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Investigating Antonymy in Text

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by

Steven Jones

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ABSTRACT

This thesis reports on an investigation into the phenomenon known as antonymy. Corpus data are used to ascertain the various textual functions of the sense relation and antonymy is classified accordingly.

Traditionally, antonymy has been categorised according to the inherent semantic properties of given word pairs. Not until recently has antonymy been approached from a textual perspective and never has antonymy been approached using a corpus of this size (280 million words of newspaper text). This thesis does not challenge the validity of traditional classes of antonymy, but suggests that antonymy is amenable to a new system of classification based on usage rather than intuition.

A database of 3,000 corpus sentences has been created for this study. Each sentence features both members of an antonymous pair and has been classified according to the textual function of that pair. In this way, ten new classes of antonymy have been developed. These classes are analysed in detail. This thesis also explores the relationship between these classes and a number of variables which cut across them, such as the word class of each pair and the gradability of each pair. The thesis goes on to analyse the endemicity of antonymy in text, ask why antonyms tend to favour a certain sequence in sentences, and discuss the productivity of lexico-syntactic frameworks associated with antonymous pairs.

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Contents:

Introduction

Introduction

This thesis begins by discussing the central place held by antonymy in the mental lexicon. Familiar "opposites" become deeply entrenched in the psyche from an early age, a fact reflected by the extensive use of antonymy across all kinds of text. This is considered in Chapter One, as are the ways in which antonymy has been classified by semanticists and other analysts in the last 50 years. Traditional categories of antonymy are described, together with the intuitive criteria used to distinguish between different antonymous pairs. The development of antonym classification is charted, from Lyons's initial attempts at categorisation in the 1950s to Mettinger's recent examination of antonymy from a textual perspective (1994).

This study will be corpus-based and large-scale and Chapter Two accordingly considers issues of data and methodology, discussing the problems inherent to tackling a phenomenon as broad as antonymy. As a definitive list of antonyms has never been (and will never be) compiled, the antonymous pairs selected for study here must be based on personal intuition to some degree. This chapter analyses the difficulties of sampling antonymy and reviews the ways in which other semanticists have approached the problem. It then explains how the database used in this study has been created.

Chapter Three takes 1% of database sentences and examines them closely, with a view to assessing the feasibility of classification. It is found that the functions of antonymy can be accounted for in terms of ten major categories. These functions are labelled and the remaining 99% of the database is classified accordingly.

Chapters Four to Six discuss each of these ten new classes in turn. The two largest classes, Ancillary Antonymy and Umbrella Antonymy, are both allocated a whole chapter, with the eight smaller categories being handled in Chapter Six. The function of the antonymous pair in

sentences belonging to each class is scrutinised, as are the frameworks and lexical signals associated with each class.

The endemicity of antonymy is investigated in Chapter Seven. Antonyms are an integral part of language; this chapter questions just how widespread the phenomenon actually is. Significance of co-occurrence among antonyms is calculated and co-occurrence statistics are used to develop five criteria of "good opposites". Essentially, this chapter considers the frequency with which antonyms co-occur in language and speculates as to whether those pairs which co-occur most frequently could be considered the more "core" antonyms in language.

Chapter Eight revisits the database to examine why most antonymous pairs occur in a given sequence within the sentence. A number of factors which may influence the sequence in which antonyms appear are analysed, and a sample of those sentences which reverse normal antonym sequence are investigated.

Two aspects of antonymy are discussed in Chapter Nine: firstly, the relationship between antonymy and word class is explored to discover whether the function of word pairs is influenced by the grammatical class to which each pair belong; secondly, the relationship between antonymy and gradability is explored to discover whether the function of word pairs is influenced by the category to which each pair has traditionally been assigned (ie. gradable and non-gradable).

Chapter Ten assesses the productivity of three frameworks which were found to be closely associated with classes of antonymy identified in earlier chapters. The productivity of these frameworks is tested by placing a seed-word in the place of one antonym, then analysing which words are set up in opposition against it. This provides a profile of the seed-word's textual contrast.

Finally, Chapter Eleven presents an evaluation of this thesis and makes claims regarding the ways

in which this study has enhanced our understanding of antonymy. The limitations of this research are also discussed. Further avenues of research are then suggested and a new definition of antonymy, based on this study, is offered.

Chapter One:
A History of Antonymy

1. A History of Antonymy

1.1. Introduction

My four-year-old nephew, Thomas, understands the concept of "opposites" and excitedly tells me all about pairs such as *big/little*, *boy/girl*, *love/hate* and *happy/sad*. Linguists prefer to describe these pairs as "antonyms", but remain uncertain how this phenomenon is best described and defined. The fact that antonymy is so firmly rooted in the psyche from such an early age makes it more primal than other sense relations. This thesis will examine what antonymy does in text and why it holds such a prominent position in language.

One reason that some commentators have shied away from recognising the status held by "opposites" in language is because the term is so broad. Lyons rejects the word "antonymy" because it is "hardly more precise in the usage of most authors than the word *oppositeness* which it replaces" (1977: 270) and Simpson is wary of what he refers to as a "catch-all category" (1997: 72). But this instinct to reject a general term needs to be examined. Whilst it is true that antonymy encompasses a multitude of relationships, each slightly different from the next, it is equally true that all established "opposites" in English share something in common. For example, any native speaker would immediately identify the "opposites" of words such as *cold*, *female* and *above* without feeling the need to distinguish between gradable antonymy, complementarity and converse pairs. Though undoubtedly useful, these labels have perhaps obscured the underlying uniformity of word pairs which become enshrined as "opposites" in language. This thesis aims to approach antonymy in a fresh light, examining the phenomenon from a corpus-based perspective and developing new classifications accordingly.

However, before investigating the function of antonymy in text, I shall first consider the ways in which antonymy has been approached in the past. Many commentators have noted the "unique

fascination" of antonymy (Cruse 1986: 197); this will be discussed presently, followed by a review of how various linguists have attempted to formulate an accurate definition of antonymy. This chapter will also include a detailed look at the traditional ways in which antonymy has been classified (and the intuitive semantic criteria used therein) and close with a summary of more recent advances in the field.

1.2. Why Study Antonymy?

The phenomenon of antonymy is, in many respects, very different from other sense relations. It is the "most readily apprehended" (Cruse 1986: 197) and many examples of antonymy become deeply ingrained in our mental lexicon from infancy. Antonymy is quickly learnt and rarely forgotten. Examples continually surround us, in newspaper headlines, advertising hoardings, song lyrics and numerous other texts. Furthermore, it has even been suggested that antonymy has a magical quality, as Cruse explains:

> Opposites possess a unique fascination, and exhibit properties which may appear paradoxical. Take, for instance, the simultaneous closeness, and distance from one another, of opposites. The meanings of a pair of opposites are felt intuitively to be maximally separated. Indeed, there is a widespread idea that the power of uniting or reconciling opposites is a magical one, an attribute of the Deity, or a property of states of mind brought about by profound meditation, and so on ... Philosophers and others from Heraclitus to Jung have noted the tendency of things to slip into their opposite states; and many have remarked on the thin dividing line between love and hate, genius and madness, etc. (1986: 197)

In this section, I shall briefly investigate the notion that antonymy is more than a sense relation and that it actually holds a special place in the mind. Cruse seems right to state that antonymy is a more fundamental feature of human cognition than its fellow sense relations and his observations echo earlier rhetoric about the significance of antonymy. For instance, despite rejecting "antonymy" as a useful label, Lyons, notes "a general human tendency to categorize experience in terms of dichotomous contrast" (1977: 277). Such claims are difficult to substantiate but will now be examined in relation to two fields in which antonymy has been said to play an important role:

the acquisition of language in children and word association testing.

1.2.1. Language Acquisition

It has been widely documented that children tend to grasp the concept of oppositeness at a very early age, often learning antonyms in pairs rather than as single items. Kagan observes that:

> Soon after learning the meaning of *up*, the child learns the meaning of *down*; after learning the meaning of *high*, she learns *low*; after *good*, she develops the meaning of *bad*. (Kagan 1984: 187)

This could reflect the tendency to dichotomise which Lyons notes; alternatively, it could simply be a learning strategy used by children as part of their general language acquisition mechanism. It seems efficient to learn closely related words in tandem, yet it is difficult to think of other word-pairs which are learnt in the same fashion as antonyms. One would not necessarily feel a similar urge to learn synonyms in unison, nor would one find it difficult to fully understand a superordinate term without first being taught all of its corresponding hyponyms. However, in each of Kagan's examples, it is difficult to conceptualise one antonym without first having some notion of the other. For example, could one truly comprehend the meaning of *up, high* and *good* without having any concept of *down, low* and *bad*?

Conducting quite different research, Miller & Fellbaum note that "when given only one member of an antonymous or opposed verb pair, [students of a second language] will insist on being taught the other member"; likewise, when referring to English, Egan states that "it is good, we feel, to know the exact antonym of a word, for not only will it give us a firmer grasp of the meaning of the word to which it is opposed, but inversely, of itself" (both cited by Muehleisen, 1997: 4). These observations suggest that adults are as prone to favour antonymy as children - we are drawn to opposites when learning a new language and feel happier about the precise meaning of a word in our native tongue if we are familiar with its antonym.

Whether this gives antonymy a "unique fascination" is difficult to judge. Indeed, the integral position held by antonymy in the mental lexicon is something of a chicken and egg situation. It is almost impossible to know whether language simply reflects existing oppositions in the outside world or whether we, as humans, are somehow predisposed to impose such dichotomies because of a subconscious urge to make use of antonymy. Whatever the cause, the consequence is that opposites hold a key place in language and the endemicity of antonymy in English allows writers to exploit our familiarity in ways which would not otherwise be possible, as subsequent chapters will show.

1.2.2. Associationism

Another field in which antonymy has been identified as playing a significant role is that of word association testing. For example, Clark (1970) examined the tendency shown by informants to provide the antonym of a stimulus word when asked to "say the first thing that comes into their heads". He concluded that:

> If a stimulus has a common "opposite" (an antonym), it will always elicit that opposite more often than anything else. These responses are the most frequent found anywhere in word association. (Clark 1970: 275)

Clark's conclusions follow those of Deese (1964), who found 40 words all of which elicited their antonym most commonly*. Indeed, it is difficult to dispute the fact that people often think in terms of oppositions when faced with a word association test. However, data show that such tests also elicit synonyms and general collocates (Clark 1970, 281-282); antonymy is only one of many relationships reflected by informants. As Murphy states:

> Word association results make a rather weak argument for lexical organisation by semantic relations, even though they are consistently mentioned as support for lexical representation of paradigmatic semantic relations. (Murphy, forthcoming)

Furthermore, Clark's research should be examined within the context of the dominant linguistic

*See Chapter Two for a more critical discussion of Deese's methodology.

schools of the day. Clark is puzzled by his findings because "language, the critics say, should not be thought of as a consequence of built-up associations" (1970: 272). The "critics" referred to here would include Chomsky (1965) and other proponents of Transformational Grammar theories. Such theories were not compatible with the "associations" which Clark identified. However, many contemporary linguists would be much more receptive to seeing language exactly as here described (and dismissed) - as a series of "built-up associations". Therefore, Clark's inability to reconcile his findings with the prevalent linguistic theory of his day may reflect inadequacies in the linguistic theory rather than flaws in his own work. As such, though Clark's findings remain of interest, their repercussions are perhaps less significant now than when they were first received in the mid 1960s.

Perhaps the most interesting aspect of Clark's work is the phrase he coins to describe antonym elicitation: "the minimum contrast rule" (Clark, 1970: 275). Intuitively, one might not feel that antonyms reflect "minimum contrast". Indeed, one might be more inclined to think of antonyms as having maximum contrast. Yet Clark's thinking is quite revealing - the contrast, he believes, is minimum because antonyms only differ in one respect. For example, *girl* elicits *boy* because they are both human and both non-adult. They only differ against one scale, namely the scale of sex.

This thinking, which closely resembles what would later be termed Componential Analysis (Leech 1974: 89), sheds light on Cruse's remark about "the simultaneous closeness, and distance from one another, of opposites". Cruse does not refer to the minimum contrast rule directly, but is clearly describing the same phenomenon as Clark when he writes:

> This paradox of simultaneous difference and similarity is partly resolved by the fact that opposites typically differ along only one dimension of meaning: in respect of all other features they are identical, hence their semantic closeness; along the dimension of difference, they occupy opposing poles, hence the feeling of difference. (Cruse 1986: 197)

1.2.3. Further Evidence

The "unique fascination" of antonymy (if antonymy does indeed possess this quality) cannot be explained by brief reference to language acquisition and associationism alone. However, the fact that children (and second-language learners) are drawn towards antonymy and the fact that word association tests consistently elicit antonyms as responses does suggest that the sense relation is a fundamental part of the language-storing mechanism in humans.

The central place occupied by antonymy in the mind is reflected in many different aspects of contemporary culture. For example, advertising often uses antonyms in parallel to form part of a memorable logo (*Don't put it off, put it on ... Barclaycard*). Also, words often replace their antonyms as part of lexical innovation (such as *undertaking* - the practice of overtaking cars in an inside lane) or as part of word play (such as the film title *Eyes Wide Shut* or tabloid newspaper headlines describing the Queen Mother as being *99 years young*). In the field of feminist literary theory, Cixous argues that "thought has always worked through opposition" (1989: 91), claiming that dichotomies in language reflect/create disequalities between the sexes. Even the bible, an ancient text written in a Semitic language, begins with a series of antonymous distinctions (*God divided the light from the darkness. God called the light Day, and the darkness he called Night. There was evening and there was morning...**).

The effect of using antonymy can also be seen in Dickens's memorable introduction to *A Tale of Two Cities* (1859):

> It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair, we had everything before us, we had nothing before us, we were all going direct to Heaven, we were all going direct the other way - in short, the period was so far like the present period, that some of its noisiest authorities insisted on its being received, for good or for evil, in the superlative degree of comparison only. (1859: 13)

*Genesis 1:14,15.

Nine contrasts are presented in the text above, most of which are established antonymous pairs. The sentence - for the above is all a single orthographic sentence - features no co-ordinators to link its clauses, but rather relies on apposition. The effect of this antonymy is to describe a period of confusion, contradiction and extremity. The text has an encompassing quality; the repetition of antonymous pair after antonymous pair evokes a feeling of being told much about the time, yet being told nothing because each antonym effectively cancels out its partner. One could interpret the passage above as a dialogue which reflects two conflicting opinions about the period or one could interpret the narrative as belonging to a single voice. Either way, given the magnitude of Dickens's work, it is curious that these lines are perhaps the most familiar of all. Curious and possibly reflective of Cruse's rhetoric about "the unique fascination" (1984: 197) of opposites.

To return to Cruse's observations, the "paradox" of antonymy can be explained by the fact that antonyms are effectively a special kind of co-hyponym. For example, *male* and *female* are both adjectives (or nouns) which define gender; *love* and *hate* are both human emotions; *good* and *bad* are both quality-measuring attributes of a given concept, and so on. The word which has a maximum opposition with *happy* is not *unhappy* or *sad* (for they are both adjectives and they both describe one's feelings); rather it would be a word such as *cutlery*, which shares nothing in common with *happy*. By definition, antonyms have much in common, a fact which underpins Clark's formation of the minimum contrast rule and the Componential Analysis approach to antonymy favoured by Leech.

This commonality also helps to account for another of Cruse's observation, namely "the frequency of speech errors in which the intended word is substituted by its opposite" (1986: 197). An example of this was found in the Liverpool Echo (16/8/99):

> "These chants show a complete lack of disrespect to a lad who is now admired and has a child, and those supporters should put themselves in his shoes."

It would appear that *disrespect* has been inadvertently substituted for *respect* in this context. This is perhaps symptomatic of the similarity between antonyms; such slips of the tongue are not immediately evident and this one appears to have escaped the attention of all newspaper staff who reported and published it.

Of course, this similarity between antonyms in no way explains "the thin dividing line between love and hate, genius and madness, etc" (Cruse, 1986: 197). Nor does it corroborate any suggestion that magical powers are required to unite opposites. At best, it is a linguistic reflection of the myths which surround antonymy.

Having considered the ways in which antonymy differs from other sense relations, we now move on the problem of defining the term. Given that everybody knows what "opposites" are, it is remarkably difficult to find a single definition upon which all agree. This difficulty stems from the fact that antonymy is more easily exemplified than defined.

1.3. What Is Antonymy?

The word "antonymy" was coined in 1867 by CJ Smith* as an opposite of (and by analogy with) "synonymy". Whether antonyms are really the "opposite" of synonyms is a moot point, especially as it is widely accepted that true synonymy does not exist (eg. Palmer 1976: 94), but this does not challenge the validity of the concept. Since 1867, numerous attempts have been made to pin down the meaning of antonymy and formulate a workable definition of the term, but the problem is that antonymy lends itself more to illustration than description. Any native speaker of English is instantly able to recall any number of good "opposites" - *old/young, up/down, win/lose, good/bad*, etc - but finding a definition which adequately accounts for all examples of antonymy is more problematic.

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*See Muehleisen (1997) for more details or "Introductory Matter" in *Webster's Dictionary of Synonyms* (1951: vii-xxxiii).

In general, two ways of defining antonymy have emerged: the first involves semantic criteria; the second involves lexical criteria. The relative merits of each approach to the problem of definition will now be discussed in turn.

1.3.1. Semantic Criteria

The Longman Dictionary of Applied Linguistics (Richards, Platt & Weber, 1985) defines an antonym as "a word which is opposite in meaning to another word" (1985: 14). In his Dictionary of Linguistics and Phonetics, Crystal says of antonymy that "in its most general sense, it refers collectively to all types of semantic oppositeness" (1985: 18), though he also notes that "the use of the term *antonym* must always be viewed with caution". These definitions both reflect semantic criteria; indeed, antonymy is often defined simply as "oppositeness of meaning" (see Jackson 1988: 75 or Palmer 1976: 94, the latter of whom relies on this gloss despite claiming that antonymy "can be defined fairly precisely").

The problem with an exclusively semantic definition of antonymy is that it fails to explain, or even acknowledge, the tendency for certain words to become enshrined as "opposites" in language while others do not. Granted, such words are always semantically opposed, but it is important to note that not all semantically opposed words become enshrined in this way.

Consider *rich* and *poor*, antonyms which operate along a given scale, namely the scale of wealth. *Affluent* and *broke* also operate along this scale, but, intuitively, one would be reluctant to describe them as antonyms (or, at least, one would not want to describe them as having the same degree of antonymity as *rich/poor*). Cruse exemplifies this with the words *tubby* and *emaciated* (1986: 262) - without question, these words are "opposite in meaning" to one another, yet it is difficult to imagine any native speaker of English citing them as "opposites". Indeed, almost every pair of established antonyms has synonyms which resist the label of antonymy. For example, *heavy* and

light are better "opposites" than *weighty* and *insubstantial; fast* and *slow* are better "opposites" than *speedy* and *sluggish; happy* and *sad* are better "opposites" than *ecstatic* and *miserable*, and so on.

One could counter this argument by noting that the examples above feature weak synonyms, ie. that *sad* and *miserable* are similar but not identical in meaning to one another; neither are *happy* and *ecstatic* entirely interchangeable. Though this is true, *miserable* and *ecstatic* still belong firmly to the same semantic field, that of *happiness*, and they each belong to opposite halves of this scale. Yet these words lack the antonymous power of *happy/sad.*

Therefore, just as individual antonymous pairs operate along a scale, so too does the phenomenon of antonymy. Those pairs towards the top of the scale are readily identified as "opposites" by native speakers (*cold/hot, tall/short, wide/narrow*, etc); those lower down the scale may still reflect contrast and may still be identified as "opposites", but seem to lack the "clang" (Miller 1990, cited Muehleisen 1997) of antonymy (*tense/relaxed, smart/stupid, refined/uncouth*, etc); those at the bottom of the scale still express opposite ends of a semantic range, but would almost never be identified as antonyms (*cerebral/dozy, beatific/crap, taciturn/gossipy*, etc). As Justeson & Katz put it, "adjectives may be more or less antonymous rather than simply antonymous or not antonymous" (1991: 147). The upshot of this is that our intuitions about "opposites" cannot be explained purely by reference to semantics; the definitions of antonymy to be found in intuitively-derived dictionaries of linguistic terms are insufficient.

1.3.2. Lexical Criteria

Justeson and Katz resolve the problem of definition by taking a textually-based position and referring to antonymy as a lexical relation, "specific to words rather than concepts" (1991: 138). They cite the scale of size as evidence, arguing that although *small* and *little* are synonyms and *big* and

large are also synonyms, most native speakers of English would be intuitively aware that the more appropriate antonymous pairs are *large/small* and *little/big*. Semantically, *large* remains diametrically opposed to *little*, but the words themselves are not considered antonymous.

This quartet of words are examined in detail by Muehleisen in her 1997 PhD thesis. She finds that neither *big* and *large* nor *small* and *little* are true synonyms because they share different collocational profiles*. She concludes that:

> This research showed that although *big* and *large*, and likewise *little* and *small*, are near synonyms, this does not mean they are identical in meaning; they are synonyms by virtue of the fact that they are associated with the same semantic dimension, but they are differentiated by the fact that they modify different kinds of nouns. It showed that good opposites are adjectives that not only occupy opposite ends of a shared semantic dimension, but also describe the same kind of things. (Muehleisen, 1997: 113)

This reiterates the view that antonymy should be seen as describing a relationship between words, not a relationship between concepts. One caveat to this is provided by Murphy (1994: 28) who points out that antonymy not only arises between words of the same grammatical class, but also across grammatical class. Thus, writers will find ways of opposing *loving/hate, love/hates, loved/hatred*, etc as well as opposing pairs such as *loves/hates* or *loved/hated*.

Therefore, it would appear that antonymy requires a definition which is lexical as well as semantic. Antonyms need to have "oppositeness of meaning" (Jackson 1988: 75), but they also need to have a strong, enshrined lexical relationship with one another. Traditionally, antonymy has always been approached from a semantic angle, but this does not mean that a semantic definition of antonymy has always been advocated. For example, Cruse draws a clear distinction between "prototypical" antonyms and "peripheral" antonyms (1986: 198); Murphy prefers the terms "canonical" and "non-canonical" (1994: 4). These labels essentially refer to antonymous pairs

*Muehleisen tends to avoid the term "collocation", but notes that *large/small* are prone to describe abstract quantities such as *amount* and *area*, and that *big* is often used to describe *news* or *problems* in a way that *large* does not.

which are lexically enshrined and those which are not. However, existing classes of antonymy have been based on semantic criteria; these classifications will now be outlined.

1.4. Antonymy: the traditional view

The meanings of antonymous pairs have been dissected by a number of linguists (eg. Lyons 1977, Leech 1974, Cruse 1986, etc) and antonyms have been classified according to their theoretical differences, perhaps at the expense of their intuitive similarity. I shall now summarise each of the traditional categories of antonymy, beginning with the two major classes of antonymy, which I shall refer to as non-gradable and gradable.

1.4.1. Non-Gradable Antonymy

Non-gradable antonymy is the name given to antonymous pairs such as *man/woman, alive/dead* and *married/unmarried.* Leech refers to this class of opposites as "binary taxonomy" (1974: 109), but the majority of writers (see Palmer 1976, Jackson 1988, Carter 1987) prefer to speak of "complementarity". Kempson - whose favoured term is "simple binary opposition" - describes examples of non-gradable pairs as "the true antonyms" (1977: 84). However, this description is particularly confusing in light of the unwillingness of other linguists - namely Cruse (1986) and Lyons (1977) - to acknowledge complementarity as a form of antonymy at all. Their feeling is that the label "antonymy" should be restricted to gradable pairs such as *hot/cold, large/small,* etc.

1.4.1.1. Componential Analysis

The criterion necessary for an opposition to be considered non-gradable is that the application of one antonym must logically preclude the application of the other. For instance, if X is a *man*, X cannot be also a *woman*; if X is *married*, X cannot be also *unmarried*, and so on.

In theory, one could contest the above criterion by claiming that, for example, *motorbikes* are neither *men* nor *married*; does this make them unmarried women? To counter such purely

hypothetical objections as these, Leech turns to the area of Componential Analysis (1974: 98). This enables the words *man* and *woman* to be expressed as follows:

man:	+HUMAN	+ADULT	+MALE
woman:	+HUMAN	+ADULT	-MALE

Thus, *man* and *woman* are antonymous because of the clash between the semantic features +MALE and -MALE. This opposition is licensed by the congruence of +HUMAN and +HUMAN (which eliminates the motorbike hypothesis) and of +ADULT and +ADULT (which acknowledges that *girl* could be seen as the antonym of *woman* if the gender scale were equal but the age scale different). In other words, inherent to the words *man* and *woman* are the notions of humanness and adulthood.

Leech (1974) and Kempson (1977) both draw heavily on Componential Analysis in their analyses of antonymy and this strategy is effective when dealing with certain antonymous pairs, especially those which concern kinship terms or gender. However, the explanatory power of Componential Analysis does not seem to extend beyond this - describing an antonymous pair such as *bachelor/spinster* is unproblematic; but tackling pairs such as *active/passive* creates many more difficulties. To begin with, the fact that these words are not nouns means that they resist neat superordinate labels such as "adult". This particular pair can be applied to animate nouns (*active participant; passive majority*) or to inanimate nouns (*active trading; passive smoking*). To apply a Componential Analysis, one would struggle to define the pair as being anything more specific than +DESCRIPTIVE. Whereas *active* is +DOING SOMETHING, *passive* is -DOING SOMETHING. The problems with this is that whereas +HUMAN +ADULT +MALE clearly defines *man*, +DESCRIPTIVE -DOING SOMETHING defines *passive* with significantly less precision*. Therefore, though a useful tool for describing some antonymous pairs, Componential Analysis is not always, as Kempson believes, "a much more explicit, clear and economical way of

*It also raises the question of how Componential Analysis would account for *inactive*.

characterising ... relations" (1977: 86).

1.4.1.2. Gradability

At a fundamental level, Jackson questions the entire concept of non-gradable opposition, claiming that "just about any non-gradable antonym may be made gradable" (1988: 76). He challenges the *male/female* opposition on the grounds of sex-change operations and chromosome research, but a challenge may also be made using corpus evidence, as the following sentences illustrate:

1 ind942*: But I feel much more **alive** when I'm acting - the rest of life becomes much more interesting.

2 ind913: Josh Logan had noted he was all a director could hope for: tall, humorous, extremely **male**.

3 ind941: Margo at that time was very **pregnant** with Hector, and we had dinner and talked late into the night.

Examples such as these remain relatively rare, but hardly strike the reader as being incomprehensible. Technically, one is either *alive* or *dead*, but that is no impediment to our understanding of how the writer of sentence 1 is feeling. Similarly, to describe someone as being *extremely male* or *very pregnant* may attract censure in some quarters (newspapers' letter pages often reflect readers' distaste for *very unique*), but we are well aware what is meant by these phrases: an *extremely male* person is macho in some respect; a *very pregnant* woman is simply in the latter stages of pregnancy. Lyons notes that "what we are grading, presumably, are various secondary implications, or connotations" (1977: 278). This presumption is fair, but Lyons continues:

> Recognition of the possibility of grading normally ungradable antonyms ... does not imply that there is not a sharp distinction to be drawn between gradable and ungradable antonyms in a language-system. (1977: 279)

In abstract semantic terms, Lyons is right - the distinction between gradable and non-gradable antonyms is fundamental. But it is difficult to understand why this distinction should be considered so important if textual evidence, such as that shown in the triplet of sentences above, continually fudges the line between the two categories. Among other things, this thesis will examine

*The notation *ind942* expresses newspaper, year and quarter. In other words, this sentence was published by *The Independent* in the second quarter of 1994.

whether non-gradable antonyms have a different textual profile from gradable antonyms.

1.4.1.3. Antonymous Triplets

When it comes to classifying antonymy from a semantic perspective, nobody has developed a more complex system than Cruse. In general, Cruse (1986) adopts Lyons's terminology but he also creates further subcategories of antonymy. In particular, Cruse formulates the notion of the "antonymous triplet", (1986: 201) arguing that non-gradable pairs first need a given condition to be met in order for their contrastive potential to be realised.

For example, if the binary pair *live/die* is to hold true, some instance of *birth* must first occur. Thus, Cruse creates the triplet *be born:live:die*, labelling it Reversive Complementarity. This is because the outer pair (*be born* and *die*) are reversives, ie. they denote change in opposing directions. Similar examples include *start: keep on:stop*, *learn:remember:forget* and *arrive:stay:leave.*

The second class of triplet identified by Cruse are known as Interactives. These pertain to antonymous pairs which are themselves a response to a given stimulus. For example, the complementaries *obey* and *disobey* are binary responses to a given *command. Command* is therefore said to be Interactive with both *obey* and *disobey*. Other Interactive triplets include *request:grant:refuse*, *greet:acknowledge:snub* and *tempt:yield:resist.*

The term Satisfactive is given to the relationship between a word signifying an attempt to do something and its corresponding success-measuring antonyms. *Compete:win:lose* is an example, as are *try:succeed:fail* and *aim:hit:miss.*

Cruse's final category of complementary triplet involves Counteractives. Here, the first term of the triplet represents an aggressive action, the second a measure to neutralise it, and the third a consequence of the inability to neutralise it. *Attack:defend:submit* is the primary example, though

charge:refute:admit and, in the context of a football match, *shoot:save:let in* are other feasible illustrations.

