identifies ten major groups including nominal compounds with an attributive function, as in *free-lance*, and derivational compounds, as in *narrow-minded*. Her classification and further subclassifications are less straightforward compared to Marchand's and follow a mixed criterion, merging morphological (e.g. 'appositional' group), syntactic (e.g. 'prepositional', 'adjunct-verb' groups), functional and semantic (e.g. 'instrumental', 'comparative' groups) aspects not always consistently. In opposition to Marchand, Adams rejects stress as a criterion for the identification of subgroups, while she raises the problem of distinguishing between compounds and phrases for certain types of formations. In this respect, she proposes a test of identification together with a criterion of frequency, which anticipates studies on productivity. Although generally in a cursory manner, both authors make reference to morphological productivity in their analyses as a relevant aspect in the treatment of these formations.

I reckon that going into details on the various classifications given by them is beyond my scope here, considering that I occasionally refer to them in my own classification in chapter 3.

¹In his structuralist grammar, the scholar recognises four types of compound adjectives, although he remarks the manifold logical relationships linking the constituents. He makes no precise distinction between adjectives properly defined and participles, which are fully included in the adjective word class for practical reasons.

²The scholar enumerates twelve patterns of compound adjectives and, as Jespersen, does not separate participial compounds from proper adjectives.

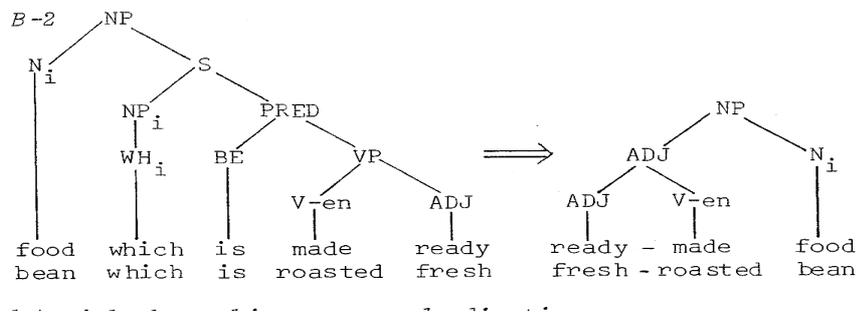
1.2 Monographs

There are very few monographs on compound adjectives in English and, although generally rather dated, they deserve attention. An extensive investigation is carried out by Meys (1975) in *Compound adjectives in English and the ideal speaker-listener*. Meys' work is a detailed analysis of a large corpus of data, namely 1560 compounds drawn from newspapers and magazines and it is the only monograph devoted to a global classification of these formations in English. The author's approach is rooted in the transformational framework, as it clearly emerges from the title. His classification completely resorts to syntax, as evidenced in his introductory outline:

“No surface structure classification of compound adjectives is possible without a preceding (implicit or explicit) analysis which is based on their underlying structure.” (Meys, 1975:80)

Therefore, he analyses compound adjectives as elliptical formations, or condensed sentences, deriving from explicit syntactic constructions through progressive transformations, as in the following example:

TYPES OF COMPOUND ADJECTIVES



(Meys, 1975:152)

Meys' classification identifies five main patterns of compound adjectives, subdivided into several subgroups. No distinction is drawn between exocentric and endocentric compounds, since the notion of head - later theorised by Williams (1981) - is absent³. The author remarks that he does not take the traditional approach of classifying the constituents according to their lexical classes on the

³ However, Meys identifies a “pivot element” in his classification, namely the key constituent in a compound, whose vague definition seems to fit both the role of the head and, more generally, of the subordinating constituent in a subordinative compound.

surface structure, but referring to the underlying structure behind the compound. In Meys' perspective, in fact, resorting to the syntactic context is the only solution to determine the actual lexical class of the constituents of certain ambiguous compounds. In his opinion, this enables him to apply an indirect classification, achievable through the sentence level closest to the compound. As a consequence, this may determine a discrepancy with the traditional, formal classification, based on the surface structure, in the assignment of the lexical classes of the constituents. One can argue that there is a certain ambiguity in determining the underlying structure of a compound, since it can be variably paraphrased with sentential equivalents. In this respect, Meys claims that the compound underlying structure should be regarded as the sentential paraphrase closest to the compound itself, or in other words the most economical route to get from a sentential level to a word level. However, his claim fails to be fully maintainable. A remarkable example of this is represented by the compound adjective *seal-easy*, which is variably paraphrased as:

- (95) Envelopes which are easy to seal.
- (96) Envelopes which seal easily.
- (97) Envelopes which are sealed easily.
- (98) Envelopes can be sealed easily.
- (99) Envelopes which you/one can seal easily.

(Meys, 1975:101)

According to the scholar, paraphrase (95) is the simplest or most economical derivation of the above compound because it seems to be the structurally closest one to the compound itself. However, he makes clear that there is no absolute technique to prove that (95) represents the actual underlying structure of *seal-easy*. For this reason, he proposes to test a representative number of naive native speakers to determine a preference on a particular paraphrase. In my opinion, resorting to empirical subjective evidence to reach a consensus is the weak point of his mentalistic approach and of other transformational works.

Two interesting remarks by Meys regard meaning particularisation and the problematic status of participial compounds. As for meaning particularisation, he observes that the principle whereby not every black board is a *blackboard* seems to apply more relevantly to nominal than to adjectival compounds. Indeed, his

corpus of data shows that the number of compound adjectives with a more compositional meaning largely outnumbers that of idiosyncratic ones. In his transformationalist approach, this is motivated by the straightforward way in which compound adjectives can be derived from underlying sentences. Despite the motivation, which is determined by the theoretical approach chosen by the scholar, meaning compositionality actually seems to be a recurrent characteristic of many compound adjectives. As regards participial compounds, Meys points out that traditional classifications are particularly problematic for this type of compounds. Correctly enough, he notices that participles do not represent “pure exponents of part-of-speech categories” (Meys: 1975, 102) and this makes them suitable to be considered in terms of syntactic relations. What emerges here is that the ambivalent role of participles is somehow a complex issue, as we are going to see in the following chapters.

A monograph dedicated to the investigation of *-ed* and *-ing* participial compound adjectives⁴ in English is *Die Adjectivischen Partizipialkomposita* by Hellinger (1969). The author’s interest in this topic is mainly stimulated by two observations, namely the high frequency and productivity of these formations in contemporary English and the lack of a complete account of them both in traditional and in transformational grammars. Working on a personal corpus drawn from *Time Magazine*, Hellinger notices that the class of participial compounds, both *-ing* and *-ed* participials as in *computer-making (company)* and *state-controlled (press)*, is characterised by a large amount of occasionalisms (*Augenblicksbildungen*) with a low degree of lexicalisation, as demonstrated by the limited number of established formations in the dictionaries. This, together with his theoretical approach, leads him to conclude that these formations are more closely related to syntax than to the lexicon. As a consequence, he claims that the generative-transformational model is the only one capable of explaining these types of compounds⁵. In particular, Hellinger makes reference to Lees’

⁴ Hellinger includes N/Adj+NP+ed (– NP) formations like *iron-fisted (boxer)* and *strong-featured (Missourian)* into his investigations, although they represent quite a different phenomenon with respect to participial compounds. His study also contains a test on the acceptability of participial compounds on English native informants and a section devoted to a contrastive analysis with German, which presents corresponding formations.

⁵ This seems to be a pretty simplistic way to solve such a complex matter.

(1960) model in *Grammar of English Nominalizations*, in which, as in Meys (1975), compounds are explained through transformation rules leading from deep to surface structures, the latter corresponding to the form of the compound itself as present in the lexicon. As the sentence represents the starting point of any transformation in this theoretical frame, then participial compounds turn out to be generated from relative clauses (Hellinger, 1969). Hellinger's classification of participial compounds relies on a semantico-syntactic criterion. By taking into consideration the underlying syntactic structure of these compounds, he distinguishes various subgroups according to the role played by the left-hand constituent in relation to the participle and to the syntactic context more generally. Some interesting observations in Hellinger's work regard the main characteristics of participial compounds in relation to their status as adjectives. The scholar underlines three main tendencies in the behaviour of these adjectival formations. Similar to other simplex adjectives, they are generally recognised as being non-gradable (with few exceptions, as in *better-informed (audience)* < *well-informed (audience)*), they tend to occur in attributive position (while often presenting restrictions on a predicative use) and finally, they can hardly be modified by an intensifier. These remarks are relevant to identify the adjectival typology that participial compounds belong to, as investigated in chapter 4 but, as we will see, the above features are actually to be limited. In fact, I will find more cases that exhibit gradability than those admitted by the author, e.g. *time-consuming*, *slow-moving*, *painstaking*, and *far-fetched*.

The monograph *Vergleichende Untersuchungen zu englischen und deutschen Partizipia II Attributen* by Todenhagen (1974) is in line with the preceding theoretical framework. This contrastive study focuses on past participles (*Partizipia II* in German) used attributively in front of nouns, thus working as adjectives. Todenhagen's investigation includes both simple participles like E. *destroyed (city)*, G. *ein verstorbener (Mann)* and modified participles like E. *bomb-damaged (houses)* and G. *ein luftgekühlter Motor*. The scholar analyses the behaviours of attributive participles in the two linguistic systems, i.e. German and

English⁶, and points out the differences in the complex participial formations in the two languages. Todenhagen raises an important point regarding the distinction between proper attributive participles and possessional adjectives, which is particularly relevant to the classification of compound adjectives in the following chapter. The issue is often of complex resolution, in that ambiguity arises when adjectives and past participles are formally identical and it cannot be decided whether they derive from a verb or a noun, as in the following example:

a silver-mounted (cartridge belt) □ 2 options of analysis

1. Deverbal adjective	2. Denominal adjective
<i>a cartridge belt which has been mounted with silver</i>	<i>a cartridge belt which has a silver mounting</i>

(Huxley in Todenhagen, 1974:165)

Todenhagen underlines that such ambiguity, more common in English than in German, cannot be easily solved, since there is no fixed rule to distinguish between the two different origins, either verbal or nominal. As regards participial compounds, or *partizipiale Zusammensetzungen*, Todenhagen's criterion of classification for both German and English cases is based on the verbal aspect. In this perspective, he distinguishes between participial compounds carrying the feature + perfective and those carrying a - perfective one, as exemplified below.

(non-perfective)	(perfective)
<i>Communist-held</i> positions < positions which are being held <u>by</u> Communists	<i>plague-stricken</i> country < the country which has been struck <u>with</u> plague

(Todenhagen, 1974: 157-160)

Therefore, non-perfectivity is characteristic of participial compound adjectives whose noun constituent plays an instrumental role introduced by the preposition

⁶ Actually, the large group of participial compounds in English has received the attention of various scholars both German and of germanistic background, especially in the branch of contrastive studies. A suitable explanation for this is clearly the presence of similar morphological structures in German, which shows even wider and more frequent use of these formations.

with in the corresponding sentence. Conversely, when the noun has an agentive role introduced by the preposition *by*, the participial compound adjective conveys perfectivity. Again this distinction relies on a transformational approach, as it finds its rationale in the underlying structure⁷.

The study by König (1971), *Adjectival constructions in English and German*, is another contrastive analysis of participial compound adjectives in a transformational framework. Again assuming that such formations are the result of progressive processes of transformation and cancellation originating from relative clauses, the scholar pays particular attention to the restrictions intervening in both languages. In general, he notices that German presents a much wider variety of modifiers that can be preposed to the participle with respect to English. König finds an explanation to such difference in Fillmore's observation that "adjectives or participialized verbs can only be preposed if they are the final element in the underlying relative clause" (Fillmore 1963:229, in König). Therefore:

the dog *sleeping* > the *sleeping* dog

the dog *sleeping under the car* > * the *sleeping dog under the car*

* the *sleeping under the car* dog

As this holds true for both languages, the scholar considers the different restrictions in German and English as a reflex of the word order of subordinate clauses in the two systems. In fact, the English sentence structure is invariable, while German subordinate clauses are characterised by the verb always occupying the final position. As a consequence of all this, German can prepose extended modifiers to participles with greater freedom than English (see example below).

e.g. die Gegenden, die vom Hochwasser verwüstet worden ist, ... > die vom Hochwasser verwüsteten Gegenden...

(lit.: the region which has been devastated by the flood > *the by the flood devastated region)

⁷ However in my opinion, this criterion is subject to interpretability.

In comparison to English, German shows very little restrictions to premodification with no need for preposition processes, nor for compounding. Conversely, English has:

4. to activate compounding processes before being able to prepose the modifiers
5. rearrange the word order of the underlying relative clause in order to place the adjective or the participle in final position.
6. carry out deletions (the most important being ‘relative clause reduction’, number and preposition deletions)

e.g. ... countries which are plagued by earthquakes... > earthquake-plagued countries

Another interesting observation by König regards the position of participial compounds in English within the sentence. As compared to German, in which most compounds appear freely in attributive and predicative position, English compounds present more restrictions, normally occurring in attributive position. However, they may appear predicatively under the specific condition of being well-established formations⁸, as in the case of *good-looking* as in *Mary is good-looking*. Although only hinted at, König makes an interesting final hypothesis regarding the spreading of these formations in English. In his opinion, an explanation can be retraced in the diachronic development of English. In fact, Old English subordinate clauses were characterised by a word order similar to that of German, which easily allowed a vast array of modifiers in pre-nominal position. The evolution of English over time and the changed verb position of the subordinate clauses (especially relative c.) have determined new restrictions on premodifiers and consequently the enormous increase of these participial compounds.

Another study that chooses a contrastive perspective with German is Lipka’s (1966), who focuses on two types of formations, namely *grass-green* and *waterproof*. The theoretical approach is again transformational, as it emerges in the systematic syntactic paraphrase of the compounds. Following the method at the basis of Lees’ work, compounds are derived through one or more core

⁸ However, the scholar admits the impossibility of predicting with absolute certainty the acceptability of a participial compound in predicative position via this criterion.

sentences (*Kernsatz*). Therefore, compounds like (E) *ash free*, *heartsick* and (G) *alkoholarm*, *bombensicher* are rendered as predicatives in copulative clauses, as in the following model, where the preposition (P) can vary depending on the adjective.

$$\boxed{\text{Sub} + \text{is(t)} + \text{Pr} (= \text{Adj} + \text{P} + \text{N})}$$

[Pr: predicative; Sub: subject; Adj: adjective; P: preposition; N: noun]

Similarly, compound adjectives of the *grass-green* type are viewed as a variant of the above structure, namely

$$\boxed{\text{Sub} + \text{is(t)} + \text{Pr} (= \text{P} + \text{Adj} + \text{P} + \text{N})}$$

where P stands for the coordinate prepositions *as... as* and *so... wie*, for English and German respectively. Lipka takes into consideration not only the synchronic description of these formations, but also their diachronic evolution. In particular, he notices a remarkable increase of the *waterproof* type in the 20th century. In this perspective, he points out that a distinction should be made between productivity determined by “fashion” and by other factors. The former case is represented by compound adjectives containing *-wide* and *-conscious* – particularly frequent in American English – and German formations in *-bewusst* and *-sicher*, sometimes under the influence of English. On the other hand, formations like *-free*, *-proof* and *-frei* are produced by analogy on an existing model⁹. Conversely, the compounds denoting colours (*Farbkomposita*) have recently become less productive and the relationship between the constituents is in many cases less transparent than for the *-proof* type.

Welte’s (1982) paper shares the contrastive approach between English and German with the previous study. The scholar, while underlining the lack of thorough analyses and precise classifications of these formations, gives a complete overview of compound adjectives in the two languages. Besides the descriptive aspect, his aim is to investigate various problematic cases rendering

⁹ Although this observation is of certain interest, it is not clear which is the criterion adopted to distinguish between “fashion formations” and “productive formations on other criteria”.

the classification more complex, such as the word class of the modifiers in compounds like *shatterproof* and the morphological status of complex modifiers like *second-hand (show)*. Welte's observations have been a useful stimulus to become more aware of certain problematic aspects and to investigate them.

Moving to more recent contributions, we find the study of Gram-Andersen (1992) on what he defines "N-*ed* compounds". The subject of his investigation regards formations like *hard-featured* and *cucumber-nosed*, namely Adj-N and N-N combinations followed by the derivational suffix *-ed* essentially conveying the meaning of possession. The author presents a large corpus of data, drawn from newspapers and literary works, which mainly concentrate on present-day English, although some examples are drawn from the Spenserian period or even from Old English. The scholar presents a detailed categorisation of such a vast phenomenon, whose productivity is evident in various linguistic registers. He concentrates on the semantic relations between the N-*ed* and the headword to which it refers and surveys the frequent figurative and connotative use of these formations. Despite the descriptive accuracy and the remarkable repertoire of cases collected, his study appears to be less relevant in terms of a theoretical approach. As a general observation on the type of formations analysed, I have some doubts on whether N-*ed* compounds should be actually included among compound adjectives or whether they represent a class of their own. This question is addressed in the following chapter.

In the area of compound adjectives, Gram-Andersen produced a second study, *The ever-whirling wheel* (1995), which deals with formations containing a present participle as a second constituent. As in his previous work, the scholar presents a large amount of data ranging from OE to Pr.E and including both everyday (newspapers and magazines) and poetic language (contemporary and ancient). He carries out a detailed analysis and classifies this type of formations according to both the semantic and the syntactic roles of the first constituent in relation to the second (the participle). By adopting this double criterion, he identifies nine basic patterns that include nouns, pronouns and adverbs as first constituents. The scholar also makes an important point in differentiating isomorphic nominal and adjectival compounds. Nominal compounds in *-ing*, like *sight-seeing (bus)* and

drug-taking (hysteria), have the same structure of *-ing* participial compounds adjectives like *sight-seeing (tourist)* and *drug-taking (athletes)*. Although formally identical, their relationship to the head noun to which they refer does not correspond to that holding between compound adjectives and their head nouns. Gram-Andersen also investigates the nature of the head noun modified by the compound adjective and distinguishes eight types according to their semantic features (\pm animate, \pm human, \pm concrete etc). This is functional to the reading of compound adjectives, which, depending on the head noun, can either have a literal meaning or acquire a figurative one, a hyperbolic or a downgrading function.

1.3 Articles and other contributions

Articles and papers on compound adjectives are mostly quite dated or concentrate on few subgroups of these formations. Participial compounds have been the subject of two contributions by Gerbert&Zimmermann (1976) and Ljung (2000), whose analyses are focused on special languages. The former focuses on the use of participial compounds in literary and technical, scientific languages, while the latter devotes his analysis to the journalistic language both in American and British newspapers. All the scholars observe a clear increase of these formations in recent times. Interestingly, Gerbert&Zimmermann remarks different stimuli at the basis of such increase in productivity. In particular, the increase of N-past participle compounds in special languages, such as technical lexicons, from the 19th century onward is said to be due to the process of industrialisation that stimulated the creation of new synthetic formations to express the characteristics of a product resulting from industrial procedures and manufacturing, when the single adjective alone is no longer able to efficiently and unambiguously convey the whole information. This is apparent if we look at examples like *gas-turbine powered* and *pressure-controlled valves*, in which the complexity of the information conveyed by the compound adjective cannot be replaced by a single adjective. Therefore, the compound adjective serves here a prevailing labelling function that constitutes the stimulus. As regards literary language, the authors notice a lively use of N-past participle compounds by Romantic poets. Here, formations like *wood-crowned cliffs* (Wordsworth, *An*

Evening Walk) and *night-folded flowers* (Shelley, *Prometheus Unbound*) are mainly used in descriptive passages and for these a different function is recognized with respect to technical jargons, namely a rhythmic function. The ability of compounds to compress information is exploited here for metric restrictions. In fact, the use of a corresponding sentence would break the rhythm and the plasticity of the composition, while the synthesis provided by the compound avoids verbosity and keeps the rhythm flowing.

As regards journalistic language, Ljung (2000) notices that different needs are met by the use of participial compounds in this special language. Starting from the well-known prerequisite of journalistic texts, namely the economy of space, he observes the strategies activated to gain synthesis and to compact information. According to Ljung, the wide use of participial compounds is a case of syntactic reduction, whereby postmodifying relative clauses are substituted with more economic, space-saving premodifiers. This is essentially the stimulus for the wide use of participial compounds in journalistic language. In line with his generative approach, Ljung remarks that participial compounds are interpretable according to “a rule schema rather than as individual lexical items with idiosyncratic meanings” (Ljung, 2000:206) that justifies the high number of hapax legomena. With reference to Kastovsky (1995), who underlines the twofold function of word-formation i.e. nameability and syntactic repackaging, Ljung claims that the main role of participial compounds in journalistic production is the latter because they contribute to text cohesion and condensation. The scholar’s applicative contribution consists in a quantitative analysis of the data with particular attention to the distribution of *-ed* and *-ing* participial compounds in different subgenres, such as sport news and hard news. In accordance to his main claim, Ljung notices that hard news present a higher frequency of participial compounds than sport news, as the demand for content compression is stronger in the former case. However, in my opinion, Ljung’s observations in this sense are quite generic and not enough motivated to be maintained. He also remarks the presence of recurring second constituents that may be on their way to being grammaticalised, as in the case of compounds containing *based* as in *London-based* and *English-based*, whose right-hand constituent is approaching the status of a semi-suffix in his

opinion. This final observation appears to be somehow contradictory with his generative approach that fully relies on syntactic structures able to produce a non-finite number of formations. I deal with these formations in detail in chapter 4, where I also make some considerations on their ambiguous morphological status.

Theoretical problems regarding the identification of the morphological processes at the basis of certain complex formations is dealt with by Faiß (1982) in an article that examines both nominal and adjectival compounds in German and English. This contrastive perspective is suggested to the author by the presence of similar formations in the two languages, presenting cases of ambiguity in the morphological analysis. The author studies various patterns and underlines that it is not always straightforward to determine whether a complex lexical item is the result of a single compounding process or a double morphological rule. The possibility of a double analysis emerges in cases like *text-grammatical*, which can be alternatively assigned two different morphological patterns, either [(*text grammar*)+*ical*] or [*text+grammatical*]. This and other formations (e.g. complex formations in *-ed*), apparently oscillating between compounding and suffixation, are examined. Faiß concludes that the factors determining the morphological analysis are not only morphological but also semantic, in that a plausible morphological decomposition into constituents may not be compatible with the semantic analysis¹⁰.

More recently, Dalton-Puffer&Plag (2003) analyse the delimitation between suffixation and compounding for other productive formatives, i.e. *-ful*, *-type* and *-wise*. As the authors claim that labels like “semi-suffix” do not provide any further insight in the nature of complex formations, they conclude that it is preferable to draw a clear distinction between compounds and suffixation. Concerning *-wise*, they identify two kinds of this formative having different morphological status. The largest group is represented by formations with an adverbial function, as in “(*cut*) *crosswise*”, where *-wise* means “in the manner of...” and is classified as a suffix. Conversely, formations like “*streetwise (ex-cop)*” have an adjectival function and the formative *-wise*, meaning “experienced, knowledgeable”, has the status of an independent lexical element. Thus cases like the latter, which are

¹⁰This topic is resumed and expanded in the following chapter.

characterised by growing productivity, are clearly compounds.

As regards the diachronic dimension of compound adjectives, which I only sketch to give some historical fundamentals, I briefly review some steps in the diachronic evolution of compound adjectives. Among others, Sauer's contribution (1992) is particularly significant both for the amount of data presented and for the detailed account of the various patterns of compound adjectives in Early Middle English (EME henceforth) with particular attention to their morphological status. More synthetic references to the development of these formations over the centuries are made by various scholars in the sections of *The Cambridge History of the English Language* devoted to morphology (see for example Kastovsky 1992 on Old English), by Marchand (1969) and Lipka (1966) with reference to the *grass-green* and the *waterproof* types.

In Old English (OE), most of these formations were coined for poetic reasons in order to create or facilitate alliteration, as well as other stylistic effects (Faiß, 1992). Various productive patterns of compound adjectives are identified and reviewed in detail by Kastovsky (1992). One of them is the N-Adj pattern, which is represented by two main subgroups, namely as in *mere-wērig* (sea-weary), *ār-weorþ* (honour-worthy) and *is-calde* (ice-cold) (Algeo, 1999), *blod-read* (blood-red) (Fennell, 2001), whose determinans respectively play the role of complements and intensifiers of the determinata. However, Sauer (1992) remarks that the former type is not easily identifiable in OE because of its closeness to syntactic constructions, due to the frequent noun declination, either in genitive or in dative, which is typical of syntactic constructions.

The loss of inflectional markers in EME, and consequently morphological isolation, determined the disambiguation of most cases. Within the N-Adj class, Lass (1994) also includes what he considers to be the most common type of compound adjectives in OE, i.e. the one containing a past participle (weak or strong) as a second element, in which the determinans often has an instrumental function, as in *hand-worht* (hand-wrought, i.e. hand-made). Compounds containing a present participle are instead classified as a category of their own by Kastovsky, who remarks that many cases represent typical kennings of the poetic language. He further subdivides this pattern according to the syntactic and

semantic role played by the first constituent and identifies the following groups.

- c) subject of the verb as in *hunigflowende* (flowing with honey).
- d) object of the verb as in *bord-/lind- hæbbende* (shield-bearing).
- e) locative as in *brim-/mere-sæliþende* (seafaring).
- f) instrumental as in *rond-/lindwigende* (fighting with a shield).

Another common pattern attested in OE is Adj/Adv-Adj, which is further subdivided into the following groups by Kastovsky, on the basis of the semantic relations between the two constituents¹¹.

- c) additive as in *earmcearig* (poor and sorrowful).
- d) subordinative as in *deorcegræg* (dark grey).
- e) intensifying or downtoning as in *widmære* (far-famed) and *healfdead* (half-dead).

the determinant plays the role of manner adverb modifying the verb contained in the determinatum as in *hearmcwidd* (evil-speaking) and *eaþgesyne* (easily seen). Bahuvrihi and the so-called extended bahuvrihi compounds are also recorded in OE. Gram-Andersen (1992) attests the presence of both suffixed (and suffixless compounds, as in *Prihēafdede* (three-headed), *ān-ēage-de* (one-eyed) and *glædmōd* (glad-minded)¹² respectively; the latter also presenting the inverted order of the constituents as in *mōd-stark* (fierce-minded) (Lass, 1994). Apart from the categorisations proposed by various scholars, the examples above clearly show the presence of several vital patterns of compound adjectives as early as OE.

In Middle English (ME) this original productivity underwent a progressive decline under the pressure of foreign influences. The great increase of Latinate borrowings after the Norman Conquest clearly determined a reduction in the coinage of these native formations (Hart, 1994). A clear case of this decline is represented by the N-past participle pattern that was common in OE verse but did not survive into ME and regained its vitality only in the 14th century (Burnley, 1992). Conversely, the Adj-Adj pattern, as in *lukewarm* (1398) and *icy-cold* (1375), became more productive than in OE.

With regard to Early Modern English (EModE), Nevalainen (1999) observes

¹¹Sauer (1992) tends to consider groups b), c) and d) as syntactic groups rather than as proper compounds.

¹²*Mōd* is literally *mind*, therefore the suffix is lacking.

that most N-Adj combinations of the type *sky-blue* and *sea-sick*, though present in OE, were again attested in Modern English (ModE), while other elements like *dog-* (as in *dog-tired*) and *-proof* (as in *waterproof*) only became productive in the 16th and 17th centuries. The currently productive pattern containing *self-*, as in *self-conscious*, also arose in EModE. At the same time, the N-present participle pattern, which was rather restricted in OE, became much more productive in ModE, while the N-past participle combination increased dramatically in EModE and keeps growing in Present-Day English. The copulative Adj-Adj type as in *tragic-historical* is rare in ME, but becomes more common in EModE. In the 17th century this type became particularly lively in technical terminology in the variant containing a combining form as a first element, e.g. *physicomechanical*.

The above mentioned group of extended bahuvrihi compounds has indeed attracted the attention of various scholars, who presented divergent opinions and devoted articles to this particular word-formation process at the borderline between compounding and derivation. In the following chapter I expand on this type with reference to its complex, sometimes ambiguous, morphological status. Most studies investigate the semantic aspects involved in the productivity of these formations, while others also focus on structural issues for the identification of the morphological head. Hirtle (1969) analyses the nature of the *-ed* suffix in relation to its two functions, i.e. inflectional and derivational, which leads him to consider it as two distinct suffixes that are semantically related and characterised by homophony¹³. He investigates the semantic characteristics of these formations, as well as their grammatical function (adverbial or adjectival) and identifies restrictions on the acceptability of bare (like *verandahed* bungalow) and modified (like *blue-eyed* boy) *-ed* adjectives, as he calls them. Ljung (1975) also studies these formations from a semantic point of view and, similar to Hirtle, he distinguishes between alienable (for example *beard* in relation to *man*) and inalienable (for example *arm* in relation to *man*) nouns that are differently adjectivized, namely as bare adjective (as in *bearded* man) and as modified adjective (as in *one-armed* man) respectively. The discussion of this class of formations is continued by Hudson (1975) who raises various problematic

¹³ Beard (1976) claims that this cannot be maintained because this homophony is no more than an accident in the English language.

questions, also in disagreement with Hirtle. One of these regards the productivity of the process at the basis of *-ed* adjectives. In his opinion, there are two different processes forming bare and modified *-ed* adjectives, namely a semiproductive one for the *bearded* type and a fully productive one for the *blue-eyed* type. Another question, in a generative perspective, regards the relationship between *-ed* adjectives with corresponding relative clauses and prepositional phrases. The scholar wonders if an *-ed* adjective like *bearded (man)* can be derived from the same source of *man with a beard* and *man who has a beard*. This seems questionable to him. Indeed, the above assertion on productivity would imply that transformations can be semiproductive, which is in contrast with the generative conception of a powerful syntax. Hudson's investigation also concerns the selectional restrictions between the *-ed* adjective and its head noun. In relation to this, he claims that all *-ed* adjectives express the concept of inalienable possession, although he recognises that such notion presents some problems, since it is not always consistently applied. Ljung concentrates on this very notion in three contributions (1970, 1974, 1976) and establishes the condition that inalienable nouns can be adjectivised with an *-ed* suffix but they must be premodified, as in *long-legged*. However, the presence of borderline cases has led the scholar to define a gradual notion of inalienable possession, in which new relationships between possessor and possessed can variably fit and be accepted. The notion of inalienability is also central to the contribution of Beard (1976), who proposes to determine inalienability through the analysis of the semantic features pertaining to the head noun. Another contribution on this type of formations is given by Crocco-Galèas (2003), who defines them as derivational compound adjectives, thus underlining their complexity resulting from the activation of a double morphological process, namely compounding¹⁴ first and derivation secondly, the latter applying to the entire complex base and not only to the second constituent. Derivational compound adjectives are characterised by a high productivity in comparison to the less frequent N-*ed* adjectives. This is explained by the scholar in terms of naturalness: the former type of formations presents less semantic restrictions and they are structurally less marked than the

¹⁴Making generalised reference to compounding is controversial, because cases like *blue eye* and *good nature* are actually phrases and not compounds, as remarked by the scholar herself.

second. She also investigates the nature of the *-ed* suffix from a Naturalness point of view that classifies non-compounding morphology along a vertical continuum, whose extremes are represented by inflection and derivation (Dressler et al., 1987). Consequently, the scholar presents the *-ed suffix* as a non-prototypical versatile suffix, whose function shifts along an even wider continuum including compounding. This claim contributes to identify the head of the compound, which is not straightforward, and that Crocco-Galèas recognises in the suffix *-ed*, as the least marked and therefore the most plausible option. Despite being an original solution, I do not quite agree with the idea of a single suffix playing a double role. In my opinion, it is more likely that they are two separate homophonous suffixes.

Moving now to other groups of compound adjectives, we find few contributions on the N-Adj pattern. Birenbaum (1967) attempts a classification of various formations starting from the semantic relations holding between the constituents of the compound and identifies the following three main subgroups.

1. the noun represents the source of the quality expressed by the adjective, as in *snow-blind* and *seasick*.
2. the adjective represents the object, the aim or destination of the quality expressed by the adjective, as in *girl-crazy* and *press-averse*.
3. the quality expressed by the adjective is somehow opposed to what is conveyed by the noun. These compounds generally represent the idea of resistance, as in *waterproof* and *gas-tight*.

However, the author points out that other relationships can be identified and that the semantic criterion is characterised by subjectivity. Therefore, he resorts to the syntactic transformational approach that – in his opinion – is useful to find a more objective categorisation based on the syntactic constructions corresponding to the compounds adjectives. Prepositional phrases are at the basis of all the compounds mentioned above, which are finally gathered in a single group labelled as ‘complement type’. Birenbaum recognises six more subgroups of the N-Adj patterns, subject type, comparative, emphatic, additive, qualitative and associative, characterised by different relationships between the constituents¹⁵. The criterion adopted is both semantic and syntactic, although no overt distinction

¹⁵It is beyond my scope here to review all the subgroups mentioned.

is made by the scholar. It is clearly syntactic in the ‘subject type’, in which the adjective may be transformed into attributive adjective in a noun phrase, as in *footsore* → sore feet, while it is semantic for the emphatic type, which is defined by the role the noun plays in relation to the adjective. Here the noun does not add anything new to the adjective meaning but only conveys the idea of intensification, as in *dog poor*. This latter group is also investigated by Sachs (1963) in a diachronic and contrastive perspective. The scholar observes that this pattern is common to various Germanic languages – especially in poetic language – and has an ancient origin. In particular, he focuses his attention on combinations containing two productive modifiers, i.e. *stone* and *stock* as in *stone cold* and *stock-still*. The author notices a retraceable comparative meaning between noun and adjective for many of these formations, while others are less explicable and consequently the noun appears to be somehow meaningless in them. Sachs’s proposal is that these coinages can be seen as deriving from a process of analogy on previous compounds, in which a plausible comparative relationship between the constituents is identifiable.

Within the group of N-Adj compounds, Górska (1994) analyses the productive pattern containing *free* as in *flicker-free*, which is part of the larger group of privative adjectives, which also encompasses denominal adjectives in *-less*, as in *meaningless*. Her study adopts a cognitive approach, aimed at discovering those peculiarities that formal approaches cannot perceive. Her starting point is the observation that – although privative adjectives share the common concept of ‘being without’ (privation) – they show selectional differences and restrictions. As a consequence, she claims that there must be some deeper reasons determining and preventing interchangeability of these two groups. As a solution she proposes to conceptualise and examine the cognitive domain of possession as a way to discriminate between them. The prominence of certain components of this domain determines the activation of a morphological pattern instead of the other. The same group of compounds is examined by Slotkin (1990), who laments a scarce interest of English morphology in such a productive formation. His main concern is the analysis of the morphological productivity of this pattern in comparison to adjectives in *-less*. The author, supported by a test administered to a significant

number of informants, asserts that *-free* adjectives are attached a positive connotation as well as the idea of a desirable state, which is not pertinent to derivatives in *-less*. This peculiarity has been fruitfully exploited in publicity to describe the qualities of products and has consequently determined a remarkable growth of this pattern in recent years even at the expense of *-less* formations. Essentially resuming this position, I discuss this pattern in detail in chapter 3.

Finally, stress pattern in compound adjectives is investigated in two articles by Yamada (1981, 1984). This topic is a neglected one especially if we compare it to the much debated stress assignment in N-N compounds. According to the scholar, Chomsky&Halle (1969) do not contemplate compound adjectives in their Compound Stress Rule; hence he proposes a specific rule to explain the stress peculiarities of compound adjectives in predicative position¹⁶. Yamada chooses a syntactic approach to the issue and identifies two stress patterns, namely *cólorblind* (1-3) and *ìcy-cóld* (3-1), to which the various subgroups can be referred. After identifying the two different behaviours, he analyses the reasons at the base of this variability. The author concludes that the motivation should not be simplistically attributed to the lexical classes of the constituents, but rather to the grammatical function played by the first constituent with respect to the second.

1.4 Conclusions

It is worth noticing that, although the literature on compound adjectives has been useful to get a wider perspective on this variegated topic¹⁷, most works constitute sporadic and fragmentary insights. The result is that compound adjectives as a category have not received a systematic treatment so far¹⁸, especially concerning their functional role as adjectives, which is by far the most neglected aspect. In chapter 4, I make an attempt to remedy to this lack by proposing a functional analysis of this category. As concerns the general classification I propose in chapter 3, I have partially relied on Marchand (1969)

¹⁶He remarks that the attributive position influences the stress pattern because of the presence of the nominal head.

¹⁷In particular, contributions on single subgroups of compounds have often provided hints and stimuli to the investigation.

¹⁸Meys' monograph (1975) represents the sole exception. However, the scholar is much more interested in compound adjectives as a source of evidence for the correct functioning of the transformational approach than in focusing on the various properties of these formations.

and Quirk et al. (1985) that represent more detailed and consistent categorisations¹⁹ in comparison to the brief sketches proposed by the other authors.

¹⁹Actually, Adams (1973) is quite specific too. However, her classification sometimes turns out to be confusing due to heterogeneous criteria chosen.

Chapter III

Compound Adjectives. Classification and description

0. Introduction

The present chapter represents a proposal for a classification of compound adjectives. The description of the various subgroups follows a synthetic overview and is completed by tables containing the data collected, which are also reported in Appendixes A and B with reference to the sources. When dealing with compound adjectives, the first question to be addressed regards the very notion of compound adjective. Indeed, the question is legitimate for two main reasons, i.e. 1) this label seems to cover a wide range of heterogeneous patterns 2) different classifications either include or exclude certain formations. As we are going to see later in the chapter, compounds containing an adjectival head are more easily recognised and classified, while it is more controversial in other cases (see paragraph “Borderline cases”).

From the viewpoint of the morphological analysis of the constituents, my classification includes the following formations.

(1) compounds with an adjectival head combined with a left-hand constituent belonging to one of the main lexical classes (i.e. noun, adjective, and verb), like *lead-free*, *shocking pink*, *nationwide* and *shrink-proof*.

(2) non-prototypical compounds; such as neoclassical compounds containing a combining form as a left-hand constituent (e.g. *electromagnetic*), as well formations containing *self-* as modifier.

(3) participial formations, containing present and past participles as right-hand constituent preceded by a noun (e.g. *time-consuming*, *god-forsaken*), an adverb (e.g. *slow-moving*, *far-fetched*), an adjective (e.g. *good-looking*), as well as by other constituents such as *self-* (e.g. *self-winding*, *self-made*).

(4) V-N exocentric formations, like *tell-tale*

By contrast, I leave out the following combinations.

(a) phrasal formations like *mind-your-own-business (attitude) on the spot (inspections)* and *down-to-earth (extensions)*⁴⁸ that represent cases of syntactic conversion.

(b) pairs of adjectives coordinated through the conjunction “and” as in *sweet-and-sour (sauce)* and *black-and-white (frame)*⁴⁹

(c) N-N combinations like *baby-bottom (complexion)*. I am against the inclusion of such formations within compound adjectives, in that they function as noun premodifiers, but they are standard compounds with no adjectival function in isolation.

1. Classification: an overview

The first distinction drawn for the classification of compound adjectives is between subordinative and coordinative/copulative compounds. A further divided into endocentric and exocentric compounds. The lowest level of classification regards the identification of the possible combinatory patterns determined by the lexical classes of the constituents. The following scheme briefly summarizes my classification.

⁴⁸ Included by Meys (1975) in his classification.

⁴⁹ They are included within the class of compound adjectives by Meys and defined as “conjunction adjectives”.

SUBORDINATIVE COMPOUNDS

 ➤ **ENDOCENTRIC COMPOUNDS**

PATTERNS	SUBGROUPS	COMPOUNDS
N-ADJ	GRADING (a) colour adjectives (nuancing) (b) intensifying	a. <i>salmon-pink, peat-brown, Avalon-pink, depression-brown</i> b. <i>dog-tired, stone-cold, paper-thin, stock-deaf</i>
	TIME & SPACE compounds	<i>knee-deep, day-long, city-wide, waist-high, week-old</i>
	RESTRICTIVE/SPECIFYING	<i>sugar-free, love-blind, rainproof, user-friendly</i>

PATTERNS	SUGROUPS	COMPOUNDS
ADJ-ADJ	(a) COLOUR ADJECTIVES (nuancing)	<i>dark blue, light green, metallic grey, milky white, *greenish blue</i>
	b) INTENSIFYING	<i>scorching hot, burning hot, piping hot, wide awake, wide apart, wide aware, wide open, shiny new, squeaky clean, icy cold, freezing cold, dead tired, frozen stiff, hopping mad, roaring drunk, wringing wet</i>

The star indicates an uncertain status of this kind of formation (see more in § 4.1)

PATTERNS	COMPOUNDS
SELF-ADJ	<i>self-evident, self-confident, self-adhesive</i>
SELF-ING PARTICIPLE	<i>self-adjusting, self-inflicting, Self-defeating</i>
SELF-ED PARTICIPLE	<i>self-assured, self-contained, self-induced</i>

Due to the relevant presence of participles in the patterns containing *self-* these formations are dealt with participial compounds in Chapter 4.

PARTICIPIAL COMPOUNDS

By participial compounds, I intend formations whose right-hand constituent (the head) is an *-ing* or *-ed*⁵¹ form of a verb preceded either by a noun, an adjective or an adverb, as a left-hand constituent. Due to the presence of participles in head position, which raise problems of lexical class identification, these groups of compounds are only introduced here and are dealt in detail in Chapter 4.

PATTERNS	SUBGROUPS	COMPOUNDS
N-PARTICIPLE	PRESENT PARTICIPLE	<i>man-eating, stomach-churning, Tory-voting, eye-catching</i>
	PAST PARTICIPLE	<i>smoke-filled, U.S-led, Dallas-based, Democrat-sponsored</i>

PATTERNS	SUBGROUPS	COMPOUNDS
ADV-PARTICIPLE	PRESENT PARTICIPLE	<i>high-flying, slow-moving, hard-working, far-reaching</i>
	PAST PARTICIPLE	<i>widespread, long-established, well-known, ill-judged</i>

PATTERNS	SUBGROUPS	COMPOUNDS
ADJ-PARTICIPLE	PRESENT PARTICIPLE	<i>good-looking, foul-smelling, tatty-looking</i>
	PAST PARTICIPLE	<i>Italian-born, British-born,</i>

⁵¹Actually this represents an overgeneralization, since also irregular past participles, as in *stone-ground*, are included here.

➤ **EXOCENTRIC COMPOUNDS**

PATTERNS	COMPOUNDS
V-N	<i>cut-throat, cut-rate, daredevil, breakneck, push-button, tell-tale, catch-penny, turnkey, lacklustre</i>

Formations like *hollow-cheeked* and *pot-bellied* are generally included within the group of bahuvrihi compounds. Their compoundhood is often assumed *tout court*, but I actually consider it questionable. For practical reasons, this large group of formations is discussed in a separate paragraph just after proper exocentric compounds.