Cruse himself acknowledges that his final two divisions are less fundamental than the first two categories. I would add also that a number of his illustrations of non-gradable antonymy are questionable (*not winning* does not inherently entail *losing*; a valid third outcome is still possible, in *drawing*). But the real problem with Cruse's four categories of antonymous triplet is that they are highly restrictive. Beyond the examples given, it is difficult to envisage many more antonyms which would easily fit the categories outlined without moving beyond the boundaries of what most native speakers would recognise as "opposites".

Evidence of this is provided by illustrations supplied by Cruse himself. For instance, as an example of a Counteractive triplet, Cruse cites *punch:parry:take*. This is a weak example because *parry* rarely relates to *punch* in text. The thing parried most commonly is a football; the "parrier" being a goalkeeper. Furthermore, the antonym of *take* would usually be identified as *give*, a fact obscured by this triplet. It would seem that Cruse has struggled to find valid examples of this category, perhaps because the number of triplets which reflect an aggressive action, a measure to neutralise it, and a consequence of an inability to neutralise it, is very limited. In defence of Cruse, he presents his categories with care, and is right to draw attention to the various prerequisites which need to be met by all verbal non-gradable antonyms.

1.4.2. Gradable Antonymy

Gradable antonymy differs from non-gradable opposition in that one antonym is not automatically debarred by the other's application. In other words, it is possible to be *neither rich nor poor* in a way that it is not possible to be *neither baptised not unbaptised*. Thus, *rich/poor* are gradable antonyms, as are the majority of everyday opposites (*old/new, cold/hot, wet/dry*, etc).

Because gradable antonyms are not mutually exclusive, they are readily modified (*quite* happy, *extremely* happy, *fairly* happy, etc) and can take both comparative (*happier*) and superlative (*happiest*) form. Lyons (1977: 274) reports that this flexibility caused headaches for Plato, who could not comprehend how both tallness and shortness could be seemingly ascribed to the same object, as in the statement *X is taller than Y and shorter than Z.* This, of course, is not paradoxical because *taller* and *shorter* are entirely relative concepts. Indeed, Sapir (1944; cited Palmer 1976: 94) suggests than even in their base form, words such as *tall* and *short* are implicitly graded, as they can only be understood in terms of being *shorter* or *taller* than another entity. For instance, a *shallow lake* is deeper than a *shallow grave*, a *small elephant is bigger than a small child, and a narrow road* is wider than a *narrow ribbon.* Indeed, it is almost impossible to define *shallow*, *small* or *narrow* in isolation; it is as though the corresponding noun determines the shallowness of *shallow*, the smallness of *small* and the narrowness of *narrow.*

1.4.2.1. Norms

Leech - alone among semanticists in referring to gradable antonymy as "polarity" (1974: 100) - notes that the above examples relate to an object-related norm. That is to say, we judge small elephants against the regular norm for elephants, which is larger, of course, than the norm for apples, but smaller than the norm for, say, oil tankers.

In addition to object-related norms, Leech also introduces the idea of speaker-related norms (*X is ugly* may hold true for one speaker, but not another) and role-related norms (*X is a good boss* may mean that X is good at being a *boss*, while not ruling out the possibility that X is lousy at being a *husband*). Leech concludes that:

> It is largely because of this threefold variability of the norm that words such as *good* and *bad* are thought to be vague and shifting in their meaning. (1974: 110)

Following this, it is interesting to consider Hoffman's observation about cultural norms. He notes

that American speakers would consider *valley* to be the opposite of *mountain*, but that in Japanese, *ocean* is considered to be the opposite of *mountain** (1993: 44). Hoffman attributes this to the geographical factors - Japanese people mostly live between *mountains* and *oceans*; Americans are more likely to see *mountains* and *valleys*.

1.4.2.2. The Unmarked Antonym

In any given pair of gradable antonyms, only one term is used to describe the degree of the gradable quality. For instance, we might ask how *high* or how *wide* something is without making any suggestion that the object is high or wide at all. Palmer (1976: 94) refers to this as the unmarked term, arguing that a question such as *how short is it?* or *how narrow is it?* is marked in that it implicitly suggests that the given object is *short/narrow*. A possible exception to this rule would arise if a speaker placed intonation on the word *how* rather than on *high/wide*, although corpus data raises more fundamental questions about the validity of the unmarked term, as I shall demonstrate in 4.3.2.

It is interesting to note that the unmarked antonym is generally used to form the corresponding noun. Hence, *lowness* and *highness* are measured in terms of *height*; *narrowness* and *wideness* in terms of *width*. These are both neutral, unmarked terms (compare *what is the height of that building?* [unmarked] to *what is the lowness of that building?* [marked]). In English, it is the larger term that tends to be unmarked. However, Palmer notes that whereas we talk of a *thickness gauge*, a *thinness gauge* is used in Japanese (1976: 96).

Cruse (1986: 208) - who refers to the *unmarked* and *marked* terms as being *impartial* and *committed* respectively - develops a more complex system. He begins by making a distinction between "pseudo-comparatives" and "true comparatives". *Long* and *short* are said to be pseudo-comparatives because we can describe something as being long, but shorter than something else;

*British speakers, one assumes, have no opposite of *mountain* which is clear cut.

hot and *cold* are said to be true comparatives because we cannot describe something as being hot, but colder than something else. In other words, we can say *this piece of string is short, but it's longer than the other one*, but we cannot say *this bowl of soup is hot, but it's colder than the other one*. According to Cruse, once we give an item the property of hotness, we cannot subsequently describe it as being colder than another item.

To complicate matters further, Cruse notes that some antonymous pairs (such as *clever/dull*) have one true comparative and one pseudo-comparative. In other words, according to Cruse, it is acceptable to say *John's a dull lad, but he's cleverer than Bill*, but unacceptable to say *Bill's a clever lad, but he's duller than John.*

Based on these very fine distinctions, Cruse develops three categories of gradable antonymy: Polar Antonymy (when both antonyms are pseudo-comparatives); Overlapping Antonymy (when one antonym is a pseudo-comparative and the other a true comparative); and Equipollent Antonymy (when both antonyms are true comparatives).

Inevitably, these categories of antonymy are highly dependent on intuitive criteria. Consequently, it is not difficult to find examples which are more suspect than Cruse acknowledges. For example, *happy* and *sad* are classified as an Equipollent pair. Thus, Cruse finds *I'm sad, but happier than yesterday* unacceptable. This is perhaps surprising given that he has no problems with *Jill is rude, but she's more polite than Jack.* My own intuitions are not compatible with such interpretations, but this merely illustrates the subjective nature of the criteria applied to develop these subclasses of gradable antonymy.

1.4.3. Other Traditional Classes of Antonymy

The distinction between gradable and non-gradable antonyms is the most fundamental made by semanticists, but other word pairs exist which would be intuitively recognised as antonyms

without easily fitting either category. This section will focus primarily on the traditional classes of reciprocal antonymy and multiple incompatibility.

1.4.3.1. Reciprocal Antonymy

Consider the words *landlord* and *tenant*. Some form of opposition exists between this pair, yet they are neither non-gradable antonyms (not being a *landlord* does not inherently make one a *tenant*) nor gradable antonyms (one cannot be more or less of a *landlord/tenant* than anybody else). Rather, they could be referred to as reciprocal antonyms. This is because the statement *X is the landlord of Y* entails and is entailed by *Y is the tenant of X*.

The majority of semanticists label this phenomenon "converseness", although Palmer and Leech both prefer to speak of "relational opposition". Kempson notes that if the variables *x* and *y* are converse verbs, the statement *A x B* implies *B y A* and the statement *A y B* implies *B x A*. In other words, *B precedes A* implies that *A follows B* and *A follows B* implies that *B precedes A* (1977: 85). Other examples of reciprocal antonymy include *above/below*, *give/receive*, *borrow/lend* and *buy/sell*.

A fertile area for reciprocal antonymy is the field of kinship relations. If *X* is the grandparent of *Y*, then *Y* must be the grandchild of *X*. By the same token, we would have to define *parent* as the reciprocal antonym of *child*. This creates some difficulty as we have already cited *adult* as a non-gradable antonym of *child*. Of course, there is nothing to prohibit "polyantonymy" - the instance of a word having more than one opposite - but it is interesting to note the differences in sense between the two uses of the word. Cruse (1986: 233) illustrates this well by considering the following exchange:

> Q. Are there any children of the marriage?
> A. No, they are all grown up.

The answer to this question sounds odd because whereas the question refers to *children* in the sense of its reciprocal antonymy with *parents*, the 'zeugmatic' answer refers to *children* in the sense of its non-gradable antonymy with *adults*.

1.4.3.1.1. Symmetrical Antonymy

Another example of kinship antonymy is *husband/wife*. This is a reciprocal opposition because *X is the husband of Y* entails and is entailed by *Y is the wife of X*. Along the same lines, *X is married to Y* entails and is entailed by *Y is married to X*. However, *married to/married to* is a different kind of reciprocal antonymy from *husband/wife*, if only because the antonymy comprises lexical repetition. Most analysts (see Leech *1974* or Palmer *1976*) refer to this opposition as "symmetrical". Other examples of symmetrical antonymy include *beside*, *near to* and *meet*.

Cousin is a form of symmetrical opposition because if *X* is the *cousin* of *Y*, then *Y* must also be the *cousin* of *X*. This is unusual in that, aside from *(grand)parent/(grand)child*, it is the only kinship opposition that is not gender-marked in English, though Gairns and Redman (1986: 26) report that *cousin* takes a masculine or feminine form in Spanish and Portuguese, except in the plural.

Indeed, it is interesting to note that gender-based antonymous pairs in other language are often morphologically related and differ only by their final syllable. Whereas English has two distinct lexical items, *boy* and *girl*, Spanish has *muchacho* and *muchacha*, Portuguese has *menino* and *menina*, and Italian has *ragazzo* and *ragazza*. Similarly, *uncle* and *aunt* translate as *tio* and *tia* in both Spanish and Portuguese, and as *zio* and *zia* in Italian. Other examples from Spanish include *hermano/hermana* (*brother/sister*) and *sobrino/sobrina* (*nephew/niece*). The fact that these pairs differ only by their inflection - usually a single letter - suggests that the antonymy arising between these terms is felt to be minimum. They are gender marked but effectively remain the same word.

This supports the view that antonyms share more similarities than dissimilarities and questions whether gender-based antonyms should really be regarded as antonyms at all.

Returning to English, Palmer (1976: 99) notes that the terms *spouse* for *husband/wife* and the term *sibling* for *brother/sister* both avoid sex reference and are therefore symmetrical. However, such lexis is generally reserved for anthropological fields* and there are no corresponding neutral terms for *uncle/aunt, nephew/niece*, etc.

1.4.3.1.2. Limitations

Peripheral cases of reciprocal antonymy include *doctor/patient.* If X is the *doctor* of Y, then Y must be the *patient* of X. However, the antonymy arising between *doctor* and *patient* is somehow different to that arising between, say, *over* and *under*, even accounting for the fact that one relationship is social and the other positional. One could express this by saying that an *over* requires an *under* (ie X cannot be *over* Y unless Y is *under* X) but a *doctor* does not necessarily require a *patient* (one could imagine a newly qualified GP as yet without a practice or a hospital patient for whom a doctor has not been assigned).

Such examples place a question mark over the validity of reciprocal antonymy. The difficulties associated with *doctor/patient* suggest that some form of subclassification is necessary to distinguish those Xs which require Ys (as *borrow* requires *lend*) and those Xs which can exist without a corresponding Y (such as *teach* and *learn*).

1.4.3.2. Multiple Incompatibility

Another traditional class of antonymy is the category often known as multiple incompatibility. This is a borderline classification of antonymy, which refers to pairs such as *summer/winter* and *north/south.* Indeed, Jackson (1988) and Palmer (1976) make no explicit mention of

*The increasing use of *partner* may be a counter-example.

incompatibility in their entire discussion of antonymy. Leech (1974) and Kempson (1977) acknowledge the phenomenon, but refer to it as "multiple taxonomy", while Carter provides perhaps the most workable definition: "incompatibility ... refers to relational contrasts between items in a semantic field" (1987: 19).

In some respects, multiple incompatibility is most similar to non-gradable antonymy. The non-gradable pair *male* and *female*, for example, belong to a two-member system, such that X can never be simultaneously more than one member; *solid*, *liquid* and *gas*, by comparison, belong to a three-member system, such that X can never be simultaneously more than one member; similarly, *clubs*, *diamonds*, *hearts* and *spades* belong to a four-member system, such that X can never be simultaneously more than one member. And so on. Thus, multiple incompatibility may be seen as non-gradable antonymy extended to three or more terms. Whether such examples remain within the boundaries of antonymy is debatable.

1.4.3.2.1. Open and Closed Sets

The above examples of multiple incompatibility - the *state of matter* system and the *playing card suit* system - could be described as "closed sets", ie. a system with a finite number of members. *Seasons of the year* and *cardinal compass points* are other examples. "Open Sets" of incompatibility are thinner on the ground. Perhaps the most obvious example is the numeral set. Numbers are incompatible because, for instance, if my age is 25, my age cannot simultaneously be 15 or 35. Numbers are also an open system because there is no ceiling, no maximum digit.

Lyons (1977: 288) draws a distinction between closed sets that are "cyclical" and closed sets that are "serial". An example of a cyclical set would be the days of the week, where *Wednesday* is followed by *Thursday, Thursday* is followed by *Friday*, and so on. The fact that *Saturday* (or *Sunday*) could be considered the end of the week is of no importance. Another day will always

follow.

Unlike cyclical sets, serial sets always contain outermost members, an example being the letters of an alphabet. A further distinction is here made between "scales" and "ranks". The illustration Lyons gives of the former is the set *excellent/good/fair/poor/bad/atrocious*. The members of this scale are incompatible in the sense that *X wasn't just poor, he was atrocious* is a valid statement. However, I would suggest that Lyons's notion of "scale" is too closely related to gradable antonymy to warrant differentiation. Indeed, such constructions sound odd when examples of standard multiple incompatibility are inserted: *X wasn't just a liquid, it was a gas*, etc.

The concept of "rank" is perhaps more useful. Military rank is an appropriate example here, whereby a set ranging from *field marshall* and *general* down to *lance corporal* and *private* has been created. Again, there are similarities with gradable antonyms, but ranks appear to be more obviously incompatible with one another and their ordered, progressive nature distinguishes them from other taxonomies.

1.4.3.2.2. Inverse Opposition

Leech refers to a phenomenon very similar to ranking as "hierarchy" (1974: 106), identifying it in isolation as a fifth category of antonymy. This is unnecessary because Lyons's notion of "rank" subsumes this category. However, Leech's sixth and final category, "inverse opposition", may warrant more attention.

For two words to be classed as inverses, the negation of one term must make the pair synonymous. This criterion is reminiscent of that for non-gradable antonymy, but Leech includes pairs such as *all/some* and *remain/become*, which may not otherwise be considered as opposites. His reasoning is that *SOME artists have no formal training* is synonymous with *not ALL artists have formal training* and *she did not BECOME a smoker* is synonymous with *she REMAINED a non-*

smoker. This broadens the definition of antonymy in an interesting (though perhaps counter-intuitive) way*.

1.4.3.2.3. Orthogonal and Antipodal Antonymy

Many other categories of word-pair have been created by semanticists which, though explained with care by their proponents, remain on the periphery of antonymy. For example, Lyons distinguishes between "orthogonal" and "antipodal" opposition (1977: 286). Orthogonal - meaning perpendicular, at right angles - describes the antonymy holding between the words *man, woman, girl* and *boy*. Each of these four words contrasts with two of the other three. So *man* can be the antonym of *boy* and *woman*, but not *girl*; and *boy* can be the antonym of *girl* and *man* but not *woman*. Thus, *man, woman, girl* and *boy* are said to be orthogonal oppositions.

An example of an antipodal opposition would involve the terms *north, east, south* and *west*. Here, words only contrast in one direction. So *north* is an antonym of *south*, but not *east* or *west*; and *west* is an antonym of *east* but not *north* or *south*. This is also true of the system containing the four seasons - *summer* contrasts most strongly with *winter*; *spring* with *autumn* - although it is interesting to note that Dickens contrasted *the spring of hope* with *the winter of despair* (see 1.2.3.).

The concept of antipodal antonymy is later discussed by Cruse (1986: 223) who proceeds to introduce many further sub-classes of antonymy including "counterparts" (such as *hill/valley, ridge/groove* and *mound/depression*), "independent reversives" (such as *empty/fill, enter/leave* and *improve/deteriorate*), and "restitutives" (such as *damage/repair, kill/resurrect* and *stop/resume*). The distinction made between the latter two classes is typically subtle: *damage* is a prerequisite for *repair* (making that pair restitutives), but one does not always need to *empty* something in

*Drawing upon Levinson (1983: 140-146), Hurford & Heasley (1983: 191-197) make explicit the connection between antonymy and truth conditions.

order to *fill* it (making that pair independent reversives).

Such categories are always interesting to consider and often provide a useful label for the pairs used as exemplification. However, whether one would want to identify every such pair as being antonymous is another question. The more specific the categories identified become, the more tenuous grows the link between the technical term "antonymy" and the universally recognised concept of "opposites".

1.4.4. Summary of the Traditional Approach

Antonymy is a broad, inexact term traditionally used to encompass a multitude of slightly different phenomena. Semantic theorists agree that the most basic dichotomy is that between gradable and non-gradable antonymous pairs, though individual commentators rarely concur on the most appropriate terminology to describe this. But even this most basic of divisions is challenged by Palmer, who wonders whether pairs such as *honest/dishonest* actually meet non-gradable as well as gradable criteria - can one really be *not honest* without being *dishonest*? (1976: 97).

All other categories of antonymy are peripheral, to a greater or lesser degree, and the distinctions drawn between many of the classes outlined in this chapter are subtle and could easily vary from one intuition to the next. Furthermore, the definition of antonymy used often becomes highly elastic in order to accommodate word pairs which, though always expressing some degree of contrast, would rarely be identified as "good opposites" by native speakers.

In other words, to approach antonymy from an entirely intuitive position allows room for endless classification and subclassification. However, as we shall see, to approach antonymy from a corpus linguistics perspective allows room for even more classification and subclassification. The attraction of a data-based approach to antonymy is not that it results in simplification, but that it enables a set of classes to be derived which are grounded in something more solid than the

shifting sands of human intuition. This thesis offers a new perspective as a step towards the goal of understanding antonymy better.

However, that is not to suggest that such steps have never been taken before. I shall now report on recent studies which have attempted to use corpus data as a tool in describing the phenomenon of antonymy.

1.5. Recent Developments in Antonymy

The first analysis of antonymy to make use of corpus data was conducted by Justeson & Katz (1991). Three years later, Mettinger devoted an entire book to the issue of antonymy in text. Other research has touched on the subject of antonymy while looking at authentic data (for example, Fellbaum 1995 and Kwon 1998) and various PhD dissertations have investigated aspects of antonymy using corpora (for example, Muehleisen 1997 and Murphy 1994). However, the work of Justeson & Katz and Mettinger remain the most relevant to this study and their research will now be outlined in turn.

1.5.1. Justeson & Katz

Using antonyms identified by Deese and two corpora (the first of one million words, the second of 25 million words), Justeson & Katz succeed in proving that "adjectives do indeed tend to occur in the same sentence as their antonyms far more frequently than expected by chance" (1991: 142). This is an important statement as it confirms, probably for the first time, that antonyms co-occur and that, as such, antonymy is a syntagmatic as well as a paradigmatic phenomenon.

Justeson & Katz also note that antonyms "occur in parallel and often essentially identical phrases" (1991: 142) and though no system of classification is subsequently presented, some "typical sentences" are recorded. These will be compared to the patterns which emerge from my own data in Chapter Eleven, but generally involve what is termed "substitution": the repetition of antonyms

within a given framework, such as when modifying the same noun. Their examples include references to *dry stock and wet stock* and *a big newt and a little newt.*

The conclusion reached by Justeson & Katz is that:

> The analysis of text provides not only a picture of how antonyms are used, but of what antonyms are. Our study of the appearances of antonymous adjectives in large corpora has shown that an intrinsically textual feature, the rate of phrasal substitution of antonyms for one another, is crucial to the understanding of what the relation of antonymy is, providing a lexical criterion for assessing just which word pairs are antonyms. (1991: 184)

In other words, Justeson & Katz advocate a description of antonymy based on textual function. This is a somewhat circular approach to the problem of definition (antonyms are words which are used in antonymous frameworks; antonymous frameworks are frameworks in which antonyms are used), but some reference to context is inevitable (and desirable) if a standard definition of antonymy is ever to emerge.

1.5.2. Mettinger

The first book to be published about antonymy which made use of corpus data was written by Mettinger (1994). He notes that the subject has always been tackled from a theoretical position and argues that real data need to be analysed in order to learn more about antonymy.

> The majority of studies concerning themselves with this topic [antonymy, or *binary semantic opposition*, as Mettinger prefers] are highly theoretical in nature, thus arriving deductively at classifications and subclassifications of binary semantic opposition into various types, without, however, considering an appropriate amount of data. (1994: 1)

This is all perfectly true, but Mettinger's notion of an "appropriate amount of data" is curious. He proceeds to examine antonymy using a corpus made up of 43 novels, 30 of which are written by Agatha Christie. Aside from examples being littered with references to *Miss Marple* and *Poirot*, the most significant consequence of this is that Mettinger's results are limited by his choice of corpus. This is naturally occurring language, but it is also modern fiction which belongs to a

particular genre and many of Mettinger's sentences consequently feel stylised and literary. Another problem is corpus size - Mettinger does not specify the exact number of words in his corpus, but I would estimate a size of around 3 million, small in comparison to many modern corpora. The corpus I have chosen to use in my work is nearly 100 times larger and is comprised exclusively of journalistic data. This gives rise to the potential for a more in-depth investigation of more up-to-date usage. Issues arising from this choice of corpus are discussed more fully in Chapter Three.

Despite its limitations, Mettinger's research remains a valuable and insightful exploration of antonymy which proves conclusively that the phenomenon is receptive to categorisation based on textual evidence. Indeed, Mettinger is able to allocate 99 of the 161 antonymous pairs examined to one of nine frames identified (simply known as Frame A, Frame B, etc (1994: 40)). It should be noted that Mettinger's definition of "binary semantic opposition" is broad - included in his examples of "Oppositions in Context" (1994: 169) are the pairs *cat/mouse, justice/mercy* and *murder/suicide*. While these pairs contain some element of contrast, I would have reservations about labelling them as antonyms. Also, unlike the examples analysed in later chapters, not all of Mettinger's word-pairs occur in the same sentence. This is by no means a criticism of his methodology, though it does raise questions about how close two words must be in text to hold a relationship of significance. Justeson & Katz state that "the sentence is the primary rhetorical locus of these repetitions and is the focus of our work" (1991: 140); it is the focus of my work too, but I fear that has more to do with convenience than primary rhetorical loci.

Some of Mettinger's examples are similar to those I shall present in Chapters Four, Five and Six of this thesis, but his work is not primarily classificatory. He describes his investigation as "a first attempt at showing that contrast is a phenomenon showing greater regularity than has hitherto been assumed" (1994, 46). As such, his investigation is a success. In this thesis, I shall develop

textual classifications of antonymy further and compare my findings to those of Mettinger.

1.5.3. Other Research

At least two PhD theses have already tackled the issue of antonymy, although neither approach the phenomenon from the corpus-based, classificatory angle which this study takes. Murphy (1994) acknowledges that her work "differs from other major works on antonymy in that its aim is not descriptive, nor does it originate from a structural semantics perspective" (1994: 4). Rather, Murphy adopts a "cognitive science perspective" and discusses antonymy (and other sense relations) according to general cognitive principles.

Muehleisen's thesis (1997) investigates what makes two words antonyms and concludes that "shared semantic range" is all-important. As an illustration, she examines the collocational profile of *wet, moist, damp, humid, dank, dry, arid* and *parched*, arguing that *wet/dry* are the most established antonymous pair because they have the highest frequency and share the widest semantic range.

Finally, Fellbaum (1995) takes issue with Justeson & Katz's view that antonyms are learnt through frequent exposure to co-occurrence within particular syntactic frames, arguing that antonyms are not substitutable for one another. She makes interesting statements about the frequency of antonymous co-occurrence, but acknowledges that her corpus is "very small by today's standards", containing only one million words.

All three of these studies provide useful clues about the nature of antonymy. Murphy's cognitive approach to antonymy sheds light on its place in the mental lexicon; Muehleisen's notion of "semantic range" illustrates that established pairs of antonyms tend to collocate with similar terms; and Fellbaum's research into antonymy and co-occurrence raises a number of interesting questions regarding the underlying concepts which are lexicalised by antonymy. This thesis will

touch on all of those areas, but benefits from a corpus much larger than the million-word Brown Corpus on which many recent studies have been based. This will enable the question of exactly what antonymy does in text to be addressed in detail and quantified accordingly.

1.6. Summary of Chapter One

This chapter has attempted to justify why another PhD thesis should be devoted to antonymy. It argued that, in many respects, antonymy is different from other sense relations. Whether or not there exists a "general human tendency to categorize experience in terms of dichotomous contrast" (Lyons (1977: 277) is difficult to gauge, but, either way, antonymy holds an important position in our environment. This chapter considered research into how children acquire antonyms in pairs when learning language, and why adults show such strong tendencies to provide antonyms in response to word association stimuli. It has also briefly considered the role of antonymy in literature, advertising, philosophy and religion. No evidence of antonymy having magical power was found.

Having established the significance of antonymy in contemporary life, this chapter discussed the problem of finding a working definition for the phenomenon. It was found that semantic criteria alone were insufficient to explain why certain words are immediately recognised as "opposites" while other words, equally opposed, have never achieved this status. Any definition of antonymy, it was decided, should be lexical and text-based as well as semantic.

The categories of antonymy developed by traditional semantic theorists were analysed next. Though notoriously poor at agreeing on terminology for classes described, almost all commentators drew attention to a fundamental distinction between antonymous pairs: some are gradable and others are non-gradable. This distinction is apparently upheld in spite of the fact that non-gradable antonyms are commonly graded in text. It was seen that Leech (1974) and Kempson

(1977) draw heavily on Componential Analysis to help describe antonymous pairs. The advantages and disadvantages of this approach were outlined. Cruse's notion of the antonymous triplet was discussed as were his numerous sub-categories of antonymy, many of which were found to be useful, some of which were found to be over-reliant on intuitive criteria. Among the other, smaller, categories of antonymy discussed were reciprocal antonymy and multiple incompatibility. More recent studies of antonymy have made use of corpus data and Justeson & Katz's important statement about significant co-occurrence was considered (1991: 142), as were the strengths and limitations of Mettinger's recent book about antonymy in text (1994).

New advances in corpus technology enable antonymy to be re-examined using real data on a much larger scale than has previously been possible. This thesis will now revisit antonymy in a fresh light, with the objective of developing a new definition and new classes based on what antonymy does rather than what antonymy is. A large database of antonymous contexts will be created and used to investigate many hitherto unexplored aspects of antonymy. Among other things, this thesis will be the first to offer a statistical breakdown of the functions served by antonymous pairs; it will examine how widespread antonymy is in text, whether antonymy is affected by word class, the relevance of traditional categories to the ways in which antonymous pairs currently function in text, the sequence in which antonyms tend to appear, and the productivity of frameworks associated with antonymy. In short, this thesis aims to investigate the phenomenon of antonymy more rigorously than it has ever been investigated before.

Chapter Two:
Data and Methodology

2. Data and Methodology

2.1. Introduction

Chapter One of this thesis recounted how previous classifications of antonymy have been based on either personal intuition or, occasionally, on relatively small corpora. This examination of antonymy will be based on a larger database of sentences, a database customised to meet the primary objectives of this study, namely:

1 To investigate and quantify the intra-sentential functions served by antonymy in written text.
2 To generate co-occurrence statistics and function profiles of individual antonymous pairs.
3 To examine variables (word class, gradability, etc) which might affect the function of antonymy.

In order for Objective 1 to be met, the database needs to be as large as possible - valid statistical conclusions could not be drawn from a small database. However, the database must not be too large to prevent all sentences from being classified manually. It was decided that an appropriate size for the database would be 3,000 sentences.

Objective 2 requires this study to concern itself with a manageable number of pairs, so that each pair may be investigated in sufficient detail. This places restrictions on the way in which the database should be created. For example, if the first 3,000 corpus sentences to feature an antonymous pair were sampled, it is likely that hundreds (perhaps thousands) of different word pairs would occur. These pairs would be diverse in nature and even the most frequent may only arise in a few dozen examples. Therefore, it was decided to take a reverse approach and pre-specify which pairs should be studied and in which quantities: 56 antonymous pairs would be selected for analysis, which will allow for an average of 50 examples to be retrieved for each.

Finally, Objective 3 requires this thesis to analyse how a number of variables affect antonymy. For example, this thesis aims to discover whether the function of antonymy differs according to

grammatical class. Therefore, it is important to include sentences in the database which feature antonymous adjectives, nouns, verbs and adverbs. Similarly, word pairs chosen should be both gradable and non-gradable, and both morphological and non-morphological.

With these aims in mind, this chapter will now discuss all aspects of how the database was constructed, including an appraisal of sampling techniques used both here and in other text-based studies of antonymy. I shall begin by considering the corpus from which this database was created.

2.2. Choice of corpus

The corpus I use consists of about 280 million words of text from *The Independent*. All stories printed in the newspaper between 1 October 1988 and 31 December 1996 are included in the corpus. The advantages of using newspaper corpora is that they are large, genre specific* and reflect a natural, modern, non-fictional use of language; one disadvantage is that they do not reflect the spoken medium. However, as this thesis reports only on the function served by antonymy in written text, this disadvantage is not applicable. Domain specificity is an advantage in that the corpus is consistent - it only features sentences written by journalists for the same newspaper at roughly the same time. Thus, an overview of how antonymy is used in the field of broadsheet newspaper journalism is possible, although it should be acknowledged that antonymy might be found to function differently in other corpora.

The instruments used to retrieve sentences from this corpus were designed by colleagues at the Research and Development Unit for English Studies at Liverpool University. These tools enable entire sentences from the corpus to be retrieved according to specified search-words which co-occur therein. In this way, every corpus sentence which featured both members of any given

*It is genre specific in that text from only one newspaper source is used, but not in the sense that the newspaper is restricted in its coverage like, say, the *Financial Times*.

antonymous pair could be extracted.

2.3. Choice of antonymous pairs

Selecting a representative sample of antonymous pairs created difficulties. As discussed in Chapter One, no single definition of antonymy has been universally agreed upon. This makes sampling problematic: how can one be sure that the antonyms selected are, indeed, genuine antonymous pairs?

In many respects, this question is impossible to resolve satisfactorily. To follow one definition of antonymy at the expense of other definitions would leave this study open to the criticism that it had not, in fact, tackled antonymy at all, but rather a specific subset of the phenomenon. One could also argue that such an approach would be circular if the pairs chosen for study pre-empted the outcome of the study. Indeed, it is difficult to imagine a list of antonymous pairs which would not raise a single eyebrow, either because of words included but not considered to be "good opposites", or because of "good opposites" which might be conspicuous in their absence from the list.

2.3.1. Selection strategies adopted elsewhere

Before explaining the strategy used here for selecting a suitable sample of antonymous pairs, I shall first consider the methods used by other researchers. Firstly, I shall examine the validity of the antonyms identified by Deese (1964), then I shall evaluate Mettinger's idea of using Roget's Thesaurus as a resource for antonyms.

2.3.1.1. The Deese Antonyms

Using the results of word association tests as data, Deese (1965) identified 40 word pairs which he considered to be among the most fundamental in English. Justeson & Katz made use of these antonyms in their research, arguing that they are "historically important" (1991: 142). Other studies which used the Deese antonyms include Grefenstette (1992), and Collier, Pacey & Renouf

(1998), when testing automatic retrieval technology. But do the pairs listed by Deese have any claim to be the most representative of antonymy?

Deese's study has been described as the "the standard psychological work on antonymy" by Justeson & Katz (1991: 142). However, being conducted before access to corpora was possible, Deese's work was built entirely on the results of word association tests. Deese took 278 adjectives* and used them to elicit responses from 100 informants. When a pair of contrast words successfully elicited one another more than any other word, they were added to the list of antonymous pairs, which ultimately numbered 40.

Most of these 40 word pairs correspond with those antonyms which native speakers would identify as being "good opposites" (*bad/good, cold/hot, high/low*, etc), but other pairs are less ingrained in the mental lexicon. For example, *alone/together* lacks the familiarity of many "good opposites", as does *pretty/ugly*, perhaps because *beautiful* is no less an antonym of *ugly* than *pretty*. It would appear that the criterion for inclusion (that both members of an antonymous pair should elicit one another more frequently than they elicit any other term) was very broad. Though all antonyms cited by Deese fulfilled this requirement, some passed the test with worryingly low scores. For example, given the stimulus *together*, only 6% of informants replied *alone*; given *alone*, only 10% replied *together*. However, this was evidently enough to make these answers more popular than any other, even though the fact remains that a minimum of 84% of informants failed to give either *alone* as a response to *together* or *together* as a response to *alone*. Indeed, of the 278 adjectives tested, only one word succeeded in eliciting its antonym on a majority of occasions (*left*, to which 51% of informants gave *right*).

Therefore, though there remains a strong tendency for informants to provide antonyms as

*This included words such as *above, inside* and *bottom* which function as adjectives less than they function as other parts of speech.

responses to given stimuli in word associations tests, it may not be wise to treat Deese's 40 antonyms as being in any sense exhaustive or definitive. Aside from question marks about the criteria used to develop this list, Deese's "adjectives only" policy disallowed interesting verbal pairs (*fail/succeed, begin/end, love/hate,* etc) adverbial pairs (*quickly/slowly, badly/well, directly/indirectly*, etc) and nominal pairs (*peace/war, optimism/pessimism, strength/weakness*, etc). Furthermore, high frequency antonymous pairs such as *public/private* and *female/male* failed to qualify for Deese's list, yet low frequency pairs such as *sweet/sour* and *married/single* were included. Of course, Deese himself had no influence over which words did and did not qualify - he even acknowledged that his list "comes nowhere near exhausting the possible independent contrasts in the language" (1964: 355) - but any study which makes use of this set of antonyms should be aware of its limitations.

2.3.1.2. Roget's Thesaurus

Created in the middle of the nineteenth century, Roget's Thesaurus attempted to catalogue language, not in alphabetical order, but according to "ideas". This is of relevance to a study of antonymy because Roget chose, where possible, to present these ideas in opposition to one another. Thus, the thesaurus begins by listing words associated with *existence*, then considers words associated with *inexistence*. Following next are *substantiality* and *insubstantiality*, then *intrinsicality* and *extrinsicality*. As Roget explained:

> For the purpose of exhibiting with greater distinctness the relations between words expressing opposite and correlative ideas, I have, whenever the subject admitted of such an arrangement, placed them in two parallel columns on the same page, so that each group of expressions may be readily contrasted with those which occupy the adjacent column, and constitute their antithesis. (Original Introduction, from Browning (ed) 1952: 545)

Mettinger used Roget's language-organisation system as his primary source of antonymous pairs. 350 such word-pairs were chosen from the thesaurus, though Mettinger acknowledged that they "contain a number of lexical items that are hardly used in contemporary English" (1994: 94).

These would include pairs such as *fragrance/fetor, approbation/disapprobation* and *salubrity/insalubrity*, none of which, unsurprisingly, yielded any contextualisation in Mettinger's corpus. However, in addition to providing a number of established antonymous pairs (*success/failure, right/wrong, man/woman*), Roget's Thesaurus also yielded some interesting, "non-core" pairs such as *courage/cowardice, assent/dissent* and *vanity/modesty*. Given that 350 semantic scales are analysed, Mettinger's sample had an advantage of size over Justeson & Katz's and, although a number of the "antonyms" derived from Roget's Thesaurus are close to obsolete, enough high-frequency pairs remained to make the sample workable.

In addition to thesaural antonyms, Mettinger also looked at "Opposites In Context" (1994: 169), non-core contrast words for which he had an "intuitive feeling that they ought to be regarded as opposites in one way or the other" (1994: 2). These include very context-specific items such as *ask/answer, listen/look* and *sad/gay* which would not be considered "good opposites" by many speakers, but which could reflect opposition in a given context*. This broadens the scope of Mettinger's study further.

However, neither using the Deese Antonyms nor turning to thesaural listings is ideal. Essentially, one is still dependent on the intuitions of others to identify antonymous pairs. In the case of Roget, these intuitions are 150 years out of date; in the case of the Deese antonyms, one is dependent on the criteria for antonymy established by 1960s' schools of psychology. However, it is impossible to rely on anything other than intuition when it comes to a psycholinguistic phenomenon such as antonymy. No exhaustive list of antonyms could ever be produced because the process which gives a pair of words antonymous status is complex and dynamic. Indeed, this status could only really be gauged by consensus, as definitions of antonymy vary not only from one linguist to the next, but also from one mental lexicon to the next. Hence, any list of antonyms is

*In the case of *sad* and *gay*, it is difficult to imagine that this context could be contemporary, as both words have shifted in meaning significantly of late.

immediately and inherently flawed; the best one can do is to use antonymous pairs which a majority of speakers might recognise as being "good opposites".

2.3.2. Selection strategies adopted here

Given the limitations of established lists of antonymous pairs, I decided to create an index of antonyms based largely on my own intuition. Some overlaps arise between my list and those antonyms identified by Deese and Roget (it would be worrying, indeed, if this were not the case), but in creating a new list of antonyms, I was able to discard pairs which were felt to be lower down the scale of antonymity, and include pairs which have recently achieved greater antonymous status (*gay/straight*, for instance) or have been overlooked in earlier studies for one reason or another. In total, 56 different antonymous pairs were selected. The rationale behind the selection of these pairs is detailed below, followed by the rationale behind the number of sentences to be extracted for each pair.

2.3.2.1. Antonyms chosen for analysis

56 word pairs were selected for analysis, a figure large enough to ensure that the database created is an adequate representation of antonymy, but not so great as to stretch the definition of antonymy too thinly. The over-riding criterion behind the selection of these pairs was personal intuition - these are antonymous pairs which I feel would be widely accepted as "good opposites" - but other factors were also taken into consideration. These are listed below:

1 Despite its weaknesses, the list of antonyms created by Deese was useful as a first step towards compiling a new selection of word pairs, because it included a number of pairs which any study of antonymy would be remiss to ignore. Of the 40 adjectival pairs identified by Deese, 16 are also used in this study. These are mostly core items such as *cold/hot*, *right/wrong* and *hard/soft*.

2 Only one of the antonymous pairs identified by Deese is non-gradable (*alive/dead*), so I decided to add other non-gradable pairs to my list, namely *female/male, illegal/legal, correct/incorrect, false/true* and *married/unmarried.* This made it possible to discover whether gradable adjectives function differently from non-gradable antonyms in text.

3 This thesis also aims to discover whether the function of word pairs varies according to the grammatical class to which the antonymy belongs. Therefore, in addition to antonymous adjectives, I included verbal pairs (such as *confirm/deny, lose/win* and *love/hate*), adverbial pairs (such as *explicitly/implicitly, rightly/wrongly* and *badly/well*) and antonymous nouns (such as *fact/fiction, guilt/innocence* and *peace/war*)*.

4 Another aim of this research is to determine whether morphologically-derived antonyms function differently from lexical antonyms. As the majority of word pairs are not morphologically related, a number of pairs such as *advantage/disadvantage, correct/incorrect* and *legal/illegal* were added.

One criterion which was not used is that of frequency. Though it is true that most high-frequency antonymous pairs are included in the sample, a number of low-frequency pairs also feature in the list. In other words, although *new/old* (which co-occur in 9,425 corpus sentences), *private/public* (6,741) and *bad/good* (4,804) are included, so too are pairs such as *dishonest/honest* (which co-occur in 28 corpus sentences), *explicitly/implicitly* (32) and *officially/unofficially* (33). To have focussed exclusively on, say, the 56 highest frequency antonymous pairs in English would have resulted in a database comprised almost exclusively of gradable, non-morphological, adjectival antonyms.

*Fellbaum notes that "there is nothing special about antonymous adjectives, other than that antonymy is more pervasive among adjectives; rather, there is something special about antonymous concepts, no matter in what form these concepts are lexicalised" (1995: 285).

According to the criteria outlined above, an index of 56 antonymous pairs was created. The primary aim was representivity, though the list also featured word pairs which may not be at the top of an intuitively-derived selection of antonyms, but which were included to allow for interesting statistical analyses of the data (according to word class, morphology, gradability, etc). The full list is as follows:

active	**passive**	**guilt**	**innocence**
advantage	**disadvantage**	**happy**	**sad**
agree	**disagree**	**hard**	**soft**
alive	**dead**	**hate**	**love**
attack	**defend**	**heavy**	**light**
bad	**good**	**high**	**low**
badly	**well**	**illegal**	**legal**
begin	**end**	**large**	**small**
boom	**recession**	**long**	**short**
cold	**hot**	**lose**	**win**
confirm	**deny**	**major**	**minor**
correct	**incorrect**	**married**	**unmarried**
difficult	**easy**	**new**	**old**
directly	**indirectly**	**officially**	**unofficially**
discourage	**encourage**	**old**	**young**
dishonest	**honest**	**optimistic**	**pessimistic**
disprove	**prove**	**optimism**	**pessimism**
drunk	**sober**	**peace**	**war**
dry	**wet**	**permanent**	**temporary**
explicitly	**implicitly**	**poor**	**rich**
fact	**fiction**	**private**	**public**
fail	**succeed**	**privately**	**publicly**
failure	**success**	**punishment**	**reward**
false	**true**	**quickly**	**slowly**
fast	**slow**	**right**	**wrong**
female	**male**	**rightly**	**wrongly**
feminine	**masculine**	**rural**	**urban**
gay	**straight**	**strength**	**weakness**

Table One: Choice of Antonymous Pairs

Any native speakers could be reasonably expected to identify the antonym of each of the above 112 words. Some confusion may be caused by *old* because it contrasts with both *new* and *young* and *right* could similarly elicit *left* as well as *wrong*. It is also possible that words might be paired

with synonyms of their cited antonym. For example, *end* could elicit *start* (as well as *begin*), *easy* could elicit *hard* (as well as *difficult*), and *happy* could elicit *unhappy* (as well as *sad*). However, this is simply a reflection of polysemy among antonyms; it does not suggest that the pairs recorded above are not all valid oppositions.

2.3.2.2. Sampling Issues

Having established the word pairs which were to be analysed, the next decision concerned the number of sentences which should be sampled for each. One option was to extract an equal number of sentences for every antonymous pair. However, this would allow for no correlation at all between the frequency of each pair and the size of the sample. Antonyms which co-occurred in 3,000 sentences would have no greater representation in the sample than antonyms which co-occurred in 30 sentences. Another, more practical problem was that not all word pairs selected co-occurred in enough sentences to for an equal sample to be mathematically possible.

Given this, the option of using a proportional sample was explored. In total, 55,411 sentences feature both members of one of the antonymous pairs listed above. As only 3,000 were needed for this sample, 5.4% of sentences in which each pair co-occur could be retrieved. The problem is that this strategy would result in over 500 sentences being retrieved for the highest frequency antonymous pair, but only one or two sentences being retrieved for those at the lower end of the frequency scale. Twelve pairs, when sampled proportionately, would have yielded five sentences or fewer. It was decided that little of interest could be interpreted about an antonymous pair from such a tiny sample of sentences.

Various exponential sampling methods were experimented with, but the problem of developing a consistent strategy to sample the 9,425 *new/old* sentences in the corpus (of which a couple of hundred might be ideally required) and the 28 *explicitly/implicitly* sentences in the corpus (nearly all

of which would be ideally required) proved too great. This problem was exacerbated by the need to prevent the sample from becoming adjective-heavy. A decent proportion of non-gradable pairs and morphological antonyms were also required, yet such pairs tended to be of lower corpus frequency.

Ultimately, it was decided that the only way to be sure of keeping the corpus balanced was to select the number of sentences to be sampled for each pair personally. Given that the pairs themselves were chosen largely according to intuitive criteria, there is no obvious reason why the number of sentences retrieved for each pair should not also be determined manually. So I proceeded to estimate the sample size for each pair, whilst aware of the following self-imposed guidelines:

a) No more than 60% of database sentences should feature adjectival antonyms; at least 10% should feature antonymous nouns, at least 10% should feature antonymous verbs*, and at least 10% should feature antonymous adverbs.

b) At least 250 database sentences should feature non-gradable antonyms.

c) At least 250 database sentences should feature morphological antonyms.

d) Where possible, while still meeting the criteria above, sample size should reflect co-occurrence frequency.

Using these guidelines, the number of sentences to be retrieved for each pair was determined. These figures are listed below, in order of sample size.

new	**old**	**254**
private	**public**	**134**
bad	**good**	**117**
hate	**love**	**104**
poor	**rich**	**102**
active	**passive**	**96**
failure	**success**	**88**
female	**male**	**87**
directly	**indirectly**	**79**
heavy	**light**	**77**
old	**young**	**69**

*Reciprocal verbs are not included in the database. Though their textual profile would be interesting to explore, they differ fundamentally from other pairs in that negating one antonym does not create semantic equality with the other - to *not buy* a product is not the same as to *sell* it.

feminine	masculine	68
fail	succeed	63
false	true	62
right	wrong	60
cold	hot	59
lose	win	58
alive	dead	54
badly	well	53
begin	end	51
large	small	50
agree	disagree	49
optimistic	pessimistic	47
privately	publicly	47
happy	sad	45
guilt	innocence	44
rightly	wrongly	44
advantage	disadvantage	36
long	short	36
fact	fiction	36
strength	weakness	35
confirm	deny	34
gay	straight	33
hard	soft	32
high	low	32
illegal	legal	31
married	unmarried	31
dry	wet	31
explicitly	implicitly	30
attack	defend	30
discourage	encourage	28
fast	slow	28
quickly	slowly	28
permanent	temporary	28
difficult	easy	27
major	minor	27
officially	unofficially	25
rural	urban	24
boom	recession	24
optimism	pessimism	21
punishment	reward	19
correct	incorrect	18
drunk	sober	18
peace	war	15
disprove	prove	14
dishonest	honest	12
TOTAL:		2844

Table Two: Frequency of Antonymous Pairs in Database

The above breakdown of the sample allowed for each of the specified database guidelines to be met. The majority of sentences retrieved feature antonymous adjectives, but enough feature nouns, verbs and adverbs to justify comparison. Similarly, the quotas for non-gradable pairs and morphological antonyms have been surpassed. Furthermore, a general correlation still arises between sample size and corpus frequency. For example, the highest co-occurrence rate recorded by any pair is that of *new/old*, and *new/old* features most prominently in the database with a total of 254 sentences. The second highest co-occurrence rate recorded by any pair is that of *private/public*, and *private/public* is runner-up in the database with 134 sentences. When a pair feature higher up than the database list than their raw frequency would allow, it is usually because they successfully meet one or more of the other criteria. For example, *directly/indirectly* are sampled 79 times, but they only co-occur in a total of 492 sentences*. Compared with, say, *old/young*, which co-occur in 2,704 sentences but are only sampled 69 times, the sample size of *indirectly/directly* may seem unduly large. The reason for this is twofold: firstly, *indirectly/directly* is a morphological pair; and secondly, *indirectly/directly* is an adverbial pair. Both of these factors contribute to "up-weight" the desired number of retrieved sentences.

Conversely, some pairs are "down-weighted" - their sample size is small relative to that of their corpus frequency because they are stock antonyms: adjectival, gradable and not morphologically related. Such pairs include *high/low*, *hard/soft* and *dry/wet*.

Although the sample was not based on strict mathematical criteria, it remains a large database incorporating a variety of word pairs which, collectively, should allow us to learn more about how antonymy operates in text. Most pairs which would be identified as everyday "opposites" appear in this index, together with other pairs which, though slightly less familiar, will give the database greater depth and allow for more thorough interrogation.

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*See Chapter Seven for detailed analysis of co-occurrence statistics.

2.3.2.2.1. Un-words

So far, our sample size numbers 2,844 sentences. This is because the database will be supplemented with 156 "un-word" sentences. These are sentences which feature a lexical item and the same lexical item prefixed with *un*. As *un* is the most prolific marker of morphological opposition in English, this strategy was quite productive and sentences such as the three below were retrieved:

4 ind922: They are wives in limbo, because the **unknown** is always worse than the **known**.

5 ind931: If you read Sons and Lovers (**expurgated** or **unexpurgated**) you will find the midwife and her family treated with great disdain.

6 ind903: But, above all, he revered his pupils, all of them, the **clever** and the **un-clever**.

Sentence 4 features the antonyms *unknown* and *known*, which are familiar and relatively high-frequency, but sentence 5 features the less everyday pair, *expurgated/unexpurgated.* Retrieving pairs such as the latter is useful because although these words are quite rare, one only needs to know what *expurgated* means in order to glean the meaning of *unexpurgated.* Thus, as with all morphological antonyms, they are immediately recognisable as opposites because of their etymology, regardless of their exposure in language*. Such pairs would be on few people's lists of "good opposites", but make for interesting analysis. The morphological antonym of sentence 6 is *un-clever* (hyphenated, one assumes, to signal that it is a nonce word), which may not warrant a dictionary entry, but, in many respects, does not require one, as its meaning is so easily inferred.

2.3.2.2.2. Sampling Procedure

The procedure for creating a sample of 3,000 sentences from the corpus was straight-forward. Every *n*th sentence was sampled, where *n* equals the total number of sentences in the corpus which feature both antonyms divided by the number of examples to be included in the database.

*The synonyms *flammable* and *inflammable* are often considered antonymous because of their misleading morphology.

For example, 2556 sentences featured both *female* and *male*, of which 87 were required as part of the sample. Therefore every 30th sentence was extracted because 2556 divided by 87 is approximately 30.

Occasionally, a sentence was retrieved which featured both members of an antonymous pair, but did not feature those words operating in an antonymous relationship. Though relatively rare, sentences such as those below were sometimes extracted:

7 ind911: The **new** regulations will include a ban on keeping calves in individual pens after they are eight weeks **old**, and bring in larger crates for calves up until that age.

8 ind943: The US economy is growing strongly - which means the US will consume more oil - and by the back **end** of this year the greater demand from recovering European economies will **begin** to show.

9 ind941: Rangers, responsible for one of only two Newcastle home defeats, strove **hard** and successfully after falling behind in the fourth minute to a **soft** goal but where it counted most the visitors had that extra touch of class.

The antonymous pair of sentence 7 is *new* and *old*, but these words clearly hold no semantic relation in this context. The fact that *new* and *old* sometimes function antonymously is irrelevant; here, their co-occurrence is no more than coincidental. Likewise, sentence 8 features the antonyms *begin* and *end* in an entirely non-antonymous relationship.

Sentence 9 is slightly less clear cut. At first glance, it seems unlikely the adverbial use of *hard* is in any way related to the adjectival use of *soft*. However, it is not impossible that the author of this sentence is matching *strove hard* with *soft goal* at some level, conscious or otherwise. This illustrates the problems of sifting valid antonymous sentences from sentences which happen to feature two words which, in other contexts, might be contrastive.

When question marks arose about the validity of sentences, or when the antonymous pair retrieved were clearly in no relationship, the sentence was rejected and replaced by the next in the corpus.

2.4. Summary of Chapter Two

Based on the procedure outlined in this chapter, a database of antonymous sentences was created. This database contains 3,000 sentences retrieved from a 280 million word corpus of journalistic text. The majority of the database features sentences which contain one of 56 established antonymous pairs. These pairs were selected intuitively, but are similar to those used in other investigations of antonymy (Justeson & Katz, 1991; Mettinger, 1994). One important difference is that the pairs chosen for this investigation include verbs, adverbs and nouns, as well as adjectival antonyms.

Any sample of antonymy can be criticised on the grounds of it not being adequately representative of the phenomenon. Therefore, I claim only to be analysing a sample of 3,000 sentences and over 50 word pairs, all of which would be intuitively recognised as "good opposites", to a greater or lesser degree. The next four chapters will report on how the antonymous pairs in these 3,000 sentences have been found to function, with new classes of antonymy being created accordingly.

Chapter Three:
Classification Issues

3. Classification Issues

3.1. Introduction

The previous chapter of this thesis explained the method by which a database of 3,000 sentences, each featuring an established antonymous pair, was constructed. The purpose of this chapter is to discover what function is being served by these antonymous pairs in text and whether any generalisations can be made. If there is a pattern to the ways in which antonymous pairs operate within sentences, what is that pattern and how pronounced is it? How many different functions does same-sentence antonymy serve? *This chapter will outline the categories into which the 3,000* database sentences can be distributed. Subsequent chapters will examine these classes in closer detail.

3.2. Trial Data

Before presenting a table which shows how all 3,000 database sentences have been classified, this chapter will report on the categorisation of a 1% sample. These thirty sentences have been selected from the database* and each will now be classified in turn. The point of this exercise is to provide an insight into how the classification process was conducted and demonstrate the methodology applied therein.

3.2.1. Batch A

The sample of thirty sentences will be analysed in three batches of ten sentences. Batch A consists of the examples below:

10 ind943: Yet the real lesson of this book is that, while a person needs a particularly focused ambition to rise to anything significant in a business so relentlessly pacey as the media, those who succeed more than they fail are all different in the way they harness their ambition, that they have very little in common.

*These sentences include at least one example of the ten major classes which will be discussed in future chapters, but have otherwise been selected at random from the database.

11 ind964: Whether you **love** or **hate** ballet, Matthew Bourne's extraordinarily imaginative reworking of this classic is a thrilling feast for the senses.

12 ind901: There was a legal principle of law that it was not permissible to blow **hot** and **cold** in the attitude one adopted; a man could not adopt two inconsistent attitudes towards another.

13 ind904: It had to distinguish **true** developments from **false**.

14 ind884: However, Montupet's chairman, Stephane Magnan, stressed yesterday that the company's policy is to recruit **skilled** and **unskilled** workers.

15 ind924: But if the orchestra is **unable** to confront the *present*, it has shown itself **able** to confront the *past*.

16 ind891: 'We are striving for the withdrawal to facilitate the re-establishment of **peace**, not **war**,' he added.

17 ind932: Because of the big prices paid on world markets, much more is recovered **unofficially** than **officially**.

18 ind942: How easy to slip from the **legal** to the **illegal** trade, especially when the law is so patchy and the temptation so great.

19 ind963: *Stamps* are **popular**, but *collecting* is **unpopular**.

The antonymous pair of sentence 10 are *succeed* and *fail*. They both belong to the same noun-phrase: *those who succeed more than they fail*. Within this rank-shifted noun-phrase, the antonyms are being measured against one another: we are being told about a group of people who both *succeed* and *fail*, but do so in uneven proportions. Thus, some form of comparison is taking place. One could say that the function of antonymy in this sentence is to pinpoint a specific class of people by comparing two success-measuring antonyms.

Sentence 11 involves no element of antonymous comparison. The clause *whether you love or hate ballet* acts as a proviso to the statement which follows. The antonyms function almost as a disclaimer. They signal that one's feelings about ballet are unimportant; what is important is to follow. As such, *love* and *hate* work together to exhaust the scale along which they operate.

Sentence 12 is different again. Some surface similarities may arise between this and the previous sentence - the antonyms are linked by a co-ordinator and do not reflect any overt contrast - but a fundamental difference is that this example uses antonymy as part of a familiar expression: *to blow hot and cold*. This example shows antonymy expressing idiomaticity.

So far, we have not found two like examples, and sentence 13 reflects a fourth, distinct function of antonymy, describing a need to *distinguish true developments from false.* This is akin to the comparative nature of sentence 10, but focuses on a distinction (between *true [developments]* and *false [developments]*) rather than a comparison.

Sentence 14 alludes to *skilled and unskilled workers.* This is synonymous with "all kinds of workers, regardless of skill" which is reminiscent of the exhaustive quality of sentence 11 (in which *love and hate* is synonymous with "all kinds of emotions"). Placing two antonyms close to one another and linking them with *and* or *or* seems to results in a similar effect - exhaustiveness or inclusiveness of scale.

However, sentence 15 is unlike any of the previous five. The antonymous pair here is *unable* and *able*; *present* and *past* also reflect some sort of contrast but are unlikely to be identified as "good opposites" as *past* is perhaps more antonymous with *future.* This sentence can be split into two halves, which mirror one another in some senses: on one hand, *the orchestra is unable to confront the present,* on the other hand *it [the orchestra] has shown itself able to confront the past.* The repetition here is not exact but a strong sense of parallelism can be seen: *the orchestra* is the subject of both clauses; this is followed by a verb-phrase (*is* in Clause A; *has shown itself** in Clause B); this is followed by an antonym (*unable* in Clause A, *able* in Clause B); this, in turn, is followed by the infinitive *to follow* in both clauses; and, finally, this is followed by *the present* in Clause A and *the past* in Clause B. In this medley of constant and variable, the two significant dissimilarities arise: that between *unable* and *able* and that between *present* and *past.* In other words, sentence 15 features two contrasts which appear to be in some sort of symbiotic relationship, each creating opposition within an environment of grammatical and lexical stability.