COPULATIVE COMPOUNDS

PATTERNS	ANTONYMIC SUBGROUP	NON-ANTONYMIC SUBGROUP
ADJ-ADJ	<i>bitter-sweet, sweet-sour, clever-stupid, clever-silly</i>	<i>German-French, grey-green, red-blue, black-white*, true-false*, hot-cold*, cold-warm*, wet-dry*</i>
COMB.FORM-ADJ	<i>tragicomic, heroicomic</i>	<i>Anglo-Norman socio-economic</i>

BORDERLINE CASES

PATTERN	“COMPOUND”
PARTICLE-NOUN	<i>in-store, off-shore</i>
VERB-PARTICLE	<i>see-through, built-in</i>
PARTICLE-PARTICIPLE	<i>incoming, in-grown</i>
ADJ-N	<i>long-distance</i>

2. Data: Sources and methods

The main purpose of the present dissertation is that of providing an exhaustive description of the variegated subgroups of compound adjectives. Given the wide range of formations involved, I have considered it necessary to base my research on various sources, from which I collected the data. In fact, the very first difficulty

I came across was in finding a suitable source containing a significant sample of all the combinatory patterns of compound adjectives. In this sense, large electronic corpora represent the richest source but have the disadvantage of making the search hardly feasible when no fixed element is looked for. Conversely, relying on smaller resources, which can be manually scanned, clearly helps restricting the field of investigation but they would leave out several formations and patterns, thus only providing a partial insight on the subject. In consideration of all this, I have decided to take the various classifications provided by handbooks and single contributions as a starting point, in order to identify as many patterns of compound adjectives as possible. Once established my own criteria for the classification, I have focused on each subgroup and, in this context, I have carried out analyses on specific cases and patterns with the help of electronic resources. The majority of data is drawn from the British National Corpus (BNC hereafter)⁵² through the “concordance” option of the Sketch Engine Software, which allows complex queries. In particular, this tool enables to investigate an articulated pattern by searching a word in combination with specifically selected collocations, i.e. right and left contexts. This has been a precious means of analysis that considerably contributed to a reduction of random scanning, especially for what I would call “families of compounds”⁵³. Additional data was collected by resorting to the Reuters-21578 Corpus (R21578 hereafter)⁵⁴ as well as to the content of some internet websites (IWS hereafter), as in the case of colour adjectives, internet forums (IF hereafter) and blogs (IB). In order to grant a certain reliability of the data drawn from the web, I used Google advanced search engine that restricted my search to pages from English-speaking countries.

As regards participial compounds (see mainly chapter 4), I have developed a more punctual corpus-based analysis on a subdirectory of the ICAME collection.

⁵²BNC is a 100-million word corpus of written and spoken texts containing diamesic, diatopic and diaphasic varieties of Present English.

⁵³By families of compounds I mean those groups of compounds sharing a common constituent, generally the head. In such cases, the recurring constituent was chosen as search word in the “concordance” option and a specific right context was selected.

⁵⁴Reuters-21578 is a collection of 22 data files. Each of the of the first 21 files contain 1000 documents, while the last contains 578 documents. The documents are Reuters newswire stories. appeared in 1987.

The corpus chosen are the Freiburg-LOB Corpus of British English (FLOB hereafter) and the Freiburg-BROWN Corpus of American English (FROWN hereafter)⁵⁵.

The data used in my analysis are drawn from two electronic corpora contained in the ICAME Collection of English Language Corpora⁵⁶. In particular, I have chosen to base my analysis on the Freiburg-LOB Corpus of British English (FLOB, hereafter) and on the Freiburg-BROWN Corpus of American English (FROWN, hereafter). The two corpora were compiled at the University of Freiburg to match the well-known Brown and Lob Corpora with the only difference that they should represent the language of the early 1990s⁵⁷. Therefore, the aim is to match their originals as closely as possible, both in terms of size and genres. Each corpus is composed of 1million words, whose organisation and categorisation match the other, so that they can be analysed in parallel. Inside these corpora, I have selected three categories, namely A, B and C that build up the Press section. In particular, section A contains reportages, section B editorials and C reviews. Each category includes various selections of journalistic production.

The reason for choosing these two corpora, and these categories in particular, is threefold. Firstly, FROWN and FLOB represent an up-to-date sample of English written language. Secondly, since the corpora are not tagged, their relatively modest size enables manual scanning, which is essential when no fixed element is looked for. Finally, the presence of a press section was appealing for my purpose, since participial compound adjectives are particularly frequent and productive in written journalistic language (Ljung, 2000).

The collection of data has been carried out by reading the texts through and by listing the participial compound adjectives in two main categories according to the

⁵⁵ FLOB is a British English written corpus elaborated by the University of Freiburg in the 90s, while FROWN is the American response to FLOB, elaborated by the same institution with the same criteria and methods.

⁵⁶The collection is built up of 22 corpora of spoken and written English, including diatopic varieties of English (see for instance the Australian Corpus of English, the Kolhapur Corpus of Indian English, etc.). The collection is also contains a relevant set of corpora of Historical English.

⁵⁷Both Brown and Lob are representative of the English language in the 60s.

participle in the right-hand position. The further subclassification has been grounded on the lexical class of the left-hand constituent. As regards the classification, two aspects should be made clear. Firstly, various cases represent exceptions, since they are listed among adverb-participle compounds, though having adjectival left-hand constituents. The choice is motivated by the fact that they are evidently adverbial in function. In such cases, I have favoured a functional classification, rather than a formal one. Secondly, as we are going to see, the *N-ing* group should not be *a priori* equated with a class of synthetic compounds. In fact, the presence of a noun as left-hand constituents does not grant its argument status.

In order to get a deeper insight into participial compounds, I have provided some extra data besides FROWN and FLOB corpora. The data collected are reported in Appendix B. Finally, English dictionaries have been a frequent reference throughout my paper as a crosscheck, as well as for etymological information. The dictionaries adopted are reported in the reference section. Let us now start with the descriptive section.

3. Subordinative compounds: endocentric N-Adj patterns

3.1. Grading compounds

PATTERN	SUBGROUP	COMPOUNDS
<p style="text-align: center;">N-ADJ</p> <p style="text-align: center;">GRADING COMPOUNDS</p>	<p>COLOUR COMPOUNDS</p>	<p><i>salmon-pink, peat-brown, mahogany-brown, olive-green, magenta-red, ice-cream pink, navy-blue, gipsy-brown, battleship-grey, depression-brown, saffron-yellow, autumn-brown; (advertising) Bonatti-grey, Tonga green, Rimini-Red, Rio-red, Trophy yellow, Sahara pink, Avalon pink, Java-black, lolly-pink</i></p>

	INTENSIFYING COMPOUNDS	<i>ice-cold, crystal-clear, razor-sharp, brand-new, dog-tired, cocksure, dog-cheap, stock-deaf, stone-drunk, hell-bent</i>
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Within the N-Adj pattern, I have defined as “grading compounds” two subgroups, namely

- colour compounds (or nuancing) like *emerald green*
- intensifying compounds like *wafer-thin*

that are characterised by a modifier-head pattern. The definition is semantically motivated, in that both types of compounds specify a certain degree or shade of the quality expressed by the adjectival head and generally convey a relationship of comparison between the noun and the adjective, although this is not always of immediate recognition, as we are going to see in the following paragraph. The distinction into two subgroups is operated on the functional role of the first constituent.

In the case of colour adjectives, it is actually that of a plain modifier, as it defines a shade of the colour denoted by the adjective, while it becomes an intensifier in the case of intensifying compounds⁵⁸. As regards previous classifications, it should be remarked that Jespersen (1942) already felt the need to distinguish between the *grass-green* type, conveying intensification, and the *sea-green* type, simply conveying nuancing. This view is shared by Adams (1973), who keeps such a distinction, but is disregarded by other scholars, such as Quirk et al. (1985), who conflate the two patterns. The two subgroups, surprisingly neglected by Meys (1975), are merged into the single “grass-green type” by Marchand (1969), which also includes what I call “time & space” compounds. The following paragraphs describe the main characteristics of these two subgroups.

⁵⁸I have adopted the definition given by Adams (1973) because it identifies the relevant characteristic of this subgroup. The other subgroup is defined as “particularising” by the author.

3.1.1 Semantic transparency in colour compounds

As regards colour adjectives, the data analysed show that the modifier does not behave homogeneously with respect to the adjective. This is intuitively clear, if we consider the following examples.

(a)... this waterlily has large star-shaped *salmon-pink* flowers that age to soft rose. (BNC, GV1)

(b) Rich autumnal colours like *peat brown* and *olive green* are ideal for the 'contrast' colours in the landscape. (BNC, CGV)

(c) They're a big red poppy this one. Mine are the pinky purple one. These are you know really *magenta red*. (BNC, G3X)

(d) Imagine, she told him, Aricie in *ice-cream pink* tights and Britannicus in a weird gold curly wig and a little clattering metal skirt. (BNC, FET)

What emerges is that shades of colours can be identified with different degrees of certainty and immediacy, depending on the iconic relationship between the head and its modifier.

In example (a), the shade is rather unambiguously determined because the entity denoted by the noun is basically characterised by a prototypical colour, while in example (b), although the comparison is still clear, the identification of a precise shade is more difficult because 'peat' can come in various shades of dark brown. The lack of a proper prototypicality in the colour of the object denoted by the modifier determines that the final referent (the shade of colour) can only be retrieved approximately, in comparison to the previous case. In example (c), the relationship between modifier and head is opaque, as it presupposes a metonymic reading⁵⁹. However, the retrieval of the shade is immediate, due to the lexicalisation of the compound. Its conventional role in the lexicon enables to unambiguously identify the shade, with no need to resort to the relationship between the constituents. In particular, colour adjectives modified by names

⁵⁹ Magenta, which is generally non-capitalised, is the name of a town in Northern Italy and the simile underlying the compound refers to the bloodshed provoked by a violent battle in 1859 (DISC).

having reached a conventionalised status in the language, denote a standard unambiguous shade of colour. As a consequence, such formations can be reduced to their modifiers when used in attributive position, as for *magenta (red)*, *sienna (brown)*, *burgundy (red)* and *titian (red)*.

An opposite case is represented by example (d), in which the shade denoted is more complex to identify, due to the range of variability of the object denoted by the modifier in the common knowledge.

Looking at the examples above, we can say that, using Lipka's (1966:78) words, the comparison holding between modifier and head can be of two different types, namely direct (*direkter Vergleich*) and with a missing link (*Vergleich mit fehlenden Glied*). The former enables an immediate identification of the referent as in *mahogany-brown*, while the latter needs and presupposes background knowledge to grasp meaning, as in *navy-blue*⁶⁰. Here, a further step has to be taken to clarify this indirect comparison, i.e. as blue as the colour of the British naval uniform (AHD). In other cases, the difficulty in retracing the exact shade is due to the colour non-prototypicality of the entity denoted by the modifier. The same holds for *gipsy-brown* in

(e) "The old woman was *gypsy brown*, the tan so shiny on the mild skin that it was like a fresh varnish .(BNC, FP1)

Here, the comparison is less direct and although the modifier still conveys a shade (i.e. the generally brownish skin of gypsies), it is somehow vague because no prototypical colour is actually attached to the object denoted by the modifier. In other cases, the comparison can be even more opaque, as in the following example.

(f) "Outside, the cottage walls were a horrible *battleship grey*, the woodwork was *depression brown*." (BNC, J9A)

In (f), while *battleship grey* is conventionalised and transparent, *depression-brown* represents a dubious case, in which the modifier does not actually contribute to define a precise shade of colour and the overall meaning is subject to

⁶⁰ a dark greyish blue. This compound is often reduced to the modifier in attributive position, i.e. *navy*

more than one interpretations, which can be either “as dark brown as depression metaphorically can be” or “of a brown shade that gives you depression”. Although I believe the second to be more likely⁶¹, the final shade cannot be precisely identified. In this case, a tenable hypothesis is that the pragmatic meaning prevails on the semantic one, in that the actual shade denoted is not as relevant as the impression left on the reader by the modifier.

From the examples so far analysed, we can affirm that these compounds display different degrees of semantic transparency. Opacity mainly depends on the difficulty of retrieving the shade typical of the entity denoted by the modifier, due to the variety of shades experienced by the individuals. The level of colour prototypicality of the object denoted by the modifier is then the reason for a more or less stable understanding of the modifier. Therefore, while *saffron-yellow* presents a high degree of transparency because the object denoted is characterised by a standard shade of colour, *peat-brown* is less transparent because of the colour non-prototypicality of the object denoted by the modifier. A lower degree of transparency is represented by cases like *autumn brown*, in which the comparison is indirect and the shade of colour is less defined, since the shade denoted may be a reddish brown, but also a light brown. Similar cases are represented by *gypsy-brown* and *ice-cream pink*, in which the modifier does not denote a prototypical shade. Semantic opacity is even stronger in *depression-brown* because it allows different interpretations, due to the abstract entity denoted.

3.1.2 Colour compounds in advertising⁶²

Being a strongly receiver-oriented communication, the predominance of the pragmatic effect achieved by certain compounds is remarkable in advertising, which is particularly rich in strategies to captivate the customer. In this direction, I analyse the colour palettes contained in the online catalogues of some car-manufacturers and make-up brands⁶³. As noted by Grossman (1988), the abundant

⁶¹The idea conveyed by the modifier is that of a very dull shade.

⁶²The following paragraph refers to data collected from internet websites. The data are contained in the colour palettes of various catalogues and are therefore found in isolation. This leaves the question open whether they are adjectives or nouns properly.

⁶³I have chosen the products produced by English-speaking countries.

use of *ad hoc* coinages to identify different shades is one of its peculiarities. In opposition to the natural preference for semantic transparency, these formations show a high degree of semantic opacity. The examples below represent a selection of this phenomenon.

Java black, Rimini red, Buckingham blue, Giverny green, Bonatti grey, Tonga green (Land Rover), *Calypso-red* (Lotus), *Rio-red, Trophy yellow* (MG)

lolly-pink, silk-pink, disco-pink (Maybelline), *Avalon-pink* (Donna Fujii), *petal-pink* (Estee Lauder), *Sahara-pink* (Bobbi Brown)

Taking into consideration the above list, the question arising is: What do *Tonga green* and *Java-black* convey? At most, we can hypothesize the former to be a bright shade, if we consider the lush vegetation of Tonga, while for the latter we have no interpretative clue. Furthermore, if we look at the colour palettes of these brands we discover that the colour *Tonga green* does not correspond to the hypothesis⁶⁴. As noted by Wyler (1992), the modifier seems to play an evocative function only, aimed at creating a positive attractive image in the reader. This claim is confirmed by the fact that the modifier does not specify or add anything to the meaning of the adjective⁶⁵. The same holds for *Java-black*, whose semantic opacity prevents from retracing any indirect comparison between the constituents.

Such evocative force, particularly common in advertising, is also at the base of other formations like *Avalon-pink, Sahara pink, disco-pink* and *Calypso-red*. In other cases, the captivating goal of these creative formations is achieved through phonetic means, as in the case of *Rio-red, Rimini-red* and *silk-pink* in which alliteration is the desired pragmatic effect. Some of the above formations, such as *lolly-pink* and *petal-pink* are somehow less obscure with respect to their referents, but again the final shade is not clearly conveyed because the object denoted is characterised by colour variability in the common experience.

⁶⁴ being olive-green.

⁶⁵ As noted by Hermerén (1999:104), names, except for those having an etymological meaning, do not have a lexical meaning “but only reference, serving to identify a person or place uniquely in a particular situation”

3.1.3 Intensifying compounds

I have included intensifying compounds within “grading compounds” because, like colour adjectives, they express a certain degree of the quality denoted by the adjective and generally underlie a comparison between the constituents, although this relationship is not always semantically transparent. The definition of “intensifying compounds” is motivated by the semantic role played by the first constituent, which strengthens the quality expressed by the second one, to the extent that in certain cases the comparison-denoting element loses “its intellectual motivation, thus coming to serve as a mere intensifier” (Marchand, 1969:84). However, in comparison to proper intensifier, these nouns play such role only in specific combinations, since nouns cannot convey any intensification in themselves. What emerges from the data collected is that the majority of these compounds is semantically transparent. Formations like *ice-cold*, *razor-sharp* and *crystal-clear* are characterised by an immediately retraceable comparison between the constituents, which can be paraphrased as “as cold as ice”, “as sharp as a razor” and so on⁶⁶. Here, the noun modifying the adjective prototypically possesses a specific quality in a high degree. A general characteristic of these formations is that of being emphatic and somehow hyperbolic in nature (Birenbaum, 1967). In the same direction, Marchand (1969) defines the first constituent as an “emotional intensifier”. As a matter of fact, the comparison serves the function of evoking an image, which is likely to be perceived as more effective than a plain intensifier like “very” or “extremely”. Such claim is supported by Sachs (1963)⁶⁷, who explains that these compounds owe to their brevity their emotional advantage over corresponding phrases. However, not all the compounds of this type exhibit the same semantic transparency and same ease of interpretability.

In my opinion, the various degrees of semantic opacity can be referred to three main causes. The first regards the immediacy of the comparison involved, which is responsible for a low degree of opacity. Cases like *brand-new* and *dog-tired* belong here because the comparison between the constituents is not so immediate,

⁶⁶ However, in a minority of cases the semantic analysis is more opaque, as we are going to see.

⁶⁷ The scholar analyses these compounds in English and other Germanic languages.

although their lexicalised status makes them unambiguous. Meaning retrieval through the constituents needs to activate some inferences. In fact, the meaning of *dog-tired* as “extremely tired” cannot be achieved through a direct comparison, since dogs are not prototypically tired, but the compound etymology conjures up the image of a hunting dog, exhausted and panting after a run in the woods. The same indirect comparison is evoked in *brand-new*. The conventional metaphoric meaning corresponds to “completely new, especially not yet used” (Cambridge Advanced Learner’s Dictionary, CALD hereafter), originally stemming from “as new as coming from the furnace” (OED). This holds true for the compound *mother-naked* (“completely naked”), recorded by Birenbaum (1967), in which the meaning is achieved through an intermediate stage, which enables to paraphrase it as “naked as the day you were born” or “as naked as at birth” (The American Heritage Dictionary, AHD hereafter).

The second cause of opacity is due to ambiguous etymology. Here, semantic ambiguity is determined by the difficulty in retrieving the original comparison. This is the case of *cocksure*, for which the OED provides the following definitions. (**I.** Of objective sureness, security, or certainty; **II.** Of subjective sureness)

Again the compound is not ambiguous, thanks to its lexicalisation, but its meaning cannot be achieved directly through its constituents, since the underlying comparison is rather uncertain. The similarity with formations of the same group may lead to the conclusion that the sense corresponds to ‘as sure as a cock’. However, the OED claims that an allusion to *cockish*, *cocky*, with reference to ‘pert self-confidence’, as referred to in the Merriam Webster dictionary (MW hereafter), is only a modern development and it is not historically tenable. On the contrary, it seems more plausible that the original reference may have been to “the security or certainty of the action of a cock or tap in preventing the escape of liquor, or perhaps of a cock with a removable turning-key (if these go far enough back) in leaving the contents of a tun secure from interference” (OED). Nonetheless, other etymologies have been proposed. The OED does not exclude the notion of ‘as sure as a cock is to crow in the morning’, while COED suggests

the origin from an archaic *cock* (a euphemism for *God*); later associated with *cock*.

Finally, the third reason for opacity depends on the non-plausible semantic relationship between the constituents, which makes meaning decomposition unachievable. If all likely comparisons fail in the word-formation process, some other mechanism must have played a role in their formation. Compounds of this type can be referred to three recurring patterns, namely *stone-ADJ*, *dog-ADJ* and *stock-ADJ*. The table below show various formations of this kind attested in various sources (i.e. BNC, dictionaries and scholars' contributions).

DOG	STONE	STOCK
-hungry (Birenbaum, 1967) (OED)	-asleep (OED)	-blind (OED)
-lame (OED)	-astonied † (OED)	-dead (OED)
-lazy (Birenbaum, 1967)	-blind (OED)	-deaf (OED)
-lean (Plag,2003) (OED)	-bright (OED)	-still (OED)
-mad (Birenbaum,1967) (OED)	-broke (OED)	
-poor (Birenbaum, 1967) (OED)	-cold (OED)	
-rotten (BNC)	-comfortless (OED)	
-sick (Birenbaum, 1967) (OED)	-crazy (OED)	
-thick (OED)	-dead (OED)	
-tired (OED)	-deaf (OED)	
-weary (Birenbaum, 1967)	-dumb (OED)	
	-drunk (BNC)	
	-hard (OED)	
	-mad * (OED)	
	-naked †* (OED)	
	-old † (OED)	
	-silent (OED)	
	-sober* (BNC)	
	-still (OED)	

3.1.3.1 *Stone*-adjective formations

Let us take into consideration the case of *stone*. The adjectives *cold*, *hard*, *old*, *dead* and *still* coherently combine with the noun, in the sense that they can plausibly qualify a stone. Somewhat less transparently, but still coherently, also the adjectives *deaf*, *blind*, *silent*, *dumb* and *dead* may apply to this noun. In reality, they describe characteristics pertaining to animate beings but, to some extent, they may also figuratively describe an inanimate object like a stone.⁶⁸

However, even the most indirect comparison cannot explain many of the compounds listed in the table. Here, the adjective can only apply to human beings and no plausible simile with “stone” can be established. In other words, the noun presents a non-simulative use (OED). As a consequence, the modifier loses its lexical meaning in such contexts and acquires the exclusive role of an intensifier, i.e. completely, utterly, and ‘plumb’⁶⁹.

(b) Darryl (Flea) Virostko is that rare combination of ability and motivation. He’s unbelievably good and he’s *stone crazy*. (IWS, www.sfgate.com)

(c) “Any American can become president”, well not really, you got to be *stone rich*. (IB, www.louminatti.blogspot.com)

(d) Soon we were *stone drunk* and did not know until next morning, when we woke, how we got to bed. (IWS, www.bbc.co.uk)

3.1.3.2 *Stock*-adjective and similar formations

A similar case, though presenting a more limited array of formations, is that of compounds containing *stock*- as a modifier. The lexical meaning of *stock*- is

⁶⁸ Sachs (1963) claims that these compound adjectives are indeed the result of a double process, namely a comparison preceded by metaphor, since the latter allows us to assign a stone the character of an animate being. However, this holds true in some cases only. Indeed, neither a comparison nor a metaphor can be hypothesised for the adjectives marked with an asterisk, as we are going to see below.

⁶⁹ Berz (1953:13) refers to this kind of compounds as the ‘steinreich type’, which he defines as follows: “Typus steinreich ist jene Art von Wortzusammensetzung, bei der das erste Glied, das für sich allein keinen verstärkenden Sinn hat, in keinem sinnvollen Bedeutungszusammenhang mit dem Grundwort steht und nur bezweckt, dieses zu verstärken. It is interesting to notice that German actually presents a corresponding pattern, which is probably even wider in comparison to English.

preserved in combination with *still*- in the sense of “as still as a stock or log; quite motionless” (OED), but it seems hardly plausible with *deaf*, *dead* and *blind*.

“*Dog* compounds” present a similar behaviour. Very few examples can be related to a proper comparison between the constituents, as in the case of *tired*, *weary* and, to some extent, *hungry*. On the contrary, the remaining formations are characterised by implausible comparisons. Again, the noun is emptied of its lexical meaning and it takes up a plain intensifying function, as in the examples below.

(e) “I can remember one quite clearly that absolutely *dog rotten* window frames. (BNC, KBP)

(f) “So what better thing to do than sit here and update my column something you might have noticed, has not happened in a while. Why I hear you ask, the answer is simple my friends I’m *dog lazy*.” (IF, www.playerofgames.com)

Another case of non-retraceable comparison is represented by *hell-bent*, whose idiosyncratic meaning corresponds to “ ‘fiendishly’, doggedly, or recklessly determined (*on* or *upon* a certain course)” (OED). If we analyse the constituents from a semantic point of view, we notice that the modifier “*hell*” in *hell-bent* does not seem to evoke any likely simile, in opposition to more plausible comparisons, as in *hell-black*, *hell-dark*, *hell-deep*, *hell-purple* and *hell-red* (OED).

(g) But, *hell-bent* on destruction, the hooligans – at least two strong men – are believed to have rocked the seats until the bolts snapped. (BNC, CH2)

The question arising here is how can such formations come into existence, when the relationship between the constituents is apparently unmotivated, which is in contrast with one of the semantic criteria for compoundhood presented in chapter 1.

The hypothesis raised by Birenbaum (1967) is that a form of grammaticalisation of the first constituent has taken place in these cases. The scholar claims that the first component has turned into a sort of emphatic prefix, since no coherent semantic relationship can be identified between the two elements. However, I do

not agree with his position. Indeed, what has occurred is a form of lexicalisation of a compound that has become the stimulus for the activation of an analogical process. Following Dressler's (1981:429) conception, analogy can produce neologisms when "there is no rule at all and there is a unique model" on which the new word is shaped. Semantically motivated formations like *dog-tired*, *stock-still*, *stone-cold* and *hell-dark*, in which the modifier keeps its original lexical meaning and plays an intensifying function at the same time, may have been the model for further novel compounds, whose modifiers have kept the pragmatic function of intensifiers but have lost the semantic relation to the denoted referent. Adopting the definition given by Malkiel (1966:333), these formations may have worked as a "leader-word" for each single pattern, acting like "a magnet either through its commonness or through its heightened appeal to imagination"⁷⁰.

Within the group of intensifying compounds, I have identified cases in which, although the modifier works as an intensifier and no comparison can be established with the adjective, the semantic relationship between the constituents is otherwise motivated, as in the examples below:

(h) *Bone-tired* from flying endless missions [...] Yossarian decides one day to go crazy (IWS, www.time.com)

(i) Well, it started out with just a little bit of laryngitis on Thursday and then by Thursday evening I was coughing and I was – I just, I was *bone-cold*. (IWS, <http://edition.cnn.com/>)

(j) Jessamy tried to swallow , but couldn't , her mouth and throat were *bone-dry* . (BNC, H8F)

In example (h), *bone-tired* can be paraphrased as "extremely tired or weary" (WNMED), meaning "tired to the bone". Thus, the noun indicates the extension of the quality described by the adjective, but no simile is involved. This holds true for *bone-cold* in (i), whose only acceptable meaning is again extensional, i.e. "a

⁷⁰In particular, Malkiel examines the case of the Spanish suffix *-el* (as in *bajel*), which is a transfer from Old French, whose productivity was hindered by the presence of other competing suffixes like *-illo* and *-ero*, as well as by the lack of a leader-word, able to attract new derivatives.

spasm generated by a feeling of cold so intense that reaches your bones”. Similarly, *bone-dry* in (j) requires an analogous interpretation. These examples attest that intensifying compounds are characterised by a variable within the group, namely the presence or the absence of an identifiable similitive relationship between the constituents. In the first case, the underlying comparison can be either straightforward (as in *velvet-soft*) or indirect (as in *brand-new*). In the second, compounds are differently motivated, as they can be the result of analogies on other compounds (as in *stone-broke*) or may have an extensional character (as in *bone-idle*).

3.2 Time & space compounds

Within the N-Adj pattern I have grouped some formations under the label of “time & space compounds”, which have been variously collocated by the scholars. Adams (1973) includes them within “particularising adjectives”, which is in turn a subgroup of comparative compound adjectives, and refers to them as “extent or measurement” group, as Jespersen (1942) before her. Other authors, such as Meys (1975) and Plag (2003), simply include them in a larger N-Adj group including heterogeneous compounds like *red-hot* and *capital-intensive*.

The present subclassification of the N-Adj pattern is drawn on a semantic base and includes compounds denoting the extension, either temporal or spatial, of the quality expressed by the adjective. There are essentially five adjectives that can be referred to this semantic subgroup, namely *-wide*, *-high*, *-deep*, conveying spatial extension, *-long* and *-old*, expressing spatial and temporal dimension. As observed by Marchand (1969), compounds belonging to this group can be generally paraphrased as “reaching as ADJ as N”. With the exception of *-wide*, the other adjectives combine with a limited array of modifiers, namely nouns denoting body parts, linear and temporal extensions, as shown in the following tables.

LEFT-HAND constituent	RIGHT-HAND constituent	Type of DOMAIN
<i>breast, thigh, ankle, knee, *skin, chest, waist, arm-pit, hip, mile, foot ...</i>	-deep	Spatial
<i>*sky, waist, breast, shoulder, knee, thigh</i>	-high	Spatial

LEFT-HAND constituent	RIGHT-HAND constituent	Type of DOMAIN
<i>mile, meter, kilometre, foot etc / week, hour, day, month, fortnight, year, season, *life, night, *age,</i>	-long	Temporal, Spatial
<i>*centuries/century, *age, week, month, year, day</i>	-old	Temporal

In the tables, I have indicated with an asterisk those formations that acquire or may acquire a hyperbolic meaning in some contexts, as in the following examples.

(a) “Beauty is only *skin-deep*” (BNC, C8N)

(b) “Sainsbury, for example, defend the *sky-high* price of their organic vegetables” (BNC, ARJ)

These compounds conventionally mean “very superficial” and “extremely high”, while others may convey both a literal meaning and a metaphoric one.

(c) The difficult and often contradictory principles of this *age-long* argument were memorably expressed as early as Plato's version of the Apology of Socrates and, with a different bearing, in his Republic.” (BNC, FPC)

(d) “I met Jerry two years ago and Don 1 year ago. We’ve all been fast friends since! They always welcome me like an *age-old* friend...” (IB, synapsefilms.blogspot.com)

The compound in (c) refers to an antique dispute that has been actually going on for centuries, but the compound in (d) clearly acquires an emphatic meaning

corresponding to “very old” with no clear time reference implied. Due to their variable meaning, compounds like those in (a)-(d) can be considered borderline cases between “time & space compounds” and intensifying compounds, depending on the contexts of occurrence.

3.2.1 Noun-wide formations

The only pattern presenting a wider set of combinations is N-wide, which is reported in the following table.

LEFT-HAND constituent	RIGHT-HAND constituent	Type of DOMAIN
<i>company, community, county, country, industry, floor, *world, Gulf, European Community, system, economy, state, nation, continent, government, Europe, Canada, population, city, province, organization, factory, district, enterprise, university, group, area, organisation, Campus, nation, state</i>	-wide	Spatial (literal, figurative)

Carstensen (1962), investigating the analogous German formation *weltweit*⁷¹, attests the first occurrence of *world-wide* in 1632 and considers *-wide* as having a suffix-like function. Indeed, formations containing *-wide* have increased dramatically in the 20th century especially in American English. As noted by Marchand (1969), formations containing *-wide* have assumed the meaning of “extending throughout” what is specified by the noun (nation, country...) ⁷². The adjective *-wide* still keeps a clear spatial reference in certain compounds, while no exact physical extension is conveyed in others.

(e) Lamont specifically rubbished the idea of a *European Community-wide* “carbon tax”. (BNC,K5L)

⁷¹ German *weltweit* and similar formations are actually borrowings from English.

⁷² Combinations in *-wide* frequently occur in postverbal position with an adverbial function (see Appendix A for some instances). This functional shift is common to other right-hand constituent in this group, but *wide* seems to particularly common.

(f) However the Department of the Environment has just announced a *province-wide* increase in its parking charges, due to come into effect on May 10. (BNC, HJ3)

(g) To the extent any government action is needed to deal with the trade deficits, policies should focus on *economy-wide* phenomena [...] (R 21578)

(h) Modernization of the 22-year-old facility is part of Chrysler's five-year, 12.5 billion dlr *company-wide* program [...] (R 21578)

Spatial reference is evident in example (e) and (f), but no concrete extension is expressed in (g) and (h). This demonstrates that, depending on the noun and the context, the notion of extension may turn into a metaphorical one, denoting the “abstract” space encompassing a group of people, a community, an institution etc.

An interesting aspect regarding this class is that all the compounds are formed by the positive pole (+Pol) of an antonymic pair of adjectives (see the opposition wide-narrow, long-short, high-low, young-old etc...). Although cases like **ankle-shallow*, **day-young*, **inch-short*, **day-short*, **knee-low*, **foot-narrow* might be semantically plausible, they are actually ruled out. This asymmetric distribution towards the positive pole corresponds to a clear preference for the more natural/unmarked choice. Hence, the positive pole in “time & space” adjectives corresponds to the neutral pole, which can be used even for formations expressing a very low degree of the quality described, as in “tiny *inch-long* eel-like creature” (BNC, CLT). However, some exceptions to this general tendency towards naturalness can occur, as in the case of some intensifying adjectives like *icy-cold* vs. *burning-hot*, *stone-rich* vs. *dog-poor*.

3.3 Restrictive/specifying compounds

This subgroup includes a variety of formations characterised by noun modifiers specifying the “field” of applicability of the quality expressed by the adjective. Compounds of this kind present an argument structure and can be generally paraphrased with prepositional phrases introduced by the head-adjective, as in *flame-resistant*, i.e. “resistant to flame” and *colour-blind*, “blind with respect to colours”. In this sense, something that is *flame-resistant* and

someone who is *colour-blind* are not “tout court” resistant and blind but only with reference to one particular thing (this explains the definition of “restrictive compounds”).

Restrictive compounds represent a vast group of productive formations whose semantic patterns are much variegated and therefore hard to list exhaustively, as emerging from the following examples, just to mention a few cases.

- (a) a *press-averse* actor is someone averse to the press (intended as reluctant to be interviewed by journalists)
- (b) a *girl-crazy* old man is someone crazy about girls (intended as very fond of girls)
- (c) an *oil-rich* nation is a nation rich with oil (intended as petroleum)
- (d) a *camera-shy* person is someone who is shy in front of a camera (intended as not liking being photographed)

Classifications of the various semantic relationships have been attempted. In particular, Lipka (1962) identifies the seven following types, and notices that privative, protective and causative relationships are the most common among these compounds.

- (1) locative as in *heartsick*
- (2) temporal as in *night-blind*
- (3) privative as in *tax-free*
- (4) protective as in *gas-tight*
- (5) causative as in *love-blind*
- (6) final as in *news-greedy*
- (7) generically “with regard to” as in *weather-wise*

Although Lipka’s classification is coherent, the variability of semantic relationships between the constituents, the difficulty in attributing a formation to one or another semantic type⁷³, together with a certain freedom of interpretation contribute to make semantic categorisations too dependent on subjectivity.

What is interesting, regarding this group of compounds, is the presence of what I call “families of compounds”, namely groups of formations sharing the same

⁷³As Lipka himself recognizes.

second constituent and, more importantly, characterised by a stable, predictable semantic relationship between the constituents. The following table shows few examples of families

Left-hand constituent	Right-hand constituent
<i>acid, action, air, arson, baby buggy, blast, bomb, bullet, burglar, cat, child, chip, crash, crisis, damp, dishwasher, disturbance, dog and vandal, drill, dust, earthquake, fade, fire, fool, freezer, frost, grease, heat, hurricane, inflation, kiddie, kiss, ladder, leak, light, microwave, moth, oil, oven, poison, rain, recession, rust, sailor, shatter, shell, shock, shower, shrink, smoke and fire, sound, splinter, stock, storm, strategy, sun, sword, tamper, traffic, veto, war, water, weather, wind and water.</i>	-proof
<i>accident, acid, admission, alcohol, antibiotic, apostrophe, asbestos, atom, blood, brucellosis, car, care, chalk, chlorine, cholesterol, cloud, smoke, commercial, context, collision, crime, coupon, crater, cruelty, debt, defect, disease, drug, disability, dust and moisture, dust, duty, error, fatigue, flicker, fragrance, fur, gallstone, germ, gluten, harassment, hazard, heart, ice, incident, inflation, interest, lactose, lead, leak, litter, milk, noise, nuclear, odour, oil, pattern, penalty, percent, phosphate, polyp, pollution, post, problem, prolamin, profit, protein, rabies, rate, regulation, rent, risk, rosaniline, salt, scot, seepage, solvent, steroid, stone, sugar, suspension, symptom, tariff, tax, tide, toll, traffic, trouble, ulcer, union, VAT, virus, weapons, weedkiller/fertiliser, wheat, wind</i>	-free
<i>acid, bullet, crease, flame, germ, heat, water,</i>	-resistant
<i>calorie, capital, computer, cost, data, debt, energy, labour, import, manpower, people, resource, skill, transport</i>	-intensive
<i>accident, acne, allergy, crisis, disaster, disease, error, fever, gas, hay, injury, litigation, prone, quake, riot</i>	-prone
<i>class, clothes, colour, cost, dress, fashion, health, history, language, money, music, space, tone, weight, woman</i>	-conscious

Left-hand constituent	Right-hand constituent
<i>atmosphere, bicycle, bird, child, customer, cycle, dolphin, eco, environment, family, foot, girl, golfer, hooligan, machine, microwave, ozone, pupil, service, user, vandal, wheelchair</i>	-friendly

As we can notice, some groups are particularly productive in terms of types, while others are quite restricted. However, their common characteristic is that of having a regular semantic pattern.

Within this vast array of formations, we can recognise some gradable adjectives that are part of an antonymic pair, as in *tight-loose, free-bound, rich-poor, safe-dangerous, conscious-unconscious, friendly-unfriendly*. In terms of combinability, the positive pole for each pair is attested. The question arising here is whether compounding with the negative pole is also plausible or if there is any restriction. By testing the negative poles for compounding⁷⁴, some interesting results have emerged. Let us look at the following pairs of adjectives, extracted from querying the BNC.

Polar pair	N +Pol	N –Pol
Tight/loose	<i>Water, gas</i>	-
Safe/dangerous	<i>Child, colour, dishwasher, microwave</i>	-
Friendly/unfriendly	See examples above	-
Friendly/hostile	See examples above	<i>Computer</i>
Rich/poor	<i>Oil, resource, energy, mineral, lead, energy, moisture, aloe, colour, carbonate, cash, flower, asset, oxygen, protein, barium, fibre, carbohydrate, bile, acid, glutamine, guano, potassium, glycine, sentry, neutrophil, image, arginine</i>	<i>Profitability, income, information</i>
Conscious/unconscious	See examples above	-
Free/bound	See examples above	<i>*wheelchair</i>

⁷⁴ Crosschecking with dictionaries and the BNC corpus

In three cases, namely *tight*, *safe*, *conscious*, no negative counterpart is registered and, to my opinion, this is due to a form of “specialisation” of the +Pol⁷⁵ adjectives in combination, which has not occurred in the –Pol adjectives. I would not go too far claiming a semantic shift of these +Pol adjectives in combination, but still, if we consider their semantic meaning in that context, we can notice that the antonymic relationship expressed by their negative pole is not exactly the same as when the adjectives are taken in isolation. In the case of *conscious*, no combination with the –Pol adjective is registered, which may again denote a form of specialisation of the positive pole in combination that has no counterpart in the negative one. As regards two adjectives, i.e. *friendly* and *rich*, they present very few corresponding formations with the –Pol adjectives, i.e. one and three instances respectively in the whole corpus. Finally, concerning the extremely productive *free*, we notice that the plausible polar adjective *bound* has given hardly acceptable combinations (starred). In fact, in the combining patterns with *bound*, the case reported in the table is, semantically speaking, the only one closer to that of *free* in combination. However, it does not seem to be perfectly fitting. This may support the idea (expressed in the following paragraph) of a clear meaning specialisation of *free* in combination. Briefly summarising, the data has shown an absolute predominance of the +Pol adjective in combining patterns, and consequently a very strong restriction in the applicability on the –Pol adjective, as already noticed for the “time & space” compounds. This behaviour confirms the presence, also for compounding, of asymmetric distributions of polar adjectives. As already observed by various scholars, among which Bierwisch (1988), there is an unbalanced distribution of antonymic pairs towards the unmarked pole, i.e. +Pol. Thus, in terms of Naturalness, the above compounds correspond to more natural, less marked formations.

However, the phenomenon of asymmetric distributions is extremely complex and involves semantic and cognitive aspects that cannot be dealt in details in the present work, but which may be the stimulus for further investigations.

⁷⁵ Bierwisch, 's notation, 1988)

3.3.1 The *-free* privative pattern

This section deals with the *N-free* pattern in more details, because of its recent wide productivity, as observed by various scholars⁷⁶. In particular, I analyse this pattern in comparison to *N-less* derivatives. From a formal point of view, these two types are the result of different morphological processes, i.e. derivation and compounding respectively, but semantically they both convey the concept of privation. For this reason, they can be referred to as ‘privative’ adjectives.

However, the morphological difference between the two formations holds as long as we consider the phenomenon from a synchronic point of view. Diachronically, the *N-less* type was actually a compound. The OED attests that the *OE -leas*, meaning ‘devoid (of), free (from)’ was a free morpheme, which occurred either as a separate adjective or as the second constituent of compound adjectives. However, the adjective in isolation did not survive into ME, while its use in combination continued to be productive and this was the reason for it becoming a suffix. The *N-less* type has been an established complex form since the 15th century. Compared to the former, the *N-free* type is a relatively recent formation in English.

Given the similar function of these formations, the question arising here is how the derivative *N-less* and the compound *N-free* are distributed and what determines the choice between them. We analyse this aspect starting from an interesting cognitive study by Gòrska (1994). According to the scholar, the choice between these two morphological processes reflects a two-fold difference between them. In particular, Gòrska claims that these patterns should not be analysed in semantic terms only, as this would leave some questions unanswered.

Let us briefly consider her cognitive approach that presupposes a pragmatic component interfering with semantics. In both patterns, the common idea of ‘lack’ activates a general cognitive domain of possession, understood in a prototypical way as “radial category with the central sense of alienable and socially assigned possessions, i.e. of ‘ownership’” (Gòrska, 1994:431). The scholar suggests a distributional difference in the two formations, noticing that forms like *leg-free**

⁷⁶ Gòrska (1994) claims that her corpus, drawn mainly from the *Time* magazine, reveals the presence of numerous new formations with a growing token frequency.

person and a *mother-free* child* are not acceptable and that, by contrast, the *N-less* pattern is correctly applied. In the above examples, the possession has an evident positive value and consequently the lack conveyed by the adjective acquires a negative connotation. In this frame, she concludes that the *N-free* pattern does not appear with nouns denoting unalienable prototypical possessions, such as body parts and relatives⁷⁷.

On the contrary, the *N-free* pattern yields acceptable formations with properties conceived as possessions of an alienable nature, also defined as non-prototypical possessions or attributes. In cases like *smoke-free city*, and *car-free environment*⁷⁸, the conceptualizer⁷⁹ attaches a positive value to the concept of privation compared to an initial negative condition of possession. This represents the reverse situation of the *N-less* pattern, as it clearly emerges from a formation like *homeless lady*, compared to the unacceptable *homefree* lady*. Here, a home is a concrete attributive possession of human beings and it is positively connoted. As a consequence, the *N-less* option appears to be ruled out.

Furthermore, there emerges from her approach that *N-free* pattern is also characterized by a notion of intentionality, i.e. the willingness in changing a state of affairs. In other words, there is a deliberate modification of a particular condition, over which the conceptualizer has control. Gòrska claims that the opposite case is represented by derivatives in *-less*. As evidence of the hypothesised complementary distribution of the two patterns, the scholar argues that derivatives like *legless man* and *motherless child* demonstrate that in the *N-less* pattern the conceptualizer's willingness has influence neither on the starting nor on the final condition.

However, not all cases are so easily dealt with. Actually, ambiguity of choice between *-less* derivative and *-free* compound arises in various cases. This means that not all attributes, cognitively defined, yield a *-free* compound. This ambiguity intervenes when the value of an alienable possession is not clearly

⁷⁷ Relatives, evoking the relationship of kinship, can be included within the domain of possession of a human being, although on a lower hierarchical level with respect to body part.

⁷⁸ Both examples by Gòrska

⁷⁹ the conceptualizer, abbreviated by Gòrska as C is an essential element in cognitive studies and it can be defined as the human being activating his cognitive potential to define a concept.

definable as positive or negative, but rather as basically neutral. This is common when the possessor is not human and the conceptualizer's judgement is suspended. The second source of ambiguity is represented by the difficulty of establishing whether a certain attribute is taken away from the possessor voluntarily or not, or in other words whether the event is under human control or not. If a *smokefree city* is a city in which particular strategies have been deliberately adopted in order to reduce pollution, why then a *fearless man* is not a *fear-free* man* or a *painless death* is not a *painfree* death*? It seems quite undeniable that all these cases have a positive connotation, which would orientate us towards the adoption of N-*free* pattern. However, this is not always the case. Gòrska argues that a plausible explanation can be given on a cognitive basis. In brief, she maintains that some categories like emotions and sensations, to which fear and pain belong, are to be considered, at least partially, beyond human control and therefore inclining towards a N-*less* formation. To summarize, we can draw a conclusion on the grammatical productivity of these two formations, which are complementarily distributed. Semantics and pragmatics are responsible for the restrictions on the two patterns and contextually perform a block to the activation of one of the two patterns.

Starting from these assumptions, I would like to make some observations on the N-*free* pattern that may somehow enlarge its applicability and therefore its potential grammatical productivity. The data gathered provide evidence for Gòrska's thesis, namely the concept of privation as a positive connotation.

Moving to the intentionality factor suggested by the scholar for the N-*free* pattern, most instances from the data collected confirm the pertinence of this claim. This seems to be confirmed also by a case like *child-free*, which is acceptable only in those contexts where the lack is intentional, as underlined by the definition below.

child-free describes people who choose not to have children, or a place
or situation without children (CALD)

However, there emerges from the data that intentionality is not always essential, though very common, to the activation of the *free* pattern in certain contexts.

COMPOUNDS	OCCURRENCES	INTENTIONALITY
<i>Rain free</i>	Speedy success was essential, since records gathered over the previous 80 years showed that at best only three weeks of <i>rain-free</i> weather could be expected at that time of the year (BNC, CLX)	No
<i>wind free</i>	It was the first suitable <i>wind free</i> morning since they had reached first jump status, and this was it (BNC, B3J)	No
<i>cloud free</i>	Satellite and airborne imagery [...] is widely available for Britain from the National Remote Sensing Centre. Again there can be problems in obtaining <i>cloud free</i> scenes (BNC, E9X)	No
<i>tide free</i>	In <i>tide free</i> waters like the Mediterranean we don't have the same problem but we still need to consult a chart to find out a suitable location for sailing.' (BNC, J3X)	No
<i>ice free</i>	An area of about three hundred thousand square kilometres was <i>ice free</i> for each winter for three consecutive years' (BNC, F8G)	No
<i>crater free</i>	Close scrutiny of this second kind of heavily cratered terrain reveals that the subsaturation level of cratering is not the result of the partial obliteration of a once saturated surface, but the partial reworking of an old and largely <i>crater free</i> surface (BNC, GW6)	No
<i>rabies free</i>	Norway, Sweden and Finland were, until recently, <i>rabies free</i> and show dogs from Scandinavia were entered in all three countries (BNC, AR5)	No
<i>disease free</i>	Horse to horse contact [...] pass the infection to susceptible horses. Active cases must be well isolated so that <i>disease free</i> horses can not come anywhere near infected cases. (BNC, ASH)	No
<i>crowd free</i>	A wild and historic, mountainous island where herb-scented woods	No

COMPOUNDS	OCCURRENCES	INTENTIONALITY
	tumble down to a shoreline of vast white sandy beaches; beautifully unspoilt and <i>crowd free</i> . (BNC, ECF)	
<i>accident and incident free</i>	Mainly er an <i>accident and incident free</i> night through the Fox F M area this evening, certainly no serious accidents er reported , nothing from our Fox patrols either tonight' (BNC, KRT)	No

I can claim that the absence of the intentionality factor is common for those nouns pertaining to specific semantic fields like diseases, natural events, and geographic conditions, which are clearly beyond human control. Although we cannot make a generalization, the cases *crowd-free* and *accident and incident-free* are again perceived as events not determined by intentionality in these particular contexts. Despite being in overall agreement with Gòrska, I would suggest to extend the applicability of the N-*free* pattern to all those formations in which the privation conveys a positive connotation, although it is not always the result of a voluntary act (see *rain-free*, *disease-free* and other examples above). In other words, I believe that in terms of grammatical productivity, the positive connotation prevails over the intentionality factor expressed by the privation.

3.3.2 The morphological status of the second constituents

As already noted, some families of restrictive compounds contain a significant number of formations. This is the case of *-free* and *-proof*. Given their grammatical productivity, let us take them into consideration and investigate their behaviour in some more detail. Both *-free* and *-proof* are variously defined in morphological terms by dictionaries and scholars, either as combining forms (OED, Collins Cobuild English Dictionary, CCED hereafter), or suffixes (CALD). For some authors, such as Lipka (1966), the issue remains difficult to solve, but with a preference for a full lexeme reading, as in the case of *-proof*. Although Marchand (1969:210) points out that the presence of a recurring second constituent in various compounds does not allow us to consider it as undergoing a process of morphologization, a common position is that adjectives like *-proof* and

-free are taking on a suffixoid character in combination. In particular, Adams (2001) claims that they follow the model of *-less*, which diachronically evolved from a lexeme into a suffix.

Consequently, we are led to question the nature of these head constituents, whether they are full lexemes, combining forms or suffixoids. Any hypothesis should be made bearing in mind the features distinguishing a suffix from a combining form, namely

- a suffix can only occur as a bound morpheme attached to a base, therefore not attested in isolation. As Marchand underlines, suffixes may well originate from independent words, but they should no longer be one (as in the case of *-less*).
- combining forms are generally of Greek or Latin origin, creatively used and combined in English word-formation (Bauer, 1983). They can be attached to bases like any other suffix as in *musicology* but they can also appear with other combining forms as in *homophobe* that is not acceptable for suffixes, which must occur attached to a root. Therefore, if combining forms are in some respects distinct from affixes, they might be regarded as bound roots, as they are not autonomous and cannot appear in isolation.

In the light of these properties, I believe that the definition of combining form attached to morphemes like *-free* and *-proof* is not appropriate. However, the question is still open, since these lexical items can occur both as free morphemes and as parts of complex words. In order to discriminate between suffix and free root, a distinctive criterion is needed. Concerning this aspect, both Marchand (1969) and Plag (2003) remark that the crucial discriminating factor is the semantic value of the lexical element in the two environments, namely in isolation and in combination. Plag makes a still more restrictive claim, affirming that in order to consider the two elements as separate units the semantic difference must be remarkable.

Going back to the cases above, we should look at the semantic behaviour of each second constituent. Looking at the examples for patterns like N-*conscious*, N-*intensive*, N-*resistant*, N-*proof* and N-*prone* the semantic value of the second constituent is clear, as it essentially preserve the one the adjective in isolation. As for *-friendly*, we notice that it has recently given rise to many formations. It generally shows a certain semantic specialisation in the direction of “2. serving a beneficial or helpful purpose, 3. easy to use or understand, 4. Compatible, accommodating.” (MW), which is, however, still derivable by metaphor from the basic meaning of the adjective. In addition, it is worth noticing that, due to this specialisation, *-friendly* in combination have assumed e (–animate) feature, with respect to the common (+animate) of the adjective in isolation. This fact underlines the semantic distance between the adjectives in isolation and in compound.

Conversely, formations like N-*free* and N-*happy* leave room for doubt, since there is a certain discrepancy between the lexical meaning in isolation and in combination.

3.3.2.1 N-*free* formations

Let us analyse the case of combinations in *-free*. Here the adjective can have a double meaning, as reported in the OED.

1. used already in OE. (*-fréo*) with the names of taxes, fines, etc., and in ME. also of other obligations, in the sense ‘exempt from (the first element)’ (OED) as in the following examples.

(a) All the interest you get will be *tax free* as long as you don't touch the capital during this period. (BNC, G2F)

(b) Present day *rent free* periods can be up to a year or even longer, and the tenant will not wish to make the first payment of rent on the date of the lease where the Rent Commencement Date is 12 months hence (BNC, J77)

2. From the mid-17th cent., used freely to form simple adjs. ‘not containing or involving (some usu. undesirable substance, feature, etc.)’ (OED), as in the following cases.

(c) Hepatic bile was supersaturated in a similar way in patients with cholesterol gall stones and *gall stone free* patients, which was consistent with the findings of Carey et al and Gallinger et al (BNC, HU3)

(d) Horse to horse contact directly or via feed, water troughs, pasture or stable fittings pass the infection to susceptible horses. Active cases must be well isolated so that *disease free* horses cannot come anywhere near infected cases. (BNC, ASH)

Although some common semantic features with the adjective in isolation can be identified, *-free* has developed a semantic specialisation over time. Indeed, such semantic specialisation may be found to a lesser extent in phrases like “X is free of Y”. However, there clearly emerges from the data in the BNC that syntactic constructions showing such semantic specialisation of *-free* are much rarer than their compound counterparts, as illustrated below.

<i>gallstone-free</i> 2 occurrences	<i>free of/from gallstones</i> 0
<i>rent-free</i> 40 occ.	<i>free of/from rent</i> 5 occ.
<i>tax-free</i> 214 occ.	<i>free of/from taxes</i> 0
<i>disease-free</i> 12 occ.	<i>free of/from diseases</i> 0

Its independent evolution is also pointed out in the OED that attests its first semantic value in combination as early as Old English (see 1.) and its second in the 17th century (see 2.), which has actually become extremely productive, especially under the influence of advertising, as observed by Slotkin (1990), who also notices that the ameliorative connotation attached to *-free*, intended as positive lack, is the peculiarity that determines its specialisation and its complementary distribution with respect to *-less*, which lacks such connotative value. The tests administered by Slotkin to a large sample of informants confirm a neat preference for *-free* compounds of all types at the expense of *-less* and seem

“to point to the movement of *-free* from the status of a combining element in nonce compounds to that of standard derivational suffix” (Slotkin, 1990:44). An important point raised by the scholar is that the shift to morphological status does not only depend on the semantic specialisation and on the acquisition of a connotative meaning with respect to the corresponding adjective in isolation, but also on productivity, intended as growing type frequency. Another relevant aspect of the *N-free* pattern is the semantic predictability and regularity of the compounds. In consideration of the fact that suffixes are for the great majority unstressed, the only unfavourable argument for a suffix reading of *-free* in combination is the stress pattern, which does not comply with the compound stress rule (see chapter I §6.4), since *-free* receives primary stress.

I believe that the above observations are useful points for distinguishing between the demonstrated tendency of *-free* towards suffixation and the behaviour of other recurring second constituents, as in the case of *-happy* that is analysed in the following paragraph.

3.3.2.2 *N-happy* formations

Formations containing *-happy* as a second constituent are all recent coinages, mainly attested in American English in the 20th century. Indeed, the BNC attests a limited number of formations (discussed below)⁸⁰. According to Bolinger (1944), the colloquial *slap-happy* is the first attested formation, in which the adjective has the meaning of “dizzy, exhilarated” and the whole compound can be paraphrased as “drunk from slaps”, synonymous with *punch-drunk*:

(e) Bearing an unconventional appeal that may have something to do with the *slaphappy* grin permanently stretched across his face, Breckin Meyer has made a name for himself.. (IWS, www.answers.com)

In addition to this first semantic extension, *-happy* also acquires the meaning of “carefree, casual; careless, thoughtless, irresponsible” (OED) in some contexts, as in the example below.

⁸⁰ See Appendix A for few more instances.

(f) Because he, he just has you know a very *slap happy* er attitude towards finance, but from an engineering point of view you can trust him Mm. (BNC, FUL)

As noted by Riordan (1947) and Russell (1947), *-happy* has become even more versatile particularly in military slang, in which a further semantic shift has occurred in the compound *bomb-happy* that originally describes someone “mentally affected by exposure to a bomb or shell explosion at close quarters” (OED) and later on, more generically, someone “dazed and confused”. Besides this established compound, other formations arose on this model in the Second World War, as in *battle-happy*, *cactus-happy* and *sand-happy* (Bolinger, 1944).

(g) Next morning two thoroughly frightened *battle-happy* guys go down to the beaches to try to find our ship. (Life, 9-10-44:60 in Russell, 1947)

These adjectives, describing the condition soldiers had to endure in particularly hostile environments, remained nonce formations and had a short life span.

A further semantic change must have intervened to explain compounds like the established formation *trigger-happy*, meaning “over-ready to shoot at anything at any time or on slight provocation” (OED).

(h) In two separate instances, at least four persons were reported to have been killed Peshawar and Karachi after being hit by stray bullets as a result of aerial firing by *trigger happy* individuals. (BNC, BN9)

This new semantic value of *-happy*, paraphrasable as “being over-ready to”, has become the model for various nonce formations, as the following examples attest.

(i) Krieger said the committee is in power to call a strike if it sees fit but he added, “we’re not gun shy and we’re not *strike-happy*, we don’t take it lightly.” (R21578)

(j) One reporter asked whether they were “*demob(ilitation) happy*” (BNC, AJD)

(k) [...] but referee Burns, who up to that point had been *whistle happy*, turned the appeals down. (BNC, K4T)

(l) The final twenty minutes saw play confined to the middle third of the pitch as both linesmen became rather *flag happy* with a succession of offside decisions which infuriated players and crowd alike. (BNC, KS7)

(m) The doctor started work the day I went in, and she pre-warned me and I said to him, no big cut please? And she said to him, when I got out she said oh, was he *knife happy*? He usually is! (BNC, KCB)

The semantic behaviour of *-happy* has brought Lipka (1966) to the conclusion that *-happy* can be considered as a suffix. However, I personally believe that this claim is far too strong. Indeed, the adjective has undergone a semantic drift in combination, but this requisite does not seem to be enough to claim a suffix-like status. Various factors contribute to raise doubts on this claim. From a morphological point of view, Germanic suffixes are rarely bisyllabic, which is actually the case of *happy*. In addition, one can also raise the orthographic argument that one would hardly write a suffix as a graphically autonomous word, which happens indeed for combinations in *happy*. If we compare *-happy* to *-free*, we notice a different behaviour in terms of semantic value, which is more regular with *-free* and more shifting with *-happy*, and of grammatical productivity, as emerging from the data.

Furthermore, the semantic development of *-happy* seems to be originated from a specific model word in each semantic shift. In this case, as in *airsick* deriving from *seasick* (Plag, 2003:37) and *work-shy* from *camera-shy*, a new formation is “clearly modelled on one already existing, and not giving rise to a productive series”, although a complex formation may provide the impetus for a new series (Bauer, 1983:96). Again this is typical of analogy that, in my opinion, remains the most likely hypothesis for formations containing *-happy*.

4. Subordinative compounds: endocentric Adj-Adj patterns

4.1 Grading compounds

As for the N-Adj pattern, I use the label “grading” to indicate a group of compounds in which the modifier specifies a certain degree or shade of the quality

expressed by the adjectival head. Again on a semantic/functional base, I further subdivide nuancing compounds into two subgroups:

- (a) colour adjectives
- (b) intensifying adjectives

The table below present a sample of formations for both subgroups.

SUBGROUP	MODIFIER	HEAD
(a) COLOUR ADJECTIVES	<i>dark/ light/ metallic/ milky/ ⁸¹greenish*</i>	blue/ green/ grey/ white/ blue
(b) INTENSIFYING	<i>scorching, burning, piping, scalding</i>	Hot
	<i>wide</i>	awake, apart, aware, open
	<i>Shyny</i>	New
	<i>Squeaky</i>	Clean
	<i>Icy, freezing</i>	Cold
	<i>Dead</i>	Tired
	<i>Frozen</i>	Stiff
	<i>Hopping</i>	Mad
	<i>Roaring</i>	Drunk
<i>Wringing</i>	Wet	

4.2. Derivational morphology and nuance identification

In the subgroup of colour adjectives, the modifier can either detail the brightness (*bright, dark, deep, light, pale, translucent, vivid* etc) or the shade of the colour (*cerulean, livid, electric blue* etc). Since making a review of all the modifiers of colour adjectives is rather pointless, I focus on those containing the derivative suffixes *-ish* and *-y* that are particularly interesting, not only because they are frequent in this subgroup, but also because the two suffixes cover a similar

⁸¹ Here the question arising regards the real compoundhood of these formations, which may also be considered as adjectival phrases. In any case, it is interesting to observe their behaviour in comparison to. *-y formations*.

function, that of expressing approximation as regards the shade conveyed by the modifier. (Wyler, 1992). The suffixes *-ish* and *-y* in combination with adjectives denoting colours basically conveys the meaning of “nearing, but not exactly X”, “somewhat X”.⁸²

As the two suffixes appear to be at least partially competing, since they share the same functional value in combination with adjectives (Steinvall, 2002), let us look at their behaviour in a sample of data. For this purpose, I have selected nine colour adjectives⁸³ in BNC combined to modifiers containing *-y* and *-ish*. There emerges a clear preference for combinations containing the suffix *-ish* that generally occurs more frequently with colour adjectives than *-y* does. The table below summarises this tendency both in single adjectives (columns 2 and 3) and in compounds (columns 4 and 5).

Adjective	<i>-y</i> n. of tokens	<i>-ish</i> n. of tokens	<i>-y</i> n. of tokens in Adj-Adj	<i>-ish</i> n. of tokens in Adj-Adj
<i>Blue</i>	17	55 (ui) ⁸⁴ +4 (ei)	6	7
<i>Brown</i>	12	66	5	9
<i>Green</i>	15	98	3	13
<i>orange*</i>	12 (ey)+2 (y)	-	3 (ey)	-
<i>Pink</i>	30	57	5	5
<i>Purple</i>	11	51	1	9
<i>Red</i>	2	178	-	30
<i>rose*</i>	266	-	7	-

⁸² It is worth noticing the versatile nature of *-ish* that may take on variable functions and meanings when attached to different grammatical categories (e.g. It can derive ethnic adjectives as in *Finnish*, and convey a derogatory shade of meaning as in *childish*. It can attach to adjectives as in *oldish*, to numerals, as in *fortyish*, to particles as in *uppish* and to adverbs, as in *lateish*. Marchand, 1969).

⁸³ I have not included the case of *grey* in my analysis because it clearly presents a graphic restriction on the selection of the derivative suffix, which is necessarily *-ish*.

⁸⁴ When more than one graphic option is available, I have indicated them in parentheses.

Adjective	-y n. of tokens	-ish n. of tokens	-y n. of tokens in Adj-Adj	-ish n. of tokens in Adj-Adj
<i>Yellow</i>	20	85	1	5

The exceptions, *rose* and *orange*, are indicated with an asterisk and are taken into account later in this paragraph.

Looking at the data, I have also noticed that the -y suffix frequently attaches to nouns denoting an entity characterised by a typical shade, as in *steely blue*⁸⁵, thus activating a form of comparison between the constituents. The table below shows a divergent behaviour of the two suffixes when attached to a sample of eight nominal bases selected in BNC.

Noun	-y n. of tokens	-ish n. of tokens
<i>cream</i>	34	-
<i>lemon</i>	2	-
<i>milk</i>	11	-
<i>mud</i>	14	-
<i>pearl</i>	11	-
<i>rust</i>	12	-
<i>steel</i>	14	-
<i>silver</i>	15	1

The clear preference for the -y suffix is remarkable in this context. The only base attested with the -ish suffix is *silver*, which is however largely outnumbered by the -y suffix with a 1:15 ratio. Therefore, we can conclude with a certain confidence that the two suffixes tend towards a complementary distribution, namely -ish in

⁸⁵This form actually competes with the N-Adj compound *steel-blue*.

the formation of derivatives from adjectival bases, as in *reddish-brown*, and -y from nominal ones, as in *starry-yellow*.

Going back to *rosy* and *orangy/orangey*, these exceptions to the “normal” derivative pattern can be explained by the tendency just mentioned. Both adjectives are attested in the corpus in combination with the suffix -y only. Although the corresponding derivatives *roseish/rosish* and *orangish* are attested in English⁸⁶, they are clearly dispreferred. According to Steinvall (2002), *orangish* is not acceptable because of a phonological constraint, which holds for other derivatives like **beigeish*, **peachish*, **scarletish*. However, I believe that different factor is involved for the preference for -y suffix, namely a semantic motivation. Actually, *rose* and *orange* are not only adjectives but also nouns, hence *rosy* and *orangy* can be derived either from a nominal or an adjectival base. As a consequence, both suffixes are potentially available. In my opinion, the choice of the -y suffix can be explained in relation to the base, whose nominal function is perceived as dominant over the adjectival.

4.3 Intensifying adjectives

As for the N-Adj pattern, this subgroup includes compounds whose modifiers enhance to a high degree the quality denoted by the adjective that is often a gradable one. Modifiers present a variety of forms that I briefly review. They can be simple adjective as in *red-hot* and *white-hot*, in which a sort of comparison is originally entailed between the constituents, as attested in the following definitions.

red-hot (def.): (1-3 AHD) 1. glowing hot, very hot, 2. heated, as with excitement, anger or enthusiasm (a *red-hot* speech), 3. very recent, new (*red-hot* information), 4. glowing red with heat (WD)

white-hot (def.): 1. so hot as to glow with a bright white light, 2. extremely hot, intensely zealous and fervid. (AHD)

⁸⁶Orangish (def.): similar to the colour of a ripe orange (AHD); rosish (def.): somewhat rosy, pale pink (WK), used in botany and gardening.

Other modifiers constitute deverbal and denominal derivatives containing the -y suffix as in *squeaky-clean*, *shiny-new*, *icy-cold*. Here again a form of comparison is implied at the origin of the compound. Present and past participles also work as common modifiers and are included here, due to their borderline function between adjectives and verbs. Another modifier is *wide*, which is, however, restricted to few formations. His morphological status is somewhat ambiguous, since its adjectival form is also often used adverbially in place of *widely*. As we are going to see in chapter 4, this is a common phenomenon with participial adjectives. Briefly summarising, this subgroup is indeed quite restricted and characterised by highly conventionalised formations

5. Exocentric compounds

This group of compounds causes some problems in their identification and classification with respect to their nominal counterparts. The table below shows few examples of this type.

PATTERN	COMPOUNDS
V-N	<i>cut-rate, daredevil, breakneck, push-button, tell-tale, catch-penny, turnkey (constructions) lacklustre</i>

Widely speaking, these formations can be considered as bahuvrihi or possessive compounds, in that they convey some quality pertaining to an external nominal head to which they refer. However, their morphological status is controversial to some extent, as most cases constitute phrasal constructions used attributively, as we are going to see in the following paragraph.

5.1 V-N formations

This pattern has often been neglected, with the exceptions of Adams (1973), Welte (1982) and Bauer (1983, 2001). Interestingly, all these scholars remark the peculiar nature of these formations. In particular, Adams (1973:101) defines them as “phrases, which have become institutionalised in attributive position”. On his

side, Welte remarks the difficulty in classifying them and proposes to consider them as “peripheral lexicalisations within compound adjectives”⁸⁷, while Bauer (1983, 2001) observes that their function is clearly adjectival, but admits that “there are problems in deciding what category such items should have” (2001:115).

Although I do agree with the difficult collocation of these formations within compounding, I also notice that the behaviour of these formations is not always as regular as claimed by Bauer and other scholars, both in terms of lexical class and of position within the sentence. There emerges from the data that, although these formations occur more frequently in attributive position as premodifiers, some also appear predicatively, as in the following cases.

cut-throat

ATTRIBUTIVE

(a1) Now it’s our turn to see if we survive *cut-throat* competition (R21578)

PREDICATIVE

(a2) Niki’s statement is *cut-throat* in its clarity (BNC, CD9)

lacklustre

PREDICATIVE

(b1) Japlac is a high gloss lacquer which produces a mirror-like finish that leaves ordinary paints looking *lacklustre* in comparison. (BNC, A16)

ATTRIBUTIVE

(b2) Over the summer I did read a few books and tentatively prepare a few classes, but it was indisputably a pretty *lacklustre* performance on my part. (BNC, A0F)

Furthermore, other formations of this type show a less stable grammatical function. In particular, they undergo a process of conversion and turn into nouns. The following examples represent few cases of conversion.

⁸⁷ My translation of the original “periphere Lexicalisierungen in Bereich der Adjektivkomposita” (Welte, 1982:)

daredevil

NOMINAL Function

(c1) My friend Chatterton is a great *dare devil*, you know. (BNC, HTG)

ADJECTIVAL Function

(c2) There aren't many *daredevil* sports that Peter Dew hasn't tried his hand at. (BNC, HP4)

cut-throat

NOMINAL Function

(d1) Bloody Hitler and his crew of *cut-throats* tramping all over Europe. (BNC, G1S)

ADJECTIVAL Function

(d2) Deregulation is taking place everywhere. Now it's our turn to see if we can survive *cut-throat* competition. (R21578)

tell-tale

ADJECTIVAL Function

(e1) [...] a dull flush was creeping up the neck, and colouring her cheeks, and she felt furious with herself for the *tell-tale* signs of insecurity. (BNC, JY3)

NOMINAL Function

(e2) Things like coloured navigation lights on wing tips or on the pitot head [...] can be good *tell-tales*. (BNC, CN2)

5.2 The morphological status of *long-legged* and *saucer-eyed*

This type of formations is very productive, especially in literary language and has been discussed by various scholars (see chap.2 §1.3). This group presents a certain variability in its definition, as shown by the labels used in various contributions, namely “compound adjectives”, “extended bahuvrihi compounds”, “-ed adjectives”, “derivatives compound adjectives”. This dishomogeneity also reflects a certain ambiguity in the morphological status of these formations. Although their derivative status is normally recognised, some authors, such as Bauer (1983) and Adams (1973), include them in their classifications of compound adjectives. Like exocentric bahuvrihi compounds, these formations describe a quality belonging to an external nominal head, but if we consider their

morphological construction, we notice that they cannot be listed among compounds. In fact, if we take into consideration the examples in the title, i.e. *long-legged* and *saucer-eyed*, it is evident that no single compounding process can be hypothesised. As a matter of fact, no **legged* nor **eyed* are acceptable from a semantic point of view. As observed by scholars (see Hirtle 1969, Ljung 1974 and 1976, Hudson 1975, Beard 1976), these nouns are semantically inalienable from their nominal head, since both legs and eyes are prototypically possessed by human beings. Consequently, no modifier-head reading is plausible here. The morphological process involved in these cases is that of suffixation by means of an *-ed* suffix, meaning “possessing, provided with, characterised by (something)” (OED).

The peculiarity of these formations consists in the fact that the derivational process is activated on a double base, which can be either a compound, as in *saucer-eye*, or a noun phrase as in *long leg*. Actually this second condition is quite uncommon, given that most suffixes do not attach to phrases but only to roots or words (Plag, 2003). After disambiguating their morphological structure, I briefly summarise the four main patterns of derivatives, identified according to the grammatical classes of the lexemes forming the base.

BASE	SUFFIX	EXAMPLES
(a) [(noun – noun)]	-ed	<i>pigheaded, bowler-hatted, saucer-eyed</i>
(b) [(adjective – noun)]		<i>long-legged, red-faced, many-mouthed</i>
(c) [(numeral-noun)]		<i>three-legged, four-roomed</i>
(d) [(verb – noun)]		<i>pop-eyed</i>

In group (a) the derivative is the result of derivation preceded by compounding. From a semantic point of view, the N-N pattern is often characterised by a metaphoric meaning because a relationship of similarity is established between the constituents, as in *saucer-eyed*, i.e. ‘having large round eyes like a saucer’, although this is not always the case (see for example *bowler-hatted* meaning ‘wearing a bowler hat’).

In (b) and (c), the formation is less prototypical, because the base is not a compound but a noun phrase. These two subgroups are generally more compositional in meaning. Far less common is pattern (d), which presents a restricted number of formations.

Despite being an interesting and productive phenomenon in English, I do not agree with scholars including the above formations in their classification of compound adjectives, because derivation from compounds gives rise to derivations and not to compounds (Dressler, 2005).

As a final remark, I would like to point out that there are cases in which more than one morphological analysis is possible. This occurs with N-N bases, in which one complex structure can be potentially read as the result of a simple compounding process, as in B, or of compounding followed by derivation, as in (A). The following examples show the two complementary options of analysis.

FORMATIONS	A	B
<i>Sugar-coated</i>	[(sugar-coat)- <i>ed</i>] having a sugar-coat	[(sugar-coat)- <i>ed</i>] having a sugar-coat
<i>Wood-paneled</i>	[(wood-panel)- <i>ed</i>] fitted with panels of wood	[(wood-panel)- <i>ed</i>] fitted with panels of wood
<i>Thyme-scented</i>	[(thyme-scent)- <i>ed</i>] having a scent of thyme	[thyme-scented] scented with thyme
<i>Mushroom-flavoured</i>	[(mushroom-flavour)- <i>ed</i>] having a flavour of mushrooms	[mushroom-flavoured] flavoured with mushrooms
<i>Lance-shaped</i>	[(lance-shape)- <i>ed</i>] having the shape of a lance	[lance-shaped] shaped like a lance

In the morphological analysis A, the outcome is actually a derivative, whereas in B it is a participial compound. Consequently to this morphotactic non-biuniqueness, the *-ed* suffix can be alternatively described as inflectional, as in [wood-panelled], or denominal, as in [(wood-panel)-*ed*], depending on the morphological analysis. Hence, unless the context helps disambiguating, I think

we cannot find a unique morphological solution to these cases, which could be considered as forms of homophony. Investigating examples on the BNC, I must admit that the context was not sufficient to disambiguate. However, as pointed out by Hudson (1975), structural ambiguity does not imply a real semantic ambiguity. Similar cases are examined in chapter 4.

6. Copulative compounds

As introduced in chapter I, copulative compounds present an equal hierarchical status of the constituents. Consequently, they do not show a modifier-head pattern and can only be formed by one lexical class, i.e. adjectival. In the following paragraph, I deal with two-member compounds that are the most common type. However, compounds with equally hierarchical constituents can also be built up of more than two elements. This is the case of ternary compounds that are common within the class of colour adjectives describing national flags.

From a morphological point of view, we identify two main subgroups of compounds, namely

- (a) adjective-adjective
- (b) initial combining form-adjective

In (a), both constituents are free roots, as in *deaf-mute*, while in (b) the first constituent is a bound root, as in *psycho-pedagogical*. However, this type of copulative compound adjectives, often referred to as neoclassical compounds (see chapter I), should not be confused with other neoclassical formations. In fact, the relationship between the constituents in *psychotherapeutic* is different with respect to *psychophysical*. In the first case, the constituents are linked by a subordinative relationship, which can be paraphrased as “therapeutic of the psyche”. Differently, the second compound is paraphrasable as “involving the action or the mutual relations of the psychical and the physical in man” (AHD). Consequently, the latter is a proper copulative compound, as it is formed by hierarchically equivalent constituents.

6.1 Antonymic and non-antonymic compounds

In semantic terms, groups (a) and (b) can be further classified according to the semantic relationship between the constituents, which can be either antonymic or non-antonymic. The table below exemplifies such distinction.

COMPOUND PATTERNS	ANTONYMIC SUBGROUP (I)	NON-ANTONYMIC SUBGROUP (II)
ADJ-ADJ	<i>bitter-sweet, sweet-sour, clever-stupid, clever-silly, fortunate-unhappy, present-absent, proper-false</i>	<i>German-French, grey-green, red-blue, red-green, black-white, *true-false, *hot-cold, *warm-cold, *wet-dry, blue-brown</i>
COMB.FORM-ADJ	<i>tragicomic, heroicomic</i>	<i>Anglo-Irish, socio-economic, gastro-intestinal, Afro-American</i>

The second column, i.e. antonymic compounds, presents formations combining polar qualities that characterise the entity denoted by the head noun, thus giving rise to oxymorons. This type is attested both with free roots, as in *bitter-sweet* and *sweet-sour*, and with initial combining forms, as in *tragicomic* and *heroicomic*. Antonymic compounds appear to be restricted to few established compounds, although some less common formations like *clever-silly* and *clever-stupid* are attested in the OED. Scholars, such as Adams (1973), underline that a major productivity of this type can be retraced in poetic language, which takes advantage of the expressive effectiveness of these formations to achieve specific rhetorical effects. As I do not intend to focus on poetic language here, it is sufficient to mention few popular creative formations of this kind by Shakespeare, who was a prolific brain in this sense: *fortunate-unhappy* (The Twelfth Night), *proper-false* (The Twelfth Night), *present-absent* (Sonnet 45).

The third column presents non-antonymic compounds, which are certainly the most productive semantic type. In non-antonymic compounds, the two constituents describe qualities that are not in semantic opposition. As for the other group, the constituents can be free roots, as well as bound roots. The compounds

marked with an asterisk are apparently antonymic, but they fully belong to the non-antonymic group, as I am going to justify later.

Besides the morphological properties of each group, I believe that a further insight into the relationship between the constituents is essential to shed light on the semantics of these formations, which is my main concern in the next paragraph.

At this point, I would like to raise two points about this pattern. The first regards the non-antonymic type, in which certain compounds show a slight right-head effect, despite their equal hierarchical status. This can be observed for compound denoting provenance. Let us consider the case of Afro-American (community). Although both constituents contribute to the definition of the quality pertaining to the nominal head, the right-hand constituent seems to exert a form of prominence over the left-hand one. This becomes clearer if we paraphrase the compound. In this specific case, we can express the compound as “the American community of African descent”, while “the African community living in America” sounds as an odd interpretation. The preference for the first interpretation seems to confirm the idea of a slight right-head effect in certain copulative compounds.

Another aspect regarding both antonymic and non-antonymic compounds is the order of the constituents. Excluding compounds containing combining forms, whose order is obliged, it is not clear what determines the preference for a certain order of the constituents. Let us take the case of *bitter-sweet*, whose order is inverse to the Greek model *glyký-pikros*, which is instead replicated in Italian in *dolce-amaro*. In both Greek and Italian, the compound follows the order monosyllabic-disyllabic, which complies with Behaghel’s (1930) *Gesetz der wachsenden Glieder*. In this sense, both the English and the German compound *bitter-süß* are quite anomalous. I can venture the hypothesis that that the order of the constituents is here determined by phonological reasons, in that the reverse order would entail a major pronunciation effort due to the presence of two subsequent plosives, while the actual order might be perceived as more natural. However, this does not explain other cases in which there is no such sound combination. Therefore, this might be an *ad hoc* explanation. In other cases, see

for instance the appositional compound *speaker-hearer*, the order of the constituents might be differently motivated. Here, we can hypothesise a form of thematic prominence, in which the importance of “being a speaker”, i.e. the more active role, can be perceived as more prominent with respect to “being a hearer”. This might be the reason for *speaker* to be realised first. A similar thematic prominence may hold in a coordinative compound line *doctor-patient (gap)*, in which the order might be motivated by the superior hierarchical position of the first referent over the second one, as in *predator-prey (battles)*, quoted by Olsen (2001).

In conclusion, these are only meant to be suggestions and hints for future investigations in a field of copulative compounding that has not received much attention.

6.2 Semantic analysis of copulative compound adjectives in relation to the nominal head

If we consider the compounds in the table, we notice that while we can grasp the overall meaning of certain compounds (see *tragicomic* and *bitter-sweet*), we are more doubtful about others (see *true-false* and *wet-dry*), when considered in isolation. Here the interpretative difficulty rests on the semantic relationship between the constituents. Ambiguities of this kind are retraceable in copulative nominal compounds too, as noticed by Olsen (2001)⁸⁸. In the following paragraph I present Olsen’s position, in order to get a better insight of this issue.

6.2.1 Olsen's study on copulative nominal compounds

Here I briefly summarise the author's observations that can be useful to our investigation. Looking at the semantic properties of these formations, the scholar notices that copulative compounds⁸⁹ in unembedded and embedded positions

⁸⁸Before examining the semantic characteristics of copulative English and German compounds, the author elucidates the difference between dvandva compounds in Sanskrit, Romance and Germanic languages. The former are considered essentially syntactic coordinative structures, while Germanic copulative compounds are morphological formations because of their semantic properties. In fact, unlike Sanskrit, Germanic copulative compounds denote a single entity, as opposed to a collective entity (pair) (Spencer, 2003).

⁸⁹This is the term adopted by the author.

show different characteristics. Unembedded compounds do not precede a nominal head and are therefore self-contained, as in *poet-composer*. This compound identifies an individual who is a poet and a composer at the same time, therefore we can claim that an unembedded copulative is a complex nominal root establishing "the identity of a single – ontologically coherent- individual via the combination of two or more salient concepts used to identify the relevant individual". (Olsen, 2001: 297).

As regards embedded copulatives, such as *patient-doctor (gap)*, the semantics is notably different. Here the compound specifies the following noun by defining that the gap is "between patient and doctor". Interestingly, the interpretation of the compound relies and conforms to the semantic requirements of the nominal head. In other words, we cannot semantically define the compound unless we relate it to its head. By analysing her corpus of data, Olsen identifies the following semantic patterns of embedded copulatives covering a broad set of relationships. According to the scholar, a copulative compound may identify

(1) a "between" relationship, due to the lexical-semantic requirements of the head, as in *predator-prey (battle)*

(2) a "between" relationship, due to an inference based on the meaning of the head, as in *doctor-patient (gap)*

(3) the constitutive elements of a collective term denoted by the head, as in *fall-winter (collection)*

(4) the collective or fortuitous authorship responsible for the content of the head noun, as in *Sapir-Whorf (hypothesis)*

6.3 Semantic patterns of copulative compound adjectives

Looking at copulative compound adjectives, we can argue that the observations made by Olsen can also find applicability here, though bearing in mind the intrinsic differences between the lexical classes involved. In particular, the link

between copulative compound adjectives and their nominal head is stronger and essential to determine their semantic properties. The analysis of the data reveals three main semantic patterns for copulative compound adjectives that I illustrate below. The constituents of the compound can identify

- (1) two qualities cooperating to the definition of the salient characteristics of the nominal head, as in *Afro-American (community)*. In this case, we can adopt the common terminology of "appositional compounds".
- (2) two qualities linked by a "between" relationship with respect to the head, as in *German-French agreement*. Again, as for nominal compounds, we can stick to the current term "coordinative compounds".
- (3) two qualities characterised by a complementary and mutually excluding distribution, as in *warm-cold cycles*.

We notice that the patterns basically overlap with those of copulative compound nouns and that, as before, the nominal head play a crucial role in the identification of the pattern.

6.3.1 Semantic patterns: the disambiguating role of the nominal head

Common cases of appositional compounds are represented by colour adjectives.

- (a) Breeze stood for a moment, listening to its savage, eternal music, watching the *grey-green* water swirling round the half-submerged rocks. (BNC, BMU)
- (b) It turned out to be a cheap pair of spectacles with one red lens and one blue lens. [...] All the signs are that somewhere there is a warehouse full of unwanted *red-blue* 3D specs [...] (BNC, B78)

What emerges from these examples is that colour coordination can either convey a mixed quality resulting from the two colours, as in (a), or two separate instances

co-existing in the same entity, as in (b). In the examples above, this distinction is quite unambiguous, as it is for *black-white* (*pattern*). In other contexts, a double reading is admitted, as in the following example.

(c) Two dogs came in to share her solitude, absurd, dignified little Pekinese who regarded her gravely with their *blue-brown* eyes like marbles and then lay before the fire and ignored her. (BNC, H8X)

The compound most probably conveys a mixed colour of the two, but we cannot rule out an interpretation in which two separate instances are indicated, i.e. the eyes may be partly blue and partly brown. As regards the interpretative possibilities, much lies in the nominal head, whose semantic features suggest the most preferable or the only plausible reading between two options. However, quite independently from the head, contiguous colours in combination tend to denote a mixed quality rather than a "separate colours" reading, which is conversely the only possible interpretation for most combination of distant colours along the spectrum.

Besides colour adjectives, other compounds denote the coexistence of two qualities in the same entity. This is the case of formations like

(d) The gloomy cluttered shop always smelt of black Spanish and hot blackcurrant juice and strong *bitter-sweet* sarsaparilla. (BNC, ACW)

(e) Ciguatera fish poisoning presents with both *gastrointestinal* and neurologic symptoms. (IWS, www.ohac-aspc.gc.ca)

(f) [...] a large portion of the elderly receiving supplementary benefit are elderly women living alone and apart from those belonging to the very top *socio-economic* group [...] (BNC, FR4)

The behaviour of these compounds is somehow more similar to unembedded nominal copulatives (see above), since their meaning is easily inferable in isolation, i.e. not linked to a nominal head. In particular, antonymic compounds (see example d), in order to be defined as such, require the coexistence of the two

qualities in the same individual or entity and consequently, they necessarily belong to pattern (1).

With the exception of few self-evident cases, the nominal head remains the crucial element for the interpretation of most copulative compound adjectives. Let us take into consideration compounds like *Anglo-Irish*, *red-green*, *hot-cold*, *wet-dry* and *warm-cold*. In isolation, the first two cases are ambiguous, since optional interpretations are available. In particular, they can potentially belong to patterns (1) and (2). As a consequence, they cannot be *a priori* classified. In order to be disambiguated, they need to occur in context, as illustrated in the examples below.

(f1) The *Anglo-Irish* Agreement at Hillsborough in 1985, it has sought to lay aside that veto [...]. (BNC, A07)

(f2) Carson (1854-1935) was a Dublin-born *Anglo-Irish* lawyer, a famous barrister at both Bars, and a Conservative MP who became solicitor-general in 1900 . (BNC, K4W)

(g1) Most people in the past have thought that *red-green* vision was important for finding fruits [...] (IWS, <http://news.bbc.co.uk>)

(g2) Now, however, Europe is now hosting another, more worrying alliance [...] European Socialist and Islamist factions [...] This new *red-green* alliance should worry the whole of Europe [...] (IWS, www.zeek.net)

In (f1) the head "agreement" implies the presence of two parties and therefore determines the interpretation of the compound as a case of pattern (2). Conversely, in (f2), pattern (1) prevails because the head "lawyer" identifies a single individual perceived as a biological unit qualified through coexisting characteristics. In (g1), the head "vision" requires an appositional interpretation according to pattern (1), while in (g2) "alliance" leads us towards a coordinative reading coherent with pattern (2)⁹⁰.