*Not a full verb-phrase, but fulfilling that role.

Sentence 16 is different again, but perhaps more easily analysed. Referring to *peace, not war*, this example uses antonymy in a very pure sense, citing *war* as an antonym of *peace* and negating it as a device to place additional emphasis on *peace.*

A connection can be made between sentence 17 and sentence 10. The former states that *much more is recovered unofficially than officially.* As such, the two antonyms are compared with one another in a similar way to the comparison made between *succeed* and *fail* in sentence 10. Both examples, it might be noted, feature *more* and *than* as a signal of this comparison.

Sentence 18 shows antonymy being used in yet another way. It mentions a *slip from the legal to the illegal trade*, thereby expressing some form of movement or transition from one noun-phrase (*legal [trade]*) to another (*illegal trade*). This makes it different from any previous example.

Sentence 19 features the antonymous pair *popular/unpopular* and, like sentence 15, it also features another contrast in that *stamps* and *collecting* are placed in an instantial* opposition. As with sentence 15, we also find a parallelism of structure. The two clauses are here linked by *but*: clause A reads *stamps are popular*; clause B reads *collecting is unpopular.* The more obvious contrast of the two arises between *popular* and *unpopular*, but the contrast between *stamps* and *collecting* is no less important. It is as though the more established pair signals that the less established pair should be interpreted contrastively.

This analysis of ten sentences has shown that antonymous pairs serve a number of functions in text (seven, so far, and counting). However, it has also shown that some similarities arise between sentences. To measure the strength and consistency of these similarities (and identify new functions), more sentences will need to be analysed.

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*The term "instantial" is used by McCarthy (1976, following Hasan (1984) and Ellis (1966)), to describe a relationship between words which is context-driven and defies generalisation.

3.2.2. Batch B

Below are another group of ten examples drawn from the database. As before, each sentence will be investigated with a view to determining the various functions served by antonymy in text.

20 ind902: Patrick Barrington, who had opposed the previous Silkin Bill in the Lords, drafted the Aims and amended the name: he disbelieved in 'the unborn child', but cared about children, **born** and **unborn**.

21 ind893: But the gap between **rich** and **poor** has widened and there's a dwindling middle class.

22 ind901: 'And there's a difference,' adds Forrest, 'between **good** old-fashioned and **bad** old-fashioned.'

23 ind923: It is believed that women with either very **small** or **large** breasts were the most likely to be hurt.

24 ind923: The US team feel wronged and are **happily/unhappily** letting their opponents suffer for it.

25 ind962: While his wife was **alive** he *kept silent*, but now she's **dead** he *must do what is right*.

26 ind952: All UN organisations face the same quandary - *change* **quickly** or *die* **slowly**.

27 ind924: But, **old dog** that he is, Clough has little interest in **new** tricks.

28 ind964: A study of institutionalised mental patients at the turn of the century found that **castrated** men lived longer than **uncastrated** ones.

29 ind934: The younger generation is leading the way from **passive** to **active** forms of entertainment and information-gathering.

Similarities can be seen between sentence 20 and sentences 11 and 14. This example refers to *children, born and unborn*. This is equivalent to all children, regardless of whether they have been born or not. The antonymy signals that this status is irrelevant, just as one's feelings towards ballet were irrelevant in sentence 11 and the skills of the workers were irrelevant in sentence 14.

Sentences 21 and 22 are similar to one another in that they refer to a distinction between a pair of noun-phrases, both of which feature antonyms. The former cites the *gap between rich and poor*; the latter cites a *difference ... between good old-fashioned and bad old-fashioned*. These examples belong in the same category, a category that could also include sentence 13 (which distinguished *true developments from false*).

Sentence 23 resembles sentences 11, 14 and 20 in that a pair of antonyms (in this case *small* and *large*) are linked by *or* and no overt contrast is generated. However, this example is different in

one important way. Whereas phrases such as *born and unborn* were inclusive, *small or large* is not inclusive because the full context reveals that only *very small or large breasts* are being spoken of. Therefore, only either extreme of the scale is identified, not the entire scale. Consequently, a new category is necessary for this example.

Likewise, sentence 24 is without precedent. The most notable feature of this example is that the antonymous pair are conjoined by an oblique stroke - *happily/unhappily*. This makes its function different from any previously described and seems to refer to the possibility of differing points of view.

Sentences 25 and 26 both feature two related contrasts and, as such, are similar to sentences 15 and 19. For example, *alive* and *dead* help to signal a contrast between *he kept silent* and *he must do what is right* in sentence 25, a contrast licensed by parallelism of structure. Similarly, sentence 26 uses *quickly* and *slowly* to signal a contrast between *change* and *die*. Such sentences, it would seem, feature two contrasts and the more familiar pair is being used to endow the less familiar pair with greater contrastive power.

Sentence 27 revolves around the proverb of old dogs being unable to learn new tricks, with *Clough* being presented as the old dog. Like sentence 12, the function of antonymy is here tied up in idiomaticity. Sentence 28 reports that *castrated men lived longer than uncastrated ones*. This is the third example to feature a pair of noun-phrases, each containing an antonym, being set up in comparison with one another. Finally, sentence 29 describes a transition *from passive to active*. This movement has a similar syntactic frame to sentence 18, which described a transition from *the legal to the illegal trade*.

As we can see, the more examples of antonymy in text which are examined, the easier it becomes to find similarities among the functions served by each antonymous pair therein. So far, nine

different functions have been identified and a number of these functions have been served by antonyms in three or more sentences. This initial evidence suggests that antonymy is amenable to classification based on textual evidence. One further group of sentences will now be considered to see whether the functions identified thus far continue to be served.

3.2.3. Batch C

Another ten sentences have been extracted from the database, making a total of thirty in all, which still only represent 1% of the sample.

30 ind944: The survey also shows that the environmental movement has won the debate over **public** versus **private** transport.

31 ind884: 'If Gillespie is **unable** to stand up to *Neil Kinnock*, there is no chance of him being **able** to stand up to *Thatcher*,' he declared.

32 ind911: It may be that *Mr Yeltsin* **drunk** is a better man than *Mr Gorbachev* **sober**.

33 ind942: The meticulous lawnsman will aerate it every fortnight throughout the year except when the soil is too **wet** or too **dry**.

34 ind943: Reflecting on recent events he said: 'It wasn't a total **success** but it wasn't a total **failure**.'

35 ind953: To them, unlike Mr Bragg, the distinctions between **fact** and **fiction** or **good** and **bad** are not always so obvious.

36 ind904: However, Mr Heseltine's voter appeal towers over that of any other contender, **declared** or **undeclared**, for the leadership.

37 ind893: Courgettes, **hot** or **cold**, also do very well dressed in oil and basil.

38 ind941: If the three are in Britain, and an Interior Ministry spokesman could not **confirm** or **deny** this ('it is a matter between the police forces'), they could have gone temporarily on business, to recycle dirty money.

39 ind963: In my experience, **gay** men are far more sensitive and amusing than **straight** ones anyway.

The first of these sentences shows antonymy being used in a hitherto unrecorded manner: *public versus private*. The antonymous pair are here presented in direct conflict with one another.

On the other hand, sentences 31 and 32 feel quite familiar. These are further examples of an antonymous pair being used to signal that another pair of terms should be contrasted with each other. In both of these sentences, the "B-pair" takes the form of human beings. Sentence 31 creates an opposition between *Neil Kinnock* and *Thatcher*; sentence 32 creates an opposition

between *Mr Yeltsin* and *Mr Gorbachev*. Part of the reason why we interpret these names contrastively is that *unable/able* and *drunk/sober* act as "ancillary" antonyms - they help to signal another contrast within the sentence.

Sentences 33 and 34 both use antonymy to refer to either extreme of a given scale: the former talks about soil being *too wet or too dry*; the latter on recent events being neither a *total success* nor a *total failure*. This makes these two examples analogous with the *very large or small breasts* of sentence 23 and confirms that a typical syntactic framework is *[adverb] X or [adverb] Y*, where the given adverb expresses extremity.

Sentence 35 features two established antonymous pairs and refers to *distinctions between fact and fiction or good and bad*. These distinctions are similar to those made between antonymous noun-phrases in sentences 13, 21 and 22. The fact that two such distinctions appear in one sentence does not alter the function of either antonymous pair, but confirms that the framework *[noun] between X and Y* is a typical environment, where the given noun is *difference* or a synonym thereof.

Sentences 36 to 38 are all similar to one another and similar to sentences 11, 14 and 20 in that inclusiveness or exhaustiveness could describe the function of their respective antonymous pairs. For example, *contenders, declared or undeclared* refers to all contenders, and *courgettes, hot or cold* refer to all courgettes. The point of the antonymous phrase is to signify the scale against which the noun-head is being described, then to exhaust that scale. Sentence 38 features a verbal pair of antonyms but the effect of a spokesman's inability to *confirm or deny* is similar - antonyms are coupled together and presented almost as a single unit - though not identical because this pair is more syntactically integral to the sentence. Unlike earlier pairs, *confirm or deny* are not removable from their context.

Finally, sentence 39 is another example of two noun-phrases being compared with one another. The comparison of *gay men* and *straight men* is reminiscent of comparisons in sentences 10, 17 and 28.

So, thirty database sentences have now been analysed. Determining the function for each antonymous pair has shown that similarities of usage often arise and that new classes of antonymy may be derived. The results of this pre-study will now be examined.

3.2.4. Summary of trial data

The thirty database sentences examined above have shown that the function of antonymy does not differ with every context. Some patterns of usage emerge from the data and it would seem that some of these patterns are more common than others. In total, ten different functions of antonymy have been identified, as the table below shows:

Suggested Name:	**Sentences:**
Umbrella Antonymy	11, 14, 20, 36, 37, 38
Ancillary Antonymy	15, 19, 25, 26, 31, 32
Comparative Antonymy	10, 17, 28, 39
Distinguished Antonymy	13, 21, 22, 35
Extreme Antonymy	23, 33, 34
Transitional Antonymy	18, 29
Idiomatic Antonymy	12, 27
Oppositional Antonymy	16
Conflicting Antonymy	30
Virgule Antonymy	24

Table Three: Functions of Antonymy in Trial Data

Attributing names to each function of antonymy is difficult, not least in the case of that function which I refer to as Umbrella Antonymy. This category relates to those sentences which use their antonymous pair to signal inclusiveness or exhaustiveness and usually follow the structure *X and Y* or *X or Y*. The class is known as Umbrella Antonymy because it features a unified, co-ordinated

antonymous pair, as beneath a single umbrella.

Ancillary Antonymy refers to those sentences which feature more than one related contrast. As the established antonymous pair helps signal opposition between the B-pair, its function could be described as ancillary. Comparative Antonymy, as the name suggests, involves a comparison of one noun-phrase with another, when each noun-phrase features one member of an antonymous pair. Distinguished Antonymy describes sentences which refer metalinguistically to the semantic difference between an antonymous pair.

Six other categories of antonymy have been identified: Extreme Antonymy refers to Umbrella Antonymy sentences which relate to either end of the scale without exhausting all semantic space in between; Transitional Antonymy is the class to which sentences belong that express some degree of movement from one antonymous state to another; Idiomatic Antonymy is a class for sentences whose antonyms form part of a familiar proverb, cliche or idiom; Oppositional Antonymy describes sentences which negate an antonym and place it immediately after its partner; Conflicting Antonymy describes sentences which pit antonym in opposition against antonym; and Virgule* Antonymy is the name given to antonyms split by an oblique stroke.

Not all of the 3,000 database sentences fall neatly into one or other of the ten categories outlined above. However, between them, these classes account for nearly 98% of sentences extracted. The next section will reveal how all 3,000 sentences distribute among classes.

3.3. Database Distribution

The table below shows a breakdown of every antonymous pair selected in relation to the classes outlined above. This confirms that the way antonyms behaved in the 30 sentences examined is not untypical of the way antonyms behave in the whole database. All of the word pairs selected for

*"Virgule" is a printing term for the oblique stroke.

study (and the "un-words" portion of the sample) are recorded in the left hand column of the table below. Each subsequent column records the number of times they serve each textual function.

		anç	umb	com	dis	trn	opp	ext	idi	cnf	vir	oth	TOT
active	**passive**	53	14	9	6	6	6	-	-	2	-	-	96
advantage	**disadvantage**	15	14	2	-	4	1	-	-	-	-	-	36
agree	**disagree**	26	17	3	-	-	-	-	-	3	-	-	49
alive	**dead**	16	26	9	1	-	1	-	-	-	1	-	54
attack	**defend**	10	15	3	-	-	2	-	-	-	-	-	30
bad	**good**	55	47	4	4	3	1	-	2	1	-	-	117
badly	**well**	31	15	4	1	-	2	-	-	-	-	-	53
begin	**end**	24	23	3	-	-	1	-	-	-	-	-	51
boom	**recession**	12	3	4	-	5	-	-	-	-	-	-	24
cold	**hot**	21	23	-	-	2	-	2	11	-	-	-	59
confirm	**deny**	-	34	-	-	-	-	-	-	-	-	-	34
correct	**incorrect**	6	11	-	1	-	-	-	-	-	-	-	18
difficult	**easy**	19	5	-	-	-	-	1	-	-	-	2	27
directly	**indirectly**	21	57	1	-	-	-	-	-	-	-	-	79
discourage	**encourage**	16	8	2	-	-	2	-	-	-	-	-	28
dishonest	**honest**	8	4	-	-	-	-	-	-	-	-	-	12
disprove	**prove**	-	14	-	-	-	-	-	-	-	-	-	14
drunk	**sober**	8	7	-	-	1	1	-	-	-	-	1	18
dry	**wet**	11	9	3	1	3	-	4	-	-	-	-	31
explicitly	**implicitly**	6	19	2	-	-	3	-	-	-	-	-	30
fact	**fiction**	5	5	2	11	2	4	1	-	-	-	6	36
fail	**succeed**	30	27	5	-	-	1	-	-	-	-	-	63
failure	**success**	38	20	10	12	1	6	1	-	-	-	-	88
false	**true**	10	34	3	11	-	1	1	-	1	1	-	62
fast	**slow**	17	7	2	1	-	-	-	-	-	1	-	28
female	**male**	23	43	1	4	1	-	-	2	-	2	11	87
feminine	**masculine**	37	18	2	3	-	-	1	-	2	2	3	68
gay	**straight**	3	20	7	1	1	1	-	-	-	-	-	33
guilt	**innocence**	5	27	3	5	1	2	-	-	-	-	1	44
happy	**sad**	22	17	2	-	2	-	2	-	-	-	-	45
hard	**soft**	17	3	2	1	3	2	3	-	-	-	1	32
hate	**love**	40	44	7	2	1	2	2	-	-	4	2	104
heavy	**light**	46	19	5	1	4	-	2	-	-	-	-	77
high	**low**	20	3	2	3	1	1	1	1	-	-	-	32
illegal	**legal**	10	17	1	-	3	-	-	-	-	-	-	31
large	**small**	17	23	4	2	2	-	2	-	-	-	-	50
long	**short**	22	7	4	1	-	1	-	1	-	-	-	36
lose	**win**	27	25	5	-	-	1	-	-	-	-	-	58
major	**minor**	11	9	-	3	4	-	-	-	-	-	-	27
married	**unmarried**	4	14	8	5	-	-	-	-	-	-	-	31
new	**old**	81	76	21	19	10	3	1	6	11	3	23	254
officially	**unofficially**	14	10	1	-	-	-	-	-	-	-	-	25

old	**young**	20	34	6	5	-	1	3	-	-	-	-	69
optimistic	**pessimistic**	30	12	3	-	1	-	1	-	-	-	-	47
optimism	**pessimism**	9	1	2	-	6	1	1	-	-	1	-	21
peace	**war**	3	5	1	1	1	2	-	-	-	-	2	15
permanent	**temporary**	6	12	5	1	3	1	-	-	-	-	-	28
poor	**rich**	46	16	6	24	1	-	5	-	1	-	3	102
private	**public**	36	68	6	13	5	2	-	-	1	2	1	134
privately	**publicly**	20	24	2	1	-	-	-	-	-	-	-	47
punishment	**reward**	6	5	4	-	-	3	-	-	-	1	-	19
quickly	**slowly**	16	6	2	-	-	-	4	-	-	-	-	28
right	**wrong**	36	13	1	5	1	-	-	-	-	-	4	60
rightly	**wrongly**	1	43	-	-	-	-	-	-	-	-	-	44
rural	**urban**	7	13	-	2	1	-	1	-	-	-	-	24
strength	**weakness**	11	6	6	-	4	4	-	-	-	-	4	35
un	**words**	58	60	15	10	7	3	1	-	-	1	1	156
	TOTAL:	**1162**	**1151**	**205**	**161**	**90**	**62**	**40**	**23**	**22**	**19**	**65**	**3000**

Table Four: Statistical Breakdown of Database Classes

The table above shows how the 3,000 database sentences have been distributed across new classes of antonymy. The most popular category is that of Ancillary Antonymy, to which 38.7% of all sentences have been attributed. Recording only 11 fewer sentences is Umbrella Antonymy, which accounts for 38.4% of all database sentences. These two classes are significantly larger than any others and collectively account for 77.1% of sentences.

The third largest category identified is Comparative Antonymy, but this is only a fraction the size of the two largest categories. 205 sentences have been attributed to the class of Comparative Antonymy, less than 7% of the database. Distinguished Antonymy accounts for a further 5.4% of sentences and Transitional Antonymy accounts for a further 3% of sentences.

No other single class of antonymy contains more than 2% of the total sample. Transitional Antonymy accounts for 62 of the 3,000 sentences and Extreme Antonymy accounts for 40 sentences. Beyond this, residual classes occupy only fractions of 1%: 23 sentences (0.8%) feature Idiomatic Antonymy; 22 (0.7%) feature Conflicting Antonymy; and just 19 (0.6%) feature

Virgule Antonymy. 2.2% of sentences resist being classified into any of the ten categories identified. These are recorded as "others" and show antonymy serving functions about which it is difficult to generalise.

Perhaps most remarkable is that the majority of pairs, regardless of their grammatical class or whether they are gradable or not, follow a similar distribution. For example, Ancillary and Umbrella antonymy have been shown to be the most commonly occurring categories, but this is not just because they are each strongly favoured by a small number of pairs. Rather, this pattern is consistent among almost all pairs. Indeed, in the case of 43 of the 55 pairs sampled, Ancillary and Umbrella Antonymy each account for more sentences than any other category.

3.4. Summary of Chapter Three

This chapter has demonstrated that antonymy can be classified according to its textual function. A preliminary examination of 30 sentences showed that many patterns emerged and the statistical breakdown of these patterns across the entire database is recorded in Table One. Approximately three quarters of all sentences are equally distributed between the categories of Ancillary Antonymy and Umbrella Antonymy; the remaining quarter of sentences belong to much smaller categories.

Each of the ten categories outlined in this chapter will be discussed in the following chapters. Some attention will also be paid to the category of "others". Given that two classes are significantly larger than any others, these will each be allotted an entire chapter. Ancillary Antonymy will be investigated in Chapter Four and Umbrella Antonymy will be investigated in Chapter Five. A taxonomy of all other categories will be presented in Chapter Six.

Chapter Four:
Ancillary Antonymy

4. Ancillary Antonymy

4.1. Introduction

Chapter Two of this thesis noted that more database sentences have been classified in terms of Ancillary Antonymy than any other category. In total, I argue that 1,162 sentences belong to this class, which corresponds to 38.7% of the total sample. This chapter will investigate the phenomenon of Ancillary Antonymy in close detail. The first stage will be to exemplify a class of antonymy which is perhaps the most awkward to explain. Once a description has been provided, Ancillary Antonymy will be investigated thoroughly with a view to determining the exact function of the antonymous pair in such sentences.

4.2. Examples of Ancillary Antonymy

When first exploring the ways in which antonymy operates in text, it was striking to note the number of sentences which featured a second contrast in addition to the antonymous pair which had been originally identified. This second contrast was usually related to the antonymous pair and it seemed that the antonymous pair was partly responsible for generating (or at least affirming) the second contrast.

This phenomenon is evidenced in each of the following sentences. Although these examples are semantically, syntactically and grammatically distinct, it can be argued that the antonymous pair of each somehow contributes to a larger contrast; that the antonyms themselves are not the primary contrast of the sentence, but actually help to draw out a more important opposition (usually instantial) between another pair of words, phrases or clauses.

40 ind963: The first was Peter Maxwell Davies's The Doctor of Myddfai, a Welsh National commission which premiered **officially** in *Llandudno* (and before **unofficially**, in *Cardiff*) and is a large-scale work from a composer whose stage successes have mostly been on the intimate scale of music-theatre.

41 ind891: Robin Cook, Labour's health spokesman, demanded: 'How can it be **right** to limit the hours worked by *lorry drivers and airline pilots*, but **wrong** to limit the hours of *junior hospital doctors undertaking complex*

medical treatment?'

42 ind952: Since then, of course, they've all had knighthoods, usually when they're too **old** to play *Hamlet* but too **young** to play *butlers in Hollywood movies.*

43 ind901: *Eighty five* per cent of 'firm Tories' **agree** that 'a Labour government would wreck the economy'; only *6* per cent **disagree.**

44 ind902: At Worcester on Wednesday, Botham - apart from bowling well - was wandering around in a T-shirt with the message: '*Form* is **temporary**, *class* is **permanent**'.

45 ind891: In the balancing exercise common sense should prevail so that **rich** fathers should not *expect much relief*, whereas **poor** fathers should not *have the last drop of money extracted from them.*

46 ind942: It is meeting **public** *need*, not **private** *greed.*

47 ind912: If so, unemployment may rise more **quickly** *now*, but more **slowly** *later.*

48 ind903: He also suggests discipline should be tailored differently, saying **extroverts** are most motivated by **reward** while **introverts** respond more to **punishment.**

Let us begin by considering sentence 40. The recognised antonyms here are *officially/unofficially* and these words refer to the difference between the performance of the play at different venues. However, this opposition is linked to another contrast, namely that between *Llandudno* and *Cardiff*. Furthermore, one could argue that this latter contrast is the more fundamental of the two. This is because the distinction between the Welsh towns is more specific, and the fact that *Llandudno* and *Cardiff* are not familiar "opposites" (like *officially/unofficially*) actually seems to focus our attention more on the contrastive context in which they are placed. One could put it like this: it is not contrastive antonyms which catch the eye, it is contrastive non-antonyms. For ease of reference, in sentence 40, we could label *officially/unofficially* as the "A-pair" (because they are both antonymous and ancillary) and *Llandudno/Cardiff* as the "B-pair" (because they are the second contrast of the sentence*).

One question which arises in each of the above sentences involves the issue of identifying which pair expresses the more important contrast. Is the author's over-riding intent to oppose established antonyms (presented here in bold) or to oppose concepts which might otherwise not be interpreted contrastively (presented here in italics)? The answer to this question is, I suggest, more

*This is not to imply that they are secondary in any sense; "B-pair" is not analogous with "B-movie" or "B-team".

likely to be the latter.

Consider sentence 41, an example which includes a rhetorical question posed by Robin Cook. The antonymous pair here is *right/wrong*, but the point of the text seems not to contrast these words, but to contrast *lorry drivers and airline pilots*, on one hand, and *junior hospital doctors undertaking complex medical treatment*, on the other. The intended effect of this rhetoric is to compare the relative importance of the two sets of professions. Without these two sets of professions, *right* and *wrong* would be rendered meaningless. This suggests that the B-pair (*lorry drivers and airline pilots* and *junior hospital doctors undertaking complex medical treatment*) is the more fundamental contrast which Cook wishes to highlight as a strategy to question another speaker's moral system. As such, the A-pair (*right* and *wrong*) appears to be one of a number of factors which contribute to the overall contrastive nature of the sentence.

The primary contrast of sentence 42 concerns acting roles and, specifically, acting roles suitable for people of a given age. The profundity of playing *Hamlet* is set up in opposition against the triviality of playing *butlers in Hollywood movies*, a B-pair contrast signalled by the A-pair *old* and *young*.

Sentence 43 differs in that its primary contrast is numeric. Here, the *eighty five* per cent of "firm tories" who *agree* with a proposition is contrasted with the *6* per cent who do not. Once again, the focus of this sentence is the B-pair (*eighty five* and *6*) rather than the A-pair (*agree* and *disagree*).

Each of the other sentences follows a similar pattern: *temporary* and *permanent* signal a contrast between *form* and *class* in sentence 44; the amount of money fathers should pay comprise a B-pair in sentence 45 which is signalled by *poor* and *rich*; sentence 46 uses *public* and *private* to accentuate a contrast between *need* and *greed*; and in sentence 47, the near-antonymous, temporal notions of *now* and *later* are affirmed by *quickly* and *slowly*.

Sentence 48 goes a step further by featuring two antonymous pairs (*extroverts/introverts* and *punishment/reward*). While one cannot state with confidence which pair is the B-pair in the sentence, one can safely assert that both pairs contribute to a larger contrast between their respective clauses and, as such, function in some kind of symbiotic relationship. If a B-pair was to be identified, one might argue that *punishment/reward*, being rheme, are more likely to comprise new information than *extroverts/introverts*, which are theme.

Thus, sentences 40 to 48 can be described as follows: in each context, two oppositions occur. One opposition is between the established antonymous pair (known here as the A-pair) and the other is between a pair of words or phrases which are also intended to be interpreted contrastively (or comparatively), but are less inherently contrastive than the antonymous pair (known here as the B-pair). What seems to happen in these sentences is that the A-pair becomes ancillary to the B-pair and encourages us to treat the B-pair more contrastively. If the B-pair has no existing element of opposition, the A-pair generates a comparison of sorts; if the B-pair is already comparative, the A-pair makes it more contrastive; and if the B-pair is already contrastive, it becomes almost as antonymous as the A-pair.

4.3. Describing Ancillary Antonymy

The antonymous pairs of sentences 40 to 48 have been shown to generate a larger contrast within their given sentence. However, these sentences differ from one another in a number of ways. For example, the nature of the B-pair in each sentence is clearly not uniform. A B-pair can take the shape of single words (eg. sentence 44: *form* and *class*) or of entire predicates (eg. sentence 45: *expect much relief* and *have the last drop of money extracted from them*); it can belong to a variety of grammatical classes (eg. nouns in sentence 46 [*need/greed*] and adverbs in sentence 47 [*now/later*]); and it can represent a variety of semantic fields (eg. place names in sentence 40 [*Llandudno/Cardiff*] and professions in sentence 41 [*lorry drivers/junior doctors*]). Some B-pairs

have very little inherent contrastive power (eg. sentence 44: *form* and *class*); others feature a strong existing element of innate opposition (eg. sentence 47: *now/later*). It is also noticeable that repetition seems to play a major role in the construction of these examples; parallelism of words, phrases and clauses seem to contribute significantly to the contrastive nature of the sentences, and grammar and syntax also serve a non-lexical role in creating textual opposition. For example, sentence 42 compares being *too old to play Hamlet* with being *too young to play butlers in Hollywood movies*. Both clauses begin with *too*, then feature their respective A-pair member, then feature the infinitive *to play*, then their respective B-pair member. Furthermore, it is notable that some Ancillary Antonymy sentences use overt markers of contrast, while others do not. Three of the nine sentences use *but* to link clauses, and *whereas*, *not* and *while* are each used once. However, not all sentences rely on contrast-signalling conjunctions - *and* is used on one occasion and a couple of examples rely only on punctuation.

Some of these aspects of Ancillary Antonymy sentences will now be investigated further. Firstly, I shall explore the semantic properties of B-pairs to discover whether any connections can be made between the words and phrases which are signalled by antonymy. Secondly, I shall consider the levels of contrast inherent in a selection of B-pairs, as the nine sentences above show that this varies significantly from context to context. Thirdly, I shall explore other ways in which B-pair contrast is generated in these sentences, focusing on lexis such as conjunctions, but also on non-lexical factors such as repetition and ellipsis.

4.3.1. A Taxonomy of B-Pairs

So far in this chapter, I have argued that the antonymous pair in a sentence belonging to the category of Ancillary Antonymy signals a second contrast elsewhere in the sentence. This contrast is between words or phrases which are usually co-hyponyms or co-taxonyms belonging to a given (though possibly instantial) set. In this section, some classes of B-pairs will be discussed. This

will illustrate that, in British journalistic text, very few limitations are placed on the nature of B-pairs in Ancillary Antonymy sentences. However, some similarities can be found and these have been used as a basis for a number of classes, twelve of which are discussed below. These categories are heterogeneous and incorporate semantic, conceptual and referential criteria: the first seven categories describe B-pairs whose members are co-hyponyms (of superordinate terms such as *people* or *places*) and are listed from the more specific to the more general; the remaining categories describe B-pairs which are metalinguistically related to one another (eg. they comprise a meronymous pair or form part of a cline).

4.3.1.1. Political

49 ind943: 'The issue at the next election will be between **fair** taxation under *Labour* and **unfair** taxation under *the Conservatives,*' he said.

50 ind913: Broadly speaking, the community charge was **popular** with *Conservative* voters and **unpopular** with *Labour* voters.

51 ind931: *Communism* may be **dead**, but *fascism* is most assuredly **alive**.

The triplet of sentences above illustrate how an antonymous pair may help to establish a contrast between two political parties or ideologies. Sentence 49 makes an association between *Labour* and *fair taxation*, on one hand, and *the Conservatives* and *unfair taxation* on the other. The cultural opposition in British politics between *Labour* and *the Conservatives* is very well-established (one certainly could not argue that *fair* and *unfair* "create" this contrast in any sense), but the antonymous pair seem to contribute to the overall balance of the sentence, encouraging us to read the statement as a direct contrast between the two noun-phrases on either side of the conjunction *and*.

Sentence 50 also contrasts *Conservative* and *Labour*, as do many Ancillary Antonymy sentences retrieved. This is hardly surprising given the political focus of a corpus of British newspaper text. Sentence 51 illustrates that an antonymous pair may also signal a political contrast between other

parties/ideologies. Here, *communism* and *fascism* are presented in opposition.

4.3.1.2. Human

52 ind901: *Mrs Thatcher* has been a **lucky** prime minister, *Mr Heath* was an **unlucky** one.

53 ind954: *Charles*, **unskilfully**, is playing for the popular vote; *Diana*, very **skilfully**, is doing the same.

54 ind934: *Kennedy* **dead** is more interesting than *Clinton* **alive**.

The B-pair in each of the sentences above is human. In other words, antonymous pairs are being used to reflect/create a more significant contrast between two people. In sentence 52, these people are *Mrs Thatcher* and *Mr Heath*; in sentence 53, *Charles* and *Diana* are contrasted. It is interesting to note that each of these pairs are made up not only of co-hyponyms of *human beings*, but also of co-hyponyms of a more specific superordinate. For example, *Mrs Thatcher* and *Mr Heath* are both politicians* and *Charles* and *Diana* both belong to a specific subset of royalty. Sentence 54 is syntactically different but remains comparable because *dead* and *alive* help to solidify an opposition between the two presidents, *Kennedy* and *Clinton*.

4.3.1.3. Geographic

55 ind902: *Munich* was widely hailed as a **success**, *Reykjavik* a **failure**.

56 ind924: A separate poll of consumers in the US and Japan showed growing **optimism** among *Americans* in contrast to deepening **pessimism** in *the Japanese population*.

57 ind924: Historians have largely only differed on whether they saw the German 'takeover' of the empire as a **good** thing (if they were *German* historians) or a **bad** thing (if they were *French or Italian*).

The sentences above use their antonymous pair to reinforce a contrast between two places or two nationalities. Sentence 55 is similar to sentence 40 in that an established pair of opposites (*success/failure*) is helping to create an instantial contrast between two cities (*Munich/Reykjavik*). The B-pair of sentence 56 differs only in that it refers to inhabitants of places rather than the places themselves: *Americans* are contrasted with *the Japanese population*. Sentence 57 is

*Indeed, as the text notes, they are both former Prime Ministers.

similar again, though here the B-pair consists of a single nationality (*German*) and a pair of nationalities (*French or Italian*). However, the principle (of a familiar antonymous pair imparting an element of contrast to an instantial opposition) remains the same.

4.3.1.4. Temporal

58 ind894: The **bad** news is now *largely behind*, the **good** news is *to come*.

59 ind952: The most interesting. is that countries which have, in *the Eighties*, done rather **badly will**, in *the Nineties*, do rather **well**.

60 ind911: What was **immoral** and **unnecessary** *six months ago* cannot be **moral** and **necessary** *today*.

The B-pair in each of the above sentences concerns the passage of time. For example, sentence 58 contrasts the past (lexically identified as *largely behind*) with the future (*to come*). This temporal contrast is well-established in our intuition, so one could not say that the antonymous pair (*bad/good*) actually creates this opposition; rather, the two contrastive entities unite to enhance the larger contrast of the sentence, that between each of the clauses. Time is reflected more specifically in sentence 59 where *the Eighties* is contrasted with *the Nineties*, an opposition signalled by *badly/well*.

Sentence 60 differs in that it contains three oppositions, two of which are morphological antonymous pairs (*immoral/moral; unnecessary/necessary*), and one of which is a more instantial temporal contrast between *six months ago* and *today*. Having two established antonymous pairs rather than one makes little difference to this sentence - *immoral and unnecessary* works very much as a single unit which is contrasted with *moral and necessary*. The temporal contrast is less fixed (*six months ago* versus *today*), but is given significant contrastive weight by its antonym-laden context.

4.3.1.5. Quantitative

61 ind954: The other aspect of his plan is that his Bill would end the *two*-year wait for **uncontested** divorces and *five* years for **contested** ones.

62 ind903: On the question of extending the embargo to cover food and medical supplies, *40* per cent **agree** but *45* per cent **disagree.**

63 ind903: It was the old story: **success** has *many* fathers, **failure** has *none.*

In each of the examples above, the antonymous pair signals a contrast between a numeric (or quantitative) value. For example, in sentence 61, the numbers *two* and *five* work alongside the antonymous pair *uncontested* and *contested* to create a dual contrast. The stronger opposition is between the antonymous pair, but numbers themselves are co-hyponyms which seem to have an inherent potential for contrast, especially in the case of low figures such as *two* and *five.* However, the focus of this sentence is on the consequence of the Bill and, in that sense, the *two-year wait for uncontested divorces* and the *five years for contested ones* are presented together, almost in an fashion similar to those antonymous contexts which will be labelled "umbrella" in Chapter Five.

Sentence 62 reports the results of a survey, contrasting the percentage of those who *agree* with the percentage of those who *disagree.* Sentence 63 is perhaps closer to other examples of Ancillary Antonymy in that the established opposition (*success/failure*) confirms that *many* and *none* are the primary contrast.

It is interesting to note that the two sentences examined in this chapter which feature numeric values as their B-pair (sentences 61 and 62) both "front" this information by placing it before the A-pair. This is unusual because the A-pair appears first in the majority of Ancillary Antonymy sentences. This raises the possibility that the numeric contrast is considered to be the less important in such sentences. Thus, in sentence 61, the major contrast may not be between *two* and *five* but between *contested* and *uncontested.* As this tendency to place the B-pair before the A-pair is reflected in most sentences in which the B-pair is numeric, one could infer that the contrast arising between numbers is less significant than the contrast arising between antonyms.

So far, the B-pairs analysed have all been specific in nature. The next two categories feature more general B-pairs, making use of pro-forms and pronouns respectively.

4.3.1.6. Non-specific

64 ind913: *One* is **straight**, *the other* **gay**; the movie itself swings both ways, showing unquestioning devotion to each character.

65 ind894: We shall make quite clear *what* is **old** and *what* is **new**, probably in an exhibition in one of the out-houses.

66 ind903: Someone on Dark Angel (possibly even the writer, though none is credited) has given this some thought, and come up with two tiers of weaponry for the alien, *one* **fast** and *one* **slow**.

The sentences above represent a borderline sub-classification of Ancillary Antonymy. One could argue that only one contrast is contained in these sentences, namely that between the antonymous pair. However, this overlooks the opposition arising between two other concepts, which remains an opposition even though these concepts are unnamed.

For instance, sentence 64 contains a contrast between *straight* and *gay* and a contrast between *one* and *the other*. If this latter pair were lexical items, they could be easily identified as the B-pair, and for this reason I include them in the category of Ancillary Antonymy. Sentence 65 is more questionable because the antonymous pair is marking a contrast between two different uses of the same word. However, each *what* refers to a different concept and, as such, reflects a contrast in its own right. Similarly, the two uses of *one* in sentence 66 relate to different *tiers of weaponry for the alien*, and can thus be identified as a B-pair.

The pro-forms of sentence 64 refer to different real-world items more clearly than the pro-forms of sentences 65 and 66. This latter pair of examples could be seen as single-contrast sentences, in which case they could belong either to the category of Umbrella Antonymy (if one argued that *what is old and what is new* was synonymous with *what is both old and new*) or to the category of

Distinguished Antonymy (if one focused on the the element of distinction in each context)*.

4.3.1.7. Pronominal

67 ind901: I **agree** with *her* and **disagree** with *him*.

68 ind903: I thought, 'Why should *I* be **alive** and *she* be **dead**?'

69 ind884: Forget understanding, logic, culture, forget humane studies: we have to tell our children outright that where *we* were intellectually **rich**, *they* will be **poor**; where our parents' society paid for us, we will not pay for them; where we had tutors who listened to our efforts, they will have lecturers who do not; where we inherited a great, intense tradition of humane education in the best universities in the world, they will get nothing of the sort.

Sentences belonging to this sub-category are similar to non-specific B-pairs in that the major contrast of the sentence does not provide the reader with maximum information. In sentences 67 and 68, personal pronouns are used in place of people's names, which have already been specified in the text. Sentence 67 opposes *her* and *him* (Mrs Thatcher and Mr Heath) and sentence 68 opposes *I* and *she* (a widower and his late wife). Sentence 69 differs in that the opposition of *we* and *they* is signalled as being between a generation of adults and their children.

Sentence 69 is particularly interesting because the first example of ancillary antonymy paves the way for three other examples of ancillary antonymy and a whole series of comparative clauses. The next part of the sentence contrasts *our parents' society* with *we*, and *us* with *them* (even though the *we* of the first contrast shares the same real-world referent as the *us* of the second). After that, the contextually established opposition between *we* (parents) and *they* (children) is used to help mark a contrast between *tutors who listened to our efforts* and *lecturers who do not.* Finally, *we* and *they* act as part of another contrast between inheriting *a great, intense tradition of humane education in the best universities in the world* and getting *nothing of the sort.* In some respects, this is an example of the ancillary phenomenon working across an entire sentence. As readers, once we accept the macro-opposition that has been set up for us, we know exactly how to

*See Chapter Five for a discussion of Umbrella Antonymy and 6.3.2. for a discussion of Distinguished Antonymy.

interpret any subsequent micro-contrasts. Sentence 69 exploits this to the maximum.

Each of the seven classes of B-pair discussed so far have consisted of words which can be assigned to a given superordinate term. The next five categories show B-pairs which are related to one another in different ways.

4.3.1.8. Clinal

70 ind912: Then, and now, the Royal Festival Hall is a cool, rather clinical building that it is **easy** to *respect* and **difficult** to *love.*

71 ind934: Archer was a formal, eccentric man, **long** on *acquaintances* and **short** on *friends.*

72 ind902: The *West German authorities demurred: under West German law creme de cassis* had too **low** an alcohol content to be classed as a *liqueur* but too **high** an alcohol content to be considered a *wine.*

The triplet of sentences above are interesting because the antonymous pair helps to create a contrast between two words which themselves operate along a scale. For example, the B-pair of sentence 70 consists of the non-finite verbs *respect* and *love.* These words could be said to operate along a scale of affection where they maintain a relatively close proximity to one another. One would not intuitively expect these words to occur contrastively, so this opposition must be created by context. Given the absence of a contrastive conjunct such as *but*, it would seem that this opposition is licensed predominantly by the antonymous pair, *easy/difficult.*

Sentence 71 uses the antonymous pair *long/short* (employed here in a metaphoric sense, as is the norm for this pair) to help create a contrast between *acquaintances* and *friends.* Once again, this B-pair would usually be interpreted in terms of similarity, but here the antonymous pair forces the reader to understand *acquaintances* and *friends* in terms of their latent contrastive potential. A third example is sentence 72 which uses an antonymous pair (*high/low*) to exploit a potential distinction between a *liqueur* and a *wine.*

4.3.1.9. Meronymous

73 ind934: The day's business opened with other foreign matters, Foreign Office questions, during which Secretary of State Douglas Hurd said Britain would welcome a return by South Africa to the Commonwealth as 'a **happy** *end* to a **sad** *chapter*'.

74 ind914: But a couple of Libyans are only likely to be **small** *minnows* in a very **large** *pond.*

75 ind944: But a Romanian dissident recently dismissed the new regime as 'the same **old** *brothel* with **new** *whores*'.

The B-pair in each of the examples above show a relationship similar to that of meronymy. The 'part-whole' aspect of sentence 73 concerns the relation between *end* and *chapter*, which, even if considered metaphorically, evidences meronymy. Sentence 74 uses its antonymous pair (*large/small*) to draw out a contrast between *minnows* and *pond* and sentence 75 uses its antonymous pair (*old/new*) to draw out a contrast between *whores* and *brothel**. Both of these examples refer to a sense relation that could, in general, be termed 'part-whole', or, more specifically, 'inhabitant-location'. The majority of Ancillary Antonymy sentences which feature a meronymous B-pair make use of metaphoric concepts.

4.3.1.10. Double

76 ind922: However, **good** plays often **fail** and **bad** ones often **succeed.**

77 ind964: In an ideal world I suppose you would try to **discourage** the **young** from drinking and **encourage** the **old.**

78 ind891: It was an engineering feat which changed the social shape of our cities - in pre-sewerage towns the **rich** always lived at the **top** of the hills and the **poor** at the **bottom** so that gravity reinforced social inequality.

Sentences which feature two antonymous pairs can be seen as a complex and extreme case of Ancillary Antonymy. In each of the above examples, both contrastive pairs are equally ingrained in the language. Therefore, to identify either as the B-pair is highly problematic. This is particularly true of sentence 76, which seems to function as a comparison between two clauses: *good plays often fail* and *bad ones often succeed.* Each pair of antonyms combine to create a larger,

*The term "meronymy" is here used as a generalisation to describe three slightly different relationships. For instance, a *chapter* always has an *end*; a *brothel* must sometimes have *women*; but a *pond* need never have *fish*.

clausal opposition which serves the primary role of the sentence, namely irony.

Sentence 77 is similar because it features two pairs of antonyms which cooperate to create a greater opposition. However, it is possible that a case for an ancillary pair can be argued here. By their very nature perhaps, morphologically related antonymous pairs seem to exercise a more fundamental contrastive power. Their opposition is signalled by the morphological make-up of the words themselves. With this in mind, it is possible to argue that *discourage* and *encourage* are the ancillary pair in sentence 77, allowing *young* and *old* to function as the B-pair. Sentence 78 defies analogy because two lexical pairs (*top/bottom* and *poor/rich*) appear.

Another hypothesis is that the order in which the antonymous pairs occur can help determine which is the A-pair and which is the B-pair. If we consider all 69 sentences exemplified in this chapter, 41 appear with their A-pair before their B-pair and 24 appear with their B-pair before the A-pair*. In other words, the A-pair has a 63.1% chance of appearing first in the sentence. If this criterion is applied to the sentences above, then the ancillary pairs could be identified as *good/bad, discourage/encourage* and *rich/poor*; the B-pairs as *fail/succeed, young/old* and *top/bottom*. However, one can only judge the validity of these theories against personal intuition and it may be wiser to state simply that both antonymous pairs unite to establish a larger contrast between two clauses in each of the above sentences.

4.3.1.11. Linguistic

79 ind893: In this account, the **rich** get *to choose*, and the **poor** get *the queues*.

80 ind891: For at least one viewer, who had regarded **male** wrestlers as *morons* and **female** wrestlers as *oxymorons*, it was an enlightening experience.

81 ind934: Baxter's **active** *can-do* has been overtaken by the **passive** *why-bother*.

The triplet of sentences above feature B-pair terms which are linked not by any semantic

*The remaining four sentences belong to Double Antonymy.

properties, but by the phonetic constitution of the words themselves. For example, though *to choose* and *the queues* are related in sentence 79 (if only in a vague sense as *things people get*), their major similarity is phonetic. In other words, this B-pair is valid because *choose* rhymes with *queues*. Sentence 80 is even more creative. Here the antonyms *male* and *female* mark a contrast between *morons* and *oxymorons*. Whilst there is obviously some semantic justification for this selection of this lexis, one feels that the writer has chosen these words primarily because of their humorous linguistic repetition. Sentence 81 illustrates that a B-pair can even include artificial compounds. Here, *active* and *passive* signal a contrast between *can-do* and *why-bother*, two words linked more by their derivation (and indeed their visual appearance) than by their semantic similarity.

Therefore, these B-pairs are a combination of variable and constant: the difference between *choose* and *queues* is one or two phonetic symbols; the *-u:z* part of each word is identical. Likewise, *morons* and *oxymorons* differ only by the addition of one morpheme and have *-moron* in common. The similarity between *can-do* and *why-bother** is that two hyphenated word-strings (one a verb-phrase, the other a self-standing utterance) have been transformed into nouns; the difference lies in their antithetical meaning.

4.3.1.12. Word Strings

82 ind902: Czechoslovakia is an in-between country, where the **old** decision makers *have gone to ground* and the **new** ones *are paralysed by the election.*

83 ind914: The costs of failure could be equally huge - both **directly** *in loss of trade through protectionism* and **indirectly** *through cutbacks in investment that would result from the extra uncertainty.*

84 ind964: The Tories haemorrhaged, Labour benefited, but not enough, and the all party Campaign for a Scottish Assembly was launched in 1988 **officially** to *prepare for a Scottish parliament*, and **unofficially** to *bestow patience.*

The sentences above illustrate that the B-pair in an Ancillary Antonymy sentence need not be a

*Both *can-do* and *why-bother* seem more established in spoken than written language.

single lexical item. In each of these examples, two word-strings are set up in a form of comparison and this comparison is flagged by an antonymous pair. Any contrast generated between these word-strings is entirely text-driven as it is difficult to imagine other contexts in which these word-strings would be presented in opposition.

In sentence 82, the B-pair is signalled by *old* and *new*. Those *decision makers* falling into the former category are said to *have gone to ground*; those falling into the latter category *are paralysed by the election*. These concepts would not be considered comparatively (*going to ground* is hardly the opposite of *being paralysed by an election*) were it not for contrast-generating devices such as the antonymous pair.

Sentence 83 uses the antonymous pair *directly/indirectly* to create a contrast between a pair of prepositional phrases, *in loss of trade through protectionism* and *through cutbacks in investment that would result from the extra uncertainty*. Similarly, sentence 84 uses the antonymous pair *officially/unofficially* to draw out a contrast between two clauses: *prepare for a Scottish parliament* and *bestow patience*. This final B-pair is especially devoid of any conventional sense of opposition and requires its corresponding antonymous pair to give it any contrastive power.

4.3.1.13. Summary of Taxonomy

The twelve categories above do not exhaust the entirety of B-pair relationships found in the data, but they do illustrate the broad range of these relationships in text. Having considered the semantic and other relationships arising between B-pairs, this chapter will now focus on the question of just how "ancillary" ancillary pairs can be. Do they actually create contrast between B-pairs or do they simply signal an already established contrast?

4.3.2. Inherent Contrast of B-pairs

The B-pair in every Ancillary Antonymy sentence is signalled or created by the antonymous pair to a greater or lesser degree. However, it is clear that this degree is much greater in some cases and much lesser in others. This is dependent on the level of inherent contrast which already exists in the B-pair. For example, some antonyms actively create an opposition between a pair of concepts which would not otherwise be considered contrastively. At the other end of the scale, some antonyms merely help to confirm an opposition between a pair of concepts which already express a strong contrastive sense*. Between these two extremes, the majority of Ancillary Antonymy sentences use an antonymous pair to draw out a latent contrast between a pair of co-hyponyms (or even latent co-hyponyms) - words linked by their relationship to a given superordinate term - that have a potential for contrast, but which would usually be considered as non-contrastive.

Effectively, the function of ancillary antonyms is to push their B-pair further up the contrastive scale. If no inherent contrast exists between the B-pair, then some element of instantial comparison is created by the A-pair; if the B-pair already has some potential for contrast, the A-pair transforms that potential into a more solid opposition; and if a high degree of contrast already exists between the B-pair, the function of the A-pair is to enhance this further to the point of assigning antonymity. In this way, the contrast holding between the B-pair is shifted one notch up the scale of opposition by the A-pair: from having no relation at all, to being latent co-hyponyms, to being established co-hyponyms, to being weak antonyms, to being strong antonyms.

The nine sentences listed below exemplify how varied the inherent contrast of a B-pair can be. The first triplet of sentences show an antonymous pair working alongside a B-pair that is very high in contrast; the second triplet of sentences show an antonymous pair drawing out a contrast between a pair of co-hyponyms; the third triplet of sentences show an antonymous pair creating

*Although, with the exception of Double Antonymy sentences, they have not [yet] become established as antonyms in the mental lexicon.

an opposition between a pair of words which would not otherwise be considered contrastive.

85 ind951: It's certainly rare to hear anyone speaking about the future of British production in terms of its boundless potential; one can only hope that the next few years prove Puttnam's **optimism** *justified* and his **pessimism** *groundless.*

86 ind904: As the old adage put it, *oppositions* do not **win** elections; *governments* **lose** them.

87 ind891: Now these orders of time have been reversed: the **rich** *rise at dawn*; the **poor** *sleep late.*

88 ind914: It is at the moment **illegal** to buy *a bible* on Sunday, even from a cathedral shop, but perfectly **legal** to buy *pornographic magazines.*

89 ind944: I bicycled to work, as it was the fastest way of getting there, and as a result I was constantly in danger of death by car, either **slowly** from *asphyxiation* or **quickly** from *being run over.*

90 ind922: During the Eighties it was **easy** to obtain consent to build *Canary Wharf* and **difficult** to obtain consent to build *an ex-urban house in Wiltshire or Suffolk.*

91 ind913: The new edition appeared in the United States about two weeks ago; when I heard the news of the coup it seemed **bad** news for *democracy*, but very **good** news for *the book.*

92 ind942: Now it denotes **high** *butter mountains* and a **low** *boredom threshold.*

93 ind884: Heathcote Williams' Whale Nation (Cape) backed all the **right** *animal* causes but all the **wrong** *poetic* ones.

Sentence 85 almost belongs to the category of Double Antonymy. However, the words *justified* and *groundless*, while forming a strong semantic opposition, perhaps lack the coreness of antonymy which *optimism* and *pessimism*, for example, seem to possess. Similarly, sentence 86 contrasts *oppositions* with *governments*, a familiar contrast in contemporary culture which draws on the implicit antonymy of the word *opposition*. However, these two words do not yet appear to be fixed in the mental lexicon to the same degree as, say, the other antonymous pair in this example, *win* and *lose*. Finally, sentence 87 illustrates the same phenomenon applied to more than one word. Here, *rise at dawn* is pitted against *sleep late*. These phrases are semantically opposed, but the language is yet to offer any lexis which reflects these concepts sufficiently to become enshrined as familiar antonyms.

Therefore, this first triplet of sentences shows that the B-pair may itself be a pair of opposites or near-opposites. In such examples, it would be folly to argue that the established antonymous pair

"creates" an opposition. Rather, it simply works in tandem with the B-pair and contributes to a larger inter-clausal contrast. Nevertheless, in each sentence, the antonymous pair remains the more powerful contrast and, as such, can be seen to function as the ancillary pair*.

More active ancillary pairs can be seen in sentences 88 to 90. The A-pair in each of these sentences plays a more significant role in drawing out the latent contrastive potential of a co-hyponymous pair. In sentence 88, the B-pair is *a bible* and *pornographic magazines*. Both are, of course, publications of some description, but here the writer's intention is to accentuate their dissimilarity, rather than their shared status as co-hyponyms. Sentence 89 contrasts *asphyxiation* with *being run over*, two ways to die. The antonymous pair here (*quickly/slowly*) signals that these concepts are to be viewed contrastively and also signals the scale against which they are to be interpreted contrastively, namely the speed of death. It is interesting to note that this co-hyponymous pair have even less contrastive potential than *a bible* and *pornographic magazines*, which, though also co-hyponymous, seem also to contrast along a secondary scale which could perhaps be termed "morality".

The B-pair of sentence 90 are buildings, namely *Canary Wharf* and *an ex-urban house in Wiltshire or Suffolk*. Once again, although co-hyponyms, the choice of these two particular places seems to reflect irony. Though they belong to the same scale, they belong to opposing ends of that scale if one considers size or monetary value. However, the antonymous pair of this sentence is still necessary to confirm that the two buildings are to be interpreted contrastively in this context.

Therefore, the antonymous pairs in this triplet of sentences can be seen to function differently from the antonymous pair in the previous triplet. Co-hyponyms, by definition, contain some contrastive aspect (antonyms, remember, are also co-hyponyms), but not as much as the B-pair in the

*At the point of writing, at least. For one of the ways in which antonyms become enshrined in language is through repeated exposure in such contexts.

first triplet of examples, Because of this, the antonymous pair is more responsible for generating the major contrast of the sentence.

Sentences 91 to 93 are more extreme still. Here, the B-pair appear to hold no contrastive potential, latent or otherwise. For example, *democracy* and *the book* are the B-pair of sentence 91. These two concepts seem unconnected, although, within their given context, they must be related in some sense (presumably because *the book* is seen as trivial and personal, whereas *democracy* is seen as universally important). This sense is signalled by the antonyms *good* and *bad*, which force us to treat *democracy* and *the book* as instantial opposites (or at least as instantial co-hyponyms), regardless of their usual status as lexically unrelated words.

The ancillary antonyms of sentence 92 (*high* and *low*) serve the same function in respect of *butter mountains* and a *boredom threshold*. Though this pair of phrases are faintly related*, they are hardly co-hyponyms, nor do they belong to any other specific sense relation. Once again, it is their proximity to an antonymous pair which endows these concepts with contrastive power.

Finally, the words *animal* and *poetic* hold no obvious relationship, and even when their noun-head *causes* is added, the mist is only partially cleared. Indeed, the B-pair of sentence 93 only becomes contrastive when the A-pair (*right/wrong*) is considered. In short, the antonymous pair are effectively creating a comparison between a pair of words with a very low innate contrastive value.

In other words, all Ancillary Antonymy sentences contain ancillary antonyms. However, some of these ancillary antonyms are more ancillary than others. This depends largely on the B-pair of the sentence. If this pair of words already hold a high contrastive power (the extreme example being when the B-pair are themselves antonyms and thus indistinguishable from the ancillary pair), the degree to which the antonymous pair function as ancillaries is limited. If, conversely, this pair of

*The word "Europe" springs immediately to mind.

words share no obvious semantic relationship, the antonyms are extremely active in creating an opposition between otherwise unopposed concepts. In text, the majority of Ancillary Antonymy sentences fall somewhere between these two extremes. Ancillary antonyms are most commonly used to establish an instantial contrast between a pair of co-hyponyms.

4.3.3. Other contrast-generating mechanisms

The antonymous pairs in the sentences examined so far in this chapter are partially responsible for creating/reflecting contrast in Ancillary Antonymy sentences. However, antonymy is not exclusively responsible for generating opposition in such sentences. I shall now examine other ways in which antonymous sentences signal contrast. Firstly, I shall focus on the role of parallelism; then I shall examine the conjunctions *but* and *and*; then look at other lexis used to link clauses together such as *while* and *not only*. Finally, I shall examine Ancillary Antonymy contexts which syntactically detach their A-pair from their B-pair. Each analysis will include detail of how ellipsis and repetition also help to create contrast in Ancillary Antonymy sentences.

4.3.3.1. Parallelism

Most Ancillary Antonymy sentences feature some element of parallelism within the sentence. Together with the contrastive power of the antonymous pair, this parallelism will sometimes be sufficient to allow the author to omit the conjunction entirely. This is illustrated by the sentences below:

94 ind901: There is *praise* for **success**, *condemnation* for **failure**.

95 ind893: The *peace* is usually **male**, the *disturbance* **female**, though in two stories the positions are reversed, and one story, The Image Trade, dispenses altogether with the tension of gender.

96 ind962: He leans forward and quotes from a piece of writing in French by Samuel Ullman, which roughly translates as: 'You are as **young** as your *faith*, as **old** as your *doubts*.'

The conjunction in each of the above example is conspicuous by its absence. For example,

sentence 94 uses an established antonymous pair (*success/failure*) to signal an opposition between a pair of words which are contrastive, though perhaps less enshrined in the language (*praise/condemnation*). Given the high lexical contrast between the two clauses of sentence 94, a further contrastive signal in the form of a conjunction is considered unnecessary. In other words, the parallelism between *praise for success* and *condemnation for failure* signals that these clauses are to be interpreted contrastively.

Sentence 95 is similar. The clause *the peace is usually male* is here followed by *the disturbance female*, a repetition that requires us to insert *is usually*, but is otherwise the same as clause one, except for the substitution of antonym and B-pair term. Once again, sentence 96 illustrates that parallelism can diminish the need for a contrastive conjunction. Here, *young* and *old* mark a contrast between *faith* and *doubts*, but, where one might expect to see a *but* (or at least an *and*), only a comma can be found. The following sections reports on contexts which make use of parallelism, but also feature conjunctions.