Concerning compounds like *hot-cold*, *warm-cold* and *wet-dry*, ambiguity emerges in isolation, since they can potentially have antonymic and non-antonymic readings, although the former is harder to conceive. Again, the nominal

⁹⁰However, both compounds are more perceived as nouns than proper adjectives, which is evident for political parties, often referred to in terms of "the Reds", "the Greens", etc.

head removes the ambiguity and determines the pertinent semantic interpretation, as in the following examples.

- (h) Natural resources and environment: water, soil, possibly vegetation, climate (reflected in the growing season with *hot-cold*, *wet-dry* combinations from year to year (BNC, HR3)
- (i) Evidence from seabed sediment cores suggests that, in the 1.8 million years since the start of the Pleistocene, the temperate and polar regions have passed through a dozen or more *warm-cold* cycles caused primarily by changes in levels of incident radiation. (BNC; G1E)

In both cases, (h) and (i), the compounds receive a non-antonymic reading because both nominal heads imply an paradigmatic relation of the qualities denoted by the adjectives, therefore approaching the semantic pattern (3), defined as complementary distribution.

6.3 Constituents' combinability

At this stage of the analysis, I would like to approach an interesting semantic issue regarding the interpretability of copulative compounds as such. The question regards the modality with which concepts' combination is realised in order to determine a copulative interpretation of the compound, instead of a subordinative one. An interesting hypothesis is suggested by Lang (1984), who claims that the very first requisite for coordination is the possibility of activating a form of semantic comparison between the concepts underlying the constituents. To sum up his view, he affirms that when the constituents of a compound share some common semantic features, then a plausible copulative relationship is established between them. The last common feature before semantic differentiation of the two lexical elements is defined by Lang as "common integrator" and it is, according to the scholar, the crucial element enabling coordination. To clarify this theory, let us consider the copulative nominal compound *Dichter-Komponist* analysed by Lang, and align the semantic features of the two constituents.

LEFT-HAND constituent Dichter (poet)	RIGHT-HAND constituent Komponist (composer)	COMMON SEMANTIC FEATURES
creator	creator	yes
concerned with art	concerned with art	yes
		common integrator
literary creativity	musical creativity	no

The two constituents present the common characteristic of denoting an art creator. This common ground of “closeness” between them constitutes is essential to grant coordination and it is defined as common integrator. However, beyond this common semantic feature, the others diverge because the creativity of the two subjects is devoted to different fields, literature and music respectively. This represents the basic element determining the semantic difference between a poet and a composer. I believe that this principle, based on the decomposition of lexical meaning through semantic features, can be coherently applied to copulative compound adjectives. The following examples are meant to illustrate what has just been claimed.

- (a) *unpleasant-cold weather vs. humid-cold weather
- (b) *elegant-blue dress vs. red-blue dress
- (c) *curly-blond girl vs. red-blond girl

Although all the first couple of adjectives in (a)-(c) is perfectly acceptable as a sequence of simple premodifiers, they appear to be hardly plausible as compounds (starred). Their low acceptability at a semantic level may well depend on the fact that they combine different qualities, which do not share a common integrator. In (a) "unpleasant" describes a more abstract quality, while "cold" describes a physical one, thus they have no common integrator. Conversely, “cold” and “humid” are more acceptable, in that both describe physical qualities that can apply to weather conditions. The same holds in examples (b), in which "blue" and "red" both relate to colour perception, while "elegant" refers again to a more abstract quality. Again, the common integrator is missing in the first case, which

is perceived as unacceptable. In (c), the distinction is subtler because both “curly” and “blond” refer to a characteristic of the hair. However, unlike “red” and “blond” that describe colours, “curly” and “blond” do not qualify hair on the same level, as one defines “shape” and the other colour. Therefore, “curly-blond” is definitely less acceptable than “red-blond”.

Far from being an exhaustive analysis, the observations so far are intended as a proposal for further investigations in the semantics of copulative compounds.

7. Borderline cases

I devote this final section to some non-prototypical formations that I define as “borderline cases” for two main reasons. Firstly, they represent peripheral formations because they mainly involve minor lexical classes, such as particles (see groups a, b, c below). In accordance with Bauer and Renouf (2001: 103), I have decided to use the blanket word particle “to avoid commitment as whether these things are really adverbs, prepositions, or some separate class”. Secondly, their collocation at the border between morphology and syntax makes clear-cut classifications hard to achieve. The common property that draws all subtypes together is that they can be used attributively, like adjectives, while their predicative use is restricted to rare cases. Under the label of borderline cases I include four types of formations

- (a) Particle-N as in *on-duty*
- (b) V-Particle as in *built-in* and *see-through*
- (c) Particle-V as in *ongoing*
- (c) Adj-N⁹¹
- (d)

PATTERNS	SUBGROUPS	FORMATIONS
P-CLE-N		<i>in-vitro, in-depth, off-duty, after-hours, outdoor, cross-country, online, off-screen, in-store, offshore, off beat, off-beam, off-colour</i>

⁹¹Pattern (d) is included within borderline cases because of its functional characteristics, although it does not contain minor lexical classes.

V-P.CLE	BASE FORM-PARTICLE	<i>see-through, live-in</i>
	PAST P.PLE-PARTICLE	<i>built-in, laid-back, (worn-out), (broken-down)</i>
PARTICLE-V	PARTICLE-PRESENT PARTICIPLE	<i>outgoing, incoming, upcoming</i>
	PARTICLE-PAST PARTICIPLE	<i>ingrown, downcast</i>
ADJ-N		<i>low-cost, first-rate, present-day, real-life, low-fat, low-income), barefoot</i>

The difficult interpretation of these cases is self-evident, as it is not clear whether we are faced with proper compounds or with instances of syntactic conversion.

The following paragraphs are intended to analyse these formations often neglected in classifications of English compounds, with few exceptions (see Bauer, 1983) and Adams (1973)⁹².

7.1 Particle-N pattern

Here belong prepositional phrases that are mainly used as premodifiers of nominal heads. Bauer (1983) considers them as cases of conversion from prepositional phrases to premodifiers. These formations are generally rather compositional in meaning and therefore semantically transparent, as in the following examples.

- (a) It said investments will be made in such firms as those producing *in-vitro* diagnostics [...] (R21578)
- (b) The delegates went to the border and spent three days there screening hundreds of people and conducting *in-depth* interviews with many of them. (BNC, A03)
- (c) Examination of the wreckage, [...] and interviews with the surviving *off-duty* flight attendant indicate that decompression occurred in flight [...] (R21578)

⁹²Adams refers to these formations as “compounds with particles” but she limits her treatment to a cursory enumeration.

(d) Later, in search of a party, we drive off to an *after-hours* club.
(BNC, CD6)

(e) Disney said the appointment becomes effective when it and the French government sign the definitive agreement for the new *outdoor* entertainment complex near Paris. (R21578)

It is worth noticing that these formations display an “adjectival” function only in a premodifying position (see A, table below), while they shift towards a more adverb-like function in predicative (see *online*) and postverbal contexts⁹³ (see B).

A PREMODIFYING position	B POSTVERBAL position
Bangladesh police mounted a <i>cross-country</i> hunt for defaulters on bank loans [...] (R21578)	Powered by a 550bhp Perkins engine [...] Warrior can move <i>cross-country</i> faster than any other armoured vehicle (BNC, A77)
Investments Technologies Inc. said it will make available its <i>online</i> advisory service [...] (R21578)	One way to enhance the researchers’ understanding of the indexing is to make the schedules available <i>online</i> . (BNC; H99)
Lewis also had to contend with tabloid reports about an <i>off-screen</i> romance between her boyfriend and Geena Davis [...] (BNC, CGB)	Happy endings rarely happen <i>off-screen</i> . (BNC, ABG)
Wholemeal bread [...] It is now mass-produced and freshly baked in supermarkets’ own <i>in-store</i> bakeries [...] (BNC, H06)	[...] the concurrent merchandising activities at point-of-sale have been necessary to ensure that the goods are promoted <i>in-store</i> to back up advertising. (BNC, K94)
China has signed 36 oil contracts [...] when <i>offshore</i> exploration was open to foreigners. (R21578)	[...] a dolphin befriended a boy swimming <i>offshore</i> at the Roman settlement of Hippo [...] (BNC, ABC)

As observed by Bauer-Renouf (2001), it is hard to determine the morphological status of these formations. I am personally oriented towards a syntactic reading of

⁹³*Outdoor* is an exception, in that the adjectival function is formally different from the adverbial, which corresponds to *outdoors*.

these formations that can be basically analysed as phrases presenting a low-degree lexicalisation, as intended by Lipka (1981), who conceives it as

the phenomenon for which complex lexemes tends to become a lexical unit with a specific content, through frequent use. Through lexicalisation, the syntagmatic character is lost to a lesser or greater extent. (my translation from German⁹⁴)

Although the majority of these formations is compositional in meaning, some of them are characterised by more idiosyncratic meanings, as in the following examples.

(f) Christian Slater has specialised in *offbeat* roles since he lost his screen virginity at 20, playing a novice monk in *The Name of the Rose* (BNC, K37)

(def: unusual and strange and therefore surprising or noticeable, CALD)

(g) And if you're imagining I pine for the delights of the conjugal bed now my wife's left me, you're a bit *off-beam* there, too- (BNC, JYC)

(def: wrong; informal – Uk, CALD)

(h) But almost as soon as she had crossed the Channel, Leslie began to feel ill and *off-colour*. (BNC, G35)

(def. slightly ill; informal, CALD)

In my opinion, the lower semantic transparency of examples (f)-(h), and therefore their higher degree of lexicalisation, determines a more stable lexical class of these formations and draw them closer to the status of compounds. In fact, unlike previous cases, formations in examples (f)-(h) have an adjectival function exclusively. To summarise, each formation should be considered independently, as different degrees of lexicalisation may influence the evaluation of their morphological status. Although determining the adjectival status of these formations is not a straightforward matter, the test proposed by McCarthy (2001) may be of some help. He suggests testing their acceptability as adjectives by

⁹⁴“Unter Lexicalisierung verstehe ich die Erscheinung, dass einmal gebildete komplexe Lexeme bei häufigen Gebrauch dazu tendieren, eine einzige lexicalische Einheit mit spezifischem Inhalt zu werden. Durch die Lexicalisierung geht der Syntagmarakter in mehr oder weniger starkem Masse verloren”.(Lipka, 1981)

inserting these formations into comparative contexts and by modifying them through *very*.

Testing the above formations (f-h), positive results of acceptability are obtained, as shown in the following examples.

- (i) ...if perceptions of state schools are too gloomy, the images of their pupils are even more *off-beam* (IWS, www.roar.org.uk)
- (j) This is a very *offbeat* and in many ways strange and rather annoying film. (IWS, www.sofacinema.co.uk)
- (k) I had something very *off-colour*⁹⁵ to say about that moment [...] (IB, [http:// forums.televisionwithoutpity.com](http://forums.televisionwithoutpity.com))

To conclude, I believe that, though further investigations are needed in this direction, both the acceptability test suggested by McCarthy and the different degrees of lexicalisation (idiosyncratic meaning) can be useful means to disambiguate the morphological status of formations of this kind.

7.2 V-Particle pattern

I include in this pattern formations containing a past participle (e.g. *built-in wardrobes*) and the base form of the verb (e.g. *see-through dress*, *live-in nanny*), the latter being particularly productive (Bauer, 1983).

They generally occur as premodifiers and basically have a compositional meaning. Unlike the previous pattern, these formations do not play adverbial functions. The order of the constituents corresponds to that of a verbal phrase and again the question arising regards the nature of these formations, which are at the border between syntax and morphology. As observed by Berg (1998:247), (verbal) stem-particle formations of this kind “can be straightforwardly derived from their respective verbs on both formal and semantic grounds”. Again, I believe that the degree of lexicalisation of these formations may determine a preferential reading, either a morphological or a syntactic one. Let us take into consideration the following examples.

⁹⁵Here the compound refers to “remarks or jokes about sex that are slightly shocking” (CALD).

(c) The Mac II uses the new Motorola 68020 microprocessor, an "open architecture" that allows for the addition of numerous peripheral devices, a *built-in* hard disk and one megabyte of memory, expandable to eight megabytes. (R21578)

(d) Before dinner, John, who was so *laid-back* he made the trees seem neurotic, offered us a yoga lesson. (BNC; FBM)

In example (c) the meaning of *built-in* is essentially compositional, while in (d) *laid-back* it is more idiosyncratic, being not immediately inferable from the verb-particle combination. Therefore, I would suggest that lexicalisation determines a different perception of the two formations, namely more adjective-like in *laid-back* and more phrase-like in *built-in*.

A large number of formations in the past participle-particle pattern are directly derived from phrasal verbs, as in *worn-out* (*carpet*), *broken-down* (*washing machine*), and show no significant semantic variation with respect to the phrasal verbs from which they stem. These factors encourage considering them simply as past participles (of phrasal verbs) used as premodifiers.

The difficulty in finding a coherent qualification of these formations is summarised by a case like *see-through*. Its semantic transparency suggests a syntactic reading, but its established adjectival function (both in attributive (h) and predicative position (i)) may encourage a compound interpretation.

(h) Necklines can not be low-cut, and *see-through* blouses are definitely not allowed! (BNC, ACL)

(i) But the slip dresses in the catwalk picture do not come cheap and to achieve this daring look you need to buy not one, but two dresses (not for the faint-hearted, being virtually *see-through*) making a total retail cost of £ 522. (BNC, A7N)

The observations made so far have no pretension to being exhaustive, but are intended as a starting point for further insights into a controversial topic.

7.3 Particle-V pattern

Another group of formations is represented by the particle-V pattern. In this context, we should distinguish between two different morphological origins, namely derivational and non-derivational. According to Berg (1998), particle-(verbal) stem adjectives can be derived either synchronically from a stem-particle verb or diachronically from less frequent particle-stem verbs, as in the case of *upcoming*, whose origin can be either retraced in the current verb *to come up* or in the obsolete *to upcome*. The shift of lexical class from verb to adjective (and noun too)

To the derivational type belong formations like *overflowing*, *upgrading*, *overacting* and *outsourcing*. They potentially result from the composition of two lexemes, but the existence of the corresponding verbs *to overflow*, *to upgrade*, *to overflow* and *to outsource* attests their derivational origin. Since this group is constituted by deverbal derivatives, we can rule them out from our discussion.

The non-derivational type, which is by far the most productive according to Berg, is represented by those formations for which no compound verb is attested at the origin. This holds for cases like *ingrown (toenail)*, *downcast (eyes)*, *ongoing (debates)*, *incoming (calls)* for which no **to ingrow*, **to downcast*, **to ongo* and **to income* exist. According to Berg, the shift of lexical class from verb to adjective is determined by a productive process of conversion associated to inversion of the lexical elements.

7.4 ADJ-N pattern

This subgroup is constituted by noun phrases used as premodifiers, as in *low-cost (flight)*, *first-rate (restaurant)*, *present-day (needs)*, *real-life (story)*, *low-fat (cheese)*, *low-income (worker)*. With the exception of highly conventionalised cases, such as *barefoot*, that are commonly perceived as adjectival, this pattern represents an even clearer borderline case between syntax and morphology.

8. Participial compounds

8.1 Introduction

Compound formations containing participial *-ing* and *-ed* heads represent a special set of endocentric compounds and are therefore devoted a special section in this chapter. In comparison to the other compound adjectives so far investigated; participial compounds raise major problems of classifications. In fact, though exhibiting different degrees of prototypicality, subordinative and copulative compound adjectives allow the immediate and unquestioned identification of the adjective itself. By contrast, participial compounds contain head elements whose function is not always well definable.

8.2 Participles and adjectives

In this paragraph I focus on the essential distinction between proper participles and participial adjectives, which have in common the capability of appearing in attributive position as noun premodifiers, as for instance in *a barking dog*, *an interesting topic*, *an astonished man* and *an appreciated proposal*.

I can anticipate that this is not always an easy task to carry out, because participles exhibit characteristics of “a category’s extended use” and may show adjective-like properties in varying degrees (Bhat, 1994). In other words, they show different gradations “in losing their verbal characteristics and in manifesting adjectival characteristics” (Huddleston, 1984:318), and it is clear that they represent different phases in their evolution. This means that we must be prepared to face cases in which such distinction is not so clear-cut. I begin by making observations on the adjectivehood of simple participles, before dealing in more details with participial compounds, which are the main target of my investigation.

In order to establish whether a participle can be accounted for as an adjective, various tests can be taken, which help determining degrees of adjectivehood. The first two criteria considered are predicative use and premodification by the intensifier *very*, which is probably the most explicit indication that a participle has reached an adjective status, as *very* cannot modify participles.

- (a) an interesting topic > a *very* interesting topic > the topic *is interesting*
- (b) an emancipated woman > a *very* emancipated man > that woman *is emancipated*
- (c) a barking dog > * a *very* barking dog > * the dog *is barking*⁹⁶
- (d) an appreciated proposal > *a *very* appreciated proposal > ?the proposal *is appreciated*⁹⁷

Other tests proposed for present participles are prefixation by *un-*⁹⁸ (Quirk et al., 1985) and adverbial suffixation by *-ly* (Brekke, 1988; Borer, 1990). In both cases, the process is allowed for adjectives like participles but not for present participles, as attested in the following examples.

- (a) interesting > *uninteresting* > *interestingly*
- (b) barking > **unbarking* > *barkingly*

Consequently, *interesting* has full adjectival status and it can be included among prototypical adjectives because it also allows predicative use, while *barking*, though working attributively as a noun modifier, has not reached such a status. Another method for distinguishing between participial adjectives and present participles is that the former can coordinate with other underived adjectives while the latter cannot.

- (a), (b) the topic *is interesting and difficult* vs. * the dog *is barking and ferocious*

Finally, another criterion discriminate proper adjectives from participles: the former can be used predicatively preceded by the verb “remain” (hence, “remain test”), while they do not yield acceptable results when preceded by the verb

⁹⁶Here, the sentence is grammatical only if the participle is intended as a progressive form, thus as a verb.

⁹⁷As demonstrated by this example, tests do not always totally disambiguate.

⁹⁸However, the test is not infallible if we consider participial adjectives like *amazing* and *frightening* that have full adjectival status but cannot be prefixed by *-un*.

“keep”. Conversely, participles, including past participles, show a reverse acceptability to the test.

- (a) the topic remained interesting/ *kept interesting
- (b) the dog *remained barking/ the dog kept barking
- (c) the man remained astonished
- (d) *the proposal remained appreciated

Oshita (1994) reckons that this test, proposed by Levin and Rappaport (1986), is essential to refine the criteria proposed, which do not always grant absolute reliability. The importance of the “remain test” resides in the introduction of semantic factors, besides morphological and syntactic ones, that relevantly contribute to the distinction between participles and proper adjectives. In fact, unlike participles, adjectives tend to be characterised by a stative quality describing inherent, intrinsic or (semi-) permanent characteristics of their referents (hence, the choice of the verb “remain”).

The tests presented contribute to distinguish between participial adjectives and participles, though we must bear in mind that they are not totally infallible.

The whole issue becomes more complicated if we consider participial compounds, in which the participial head is combined with a left-hand constituent (adverbial, adjectival or nominal) that plays either the role of an argument of the verb or of an adjunct. Here, adjectivehood needs to be investigated for the whole compound, since the behaviour of the participle may change noticeably when compounded.

Referring back to the criteria proposed so far for simple participles, I believe that they can be essentially re-applied, with the exception of prefixation by *-un* and suffixation by *-ly*, which have to be rejected for obvious reasons.

In the following paragraphs I analyse *-ing* compound adjectives and *-ed* compound adjectives separately. The next paragraph is intended to be a brief excursus of the treatment of participial studies in previous studies and in morphological classifications.

8.3 Participial compound adjectives in the literature: a review

Previous contributions (see Hellinger 1969, König 1971, Todenhagen 1974, Meys 1975) investigated these formations relying on a transformationalist approach that saw participial compounds as the result of progressive transformations from relative clauses (see chapter 2). However, this method turned out to be quite simplistic and generally unsuccessful, as it could not explain, among other things, why compounds can be potentially derived from more than one clause without the possibility of establishing which one is the actual source. In addition, these studies neglected the ambiguous lexical status of these head constituents, by assuming tout-court that they are exclusively verbs. Other scholars, such as Gerbert&Zimmermann (1976) and Ljung (2000), concentrated their attention on the use of these formations in special languages, such as literary, journalistic and technical languages; but leaving aside formal and structural aspects regarding the morphological lexical nature of the head.

As regards classifications, a certain variability can be noticed both in terms of chosen criteria and accuracy⁹⁹. Marchand (1969) calls these formations “verbal nexus adjectives in *-ing* and *-ed*” and distinguishes them into two main subgroups, namely first and second participles. A further subclassification is carried out according to the left-hand constituents and, for each subgroup, the author identifies the syntactic relationship between the constituents, making reference to the sentence underlying the compound. For instance, he recognises a predicate-adverbial complement relation for compounds like *ocean-going*, largely outnumbered by the predicate-object pattern as in *awe-inspiring*; while for second participle compounds he mentions the subject-predicate pattern, as in *man-made*, as the most productive, although other syntactic relationships are also possible.

Similarly, Adams (2001)¹⁰⁰ distinguishes between *-ing* and *-ed* compound adjectives and further subclassifies depending on the lexical classes of the left-

⁹⁹ Welte (1982) even neglects the category of participial compounds in his classification of compound adjectives.

¹⁰⁰ In her former contribution (see Adams, 1973), the author’s classification was less consistent and more heterogeneous, as it encompassed various non-participial compounds. The three groups identified in terms of syntactic relations between the constituents, namely adjunct-verb, subject-verb/complement and verb-object, were further subdivided into only partially coherent subpatterns.

hand constituents. Although the scholar does not go into details, she interestingly advances the hypothesis that the non-acceptability of certain formations, like “**a class-telling teacher*”, may depend on the argument structure of the verb in the right-hand constituent. I believe this is a good point for the analysis, as well as for the identification of restrictions on these compounds, which is re-proposed later in the chapter.

Bauer’s (1983) brief review of compound adjectives is more coarse-grained because it only relies on the lexical classes of the constituents and assigns no special place to participial compounds, which are included with no distinction within a large heterogeneous “noun+adjective” group. Therefore, *-ing* participial compounds like *card-carrying* and *-ed* participial compounds like *space-borne* are listed together with other much diversified compounds like *leadfree*, *childproof*, *cloth-eared* etc. Among the adjective+adjective and adverb+adjective patterns, he includes participial formations like *ready-made* and *overqualified* respectively, with no formal subcategorisations. Furthermore, Bauer makes neither syntactic nor semantic reference to the relationships between the constituents.

On his side, Plag (2003) only sketches a brief summary of adjectival compounds, without drawing a proper classification. As regards participial compounds, he briefly mentions formations like *university-controlled* and *hair-raising* containing present and past participles preceded by nouns, which are respectively interpreted as the agent argument and the object of the verbal head.

Back to the transformationalist approach, Meys (1975), although he does not use the term “participial compounds”, classifies these formations as a class of their own with respect to other compounds containing proper adjectives, and identifies two main subgroups, namely compounds containing either *V-ing* or *V-en* participles. Through further subclassifications, based on the lexical classes of the left-hand constituent (namely noun, adjective, adverb, pronoun and particle), his categorisation turns out to include ten subgroups. Each subgroup is analysed with reference to the underlying sentential structure, from which the compound stems according to the theoretical frame already mentioned. In Meys’ treatment, there is very little reference to the functional role of the left-hand constituent with

respect to the head. The scholar briefly remarks that the noun (left-hand constituent) more frequently corresponds to the agent or the instrument in the corresponding phrase from which the V-*en* compound stemmed, as in *state-controlled*. While in other cases, the left-hand constituent derives from a variety of prepositional phrase (locative, temporal, purpose etc.) as in *homemade* and *jungle-trained*, syntactically moved into attributive position.

Like Meys, Quirk et al. (1985) treat participial compounds as a group of its own with respect to other compound adjectives. Within this class, they identify two types that are defined “verb and object type” as in *record-breaking* and “verb-adverbial type” as in *fist-fighting* and *town-bred*. Further subdivisions are carried out according to the participle involved in the compound, i.e. *-ing* participle or *-ed* participle, and partly to the lexical class of the left-hand constituent. Although the scholars do not expand on the specific characteristics of the two main types, their classification denotes a clearer awareness of the substantial difference between them.

8.4 Synthetic vs. non-synthetic participial compounds

Considering the contributions so far mentioned, what is remarkable in the majority of the classifications is the lack of a systematic distinction based on the semantic relationship between the constituents. The following examples attest fundamental differences.

1a. god-given opportunity

2a. time-consuming job

1b. spit-roasted lamb

2b. winter-flowering plant

Looking at these examples, it is evident that the semantic relationship between the constituents is different in 1a. and 2a. from 1b. and 2b. Using naïve, pre-theoretical terms, we can say that in 1a. and 2a. the semantic relationship between the constituents is a necessary one, while in 1b. and 2b. it is an optional one. More

precisely, the compounds in 1a. and 2a. exhibit an argument structure (Grimshaw, 1990), in that the left-hand constituent represents an element that is essential to the semantics of the verb. The act of “giving” entails someone who gives (i.e. *god*, here) and something that is given (i.e. *opportunity* in this case), which represents the nominal head of the noun phrase. Similarly, the act of “consuming”, entails something that is consumed (i.e. *time*, here) and someone or something that consumes (i.e. *job*, here), which again constitutes the nominal head of the noun phrase. Differently, in 1b. and 2b. the left-hand constituents are not essential requirements of the verbal head, but they only specify situational circumstances, in these cases with reference to the temporal dimension.

These different behaviours stand for an important distinction within the class of participial compounds, namely that between synthetic and non-synthetic compounds (see chap 1, §3). The presence of a deverbal head is not a sufficient requisite for a compound to be defined as synthetic, since it also needs to have a non-head constituent satisfying the internal semantic requirements of the head. Therefore, compounds like *taxi-driver* and *letter writing* are proper synthetic compounds, unlike cases such as *city driver* and *handwriting*, in which the non-head constituent expresses external, non-obligatory information with respect to the head. As it clearly emerges, the definition of synthetic compound does not only rely on the morphological characteristics of the head but also, and more importantly, on the semantic characteristics of the verb. As pointed out by Oshita (1994)¹⁰¹, this important distinction rules out from synthetic compounds those cases, in which the relationship between the constituents is not regulated by grammatical-semantic requirements, but simply by pragmatically plausible associations. As a way of summarising, participial compounds are distinguished into:

¹⁰¹ Actually, the author proposes the following lexico-syntactic definition of synthetic compounds “A compound whose non-head satisfies the obligatory argument requirement of the head, irrespective of the latter’s morphological origin, is a synthetic compound.” (Oshita, 1994:180). His definition disregards the morphological origin of the head, by enlarging the group of synthetic compounds to formations like *girl-crazy* and *lead-free*. In my opinion, this reveals a certain weakness in his argumentation, due to a high degree of subjective interpretability of these formations.

- ❖ synthetic participial compound adjectives (SPCA), characterised by having a participial head preceded by a non-head constituent that is an internal obligatory argument of the head. (e.g. *fact-finding*, *smoke-filled*)

- ❖ non-synthetic participial compound adjectives (NSPCA) characterised by having a participial head preceded by a non-head constituent that is not an internal argument of the head, but rather external complementary information. (e.g. *night-blooming*, *spit-roasted*)

8.5 Synthetic compounds and argument structure

Although going too deeply into the complexity of the manifold approaches to argument structure (Fillmore 1968, Grimshaw 1990, Jackendoff 1990, Baker, 1997, Hale&Keyser, 1993 etc) is beyond my scope here, it is necessary, at this stage of my argumentation, to give an explanation of the terms used above and consequently to make a brief introduction to the vast area of investigation on argument structure, which is useful to my analysis.

Argument structure is a complex phenomenon involving a syntax-semantics interface. The term refers to the specification of the number of participants (or semantic arguments) involved in the action or situation referred to by a lexical predicate (such as a verb). Argument structure enables us to say how many semantic arguments a verb select and which of them must be obligatorily expressed. In very simple words, a crucial distinction is made between semantic arguments and what are traditionally called adjuncts. While the former are essential requirements of the verb, the latter represent circumstantial optional additions, covering information regarding manner, time and place of a situation or an event, and are excluded from the argument structure, as exemplified in the following sentence.

(a) Sue ate a slice of cake for breakfast.

[Semantic arguments: Agent (Sue), Patient (a slice of cake)]

[Adjuncts: for breakfast (temporal adjunct)]

A further distinction is drawn between semantic arguments and syntactic arguments, as they pertain to different linguistic levels, although they are related. In fact, syntactic arguments represent the mapping of semantic arguments onto syntax, as underlined in the following example.

(a) Sue ate a slice of cake for breakfast.

[Semantic arguments: Agent (Sue), Patient (a slice of cake)]

[Syntactic arguments: Subject (Sue), Object (a slice of cake)]

The above distinctions represent a workable oversimplification of a much more complex theoretical issue that I do not intend to investigate here. The basic concepts introduced so far are sufficient to my purpose.

9. Conclusions

This chapter has analysed a variety of combining patterns, starting from the most to the least prototypical formations including borderline cases, for which several problems of definition and collocation have arisen. The rich array of combinations, with their specific morphological and semantic properties, has required separate treatments for the various subgroups of compounds, which has necessarily entailed some fragmentation. In consideration of this, the following chapter, addresses a more unifying aspect, namely adjectivehood, that is analysed for the various subgroups, with particular attention to the class of participial compounds, whose treatment has been here only sketched.

Chapter IV

Compound adjectives and adjectivehood

0. Introduction

The purpose of my analysis so far has been to deal with compound adjectives from a morphological point of view. Here, I devote the final part to the investigation of their functions.

Starting from the notion of adjectivehood, intended as a set of properties that qualify a certain word as an adjective, I attempt to establish to what extent this class of compounds responds to the criteria defining adjectives. The investigation of this aspect, extended to the whole class of compound adjectives, will achieve quite uniform and predictable results showing low prototypicality and even marginality of many such forms, but the analysis has been firstly motivated and stimulated by participial adjectives, whose head constituents raise problems of lexical class identification.

1. Semantic and syntactic properties of adjectives

Despite the complexity of adjectives, lexical semantics has devoted to such class less extensive studies in comparison to nouns and verbs. Such complexity is the very reason for the lack of consensus in their classification and descriptions (including terminology). As reviewing the various proposals of classification for English adjectives is beyond my scope here, it is sufficient to introduce the essential aspects that define the class of adjectives regardless of different approaches.

Generally speaking, adjectives can be defined in terms of (i) their belonging prototypically to the semantic class of properties, and (ii) their having modification (of a noun) as the primary categorial function. (Bhat, 1994:16). In other words, they semantically denote qualities and pragmatically function as modifiers (Croft, 1991). Actually, this coarse-grained definition encompasses a remarkable variety of cases and behaviours. The grammatical category of English

adjectives is quite fuzzy and can only be defined by a set of complementary criteria, some of which apply to all adjectives and some to certain types only (Rusiecki, 1985). What is clear about adjectives is that there are subtle interactions between their semantic, morphological and syntactic behaviours, which need to be taken into account. (Peters&Peters, 2000).

The criteria generally recognised as essential to establish characteristics and behaviours of adjectives are syntactic position and gradability.

The syntactic criterion cuts across the second, i.e. gradability, which is mainly a semantic aspect (Rusiecki, 1985). We can actually claim that the two criteria are closely interwoven. The syntactic position regards the adjective's capability of occurring in attributive and/or predicative position, that is in front of the noun they modify, or as a complement of a copula verb. Adjectives that allow both positions are defined as central (Quirk, 1985), as for instance *funny*. More peripheral adjectives are attributive or predicative-only, as in the case of *simple (truth)* and *aware* respectively.

Gradability can be defined as a characteristic that subsumes in turn two properties, namely the capability of being modified by degree adverbials such as *very, quite, fairly* etc and that of appearing in a class of complex syntactic environments or “degree constructions” (Kennedy, 1999). Roughly speaking, degree constructions can be variously realised through degree morphemes like *-er, -est* or more analytic forms introduced by *more, less, as* etc, thus corresponding to comparative uses of the adjective. Of course, this notion crucially implies the existence of a scale, or a gradient property, in the semantic structure of the adjective (Bolinger, 1967), which does belong to all central adjectives. As a way of exemplifying, *pretty* implies a scale of degrees, while *alive* shows no such possibility.

Sue is *very pretty, prettier than/as pretty as/ less pretty than* Jane

vs.

*The dog is *very alive, *The dog is more alive/ less alive / as alive as*

Given their different behaviours, *pretty* and *alive* belong to two different

subgroups, i.e. gradable and non-gradable adjectives respectively. As noted by Dixon (1982), complementarity is a characteristic of non-gradable adjectives, since the denial of one term implies the assertion of the other and vice versa, as in *dead* and *alive*. Antonymy also pertains to gradable adjectives but, in this case, it implies a range of different degrees between the two opposite poles. It may be argued that certain non-gradable adjectives, like *dead* and *married*, may occur with degree modifiers as in “quite dead” and “very married”. However, these uses are marked and generally convey a ludic, humorous sense. In other words, some non-gradable adjectives can be coerced into having gradable interpretations in contexts that are otherwise incompatible with their canonical meanings (Kennedy, 1999: xiv). For this reason, they are considered pragmatic exceptions that do not deny the claim so far introduced.

The semantic distinction defined by gradability vs. non-gradability has syntactic implications in many cases, as already mentioned (Rusiecki, 1985, Peters&Peters, 2000). In fact, the majority of non-gradable adjectives present a restricted syntactic position, namely attributive-only. For instance, adjectives like *former* (*president*) and *mere* (*thought*), defined as non-inherent¹ by Quirk et al. (1985), are found in attributive position only and are non-gradable. Similarly, adjectives deriving from nouns like *polar* (*bear*) and *chemical* (*engineer*), defined by Warren (1984) as “classifiers” or more commonly as “relational”, neither allow gradation nor predicative use. Conversely, other non-central adjectives are predicative-only, the great majority of which can or must take complementation, as for instance *glad* (*about*) and *aware* (*of*) respectively.

2 Prototypicality

What clearly emerges from the adjectives’ reaction to the above criteria is that they do not behave uniformly. This suggests that the quality of adjectivehood is not discrete but scalar, since adjectives share some general basic characteristics but differ in various other respects. This concept is at the basis of the “centre-periphery” approach as dealt with in the Prototype Theory, developed by Rosch

¹As opposed to inherent ones, these adjectives do not describe directly a quality pertaining to the referent denoted by the noun.

(1978), Givón (1979), Dixon (1982), Lakoff (1987), Taylor (1989) and Croft (1991). This perspective, meant to discard the classical theory of categorization (Bhat, 1994), can account for the variability internal to the class of adjectives, as it claims that human categorization proceeds from more central to more peripheral instances, with the central members exhibiting the greatest number of properties, thus being prototypical of that category. Hence, prototypicality is based on the assumption that categories are characterised by a set of properties, which are realised by its members in varying degrees. As a result, the members of a class do not have an equal status but are aligned along a continuum.

Briefly summarising, prototypical adjectives allow

- (1) occurrence in attributive position
- (2) occurrence in predicative position
- (3) premodification by the intensifier *very*
- (4) comparative and superlative forms

The following paragraphs analyse the behaviour of compound adjectives in terms of adjectivehood by applying the criteria proposed above. The final purpose is to identify more prototypical formations, more peripheral ones and borderline cases and hopefully to discern patterns of regularity.

3 Adjectivehood and compound adjectives

I proceed to test the various subgroups of compound adjectives starting with those containing a proper adjective, subordinative firstly and copulative secondly, finally trying with the complex class of participial compounds. I have left out from my analysis those formations that I have defined as exocentric compounds and borderline cases for three main reasons. Firstly none of these formations contain a proper adjective nor a participle (that may share some common properties with adjectives), secondly their compoundhood is often in doubt and thirdly, their grammatical function is often ambiguous, often ranging from simple premodifiers of nouns to adverbial constructions.

The analysis is mainly based on the compound adjectives presented in chapter III, with the exception of participial compounds, which are drawn from FLOB and

FROWN corpora (introduced later in this chapter).

The examples used are sometimes inserted in the text and sometimes extracted from it for major prominence. In the latter case, they are preceded by capital letters that correspond to the abbreviations of the different adjectivehood criteria applied², as reported below.

A: attributive use

P: predicative use

G: premodification by *very*

comparison (degree constructs)

3.1 N-Adj endocentric compounds: Grading compounds

As regards grading compounds, subdivided into colour (or nuancing) compounds and intensifying compounds, I am going to test the assumption that, due to the inherent semantics of these groups (see chapter 3), they will probably reject gradability. The two subgroups are dealt with separately here below.

3.1.1 Colour compounds (nuancing)

Let us take into consideration a representative compound of this class and test it for all the criteria.

A this waterlily has [...] *salmon-pink* flowers (BNC, GV1)

P the flowers of this waterlily are *salmon-pink*

G *this waterlily has *very salmon-pink* flowers

 *the flowers of this waterlily are *more salmon-pink*

As regards the attributive and predicative use (A and P) of the compound adjective, the answer is clearly positive, while criterion G must be rejected, as predicted. As observed for English and other languages, such as Hungarian (Kiefer F. quoted in Szabo, 2001), basic colour adjectives allow comparative forms³, in opposition to complex colour adjectives. In fact, colour compounds

²I have substituted the numbers (1)-(4) used above for the same criteria for a more immediate recognition of their referents.

³Dixon (1982:19), though admitting it as a legal process, underlines that type of comparison in these cases is quite different with respect to other adjectives. In fact, by X is *redder* than Y, we

convey a precise shade of the colour described by the adjective through their nominal modifiers, thus preventing further gradation.

3.1.2 Intensifying compounds

Intensifying compounds are characterised by an adjectival head that is most frequently gradable, see for instance *sharp* in *razor-sharp*, *cold* in *ice-cold* and *new* in *brand-new*. It is remarkable to notice that these and many other adjectives in this group constitute the positive pole of an antonymic pair (for instance sharp-dull, cold-hot, new-old). In these cases, the compound adjectives can be freely used attributively and predicatively. As observed in chapter 3, these compounds do not denote a neuter degree of the quality conveyed by the adjectives, but a polar degree no longer modifiable. Therefore, further intensification like **very stone-cold*, other forms of modification like **quite razor-sharp* and degree constructs like **more ice-cold* are clearly unacceptable. Hence, we can claim that this subgroup is non-gradable. A final remark should be made on a minority of compounds like *stone/dog-asleep* and *stone dead*. Their peculiarity consists in the presence of a clearly non-gradable adjectival head that is paradoxically modified by a noun that intensifies the quality described by the adjective itself. As a consequence, these compounds represent marked instances in this group. As in the other compounds of this group, gradability is ruled out.

3.2 Time&space compounds

Dimensional compounds are characterised by a noun modifier defining a precise extension (both temporal and spatial) of the quality denoted by the adjective. Hence, we can predict that this group, like the previous ones, does not allow gradability. The adjectives involved in these formations are quite a limited set, namely *old*, *long*, *wide*, *deep*, *high*. Inside their scale of reference, they represent the positive antonymic pole, or +Pol-A (Bierwisch, 1988:88), that is the unmarked term in the antonymic pair. The unmarked term is characterised by the fact that it serves alternatively two functions, either the high or the neutral value on the scale, in which case it represents the underlying dimension as a whole

mean that both X and Y are red, but differ along the parameter of chroma or brightness.

(Rusiecki, 1987). For example, *old* represents the neutral value of the dimension “age”, as in “How old/young* are you?”

The adjectives involved in these formations are gradable but, as just mentioned, the noun modifier fixes the property described by the adjective at a certain degree along the scale, consequently preventing further gradation. Therefore, neither *knee-deep water* can be modified into *quite knee-deep water*, nor a *nightlong discussion* can be a *more/very nightlong discussion*. These examples confirm the above assumption that dimensional compounds cannot admit intensification, as they are normally non-gradable, because of their intrinsic semantic properties. Two exceptions to this behaviour are represented by the cross-category compounds *sky-high* and *skin-deep* that are at the borderline between “time&space” and intensifying compounds. These two conventionalised formations have partially lost connection with the object denoted by the modifier and have assumed a more metaphoric meaning, which draws them closer to the group of intensifying compounds, since no precise spatial extension is denoted anymore. I believe that the loss of this direct link to the referent conveyed by the noun is responsible for their acceptable use in intensified forms, as in the following examples.

(b) Most of the analyses of China are *very skin-deep*. People go to Beijing [...] and very naively they think, oh that’s it, China has embraced capitalism. (IWS, www.pbs.org)

(c) Some insiders blamed the bashing on those *very sky-high* hopes. (IWS, <http://query.nytimes.com>)

As regards the syntactic position of these formations, different behaviours can be noticed, as not all of them allow both positions. As emerging from the occurrences in the BNC, dimensional compounds show a neat preference for the attributive position, while for others it is the only position available. Indeed, compounds containing a modifier denoting a body part, as in *waist-high* and *ankle-deep*, admit both attributive and predicative positions.

(d) **P** We’re back in the trenches of World War One, it’s raining and The men are *ankle-deep* in mud. (BNC, K97)

- (e) **A** Firemen waded through *waist-high* water to pluck 50 more to safety. (BNC, CBF)

By contrast, compounds containing other spatial and temporal extensions can only appear attributively, while the compound is not acceptable predicatively and the property is analytically conveyed through an adjectival phrase. The following examples show these different behaviours.

Spatial extension:

- (f) **A** A *mile-long* queue of mourners carried a clack coffin to the Xinhua building. (BNC, A1V)
- (g) **P** [...] you will see the longest glacier in the eastern Alps the Pasterze, which is over *five and a half miles long*. (BNC, AMD)

Temporal extension:

- (h) **A** [...] She could hear her *three-year-old* son Rufus laughing as he played on the swings nearby. (BNC, A1X)
- (i) **P** When I was *five years old*, my father was arrested. (BNC, A0U)

The inflected nouns in examples (g) and (i) confirm the syntactic status of the constructions.

3.3 Restrictive/specifying compounds

As regards this large group of compounds, I can generally claim that the class allows both attributive and predicative positions with no particular restriction, while, concerning gradability, no real generalization can be made. Gradability depends on the semantics of the adjective head. This becomes clearer if we take into consideration two models of behaviour, namely the *-friendly* family and the *-free* family⁴.

In the *friendly* family, the adjective means “suitable for” as in *family-friendly* and “not harmful for” as in *dolphin-friendly* (CALD), thus partially developing a specialised meaning with respect to the original. In any case, the adjective

⁴As intended in chapter 3, namely groups of compounds sharing a common head.

describes a gradable property, as exemplified below.