4.3.3.2. Conjunction: "but"

Each of the following three sentences use an antonymous pair to help establish a contrast between its B-pair of words. However, this contrast is also affirmed by the use of the conjunction *but*.

97 ind894: *Bofors* might indicate **failure**, but *Venus and Saturn* spell **success**.

98 ind952: The First Division of the Endsleigh League is like a well - **easy** to *fall into* but **difficult** to *get out of*.

99 ind894: It appears the US policy was to *assist* the coup if it appeared likely to **succeed**; but to *back away* as soon as it seemed doomed to **fail**.

Sentence 97 creates contrast between its two clauses in at least three different ways: firstly, as explored, the antonymous pair (*failure/success*) signal an opposition between the B-pair (*Bofors* and *Venus and Saturn*); secondly, the word *but* acts unambiguously as a signal that what comes next should be contrasted with what went previously; thirdly, the two clauses of the sentence

parallel strongly with one another (*SVO but SVO* where the verb-phrases [*might indicate* and *spell*] are synonymous) to provide a sense of opposition.

Sentences 98 and 99 are comparable in their usage of *but* as a signal of contrast. They also conform to typical features of Ancillary Antonymy sentences. The former sentence is high in parallelism because the clauses *easy to fall into* and *difficult to get out of* both use the construction ADJECTIVE + INFINITIVE VERB + PREPOSITION. The latter sentence is also high in parallelism and features another common element of Ancillary Antonymy, ellipsis. Here, *the coup* is mentioned in clause one but omitted in clause two (although *back away* does not necessarily need to be followed by *from the coup*). Such parallelism, coupled with a strong A-pair, could allow *but* to be omitted entirely from the sentences above. This suggests that, in addition to signalling contrast, *but* may serve another function, perhaps to signal unexpectedness (see Winter 1982: 110). In each of the above examples, what follows *but* could be seen as the 'surprise element' of the sentence.

All of these contrast-making devices unite to allow the B-pair of each sentence to be seen contrastively. However, not all sentences contain *but*. The majority of sentences belonging to this category feature no overt marker of contrast. Indeed, most contrastive clauses are linked by *and*.

4.3.3.3. Conjunction: "and"

100 ind902: International support is **long** on *words* and **short** on *deeds*.

101 ind953: You want your friends to **hate** the *sin* and **love** the *sinner*.

102 ind904: On Saturday night, as news of Claudio's death spread, the *police presence in Vaulx* was **heavy**, and the *violence* relatively **light**.

The sentences above all rely on *and* to link their clauses where *but* might have been expected. The explanation for this would seem to lie in the nature of the sentence. Antonymy is such a powerful signal of contrast that, coupled with the sense of parallelism also associated with clausal

opposition, a contrastive conjunction is simply deemed unnecessary.

For example, sentence 100 uses the antonymous pair *long/short* to signal a contrast between *words* and *deeds*, two terms with a relatively high sense of inherent contrastive potential. The framework is typical of an Ancillary Antonymy sentence because of its repetition (*NP VP X on x and Y on y*) and its contrastive elements, which are syntactically symmetric. In other words, a single clause (*International support is long on words*) is repeated with ellipsis (of subject and verb) and substitution (*short* replaces *long* and *deeds* replaces *words*). In employing such familiar signals of contrast, the writer effectively makes a word such as *but* redundant.

Sentence 101 is similar, both syntactically and in its near-idiomaticity. Here, the repetition of the grammatical structures *hate the sin* and *love the sinner* are sufficient to signal that *sin* and *sinner* should be interpreted contrastively. Sentence 102 is a more complex example but the underlying principle remains the same. The antonyms *heavy* and *light* signal a contrast between the noun-phrases *police presence in Vaulx* and *violence*. These contrastive clauses mirror one another except for the omission of *was* in the final clause. Once again, the cumulative effect of these signals (antonymy, parallelism and ellipsis) seems to diminish the need for a further signal of opposition in the form of a contrastive conjunction.

A number of other sentences link two clauses together without using either *and* or *but*. This can be done by placing a signal such as *while* or *not only* at the beginning of the sentence. This strategy will be analysed next.

4.3.3.4. Other Links

103 ind962: While **success** is *sexy*; **failure** is *on a par with cheesy feet.*

104 ind931: While *many* **succeed**, however, *a significant number* **fail.**

105 ind922: Not only did the IMF **implicitly** *reject US calls for measures to strengthen growth in the industrial world*, it **explicitly** *dismissed demands for a more expansionary Japanese fiscal policy.*

Sentence 103 uses an antonymous pair to help signal a contrast between the word *sexy* and the phrase *on a par with cheesy feet.* Only a semi-colon lies in between the two clauses, and the opposition is marked overtly by *while* at the start of the sentence. Therefore, the framework can be seen as *while X is x, Y is y.* Sentence 104 follows the structure *while x X, y Y,* where the antonymous pair (*succeed/fail*) mark a contrast between the quantitative B-pair, *many* and *a significant number.*

Sentence 105 uses different lexis to achieve the same results. In this example, clause one is preceded by *not only did,* which seems to have an effect very similar to the *while* of sentences 103 and 104. The antonyms *implicitly* and *explicitly* then signal a contrast between two verb-phrases and their corresponding objects (*reject US calls for measures to strengthen growth in the industrial world* and *dismissed demands for a more expansionary Japanese fiscal policy*). Repetition also plays its part in this sentence, with the overall structure of clause one being repeated in clause two with the exception of *it* in the place of *the IMF.*

One effect of using subordinators in this way is to signal that the first clause contains "given" information, while that contained in the second clause is "new"*. This is notable in all three examples, especially sentence 104 in which *however* confirms the impression that the success of the *many* is already on the table.

In the sentences above, *while* and *not only* are syntactically interchangeable with *although,* which Quirk *et al* (1972: 745-6) suggests is the subordinator equivalent of *but.* In other words, the contrastive nature of clauses in sentences 103 to 105 is signalled as strongly as those in sentences 97 to 99.

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*"Given" and "new" can here be simply defined as "not assumed known" and "assumed known" respectively (Winter 1982: 110).

4.3.3.5. Detachment

Finally, a minority of sentences belonging to the category of Ancillary Antonymy are unusual in that the antonymous pair and B-pair, instead of being inter-mingled, are sequential. In other words, in the sentences exemplified so far, the sequence of A-pair and B-pair has been ABAB or BABA; in the examples below, the sequence is AABB or BBAA.

106 ind953: As does the absence of easily identifiable *heroes* and *villains*, characters to **love** and characters to **hate**.

107 ind884: Around the cornices of Greek temples as of the Royal Opera House or of Buckingham Palace) there runs the *egg* and *dart* carving which symbolises the **feminine** and the **masculine** principle.

108 ind924: Such divorceless marriages and intractable moral issues are the stuff of Keepers of the Flame, which makes an understandably disenchanted survey of what Henry James brilliantly calls 'the quarrel beside which all others are mild and arrangeable, the eternal dispute between the **public** and the **private**, between *curiosity* and *delicacy*'.

The above sentences warrant special attention because the antonymous pair occur together, but actually work in conjunction with another pair of words, which can be seen as the B-pair. For example, sentence 106 matches the word *love* with the word *heroes* and matches the antonym of the former (*hate*) with the near-antonym* of the latter (*villains*). The effect is much the same as in other Ancillary Antonymy sentences: each antonym works in unison with one half of the B-pair to create a stronger contrast, in this case between *heroes ... characters to love* and *villains ... characters to hate.*

Sentence 107 uses its antonymous pair (*feminine/masculine*) in conjunction with its B-pair (*egg/dart*). Here, the relationship is overtly signalled as the carving of the latter is said to "symbolise" the principle of the former. Finally, sentence 108 shows that the established antonymous pair may precede the B-pair. Here, *public* and *private* are related to the opposition that post-modifies them between *curiosity* and *delicacy.*

*So near, in fact, that this sentence could easily be considered as an example of Double Antonymy.

So strong is the contrast generated by the A-pair on occasions, it would appear that writers can afford to place the B-pair elsewhere in the sentence. The effect of this is that two kinds of antonymous usage are exploited: the umbrella effect of co-ordinating an established antonymous pairs (to be discussed in the next chapter) and the ancillary effect of using an A-pair to impart contrastive power upon a B-pair.

4.4. Summary of Chapter Four

One might define the phenomenon of Ancillary Antonymy as the way in which an opposition enshrined in the language is used to signal a more important contrast between a pair of words (often co-hyponyms) which have less inherent dissimilarity. This chapter has shown that antonyms have a strong chance of co-occurring with a second opposition in the sentence (remember that Ancillary Antonymy accounts for over one third of all antonymous usage in the database) and, in such cases, tend to combine with other contrast-signalling devices (parallelism especially) to create a clausal opposition of such strength that a contrastive conjunction such as *but* is frequently deemed unnecessary.

In the sentences analysed, antonymy appears to be the most powerful signal of contrast. However, parallelism of structure is also noticeable in almost all examples and this too helps to generate contrast. Traditionally, adversative conjunctions were thought to be powerful signals of contrast (Nesfield 1898: 79), but this is perhaps the most dispensable contrast-generating device. Many sentences prefer cumulative conjunctions such as *and*; others use no conjunction at all.

This chapter has also evidenced the diverse range of words and phrases which can occur as B-pairs in Ancillary Antonymy sentences. Twelve classes were outlined, though many more could exist as so few grammatical or semantic restrictions are placed on B-pairs. It was shown that some B-pairs feature no innate element of contrast at all, while other B-pairs are almost valid

antonyms in their own right. Regardless of this, the function of the A-pair is the same: to endow the B-pair with greater contrastive power.

Having investigated the most common function of antonymy in text, Ancillary Antonymy, I shall now consider a class of antonymy whose frequency is only marginally lower. Umbrella Antonymy accounts for contexts in which contrastive pairs serve as co-hyponyms rather than as antonyms, usually being linked by a co-ordinator and expressing inclusiveness or exhaustiveness of scale.

Chapter Five:
Umbrella Antonymy

5. Umbrella Antonymy

5.1. Introduction

Chapter Three of this thesis demonstrated that a large proportion of database sentences use their antonymous pair to signal inclusiveness or exhaustiveness of scale. Such sentences have been attributed to the class of Umbrella Antonymy and a triplet of examples are recorded below:

109 ind893: While pensions will not be abolished, the government will encourage everyone, **rich** and **poor**, to rely for their retirement mainly on money they invest in private pension funds.

110 ind894: Today, the pressure to make hay while the sun fitfully shines has led to a massive slump in both **public** and **private** standards.

111 ind884: Whether he was **right** or **wrong** to raise a certain matter in the way he did, Mr Lawson offered an important insight into his, and almost certainly Mrs Thatcher's and John Moore's, thinking about the long-term future of the welfare state.

In the first of these sentences, *rich and poor* reaffirms the inclusiveness of *everyone* and identifies the scale against which this inclusiveness is measured. Similarly, sentence 110 refers to *both public and private standards*, thereby placing the accent on inclusion once again. Sentence 111 speaks about whether Mr Lawson was *right or wrong* to raise a certain matter. This exhausts the scale in question and, once again, the antonyms can be said to function in an "umbrella" manner - they work in unison, creating no overt element of contrast, and encompass all points on their given scale.

Of the 3,000 sentences retrieved from the corpus, I argue that 1,151 contain an antonymous pair belonging to the class of Umbrella Antonymy. In other words, at least every third sentence which features an antonymous pair uses that pair to express a quality of inclusiveness. This chapter will begin by analysing the distribution of Umbrella Antonymy sentences among word pairs sampled; the category will then be sub-classified and a number of database examples will be studied to determine more precisely the function of antonymy in such sentences and to explore the various frameworks associated with Umbrella Antonymy.

5.2. Distribution of Umbrella Antonymy among antonymous pairs

All 56 antonymous pairs occur in an Umbrella Antonymy sentence on at least one occasion, a fact which illustrates the pervasiveness of the class. In total, 38.4% of database sentences feature Umbrella Antonymy and many individual word pairs function in this way at a similar rate. For example, 39.0% of *cold/hot* sentences belong to this category, as do 37.8% of *happy/sad* sentences and 38.9% of *advantage/disadvantage* sentences. Remarkably, exactly 38.4% of the database sub-class of "un-words" have been classified in terms of Umbrella Antonymy.

The ten antonymous pairs which function as "umbrella" antonyms most commonly are presented in the table below. The percentages recorded alongside each pair refer to the proportion of sentences retrieved which feature antonyms serving an umbrella function. For example, 72.2% of *directly/indirectly* sentences have been classified in terms of Umbrella Antonymy.

confirm	**deny**	**100.0%**
disprove	**prove**	**100.0%**
rightly	**wrongly**	**97.7%**
directly	**indirectly**	**72.2%**
explicitly	**implicitly**	**63.3%**
guilt	**innocence**	**61.4%**
correct	**incorrect**	**61.1%**
gay	**straight**	**60.6%**
false	**true**	**54.8%**
illegal	**legal**	**54.8%**

Table Five: Antonymous pairs classified as Umbrella Antonymy most commonly

The table above shows that none of the 34 *confirm/deny* sentences retrieved feature their antonymous pair functioning in anything other than an umbrella environment. Similarly, all 14 *disprove/prove* sentences belong to Umbrella Antonymy, as do all but one of the 44 *rightly/wrongly* sentences extracted. Therefore, usage such as that reflected by the three sentences below is common to the point of being inevitable.

112 ind921: Whitehall was yesterday unable to **confirm** or **deny** other simulated devolutions.

113 ind943: What we can't even begin to do is evaluate any mystical or imaginative statement - we cannot **prove** or **disprove** the idea that God is angry.

114 ind893: We helped a landbound frog, **rightly** or **wrongly**, back to the water's edge and pedalled on to collect our reward: two Tangle Twisters from the kiosk by the boat-hire, and time to sit in the English afternoon sun and watch the world drift by.

The sentences above are typical of those favoured by this trio of antonymous pairs. The negativity of sentences 112 and 113 are also in keeping with this type of context - Whitehall is *unable* to confirm or deny and "we" *cannot* prove or disprove a given idea. *Rightly/wrongly* does not function in an umbrella fashion throughout the database, but can be seen to favour this framework in a large majority of sentences. It would appear that these three antonymous pairs have been used in these sorts of contexts with such frequency that they now border on idiomaticity; to use them in any other way almost feels wrong.

It is also notable that none of the six pairs which show the greatest bias towards Umbrella Antonymy are adjectival. This is particularly striking given that over half of the antonyms selected for study are adjectives. Both of the pairs that score 100% are verbs, the next three highest-scoring pairs are adverbs, and the sixth-placed pair are nouns. Only then do adjectival antonymous pairs such as *correct/incorrect* and *gay/straight* arise. The issue of whether word class affects these categories of antonymy will be discussed more in Chapter Nine, but Table Five suggests that adjectives may not favour Umbrella Antonymy as strongly as certain non-adjectival pairs.

Not all antonyms occur in Umbrella Antonymy sentences as often as those discussed in this section, but all antonyms sampled do occur in this way at least once. Therefore, this class of antonymy is one of the most significant and widespread identified. It will now be analysed in more detail.

5.3. Frameworks of Umbrella Antonymy

Umbrella Antonyms are usually conjoined by *and* or *or*. In general terms, those linked by *and* can be seen as "inclusive"; those linked by *or* as "exhaustive". Neither sub-category features any element of distinction between the two antonyms - in every instance, the antonymous pair is presented equally by the text. In other words (and perhaps paradoxically), it is the 'similarity' between the antonyms (ie. their shared status as co-hyponyms of a given superordinate) rather than their inherent semantic dissimilarity which is the primary focus of attention. This reflects Clark's "minimum contrast rule" (1970: 275), Leech's Componential Analysis (1974: 98) and Cruse's rhetoric about the "closeness" of opposites (1986: 197), all of which point out that antonyms are word pairs which have much in common.

This section will analyse those pairs which occur in an *X and Y* framework, then it will analyse those pairs which occur in an *X or Y* framework. Finally, antonymous pairs which occur in neither of these frameworks but still belong to the class of Umbrella Antonymy will be examined.

5.3.1. Umbrella Antonymy Frameworks: X and Y

Of the 1,151 database sentences classified in terms of Umbrella Antonymy, 490 appear in the framework *X and Y*. Such contexts use antonymy to signal that both halves of a given semantic scale are applicable. According to my sample, approximately one in six uses of antonymy will be similar to those listed below:

115 ind921: In line with a shell and chassis design geared to **active** and **passive** safety, the engines in the low and middle range have been built with economy and pulling power in mind.

116 ind902: Both pictures are attributed to Ambrogio Lorenzetti, one of the foremost painters in Siena in the first half of the fourteenth century, who is better known for his massive frescos on **good** and **bad** government in the Palazzo Publico, the city hall.

117 ind932: And this fear of going naked into the presence of papa seems particularly apposite when papa is Kenneth Clark, author of The Nude, a book through which many a schoolchild has flicked with just those confusing sensations of **light** and **heavy** tumescence.

118 ind893: A frank expose of the oldest profession - **male** and **female** - in Budapest.

119 ind932: The idea of poets **alive** and **dead** swapping imagery in order best to express feeling is heartening; since life often seems beguiling and confusing, a little help in capturing the paradoxes is always welcome.

120 ind942: Ahnenerbe also, however, administered Lebensborn, a 'welfare facility' which looked after racially 'pure' German mothers, **married** and **unmarried**, during their pregnancy and took over many of their children when they were born.

121 ind941: Again in debates over genetic research it is significant that Christians, Muslims and Jews have united, **implicitly** and **explicitly**, in condemning a low view of the value of embryonic life.

122 ind943: He took **success** and **failure** in his stride.

123 ind884: Editors have moved at roughly 10-yearly intervals and steered the journalists towards the provocative leader-articles that The Economist's readers **love** and **hate**.

The first triplet of sentences above show an antonymous pair directly pre-modifying a noun-phrase (*X and Y n*). Such antonymy is contextually removable from the sentence; its function is to signal inclusiveness. Thus, we discover that the *safety* of sentence 115 is both *active* and *passive*, the governments of sentence 116 are both *good* and *bad* and the *tumescence* of sentence 117 is both *light* and *heavy*. The effect of these antonymous phrases is to inform us that the subsequent noun-head refers to both ends of the antonymous scale against which it is being measured.

Sentences 118 to 120 are semantically similar, but here the antonymous pair post-modify the noun-head (*n, X and Y*) rather than premodify (*X and Y n*). This appears to be a rhetorical device, although *male and female* could not act as premodification in sentence 118 because the noun-head is implied rather than stated ("*members* of the oldest profession"). Similarly, *alive and dead* could not act as premodification in sentence 119 because *alive* acts only as subject complement. Perhaps the reason why *married and unmarried* post-modifies *mothers* in sentence 120 is that it would give the already full premodification a "cluttered" feel.

Given that inclusivity appears to be the primary goal of *X and Y* constructions, one would not expect to find non-gradable pairs used as antonyms. Non-gradable pairs exhaust their entire range anyway, so what would be the point of signalling inclusiveness?

If signalling inclusiveness was the only function of Umbrella Antonymy, then the antonymous pair of sentences 118 to 120 would be redundant. After all, people can only be *male* or *female*, poets can only be *alive* or *dead* and mothers can only be *married* or *unmarried*. However, another function is being served by these antonyms: they defy our expectations. In other words, the reason that inclusiveness needs to be signalled in these sentences lies in the nature of the noun-head being modified. For example, without the phrase *male and female*, one would be inclined to assume that the members of the *oldest profession* would be exclusively female. Thus, the antonymous pair is defying our preconceptions and the phrase can be seen as 'weighted' more towards *male* than *female*. The writer is effectively anticipating our assumptions about a concept, then correcting this assumption. So, though *male* is given no overt linguistic priority in the sentence, it is clearly the antonym which carries the greater semantic significance.

Sentence 119 is similar. Here, one would assume the poets in question to be *alive* were it not for the antonymous phrase *alive and dead*. Sentence 120 is more difficult to interpret, but given that Lebensborn "took over" many new-born children, one might expect the mothers in question all to be unmarried were it not for the phrase *married and unmarried*. Thus, the antonymous pair of Umbrella Antonymy sentences can be said to fulfil two related functions: to signal inclusiveness of scale and, sometimes, to defy our expectations about a given noun-head.

The antonyms of sentences 115 to 120 are all adjectival. Sentences 121 to 123 illustrate that the same phenomenon may be evidenced by adverbs, nouns and verbs respectively. Instead of antonymous adjectives modifying a given noun-head, sentence 121 features antonymous adverbs (*implicitly/explicitly*) modifying a given non-finite verb (*united*). The effect appears to be much the same - the antonyms add an encompassing element to the word described, signalling inclusiveness of scale. Being nouns themselves, the antonymous pair of sentence 122 do not act as modification. However, the phrase *success and failure* is also inclusive in this context: *he took*

success and failure in his stride is analogous with the idiom *he took everything in his stride.* Finally, sentence 123 illustrates that it is possible for inclusive umbrella antonyms to take the form of verbs. Here, the antonymous pair (*love and hate*) belong to the subject *The Economist's readers*. Once again, the function of antonymy in this sentence is to signal inclusiveness, or, more specifically, inclusiveness which might not otherwise have been expected.

5.3.2. Umbrella Antonymy Frameworks: X or Y

Of the 1,151 database sentences classified in terms of Umbrella Antonymy, 533 occur in the framework *X or Y*. Often, the semantic difference between *X or Y* and *X and Y* is negligible. Both frameworks serve to encompass a semantic range. But whereas *X and Y* may simply incorporate both antonyms without necessarily accounting for all in between, *X or Y* tends to symbolise an entire range. Antonyms joined by *or* are more likely to post-modify than pre-modify their noun-head. Six typical sentences are recorded below:

124 ind922: Most Ugandans, **married** or **unmarried**, had several lovers.

125 ind964: But assuming no scandals, **old** or **new**, precipitate presidential disgrace, what is he to do if a triumphant place in history is to be assured.

126 ind902: When governments realise that transport planning means taking a comprehensive view of all transport systems and co-ordinating them, they will find themselves better prepared not only for the country's future, but for making their case against lobbying groups, **large** or **small**.

127 ind953: He showed no disloyalty, **publicly** or **privately**, to Virginia Bottomley though it must have irked him that she was in the Cabinet and he was not.

128 ind951: The Koran unequivocally states that the **punishment** or **reward** for insulting God lies with Him alone - muslims, mullahs and the courts have nothing to do with it.

129 ind912: Yet, **win** or **lose**, he could fade faster than Donny Osmond if the money goes to his head.

In sentence 124, the antonymous phrase *married or unmarried* expresses exhaustiveness. Most *Ugandans*, regardless of their marital status, are said to have had several lovers. Sentence 125 is very similar in terms of syntax (*n, X or Y*), but is different in the sense that its antonymous pair (*old/new*) is gradable, whereas the antonymous pair of sentence 124 is non-gradable

(*married/unmarried*). In one respect, it is inevitable that a non-gradable pair will signal exhaustiveness in this context because *Ugandans*, like the rest of us, can only fall into one of two possible categories - *married* or *unmarried*; *old* and *new*, by contrast, have intermediary and extreme stages. For example, in theory, the *scandals* of sentence 125 could be *quite recent, ancient* or *neither old nor new*; anywhere, indeed, along the given scale.

However, it would seem that the gradable/non-gradable distinction is largely academic when applied to these two sentences. The fact that the antonymous pair of sentence 125 is gradable does not appear to make its function any less exhaustive. The phrase *old or new* seems to operate in a very similar way to *married or unmarried*, signalling a general sense of exhaustiveness. The antonymous phrase represents all points on the given scale, not just the two specific points mentioned. In the case of *married/unmarried*, only two points exist; but in the case of *old/new*, the two words appear to signify not only those two points, but every potential point on that scale.

Sentence 126 features the antonymous phrase *large or small*, which also seems to function as exhaustively as any non-gradable pair. Here, the preceding noun-head is *lobbying groups* and the antonymous phrase seems synonymous with "lobbying groups of any size" rather than specifically "either large or small lobbying groups".

The antonyms of sentences 124 to 126 are all adjectival. Sentences 127 to 129 illustrate that the same phenomenon may be evidenced by adverbs, nouns and verbs respectively. In sentence 127, *publicly or privately* modifies the verb *showed*. As with adjectival *X or Y* Umbrella Antonymy sentences, the two words symbolise all points of the *publicly/privately* scale, being synonymous with "of any kind". Sentence 128 is somewhat different, as the antonymous pair and the noun-phrase are one and the same. However, in many respects, *punishment or reward* still functions exhaustively. The writer believes that God alone knows the consequence of "insulting God" and

he or she chooses to record both antonyms as a means of exhausting the entirety of the scale in question. This makes sentence 128 comparable with other exhaustive sentences, even if its syntactic structure is quite different. Finally, sentence 129 illustrates that verbs can also be used exhaustively. Here, *win or lose* signals that the outcome of a given event is irrelevant to the statement being made.

The pattern *how X or Y* is also used by a small sub-set of sentences as a gauging mechanism for measuring a given concept against. This is illustrated in the sentences below:

130 ind941: When the parents return, they shall not make the sitter listen to an account of how **good** or **bad** their evening out was.

131 ind913: It joined the committee in arguing that the change would make the new figures no longer comparable with old ones - making changes in how **well** or **badly** the NHS was doing impossible to measure.

132 ind913: In the autumn the school's 700 pupils will have a homework diary so that parents will know what homework has been set and will be able to comment on how **easy** or **difficult** their children find the assignments.

The above sentences are interesting because they exhaust their given scale in a different manner from those examined previously. For example, in sentence 130, the antonymous pair seems to be present because the writer feels that a single antonym would be interpreted as reflecting a bias towards its corresponding end of the scale. In other words, in this instance, to say *how good* the evening was implies that the evening was, indeed, *good* (to a greater or lesser degree); however, to say *how good or bad* the evening was implies no bias either way. Similarly, sentence 131 could rely on *well* or *badly* alone to signal the given scale of success. The latter would strongly suggest a negative performance by the NHS; the former would be less marked, but perhaps remains inclined towards a positive outcome; only *how well or badly* allows the writer to identify the scale in question without pre-empting any general point on that scale. Sentence 132 further illustrates this phenomenon by referring to *how easy or difficult* homework might be. Bias towards either antonym is thereby avoided.

This raises questions about the concept of the "unmarked antonym" (Palmer 1976: 80), or the "impartial antonym", as Cruse (1986: 208) prefers. Palmer notes one member* of an antonymous pair is the "only one used simply to ask about or describe the degree of the gradable quality" (1976: 80). In other words, if one asks *how tall is Jack*, one is not necessarily assuming that Jack is in any way tall. However, if one asks *how short is Jack?*, the presumption is that Jack must indeed be short.

In some respects, sentences 130 to 132 provide grounds for disputing this as they do not rely on one antonym to signal impartiality; rather they use the *how X or Y* framework. This suggests that, contrary to Palmer's assertion, *good* is not always sufficiently unmarked to carry no bias at all. If it were, then *or bad* would be superfluous in sentence 130. Similarly, if *well* were entirely unmarked then *or badly* would be superfluous in sentence 131, and if *easy* were entirely unmarked then *or difficult* would be superfluous in sentence 132.

In isolation, these sentences do question the validity of stating that one antonym is unmarked. However, further examination of corpus data shows that examples such as those above are relatively rare. For instance, 1,006 corpus sentences refer to *how good* something is, but only 13 refer to *how good or bad* something is. Therefore, fewer than 1.3% of *how-* constructions use *both good and bad*; on 98.7% of occasions, *good* is considered sufficient. Interestingly, the marked antonym is employed in 411 corpus sentences (*how bad*), but *how bad or good* occurs just once. It is difficult to imagine neutrality of scale being the objective of *how bad* constructions.

A similar pattern emerges for *well* and *badly*. 1,466 corpus sentences refer to *how well*, but only 18 refer to *how well or badly*. Therefore, it is only found necessary to append *well* with *or badly* in 1.2% of sentences. However, no similar experiment could be conducted for *easy/difficult*

*This is usually the same member which forms the corresponding noun, eg. *high* (height), *wide* (width) or *long* (length).

because sentence 132 records the only occurrence of *how easy or difficult* in the corpus. *How easy* features 384 times and *how difficult* appears 619 times.

What this indicates is that the view espoused by Palmer and others about "unmarked" antonymy is valid in about 99% of cases when neutrality of scale is to be signaled. However, as the triplet of sentences above show, writers occasionally feel it necessary to include the marked antonym because its partner is felt to still carry some degree of bias. This is perhaps analogous with the increasing popularity of the gender-neutral phrase *he or she* (or *(s)he*), which suggests that writers feel uneasy about using *he* alone when referring to unspecified individuals.