(a) We are much clearer now than at the beginning about how to approach science in a *more girl-friendly* way. (BNC, CLW)

(b) Policies have their conditions and we try to make them *as user-friendly as possible* [...] (BNC, AKL)

Conversely, the *free* family does not allow gradation, due to semantic property of the adjective. *Free* in combination with a noun can assume different semantic nuances. Essentially, it can convey the idea of “without charges” as in *rent free* and *interest-free* and that of being “deprived of a substance or object” as in *alcohol-free* and *lead-free*. In both cases, a form of “absence” is conceptualised, which is prototypically a non-gradable notion, but rather a complementary one to that of “presence”. This means that a *quite salt-free diet* and a *more duty-free shop* are ruled out, given the non-gradability of the compound adjective.

However, two interesting exceptions are worth noticing. *Carefree* and *fancyfree* appear in degrees constructs, thus diverging from the standard behaviour of the family.

(c) Why then has a divorced man [...], used to a fairly *fancyfree* existence, decided to play the Good Samaritan to Bosnian refugees? (BNC, K97)

(d) But inside myself I felt younger, lighter, more carefree than ever before” (BNC, GV7)

(e) we was not quite as carefree as he had let them think” (BNC, GWG)

(f) [...] for six weeks she had enjoyed [...] the happiest and most carefree days of her life [...] (BNC, HGE)

Both compounds are highly conventionalised and have developed established autonomous meanings approximately corresponding to “independent and emancipated” and “calm and relaxed” respectively. The motivation for their becoming somehow gradable is not immediate, but I believe that their conventional status and therefore the overall meaning they have achieved have partially set them apart from the *free* family, so that they are now felt not so much

as members of it and have lost the property of non-gradability.

3.4 Ad-Adj endocentric compound adjectives: colour compounds and intensifying compounds

Compounds belonging to the colour subgroup, like *milky-white* are essentially central adjectives, as they allow both attributive and predicative position. Less homogeneous is their behaviour concerning gradability. In fact, it appears to be legal only in combinations containing *light* and *blue*, as in *very light green* and *very dark blue*. Conversely, all the other compounds do not admit such possibility, as in **very steely blue* or **very metallic grey*.

As for colour compounds, the intensifying group admits both attributive and predicative position, and it is therefore central in terms of adjectivehood. Conversely, gradability is quite obviously ruled out (see for instance **very icy-cold* and **very scorching hot*), due to the intensifying nature of the compounds themselves. Though very limited in number, two cases are attested (see BNC) that diverge from the general non-gradability of the class. These are *very wide open* and *very wide-awake*. Despite being quite marginal, the interesting aspect regarding these formations is the very possibility of further intensifying them, which may raise some doubts of the real nature of these formations, apparently leaning towards a phrasal status. In fact, the ambiguous value of *wide*, more probably adverbial than adjectival despite its form, makes such formations plausible, as it happens for proper phrases like *very blatantly indecent*.

3.5 Copulative compounds

In chapter 3, I have dealt with copulative compounds by looking at their morphological properties (combining forms, full adjective), the semantic relationship between their constituents (antonymic vs. non-antonymic), as well as the semantic relationship to their nominal heads. From this analysis, there emerged groups (appositional, coordinative, complementary) characterised by different semantic properties that were predictably to mirror differences in their adjectivehood.

3.5.1 Appositional compounds

I start with the analysis of appositional compounds that are characterised by two qualities participating together in the description of the nominal head. To this group belong both gradable and non-gradable adjectives.

Among gradable adjectives we find two subgroups, namely adjectives, as in *red-blue flag* and *grey-green eyes*, and antonymic pairs, as in *sweet-sour* and *tragicomic*. It is remarkable to notice that among colour compounds the adjectival behaviour is not homogeneous. Let us take into consideration the examples above and see how they react to their use in predicative position and, more importantly, to gradability.

- (a) **A** a *red-blue* flag
P the flag is *red-blue*
the flag is *red and blue* (this option is more acceptable to the informants' perception)
G * a *very red-blue* flag
- (b) **A** *grey-green* eyes
P her eyes are *grey-green*
G **very grey-green* eyes

In (a) predicativity is acceptable but the phrasal coordination of the two adjectives seems preferable, while it is clearly legal in (b). A possible motivation for this is that in (a) the qualities, though combined in a morphological unit, remain separate, while in (b) they convey a single property. Referring back to the semantic criterion of compoundhood, which requires the denotation of a unitary concept (see chapter 1, § 6.3), *red-blue* is less prototypical among compounds.

Both formations deny gradability because in (a) the two constituents identify two separate qualities, though contributing together to the description of the noun head, while in (b) they describe a precise shade of colour that is somehow established and cannot be further modified.

A very restricted number of cases, at least among established ones, is represented by antonymic adjectives, representing the antonymic poles a scale. In

terms of syntactic position, they appear quite freely in attributive and predicative position.

- (c) **A** a *sweet-sour* sauce
P the sauce is *sweet-sour*
G very *sweet-sour*
- (d) **A** a *bitter-sweet* emotion
P the emotion was *bitter-sweet*
G very *bitter-sweet*

Concerning gradability, these formations may give a positive response, as in cases like *very tragicomic*. In others, the response may be opposite.

As regards denominal adjectives, often describing provenance or connection to disciplines, as in *Afro-American*, *heroicomic* and *socio-economic*, gradability is ruled out. Their syntactic behaviours vary. Predicative position is fully acceptable for compounds in (e), hardly for (g), as relational adjectives contribute to the identification of the noun head simply, rather than adding an extra specification that could be predicated.

- (e) Afro-American
A an Afro-American girl
P she is Afro-American
- (g) socio-economic, gastro-intestinal
A a *socio-economic* issue, a *gastrointestinal* affection
P *the issue is socio-economic, *the affection is gastro-intestinal

3.5.2 Coordinative (and complementary) compounds

I move now to coordinative compounds, in which a “between relationship” with the nominal head is established. Let us look at a few examples and observe their behaviours. I begin by looking at their acceptability in different syntactic positions.

- (a) **A** the *Anglo-Irish* agreement --> **P** * the agreement is *Anglo-Irish*
 (b) **A** the *red-green* alliance --> **P** * the alliance is *red-green*

Both compound adjectives in (a) and (b) are implausible in predicative position. The reason for this unacceptability rests, in my opinion, on the relationship between the compound and its nominal head. As a way to test this claim, let us consider the same compound adjectives in combination with other nouns.

- (c) **A** an *Anglo-Irish* lawyer --> **P** the lawyer is *Anglo-Irish*
 (d) **A** a *red-green* flag --> **P** the flag is *red-green*

Indeed, in examples (a) and (b) the compound adjectives do not characterise the referent of the noun directly, in that nor the agreement is Anglo-Irish itself, neither the alliance is red-green in colour. As already mentioned, these compounds show a *between*-interpretation, consequently they must be interpreted as “the agreement is between English and Irish” and “the alliance is between the green party and the communist one (red)”. By contrast, the qualities denoted by the same compound adjectives applied to examples (c) and (d) actually describe their referents. Following Quirk et al. (1985), we can distinguish different semantic uses of these compounds. In (a) and (b) they are classified as non-inherent adjectives, since they do not describe directly the properties of the entity denoted by the noun, whereas in (c) and (d) they are defined as inherent because they do give a direct description of the entity denoted. The former semantic type is attributive-only, while the latter can freely occur in both positions.

As regards gradability, *Anglo-Irish* in example (a) is clearly non-gradable, as any other adjective denoting national appurtenance, which cannot be held for a gradable quality. Similarly, *red-green* (b) is non-gradable because the colour adjectives do not denote actual colours but appurtenance to a political party, metaphorically conveyed through colours.

The behaviour of what I call disjunctive compounds is similar to that of coordinative, as emerging from the examples below.

(e) **A** the temperate and polar regions have passed through a dozen or more *warm-cold* cycles > **P** *the cycles are warm-cold

(f) **A** the growing season with *hot-cold*, *wet-dry* combinations from year to year > **P** *the combinations (of the growing season) are *hot-cold*, *wet-dry*

There emerges that both adjectives are essentially attributive-only. As in (c) and (d) the compound adjective does not describe directly the quality of the entity, hence it can be defined as non-inherent. In effect, *warm-cold* in (e) does not define the cycles themselves, but rather the seasons that build up the cycles. In addition, although the adjectives are formally antonymic, they do not work as such in this context given that the cycles are not cold and warm simultaneously, but rather in alternation. In other words, they define the nominal head paradigmatically. The same characteristics hold for *hot-cold*, *wet-dry combinations* in (f).

The observations made so far on coordinative compounds reveal that they are more peripheral with respect to copulative compounds because they are generally attributive-only and do not allow gradability.

3.6. Participial compounds

3.6.1 -ing PCAs

The first large group I deal with is that containing present participles preceded by left-hand constituents belonging to the lexical classes of nouns, adjectives, adverbs and pronouns (represented by *self*)

As regards the largest group of N-*ing* participles, two preliminary distinctions should be made in order to identify these formations efficiently. Firstly, proper – *ing* participle compound adjectives (*ing*PCA, henceforth) should be distinguished from inflected forms of compound verbs, such as *sunbathe* and *chain-smoke*, as in sunbathing and chain-smoking.

Secondly, they should be differentiated from activity nouns occurring in attributive position. Though formally identical, in the latter, unlike participial compound adjectives, the external nominal head to which the activity noun refers

cannot be regarded as the external argument (often the agent or the instrument) of the verb contained in the participle. The following examples make clear this basic difference between these formations.

ACTIVITY NOUNS

(c) Plagued by high unemployment and a weak election-year economy,

President Bush on Monday proposed a \$2-billion-a-year package of new and retooled *job-training* programs and said they could be paid for without raising taxes. (Frown A)

(d) Controversial *low-flying* training by fighter jets is to be cut by almost a third over the next three years, junior Defence Procurement minister Kenneth Carlisle announced. (Flob A)

–ING PARTICIPLE COMPOUND ADJECTIVES

(e) There's no mystery about Geroge Bush. He's the *broccoli-hating*, dog-loving, war-winning president who wants to devote the same energy to America's problems that he's applied to crises overseas. (Frown A)

However, it is worth noticing that such distinction is not always so clear-cut, as for instance in *money-raising organization* and *money-raising event*, which represent borderline cases, since the compound can be variously interpreted as an activity noun, in particular the first case (i.e. organizations for money-raising) or as an adjective (i.e. organizations that raise money). Both interpretations are legitimate and the context seems unable to solve the problem, determining a preferential analysis.

3.6.1.1 N-*ing* PCAs

This is the largest group among *-ing* participle formations. Looking at the semantic relationship between left-hand constituents and heads, we notice that the great majority of these compounds is synthetic. Actually, 67 out of 68 compounds examined exhibit an obligatory semantic argument of the verb as a left-hand constituent. The semantic arguments realised vary depending on the semantics of the verb, but mapping them onto syntax, we notice that the left-hand constituents

represent the direct object of the verb in all transitive cases. Only 3 compounds present intransitive verbs, namely *convention-going clients* (n. appendix B, app.B henceforth) and *floor-standing lamp* (n. app.B) and *Portuguese-speaking* (n., app.B). The first is fully synthetic because the noun constitutes the necessary requirement in the semantics of the verb *go*, that entails an action of movement towards a goal (syntactically the noun fills the slot of an indirect object), while the second and the third are non-synthetic, since the nouns provide optional information not required by the verb, that is a spatial adjunct and manner adjunct respectively⁵.

The neat predominance in the corpus of synthetic compounds over non-synthetic ones seems to qualify argument structure realisation as a preferential route to the formation of PCAs.

Turning now to the adjectival behaviour of these formations, I observe that all the N-*ing* PCAs occur in attributive position. as premodifiers of nouns, inside the corpus. Testing them for gradability and predicative position⁶, there emerges that the great majority of them respond negatively to both tests; hence most of them function exclusively as premodifiers (see for instance *life-saving (robot)*, *loss-making (company)*). However, I have identified few interesting exceptions, listed below. All the examples show a certain degree of conventionalisation and a more than incipient stage of lexicalisation. In many cases they are related to emotional states and are characterised by a figurative, intensifying meaning.

1) eye-catching

- A** an *eye-catching* victory (app.B)
P,G that victory was *very eye-catching*

2) stomach-churning

- A** the *stomach-churning* massacre of Tiananmen (app.B)
P,G the massacre in Tiananmen was *very stomach-churning*

3) breathtaking

- A** picturesque villages, and *breathtaking* views (app.B)

⁵ Formations of these two kinds are wrongly equated by Marchand in his classification (1969)

⁶The acceptability has been crosschecked by means of the examples contained in the BNC, as well as through the linguistic competence of native speakers.

P,G that view was the *very breathtaking*

4) toe-curling

A an occasion of toe-curling embarrassment (app.B)

P,G the embarrassment was *very toe-curling*

5) heart-stopping

A the *heart-stopping* terror that Lean managed to inject into the scene (app.B)

P the terror that Lean managed to inject was *heart-stopping*

G * the terror was *very heart-stopping*

6) thought-provoking

A a *thought-provoking* controversy (app.B)

P,G the controversy was *very thought-provoking*

7) earth-shattering

A They needn't even be *earth-shattering* events. (app.B)

P,G the events needn't be *very earth-shattering*

8) mind-boggling

A they are inefficient on a *mind-boggling* scale (app.B)

P,G their inefficiency is *very mind-boggling* than I suspected

These compounds clearly admit predicative position and gradability to a certain extent, although their meanings (especially figurative ones) already provide a non-neutral degree of the quality, but quite the opposite. Indeed, they already exhibit some superlative function, as it clearly emerges from their definitions. Therefore they represent borderline cases within the class.

What emerges is that conventionalised meaning seems to be the key to the use of N-ing PCAs in predicative position and partly in gradable expressions. In addition, in semantic terms, they are easily suggestive of a synonymic adjectival counterpart. All these characteristics seem to link them closely to an adjectival status, at least to our perception. By contrast, less conventionalised cases are not eligible for the same straightforward paraphrasing, as illustrated below.

e.g. *eye-catching victory* > noticeable, striking, attractive
stomach-churning massacre > revolting, disgusting, extremely unpleasant
earth-shattering events > shocking, surprising

vs.

e.g. *Season-opening win* (n.42, app.B) > ?
war-winning president (n.40, app.B) > victorious??
jet-leasing companies (n.37, app.B) > ?

At the same time, the latter cases obviously reject intensification and predicative position, as exemplified below.

P *the win is *season-opening*
G *a *very season-opening* win

P *the president is *war-winning*
G *the *very war-winning* president'

P *the companies are *jet-leasing*
G *the *very jet-leasing* company

These different behaviours seem to speak in favour of an important role played by conventionalisation and lexicalisation in the achievement of a higher adjectival status of these formations in comparison to non-lexicalised ones.

3.6.1.2 Adj-*ing* PCAs

This group of compounds is characterised by an adjective as a left-hand constituent followed by a present participle that often belongs to the class of “verbs of perception”, as in *foul-smelling*. These compounds can be labelled as synthetic (SPCA), since the adjective represents an obligatory contribution to the meaning of the verb, namely their copulative complements. In particular, the verbs of perception here function as copular or linking verbs (equivalent to the *be* copula) and take an adjectival complement. These verbs are usually defined as current copulas because they are mainly stative and do not co-occur with the progressive aspect in syntactic constructions, in contrast to the resulting copulas, such as *become*, *grow*, *turn* and *get* (Quirk et al. 1985).

Within my corpus, they Adj-*ing*PCAs constitute a limited set, but their productivity is practically unlimited, especially for the verb *look*. Their occurrence is much higher in narrative and poetic texts, since these formations basically serve a descriptive purpose. Therefore, their low frequency in the present corpus is

motivated by the characteristics of journalistic language, which is much more concerned with facts than with descriptions.

This pattern is represented by 9 occurrences appearing in attributive position, 8 of which combining with the verb *look*, as illustrated below.

-looking

- 1) **good:** A a big, *good-looking* bodyguards
 P,G the bodyguard was big, *very good-looking*

Good-looking represents an extremely lexicalised case and therefore has the characteristics of a fully prototypical adjective. The remaining cases are less lexicalised and their behaviour is less homogeneous.

- 2) **young:** A a *young-looking* man
 P the man is *young-looking*
 G a *very young-looking* man

- 3) **tatty:** A John Gunter's [...] *tatty-looking* sets
 G John Gunter's [...] *very tatty-looking* sets
 P ?the sets are *tatty-looking*⁷

- 4) **youthful:** A the still *youthful-looking*, but seasoned Susanna
 P the *very youthful-looking* Susanna
 G Susanna is *youthful-looking*

- 5) **great:** A *great-looking* women
 P ?those women are *great-looking*
 G *those women are *very great-looking*

- 6) **intense:** A an *intense-looking* conductor
 G the *very intense-looking* conductor
 P ?the conductor is *intense-looking*

- 7) **ethereal:** A the *ethereal-looking* young clergyman
 G the *very ethereal-looking* young clergyman
 P ?the young clergyman is *ethereal-looking*

- 8) **sharp:** A a *sharp-looking* production
 G a *very sharp-looking* production
 P ?the production is *sharp-looking*⁸

⁷ The native speakers consulted admitted uncertainty especially with the P construction.

⁸ As in note 54.

-smelling:

9) foul:	A	a <i>foul-smelling</i> wrack
	G	* a <i>very foul-smelling</i> wrack
	P	? the wrack is <i>foul-smelling</i>

All the compounds, with the exception of *great-looking* and, to some extent, *foul-smelling*, exhibit gradability that, in turn, depends on the gradability of the adjective in left-hand position. The non-gradability of *great-looking* is obviously motivated by the non-neutral degree of the adjective. Indeed, *great-looking* can be seen as an intensified form of *good-looking* because its meaning approximately corresponds to “very good”. This explains why further intensification is hardly acceptable. Similarly, *foul* expresses already a high degree, namely “extremely unpleasant” (CALD), which prevents intensification.

Concerning the use of these formations in predicative position, *good-looking*, being highly conventionalised, behaves as a prototypical adjective and accepts predicative use. The other cases are less clear. Although the predicative use cannot be ruled out, it seems quite dispreferred, as it competes with the well-established syntactic construction “X looks Y”.

3.6.1.3 Self-ing PCAs

This group represent a limited set in my corpus (only 10 occurrences). However, this type is particularly interesting due to the morphological-lexical nature of the left-hand constituent and to its wide productivity⁹.

Actually, *self-* is characterised by a special lexical status. As regards its role in adjectival formations, it can constitute the left-hand constituent in three combining patterns, namely with *-ing* participles, as in *self-pitying*, with *-ed* participles, as in *self-contained* and with proper adjectives, as in *self-indulgent*. As remarked by the OED, *self-* is used as a prefix, since it does not occur in

⁹ According to the OED, *self-* “first appeared as a living formative element about the middle of the 17th century, probably to the a great extent by imitation or reminiscence of Greek compounds in *αὐτο-*. The number of *self-* compounds was greatly augmented towards the middle of the 17th cent., when many new words appeared in theological and philosophical writing.

isolation¹⁰ but only attached to a root and in left-hand position. However, unlike prefixes, *self-* has no stable meaning. It is basically an empty element that is filled in context, either exophorically or endophorically, as pronouns do. Strangely enough, Adams (1973) includes these formations within the N-verbal adjective and the N-verb-(*ing*) groups with no distinction from standard nouns. Differently, Marchand (1969) classifies it more coherently into three groups depending on the right-hand constituent, namely pronoun-adjective, pronoun-first participle and pronoun-second participle. Indeed, despite its formal peculiarity, *self-* appears to be adequately classifiable as a reflexive pronoun. As regards its relationship to the *-ing* participle, *self-* fills the slot of an argument required by the verb, thus producing synthetic compounds. In particular, the semantic role of *self-*, mapped onto syntax, represents the most productive expression of the direct object of the predicate (Safir, 1996).

Though absent from my corpus, we should not neglect the technical use of *self-* to form compounds designating machines and processes that are activated or performed without human intervention, as in *self-winding (watch)*, *self-cleaning (device)* therefore paraphrasable as automatically operating¹¹.

The corpus contains only 11 occurrences of this patterns, most of which highly conventionalised. Testing the compounds for syntactic position we notice that they tend to be generally central as regards their acceptability in predicative position (4 of them occur in predicative position in the corpus already).

1) self-seeking (2 occurrences in attributive position)

A this is not merely another *self-seeking* manoeuvre.

P this manoeuvre is *self-seeking*

G this manoeuvre is *very self-seeking*

2) self-loving

A self-loving Orsino

P *Orsino is *self-loving*

G ? *very self-loving* Orsino

3) self-governing

¹⁰ At least not with the same meaning. Psychologically speaking, the self is a noun and refers to one's the basic personality (CCED).

¹¹ We are going to see later on in the chapter, the behaviour of *self-* in combination with *-ed* participles.

- A self-governing Trust
 P the Trust became *self-governing*
 G *the Trust is *very self-governing*

4) self-defeating (3 occurrences in predicative position)

- P this campaign is ultimately *self-defeating*
 A this *self-defeating* campaign
 G a *very self-defeating* campaign

5) self-fulfilling

- A It's a *self-fulfilling* process
 P the process is *self-fulfilling*
 G * a *very self-fulfilling* process

6) self-pitying

- A he *self-pitying* alcoholic genius Tony Hancock
 P,G Tony Hancock is *very self-pitying*

7) self-serving

- A a *self-serving* account of the Bush administration's failure
 P,G this account is *very self-serving*

8) self-deprecating

- P,G Ronald Reagan managed [...] to be charmingly */very self-deprecating*
 A the *self-deprecating* Ronald Reagan

As regards gradability, most of the compounds encountered are conventionalised and can be easily paraphrasable with gradable adjectives. The exception is *self-fulfilling*, which is clearly non-gradable, while some doubts can be raised for the less conventionalised *self-loving*. While avoiding strong generalizations on the whole class, the occurrences in the corpus show that are to be collocated close to prototypical compounds.

3.6.1.4 Adv-ing PCAs

This group has the peculiarity of containing left-hand constituents that clearly have an adverbial function, but that may be formally identical to adjectives. Besides the presence of numerous homomorphic adjectives and adverbs like *fast-growing*, *hard-working*, *low-paying* and *long-standing*, the default adverbial suffix *-ly*, for those adverbs that admit it as in *newly-emerging*, is often dispreferred in favour of a formal realization identical to the adjective, as for instance in *wide-ranging*, *slow-paying* and *free-flowing*. Although it is not clear

what determines such choice, this might also derive from mere parallelism with syntactic structures, as in “slow in paying”.

In morphological terms, these compounds represent non-synthetic compounds in that the left-hand constituents add extra information but fulfil no argument requirement of the verb. Thus, they cover the role of adjuncts. The choice of the adjunct, i.e. spatial, temporal, or manner, is determined by the semantics on the verb as well as by the context of occurrence. Clearly, a verb of motion has a high probability of taking a spatial adjunct as in *far-reaching treaty*, although it may be the case that some adjuncts achieve a metaphorical meaning, blurring the distinctions between space and manner, as in the above-mentioned *far-reaching*, and between time and manner as in *ever-changing*.

In the corpus, there are 44 occurrences of the *adv-ing* participle pattern, many of which are highly lexicalised forms like *hard-working*, *long-standing*, *wide-ranging*. It is worth noticing that all the instances occur in attributive position, which at least denotes a strong preference, if not a constraint.

By testing these formations for gradability, we might expect that most of them will respond positively, given that intensification of an adverb through *very* is quite straightforward. In this sense, we observe an interesting fact. As remarked by Borer (1990), the intensifier *very* seems to modify the adverb preceding the participle only, rather than the whole compound. This aspect may somehow leave doubts on the actual nature of these formations, whether compounds at all.

The test on the various occurrences basically confirms the prediction made above. Most of the compounds allow gradation with few logical exceptions. One of these is represented by cases like *ever-growing* (n.26, app.B) and *never-ending* (n.16, app.B), in which the frequency adverbs cannot be further modified, as they constitute the opposite poles in the scale of adverbs of frequency. Two dubious cases are represented by *longest-serving (member)* (n.13, app.B) and *best-selling (text book)* (n.15, app.B), in which the adverbs are in their superlative form and consequently should not be further intensified. However, this seems to be questionable, since non-periphrastic superlatives, like *best* and *longest*, may be premodified by *very* under the condition of being preceded by a determiner (Quirk et al, 1985: 474), as in the following example.

(the) youngest

the very youngest

**very youngest*

We must observe, though that *very*, in this case is a special use: absolute intensification of the adjective, similar to the so-called “excessive”, as found in many Germanic languages (Dressler&Merlini-Barbaresi, 1994).

In morphological terms, what is interesting to notice here is the markedness of these formations that realise derivation inside the compound instead of outside (as in “the most long-serving”). This clearly represents a marked case in compounding (see more in chapter 1).

At a closer investigation, the most interesting as well as the most questionable aspect regarding this pattern is the doubtful morphological status of certain formations, which becomes clearer in predicative position. Besides many conventionalised cases, whose status of compounds is evident, many *ad hoc* formations in predicative position raise doubts on their compound vs. phrasal nature. This problematic aspect has been already pointed out by Adams (2001), who proposes to look at the semantic and syntactic value of these formations in context in order to disambiguate. According to Adams, it is crucial to distinguish between *-ing* participles with a progressive function and *-ing* participles with a more property-denoting function. In the first case the formation is no more than a phrasal construction, whereas in the second it can be accounted for as a compound. This test appears to be particularly convenient when the formation under investigation is collocated in predicative position, which I have done for my data.

Scanning the occurrences (both in attributive and predicative position) and taking the context into consideration, I have observed that the great majority of cases clearly show a property-denoting function (prototypically represented by *hard-working*), while in two cases only the verbal force of the combination is preserved and therefore the participle can be interpreted as progressive, as illustrated below.

- A** the *newly-emerging* democracies of Eastern Europe (n.1, app.B)
P ?the democracies of Eastern Europe are *newly emerging*

A	<i>rapidly-changing</i> exchange rates (n.6, app.B)
P	?the exchange rates are <i>rapidly changing</i>

Although I can claim that most cases show property-denoting participles, for some others the demarcation between compound and syntactic phrase is not so straightforward, mainly for those formations containing a temporal adverb, as in the following cases.

Long-suffering husband and daughter ()

Ever-changing Folk interpretations ()

Fast-growing countries ()

3.6.2 -ed PCAs

I have so far dealt with the various subgroups of *-ing* participle compound adjectives realised with different modifiers. I now move to *-ed* participle compound adjectives that represent the largest group of participial compound adjectives in the corpus. My analysis keeps the same method adopted so far. As in the other group, the subcategorisation follows the lexical class of the left-hand constituent.

3.6.2.1 N-ed PCAs

Within this large group of compounds the left-hand constituent mostly constitutes the agent, as in *Serb-dominated* (n.4, app.B), the instrument, as in *propellor-driven* (n.23, app.B), or the cause, as in *grief-stricken* (n.18, app.B)¹², with few exceptions as in *Winchester-educated* (n.5, app.B). In fact, in this latter compound the noun does not play an agentive/instrumental role and thus does not satisfy any essential requirement of the verb. What *Winchester* actually conveys is additional locative information, which qualifies it as a locative adjunct. This last example highlights an important distinction mentioned earlier in the chapter (see §

¹²Actually, this is quite straightforward given that past participles have a passive function.

4.6.2.1), namely that between synthetic (SPCA) and non-synthetic participial compound adjectives (NSPCA)¹³.

The NSPCAs are illustrated below, divided into groups according to the type of adjunct¹⁴.

Spatial adjunct:

1. Winchester-educated (app.B)
2. Devon-registered (app.B)
3. Factory-prepared (2 occ.) (app.B)
4. U.S.-trained (app.B)
5. China-made (app.B)
6. U.S.-built (app.B)

Adjunct of manner:

7. bulk-purchased (app.B) (purchased in bulks)
8. jam-packed (app.B) (extremely crowded or full to capacity, COED)
9. heart-felt¹⁵ (app.B) (sincere, COED)
10. hand-painted (app.B) (painted by hand)
11. spit-roasted (app.B) (raosted on a spit)

As regards this second group, we notice from the definitions that some compounds have become lexicalised, see for instance *jam-packed* and *heartfelt*, so that the former has also given rise to the verb *jam-pack* (AHD). In other cases, as in *bulk-purchased*, the compound might be derived from an activity noun like *bulk-purchasing*.

In a more general perspective, we notice that, with a ratio of 11:136 on the total instances of N-*ed* participle compound adjectives, NSPCAs represent a very limited set in comparison to SPCAs, which again seems to support the idea that argument realisation may be the preferential route to the production of these compounds.

Another remarkable case within this pattern is represented by those compounds allowing a double morphological reading. As already observed in chapter 3 (see §5.2), certain formations allow two optional interpretations, namely

¹³These formations should not be confused with cases like *code-named* that is not the result of a direct process of compounding. Indeed, it is the inflected form of the verb *code-name* that, in turn, derives through conversion from the corresponding nominal compound.

¹⁴It is worth noticing that no temporal adjunct was found in the corpus.

¹⁵As observed by Marchand (1969), here we can also retrace a more literal notion of space.

as a derivative and as a compound. This is the case of the numerous compounds containing *-based*, *which*, in a journalistic corpus, have the important function of providing the spatial setting of the events presented. However, besides cases containing a proper noun indicating a city or a nation (see A), *-based* is also found in combination with other nouns (see B), though keeping a double morphological interpretation.

-based:

A) Leicester, Rhode Island, Northampton, Glasgow, Bradford, Salford, London, Dunblane, Surrey, Tehran, Fiskerton, Cairo, Los Angeles (2 occ.), Colorado, Seattle, Houston, Dallas, Los Angeles, New York, Philadelphia, Decatur (3 occ.) , Ala, Hollywood, Osaka, Minnesota, Paris

B) income, Schlegel, Folk-music, community (2occ.),

All the cases in A admit a double morphological analysis. Given the identical behaviour of these formations, I illustrate one for all. *Leicester-based* can be paraphrased as “positioned/located in Leicester” [(Leicester)-(based)] and as “having a base in Leicester” [(Leicester-base)-ed]. In the first case, it is clearly participial compound adjectives, whereas in the second it is a derivative formation characterised by a complex base, i.e. Leicester-base, followed by a derivative *-ed* suffix, meaning “possessing, having”. None of the two options can be ruled out and the context does not contribute to disambiguation. The same double analysis holds for few more similar cases in the corpus, namely *cone-shaped* (n.46, app.B), *V-shaped* (n.81, app.B), *corkscrew-shaped* (n.135, app.B), *snow-capped* (n.52, app.B) and *vinegar-flavored* (n.111, app.B), since both *shape* and *flavor* can be nouns as well as verbs.

Moving now to the adjectival status of these formations, I shall begin by observing that the great majority of occurrences corresponds to compounds in attributive position. More precisely, the attributive-predicative ratio is 130:6. This tendency represents a significant preference, which also parallels the behaviour of *-ing* participle compound adjectives. The acceptability test for predicative position, crosschecked with native informants, has shown that basically all of them are legal in predicative position, but they represent a more marked,

dispreferred choice in comparison to the attributive one. In order to find support to this claim, I have queried the BNC on five N-*ed* participle compound adjectives; the first three of them are taken from my corpus, while the other two are external. The aim of the test is discovering tendencies on a statistically significant number of occurrences both for less conventionalised/lexicalised and more conventionalised/lexicalised formations. Thus, I have selected *London-based* because of the frequency of the N-*based* pattern in my corpus, *HIV-infected* (though far less frequent) for the social importance of the phenomenon that may result in a good number of occurrences in the BNC and *heartfelt* in order to test lexicalised cases. The remaining two compounds are *state-owned*, as a likely more frequent variant of *majority-owned* contained in my corpus, and another lexicalised formation, i.e. *handmade*.

Compound	Attributive position	Predicative position
London-based	280	7
HIV-infected	47	2
Heartfelt	130	18
State-owned	398	19
Handmade	121	21

The table seems to confirm a clear preference for the attributive use. The tendency is much evident in non-conventional formations, but it also holds for lexicalised ones, although they proportionally show a slightly higher number of predicative occurrences. This preference is also confirmed by querying the BNC for some paraphrases approximately corresponding to the meaning of the compound.

Phrasal construction	Compound in predicative position
based in London (92 occurrences)	London-based (7 occurrences)

Phrasal construction	Compound in predicative position
infected with/by HIV (87/4=91 occurrences)	HIV-infected (2 occurrences)
owned by the state (19 occurrences)	State-owned (19 occurrences)

The table highlights a remarkable asymmetry corresponding to a clear preference for the use of a syntactic construction instead of a compound adjective in predicative position, with the exception of *state-owned*. This aspect is quite interesting, but further specific investigations are needed to better understand such behaviour. Far from considering these formations attributive-only, we can claim that the attributive position seems to be the default use.

As regards gradability, the *very* test gives homogeneous results. The compounds respond negatively, with the exception of lexicalised forms like *heartfelt* that assumes the characteristics of a gradable adjective describing emotional quality and *male-dominated*, easily paraphrasable as “chauvinistic”.

3.6.2.2 Self-*ed* PCAs

Although my corpus presents a limited number of occurrences (20), this is actually a very productive pattern, as observed for the *-ing* participle. In the *-ed* participle pattern, the reflexive pronoun *self-* plays an agential role. Despite few exceptions, as in *self-addressed (envelope)* (Quirk et al.1985), i.e. “addressed to oneself” and *self-interested* (n.1, app.B) “interested in oneself”, *self-* compounds show a rather regular semantic relationship between the constituents, in contrast with the “latent ambiguity” claimed by Meys (1975). In any case, they represent synthetic compounds.

As regards their adjectival behaviour, occurrences in attributive position are more frequent than predicative ones (14:7). Predicative use, also tested on other *self-* *ed* participle compound adjectives (not in the corpus), is generally allowed, though less frequent than attributive position. However, it is worth noticing that few cases are actually hardly acceptable in predicative position, due to the semantics of the verbs involved, as in the case of *self-identified*, *self-confessed*

and *self-proclaimed*. In fact, it appears clear that the compound must precede a noun, as in the following examples.

1) **A** the *self-proclaimed* candidate of 'change,' Barbara Boxer (n.15, app.B)

P *the candidate [...] is *self-proclaimed*

2) **A** a *self-confessed* druggie (n.16, app.B)

P *the druggie is *self-confessed*

3) **A** his *self-anointed* title > **P** * his title is *self-anointed* (n.18, app.B)

As regards gradability, the issue seems to be more complex. The table below summarises, two different behaviours.

Gradable	Non-gradable
Self-interested	Self-made
Self-controlled	Self-imposed
Self-satisfied	Self-identified
Self-absorbed (3 occ.)	Self-induced
Self-assured	Self-guided
	Self-funded
	Self-inflicted
	Self-proclaimed (2 occ.)
	Self-confessed
	Self-anointed
	Self-induced
	Self-taught

The question arising here regards the cause of gradability and non-gradability. I believe that the reason has to be found in the participles involved. Indeed, lexicalised cases like *self-satisfied*, *-self-assured*, *self-controlled*, *self-absorbed* and *self-interested*, have acquired the status of gradable adjectives, as demonstrated by their use in isolation and the positive result of the “remain test”

(Levin&Rappaport, 1986). The test is meant to prove the presence of a stative quality, typical of adjectives, attached to the participle. According to the test, participles correctly functioning as complements of verbs like *sound*, *look*, *remain* and *seem* can be considered as proper adjectives. The participles above seem to respond positively to the test and can be therefore accounted for participial adjectives. In other words, they have partially lost their verbal force (Huddleston, 1984) in contrast to other participles, which remain clearly verbal. Briefly summarising, self- *ed* participle compounds show different degree of adjectivehood depending on the main grammatical characteristic of the participle involved.

3.6.2.3 Adj-ed PCAs

This pattern, in which an adjective modifies a past participle, is very little represented in my corpus, but is dealt in some detail by Mackenzie & Mel'čuk (1986), who observe, instead, its great productivity. The authors include in it all first terms denoting nationality, such as *British-made* and *French-built*, claiming that they can either have an agentive role or a locative function. Personally, I have included cases of this type within N-*ed* PCAs when the role was clearly agentive in context. In fact, although the left-hand element is formally adjectival, it takes on a nominal function through a common process of conversion from adjective to noun, as in case of *the Blind*. Consequently, I would rule them out of this subgroup.

A different case is constituted by compounds like *Italian-born* (n.1, app.B) and *British-born* (n.2, app.B), in which the left-hand elements plausibly play a locative function, if paraphrased like “born in Italy/Great Britain”. However, it can also be interpreted as “born as an Italian/a British”. In this second case, the appurtenance of these compounds to this group is dubious. What emerges from these observations is that the pattern appears to be rather problematic in the lexical analysis of the constituents, as well as in their semantic interpretation.

Looking at their adjectival function, these formations, tested on the BNC and crosschecked with the informants, have demonstrated a clear preference for the

attributive position, although predicative use cannot be excluded. As regards gradability, their response to the test is predictably negative.

3.6.2.4 Adv-*ed* PCAs

This pattern represents one of the most frequent in my corpus, together with N-*ed* participle compound adjectives. It is larger than the corresponding pattern in *-ing*, but shares with it various characteristics and raises quite the same doubts.

In terms of morphological analysis, these compounds are generally non-synthetic, since the left-hand constituent does not represent any internal argument of the verb, but rather an adjunct. In comparison to the *-ing* pattern, this one contains a large number of conventionalised forms with recurring left-hand constituents like *ill-*, *well-*, *long-* and *much-*.

As regards compoundhood, this pattern, as its counterpart in *-ing*, raises problems in recognising and distinguishing phrases from proper compounds. As we have seen in chapter I, this is not a matter of easy solution, especially for certain categories. Bearing in mind that hyphenation is absolutely irrelevant to establishing compoundhood, Adams (1973, 2001) proposes a diagnostic test to identify compound formations in this pattern. The test (1973), relying on the idea that compounds are units, consists in omitting the left-hand constituent in order to verify if the right-hand element can stand alone. If so, the formation is more likely to be considered as a phrase, in which an adverb modifies a verb (here a participle). In this case, *a *(spiritually)-orientated millionaire* gives a negative result and therefore should be considered as a compound adjective. By contrast, in *(well)-planned recycling* the omission is plausible and therefore, this formation could be a simple phrase, despite the much lexicalised status of formations containing *well-*. Indeed, this is also coherent with the stative value achieved by this participle (or “statal passive” as defined by Quirk et al., 1985), in contrast to more process-denoting participles. Similarly, if we consider formations like *(nearly)-forgotten singers*, the participle can stand in isolation, thus it is more likely to be accounted for as a phrasal construction (compare to *spiritually-orientated*). Conversely, in a lexicalised case like **(wide)spread hunger*, the participle in isolation is not admissible, which attests a compound status.

The scholar also claims that the compound status of participial formations containing adverbs can be recognised¹⁶ by the impossibility of changing the order of the constituents in predicative use; hence *a close-knit ensemble* cannot be converted into **an ensemble that is knit close*. In this case, the formation is clearly a compound. More generally speaking, combinations other than *-ly* adverbs respond negatively to the inversion test, hence they can be generally considered as compounds (Adams, 2001).

These tests may help defining general lines of behaviour, but the question of compoundhood for these formations is sometimes even more complex. In any case, an achieved lexicalised status, see for instance *new-born*, *ill-advised* and *far-flung*, contributes to clear the field from doubts and to decide for compoundhood.

Looking at the left-hand constituents in the corpus, we notice some recurring elements in polar opposition, some of which are particularly productive. They are listed below with their occurrences.

+ Pol	- Pol
<i>Best</i> 9	<i>Worse</i> 1
<i>Long</i> ¹⁷ 13	<i>Short</i> 1
<i>Much</i> 5	<i>Little</i> 1
<i>Well</i> 24	<i>Ill</i> 9

There emerges from the table that formations containing the positive pole are generally more frequent than the negative ones, thus confirming their unmarked status and a common intensifying function of many of these compounds.

Another observation drawn from the corpus regards the nature of the *-ed* participle, which can be either passive as in *long-forgotten* or active as in *plain-spoken*. The great majority of cases is represented by passive participles, which derive from transitive verbs, while only a restricted minority is made up of active participles from intransitive verbs.

¹⁶Again relying on the notion of compound as a unit (see chapter I).

¹⁷I have also included comparative and superlative degrees.

As regards the syntactic position of these formations, the corpus shows that most of them, although mainly appearing in attributive position, admit predicative use.

Concerning gradability, the *very* test demonstrates that the majority of cases is gradable, with some specific exceptions. This happens for compounds containing adverbs in the comparative form, as in *better-known*, *longer-established*, or in the superlative form, as in *hardest-pressed*, *worse-placed*, *best-crafted*, *best-known*, *best-loved* and *best-placed*. In such cases, the non-neutral degree of the adverb clearly prevents further gradation. From a morphological point of view, it is interesting to notice that inflectional suffixation occur inside the compound, as in *longer-established*, and not outside, as it might be in *more long-established*. These represent marked cases of compounding (see chapter 1, §6.1), since both derivation and inflection generally occur at the two ends of the compound. This may also raise doubts on the real nature of these formations, since compounds are conventionally considered atomic units.

Bearing in mind their complex morphological status, we can generally claim that, at least for lexicalised cases, the adjectival status of Adv-*ed* PCAs is rather close to prototypicality.

3.6.2.5 Conclusions

In this chapter, I have attempted to test for adjectivehood the various patterns of compound adjectives in order to evaluate their degree of appurtenance to that class. Once more, what emerges from the observations is a rather heterogeneous frame, ranging from extremely peripheral formations, allowing attributive position only, to more central ones admitting both attributive and predicative use and, finally, to more prototypical cases showing gradability. Given such variability, to which lexicalisation significantly contributes, the issue remains rather complex to unravel, in particular with reference to participial compounds.

Conclusions

Compound adjectives seemed a promising area of investigation - and studying them has actually proved fruitful - because the phenomena to be analysed were a large variety of types and their treatment was full of open problems, still lacking systematic and convincing solutions. This neglect in the literature was even more surprising to my perception as, at a cursory survey of various text types, these formations appeared extremely frequent and performing interesting functions. Advertising and the press in general, appeared preferential genres for compound adjectives and where especially they exhibited novelty and freshness. Three main factors, namely attested frequency, easiness of formation and the capability of combining a much variegated array of constituents predicted a large set of phenomena worth of description and theoretical discussion.

The main objective of my work was to try and systematize this multifaceted phenomenon and categorize the vast plurality of types from a descriptive point of view and in conjunction with general theoretical issues concerning compoundhood.

The heterogeneity of formations was in terms of a large number of different patterns of combinations, ranging from N-Adj, Adj-Adj to less frequent ones like V-N, A-N, V-particle and others, which, predictably, escaped a unitary methodology of analysis.

The first problem, relevant for defining and delimiting the area of research, was to determine when such combinations were actual compounds, and not forms derived from conversion, or even lexicalised phrases. These doubts can be checked with expressions like *in-vitro*(*fertilization*) or *see-through* (*blouse*), which oscillate between adjectival compounding and conversion, so widespread in English, and *first-rate* (*restaurant*), *bluish-green*, whose compoundhood competes with a phrasal reading. Interpretation towards compoundhood is strongly influenced by the high level of lexicalisation that quite a number of such constructions achieve.

A second major problem was to identify and distinguish formations with a clearer adjectival status from others that were only functionally attributive. This case can be well exemplified with formations like *fund-raising* (*event*) vs. *fund-*

raising (organisation), whose different interpretation, nominal and adjectival respectively, seems to depend on the different heads of the two noun phrases, *event* and *organisation*. The second of these nouns entails human actors and a trace of the verbal origin of the modifying compound adjective might also be claimed. This potential for adjectival vs. verbal reading is a further complication traceable in various participle formations. For example, one may incline towards a verbal reading in a case like *banner-waving supporters* vs. a more adjectival interpretation with *man-eating nurse*, as the participle in the first is clearly more action-denoting, whereas the second indicates a more stable property.

During my analysis, what appeared immediately clear was that adjectivehood and compoundhood were central criteria for the definition of these formations and that they were closely related and mutually explaining

The largest part of my work was devoted to categorising the vast variety of combinations and patterns. From the very first investigation, due to their peculiarities, the various subgroups could not be framed in an overall picture. Each case required a targeted investigation for identifying specific features and offered itself to individual explanation and treatment. This fragmentary analysis, though, was unified under the same general problems concerning compoundhood, lexicalisation and functional properties.

The scanty literature on the subject was a stimulating and challenging factor at the beginning, but proved somewhat disappointing when results and findings were ready for comparison and discussion. Moreover, the available studies on compounding were mainly centred on noun compounds and the categorising criteria identified for their analysis by eminent scholars appeared hardly applicable to the analysis of compound adjectives. The division into endocentric and exocentric compounds, for example, one of the central definitional criteria for noun compounds, was highly problematic, as, in our case, it proved difficult to draw any clear-cut line between the data under investigation. In the attempt to find a distinguishing criterion along the endocentricity-exocentricity line, I had to face a problem of elusive headedness in conjunction with some of the liveliest patterns of formations, namely participial compounds like *time-consuming* and *god-forsaken*. The debated problem of the grammatical status of participles, ranging from verbal to adjectival, has a point in determining headedness and consequently the position among endocentric vs. exocentric compounds. The double criterion of semantic and grammatical head features was only partially applicable. Given the properties of English adjectives,

the ordinary grammatical criteria of gender and number for identifying headedness in nominal compounds could not be made relevant in our case. On the other hand, the semantic criterion of headedness was useful only with patterns containing right-hand constituents of clear adjectival nature (*crystal-clear*, *water-resistant*), which, in my analysis, have proved to be the most prototypical ones, but was far less powerful in assessing headedness in participial contexts, due to the elusive character of the participial component, hinted at above.

I now present observations on the various patterns that, in my investigation, have appeared to stand out as interesting and which reveal some of the complex mechanism of adjectival compounding. These aspects are worth highlighting, as they have been neglected or only cursorily mentioned by other scholars.

I begin by dealing with N-Adj pattern, which has proved to be the most prototypical occurrences. In the subgroup of “colour adjectives” (or nuancing), a further distinction inside the group can be identified, which is significant in terms of semantic and pragmatic peculiarities. Such a distinction refers to different functions of the two types of formations, on the basis of which a contrast can be carried out between conventionalised colour compounds, like *saffron-yellow* or *navy blue*, and more idiosyncratic and creative ones, like *depression-brown*, *ice-cream pink* and *gipsy-brown*. The former are characterised by a more transparent and lexicalised relationship between the constituents, and raise no doubts in terms of interpretation. The latter, instead, are semantically vaguer and more opaque, since the final referent is harder to access. In many cases, especially in advertising, as for instance in *Avalon-pink*, the aim of such formations is to achieve a certain pragmatic effect that cannot be reached with conventional formations. This results in two separate configurations, whereby the first type clearly aims to rationally describe exact nuances of colour, standardised in the addressee’s perception, which, instead, become secondary in the second type, eclipsed by the purpose of getting pragmatic effects, such as stimulating fanciful attractive sensations or, on the opposite, unpleasant ones (e.g. *depressive brown*).

In contrast to the former group, which presents a rich array of formations, a more limited group is represented by “intensifying compounds”. Again, we can distinguish formations like *wafer-thin* and *rock-steady*, in which the semantic relationship between constituents is transparent, from more opaque formations, in

which such relationship is obscured. Particularly outstanding are three right-hand nominal constituents, which have almost totally lost their referential meaning and have acquired a functional value of intensification originally absent from their semantics. These terms are *dog*, *stock* and *stone*, and to a lesser extent *hell*, which combine in formations like *dog-cheap*, *stone-crazy*, *stock-deaf* and *hell-bent*. For these, hardly any plausible semantic relationship between the constituents can be traced. After analysis, my opinion is that the stimulus to these formations (though limited in number), has been a process of analogy starting from a semantically motivated compound that has worked as a model.

As regards the group that I have termed “time & space compounds”, like *mile-long* and *day-old*, the investigation has underlined a tendency towards naturalness, represented by the presence of combinations whose adjectival heads constitute the unmarked members in polar pairs of gradable adjectives, as for instance *ankle-deep* and *inch-long*. The tests on the opposite poles, as in **ankle-shallow* and **inch-short*, have given standing unacceptable results. Generalising on this observation, we can claim that compounds, even more patently than syntax, has evidenced that the positive unmarked poles are preferred in terms of naturalness. In fact, while syntax may adopt marked choices in certain contexts (*He’s very short. How short is he?*), this is absolutely excluded in the case of compounds. Another aspect worth noticing relative to this group of compounds is the emergence of a prolific family of compounds sharing the common constituent – *wide* that have reached a significant morphological productivity¹ in its figurative meaning, as in *community-wide* and *company-wide*, probably developing from an initial process of analogy on the compound *world-wide*. It is also interesting that such formations may assume an adverbial function when used in post-verbal position.

The group of “restrictive/specifying compounds” is certainly the widest within the N-Adj pattern and it has turned out to be a very productive type. In particular, I have identified what we can call “families of compounds”, namely groups of compounds sharing the same right-hand constituent, as in *consumer-friendly*, *dolphin-friendly*, *acid-resistant*, *bullet-resistant*, *energy-intensive*, *labour-*

¹ This should intended as productivity in terms of type frequency.

intensive etc. What characterises them is a clear semantic regularity of the pattern, as well as its vast potential for expansion to new compounds, replicating the same model. In some cases, we witness a form of semantic specialisation of this formative element when in combination, namely ‘absence or deprivation of some negative property’, as in the case of *free* in *salt-free*, which gives rise to a large set of formations with regular predictable meanings, characterised by this specific restriction. In such cases, a real form of productivity of the right-hand constituent can be claimed. By contrast, there are cases in which, the right-hand constituent yields a set of formations, but due to their relative smallness and to the instability of their semantic behaviour, cannot predictably reach a high level of productivity, as in the case of *happy*. Here, the meaning of the compounds is less consistent in the various formations, as can be seen in *slaphappy*, *bomb-happy* and *truncheon-happy*. In such cases, I claim that a process of analogy has intervened, determining a modest family of formations. We cannot exclude, though, a development towards a specialisation of meaning and a greater productivity in the future.

As regards compounds with adjectives exhibiting some form of polarity, we re-confirm the pattern observed in “time & space” compounds, whereby the positive, non-marked pole, is practically the only one to give rise to formations, as in *child-safe* and *water-tight*, in opposition to **child-dangerous* and **water-loose*. The very few instances presenting the negative pole, as *poor* (opposed to *rich*) in *income-poor*, have special semantic motivations and occur in special contexts. In this case, for example, it may be a specification of the often-mentioned category of people, *the poor*. In any case, such choices are marked and innumerable less productive than formation with their positive poles. Other oppositions, as, for example *free* vs. *bound* are not actually implemented as opposed poles in compounds, as can be seen in *nuclear-free* and *wheelchair-bound*. We may conclude that analyses of this type do not only evidence a preference for the positive unmarked pole, but also highlight the semantic specialisation of certain adjectives in combination, in contrast to what happens in syntactic constructions, where the opposition is clearly preserved (e.g. *I’m free/bound to stay here*).

Moving now to the Adj-Adj pattern, the endocentric groups, both nuancing and intensifying, raise some problems of compound identification. Highly conventionalised compounds, like those containing the *-y* suffix as in *silvery-grey* and *icy-cold*, as well as the modifiers *light* and *dark*, as in *light/dark blue* and few more cases containing participles, like *burning-hot* and *dead-tired*, show a unitary, well-accepted value allowing no ambiguous categorial interpretation. By contrast, various cases, often included in other authors' classifications, present a more uncertain status, as in *bluish-green* and *wide apart*. Such formations tend, in my opinion, towards a phrasal reading, which again touches upon a more general problem concerning the difference between compounding and lexicalisation of phrases. In the group of copulative compounds, what emerges as particularly interesting is the role of the nominal head. In fact, in comparison to noun copulative compounds, its disambiguating role is even stronger and essential, not only to grasp the overall meaning of the compounds, as exemplified by cases like *red-green (flag)* vs. *red-green (alliance)*, *Anglo-Irish (lawyer)* vs. *Anglo-Irish (treaty)*, but also to subcategorise them. Finally, from the analysis of certain appositional compounds denoting provenance, a form of slight right-head effect is traceable, which contrasts with the normally equal hierarchical status of the constituents. This is the case of *Afro-American (community)*, in which the interpretation definitely inclines towards "American community of African descent", rather than "African community living in America".

A large section, mainly concentrated in chapter 4, has been devoted to participial compounds², as they appeared particularly type-frequent and interesting to a morphological and functional analysis. The very first feature to notice was their great variability of patterns and constituents. A crucial distinction was between so-called synthetic and non-synthetic compounds, often neglected in previous studies. In the case of N-*ing* participle compound adjectives, this distinction has proved rewarding, as it statistically showed (see data in Appendix B) that the closer the relationship between the constituents the higher their tendency to be involved in compound formations. In other words, elements based on the internal argument-structure, i.e., the essential components of the verb

semantics, are more often involved as the left-hand constituent of a compound, thus representing a preferential route to compounding, as compared to participial compounds whose left-hand constituent represents an adjunct (e.g. *face-saving* vs. *winter-flowering*).

A relevant aspect regarding *-ed* participial formations is the ambiguity between derivational and compounding interpretation in common cases like *V-shaped* and *London-based*, which may derive from a previous process of conversion, whereby the right-hand constituent can be either a verb or a noun to which *-ed* has been attached.

The large variety of patterns observed parallels their variable behaviours in the response to adjectivehood tests. In all cases, the most outstanding feature is their almost exclusive or highly preferential use in attributive position vs. predicative, as attested in the data and specified by the informants consulted. Another relevant aspect is their extremely articulated range of acceptability in terms of gradability and intensification. The most widely-accepted cases, in terms of gradability, seem to be Adv-participle formations, of the type of *very fast-growing*. This positive response, however, has raised doubts on the real nature of such formations, whether compounds or syntactic phrases, since the intensifiers may be acting on the left-hand element only and not on the entire formation, thus cancelling the requisite of atomicity of compounds.

A general remark, which encompasses both notions of gradability and predicativity, concerns the role played by lexicalisation³, which has been seen to add substantially to the adjective prototypicality of the compound, as can be seen in *breathtaking (scene)* vs. *jet-leasing (company)* and *heartfelt* vs. *Labour-inspired*.

Given the multiple variety of aspects offered to the analysis by the class of compound adjectives and the relatively little attention devoted to it so far, future investigations can take many fruitful directions. Drawing on the extreme liveliness of participial formations, one interesting aspect to be further investigated might be their textual dimension, with particular reference to their

² The investigation of this class of formations follows a more quantitative approach, as it is based on the data drawn from two subcorpora of the ICAME collection.

role in the anaphoric and thematic structure of the text. Among other approaches, the variability of the stress pattern in compound adjectives may well be another topic for future studies on an experimental basis, especially in connection with families of compounds, where regularities of behaviour could be uncovered. These are meant to be simple suggestions and hints to a multifaceted topic that is still open to many promising investigations.

³ Here intended as a shift towards idiosyncratic meaning, which has though achieved a phase of conventionalisation

Appendix A

(BNC, Reuters 21578, extracts form the web)

*: Borderline cases between two categorisations

Sources:

IB: internet blog

IF: internet forum

IWS: Internet Website

BNC: British National Corpus

R21578: Reuters 21578 corpus

COLOUR COMPOUND ADJECTIVES (nuancing)

COMPOUND	OCCURRENCE	SOURCE
<i>Avalon-pink</i>	Catalogue – colour paletter	Donna Fujii (brand)
<i>battleship grey</i>	Outside, the cottage walls were a horrible <i>battleship grey</i> , the woodwork was <i>depression brown</i> .	BNC, J9A
<i>beatnik-black</i>	The costumes fluctuate from <i>beatnik black</i> , to ecclesiastical gold, with swanky white tie and tails and sexily sophisticated red gowns in between .	BNC, K5F
<i>Bonatti grey</i>	Catalogue – colour palette	Land Rover
<i>Buckingham blue</i>	Catalogue – colour palette	Land Rover

COMPOUND	OCCURRENCE	SOURCE
<i>Caplypso-red</i>	Catalogue – colour palette	Lotus
<i>depression brown</i>	Outside, the cottage walls were a horrible <i>battleship grey</i> , the woodwork was <i>depression brown</i> .	BNC, J9A
<i>disco-pink</i>	Catalogue – colour palette	Maybelline (brand)
<i>Giverny green</i>	Catalogue – colour palette	Land Rover (brand)
<i>graveyard-black</i>	Among the stars, mostly clad in <i>graveyard black</i> , who dutifully stepped along it , was Sadie Frost , wife of Spandau Ballet star Gary Kemp .	BNC, CEK
<i>gypsy brown</i>	The old woman was <i>gypsy brown</i> , the tan so shiny on the mild skin that it was like a fresh varnish .	BNC, FP1
<i>ice-cream pink</i>	Imagine, she told him, Aricie in <i>ice-cream pink</i> tights and Britannicus in a weird gold curly wig and a little clattering metal skirt.	BNC, FET
<i>Java-black</i>	Catalogue – colour palette	Land Rover (brand)
<i>lipstick pink</i>	WINDSMOOR Timelessly elegant , unquestionably chic . Bold , bright suits of <i>lipstick pink</i> , ultra violet , classic check or startling black and white team up with simple blouses .	BNC, CFS
<i>lolly-pink</i>	Catalogue – colour palette	Maybelline (brand)
<i>magenta red</i>	They 're a big red poppy this one. Mine are the pinky purple one. These are you know really <i>magenta red</i> .	BNC, G3X
<i>olive green</i>	Rich autumnal colours like <i>peat brown</i> and <i>olive green</i> are ideal for the `contrast ' colours in the landscape.	BNC, CGV
<i>peat brown</i>	Rich autumnal colours like <i>peat brown</i> and <i>olive green</i> are ideal for the `contrast ' colours in the landscape.	BNC, CGV
<i>Petal-pink</i>	Catalogue – colour palette	Estee Lauder (brand)

COMPOUND	OCCURRENCE	SOURCE
<i>Rimini-red</i>	Catalogue – colour palette	Land Rover (brand)
<i>Rio-red</i>	Catalogue – colour palette	MG (brand)
<i>Sahara-pink</i>	Catalogue – colour palette	Bobbi Brown (brand)
<i>salmon-pink</i>	[...] this waterlily has large star-shaped <i>salmon-pink</i> flowers that age to soft rose.	BNC, GV1
<i>Silk-pink</i>	Catalogue – colour palette	Maybelline (brand)
<i>Tonga-green</i>	Catalogue – colour palette	Land Rover (brand)
<i>Trophy-yellow</i>	Catalogue – colour palette	MG (brand)

INTENSIFYING COMPOUND ADJECTIVES

INITIAL LETTER	COMPOUND	SOURCE
A	<i>Age-long, age-old anger-black (MC)</i>	Various: Dictionaries BNC Academic articles
B	<i>Bat-blind (L), blood-raw (L), bone-dry, bone-hard, bone-idle, bone-hardy (BNC), bone-weary (BNC), brass-bold (M), bone-cold, bone-tired (IWS)</i>	
C	<i>Cocksure, corpse-cold, corpse-pale, crow-black (MC), crystal-clear</i>	

INITIAL LETTER	COMPOUND	SOURCE
D	<i>Daisy-fresh, day-bright (L), dead-beat, dead-slow (Adams), dirt-cheap, dirt-poor, dog-lazy (IWS), dog-rotten dog-cheap (B), dog-deaf (BNC), dog-hungry (B), dog-lean, dog-mad (B), dog-poor (B), dog-sick (B), dog- tired, dog-weary (L)</i>	Monographs Internet websites
F	<i>Feather-light, fire-hot, fire-new, (L), fool-happy (L), fool-hardy, frost-white (B),</i>	A: Adams
G	<i>garden-fresh, gem-bright (L),grass-green, gravel-blind ? (L),</i>	(see References)
H	<i>Hell-black (L), hell-dark (L), Hell-deep (L), hell-bent (BNC),</i>	B: Birenbaum (see References)
I	<i>Ice-cold</i>	L: Lipka
J	<i>Jet-black</i>	(see References)
K	<i>Knife-clean (MC),</i>	M: Marchand
M	<i>Marble-hard (L), mother-naked,</i>	(see References)
N	<i>Needle-sharp, nigger-brown (BNC),night-black (L),</i>	MC: Midnight's Children S. Rushdie
P	<i>Paper-thin, pitch-dark, pitch-black, plum-ripe (L),</i>	
R	<i>Razor-sharp, razor-thin, red-hot, rock-hard, rock-solid, rock-steady, rose-sweet</i>	
S	<i>Silver-bright (L), skin-tight, sky-high, snail-slow (L), snow-cold, snow-white, stone-sober (BNC), stock-still, sun-broad (L), stone-crazy, stone-rich, stone-cold, stone-crazy,stone- dead, stone-deaf</i>	

INITIAL LETTER	COMPOUND	SOURCE
V	<i>Velvet-soft</i>	
W	<i>Wafer-thin, white-hot, wind-swift (L), world-old,</i>	

LEFT-HAND constituent	COMPOUND	OCCURRENCE	SOURCE
BONE-	<i>Bone-cold</i>	Well, it started out with just a little bit of laryngitis on Thursday and then by Thursday evening I was coughing and I was – I just, I was <i>bone-cold</i> .	IWS, http://edition.cnn.com
	<i>Bone-tired</i>	<i>Bone-tired</i> from flying endless missions [...] Yossarian decides one day to go crazy	IWS, www.time.com
	<i>bone-hardy</i>	A quick comparison of last month 's pages with these will tell you that pelargoniums are colourful but tender plants for conservatories , containers and summer bedding , while geraniums are <i>bone hardy</i> and among the best of all border perennials.	BNC, ACX
	<i>bone-hard</i>	Harrogate 's in-form Jim Love and his former Yorkshire team mate Colin Johnson will find the <i>bone hard</i> _wicket at Clifton Park to their liking while York 's batsmen ...	BNC, K4T
	<i>bone-idle</i>	At the time I almost lived up to my nickname , Bone – close to Tone , and closer still to <i>bone idle</i> .	BNC, A6T

	<i>bone-weary</i>	Even as she turned towards the staircase she was still trying to come up with a good reason for not sleeping in his bed , but when she reached the top step she turned with a resigned sigh towards his room , too <i>bone weary</i> to argue any more .	BNC, HA9
DOG-	<i>dog lazy</i>	So what better thing to do than sit here and update my column something you might have noticed, has not happened in a while. Why I hear you ask, the answer is simple my friends I'm <i>dog lazy</i> .	IF, www.playerofgames.com
	<i>dog rotten</i>	I can remember one quite clearly that absolutely <i>dog rotten</i> window frames.	BNC, KBP
	<i>dog-deaf</i>	Now you 're looking for a bear . Mummy , you 're looking for I 'll go for the bear . Mummy , you 're looking a bear ! A dog or a dog ! Okay ! Do n't shout , I 'm not A <i>dog deaf</i> .	BNC, KP8
HELL-	<i>hell-bent</i>	But, <i>hell-bent</i> on destruction, the hooligans – at least two strong men – are believed to have rocked the seats until the bolts snapped.	BNC, CH2
STONE-	<i>stone-sober</i>	I am <i>stone sober</i> , taller than Waldegrave, and I find it difficult. It must have been hard for a short, drunken man to do at the dead of night .	BNC, HH5
	<i>stone crazy</i>	Darryl (Flea) Virostko is that rare combination of ability and motivation. He's unbelievably good and he's <i>stone crazy</i> .	IWS, www.sfgate.com
	<i>stone rich</i>	Any American can become president", well not really, you got to be <i>stone rich</i> .	IB, www.louminatti.blogspot.com

TIME&SPACE COMPOUND ADJECTIVES

LEFT-HAND constituent	RIGHT-HAND constituent
<i>Ankle, armpit, breast, knee, thigh, *skin, chest, waist, hip</i>	-DEEP
<i>*sky, Waist, Breast, Shoulder, Knee</i>	-HIGH
<i>Economy, European Community, company, community, county, country, industry, floor, *world, Gulf, European Community, system, economy, state, nation, continent, government, Europe, Canada, population, city, province, organization, factory, district, enterprise, university, group, area, organisation, Campus, nation, state</i>	-WIDE
<i>centuries/century, *age, week, month, year, day</i>	-OLD
<i>week, hour, day, month, fortnight, year, season, *life, night, *age</i> <i>inch. mile, meter, kilometer</i>	-LONG

-wide

COMPOUND	QUOTE	FUNCTION	SOURCE
<i>country</i>	many events arranged country-wide	adv	bnc, hcw
<i>floor-</i>	Limits on ring trading floor-wide would be applied floor-wide under the proposal	adv	Reuters-21578
<i>European Community</i>	The spokesman said the ministers reviewed their economies, and public spending, domestic and European-Community-wide	adv	Reuters-21578

COMPOUND	QUOTE	FUNCTION	SOURCE
<i>enterprise-</i>	And do n't forget that our users may not even speak the same language as we take our systems enterprise wide	adv	bnc, hep
<i>university-</i>	c) EMPLOYER PARTNERSHIPS The ` pilot ' live projects scheme will be extended university wide	adv	bnc,hx5

COMPOUND	OCCURRENCE	SOURCE
<i>age-long</i>	The difficult and often contradictory principles of this <i>age-long</i> argument were memorably expressed as early as Plato's version of the Apology of Socrates and, with a different bearing, in his Republic.	BNC, FPC
<i>age-old</i>	I met Jerry two years ago and Don 1 year ago. We've all been fast friends since! They always welcome me like an <i>age-old</i> friend...	IB,www.synapsefilms.blogspot.com
<i>Company-wide</i>	Modernization of the 22-year-old facility is part of Chrysler's five-year, 12.5 billion dlr <i>company-wide</i> program [...]	R 21578
<i>Economy-wide</i>	To the extent any government action is needed to deal with the trade deficits, policies should focus on <i>economy-wide</i> phenomena [...]	R 21578
<i>European Community-wide</i>	Lamont specifically rubbished the idea of a <i>European Community-wide</i> "carbon tax".	BNC,K5L
<i>Province-wide</i>	However the Department of the Environment has just announced a <i>province-wide</i> increase in its parking charges, due to come into effect on May 10.	BNC, HJ3

COMPOUND	OCCURRENCE	SOURCE
* <i>Skin-deep</i>	Beauty is only <i>skin-deep</i>	BNC, C8N
* <i>Sky-high</i>	Sainsbury, for example, defend the <i>sky-high</i> price of their organic vegetables”	BNC, ARJ

RESTRICTIVE/SPECIFYING COMPOUND ADJECTIVES

-happy

COMPOUND	OCCURRENCE	SOURCE
<i>auto-</i>	having a deep interest and desire for automobiles (1947)	Algeo
<i>bar</i>	(army use) eager for promotion (1947)	Algeo
<i>bark-</i>	inclined to bark (1947)	Algeo
<i>battle-</i>	(1947)	Algeo
<i>bomb-</i>	Have you ever seen a Welshman eating his dinner, or do you think that I am going bomb-happy?	BNC, A61
<i>cab-</i>	(1947)	Algeo
<i>cactus-</i>	(in army use) bemused by living in cactus patches (1944)	
<i>dough-</i>	(1947)	Algeo

COMPOUND	OCCURRENCE	SOURCE
<i>strike-</i>	Krieger said the committee is empowere to call a strike if it sees fit but he added, “we’re not gun shy and we’re not strike-happy, we don’t take it lightly.”	Reuters, 21578
<i>demob</i>	One reporter asked whether they were “demob happy”	BNC, AJD
<i>trigger</i>	In two separate instances, at least four persons were reported to have been killed Peshawar and Karachi after being hit by stray bullets as a result of aerial firing by trigger happy individuals.	BNC, BN9
<i>slap-</i>	- Because he, he just has you know a very slap happy er attitude towards finance, but from an engineering point of view you can trust him Mm. - Bearing an unconventional appeal that may have something to do with the <i>slaphappy</i> grin permanently stretched across his face, Breckin Meyer has made a name for himself...	BNC, FUL IWS (www.answers.com)
<i>whistle</i>	...but referee Burns, who up to that point had been whistle happy, turned the appeals down.	BNC, K4T
<i>flag-</i>	The final twenty minutes saw play confined to the middle third of the pitch as both linesmen became rather flag happy with a succession of offside decisions which infuriated players and crowd alike.	BNC, KS7
<i>knife-</i>	The doctor started work the day I went in, and she pre-warned me and I said to him, no big cut please? And she said to him, when I got out she said oh, was he knife happy? He usually is!	BNC, KCB
<i>election-</i>	Upon hearing this, I immediately thought of the implcations for election-happy Latin America.	IB www.psdblog.worldbank.org/
<i>bark-</i>	I have a neighbour with a bark-happy dog that seems to time when we cut our bedroom light out at night.	IB, www.catt.com/
<i>truncheon-</i>	The police in Sheffield are truncheon happy	IF, www.footballforums.net
<i>auto-</i>	having a deep interest and desire for automobiles (1947)	Algeo

-proof

LEFT-HAND constituent	RIGHT-HAND constituent
<i>chip- (MF), shock- (MF), action- (MF), dishwasher-, bomb-, bullet-, smoke and fire-, traffic-, poison-, oven-, microwave-, stock-, cat, dog and vandal-, recession-, earthquake-, leak-, water-, inflation-, freezer-, baby buggy-, frost-, strategy-, blast-, wind and water-, hurricane-, drill-, sailor-, weather-, arson-</i>	PROOF BNC, MF (Max Factor Brand)

-intensive

COMPOUND	OCCURRENCE	SOURCE
<i>calorie-</i>	The secret for keeping the weight down and energy up is to serve meals that are <i>calorie intensive</i> .	BNC, CDR
<i>energy-</i>	The committee represents 27 large, <i>energy-intensive</i> industries with operations in the TVA service area.	R21578
<i>labour-</i>	It may be therefore become economically and politically expedient to encourage a shift to more <i>labour intensive</i> methods of primary production.	BNC, ALF
<i>capital-</i>	capital intensive projects	
<i>import-</i>	import-intensive stock building	
<i>Debt</i>	S and P noted that the companies are more <i>debt intensive</i> now than in their building phase.	Reuters-21578
<i>Import-</i>	...January's bad weather had curbed consumer spending on overseas goods and <i>import-intensive</i> stock building among manufacturers	Reuters-21578

COMPOUND	OCCURRENCE	SOURCE
<i>Manpower</i>	The Army, being manpower intensive, is on its guard against cuts in the operational commitments...	BNC, ABA
<i>Cost-</i>	Multidisciplinary teams again certainly don't serve any organisation which considers cost before all else, because they are very cost intensive in their use of a range of highly qualified, and therefore expensive, professionals.	BNC, CAP
<i>People</i>	Local Management of Schools (LMS) looks like running until the 2020s. We had better learn how to use it well. Schools are people intensive. They need pupils and they need staff.	BNC, B23
<i>Data</i>	The boxes are clearly aimed at data intensive applications downsizing from mainframes.	BNC, CSD
<i>Computer</i>	"We are not a typical vector user", says project manager at CERN, "because our work is as much computer intensive as data intensive"	BNC, EAK
<i>Skill</i>	Classic, labour and skill intensive printing technology that was largely unchanged since the days of Gutenberg.	BNC, G00
<i>Transport</i>	...a world in which the priorities are military spending and private consumption, and which is energy. And <i>transport intensive</i> .	BNC, G2J
<i>Resource</i>	The nature of software is philosophically problematic. In particular terms, a programme of acquisition and conservation is technically forbidding as well as resource intensive	BNC, J0V

-free

LEFT-HAND constituent	OCCURRENCE	SOURCE
<i>solvent-</i>	solvent-free varnish	bnc, A0X
<i>hazard-</i>	hazard-free situation	bnc, A19
<i>interest-</i>	interest-free loan	bnc, A5S

LEFT-HAND constituent	OCCURRENCE	SOURCE
<i>Fragrance-</i>	fragrance-free products	bnc, A7N
<i>tax-</i>	tax-free income	bnc, AHB
<i>error-</i>	error-free source	bnc, ALW
<i>duty-</i>	duty-free goods	bnc, AM0
<i>lead-</i>	lead-free air	bnc, AM7
<i>trouble-</i>	trouble-free use	bnc, AN2
<i>sugar-</i>	sugar-free squash	bnc, AND
<i>milk-</i>	milk-free diet	bnc, ANM
<i>crime-</i>	crime-free enviroment	bnc, ARA
<i>pattern-</i>	pattern-free surface	bnc, ARP
<i>disease-</i>	disease-free horses	bnc, ASH
<i>Collision-</i>	collision-free condttions	bnc, B0M
<i>Rosaniline-</i>	rosaniline-free base	bnc, B0M
<i>context-</i>	context-free grammar	
<i>alcohol-</i>	alcohol-free lager	bnc, B1L
<i>wind-</i>	wind-free morning	bnc, B3J
<i>car-</i>	car-free centres	bnc, C8F
<i>traffic-</i>	traffic-free schemes	bnc, C8F

LEFT-HAND constituent	OCCURRENCE	SOURCE
<i>weedkiller/fertiliser-</i>	weedkiller/fertiliser-free source	bnc, C97
<i>rent-</i>	rent-free period	bnc, CBX
<i>Pollution-</i>	pollution-free energy	bnc, CBY
<i>drug-</i>	drug-free competition	bnc, D91
<i>dust and moisture-</i>	dust and moisture-free environment	bnc, E9W
<i>cloud-</i>	cloud-free scenes	bnc, E9X
<i>smoke-</i>	smoke-free generation	bnc, EA0
<i>Symptom-</i>	symptom-free years	bnc, EA0
<i>Disability-</i>	disability-free years	bnc, ECE
<i>cruelty-</i>	cruelty-free products	bnc, FLH
<i>context-</i>	context-free grammar	bnc, FNR
<i>crater-</i>	crater-free surface	bnc, GW6
<i>fatigue-</i>	fatigue-free operation	bnc, HAC
<i>debt-</i>	debt-free group	bnc, HJ5
<i>risk-</i>	risk-free rate	bnc, HNM
<i>leak-</i>	leak-free system	bnc, HRG
<i>phosphate-</i>	phosphate-free washing powder	bnc, HT6
<i>gluten-</i>	gluten-free diet	bnc, HU2

LEFT-HAND constituent	OCCURRENCE	SOURCE
<i>Prolamin-</i>	prolamin-free diet	bnc, HU2
<i>ulcer-</i>	ulcer-free period	bnc, HU3
<i>stone-</i>	stone-free patients	bnc, HU3
<i>Gallstone-</i>	gallstone-free patients	bnc, HU3
<i>lactose-</i>	lactose-free diet	bnc, HU3
<i>germ-</i>	germ-free animals	bnc, HU4
<i>Antibiotic-</i>	antibiotic-free medium	bnc, HWS
<i>polyp-</i>	polyp-free colon	bnc, HWS
<i>wheat-</i>	wheat-free diet	bnc, HWS
<i>tariff-</i>	tariff-free	bnc, HXJ
<i>tide-</i>	tide-free waters	bnc, J3X
<i>Accident</i>	accident-free record	bnc, K24
<i>weapons</i>	weapons-free zone	bnc, K5M
<i>Percent</i>	percent-free credit	bnc, KB7
<i>Oil</i>	oil-free make-up	bnc, KBE
<i>harrassment</i>	harrassment-free environment	bnc, KRL
<i>Litter</i>	litter-free areas	bnc, KRL
<i>Incident</i>	incident-free night	bnc, KRT

LEFT-HAND constituent	OCCURRENCE	SOURCE
<i>Blood</i>	blood-free sports	bnc, KS9
<i>Chalk</i>	chalk-free	bnc, CG2
<i>ice-</i>	ice-free	A6R
<i>odour-</i>	odour-free	bnc, APV
<i>rabies-</i>	rabies-free	bnc, AR5
<i>steroid-</i>	steroid-free	bnc, CB3
<i>suspension-</i>	suspension-free	bnc, CB3
<i>penalty-</i>	penalty-free	bnc, CBV
<i>acid-</i>	acid-free	bnc, CC0
<i>seepage-</i>	seepage-free	bnc, CCP
<i>scot-</i>	scot-free	bnc, CH7
<i>protein-</i>	protein-free	bnc, EA0
<i>dust-</i>	dust-free	bnc, EV6
<i>Problem-</i>	problem-free	bnc, HJ5
<i>defect-</i>	defect-free	bnc, J77
<i>post-</i>	post-free	bnc, A15
<i>ulcer-</i>	ulcer-free	bnc, HU3
<i>virus-</i>	virus-free	bnc, HAC

LEFT-HAND constituent	OCCURRENCE	SOURCE
<i>Asbestos-</i>	asbestos-free	bnc, J1T
<i>union-</i>	union-free	bnc, HXA
<i>coupon-</i>	coupon-free	bnc, D8Y
<i>apostrophe-</i>	apostrophe-free zone	bnc, JAA
<i>Inflation-</i>	inflation-free expansion	Reuters-21578
<i>regulation-</i>	regulation-free large deposit	Reuters-21578
<i>cholesterol-</i>	cholesterol-free	Reuters-21578
<i>risk-</i>	risk-free field trial	Reuters-21578
<i>commerical-</i>	commercial-free digital uninterrupted music	Reuters-21578
<i>brucellosis-</i>	brucellosis-free status	Reuters-21578
<i>noise-</i>	noise free undistorted transmission	Reuters-21578
<i>flicker-</i>	flicker-free	

-prone

COMPOUND	OCCURRENCE	SOURCE
<i>error-</i>	While the mineralogical composition of rocks can be determined by optical study of thin sections, his can be a tedious, timeconsuming nad <i>error-prone</i> process.	BNC, H9S

COMPOUND	OCCURRENCE	SOURCE
<i>riot-prone</i>	These indicators are used to identify « <i>riot prone</i> » areas in London	BNC, G1H
<i>accident-</i>	Since you're more than a little <i>accident prone</i> , exercise caution and be careful not to lead your owner into trouble.	BNC, C8U
<i>crisis-</i>		
<i>allergy-</i>	If your family is <i>allergy prone</i> , you can adapt it to suit your needs, circumstances and baby.	BNC, ANM
<i>disease-</i>	If you have a tank that always seems to be <i>disease prone</i> , or the fish die, often for no apparent reason, I would suggest that any decoration that is in or going in your tank be checked...	BNC, CGH
<i>litigation-</i>	The 2 Live Crew's Greatest Hits' controversial <i>litigation prone</i> US rappers compile their finest collection of rhyming expletives The TYRREL CORPORATION	BNC, CK4
<i>injury-</i>	he's a bit <i>injury prone</i> , but still a good player	BNC, KRT
<i>hay fever</i>	If we were all <i>hay fever prone</i> then whenever we happened to be in a place where the pollen count was high, our eyes would start streaming and our noses running.	BNC, CKS
<i>acne-</i>	Mat Foundation for oily and <i>acne prone</i> skin helps to prevent «shine»	BNC, CFS
<i>quake-</i>	Seismic experts at Shizuoka, one of three areas near Tokyo considered <i>quake-prone</i> , say they expect a major earthquake within the next few years	Reuters-21578
<i>gas-</i>	The U.N. Said the report was aimed at promoting petroleum exploration in areas perceived as being <i>gas prone</i> .	Reuters-21578
<i>disaster-</i>	Even though the custom of parental arrangement seems so strange, so <i>disaster prone</i> , for them it is the only way.	BNC, CDX

-weary

COMPOUND	OCCURRENCE	SOURCE
<i>battle-</i>	The nuns say they are <i>battle-weary</i> but determined to continue their fight	BNC, A3W
<i>world-</i>	Although this former psychiatric ward sister can appear <i>world-weary</i> , cynism dropping from every pore ...	BNC, K45
<i>inflation-</i>	He won the grudging support of the PMDB and the Cruzado Plan was wildly popular with <i>inflation-weary</i> Brazilians.	Reuter-21578
<i>travel-</i>	A bit <i>travel weary</i> but otherwise okay, Ma'am.	BNC, CEH
<i>war-</i>	Thre British people have absorbed everything that the IRA has thrown at them, but it is no segret that they are increasingly <i>war-weary</i> ...	BNC, K2W
<i>foot-</i>	The <i>foot-weary</i> pedestrian will breathe a sigh of relief.	BNC, B7M

Appendix B

Flob Corpus, Frown Corpus

A: attributive use

P: predicative use

*: cases of ambiguous morphological analysis.

In N-*ing* participle, the compound can either be considered as an activity noun premodifying a noun or as a proper compound adjective.

In Adv-*ing* the formation has an uncertain status. It may be either a compound or a syntactic formation (borderline case).