5.3.3. Other Umbrella Antonymy Frameworks

The framework *X and Y* is used in 42.6% of Umbrella Antonymy sentences and the framework *X or Y* is used in 46.3% of Umbrella Antonymy sentences. This leaves 11.1% of Umbrella Antonymy sentences which adhere to neither framework and which will be discussed in this section.

Some less typical Umbrella Antonymy contexts feature a framework such as *neither X nor Y* or *X as well as Y*; others feature more unusual frameworks which still reflect Umbrella Antonymy but do so in an idiosyncratic fashion. These will be discussed presently, but let us first account for those sentences which do not adhere to *X and/or Y* frameworks simply because they have additional lexis which complicates that construction.

133 ind894: He played numerous cameo roles both on the **large** and the **small** screen: in The Charge of the Light Brigade and Hamlet for the cinema and in Hess, Disraeli and Suez for television.

134 ind942: Only he could have said whether this amounts to a **reward** or a **punishment**.

135 ind924: George became careful about touching his daughters, both in **public** and in **private**.

136 ind901: 'I've had **difficult** matches and **easy** matches with Mats, and I think this one will be tougher than the Davis Cup,' he said.

137 ind933: You soon learn that there are **good** people and **bad** just like on the factory floor.

138 ind902: In our time people either **love** herb gardens or **hate** them.

139 ind912: It's a **strength** and, obviously, a **weakness**.

140 ind963: But it was not clear whether the ceasefire was intended to be **permanent** or merely a **temporary** measure to allow the evacuation of civilians and wounded.

141 ind914: What is needed is a system 'which leaves individuals free to **succeed** or, just as important, to **fail**'.

The sentences above are interesting because they show the ways in which writers vary antonymous frameworks for rhetorical effect. Most of these examples are notable for an absence of ellipsis. For instance, the second *the* of sentence 133 is omissible from this context. One would usually expect to read of *the large and small screen*, although preserving the idiomaticity of *the small screen* may have been a factor here. Similarly, the inclusion of a second indefinite article can complicate the antonymous phrase, as *a* does in sentence 134. Alternatively, the repetition of a preposition may lengthen the gap between antonyms; sentence 135 refers to incidents *both in public and in private* when one might have expected the first *in* to suffice.

Why writers choose to include these small words when the sentence would be no less grammatical in their absence can only be speculated about. One could argue that in sentence 134, *a punishment* is preferable to *punishment* because the latter could be read as a mass noun if one did not realise that ellipsis of the indefinite article had taken place. However, no such ambiguity could arise in sentences 133 or 135. Here, lexical efficiency seems to be compromised for stylistic effect. Perhaps, subconsciously, the writer feels that the tone units of these sentences are prosodically preferable with an additional syllable. Arguably, the extra repetition within *the large and the small screen* and *in public and in private* is more rhythmic to the ear.

Sentences 136 to 138 demonstrate the mobility of the noun-head in umbrella constructions. In sentence 136, the noun-head (*matches*) is repeated after each antonymous adjective; in sentence 137, the noun-head (*people*) occurs after the first antonym when one would expect it to occur

after the second; and in sentence 138, the noun-head (*herb gardens*) again follows antonym one, while a corresponding pronoun follows antonym two. In each of these three sentences, the standard construction would be *X or/and Y n.* Once again, intonation could be a contributing factor, though one could also argue that specifying the noun-head after the first antonym is beneficial to the reader because s/he is not kept in suspense until after the second antonym to discover what is actually being described. One might also identify a possible disambiguation function: to take sentence 137 as an example, *good and bad people* could possibly be read as meaning "people who are both good and bad" rather than "good people and bad people".

Sentences 139 to 141 are different again, illustrating that the standard frameworks for Umbrella Antonymy may be interrupted by an adverb or a similar construction. For example, *obviously* and *merely* complicate the frameworks of sentences 139 and 140 respectively, while the antonymous pair of sentence 141 is split by *just as important.* Such additions make the sentence syntactically different from the majority of umbrella sentences, but these examples are rendered no less inclusive or exhaustive for their additional vocabulary.

One might argue a case for this triplet of sentences to be classified as Ancillary Antonymy if one claimed that a second contrast arises in each. For example, in sentence 139, the two forms of the verb *to be* are different: *is* and *[is] obviously.* Likewise, in sentence 140, *to be* contrasts with *[to be] merely.* This could make the contexts analogous with sentences analysed in the previous chapter if these "contrasts" were identified as being B-pairs. However, it seems far more natural to consider these three sentences as being Umbrella Antonymy laced with modality. The modality itself does not constitute a second contrast.

5.3.3.1. neither X nor Y

The sentences above avoid using standard frameworks of Umbrella Antonymy because they shun

ellipsis and rearrange their syntactic elements. However, other non-typical Umbrella Antonymy sentences use quite different constructions. For example, 21 database examples feature the framework *neither X nor Y*, three of which are recorded below:

142 ind914: Bobby Gould, the Albion manager, would neither **confirm** nor **deny** Goodman's impending departure, saying pointedly: 'You'll have to talk to the directors about that.'

143 ind932: If a school with bad exam results says it is, nevertheless, producing fine people, we can neither **agree** nor **disagree**.

144 ind894: Thompson, in an interview on BBC Television's Sportsnight programme, says he is neither **pessimistic** nor **optimistic** about his prospects for the Games but is convinced he can still be an athletics force for the next four or five years.

Each of the above three sentences negate an antonymous pair in order to signal neutrality. As such, they are not exhaustive. Indeed, they are only inclusive in the sense that they couple together two antonyms in order to negate the pair.

Ten of the 21 *neither X nor Y* contexts retrieved feature *confirm/deny* in X and Y position. A cliche among politicians and celebrities not wishing to answer questions, this expression is approaching idiomatic status. Sentence 143 is very similar to sentence 142 in that a pair of verbs (*agree/disagree*) are negated to suggest neutrality of scale. Sentence 144 relies on an adjectival pair (*optimistic/pessimistic*) and is different from the previous pair in that it leaves some semantic space between antonyms. Whereas one cannot do much else if one neither confirms nor denies a proposition, one can be neither optimistic nor pessimistic if one is, say, realistic or resigned to the future.

Given this, one could claim that these sentences rightfully belong to the class of Extreme Antonymy* as they specify both outer ends of the scale without exhausting everything in between. However, the parallels between these examples and standard Umbrella Antonymy

*Sentences 23, 33 and 34 were offered as examples of Extreme Antonymy in Chapter Two; a more detailed discussion of this class is presented in 6.3.5.

sentences remain strong - no overt contrast is generated and the antonymous pair work in harmony to identify a given scale. Nevertheless, Extreme Antonymy is so similar to Umbrella Antonymy that it could be seen as a sub-class rather than a distinct category.

5.3.3.2. X as well as Y

The next batch of sentences illustrate another non-conventional form of Umbrella Antonymy which use the construction *X as well as Y*. Of the sentences extracted, 23 were found to belong to this sub-group.

145 ind944: A sign, perhaps, that **public** as well as **private** allegiance is transferring itself from God to Mammon.

146 ind924: It would be interesting to hear all experiences, **good** as well as **bad**.

147 ind964: Cantona postured, Chris Eubank-like, relishing the moment, and another few thousand learned to **hate** as well as **love** him.

These sentences belong to the class of Umbrella Antonymy because the phrase *as well as* acts much the same as *and*, giving the antonyms a sense of inclusiveness. As with many inclusive umbrella sentences, the antonymous pair is weighted unevenly. In the above examples, it is the first-named antonym which carries the greater weight and is presented as the 'surprise' antonym. In other words, were it not for the antonymous phrase, one might expect the *allegiance* of sentence 145 to be *private*; the *experience* of sentence 146 to be *bad*; and the feelings towards *Cantona* of sentence 147 primarily of *love*.

Similarity between these sentences and standard inclusive Umbrella Antonymy sentences (*X and Y*) is evidenced further by the fact that the antonymous phrase may pre-modify the noun-phrase (sentence 145), post-modify the noun-phrase (sentence 146), or occur in verb form (sentence 147).

5.3.3.3. Residual Umbrella Antonymy Frameworks

Only 33 sentences remain which belong to the category of Umbrella Antonymy but do not conform to any obvious syntactic pattern. Six of these anomalies are recorded below:

148 ind894: Geoffrey Dear, the Chief Constable, purged the lot - the **good** with the **bad** - and scattered them to the furthest reaches of the force's territory.

149 ind914: Of the buyout he said: 'We may **succeed**, we may **fail** - but we will at least give it a whirl.'

150 ind893: Anyone - **male, female, old, young**, 'civilised', 'primitive' - can become de-individuated.

151 ind953: The dark was nurturing; it was where, in church, I was connected to everyone else: **living, dead**, present or not, mentally disturbed, outcast, **old, young, poor, rich**, intelligent, of the establishment, or criminal - in fact, everyone gathered around that table.

152 ind932: Paramount, he claims, must know it goes on ('They don't **encourage** it, but they don't **discourage** it either.')

153 ind933: If it's **wet** we can play it up front, if it's **dry** we can play it up front, if it's wet we can play it wide and if it's **dry** we can play it wide.

The sentences above show ways in which antonymy can be used in an umbrella fashion without making use of traditional frameworks associated with this category. For example, sentence 148 features the structure *the X with the Y*. This is comparable with *X as well as Y* in that the X-position antonym is presented as the "surprise antonym"* and is clearly inclusive (as one would expect of any phrase post-modifying *the lot*). Sentence 149 is notable for an absence of of a conjunct between the clauses *we may succeed* and *we may fail*. This prevents the ellipsis one would usually expect in such a context. The 'missing' conjunct is *or* which makes this sentence similar to exhaustive umbrella examples; its omission is licensed by the repetition of the two parallel clauses. Ellipsis is also evident in sentence 150 where two established antonymous pairs (*male/female* and *old/young*) and one less enshrined pair of opposites (*civilised/primitive*) are listed as post-modification of *anyone*. Once again, these antonyms are acting exhaustively, representing the entire range of their given scales, namely gender (a two-point scale) and age (a many-point scale). Sentence 151 is similar, but makes use of an even longer list. The antonymous pairs

*One would expect *the bad* to be "purged", but not *the good*.

living/dead, *old/young* and *poor/rich* occur in this list, as do terms representing other groups of people. An interesting umbrella function is served here by the phrase *present or not.* In such constructions, *not* substitutes for an antonym and generates a very strong sense of exhaustiveness. Sentence 152 is a good example of *but* functioning non-contrastively. This example is reminiscent of *neither X nor Y* sentences in that both antonyms are negated, but here *they don't encourage it* and *they don't discourage it* are conjoined by *but* where one might expect *and.*

Finally, sentence 153 is arguably the most complete example of Umbrella Antonymy retrieved. Without conforming to any typical syntactic patterns, *wet* and *dry* function exhaustively on two separate occasions. Firstly, they signal that weather conditions are irrelevant in determining whether or not they can *play it up front*; then they signal that weather conditions are irrelevant in determining whether or not they can *play it wide.* This sentence, like many unconventional Umbrella Antonymy examples, is complicated by a want of ellipsis. With the compression one would normally expect, sentence 153 might well read: *wet or dry, we can play it up front; wet or dry, we can play it wide**. Thus, the frameworks of some umbrella antonyms sentences may be less typical than others, but their function is almost entirely the same - to signal exhaustiveness or inclusiveness of scale.

Having examined all of the major frameworks which house Umbrella Antonymy (and a number of minor frameworks), I shall now focus briefly on the lexical signals of this category. The productivity of frameworks associated with antonymy will be investigated fully in Chapter Ten, but Umbrella Antonymy is important in this respect because its signals are among the most robust of any category.

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*Or even: *wet or dry, we can play it up front or wide.*

5.4. Productive Signals of Umbrella Antonymy

Umbrella antonyms are relatively stable in the nature of their syntactic co-occurrence. Of the 1,151 Umbrella Antonymy sentences retrieved, 88.9% are positioned two words away from one another in text and conjoined by either *and* or *or*. The majority of these sentences simply refer to *X or Y* or *X and Y*, but others use nearby lexis as signals. These frameworks (and their corresponding frequency in the sample) are listed below, together with an illustrative example:

both X and Y (77)

ind884: And this good practice can be employed in respect of **both listed and unlisted** properties.

either X or Y (31)

ind923: Was the course of justice perverted, **either consciously or unconsciously**, by the damage limitation exercise Nat West put in train in the wake of the affair?

neither X nor Y (21)

ind911: Mr Pierson said he was **'neither optimistic nor pessimistic'** about reaching agreements.

whether X or Y (17)

ind924: About 52 per cent of women in the UK are economically active - meaning they are considered to be part of the working population, **whether employed or unemployed**.

how X or Y (10)

ind904: It is **how well or badly** a person plays a game, runs a race, or rides a horse that matters most.

X and Y alike (9)

ind921: These qualities all made him sought after by **young and old alike**.

The most reliable signal of Umbrella Antonymy is *both*, which immediately premodifies *X and Y* in one fifteenth of Umbrella Antonymy sentences sampled. The framework *either X or Y* arises on 31 occasions in the sample, accounting for 2.7% of all umbrella sentences; *neither X nor Y* is employed in a further 1.8% of sentences, while *whether X or Y, how X or Y* and *X and Y alike* each account for about 1% of all sentences in this category. The last-mentioned of these frameworks is the only one which shows a strong bias towards particular antonymous pairs - of the nine *X and Y alike* sentences retrieved, six feature *old/young* and three feature *gay/straight*.

Though these figures may initially seem small, the six frameworks above feature collectively in nearly 15% of all Umbrella Antonymy sentences, suggesting that the signals identified (*both, either, neither, whether, how* and *alike*) are very significant markers of antonymy on text.

5.5. Summary of Chapter Five

This chapter has analysed the phenomenon of Umbrella Antonymy. Sentences classified in this way feature antonyms which function in an encompassing sense, to signal inclusiveness or exhaustiveness of scale. All 56 word-pairs studied function in this way at least once in the sample; on average, pairs function this way in about 38% of contexts; some pairs (*confirm/deny* and *disprove/prove*) function this way exclusively in the sample. Umbrella antonyms are almost always conjoined by *and* or *or*, although exceptions to this rule are discussed in 5.4.1. Indeed, the lexical environment of Umbrella Antonymy is the most regular of any category. Six productive frameworks have been identified; the fertility of a couple of these constructions in retrieving contrast terms will be examined in Chapter Ten.

So, whereas Chapter Four demonstrated that Ancillary Antonymy sentences exploit the contrastive power of antonyms to the full, this chapter has shown that the contrastive power of antonyms in umbrella contexts is untapped. The next chapter of this thesis will examine the 23% of sentences which have not been classified in terms of either Ancillary or Umbrella Antonymy.

Chapter Six:
Minor Classes of Antonymy

6. Minor Classes of Antonymy

6.1. Introduction

The previous two chapters have dealt with the most common functions of antonymy in text, namely to assign additional contrastive value to a nearby pair of words or phrases (Ancillary Antonymy) and to signal exhaustiveness or inclusiveness of scale (Umbrella Antonymy). Over 77% of all database sentences which feature antonymy fall into one or other of these two categories. This chapter will discuss the minority of antonyms which are neither umbrella nor ancillary.

6.2. Frequency of Minor Classes

Eight minor classes of antonymy were identified in Chapter Two of this thesis. These are recorded in the table below, together with their corresponding frequency in the database.

	class	freq
1	Comparative Antonymy	205
2	Distinguished Antonymy	161
3	Transitional Antonymy	90
4	Oppositional Antonymy	62
5	Extreme Antonymy	40
6	Idiomatic Antonymy	23
7	Conflicting Antonymy	22
8	Virgule Antonymy	19
	Residual Classes	*65*
		687

Table Six: Frequency of Minor Classes

Table Six shows that the distribution of sentences among minor classes of antonymy is not uniform. The largest of the minor categories of antonymy is Comparative Antonymy, to which 205 database sentences have been assigned. Distinguished Antonymy accounts for a further 161

sentences, but no other class contains more than 100 sentences. In other words, most of the classes which will be discussed in this chapter are, in relative terms, very small. Only 65 database sentences could not be attributed to any of the ten categories identified. These residual examples will be discussed towards the end of this chapter.

Therefore, although antonymy functions in many different ways, it can be seen to show a strong tendency to favour a small number of patterns in text. This fact is reflected by one final statistic: almost 90% of all instances of antonymy sampled belong to one of four categories - Umbrella, Ancillary, Comparative and Distinguished Antonymy.

This chapter will now present a taxonomy of minor classes. Although the size of these classes is small, it is interesting to explore the ways in which antonymy functions at lower levels of frequency. Each category will be defined, exemplified and discussed with a view to determining what antonymy actually does in text when not serving an ancillary or umbrella function.

6.3. A Taxonomy of Minor Classes

The eight named categories of antonymy recorded in Table Six will now be investigated in order of their size. This will be followed by an analysis of some residual sentences which could not be allocated to any class.

6.3.1. Comparative Antonymy

Definition:	The co-occurrence of an antonymous pair within a framework which places those words in a comparative context or measures one antonym against the other.
Typical Frameworks:	*more X than Y* *X is more [adj] than Y* *X rather than Y*

Approximately 6.8% of database sentences have been classified in terms of Comparative Antonymy. This infrequency is perhaps surprising because the measuring of one antonym against another is among the functions one might intuitively assign to antonymy. Below are six sentences which epitomise this category. Though diverse in terms of syntax, each example succeeds in using antonymy to create a textual comparison.

154 ind931: However, **light** crude is more easily broken down than **heavy** crude from the Middle East, making it less damaging environmentally.

155 ind952: The question is perhaps easier to answer for the **long** term than the **short**.

156 ind954: Sometimes I feel more **masculine** than **feminine** and I don't like it.

157 ind891: Mr Shevardnadze stressed that work for **peace** rather than **war** should prevail.

158 ind941: It seems that where **gay** relationships are successful, they are being even more successful than **straight** ones, because people have to work so much harder on what relationships are about.

159 ind903: It applies to shareholdings in **large** companies just as much as it does to those in **small** ones.

The first triplet of examples feature comparisons typical of those assigned to this class: in sentence 154, *light crude* is compared to *heavy crude* in terms of the ease with which it may be broken down; sentence 155 compares *the long term* to *the short*, in terms of answering a given question; and sentence 156 describes somebody as feeling *more masculine than feminine*.

The second triplet of sentences are slightly different: sentence 157 uses the formula *X rather than Y* in its comparison of *peace* and *war*; sentence 158 compares *gay relationships* to *straight ones*, introducing a pronoun (*they*) in the place of the former; and sentence 159 is unusual in that, unlike the previous five, it does not give priority to one antonym over the other. Rather, *large companies* and *small ones* are compared, but presented as being equal.

The subtle differences arising between instances of Comparative Antonymy (such as those intimated above) will now be described in closer detail. Based on some of those distinctions, this class can be broken down further into four sub-classes. Firstly, Direct Comparison describes

contexts in which something is described as containing *more X than Y*. This is exemplified by sentence 156. Secondly, Indirect Comparison describes contexts in which two antonymous concepts are compared with one another in terms of another scale. This is exemplified by sentence 154 in which *light crude* and *heavy crude* are compared to one another along the scale of how easily they may be broken down. Thirdly, Preferential Comparison refers to a framework such as *X rather than Y* in which one antonym is given preference over the other. This is exemplified by sentence 157. Finally, Equal Comparison describes situations in which two antonymous concepts are compared with one another, but no difference found. This is exemplified by sentence 159, although it should be noted that Equal Comparison is essentially a sub-class of Direct and Indirect Comparison.

6.3.1.1. Direct Comparison

Each of the sentences below conform to the pattern *more X than Y*. This is used to identify a point on a semantic scale which adequately describes the noun-phrase in question.

160 ind884: Although one has to be more **pessimistic** than **optimistic** in the Third World when it comes to liberation movements and democracy, it is hard not to notice some special characteristics of the Palestinian revolution in general and the PLO in particular.

161 ind923: 'Well,' said Cage, completely unabashed, 'some living composers are more **dead** than **alive**'.

162 ind891: And it is possible to accept both that Dr Higgs was a lot more **right** than **wrong** in her diagnoses, but that it is now impossible for her to return.

In sentence 160, *pessimistic* is compared to *optimistic* and given precedence. Similarly, sentence 161 gives precedence to *dead* over *alive* and sentence 162 to *right* over *wrong*. When antonymy is presented in this way, the antonyms are brought closer together on their given semantic scale. The framework suggests that identifying the correct point on a given semantic scale is difficult and that the decision to favour one antonym over the other is marginal. Thus, one cannot be entirely *pessimistic* over the Third World, but one should be *more pessimistic than optimistic*. Sentence 161 is particularly unusual in that *dead* and *alive* are traditionally classified as non-gradable

antonyms, a definition which the comparative nature of sentence 160 appears to over-ride.

So, the sentences above feature a direct comparison between antonyms. In each example, a concept is described as being *more X than Y* to give greater precision to its description. The next section discusses a use of Comparative Antonymy which is subtly different.

6.3.1.2. Indirect Comparison

Instead of comparing antonym directly with antonym, the sentences below compare antonyms against a separate, specified scale. This makes their archetypal framework something like *X is more [adj] than Y.*

163 ind903: Training would be based upon rewarding good behaviour, because behaviourists, Skinner argued, had found that **reward** is more effective than **punishment.**

164 ind904: The **new** bills are more colourful than the **old** ones, with designs in green, yellow, blue, orange, red and blue instead of just green and brown.

165 ind953: There is also a clear Third World parallel with Dr Kathleen Kiernan's finding that girls who do **badly** at school are four times more likely to become teenage mothers than those who do **well.**

Sentences 163 compares *reward* to *punishment*, but does so in terms of their *effectiveness*. This makes the comparison less direct than those in sentences 160 to 162, and this is reflected by the grammatical structure of sentence 163 - the antonymous pair are pushed further apart and interrupted by an adjective (*effective*). The adjective of sentence 164 is *colourful* which provides a scale against which *new bills* can be compared to *old ones*. Sentence 165 is different in that it specifies the exact proportion of teenage mothers *who do badly at school* relative to the number *who do well* (4:1 in favour of the former).

The majority of Comparative Antonymy sentences discussed thus far have contained *more* and *than*. These are good signals of Comparative Antonymy, but it should be noted that not all such sentences feature these two words. For example, none of the three sentences below contain *more*

because the comparative form of the adjective is used. This transformation does not affect meaning, but alters the syntactic framework of each context.

166 ind892: But the Labour idea that income tax hits the **rich** harder than the **poor** is also . . . wrong.

167 ind884: Strangely, it is easier to **agree** with Mrs Thatcher than to **disagree** with her, such is her domination of the political agenda.

168 ind963: The Alternative Investment Market index, a realistic indicator of small company performance, is nearer its year's **high** than **low**.

The adjective in each of the above sentences takes an *-er* suffix to reflect its comparative form (*nearer, harder, easier*). This makes *more* redundant because *Xer* is semantically equivalent to *more X*. However, it does not affect the status of the sentence as Comparative Antonymy. Despite using different frameworks, the sentences above all involve an indirect contrast, namely between *rich* and *poor* in terms of the hardness with which income tax hits; between *agree* and *disagree* in terms of the ease with which one relates to Mrs Thatcher; and between *high* than *low* in terms of the nearness to the AIM index. *Rich/poor* and *high/low*, it might be noted, themselves function as nominalised adjectives in the sentences above.

6.3.1.3. Preferential Comparison

Like the previous triplet, the sentences below also fail to include *more*. This is because they adhere to an *X rather than Y* structure, effectively stating a preference for one antonym over the other.

169 ind941: Superficially, her work for Vanity Fair was a departure from her days on Rolling Stone - colour supplants monochrome, people become **active** rather than **passive** adjuncts - but underneath (and this is what Conde Naste was counting on) the message was the same.

170 ind952: Wanting to be **happy** rather than **sad**, I accepted - then realised I had nothing to wear.

171 ind951: If it has, you will be forced to dig a hole in rock-hard ground and plant the thing, where it will die **slowly** rather than **quickly**.

One could interpret these sentences from two distinct semantic angles. Firstly, one could consider

the framework *X rather than Y* as being similar to a framework such as *X as opposed to Y* or *X not Y**, arguing that the *rather than Y* part of this structure is simply included to reinforce X by negating its antonym. This position is supported by the "removability" of *rather than Y* in each of the above sentences. For example, sentence 169 could simply refer to *active adjuncts*; the addition of *rather than passive* could be interpreted as a strategy to augment *active* in the same way that one might have selected *as opposed to passive* or *not passive*. This suggests that such examples would be better treated as Oppositional Antonymy sentences.

However, this analysis overlooks other aspects of the semantics of *X rather than Y*. I would argue that this framework is not synonymous with *X as opposed to Y* or *X not Y*. It is similar in that it signals a distinction which has been made between X and Y, but this distinction seems more subtle in the case of the former. *X rather than Y* still seems to reflect some element of comparison, especially when considered in its literal sense. It also features *than*, the most reliable lexical signal of Comparative Antonymy. Arguably, this makes it more analogous with sentences belonging to this category than sentences belonging to the category of Oppositional Antonymy. The *rather than* part of the sentence is not there to make the opposition more extreme, but to highlight that a choice between antonyms has been necessary.

6.3.1.4. Equal Comparison

The final sub-class of Comparative Antonymy features sentences in which antonym is compared with antonym, but no obvious distinction is made between the two by the text.

172 ind902: However, the **educated** are just as likely to sanction discrimination in the workplace and social life as the **uneducated.**

173 ind941: All fat, **unsaturated** no less than **saturated**, is fattening.

174 ind891: The Lord Chancellor, who is responsible for legal aid, is introducing a rule that **unmarried** couples living together should be treated for financial assessment purposes in the same way as **married** couples.

*See 6.3.4. for a discussion of Oppositional Antonymy.

Sentence 172 indirectly compares *the educated* to *the uneducated* in terms of their likelihood to sanction discrimination. However, the former is deemed to be *just as likely* as the latter. This is clearly a comparison, even though it is a comparison which yields no distinction. Yet this is not to imply that the two antonyms are presented in perfect equilibrium. This sentence trades on our expectation of inequality. As readers, we expect *the educated* to be less likely to sanction discrimination than *the uneducated*; the truth (as it is presented) comes as a shock*. This is perhaps why the writer chooses to present these antonyms within a Comparative Antonymy framework rather than an Umbrella Antonymy framework (eg. *both the educated and the uneducated sanction discrimination...*). Indeed, the above triplet of sentences nudge towards the category of *Umbrella* Antonymy, especially if one considers how subtle the difference is between *saturated no less than unsaturated* and *both saturated and unsaturated.* Here, *unsaturated fat* is said to be *no less ... fattening* than *saturated.* Our expectation is that the former would be less fattening than the latter. To reflect this, the sentence presents the antonyms as equals, but does so in a comparative context which signals that such equality is unexpected. Sentence 174 is not so blatant in defying our expectations (though the fact that a new rule is being introduced means that an inequality has previously existed), but *unmarried* and *married* are also presented in a comparative context.

6.3.1.5. Summary of Comparative Antonymy

This concludes the analysis of Comparative Antonymy, the third largest category of antonymy. It is best defined as a phenomenon in which one antonym is gauged against the other, usually to illustrate dissimilitude, occasionally to express similitude. The most common signals of Comparative Antonymy are *more* and (especially) *than.* However, these words are syntactically variable and can fill any of a number of positions in a Comparative Antonymy sentence.

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*The phenomenon of the "surprise antonym" can also be seen in Umbrella Antonymy examples (see 5.3.1).

It has been shown that Comparative Antonymy can be broken down into four groups. Direct Comparison refers to the straight-forward balancing of one antonym against another. This usually follows the pattern *more X than Y* and functions as a strategy to signal that the precise point on the scale is difficult to pinpoint and is best described in terms of being closer to one end of the antonymous scale than to the other. Indirect Comparison takes a pair of antonymous concepts and compares them against one another along another, distinct scale. Kipling's assertion that "the female of the species is more deadly than the male" is a well-known example*. Preferential Comparison deals primarily with sentences which make use of an *X rather than Y* construction. Such contexts could be interpreted in more than one way, but I have chosen to focus on the fact that, when taken literally at least, a comparison is made between two antonyms and preference is given to X. Finally, Equal Comparison describes an interesting sub-set of sentences which compare two antonymous concepts and conclude that they are equal. Such sentences properly belong to the category of Comparative Antonymy because distinction is not a prerequisite of comparison; things compared are often found to be equal. Data suggest that the hidden point of such contexts is to signal that one antonym is the "surprise antonym".