N-*ed* participle

n.	Compound	occurrence	position	category
1	American-brokered	This will require careful presentation by the president, who cannot afford to be seen by his people to be participating in, or endorsing, an <i>American-brokered</i> solution.	A	Flob A
2	EC-sponsored	EUROPEAN COMMUNITY attempts at mediation in Yugoslavia appeared finally to have paid off last night after Serbia unexpectedly agreed to a ceasefire and an <i>EC-sponsored</i> peace conference.	A	Flob A
3	Community-imposed	[...] the breakthrough came after Mr Vladimir Jovanovic, the Serbian Foreign Minister, indicated Serbia's willingness to accept the EC terms on Saturday night, just as the <i>Community-imposed</i> deadline for agreement was to expire.	A	Flob A
4	Serb-dominated	Croatia has blamed Serbia and the <i>Serb-dominated</i> federal army for supporting a rebellion among the 600,000-strong Serb minority in the breakaway republic.	A	Flob A

n.	Compound	occurrence	position	category
5	Winchester-educated	With the prospect of official retirement only 13 months away, <i>Winchester-educated</i> Walker appears to be in limbo.	A	Flob A
6	Labour-inspired	Ministers published the statistics to coincide with a <i>Labour-inspired</i> Commons debate on the National Health Service.	A	Flob A
7	Leicester-based	JONES & SHIPMAN, the <i>Leicester-based</i> machine tool manufacturer, plans a significant expansion of its US activities through the acquisition of <i>Rhode Island-based</i> Brown & Sharpe Grinding Machines (BSGM), a joint venture between J&S and Brown & Sharpe of the US.	A	Flob A
8	Rhode Island-based	JONES & SHIPMAN, the <i>Leicester-based</i> machine tool manufacturer, plans a significant expansion of its US activities through the acquisition of <i>Rhode Island-based</i> Brown & Sharpe Grinding Machines (BSGM), a joint venture between J&S and Brown & Sharpe of the US.	A	Flob A
9	Income-based	For UK pension schemes themselves, however, the arithmetic of poverty or prosperity is done very differently. Surpluses and deficiencies are calculated on the basis of actuarial rather than market valuations. In general, these are <i>income-based</i> , certainly for UK equities, which make up more than half of most portfolios.	P	Flob A
10	Salary-linked	What is bad news for schemes could nevertheless be good for pension fund managers, as extra contributions and top-ups begin to roll in; at least, this will be true unless the pressure on final <i>salary-linked</i> schemes becomes so intense that companies decided to wind them up in favour of cheaper arrangements.	A	Flob A
11	Northampton-based	The news prompted a flurry of activity in the <i>Northampton-based</i> company's shares.	A	Flob A

n.	Compound	occurrence	position	category
12	Majority-owned	Assuming the company's disclosed spending of pounds435m was by the <i>majority-owned</i> companies, R&D accounted for 7.2 per cent of sales last year, against 11 per cent at Siemens. Another worry is the continuing dependence on the (declining) defence industry.	A	Flob A
13	Majority-owned	Margins in the joint ventures were 4.4 per cent against 9.2 per cent for the <i>majority-owned</i> businesses.	A	Flob A
14	Schlegel-based	What you lose in German, even in Reinhard Palm's good, <i>Schlegel-based</i> translation, is the pun-filled richness of the comedy.	A	Flob A
15	Pun-filled	What you lose in German, even in Reinhard Palm's good, Schlegel-based translation, is the <i>pun-filled</i> richness of the comedy.	A	Flob A
16	Rebel-held	Ragamuffin rebels await their victory by Paul Vellely, on the Dekhamhare Front, in <i>rebel-held</i> Eritrea.	A	Flob A
17	Glasgow-based	Parsons, in the driving seat since August 1989 after the departure of Nicholas Ward, insists his team can make it grow without help from <i>Glasgow-based</i> Grampian, whose operations range from veterinary products to sports shoes.	A	Flob A
18	Grief-stricken	His <i>grief-stricken</i> widow Monica, 45, whom he married just 19 months ago described him as a "people's policeman."	A	Flob A
19	Grant-maintained	They will include state, private and <i>grant-maintained</i> schools and City Technology Colleges.	A	Flob A
20	Mosquito-infested	That came from American Frank Reed, whose release in May 1990 revealed the awful existence of the British hostages in tiny, <i>mosquito-infested</i> cells, never allowed to see daylight and unchained for only about an hour a day for exercise.	A	Flob A

n.	Compound	occurrence	position	category
21	Closure-threatened	MINERS at North Staffordshire's <i>closure-threatened</i> pits are to be balloted on industrial action over a pay claim.	A	Flob A
22	Inflation-linked	The leaders are believed to want an end to <i>inflation-linked</i> pay rises imposed on the 69,000-strong union by British Coal after the miners' strike of 1984-5.	A	Flob A
23	Propellor-driven	But there will be an increase in other forms of low-flying, principally by helicopters and the new <i>propellor-driven</i> Tucano trainer.	A	Flob A
24	Private sector-funded	"I have indicated very clearly that what I would like to see is a <i>private sector-funded</i> project.	A	Flob A
25	Labour-controlled	Conservative leader David Heslop said the community would oppose any plans by the <i>Labour-controlled</i> city council to use the site for housing or anything other than leisure.	A	Flob A
26	Strife-torn	The Council's controlling Labour group was fast to give assurances that they will manage the situation better than their <i>strife-torn</i> Liverpool colleagues - and appealed to workers to help.	A	Flob A
27	Devon-registered	Fishermen in Brixham, Devon, were "devastated" by the loss of the Ocean Hound, one of the port's largest boats. It was the third <i>Devon-registered</i> fishing boat to be lost since Christmas.<	A	Flob A
28	Smoke-filled	Clare Packham, 21, and Darren Ridley, 20, of Heaton Road, Heaton, Newcastle, reached the roof through a skylight window in the attic after they battled their way through the <i>smoke-filled</i> house.	A	Flob A
29	Fume-filled	City planners say the underground Eldon Square bus concourse is squalid, noisy and <i>fume-filled</i> and buses using it cause congestion in Percy Street.	P	Flob A

n.	Compound	occurrence	position	category
30	Factory-prepared	The Flying Scot, who finished third in last weekend's Suzuka endurance race, looks set to be given a <i>factory-prepared</i> Honda machine for a crack at the 250cc World title next season	A	Flob A
31	Factory-prepared	I had my first ride on a <i>factory-prepared</i> bike in Japan.	A	Flob A
32	Bradford-based	<i>Bradford-based</i> Syltone turned in profits up pounds320,000 to pounds2.7 million.	A	Flob A
33	Salford-based	They are just a couple of the 150 titles from the shelves of Freelance Press Services, the <i>Salford-based</i> agency which helps budding and established writers all over Britain - and indeed the world.	A	Flob A
34	London-based	They employed the <i>London-based</i> company Molineux Fund Raising and the decision seems to have paid off.	A	Flob A
35	Dunblane-based	Yamaha offered Niall a one-off deal to return to 500cc action, and the <i>Dunblane-based</i> star didn't have to think twice about competing in his home Grand Prix.	A	Flob A
36	Bulk-purchased	These giant unions define their own political agendas, conduct their own research, undertake their own publicity and lobbying in Brussels as well as Westminster, and offer the services (cut-price insurance, cheap holidays, <i>bulk-purchased</i> cars and the like) that the highly competitive new unionism has to provide if it is to survive.	A	Flob B

n.	Compound	occurrence	position	category
37	Garden-related	Now, with the proliferation of garden centres and do-it-yourself megastores people can buy ready-grown plants and flowers whenever they like, even on a Sunday in most areas. Nearly half of all <i>garden-related</i> shopping is done in these shops.	A	Flob B
38	union-dominated	Should Labour return to power, London will clearly have to experience another round of costly empire-building by a <i>union-dominated</i> County Hall.	A	Flob B
39	smoke-filled	The vast majority will have voted for either a Tory or a Labour Government and not some fudged result leading to deals concocted in <i>smoke-filled</i> rooms.	A	Flob B
40	flood-lit	I glanced at the pale, <i>flood-lit</i> face, rendered slightly incongruous by the neat collar and black tie with white dots, and thought irreverently of Evelyn Waugh's novel on embalmed corpses in Hollywood, called The Loved One.	A	Flob B
41	HIV-infected	Even the most ardent right-to-life campaigner cannot be so heartless as to wish for <i>HIV-infected</i> children to be brought into the world when the means to avoid such a calamity are readily available.	A	Flob B
42	HIV-infected	As a society, we surely have a responsibility to identify <i>HIV-infected</i> individuals, if only so that they and their partners can be made aware of the appalling risks associated with unprotected sexual intercourse, and so limit the spread of the virus.	A	Flob B
43	media-backed	From my own experience of charities over more than 25 years, [...] I cannot imagine that there is a response anywhere in the world that can match the enormous sums raised by <i>media-backed</i> appeals such as Comic Relief, Children in Need and the Telethon.	A	Flob B
44	war-ravaged	Pity the poorer and more <i>war-ravaged</i> tiddlers such as South Korea, Taiwan, Singapore and Hong Kong, these collectivist minds said.	A	Flob B

n.	Compound	occurrence	position	category
45	English-educated	At home, India's trouble has not been its people but the wrong ideology and bad government, and both came from one main source: for all but six of its 44 independent years, it has been ruled by a charming, brave, <i>English-educated</i> , upperclass, utterly incompetent (especially when it comes to economics), Fabian-socialist family called the Nehrus and Gandhis.	A	Flob B
46	Cone-shaped	As for any weedy little old man contemplating wrestling off her <i>cone-shaped</i> bra, he would have to consider that he may end up being gob-smacked by one of her steely little fists.	A	Flob B
47	state-owned	The Government should forget about privatisation and concentrate on giving the railways more freedom to invest and borrow as a <i>State-owned</i> business.	A	Flob B
48	Labour-led	But the <i>Labour-led</i> Oxford City Council, which produced a lot of hot air when Rover began cutting down the workforce at Cowley, did not even bother to approach the firm.	A	Flob B
49	FA-run	There was also strong backing for making referees professional, a suggestion which has already been vetoed by clubs involved in next season's <i>FA-run</i> Premier League.	A	Flob B
50	Surrey-based	Taken by <i>Surrey-based</i> European Air Charter, specialists in this field, at the request of the council, it left no-one in any doubt about what was being proposed, for better or for worse.	A	Flob B
51	sun-drenched	You would look in vain for a <i>sun-drenched</i> beach.	A	Flob B
52	Snow-capped	There aren't a lot of <i>snow-capped</i> mountains to climb, and you would be hard-pressed to discover an abundance of opera houses or concert halls.	A	Flob B
53	council-owned	Skegness from Funworld Limited put in a bid to take over the <i>council-owned</i> pier pavilion at Cleethorpes.	A	Flob B

n.	Compound	occurrence	position	category
54	Fiskerton-based	Marching joy for disbanded ROCDISBANDED or not disbanded, the Royal Observer Corps' <i>Fiskerton-based</i> 15 Group goes marching on.	A	Flob B
55	American CIA-planted	[...] the Gulf apocalypse is but one - and long-predicted - result of the capitalist West's espousal of fascist military dictatorships (Turkey) and feudal dictatorships (all the Gulf states, excluding Iran, since the <i>American CIA-planted</i> shah was deposed in 1979, and Yemen, which voted with Cuba against Resolution 678, which led to the Gulf slaughter.	A	Flob B
56	sea-drenched	Presented in such close proximity, his productions of Britten's two great <i>sea-drenched</i> operas emerge as probingly complementary in their implacably dark, emotionally searing exploration of the mutual attraction and simultaneous repulsion of good and evil that brings about man's destruction.	A	Flob C
57	Folk music-based	Tchaikovsky's neurotically intense achievement in uniting symphonic form with nationalist sentiment can scarcely be overestimated in the history of Russian music, and indeed one feature of this series will be to emphasise the continuity of that <i>folk music-based</i> tradition right through Stravinsky's own spring - though a little Rimsky-Korsakov would have made the point even better.	A	Flob C
58	French-inspired	The orchestra of the Age of Enlightenment, playing here under the impassioned direction of Ivan Fischer, were on exciting form. Monica Huggett, risking a great deal by tackling Beethoven's technically advanced Violin concerto on a period instrument, drew out all the <i>French-inspired</i> delicacy and refinement of the work.	A	Flob C
60	Jam-packed	There are some memorable works including two intriguing dyptych's diptychs by Cypriot painter, Paul Kouroussis decorative paper-works by Fernanda Santos. But mostly the works, <i>jam-packed</i> into a long room, are polite, sellable pieces (cartoon cats, desktop post-modernism, landscapes with a frisson of modernist style).	P	Flob C

n.	Compound	occurrence	position	category
61	Male-dominated	Callie Khouri's screenplay gives more than a hint to the notion that women need a certain separatism in order to be themselves in a very <i>male-dominated</i> world.	A	Flob C
62	Recession-induced	In a lengthy speech that focused on the failures of the past and the challenges of the future - and little on the most immediate and pressing problems facing American workers - the president offered no new plans or short-term solutions to ease <i>recession-induced</i> fears over job security.	A	Frown A
63	Ice-encrusted	Scale aid to Russia should take priority over the reacquisition of a group of <i>ice-encrusted</i> volcanic islands.	A	Frown A
64	U.S.-brokered	He apparently was referring to the decline of anti-Israeli unrest in the occupied territories and the divisions between Palestinian supporters and opponents of the <i>U.S.-brokered</i> peace process.	A	Frown A
65	U.S.-led	The <i>U.S.-led</i> alliance, which drove Iraqi President Saddam Hussein's forces from Kuwait in last year's gulf war, already is enforcing a no-fly zone north of the 36th parallel in Iraq to protect Kurds there from Iraqi attacks.	A	Frown A
66	Tehran-based	The reports from the <i>Tehran-based</i> Supreme Assembly for the Islamic Revolution in Iraq could not be confirmed.	A	Frown A
67	Cairo-based	In Egypt, Iraq's representative to the <i>Cairo-based</i> Arab League urged Arab countries to intervene against the allied plan.	A	Frown A
68	Serb-dominated	Bosnia's ethnic Serbs, who want to remain part of <i>Serb-dominated</i> Yugoslavia, rebelled after the republic's majority Croats and Muslims voted for independence on Feb. 29.	A	Frown A
69	War-torn	Looting has hampered relief aid to the <i>war-torn</i> country.	A	Frown A

n.	Compound	occurrence	position	category
70	Los Angeles-based	"We support any security effort to protect our workers,"<quote/> said Dennis Walto of the <i>Los Angeles-based</i> International Medical Corps, which has worked in Somalia for the last 10 months. <quote_>"But we're all kind of holding our breath."	A	Frown A
71	Land-based	Among the plans' proposals that are likely to generate debate is placing <i>land-based</i> Marine Corps aircraft on Navy carriers and assigning Air Force bomber pilot jobs to reservists.	A	Frown A
72	Democrat-controlled	Still, Bush blamed the <i>Democrat-controlled</i> Congress for refusing to pass a Bush administration package he said contained the incentives businesses need to buy new equipment and hire more workers.	A	Frown A
73	Riot-torn	SIX months ago, as they walked through the smoking ruins of <i>riot-torn</i> Los Angeles, all of the presidential candidates had on their lips the heady promise of urban aid for inner cities.	A	Frown A
74	Community-based	"But," he says, "equally as important, he should target established <i>community-based</i> groups such as the resident-management corporations in public housing. Many of these are setting up businesses and hiring former welfare recipients.	A	Frown A
75	Tree-lined	Along the main promenade of town, the <i>tree-lined</i> Ramblas, sidewalk artists had already added Magic Johnson's face to the standard repertoire of Marilyn Monroe and Emperor Hirohito, and copies of Magic's biography were piling up next to canine pianists, peep shows and Ecuadorian panpipers.	A	Frown A
76	Colorado-based	George Bush invokes the "Nitty Ditty Great Bird"<quote/> - most likely referring to a <i>Colorado-based</i> country group, the Nitty Gritty Dirt Band, but it's hard to say - in his stump speeches. Who's next for Bush? Garth Brooks?	A	Frown A

n.	Compound	occurrence	position	category
77	Youth-oriented	Away from the stage at the traveling Lollapalooza festival - which features seven <i>youth-oriented</i> rock 'n' roll bands - fans can try their skills at "Wake Up George Bush - \$1 a swing" strength tests.	A	Frown A
78	City-owned	The San Francisco Board of Supervisors, irate over the discovery that department heads were driving "fully loaded, top of the line luxury cars at taxpayer expense," unanimously passed legislation Monday to restrict officials' future use and purchase of <i>city-owned</i> cars.	A	Frown A
79	City-owned	Proposing to penalize city employees who have driven their <i>city-owned</i> cars to and from their residences.	A	Frown A
80	Seattle-based	Late Monday, <i>Seattle-based</i> Boeing issued a service bulletin asking all airlines to inspect fuse pins that help connect engines to the wings of 747-200s, -100s and -300s.	A	Frown A
81	V-shaped	On Sunday, the El Al 747-200 slammed into the angle of the <i>V-shaped</i> building 14 minutes after takeoff. Its pilot had reported one starboard engine on fire six minutes after takeoff and the other starboard engine ablaze six minutes later.	A	Frown A
82	Houston-based	"We are very proud to have set new standards for this business across the country," said Mr. Izzedin, a former <i>Houston-based</i> topless-club impresario who plans to open Cabaret Royales in several U.S. cities.	A	Frown A
83	Dallas-based	But as long as the city allows the existing clubs to stay open, money will continue to be made, says Mr. Kirkendoll, who hopes to sell stock in his <i>Dallas-based</i> Entertainment Corp. of America to the public later this year to raise money for expansion.	A	Frown A

n.	Compound	occurrence	position	category
84	Military-controlled	Another provision would limit the powers of the <i>military-controlled</i> Senate.	A	Frown A
85	U.S.-trained	At week's end, more than 50 people, including 19 soldiers, had died in rural battles between 1,400 <i>U.S.-trained</i> government troops and fighters of the Colombian Revolutionary Armed Forces (FARC) and the National Liberation Army (E.L.N). By one report, FARC's longtime leader, Manuel Marulanda, 58, had fled to Peru.	A	Frown A
86	Los Angeles-based	Among the lenders it labeled <quote_>"Crippled Giants" were Wells Fargo & Co. and Security Pacific Corp. Both, according to the study, began the year with "severe shortages of capital" and could have a difficult time meeting tougher equity standards, given the weak California real estate market. (<i>Los Angeles-based</i> Security Pacific was merged into BankAmerica Corp. earlier this year.)	A	Frown A
87	New York-based	The SEC declined to comment on the matter. A spokesman for the Business Roundtable, a <i>New York-based</i> group of corporate executives that has opposed efforts to increase regulation of executive pay, called the plan "completely unnecessary."	A	Frown A
88	Philadelphia-based	"We are nearer recession," said Kurt Karl of the WEFA Group, a <i>Philadelphia-based</i> consulting firm.	A	Frown A
89	Decatur-based	If an agreement with <i>Decatur-based</i> Prime Bancshares succeeds, Birmingham, Ala.-based SouthTrust would bolster its network here with \$686 million in assets and 14 more branches.	A	Frown A
90	Ala.-based	If an agreement with Decatur-based Prime Bancshares succeeds, Birmingham, <i>Ala.-based</i> SouthTrust would bolster its network here with \$686 million in assets and 14 more branches.	A	Frown A

n.	Compound	occurrence	position	category
91	Decatur-based	The letter of intent announced Thursday is the second buyout pact between a <i>Decatur-based</i> thrift and an out-of-state bank this summer.	A	Frown A
92	Mortgage-backed	Prime Bancshares was forced to restate its results this year, after regulators told the company to reduce the value of its portfolio of Treasury and <i>mortgage-backed</i> securities.	A	Frown A
93	American-led	Last week Hong Kong awarded a consortium led by Sea-Land Servicing a half share - worth \$2.6 billion - in the construction and operation of a new container terminal, after Consul General Richard Williams spent months emphasizing how the <i>American-led</i> group could infuse competition into cargo handling.	A	Frown A
94	U.S.-owned	Officially, the State Department lets diplomats work on behalf of <i>U.S.-owned</i> companies that want to sell products with at least 51 percent U.S. content.	A	Frown A
95	U.S.-owned	But despite Washington's wishes, the future holds fewer - and fewer <i>U.S.-owned</i> - airlines.	A	Frown A
96	Smoke-clogged	Anyone who has ever ducked into a <i>smoke-clogged</i> cafe in Warsaw, Prague, Budapest or Moscow already knows that Eastern Europeans are among the world's most enthusiastic puffers.	A	Frown A
97	Night-darkened	<i>Night-darkened</i> streets under blue skies.	A	Frown A
98	Rock-oriented	Rock 'n' rollers in their 30s and 40s with lingering dreams of making it in pop music have only a slight chance of getting signed to major, <i>rock-oriented</i> labels.	A	Frown A
99	Youth-oriented	Though the record industry is still <i>youth-oriented</i> , it seems that yuppie musicians and consumers are quietly waging a revolution that is putting a dent in rock record and concert sales.	P	Frown A

n.	Compound	occurrence	position	category
100	Adult-oriented	In contrast to all this <i>adult-oriented</i> activity, rock record sales slowly have been declining since the mid-1980s, while country and other music forms have been enjoying steady gains, according to Recording Industry Association of America's Statistical Overview for 1991.	A	Frown A
101	Adult-oriented	Ron Goldstein is president and chief executive officer of Private Records, a Los Angeles-based company with a largely <i>adult-oriented</i> pop roster that includes Starr, guitarist Leo Kottke and Andy Summers, formerly of the Police.	A	Frown A
102	Los Angeles-based	Ron Goldstein is president and chief executive officer of Private Records, a <i>Los Angeles-based</i> company with a largely adult-oriented pop roster that includes Starr, guitarist Leo Kottke and Andy Summers, formerly of the Police.	A	Frown A
103	Hollywood-based	Sterling Haug is founder of the Musicians Contact Service, a <i>Hollywood-based</i> referral service.	A	Frown A
105	Japanese-made	It means lower prices for Japanese diners - American sushi costs about half as much as <i>Japanese-made</i> .	P	Frown B
106	Osaka-based	So, it was good news the other day when Japan relented and let in a shipment of 950 frozen sushi samples from Escondido to the-restaurant, <i>Osaka-based</i> Sushi Boy chain.	A	Frown B
107	Vinegar-flavored	Well, they decided, sushi just isn't sushi without attachment of fish and the sticky <i>vinegar-flavored</i> rice.	A	Frown B
108	Democrat-sponsored	Several parts of the Republican governor's package match or closely resemble the <i>Democrat-sponsored</i> legislation he rejected.	A	Frown B

n.	Compound	occurrence	position	category
109	Minnesota-based	Baltimore and Miami school officials have given <i>Minnesota-based</i> Educational Alternatives a contract to manage some schools.	A	Frown A
110	China-made	America, instead of threatening to wall out <i>China-made</i> underwear in the name of supporting free trade and human rights, could more clearly and consistently penalize China's faults simply by showing support for Taiwan's virtues.	A	Frown B
111	Corn-derived	Preparing for President Bush's campaign stop, Edgar, an unabashed cheerleader for ethanol, wondered what Bush would tell farmers about the future for the <i>corn-derived</i> alternative fuel.	A	Frown B
112	Ethanol-blended	The producers, in turn, get a federal tax subsidy to make <i>ethanol-blended</i> fuels competitive at the pump.	A	Frown B
113	Ethanol-blended	But science has turned what would seem like an easy political home run into a potential foul ball. Burning <i>ethanol-blended</i> gasoline reduces emissions of carbon monoxide, but it also creates more harmful ozone and smog than pure gasoline, especially on warmer days.	A	Frown B
114	Ethanol-blended	Now facing slower growth in ethanol sales, they want the rule changed, contending new evidence will show <i>ethanol-blended</i> fuels can be used in the largest cities year-round without damaging air quality.	A	Frown B
115	Decatur-based	In Illinois, corn farmers sell about 17 percent of their crop at premium prices to ethanol producers such as <i>Decatur-based</i> Archer-Daniels-Midland.	A	Frown B
116	Paris-based	In Barcelona, the daily work of seven photographers will be reviewed by associate picture editor MaryAnne Golon, <i>Paris-based</i> picture editor Barbara Nagelsmith and picture researcher Mary Worrel Bousquette.	A	Frown B

n.	Compound	occurrence	position	category
117	U.S.-built	Defect rates on <i>U.S.-built</i> cars are barely distinguishable from those of their Japanese counterparts, and such companies as Xerox and Motorola have become case studies in how quality drives corporate performance.	A	Frown B
118	Plutonium-powered	The most serious U.S. accident occurred in 1964, when a <i>plutonium-powered</i> satellite fell toward Earth, breaking up in the atmosphere and showering plutonium over vast areas of the planet.	A	Frown B
119	Disney-run	For the record, no one in the state parks systems has 'embraced' such ludicrous notions as a <i>Disney-run</i> railroad at Mount Tamalpais State Park, as implied in your editorial, "Turning parks into profits: the Ansel Adams Marriott" (Sept. 27).	A	Frown B
120	Community-based	Several <i>community-based</i> peace organizations like the Grandmothers for Peace and the Monadnock Greens have contacted me about their efforts on behalf of C.O.s.	A	Frown B
121	Heart-felt	WHEN ALL THE HOOPLA and campaign rhetoric of the Democratic National Convention are long since forgotten - probably a few weeks from now - Elizabeth Glaser's <i>heart-felt plea</i> on behalf of present and future AIDS sufferers should remain burnished in the nation's memory: "America, wake up. We are all in a struggle between life and death."	A	Frown B
122	Ego-driven	How much more inside can you get? How many billionaires do you know who are not " <i>ego-driven</i> , power-hungry people"?	A	Frown B
123	Battle-hardened	A heart-wrenching account of Smith's wartime experiences, the book tells of her odyssey from being an idealistic young nurse who feared the war would end before she got there to becoming a <i>battle-hardened</i> veteran.	A	Frown C
124	Blood-soaked	Pared down to the verbal equivalent of Gillespie-Kenton rebop, Ellroy's prose scans nervous, jittery, polyphonic and <i>blood-soaked</i> .	P	Frown C

n.	Compound	occurrence	position	category
125	Crime-garnished	In the last five years, since he began what he calls his 'Los Angeles Quartet,' four books about the <i>crime-garnished</i> margins of L.A. circa 1958, he's dropped verbiage and parts of speech like a clumsy waiter with a tray full of dirty dishes.	A	Frown C
126	Cable-equipped	Remember that special MTV moment just a few years back when, in the middle of 'Vogue,' an unidentified male dancer heartily squeezed Madonna's corseted bust on cue for all the <i>cable-equipped</i> world to see?	A	Frown C
127	Male-dominated	"I had always been interested in how women succeeded in what were considered to be <i>male-dominated</i> environments," she explains, and the reader gets a little nervous about what the author believes constitutes success.	A	Frown C
128	Boesky-inspired	Trader Boyd Jeffries, who testified against James Sherwin of GAF Corp., had his <i>Boesky-inspired</i> conviction reversed by this appeals court, which also overturned Giuliani /RICO convictions against securities firm Princeton /Newport and Edwin Meese's friend Robert Wallach.	A	Frown C
129	Youth-drenched	Naturally, this series is from the <i>youth-drenched</i> pens of producer Aaron Spelling's factory. And, the characters are a handsome, lithe and pearly-toothed bunch.	A	Frown C
130	Copper-clad	If you take a right turn just inside the revolving door, you'll end up in the bar area, which is separated from a small dining area by a wall of wines. In one corner are two rustic, strikingly beautiful, <i>copper-clad</i> , wood-burning ovens that are used for pizza and certain pasta dishes.	A	Frown C
131	Hand-painted	The main dining room, with its decorative beaux-arts motif, is composed of a series of levels - five, it seems - that starts with an inlaid marble floor and ends way up there, 30 feet or more, with open balcony seating and small dining rooms that feature <i>hand-painted</i> , fresco-like artworks with a Sistine Chapel feel.	A	Frown C
132	Sun-dried	Pasta dishes are built with <i>sun-dried</i> tomatoes, artichoke hearts, wild mushrooms, arugula, grilled vegetables and other ingredients that create tiers of flavor.	A	Frown C

n.	Compound	occurrence	position	category
133	Spit-roasted	Entrees follow a similar pattern, boasting names that if they weren't in Italian would defy provenance. Maiale allo spiedo, for example, becomes <i>spit-roasted</i> loin of pork served with garlic whipped potatoes, mixed peppers and buttered escarole.	A	Frown C
134	Corkscrew-shaped	A pasta dish of <i>corkscrew-shaped</i> pasta (cavatappi) in a Parmesan-rich Alfredo sauce with swirls of fresh spinach and pounded thin slices of breast of chicken was a delicious piece of pasta work in every respect.	A	Frown C
135	Spit-roasted	But a <i>spit-roasted</i> herb chicken dish was woefully short on flavor.	A	Frown C
136	Planet-filled	He summons up a <i>planet-filled</i> sky, and flies away.	A	Frown C

Adv-ed participle

n.	compound	occurrence	position	Category
1	long-awaited	JOHN MAJOR will launch a Tory offensive today by unveiling his <i>long-awaited</i> Citizens' Charter	A	Flob A
2	newly-merged	The French giant Compagnie Generale des Eaux, which already owned 28 per cent of Colne, 16 per cent of Rickmansworth and the whole of Lee, bought the <i>newly-merged</i> company.	A	Flob A
3	ill-advised	Kurdish guerrilla groups resent the suggestion that they miscalculated by launching an <i>ill-advised</i> rebellion throughout Iraqi Kurdistan after the allies defeated Mr Saddam's army and drove it out of Kuwait	A	Flob A

n.	compound	occurrence	position	Category
4	carefully-staged	The row wrecked the <i>carefully-staged</i> show of unity which TUC chief Norman Willis had worked for.	A	Flob A
5	Best-known	Unfortunately he cannot pick Ian Baker-Finch, one of the <i>best-known</i> golfers in the world.	A	Flob A
6	Spiritually-orientated	She is looking for "a creative, <i>spiritually-orientated</i> millionaire".	A	Flob A
7	New-found	SAFELY home after his dash across the world, the Prime Minister settled down yesterday to consider a <i>new-found</i> remedy to relax from the rigours of life in the political fast lane.	A	Flob A
9	New-born	THE ADVERTISING Standards Authority yesterday asked Benetton, the fashion retailer, to withdraw a poster which shows a <i>new-born</i> baby smeared in blood.	A	Flob A
10	Sharply-worded	Its announcement was coupled with a <i>sharply-worded</i> attack on the clothes company- rare for the authority which operates a code of practice through widespread consent in the industry.	A	Flob A
11	ill-informed	Teachers issued a statement saying that many of critics were <i>ill-informed</i> and politically motivated.	P	Flob A
12	Best-known	At last, he believes, he will be able to confound those casting directors who simply want him to repeat his <i>best-known</i> roles.	A	Flob A
13	Aptly-named	For the <i>aptly-named</i> Walter Raleigh in 1907 Shakespeare indeed became a symbol of maleness, Englishness and even linguistic imperialism.	A	Flob A

n.	compound	occurrence	position	Category
14	Specially-supplied	And where's John Major while all this is happening? Gosh, there he is in bed in his true-blue Marks and Sparks pyjamas, with a <i>specially-supplied</i> early copy of the next Jeffrey Archer Thriller.	A	Flob A
15	freely-elected	June, American analysts believe, he should be the first <i>freely-elected</i> leader of Russia.	A	Flob A
16	Full-blown	But whereas last year Mr Bush merely "dropped in" on Mr Yeltsin during a short meeting with Mr Scowcroft at the White House, this time, in his probably new position as President of the Russian Federation, he is expected to have <i>full-blown</i> meetings with the American President and Secretary of State.	A	Flob A
17	ill-prepared	Two facile successes in uncompetitive races leave Desert Dirham <i>ill-prepared</i> for battle against seasoned handicappers.	P	Flob A
18	Long-delayed	Last Tuesday afternoon he outlined to his Opera Board a new plan for the future, including speculation on a post-Bernard Haitink music directorship that included the names of Abbado and Muti, as well as the possibility of younger names to cover the <i>long-delayed</i> and still doubtful closure of the house, now put back to at least 1996.	A	Flob A
19	much-needed	Rovers approached the match full of hope, especially after the <i>much-needed</i> win at Swinton last Sunday.	A	Flob A
20	well-known	He and his wife Diana returned in March from a trip to visit one of their two sons in Australia, which explains much of his absence from County Hall and the increasingly rare opportunities to hear the cogent speeches for which he is <i>well-known</i> .	P	Flob A
21	much-needed	Brenda received a much-needed boost to help her recover from illness and went home on Tuesday to Dene Wood, Totteridge, with a big smile on her face.	A	Flob A

n.	compound	occurrence	position	Category
22	partially-completed	An empty house on the cliffside below, badly damaged by fire five weeks ago, is under renovation, and the whole of the <i>partially-completed</i> roof had been lifted by the gusting 80 mph winds, tossed high into the air, turned upside down, blocking their back door.	A	Flob A
23	Ready-grown	Now, with the proliferation of garden centres and do-it-yourself megastores people can buy <i>ready-grown</i> plants and flowers whenever they like, even on a Sunday in most areas.	A	Flob B
24	Well-informed	Some forecasters of the date will, of course, eventually prove to be right. But only because they made a good guess, not because they were <i>well-informed</i> .	P	Flob B
25	Elegantly-written	Even Roy Jenkins, in his <i>elegantly-written</i> autobiography <i>A Life at the Centre</i> (Macmillan, pounds20), falls into the same trap.	A	Flob B
26	Best-loved	DEREK Jameson has got the boot, or at least the slipper, from his BBC show, the afternoon <i>Woman's Hour</i> is being switched to the morning, ball-by-ball Test Match commentary has been scrapped and <i>Gardener's World</i> is cutting down on some of its <i>best-loved</i> presenters.	A	Flob B
27	New-born	Other findings include a 17 per cent vote for David Owen as next PM, and a widespread feeling that the Benetton poster of the <i>new-born</i> baby is an anti-Labour smear campaign by the Tories.	A	Flob B
28	Closely-guarded	Lenin, whose embalmed body lies in the closely-guarded mausoleum nearby, showed no signs of remorse.	A	Flob B

n.	compound	occurrence	position	Category
29	Little-fancied	No Prime Minister likes to have to run the full course, though the historical precedents are not so daunting as many pundits think. The last Tory leader to do so, the <i>little-fancied</i> Alec Home, very nearly pulled off a surprise victory in 1964, against a (then) immensely impressive opponent, Harold Wilson.	A	Flob B
30	ill-formed	GEOFFREY TAYLOR's opinion about the role of the electricity was disappointingly <i>ill-formed</i> , particularly so since the author declares himself a "Card Carrying environmentalist."	P	Flob B
31	Longer-established	Contrary to Taylor's assertions, renewable forms of energy now provide for about 20 per cent of the world's primary supply; not just from wind, but also from bio-mass, hydro power and solar energy. This figure should be compared with the <i>longer-established</i> nuclear industry's contribution of only 12 per cent.	A	Flob B
32	Much-publicised	Last week they received the <i>much-publicised</i> 10.9 per cent increase on the basic state pension, bringing it to pounds52 for a single person and pounds83.25 for a couple.	A	Flob B
33	Newly-reported	Indeed, in its bulletin published in March, the working party noted that the continued use of the lifestyle questionnaire appears to be vindicated by the fact that two-thirds of <i>newly-reported</i> cases of HIV infection are from among the homosexual community.	A	Flob B
34	Well-motivated	At the present time both the government and medical representatives such as the BMA seem intent on burying their heads in the sand, rather than risk criticism from those <i>well-motivated</i> but vociferous interest groups that have made Aids their special preserve.	A	Flob B

n.	compound	occurrence	position	Category
35	Well-bred	At the very top, the Indian establishment prefers jobs to be inherited within particular famous families, because they are rich and public-spirited and <i>well-bred</i> enough not to seek to be bribed, especially by the manipulators' rivals. When brave Indira Gandhi inherited her father Nehru's job, she still bossily believed in some of his Fabian socialism.	P	Flob B
36	Worse-placed	His heroic but politically inexperienced Italian-born widow would be even <i>worse-placed</i> to bring in reforms, which is why she has rightly resisted being conscripted.	P	Flob B
37	Long-forecasted	But the Chancellor hyped the figures much more than most economists, no doubt in an excess of anxiety to welcome the <i>long-forecasted</i> end to the recession.	A	Flob B
38	Full-blown	This must be true of the <i>full-blown</i> federalist formula, from which the Dutch themselves have now retreated; and there are flaws in even the Mark 2 version.	A	Flob B
39	Well-publicised	However, this new scheme does not mean that peace has broken out between York City Council and Ryedale District Council, who have had <i>well-publicised</i> differences over park-and-ride in the past.	A	Flob B
40	Best-crafted	At Labour's conference the will to win was so palpable that no one wanted to rock the boat. It seemed to have taken on the old Tory style of a party rally. Neil Kinnock, in the <i>best-crafted</i> speech of his career, showed his total command of the party and put the case that it was time for a change of government.	A	Flob B

n.	compound	occurrence	position	Category
41	High-powered	Indeed Mr Capstick's nomination for this safe Labour seat prompted a <i>high-powered</i> team from the party's London headquarters to descend on Yorkshire last night with the express intention of ousting him.	A	Flob B
42	Ill-judged	SPURS star Paul Gascoigne was 77 minutes away from the likelihood of becoming the richest footballer in Europe when he made his <i>ill-judged</i> tackle in Saturday's FA Cup final.	A	Flob B
43	Long-forgotten	OVER the weekend, the South West's longest serving MP - Robin Maxwell-Hyslop - celebrated the 31st anniversary of his victory in the <i>long-forgotten</i> Tiverton by-election of 1960.	A	Flob B
44	Ill-advised	While Jack Warner was flexing his knees, blowing on his hands and delivering a Saturday night homily, people <i>were ill-advised</i> to shake hands with a senior police officer without counting their fingers afterwards.	P	Flob B
45	Hard-pressed	There aren't a lot of snow-capped mountains to climb, and you would be <i>hard-pressed</i> to discover an abundance of opera houses or concert halls.	P	Flob B
46	Well-remembered	Both <i>well-remembered</i> former mayors have since died. But Ralph says he is not superstitious about things like that and will be chairing the meeting as usual.	A	Flob B
47	Best-known	TELEVISION viewers throughout Britain will be getting an insight into one of Lincolnshire's <i>best-known</i> country houses tomorrow when BBC-2 screens, once again, the Heirs and Graces programme about the Elizabethan house.	A	Flob B

n.	compound	occurrence	position	Category
48	Long-predicted	Here are no disparate <tf >essentially different (Oxford English Dictionary) - facts in the context of international events in which the Gulf apocalypse is but one - and <i>long-predicted</i> - result of the capitalist West's espousal of fascist military dictatorships (Turkey) and feudal dictatorships (all the Gulf states, excluding Iran, since the American CIA-planted shah was deposed in 1979, and Yemen, which voted with Cuba against Resolution 678, which led to the Gulf slaughter.	A	Flob B
49	Well-behaved	The afternoon was most enjoyable: the groups in the main were good, the children's entertainers superb, the crowd <i>well-behaved</i> , and the police good-humoured.	P	Flob B
50	Lesser-known	I started from scratch and my aim is to take passengers to the <i>lesser-known</i> Cotswold lanes and villages.	A	Flob B
51	Well-stocked	Similarly, some supermarkets are unkempt with poor stock control and long check-out queues, but others are clean, <i>well-stocked</i> , and brimming with good service that makes shopping a pleasure instead of a chore.	P	Flob B
52	Privately-owned	Over in West Craven, Barnoldwick's Bancroft Mill is <i>privately-owned</i> , but is grateful for the support of Pendle Council and others.	P	Flob B
53	Plain-spoken	He makes a <i>plain-spoken</i> , rather uncomplicated Hamlet who sometimes seems scarcely to know what's hitting him but bravely tries to mould fate to his own ends all the same.	A	Flob C

n.	compound	occurrence	position	Category
55	Long-lost	The writer-director Sergei Bodrov, born in Khabarovsk, in the Soviet Union's far eastern corner, never knew his own father until he was 30; he makes the meeting between questing son and <i>long-lost</i> father the emotional high-point.	A	Flob C
56	Better-known	But now Michael Elphick and Don Henderson have stepped out of their <i>better-known</i> roles as TV detectives, Boon and Bulman, to solve the mystery of how to get a hot dinner on the table, with the minimum of investigations.	A	Flob C
57	Tightly-written	At <i>tightly-written</i> script directed by Bob Spiers cleverly established Mrs Red's lady-who-lunches lifestyle, including the athletic young black stud for whom she is about to leave her long-suffering husband and daughter.	A	Flob C
58	Well-drilled	His musical director Marc Shaiman and his young musicians - who all deserve credit - have proved that, after all these years, there is still nothing quite as thrilling as a <i>well-drilled</i> big band.	A	Flob C
59	Long-deceased	ew observers would have predicted that Natalie Cole's latest single, a slightly ghoulish duet of Unforgettable with her <i>long-deceased</i> Pa Nat King Cole, would have been the massive hit it's become, but then good taste and the charts are rare bedfellows.	A	Flob C
60	Best-known	I was vaguely dreading the accompanying album, Unforgettable (Elektra), expecting more of the same, but happily Natalie has decided to record the rest of her father's <i>best-known</i> songs by herself, with no apparent assistance from beyond the grave.	A	Flob C

n.	compound	occurrence	position	Category
61	Much-loved	I bow to no one in my virulent loathing of the song Miss You Like Crazy, but it was <i>much-loved</i> by millions and certainly added quite a few pennies to the Cole fortune.	P	Flob C
62	Well-dressed	The young Pip, too, played by Martin Harvey, was prematurely <i>well-dressed</i> for the scion of a poor blacksmith's household, who is only later to come into money.	P	Flob C
63	Far-fetched	It is said to be based on a true story, though some incidents - for example, the ease with which young Martin commuted to and from the ghetto, and his escape from a Gestapo hospital by feigning typhoid - looked distinctly <i>far-fetched</i> .	P	Flob C
64	Openly-articulated	Outwardly the apparatus, voluminous libraries, bulging archives, foundations, endowments, university presses, looks magnificent, especially to the British, citizens of a country in which <i>openly-articulated</i> contempt for higher education has now become an article of faith.	A	Flob C
65	Long-overdue	Later in the month, there will be new works from Elena Firsova and Dimitri Smirnov, as well as the <i>long-overdue</i> first London performance of Sofia Gubaidulina's fine Offertorium.	A	Flob C
66	Close-knit	In Vienna, Miller had grand opera stars for the Almas, the blossoming American soprano Cheryl Studer and veteran Italian bass, Ruggero Raimondi, and however effectively they suppressed their super-egos in favour of a <i>close-knit</i> ensemble, Glyndebourne's youthful Count and Countess, Jeffrey Black and Gunnel Bohmann, were both vocally and histrionically more affecting. Bohmann has vastly improved her form since the opening night in 1989 and presents the Countess, rightly in my view, as a young wife deeply anxious about the state of her marriage, rather than the tragedy queen of many large-house productions.	A	Flob C

n.	compound	occurrence	position	Category
67	Well-endowed	Both companies field fine Cherubinos: Gabrielle Sima in Vienna is a charming soprano paggio in the Jurinac mould who deserves to be seen at Covent Garden, while Glyndebourne's Marianne Rohrholm, though not so <i>well-endowed</i> vocally, is a real charmer.	P	Flob C
68	downtrodden	In the left-hand corner, a <i>downtrodden</i> husband, a pretty daughter (though just occasionally she sounds like a chip off the old block), a perky sailor, a sailor's pawky Scottish shipmate, a sexy niece ... just about everyone else, in fact - but will their combined forces prove a match for her?	A	Flob C
69	Close-run	In the end the play comes down on the side of marriage and the family, but it is a <i>close-run</i> thing.	A	Flob C
70	Hard-driven	Exciting to the point of being <i>hard-driven</i> in the dramatic moments, Daniel appears unwilling to relax in the more lyrical episodes, almost, it seems, for fear of admitting that there is another side to the opera.	P	Flob C
71	Ill-favoured	"He moved his eyes off her, an act of will", runs the epigraph to Lee Friedlander's book of nude women. His models are sometimes <i>ill-favoured</i> with cellulite and scars.	P	Flob C
72	Long-lost	Instead, the poet presents Penelope confronting her <i>long-lost</i> husband with the riddle of the olive-tree bed.	A	Flob C
73	Well-turned	This <i>well-turned</i> production, directed by Eric Standidge, earned the loudest applause from the smallest audience I've yet seen at the Arts. You needed to have been there.	A	Flob C

n.	compound	occurrence	position	Category
74	Widely-spaced	he had the audience hanging on every beautifully judged note in the <i>widely-spaced</i> theme of the Adagio movement.	A	Flob C
75	widespread	In a rare split on a major national foreign policy initiative, there were also <i>widespread</i> charges yesterday that Tokyo had unwisely allowed latent nationalistic instincts to prevail in its dealings with a longtime rival.	A	Frown A
76	Fresh-scrubbed	Also in the spotlight are the 34 clerks - <i>fresh-scrubbed</i> lawyers, mostly white males - who help screen cases and write opinions.	A	Frown A
77	Well-machined	The executive producer of Murphy Brown, Diane English, had a <i>well-machined</i> answer for Quayle: "If the Vice President thinks it's disgraceful for an unmarried woman to bear a child, and he believes that a woman cannot adequately raise a child without a father, then he'd better make sure abortion remains safe and legal."	A	Frown A
78	Much-heralded	<i>Much-heralded</i> programs like the Comprehensive Employment and Training Act [CETA] under President Nixon and the Model Cities program under Mr. Johnson saw many funds end up in middle-income projects - or become lost in bureaucratic delays and policy shifts, some urban specialists say.	A	Frown A
79	Short-lived	But, Nofziger says, it was political supporters like himself who were pushing the idea of a presidential campaign in 1968. Reagan took part in the discussion, but he was skeptical then and still didn't have his heart in it when he formally launched his first, <i>short-lived</i> , campaign for president two years later, Nofziger says.	A	Frown A

n.	compound	occurrence	position	Category
80	Ill-advised	Regents praised a report by former legislative analyst A. Alan Post that called for dropping all such " <i>ill-advised</i> " benefits, but they did not recommend that Peltason embrace all of Post's suggestions. Peltason stressed that he would not consider a plan that cut executive pay.	A	Frown A
81	Nearly-packed	LA&S Dean James Norris gave his annual state of the college address to a <i>nearly-packed</i> Collins Auditorium at Cole Hall on Friday afternoon.	A	Frown A
82	Well-capitalized	She said because the study was based on 1991 year-end figures, it was out of date and misleading. "We have been adding substantially to our capital ratios and are <i>well-capitalized</i> " by regulatory standards.	P	Frown A
83	widespread	Analysts cited various factors such as the continued turmoil on European currency exchanges and <i>widespread</i> economic weakness not only in the United States but also in Europe and Japan as major contributing factors to the market jitters.	A	Frown A
84	Broad-based	A buying frenzy continued in the stock market for the second straight day Wednesday, pushing one <i>broad-based</i> stock index to a record in the heaviest trading since mid-January.	A	Frown A
85	Seldom-seen	he traveling retrospective, tersely titled 'Magritte,' shows us the complete artist in 150 works in various mediums. (Organized by the Hayward Gallery in London, it is at the Metropolitan Museum through Nov. 22). Included are his <i>seldom-seen</i> and highly twisted essays in impressionism and the crude jokester works he called his vache (cow) paintings done during the late '40s in occupied Brussels.	A	Frown A

n.	compound	occurrence	position	Category
86	Well-known	Walden's comment must resonate with <i>well-known</i> former teen idols such as Ringo Starr and David Cassidy - acts with built-in cult followings who have had to sign deals with independent labels.	A	Frown A
87	Well-received	Though trends would suggest an adult pop phenomenon would be <i>well-received</i> by consumers, some experts say mature music is a very hard sell.	P	Frown A
88	Sad-colored	A throng of bearded men, in <i>sad-colored</i> garments and gray, steeple-crowned hats, intermixed with women, some wearing hoods, and others bareheaded, was assembled in front of a wooden edifice, the door of which was heavily timbered with oak, and studded with iron spikes."	A	Frown A
89	Hardest-pressed	Indeed, bottlers who showed up to distribute free water were a Godsend for many of the <i>hardest-pressed</i> residents.	A	Frown B
90	Far-flung	The speech, and the <i>far-flung</i> program that it contained, had earnestness and urgency, if not always freshness.	A	Frown B
91	Well-choreographed	A remarkably <i>well-choreographed</i> evacuation effort succeeded in convincing an estimated 700,000 people to move out of harm's way.	A	Frown B
92	Hard-hit	More grim news is probably on its way, as reports from <i>hard-hit</i> areas come in and the hurricane rages on.	A	Frown B

n.	compound	occurrence	position	Category
93	Well-rounded	They cannot be permitted to skimp on the product they produce - education - the way a fast-food chain can cut down the size of a hamburger. The goal is not to churn out products driven by profit margins, but <i>well-rounded</i> students who can succeed in college, in vocational school and in life.	A	Frown B
94	Newly-drawn	In the <i>newly-drawn</i> 11th District, Cynthia McKinney and George DeLoach will vie for the Democratic nod, while Republicans Woodrow Lovett and Savannahian Michael Pratt will fight to carry their party's flag.	A	Frown B
95	Long-stalled	The transition from George Bush to Bill Clinton has temporarily given the U.S. powerful leverage to move the <i>long-stalled</i> Uruguay Round of trade talks ahead.	A	Frown B
96	Well-planned	The city's plan shows that half of the waste could be captured in <i>well-planned</i> recycling and composting programs, at a lower cost than it would take to bury or burn it.	A	Frown B
97	Long-cherished	The party faithful could shout and cheer, but the average American, in debt, jobless, laid off, worried about keeping kids in college, fearing the loss of a <i>long-cherished</i> home, had better be smart enough to ask: "What the hell did Bush mean?"	A	Frown B
98	Well-intentioned	I amazes me that a <i>well-intentioned</i> program that provides minority businesses with government contract opportunities can be so easily manipulated.	A	Frown B
99	Socially-retarded	It's precisely these close-minded and <i>socially-retarded</i> attitudes that cause many of the growing pains communities in our country experience as they undergo the transition from big towns to small cities.	A	Frown B

n.	compound	occurrence	position	Category
100	Hard-fought	An ad from members of the environmental community criticizing the recently announced designation of the Monterey Bay National Marine Sanctuary makes accusations that do not reflect the <i>hard-fought</i> safeguards for this treasured portion of California's coast (Op-Ed page, July 22).	A	Frown B
101	widespread	The use of torture by the French military was <i>widespread</i> .	P	Frown B
102	Already-crowded	The article 'Immigration Issues Land in Clinton's Lap,' Nov. points out our continuing problem of hordes of people from <i>already-crowded</i> countries trying to enter the United States regardless of quotas.	A	Frown B
103	Less-developed	The US devotes less than 3 percent of its total foreign aid appropriation to bringing down the birthrates of <i>less-developed</i> countries.	A	Frown B
104	Well-paid	The tragic consequence of his billion-dollar fantasy, fed by a host of <i>well-paid</i> sycophants, is that he fails to understand we Americans do not speak with one voice.	A	Frown B
105	Well-hewn	Twelve years ago, when Ellroy, a self-confessed druggie, alcoholic, thief, went on the wagon and wrote his first book - 'Brown's Requiem,' an elegiac stroll into Los Angeles' seedy underbelly of itinerant golf caddies, crooked cops, Mexican whores and white powder traffickers - all the elements of his <i>well-hewn</i> prose style were there: the offbeat hero not afraid to soil his hands or use his gun; a rogue's gallery of characters who, morally corrupt or not, are always riveting; a plot that zigs when you expect it to zag.	A	Frown C

n.	compound	occurrence	position	Category
106	Well-cooked	Reading this book is like stuffing oneself on a delicious, well-cooked meal and feeling oddly <i>ill-nourished</i> and hungry again before the plates are cleared.	A	Frown C
107	Ill-nourished	Reading this book is like stuffing oneself on a delicious, well-cooked meal and feeling oddly <i>ill-nourished</i> and hungry again before the plates are cleared.	P	Frown C
108	Far-flung	Albert Louis, the patriarch of the <i>far-flung</i> clan, loses just about everyone he has ever loved to early death. During different fits of mourning, Albert is an ascetic, a drunk or a hermit.	A	Frown C
109	Better-known	Garth also joined in some rock 'n' roll repartee with Bono. "I don't mean to bug ya!" said the young Auroran, mocking one of Bono's <i>better-known</i> recorded quips.	A	Frown C
110	widespread	Still, <i>The Famine Within</i> is a stimulating look at a <i>widespread</i> American phenomenon.	A	Frown C
111	Much-anticipated	These caveats aside, the newly redesigned, <i>much-anticipated</i> , thoroughly gossiped about Harper's Bazaar displays in its September issue a calm, elegant new design and absolutely lush photos by Patrick Demarchelier.		Frown C
112	Well-known	Vita and Harold married in 1913 and had two sons, the youngest of whom, Nigel, wrote the <i>well-known</i> memoir of his parents' unusual union, <i>Portrait of a Marriage</i> , to which this collection of letters is an apt companion.	A	Frown C
113	Hard-boiled	She claims to have written about 3,000 murder cases in her career and is famous for her <i>hard-boiled</i> , jived-up leads.	A	Frown C

n.	compound	occurrence	position	Category
114	Hard-driven	The melodies reflect the agitprop 'Kampflieder' (fighting songs) of the 30's - <i>hard-driven</i> , modal, acrid, rejecting the allure of Tin Pan Alley - but the richly textured and harmonized piano parts raise the songs to the level of recital pieces.	P	Frown C
115	widespread	The exporters' conspiracy results in <i>widespread</i> hunger among the peasants, and near the end of the book, the novel's communist Joaquim, says "one day the land will belong to everyone."	A	Frown C
117	Best-known	The story focuses as much on passion as on politics, which should not surprise readers familiar with Mr. Amado's <i>best-known</i> translated work, Dona Flor and Her Two Husbands.	A	Frown C
118	Well-argued	A Question of Choice, Ms. Weddington's history of Roe from its beginnings at an Austin garage sale through its 19-year erosion, is a <i>well-argued</i> brief for pro-choice voters to get back to the ballot booths and make their wishes known.	A	Frown C
119	Nearly-forgotten	Now it can be Lip-Synched,' these <i>nearly-forgotten</i> singers are placed in a vocal pantheon side by side with Ethel Merman, Connie Francis and June Christy.	A	Frown C
120	Far-flung	Inspirations from <i>far-flung</i> places was the theme of the show, which was quirkily beautiful, even spiritual, in its use of fabrics, motifs and silhouettes from other cultures.	A	Frown C
122	Long-breathed	'Barren Land,' a 1949 tone poem by Mexican modernist Jose Pablo Moncayo, is baldly Ravelian in its <i>long-breathed</i> plangent lyricism except for an interlude of sashaying Mexican dance.	A	Frown C

n.	compound	occurrence	position	Category
123	Seldom-performed	Featured in last weekend's season finale were a pair of choral works from the composer's teen years. <i>Seldom-performed</i> and known mostly to cognoscenti, both show a budding genius gleefully at work, experimenting with musical layout and injecting earthly drama into liturgical materials.	P	Frown C
124	widespread	think Kaus is right. And he's right, too, to perceive not merely the negative side of this, the <i>widespread</i> popular disapproval of unfair hardship, but the positive side as well, the civic and psychological healthiness of mixing the classes, of having institutions where rich and poor stand in line together, go to meetings together, sit and root together in the bleachers or the grandstands.	A	Frown C
125	Soft-spoken	<i>A soft-spoken</i> American specialist in Chinese literature, Link portrays himself as an accidental player in the Tiananmen events.	A	Frown C

Self-ed participle

n.	compound	occurrence	position	category
1	Self-interested	I acted on the principle that if you are serving a friend as your boss, what you owe that boss is your candid, truthful, non <i>self-interested</i> advice."	A	Flob A
2	Self-made	DAVID CLOUGH went to meet him at his home in Hazlemere. GRAHAM Granaski is a <i>self-made</i> man.	A	Flob A

n.	compound	occurrence	position	category
3	Self-controlled	The Liberal Democrat conference was, in contrast with the free for all of the old Liberal party, a <i>self-controlled</i> affair.	A	Flob B
4	Self-imposed	As BC became AD, the Emperor Augustus, fretting over a successor, recalled Tiberius from <i>self-imposed</i> exile in Rhodes and sent him to lead a campaign against the fractious Germans.	A	Flob C
5	Self-satisfied	It was fascinating, partly because Madonna is an extraordinary woman, and partly because one kept catching glimpses of the intelligence that lurks behind Wogan's bland, <i>self-satisfied</i> mask.	A	Flob C
6	Self-identified	The enthusiastic support of political intellectuals has been the key to Clinton's success so far. While Harkin had some Big Labor, Tsongas some high-tech business, Wilder some blacks and Brown some <i>self-identified</i> progressives, Clinton organized the opinion-leaders and gatekeepers in the cool center of the political establishment.	A	Frown A
7	Self-induced	Delmatoff had plenty of time to throw in the season-opener. His pressure was <i>self-induced</i> .	P	Frown A
8	Self-guided	Twenty-two art spaces, including the Phoenix Art Museum and the Heard Museum, will take part in the <i>self-guided</i> tour of downtown studios, galleries, bookstores and museums.	A	Frown A
9	Self-funded	Flood insurance - sure to be soaked in claims by Andrew - is supposed to be <i>self-funded</i> but has been only since 1987. The fund now has \$359 million from premiums. But there is no certainty that will be enough.	P	Frown B
10	Self-absorbed	The bitter trade dispute now raging between America and Europe merely captures a larger reality: Western Europe is so <i>self-absorbed</i> that it's aggravating the conflicts of the post-cold-war world.	P	Frown B

n.	compound	occurrence	position	category
11	Self-inflicted	As for the economy, Europe's slump is <i>self-inflicted</i> and is hurting the rest of the world.	P	Frown B
12	Self-absorbed	Even if this occurs, though, Europe seems fated to remain <i>self-absorbed</i> by the impractical and irrelevant goals of the Maastricht Treaty.	P	Frown B
13	Self-assured	She gave the appearance of being <i>self-assured</i> , and anyone who has respect for themselves is sexy.	P	Frown B
14	Self-proclaimed	As California headed into a recession, the Congress voted itself a 40 percent pay raise. Among those voting for the raise was the <i>self-proclaimed</i> candidate of 'change,' Barbara Boxer.	A	Frown B
15	Self-confessed	Twelve years ago, when Ellroy, a <i>self-confessed</i> druggie, alcoholic, thief, went on the wagon and wrote his first book - 'Brown's Requiem,' [...]	A	Frown C
16	Self-absorbed	During different fits of mourning, Albert is an ascetic, a drunk or a hermit. Nicknamed "Soubarou" or "Wild Man," Albert spends so much time in the throes of grief that one is relieved when the <i>self-absorbed</i> old man finally dies his own death.	A	Frown C
17	Self-anointed	And in the weirdest proxy acceptance speech since Marlon Brando sent an American Indian to the podium to turn down an Oscar, Nirvana sent a Jackson impersonator up to accept the first of the band's two awards, with the impostor announcing that he was changing his <i>self-anointed</i> title from King of Pop to "King of Grunge-Rock."	A	Frown C
18	Self-proclaimed	Argentine journalist Jacobo Timerman casts an unflinching eye on the <i>self-proclaimed</i> 'workers' paradise' of Castro's Cuba in this vivid journal.	A	Frown C

n.	compound	occurrence	position	category
19	Self-induced	In totalitarian China, the state apparatus joins in the watching, putting intellectuals under enormous pressure. As Mr. Link, who teaches Chinese literature at Princeton University, shows, this pressure is partly <i>self-induced</i> , thanks to Chinese intellectuals' inbred caution and their historical sympathy for the state.	P	Frown C
20	Self-taught	The Grand Concerto for Cello and Orchestra (1915), by the <i>self-taught</i> Brazilian nationalist Villa-Lobos, is surprisingly steeped in the swooning gestures of late 19th Century romanticism.	A	Frown C

Adj-ed participle

n.	compound	occurrence	position	category
1	Italian-born	His heroic but politically inexperienced <i>Italian-born</i> widow would be even worse-placed to bring in reforms, which is why she has rightly resisted being conscripted.	A	Flob B
2	British-born	<i>British-born</i> Mandy Stibbe, who was nearly killed in a riding accident early in the year, is fifth for Holland on Autumn Heyday.	A	Flob A

N-ing participle

N.	Compound	Occurrence	Position	Category
1	Prize-winning	With Nottingham Forest football team in the FA Cup Final, busy shopping centres, a diversified business base and a <i>prize-winning</i> polytechnic, the city appears to be weathering recession almost cheerfully.	A	Flob A
2	Headline-grabbing	"The <i>headline-grabbing</i> issues are always peripheral."	A	Flob A
3	headline-grabbing	Much of Mr Major's growing popularity has emerged after his <i>headline-grabbing</i> visits to American President George Bush, the Soviet Union's Mikhail Gorbachev and Russia's Boris Yeltsin, and the rulers of Red China.	A	Flob A
4	face-saving	Premier Li, desperate to win a <i>face-saving</i> return to the world community, welcomed Mr Major with hopes of a new understanding.	A	Flob A
5	eye-catching	THE OMENS look good for Shadayid in today's Ladbroke Sprint Cup at Haydock Park following the <i>eye-catching</i> victory of her stable-companion and younger half-brother, Badie, at Kempton Park yesterday.	A	Flob A
6	match-winning	Surrey's fielding stood out almost as clearly as Waqar's <i>match-winning</i> quality in the victories which followed their tense and narrow "bowl-out" defeat of Oxfordshire in the Ken Barrington Centre.	A	Flob A
7	substance-snorting	VICTORIA BURGOYNE was 18 when she married Christopher Dunhill, the <i>substance-snorting</i> heir to a slice of the pounds1billionRothmans fortune jailed for cocaine dealing in 1988. She was 19 when they divorced.	A	Flob A

N.	Compound	Occurrence	Position	Category
8	life-saving	The Wheelbarrow dossier's ten chapters reveal the secret workings of the <i>life-saving</i> robot.	A	Flob A
9	gun-toting	<i>GUN-TOTING</i> security men have been hired to protect a burger bar from thugs on the booze-crazy holiday isle of Tenerife.	A	Flob A
10	mean-eating	But yesterday the <i>man-eating</i> nurse was branded a "proven liar" by the judge, Mr Justice Ognall.	A	Flob A
11	record-busting	DAVID PLATT finally joined Bari last night in a <i>record-busting</i> pounds5.5 million deal. Aston Villa's England star signed for the Italians after eight hours of talks.	A	Flob A
12	banner-waving	<i>Banner-waving</i> supporters had greeted the 39-year-old Coventry South-East MP as he arrived for a disciplinary hearing at Labour's West Midlands HQ in West Bromwich.	A	Flob A
13	loss-making	Its woes are blamed on the pounds70 million takeover by Systems Designers of Scicon in 1988, one of a number of purchases made by Swinstead, and <i>loss-making</i> contracts, some of which are subject to litigation.	A	Flob A
14	loss-making	But Michael counters that SD-Scicon is overshadowed by <i>loss-making</i> contracts, against which it wrote off pounds20 million last year.	A	Flob A
15	decision-making	ENO has walked the tight-rope of adventure, "hanging on by our fingernails without any netting underneath", as Jonas puts it; but by linking its wild imagination to a strong <i>decision-making</i> structure, it has kept the public and the funders on its side.	A	Flob A
16	fact-finding	Labour's Eric Illsley (Barnsley Central) claimed that a "luxury holiday <i>fact-finding</i> mission to a Paris hotel" has been arranged for Barnsley District General Hospital staff in preparation for NHS trust status.	A	Flob A

N.	Compound	Occurrence	Position	Category
17	Tory-voting	He hit out about school and library closures and claimed the council was penalising the <i>Tory-voting</i> area of Hallam.	A	Flob A
18	bank-busting	AND the <i>bank-busting</i> pounds2 million to pounds3 million needed by St Paul's in West Street means the church hall and vicarage will have to be sold to developers in order to pay the bill.	A	Flob A
19	Record-breaking	STEVE HISLOP'S <i>record-breaking</i> performance in the Isle of Man TT series has lined up a Grand Prix future with Honda.	A	Flob A
20	Money-making	But, for all his commercial know-how when it comes to promoting Wrekless, Graham has taken on the project as an indulgence, not an out and out <i>money-making</i> venture.	A	Flob A
21	Stomach-churning	That is the thorny question John Major must tackle when today he becomes the first Western leader to bless Peking with a visit since the <i>stomach-churning</i> massacre in Tiananmen Square two years ago.	A	Flob B
22	Property-owning	The notion of a <i>property-owning</i> democracy, the great slogan of the Thatcher years, has turned distinctly sour.	A	Flob B
23	Famine-breeding	Jawaharlal Nehru, a darling of Britain's intellectual left who included a viceroy's wife among his mistresses, had been told by the Hampstead set that central planning had made Stalin's <i>famine-breeding</i> Russia a dramatically rich and happy country between 1917 and 1947	A	Flob B
24	Money-raising *	Staff, ex-patients, friends and firms lost no time in launching <i>money-raising</i> events or making donations.	A	Flob B
25	Profit-making	Education is a service; not a <i>profit-making</i> business.	A	Flob B
26	breathhtaking	No-one can doubt the majestic beauty of the Craven Countryside with its rolling hills, picturesque villages, and <i>breathhtaking</i> views.	A	Flob B
27	Toe-curling	In most shows, such a gaffe would be an occasion of <i>toe-curling</i> embarrassment.	A	Flob C

N.	Compound	Occurrence	Position	Category
28	Pleasure-seeking	Here is Claudius, the <i>pleasure-seeking</i> King (Alan Bates); here is pottering, crafty Polonius (Ian Holm, pottering a mite too much); here is Ophelia (Helen Bonham Carter), sweetly waifish one minute, hollow-eyed with lunacy the next.	A	Flob C
29	Heart-stopping	Alas, HTV, in association with Disney, despite having secured the services of Hannibal Lecter, the awesome killer from the current film shocker, <i>The Silence Of The Lambs</i> , failed to achieve the <i>heart-stopping</i> terror that Lean managed to inject into the scene.	A	Flob C
30	Knife-brandishing	Klingaman presents the mature Saviour as an eccentric swimmer against the prevailing tide of Jewish militancy; not a <i>knife-brandishing</i> zealot or a freedom fighter like the die-hards of Masada, but an heir to the anti-materialist millenarism of John the Baptist, a visionary eccentric with a following of dropouts and no-hopers, dealing in circus-act miracles and allegorical conundrums.	A	Flob C
31	Heaven-storming	This is not one of Beethoven's <i>heaven-storming</i> pieces, but one directly inspired by the then new achievement of the French violin school, and this performance matched that character very accurately.	A	Flob C
32	Fire-breathing	In the right-hand corner, Emma Hornett, an amazing <i>fire-breathing</i> dragon of a wife and mother, about to become a mother-in-law.	A	Flob C
33	Floor-standing	Friedlander sits under a <i>floor-standing</i> lamp next to a radiator in his shorts like a man on Death Row.	A	Flob C
34	Thought-provoking	And while Madonna, who also might have spotted a couple of familiar dance steps, is all about politics, feminism and <i>thought-provoking</i> controversy, Kylie is simply and purely about having a good time.	A	Flob C

N.	Compound	Occurrence	Position	Category
35	Home-loving	PLAYING the <i>home-loving</i> little woman isn't the normal image associated with a Hollywood movie mogul.	A	Flob C
36	Policy-making *	The three-paragraph announcement by the party's <i>policy-making</i> Central Committee effectively ruled out any return to political life by the former protégé of the senior leader Deng Xiaoping. At the same time, the news agency appeared to indicate that no further action, such as criminal proceedings, would be taken against him.	A	Frown A
37	Jet-leasing	His <i>jet-leasing</i> companies also billed flights that never took place, it concluded. Mr. Farias has also denied any wrongdoing.	A	Frown A
38	Broccoli-hating,	WASHINGTON - There's no mystery about Geroge Bush. He's the <i>broccoli-hating</i> , dog-loving, war-winning president who wants to devote the same energy to America's problems that he's applied to crises overseas.	A	Frown A
39	Dog-loving	WASHINGTON - There's no mystery about Geroge Bush. He's the broccoli-hating, <i>dog-loving</i> , war-winning president who wants to devote the same energy to America's problems that he's applied to crises overseas.	A	Frown A
40	War-winning	WASHINGTON - There's no mystery about Geroge Bush. He's the broccoli-hating, dog-loving, <i>war-winning</i> president who wants to devote the same energy to America's problems that he's applied to crises overseas.	A	Frown A
41	Money-swallowing	How quickly and effectively the new president delivers on promises hinges on three factors: his ability to keep the problems of inner cities from being crowded out by other domestic and international issues; his ability to coax bipartisan congressional action; and his ability not to add to the federal budget deficit with short-term, <i>money-swallowing</i> social programs.	A	Frown A

N.	Compound	Occurrence	Position	Category
42	Season-opening	But over a 15-minute stretch, covering the end of the first half through the early stages of the fourth quarter, the Cowboys woke up to score 35 unanswered points en route to a <i>season-opening</i> win over host San Clemente.	A	Frown A
43	Game-sealing	It came down to turnovers on the Indians' final two drives - a fumble recovery by Knights linebacker David Dupetit at the Notre Dame 39 with 2:50 remaining, then a <i>game-sealing</i> interception by Joey Orlando with nine seconds left.	A	Frown A
44	Season-opening	The team that controls the line of scrimmage usually wins the football game and that was the case as Lynwood overpowered the host Granada Hills Highlanders enroute to a 28-7 <i>season-opening</i> victory.	A	Frown A
45	Gravity-defying	Two-hundred-kilo sneakers: that's what it appeared the Argentine was wearing as Jordan effortlessly rose as from a trampoline for one of his trademark, <i>gravity-defying</i> pirouettes above the rim.	A	Frown A
46	Spear-carrying	Noted preservationist Winchell Hayward pointed out that, historically, the <i>spear-carrying</i> female bronze figure representing California has gazed from the pre-1906 City Hall southward toward Market Street.	A	Frown A
47	Life-saving	Sycamore firefighter Ben Henderson is living proof that one of the Sycamore Fire Department's latest pieces of <i>life-saving</i> equipment, a heart defibrillator, works.	A	Frown A
48	Convention-going	"You do have a call for that type of business at conventions," said Michelle Bogard of Ticket To The City, whose <i>convention-going</i> clients have snapped up more than 10,000 passes to the Million Dollar Saloon in less than a year.	A	Frown A

N.	Compound	Occurrence	Position	Category
49	Rule making	That campaign has included letters of protest by companies to the Financial Accounting Standards Board, which is mulling the rule and which is the chief <i>rule-making</i> body for accountants.	A	Frown A
50	Record-setting	The buying was reminiscent of the <i>record-setting</i> trading early in the year, when drastic interest rate cuts sent a flood of money out of low-yielding certificates of deposit and into stocks.	A	Frown A
51	Oscar-winning	Among MGM's upcoming releases is Gary Sinise's acclaimed remake of John Steinbeck's 'Of Mice and Men,' with John Malkovich; Jean-Jacques Annaud's adaptation of Marguerite Duras's memoir 'The Lover,' a big European hit that has run into commercially exploitable censorship difficulties here; 'Rich in Love,' which re-teams the <i>Oscar-winning</i> 'Driving Miss Daisy' team of writer Alfred Uhry, director Bruce Beresford and producers Richard and Lili Fini Zanuck, and the erotic thriller 'Body of Evidence,' starring Madonna.	A	Frown A
52	Portuguese-speaking	Consular officers were famously uninterested in dealing with visiting executives, and they were often inept: when U.S. diplomats threw a party in São Paulo in 1984 to promote American printing equipment, they offered their <i>Portuguese-speaking</i> guests a sales pitch in Spanish.	A	Frown A
53	Earth-shattering	Hence, events on the islands have a special resonance in South Florida. They needn't even be <i>Earth-shattering</i> events.	A	Frown B
54	Face-saving	On Taiwan, President Lee Teng-hui is under pressure to take some <i>face-saving</i> action against South Korea.	A	Frown B
55	Mind-boggling	Neither the legislative nor the executive branch of the federal government works. They are inefficient on a <i>mind-boggling</i> scale and seem to lack the will to correct even the most obvious defects in the process.	A	Frown B

N.	Compound	Occurrence	Position	Category
56	Smoke-belching	Incinerators are not the <i>smoke-belching</i> monsters of yore and can operate within stringent environmental guidelines.	A	Frown B
57	Ozone-depleting	Recycling makes economic and environmental sense. A study released in June by the Tellus Institute, a nonprofit research organization in Boston, reports that most industries have found using recycled materials technologically feasible, and that this has reduced toxic pollutants, greenhouse gases and <i>ozone-depleting</i> emissions.	A	Frown B
58	Rich-bashing	Mr. Foley makes \$166,200, and Mr. Mitchell makes \$143,800. Remember that the next time Mr. Foley and Mr. Mitchell start one of their demagogic <i>rich-bashing</i> escapades. They are the rich.	A	Frown B
59	Health-impairing	As Summers said in his memo, " <i>health-impairing</i> pollution should be done in the country with the lowest cost, which will be the country with the lowest wages."	A	Frown B
60	Power-protecting	George Bush and the <i>power-protecting</i> conservative delegates proved that anew Thursday night in the closing hours of the Republican convention in Houston.	A	Frown B
61	Life-sustaining	This president would cut the food stamp program, which has provided <i>life-sustaining</i> food for 27 million Americans during a recession that he said didn't exist.	A	Frown B
62	Flag-waving	During the horror of the Gulf War, the courage of the conscientious objectors was a source of strength for many of us facing the blinding rhetoric of <i>flag-waving</i> enthusiasts.	A	Frown B
63	Heart-wrenching	A <i>heart-wrenching</i> account of Smith's wartime experiences, the book tells of her odyssey from being an idealistic young nurse who feared the war would end before she got there to becoming a battle-hardened veteran.	A	Frown C

N.	Compound	Occurrence	Position	Category
64	Set-smashing	Nirvana ended up performing the less incendiary 'Lithium,' complete with the by-now entirely predictable <i>set-smashing</i> finale.	A	Frown C
65	Blusher-shunning	Or is this just reverse sexist snobbery on the part of the <i>blusher-shunning</i> feminists?	A	Frown C
66	Pulitzer Prize-winning	Although Henry, a <i>Pulitzer Prize-winning</i> writer, conceded in an interview that he found "very few who disliked him."	A	Frown C
67	Stake-wielding	"I can't believe I'm in a graveyard looking for vampires on a school night!" complains the <i>stake-wielding</i> heroine of the nimble new comedy 'Buffy the Vampire Slayer.'	A	Frown C
68	Wood-burning	In one corner are two rustic, strikingly beautiful, copper-clad, <i>wood-burning</i> ovens that are used for pizza and certain pasta dishes.	A	Frown C

Self-ing participle

n	Compound	Occurrence	position	Category
1	self-seeking	Diplomats are too wary of Mr Milosevic's intentions to be certain that this is not merely another <i>self-seeking</i> manoeuvre.	A	FLOB A
2	Self-loving	Jan Josef Liefers' <i>self-loving</i> Orsino looks curiously like Cesario whom he clasps to his bosom and cradles lovingly in his lap.	A	FLOB A

n	Compound	Occurrence	position	Category
3	self-governing	In a Commons motion also backed by North-East Derbyshire MP Harry Barnes, they say most Sheffield people, the City Council, health workers, trade unions, GPs and the Community Health Council were "totally opposed" to switches to <i>self-governing</i> Trust status. The MPs say people's views had been "contemptuously ignored".	A	FLOB A
4	self-defeating	The mood at Gleneagles was that such doctrines, in the context of a large, powerful and unified market, were unhelpful and self-defeating.	P	FLOB B
5	Self-seeking	Launched today, this campaign aims to prevent <i>self-seeking</i> farmers and landowners from blocking public rights of way in the countryside.	A	FLOB B
6	self-defeating	The blinkered attitude which has prompted this campaign is ultimately <i>self-defeating</i> .	P	FLOB B
7	Self-defeating	Certainly, if the multiplex cinema car park site proves a success, it would be both naive and <i>self-defeating</i> not to make it York's second park-and-ride base.	P	Flob B
8	Self-fulfilling	An enormous temporary army of pollsters, researchers, TV workers and experts suddenly comes on to the employment statistics, which cuts the jobless figures by thousands, which makes it look as if the Government is doing a good job. It is, therefore, more likely to get voted in. It's a <i>self-fulfilling</i> process.	A	Flob B
9	Self-pitying	I HOPE you also caught Alfred Molina's uncannily accurate performance as the <i>self-pitying</i> alcoholic genius Tony Hancock in Screen One's Hancock (BBC1).	A	Flob C
10	Self-serving	The wily budget director had given his best friend, Washington Post reporter Bob Woodward, a <i>self-serving</i> account of the Bush administration's failure to manage the economy.	A	Frown A

n	Compound	Occurrence	position	Category
11	Self-deprecating	Granted, it was used quite cleverly by Ronald Reagan "I knew Thomas Jefferson", who managed to be charmingly <i>self-deprecating</i> while he took a slap at Bill Clinton.	P	Frown B

Adj-ing participle

N	Compound	Occurrence	Position	Category
1	good-looking	Chandi - no relation to Hugh - has been dating a big, <i>good-looking</i> bodyguard who once worked for Doris in Hawaii.	A	Flob A
2	Young-looking	At the main entrance people are met by an able-bodied <i>young-looking</i> man sitting there looking well fed, not nearing tattered clothes and definitely not looking destitute.	A	Flob B
3	Tatty-looking	Where the Hall production suffers from lazy, commonplace naturalism, in John Gunter's insipid and already <i>tatty-looking</i> sets, the new Miller mise-en-scènes has a brilliant young designer in Peter J Davison, who transports us from the down-at-heel backstairs milieu to the Countess's boudoir with magical use of a revolve.	A	Flob C
4	Youthful-looking	Vienna pairs a fine young Italian Figaro, Lucio Gallo, who will sing in the Covent Garden production next season, with the still <i>youthful-looking</i> , but seasoned Susanna of Marie McLaughlin, while at Glyndebourne the reverse is the case.	A	Flob C
5	Great-looking	Says John, "It's every guy's fantasy to have a bunch of <i>great-looking</i> women falling all over him, and that's what you get here."	A	Frown A

N	Compound	Occurrence	Position	Category
6	Intense-looking	The intimate setting and the small orchestral and choral forces also added a feel of authenticity. Bornstein, an <i>intense-looking</i> conductor with a Stokowskian hauteur, coaxed graceful playing from the strings.	A	Frown C
7	Ethereal-looking	While the town chorus is murmuring against her, her silently fanatical husband staring at her, the <i>ethereal-looking</i> young clergyman, Arthur Dimmesdale, frightened and trembling, is also compelled to demand the name of her partner in crime.	A	Frown A
8	Sharp-looking	Director Barbara Valente gives the show a <i>sharp-looking</i> production on a wondrously versatile set (by Joe Ragey) of cylindrical blocks and slide projections, all framed between Torah-like scrolls. Led by an engaging Phillips, who pushes the cute side of Ben just a bit, the cast works hard, but often isn't up to the demands of the store.	A	Frown C
9	Foul-smelling	He leaves the city for a resort - an August beach crowded with the recumbent bodies of the vacationing elite of the regime, the paraphernalia of third world chic scattered around them, the sea bringing in "offal, grease, pitchballs, <i>foul-smelling</i> wrack, fruit rinds, rags, empty cans."	A	Frown C

Adv-ing participle

n	Compound	occurrence	position	Category
1*	newly-emerging	On Wednesday, the Premier flies to Paris for talks with President Mitterand and meetings with leaders from Russia and the <i>newly-emerging</i> democracies of Eastern Europe.	A	Flob A

n	Compound	occurrence	position	Category
2	short-striding	Jacana's <i>short-striding</i> action always counts against him in a dressage test, but Walker's expertise showed him to good effect, and they finished the day in 12th place.	A	Flob A
3	High-flying	<i>High-flying</i> Major's new status symbol PRIME Minister John Major is in need of an aeroplane befitting his sudden status as a globe-trotting international statesman.	A	Flob A
4	High-flying	The VC-10-borne Prime Minister is belittled by such <i>high-flying</i> comparison - a point given illustration when he flew into the airforce base near Kennebunkport to consult with George Bush and found himself dwarfed alongside one of the president's mighty Boeings	A	Flob A
5	Wide-ranging	But the <i>wide-ranging</i> reforms will cost millions to implement.	A	Flob A
6	Rapidly-changing	The company said the recession in the United States and <i>rapidly-changing</i> exchange rates had badly affected trading.	A	Flob A
7	big-selling	That led to articles for national newspapers (no, he didn't use ghostwriters) - and Arthur went on to pen two <i>big-selling</i> books about table tennis.	A	Flob A
8*	slow-paying	Now and again we will chivvy a <i>slow-paying</i> magazine with a letter on behalf of a specific writer and it's surprising how often it gets results.	A	Flob A
9	long-standing	Festival organisers hope that its entry to international class will provide some leverage, to add to the <i>long-standing</i> tradition of theatre.	A	Flob A
10	Wide-ranging	Following a loss of 23,000 passengers a day, British Rail hopes to halt an expected pounds84 million shortfall with <i>wide-ranging</i> cuts including the loss of up to 48 rush-hour commuter trains a day.	A	Flob B
11	Hard-working	Abroad, Indians are marvellously entrepreneurial (think of all those British millionaires called Patel), frighteningly <i>hard-working</i> , thrifty and academically bright.	P	Flob B

n	Compound	occurrence	position	Category
12	Far-reaching	After the trauma of Dr Owen's departure, Paddy Ashdown showed that the party was back in business, offering a combination of commitment to the federal ideal in Europe, <i>far-reaching</i> constitutional reform, and a free market economy based on competition.	A	Flob B
13	Longest-serving	Former Mayor, Alderman and once the <i>longest-serving</i> member of Lincoln City Council, Jock Campbell, is now the only living honorary individual-Freeman of the city.	A	Flob B
14	Long-serving	Ald William Edward Young, a <i>long-serving</i> member of Kesteven County Council and former chairman of North Kesteven Rural District Council, died at the age of 82. He had represented Branston and Mere on the district authority for more than 40 years.	A	Flob B
15	Best-selling	As I recall it, George's book was a substantial one, and, despite this, remains the <i>best-selling</i> economic text book ever published.	A	Flob B
16	Never-ending	Like many others faced with the <i>never-ending</i> task of keeping one of Cheltenham's aging Regency houses standing up, I was delighted to hear that Tivoli Trading will continue in business with the same staff under its new owners, Dunton Plc.	A	Flob B
17	Fast-growing	To keep up-to-date on the latest progress in research, you can join our <i>fast-growing</i> membership (pounds3.50 per annum).	A	Flob B
18	Fast-growing	As traditional farming methods are discarded stone barns and walls are allowed to fall into disrepair, moorlands are being over-grazed, and meadowlands are being sacrificed in favour of <i>fast-growing</i> grasses.	A	Flob B
19	Long-suffering	At tightly-written script directed by Bob Spiers cleverly established Mrs Red's lady-who-lunches lifestyle, including the athletic young black stud for whom she is about to leave her <i>long-suffering</i> husband and daughter.	A	Flob C
20	Free-flowing	No one can know for certain whether they are right; but if they are, it would help to explain why the play is notable for rhetoric rather than true <i>free-flowing</i> poetry.	A	Flob C

n	Compound	occurrence	position	Category
21	Long-suffering	The Game is riveting: other ITV regions should give local pub sides the same chance to achieve a moment of sporting immortality and give <i>long-suffering</i> wives and girlfriends the best laugh they've had in years.	A	Flob C
22	Ever-changing	India has a contemporary performance tradition which includes not only folk epics but even the national Sanskrit masterpieces, the Ramayama and the Maha-bharata, which, although classical texts with standard editions, also coexist in <i>ever-changing</i> folk reinterpretations.	A	Flob C
23	Long-standing	If the archive attempts to constitute a Sylvia Plath cleansed of anger, sexuality, left-wing politics and popular culture, Rose goes some way towards restoring these crucial texts of her life and work. In particular, she argues that Plath's <i>long-standing</i> ambition to be a writer of fiction for women's magazines, which has been censoriously relegated to the margins of her identity as a writer, should be recognised as central.	A	Flob C
24	Hard-working	ujimori, a political novice elected in 1990, is seen as an honest and <i>hard-working</i> leader. But Peruvians also will turn against Fujimori if the guerrilla war intensifies and the economy fails to improve.	A	Frown A
25	Left-leaning	The clerks, it was said, were dispatched by <i>left-leaning</i> law schools - 12 were from Harvard - with the mission of turning their justices into liberals.	A	Frown A
26	Ever-growing	He related them to their potential effect on the U.S. economy, and tried to make a case for the <i>ever-growing</i> links between the U.S. economy and global markets.	A	Frown A
27	Far-reaching	BRUSSELS- The European Community's <i>far-reaching</i> treaty on political and economic union, which Danish voters narrowly rejected in June, is growing increasingly unpopular throughout the 12-nation EC.	A	Frown A
28	High-ranking	The '20s really roared in Hollywood. <i>High-ranking</i> studio executive William Desmond Taylor was found murdered in his bungalow on Feb. 1, 1922.	A	Frown A

n	Compound	occurrence	position	Category
29	Left-leaning	Because of the Barry scandal, Chaplin's <i>left-leaning</i> political views and his decision not to become a U.S. citizen, the federal government in 1952 revoked his entry permit while he was abroad, saying he would have to submit to an inquiry on his fitness to be in the country.	A	Frown A
30	Nasty-talking	Al Gore Jr., pushed for Parental Advisory - Explicit Lyrics' stickers on <i>nasty-talking</i> pop albums, she sparked a tizzy in the rock world. At the time, Frank Zappa called her campaign "fundamentalist frog-wash." Musicians from John Denver to Randy Newman to John Fogerty ripped Gore in print.	A	Frown A
31	High-ranking	The new method could eliminate some or all of the generous and controversial perks given to <i>high-ranking</i> administrators.	A	Frown A
32	Free-spending	The clubs in Dallas are leaders in casting aside the seamy image of topless clubs and dressing them up to cater to the tastes of a <i>free-spending</i> , white-collar clientele," Mr.King wrote in a recent issue.	A	Frown A
33	Low-paying	The money is a powerful lure for attractive women in their late teens and early 20s, especially if the employment alternative is a <i>low-paying</i> service job.	A	Frown A
34	High-paying	Several big shareholders, saying they find the pressure tactics offensive, have vowed to increase their vigilance on pay issues. They said they will target for scrutiny some <i>high-paying</i> companies that unduly pressure consultants.	A	Frown A
35	High-flying	The increasingly crowded market has slowed the growth of <i>high-flying</i> PictureTel and caused its stock to plummet 79% from a peak of \$53 a share earlier this year.	A	Frown A
36	Low-yielding	The buying was reminiscent of the record-setting trading early in the year, when drastic interest rate cuts sent a flood of money out of <i>low-yielding</i> certificates of deposit and into stocks.	A	Frown A

n	Compound	occurrence	position	Category
37	Free-floating	An image of a horse is labeled "the door"; a clock, "the wind"; a pitcher, "the bird"; a valise, "the valise." Words are <i>free-floating</i> signs that alight according to agreed-upon convention, but what if they land on the wrong place? What if they land on the right place?	A	Frown A
38	freestanding	IN 'THE SIX Elements' (1929), Magritte paints a <u>six-paneled</u> <i>freestanding</i> object, each panel of which contains a different image from his repertoire - a wall of fire, a nude female torso, a deep forest, a window wall, a cloudy sky, a lead sheet fastened with bells.	A	Frown A
39	Late-breaking	No one understands that better than Magnuson, whose first cover was a crash effort on nuclear testing that ran in 1962. He has specialized in <i>late-breaking</i> stories ever since.	A	Frown B
40	0Long-standing	But Bush certainly will insist that key trading partners dismantle <i>long-standing</i> trade barriers.	A	Frown B
41	Ever-growing	They won't open their mouths on the subject of usurious interest rates, the corrupt monetary system or the <i>ever-growing</i> concentration of business and industry into fewer and fewer hands.	A	Frown B
42	Fast-closing	Can't work in high-rises because you fell off a ladder, and now you panic at the sight of anything taller than a chair? Sue. Can't get to work because a <i>fast-closing</i> door caught you in the rear, and now you panic at the sight of doorknobs? Sue. Spurned by a baseball player, and now you panic at the sight of sports fans? Sue.	A	Frown B
43	Fast-growing	In addition to seeking answers to our present dilemma, we should take a long-range view and give more help to <i>fast-growing</i> countries in their efforts to spread family planning.	A	Frown B
44	Long-standing	These women stand out in the story because they are fighting, as they see it, a civil war to erase <i>long-standing</i> injustice.	A	Frown C

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Dictionaries:

AHD, The American Heritage® Dictionary of the English Language: Fourth Edition. 2000 (abbr. AHD), online version.

CALD, Cambridge Advanced Learner's Dictionary (abbr. CALD), cd rom.

CCD, Collins Cobuild Dictionary (abbr. CCD) 1995.

COED, The Compact Oxford English Dictionary (abbr. COED), online version.

DISC, Dizionario della lingua italiana (2004), Sabatini&Coletti (abbr. DISC), cd rom.

OED, Oxford English Dictionary Online (2005), (abbr.OED) Oxford University Press.

WNMED, Webster's New Millennium™ Dictionary of English, Preview Edition (abbr. WNMED) online version.

Electronic resources:

British National Corpus (abbr. BNC) (see Appendix A)

Freiburg Corpus of written English (abbr. FLOB) (see Appendix B)

Freiburg Corpus of American written English (abbr. FROWN) (see Appendix B)

Reuters Corpus 21578 (abbr. R21578) (Appendix A)

Further English-based electronic resources:

Internet forum (abbr. IF) (see Appendix A)

Internet blog (abbr. IB) (see Appendix A)

Internet website (abbr. IWS) (see Appendix A)