6.3.2. Distinguished Antonymy

Definition:	The co-occurrence of an antonymous pair within a framework which alludes to the inherent semantic dissimilarity of those words.
Typical Frameworks:	*the difference between X and Y* *a gulf between X and Y*

Approximately 5.4% of database sentences have been classified in terms of Distinguished Antonymy, making it the fourth largest category. Sentences belonging to this category refer to a textual distinction between antonyms. However, the writer's intention is not to signal that a

*Although the couple of database sentences which quote this have been classified in terms of Idiomatic Antonymy.

distinction is present, but to use this distinction as part of a larger statement. Thus, antonyms act as parameters of a difference or gap, and it is this difference or gap which is the focus of the context. This can be done in one of two ways: either the distinction can be metalinguistic or the distinction can be metaphoric. These sub-classes will now be defined and exemplified.

6.3.2.1. Metalinguistic Distinction

The following six examples show Distinguished Antonymy sentences which allude to the semantic difference between an antonymous pair. This is metalinguistic because the writer is exploiting our familiarity with the dissimilarity of antonyms as part of a more general statement.

175 ind892: But far from that, Mortimer's father had not given him even a basic moral education, such that today he still doesn't know the difference between **right** and **wrong**, or so he said.

176 ind931: But it made the point that the division between **gay** and **straight** is one of many rifts in our society.

177 ind892: Scientists admit that the discrepancies between **male** and **female** brains may be less important than education and experience.

178 ind931: However, British Petroleum welcomed the increase in the differential between **leaded** and **unleaded** fuel.

179 ind913: This blurred distinction between **fact** and **fiction** has long undermined the credibility of ichnology - the study of tracks and traces left behind by extinct animals.

180 ind964: Indeed the difference on grain imports between **fast** and **slow** economic growth is greater than the difference between **fast** and **slow** population growth.

Each of the above sentences employ a *NP between X and Y* framework where the noun-head is *difference* or a synonym thereof. For example, sentence 175 refers to *the difference between right and wrong*; sentence 176 to *the division between gay and straight*; and sentence 177 to *the discrepancies between male and female brains*. It would appear quite common for writers to allude to the semantic difference between antonyms in the mental lexicon and, as such, antonyms are often employed to mark the boundaries of this difference.

Sentences 178 to 180 exemplify this phenomenon further. The corresponding noun of sentence 178 is *differential*, which allows the difference between *leaded and unleaded fuel* to be discussed.

Sentence 179 is slightly irregular in that it refers to a *blurred distinction.* However, it is still a distinction (blurred or otherwise) which acts as the head of the NP and describes the inherent semantic gap between *fact* and *fiction.*

Sentence 180 may initially seem to be a more complex example, but it firmly belongs in the category of Distinguished Antonymy. The example is unusual because it refers to a distinction between the antonymous pair *fast* and *slow* on two separate occasions: firstly when they premodify *economic growth*; secondly when they premodify *population growth.* These two differences, when applied to grain imports, are presented in comparison to one another, the former being greater than the latter, according to the text. The major contrast of this sentence is actually between *economic* and *population*, as these are the variable lexical items amid constant lexical items (*the difference [on grain imports] between fast and slow X growth*). The repetition present in this sentence is reminiscent of the combination of constant and variable often found in Ancillary Antonymy examples (see 4.3.3.1. for a discussion of parallelism); the difference being that here antonymy is used to cement the "given" information rather than signal the "new". However, the primary function served by *fast* and *slow* in this sentence is to distinguish between growth-speed. It is coincidental that the antonymous pair also help to establish a greater contextual parallelism in the sentence.

Though sentences 175 to 180 are metalinguistic in the sense that an overt distinction between antonyms is referred to, it is important to remember that the focus of these examples is always on the *difference* arising between antonyms, not on the antonyms themselves. For example, sentence 175 is not concerned with telling us that *right* and *wrong* are semantically distinct - this information is treated as "given" by the text - its aim is to discuss this distinction in terms of how well (or badly) it is understood by a given person. Similarly, the communicative purpose of sentence 176 is not to signal that *gay* and *straight* are different, but to make the point that this difference is *one*

of many rifts in our society.*

A possible exception to this is sentence 177, which discusses *discrepancies between male and female brains*. This distinction is not necessarily "given" information, even though it is presented as such. Many readers would not be aware of such *discrepancies* (although alluding to discrepancies between male and female would be perfectly acceptable).

All of the Distinguished Antonymy sentences presented so far have adhered to the framework *NP between X and Y* where X and Y are noun phrases which incorporate antonyms. However, the distinction between antonyms need not always be preceded by a noun phrase; the examples below show a verb phrase dissecting the antonymous pair.

181 ind884: Mr Craxi's fresh-faced deputy, Claudio Martelli, also dissented, saying that 'one must distinguish between **hard** and **soft** drugs'.

182 ind952: The forces must no longer discriminate between **married** and **unmarried** partners, the report says.

183 ind912: 'We felt we needed to differentiate between **temporary** and **permanent** diminutions,' said John Parry, Hammerson's managing director.

184 ind943: The wonderful thing about Grenville's work is that although so many of her underlying concerns - about the victimisation of women, the tragic effects of abuse, the problems produced by separating out our **masculine** and **feminine** instincts - are straightforward and almost didactic, the pull of her work is truly fictional.

185 ind893: Unless they become cleaner, safer and more attractive, they will spiral into a destructive decline, with their contracting populations increasingly polarised between **rich** and **poor**.

186 ind932: She explains how patients are assessed by the triage nurse (tonight, Linsey), and prioritised into **major** and **minor**.

Sentence 181 is similar to other Distinguished Antonymy examples in that a distinction is made between two noun-phrases (*hard [drugs]* and *soft drugs*). The only difference is that here, instead of a noun-phrase before the preposition *between*, we encounter a verb-phrase, namely *must distinguish*.

**Rift* can be seen as being roughly synonymous with *distinction*, but perhaps suggests that the division is more recent or unexpected as *rift* often collocates with terms such as *family* or *cabinet* (in the political sense).

This sentence is also interesting because it confirms that Distinguished Antonymy sentences present their antonymous pairs as co-hyponyms. In this context (and others), *hard* and *soft* act as hyponyms of the superordinate term *drugs*. The rest of the sentence talks about distinguishing between them, but that in itself affirms their similarity. The fact that *hard and soft drugs* require separation suggests that they are contextual co-hyponyms. In other words, as ancillary antonyms were shown to increase the contrastive power of their corresponding B-pair in the last chapter, here we see antonyms being decontrasted and treated as co-hyponyms.

The verb-phrase in sentence 182 is *discriminate*, which is used to distinguish between *married [partners]* and *unmarried partners*. In sentence 183, *differentiate* precedes *temporary [diminutions]* and *permanent diminutions*. Whereas the distinction of earlier sentences was part of a larger noun-phrase (indeed, antonymy was little more than post-modification in many examples), here, more focus is placed on the distinction between antonyms. Sentences 184 to 186 are similar but use different verbs to differentiate between antonyms: sentence 184 refers to *separating out* masculine and feminine instincts; sentence 185 tells how people are *polarised* between rich and poor; and sentence 186 how people are *prioritised* into major and minor.

These examples are lexically and grammatically different from the first Distinguished Antonymy sentences examined, but they remain metalinguistic because they refer to the same linguistic phenomenon - the semantic difference between antonyms. This difference is also reflected in sentences sub-classified as Metaphoric Distinction, but the examples analysed below all rely on some kind of metaphor to signal dissimilarity.

6.3.2.2. Metaphoric Distinction

An interesting variation on the examples above occurs when the "d-word" (*distinction, division, difference*, etc) of each sentence is replaced by a metaphor. The examples below are syntactically

similar to archetypal instances of Distinguished Antonymy, but signal their distinction through metaphor, where the majority of such examples do not.

187 ind884: However, the most visionary parts of his speech concerned the very future of the planet at this 'crucial phase in our history', endangered according to the Soviet leader by growing tensions in the third world, mounting damage to the environment, and an ever-widening gulf between **rich** and **poor** nations.

188 ind954: However, critics say the league tables encourage schools to concentrate on getting the maximum number of pupils through five GCSEs at top grades and are increasing polarisation, with a widening gap between pupils who do **well** and those who do **badly**.

189 ind903: Sir John criticised Mr Sykes for failing to keep 'a clear distance between his **public** and **private** activities' and for 'pressing too hard' for the appointment of a particular consultant.

190 ind893: Mozart's Symphony No 40 and Coronation Mass framed performances of Berg's Violin Concerto and Webern's Second Cantata, reinforcing the feeling of an unbroken tradition and overriding all barriers between **old** and **new**.

191 ind932: You'll struggle to find a better delineation of the no man's land between **love** and **hate**, especially one in which both protagonists reek of skunk oil extract.

192 ind903: The key is that a homeowner would need to show that a new mortgage was no larger than needed to bridge the gap between the price of the **new** and **old** house.

The use of metaphor in the above examples can be seen when the difference between *rich [nations]* and *poor nations* in sentence 187 is said to be *an ever-widening gulf.* Indeed, spatial metaphors are the most commonly used metaphors in contexts such as those above. For example, sentence 188 refers to a *widening gap* between *pupils who do well* and *[pupils] who do badly* and sentence 189 describes the differential between *public [activities]* and *private activities* as *a clear distance.* Sentence 190's metaphor is also spatial, but refers not to an empty space so much as a physical object, a *barrier* between *old* and *new.* Sentence 191 extends the metaphor principle further by describing the semantic space between *love* and *hate* as a *no man's land.* These examples show that the metaphors chosen to describe the difference between antonyms are various and often innovative. Finally, sentence 192 initially seems analogous with sentence 187 in that a *gap* between two noun phrases is mentioned. However, closer inspection reveals that this *gap* is not between the *new [house]* and the *old house*, but rather between the (presumably) *high* and *low* prices of these houses respectively.

The examples above are reminiscent of metalinguistic Distinguished Antonymy sentences in many respects. However, it is interesting to note that about one third of all database contexts which allude to the semantic difference between antonyms use metaphor to signal this distinction.

6.3.2.3. Summary of Distinguished Antonymy

In conclusion, the category of Distinguished Antonymy is home to those sentences which refer to a distinction between a pair of noun-phrases which feature antonyms. In the majority of examples, this distinction becomes part of a larger noun-phrase which is used as either subject or object in the clause. In other words, the antonymous distinction is not the primary focus of the sentence. However, in a minority of examples, a verb-phrase is used to distinguish between antonyms. This usually entails that the distinction itself will become the primary focus of the sentence. Occasionally, this distinction is not signalled by a "d-word" such as *difference, division* or *discrepancy*, but by a metaphor such as *gap* or *gulf*. The effect of this is no different to that of metalinguistic examples - it allows the semantics of those words to be incorporated into a larger statement.

Chapter Ten of this thesis will investigate the productivity of various frameworks associated with antonymy, but it should be noted that Distinguished Antonymy is heavily marked by the preposition *between*. The next minor category of antonymy to be examined is Transitional Antonymy.

6.3.3. Transitional Antonymy

Definition:	The co-occurrence of an antonymous pair within a framework that expresses a movement or change from one location or state to another.
Typical Frameworks:	*changing from X to Y* *turning X into Y* *X is giving way to Y*

Of the 3,000 database sentences analysed, exactly 3% belong to the category of Transitional Antonymy. Such sentences involve a movement from one antonymous concept to another. This is expressed by a limited number of syntactic frameworks, the commonest of which is *from X to Y.* This framework will be analysed first, followed by *turning X to Y* and, finally, *X gives way to Y.* These are prototypical constructions only - many sentences do not adhere to these frameworks exactly, but customise them as their context requires.

6.3.3.1. from X to Y

The triplet of sentences below each feature the framework *from X to Y. This reflects some kind of* change from one antonymous state to another. A metaphor is employed in each example to describe this journey or movement.

193 ind923: Her film career similarly has lurched from **success** to **failure**, with enormous periods out of work.

194 ind934: The atmosphere of the negotiations was tense, discussion uneven, the mood in both camps swung from **optimism** to **pessimism.**

195 ind952: To this day I have no problem crossing the boundary from **straight** to **gay** people, because I have a gay father.

In sentence 193, *her film career* moves from *success* to *failure.* The verb of transition which signals this movement is *lurched.* The corresponding verb of sentence 194 is *swung*. This describes the movement of *the mood in both camps* from *optimism* to *pessimism.* In both of these examples, one feels that the *lurch* and *swing* could also take place in reverse, enabling a transition *from Y to X.* Sentence 195 differs only in that its antonymous pair are not clinal, but, rather, make use of a physical metaphor (*boundary*) to express the nature of the transition from *straight [people]* to *gay people.*

The triplet of sentences above each show Transitional Antonymy sentences adhering strictly to a *from X to Y* framework. However, transitional antonyms do not always occur in such tidy syntactic patterns and the following triplet of sentences show how the construction *from X to Y* may vary

in text.

196 ind923: Inflation is a tax which redistributes wealth to the **sophisticated** from the **unsophisticated.**

197 ind891: As the developing countries' debt topped dollars 1,000 bn, interest rates rose, and funds continued to be transferred from the **poor** world to the **rich,** most commodities enjoyed a bonanza.

198 ind901: A smaller 'displacer' piston then moves the gas from the **hot** part of the cylinder to the **cold,** causing it to contract.

Semantically, the examples above are very similar to those analysed previously. They describe a movement from one noun-phrase to another*. The only difference is that the sentences above follow a more complex structure, the archetypal framework *from X to Y* being complicated by additional noun-phrase lexis. Definite articles appear, ellipsis is not always employed and longer noun-phrases are used.

For example, sentence 196 uses the verb of transition *redistributes* to speak about a movement of wealth from *the unsophisticated* to *the sophisticated.* The definite article in each of these noun-phrases complicates the framework, and it is also interesting to note that the usual word order is here reversed. This sentence describes a movement *to the Y from the X* when one would expect the transition to be expressed more congruently by *from the X to the Y.* Sentence 197 also uses definite articles when referring to *the poor world* and *the rich.* This example is marked because *world* appears after antonym one. One usually finds ellipsis in this syntactic slot and the noun-head instead placed after antonym two (sentence 192 being an example of this), but this may have rendered *the poor* ambiguous, creating a confusion between poor people in general and the *poor world.* The noun-phrase of sentence 198 is even larger. Here, *gas* is moved from *the hot part of the cylinder* to *the cold.* This creates a distance of six words between antonyms, but the transition in question is fundamentally similar to those of sentences 193 to 195.

**The sophisticated* and *the unsophisticated* are here treated as noun-phrases though the noun-head of each is actually adjectival.

6.3.3.2. turning X to Y

Although sentences 196 to 198 illustrates that Transitional Antonymy sentences need not always follow a rigid *from X to Y* structure, every example of this class recorded so far has featured the words *to* and *from*. The following sentences belong to this category but do not feature both of those lexical signals.

199 ind954: Just as the Princess has grown, turning **weakness** to **strength**, so, surely must this country's economy continue to grow.

200 ind954: There he was, on the trail of the world's most ruthless terrorist, when slices of his own **fiction** started turning into **fact** before his very eyes.

201 ind934: Even **hard** currency has turned **soft**.

The examples above all employ a form of the verb *to turn*: sentence 199 features *turning* as a non-finite verb which signals the transition from *weakness* to *strength*; sentence 200 describes how fiction *started turning into* fact; and sentence 201 uses the present perfective form of the verb to note that hard currency *has turned* soft.

This final example is interesting in that it essentially puns on its antonymous pair. Neither *hard* nor *soft* are used in a literal sense here - the *hard* of *hard currency* refers to cash and the idiom *turned soft* suggests that weakness has been shown. However, the collocation of these two antonyms is far from coincidental. The writer is contrasting *hard* and *soft* in their common, antonymous sense even though both terms are here applied metaphorically.

6.3.3.3. X gives way to Y

The final framework used in Transitional Antonymy sentences involves the verb of transition *to give way*. Three examples of antonyms being linked by this phrase are recorded below.

202 ind932: It predicts that companies will try to keep themselves leaner and fitter, even when **recession** gives way to **boom**.

203 ind884: Economic **optimism** has given way to economic **pessimism** since the great tax-cutting Budget in March.

204 ind904: I joined Vogue at just the moment when the **old** guard was giving way to the **new**.

Like all sentences belonging to category of Transitional Antonymy, the examples above describes a movement between a pair of noun-phrases, each of which feature an antonym. However, unlike the majority of Transitional Antonymy sentences, here, one noun-phrase is said to *give way* to the other. For example, in sentence 202, *recession* and *boom* are placed in succession as the former *gives way* to the latter. In sentence 203, the verb-phrase takes the perfective aspect as *optimism* and *pessimism* (both premodified by *economic*) are presented sequentially. Finally, *gives way* takes progressive aspect in sentence 204 as *the old guard* is followed by *the new*. Therefore, all sentences can be said to feature two antonymous concepts conjoined by a verb-phrase reflecting transition, in this case *gives way to*.

6.3.3.4. Summary of Transitional Antonymy

The function of antonymy in each of the sentences considered above is to express the starting point and finishing point of a change. Often, the metaphor of journey will be used to express this movement. The most common frameworks of Transitional Antonymy is *from X to Y*, which describes a change from one state to another, as in the expression *from rags to riches*. Other frameworks include *turning X to Y* and *X gives way to Y*, each of which also describe a transition.

6.3.4. Oppositional Antonymy

Definition:	The co-occurrence of an antonymous pair within a framework that negates one antonym as a device to augment the other.
Typical Frameworks:	*X, not Y* *X instead of Y* *X as opposed to Y*

Only 2% of the sentences sampled fall into this category. This is perhaps surprising because Oppositional Antonymy is arguably the "purest" form of antonymy, given that its primary function is to generate a sharper contrast between the two words. The classic framework for Oppositional Antonymy sentences is *X not Y*, which will be discussed presently. However, it is possible to record antonyms in different frameworks and generate a similar effect. Other Oppositional Antonymy frameworks will also be analysed in this section.

6.3.4.1. X not Y

The standard framework of Oppositional Antonymy is *X not Y* and this can be seen at work in the sentences below. The first triplet show antonymous nouns in X-position and Y-position; the second triplet of sentences show adjectives, adverbs and verbs filling these positions also.

205 ind901: In my opinion, the public has cause for **pessimism**, not **optimism**, about the Government's plans for a radical reorganisation of arts funding.

206 ind884: Well, without the combination of an arms race and a network of treaties designed for **war**, not **peace**, it would not have started.

207 ind911: They were backed by Mr Renton who said it was 'inevitable' that businesses would make artistic judgements; they want to be associated with **success**, not **failure**.

208 ind912: Democracy means more than the right to pursue one's own self-interest - government must play an **active**, not **passive**, role in addressing the problems of the day.

209 ind893: However, the citizen pays for services to work **well**, not **badly**.

210 ind894: 'If the aim is to reduce unemployment it is nonsense to sign up to measures which we all know will add to labour costs and will **discourage**, not **encourage**, employment is this country,' Mr Fowler said in a scrutiny debate on the Charter.

Approximately half of all Oppositional Antonymy sentences retrieved follow the *X not Y* pattern exemplified in the sentences above. The first point to make about this framework is that the *not Y* part of the structure is grammatically removable. However, this does not make it semantically redundant, and one function of *not Y* is to reinforce the *X-ness* of *X* by identifying its semantic scale and negating its antonym.

For example, in sentence 205, *pessimism* is followed immediately by *not optimism*. This places greater emphasis on *pessimism*, but it also forces the reader to acknowledge the alternative. It is as though *pessimism* is the marked choice and the negated antonym (*optimism*) signals the more expected alternative.

Similarly, the negation of *peace* in sentence 206 draws attention to *war*, but also signals that treaties are, in fact, normally associated with *peace*. However, it is more difficult to argue that *success* is the marked antonym in sentence 207 because no business would wish to be associated with *failure*. In this example, the function of the second antonym is to emphasise that business not only needs to be associated with *success*, but also needs to avoid being associated with *failure*.

Sentence 208 modifies *active* with *not passive*, a strategy which again defies our expectations (or, at least, alerts us to the possibility that governments have been playing a *passive* role). Sentence 209 uses *not badly* to affirm *well* and to acknowledge (and counteract) any suggestion that the services should work badly. Sentence 210 accentuates *discourage* by adding *not encourage*, a move which raises our awareness of the fact that the *measures* in question were presumably intended to *encourage* employment, according to Mr Fowler.

As with most classes of antonymy, it is significant to note that not all examples adhere precisely to an archetypal framework. The following sentences each make use of *not*, but are more syntactically complex and do not conform to a standard *X not Y* structure.

211 ind894: 'What we have to do,' Mr Reed says, 'is ensure we shift the balance to the left-hand column, so we get the **good** things out of this, not the **bad**.'

212 ind923: Why the champions of A-level cannot get it into their thick heads that the exam guarantees **low** standards, not **high** standards, is beyond me.

213 ind944: The case for treating animals better is so intellectually convincing that ours is not a cause to **win**, ours is a cause to **lose**.

The antonymous pair of sentence 211 is part of a larger noun-phrase, *the X/Y things out of this.* As such, *good* and *bad* are further apart, syntactically, than antonyms previously examined in this category. Sentence 212 is similar. Here, *standards* appears after *low* as well as *high* where one might expect to find ellipsis. Sentence 213 achieves a stylistic effect by negating the clause *ours is a cause to win*, then repeating it verbatim with *lose* in the place of *win*. This is typical of the parallelism associated with spoken political rhetoric, as identified by Heavens (1995). As the *not* clause appears first in this example, ellipsis is not possible.

An interesting feature of Oppositional Antonymy sentences (especially those hinging on *not*) is that they tend to reflect spoken rather than written English. Of the nine examples considered so far, two pairs of antonyms (those in sentences 210 and 211) appear in speech marks. However, all of the other seven examples give the impression, to a greater or lesser degree, that they are based on the spoken word. For example, sentence 205 begins with *in my opinion*; sentence 206 begins with the discourse marker *well*; sentence 207 features a quote from *Mr Renton* and, though the antonyms are not part of this quote, one suspects that they might reflect a paraphrase of his words. Similarly, sentence 212, if not spoken, evidences a strong colloquial style with its reference to *thick heads* and sentence 213, as mentioned, is reminiscent of the political speech.

Possible counter-examples are sentences 208 and 209, but even these contexts represent subjective opinions rather than statements of fact. This suggests that Oppositional Antonymy is more common in speech and speech-like, persuasive writing than it is in formal writing. Why should this be the case? Perhaps because Oppositional Antonymy is in one sense redundant; negating the antonym of a word is strictly tautological. The effect of *X not Y* is to create additional rhetorical emphasis, but the immediacy of this emphasis may make it more suited to speech than writing.

6.3.4.2. Other Oppositional Frameworks

As mentioned earlier, not all Oppositional Antonymy sentences make use of a simple *X not Y* patter. The final six sentences belonging to this category illustrate that Oppositional Antonymy sentences may express their contrast in a number of alternative constructions.

214 ind923: Certainly the whole concept of managing by **punishment** instead of **reward** has become part of our culture.

215 ind921: If the Germans had met him **alive** instead of **dead**, they would have seen a figure they associated more with Africa than Europe: lean, tattooed armed, wrapped in a cloak of cured skins.

216 ind933: Instead of thinking **short** term, it was time to start thinking **long** term.

217 ind921: Being **young** and keen, as opposed to being **old** and keen, Stewart wanted to bowl CD out twice and win by an innings.

218 ind892: It is a challenge which says, **implicitly** if not **explicitly**, that the Fifth Estate itself is a piece of journalistic mythical self-creation the justification of which is questionable in reality.

219 ind884: We are shown a delightful poster of Margaret Thatcher **dressed**, or rather **undressed**, as a whip-wielding madame.

The first triplet of sentences above make use of *instead* to mark their antonymous opposition. Sentence 214 places the nouns *punishment* and *reward* in an *X instead of Y* framework; sentence 215 places the adjectives *alive* and *dead* into the same framework. Sentence 216 is slightly different in that the negated antonym appears first in the clause *instead of thinking short term.* However, all three of these sentences are comparable with those following an *X not Y* pattern because the negated antonym remains removable from its context. Another similarity lies in the fact that the chosen antonym is the marked antonym in sentences 214 and 216 (where one would ideally associate managing more with *reward* and thinking more with *short-term*). A counter-example is sentence 215 in which *dead* seems more marked than *alive.*

Sentence 217 uses the construction *X as opposed to Y* to much the same ends as previous Oppositional Antonymy frameworks. Here, *old* is negated to enhance the youngness of *young*. The proximity of *and keen* to each antonym gives stability to the opposition, illustrating further that

parallelism and antonymy are common linguistic allies.

Sentences 218 and 219 are somewhat different to others in this category, but each fulfil the criterion of removability. The former sentence follows *implicitly* with *if not explicitly*. This construction is difficult to explain. On one hand, *if not explicitly* is grammatically removable from its context, which makes it analogous with *not explicitly*; one the other hand, the function of *if not explicitly* is very different from the function of *not explicitly*. The key word here is *if*. One could perhaps express this difference by stating that *implicitly, not explicitly* is emphatically implicit, but that *implicitly, if not explicitly* is synonymous with *at least implicitly and possibly explicitly.*

Sentence 219 uses antonymy with more humorous effects, initially using the verb *dressed*, then replacing it with *undressed*. In this odd example, the antonyms *dressed* and *undressed* function almost synonymously (as either would suffice in this context) and the "correction" of lexis does not create opposition but, rather, highlights a morphologically unlikely similarity between the two antonyms.

6.3.4.3. Summary of Oppositional Antonymy

The primary function of Oppositional Antonymy is to negate the antonym of a given word as a means of strengthening the position of that word on its semantic scale; to make X seem more X-like by rejecting Y. However, often Y seems to reflect the unmarked alternative; its inclusion perhaps signalling that it is the more obvious, but the instantially dispreferred option. Oppositional Antonymy sentences favour the framework *X not Y* (or variations thereof), suggesting that *not* is a consistent lexical signal of this category. Other syntactic patterns include *X instead of Y* and *X as opposed to Y*. Finally, this sample of Oppositional Antonymy sentences suggests that such frameworks may be more common in spoken language than written language.

Only 62 of the sentences extracted from the corpus fall into the category of Oppositional Antonymy. However, even fewer sentences represent the next minor classification of antonymy, Extreme Antonymy.

6.3.5. Extreme Antonymy

Definition:	The co-occurrence of an antonymous pair within a framework that unites the outer-most areas of their given semantic scale.
Typical Frameworks:	*the very X and the very Y* *either too X or too Y*

The database features 40 sentences which have been categorised in terms of Extreme Antonymy. This means that about one sentence in 75 which features an antonymous pairs serves this function in text. The most significant characteristic of Extreme Antonymy sentences is the semantic distance placed between each antonym. Essentially, an adverb premodifies each antonym, stretching the contrast further apart on its given semantic scale. The result is a noun-phrase which is not exhaustive or inclusive, but which takes two semantic areas (one at each end of the scale) and refers to them rather than the semantic territory in between. Nine examples follow:

220 ind891: It is often considered a safer and gentler form of treatment, especially valuable to the very **young** and the very **old**, being less toxic and having fewer side effects.

221 ind892: No-one can afford to go to law except the very **rich** and the very **poor** and it can't possibly get any worse.

222 ind901: For thousands of years in Britain, food had to be either very **cold** or very **hot**, but now they are accepting warm salads.

223 ind903: The advantages are that the track does not need watering, and can be used when conditions are either too **dry** or too **wet** for racing on turf.

224 ind951: You can use it as a planting medium, to improve soil that is too **light** or too **heavy** or as a mulch around ornamental plants.

225 ind922: Nothing, it seemed, was too **large** or too **small** for Mr Al-Fayed: opening hours, music, uniforms, design, retailing theory.

226 ind964: Freud maintained in Civilization and Its Discontents that human beings feel a deep **hate** and a deep **love** for civilization.

227 ind942: The Greeks understood so well that there is no pure **masculine** or pure **feminine** in one person; in the poetry of their lives they accepted homosexuality and bisexuality, whose impulses they regarded as just another stream which flowed toward the same great sea - the eternal source of love.

228 ind961: Hsu Chu-chuan, the secretary of Hsi Yu, a fishing village, admitted: 'I am not completely **afraid**, and not completely **unafraid**.'

The sentences above are structurally reminiscent of those belonging to the category of Umbrella Antonymy. Approximately half of them link antonyms with *or* and approximately half link antonyms with *and*, a distribution similar to that of umbrella antonyms. Another similarity is *either*, a lexical signal of Umbrella Antonymy which arises in a couple of the examples above.

However, Extreme Antonymy is semantically distinct from Umbrella Antonymy. Sentences belonging to the latter category use antonymy to signal inclusiveness or exhaustiveness: often, an entire semantic scale is represented by a pair of antonyms; at other times, the antonymous pair will be attached to a noun-phrase to signal that it is an included part of that concept. Extreme antonyms are fundamentally different because their function is to represent the outer reaches of a semantic scale, not the entirety of that scale. Extreme Antonymy sentences are outnumbered by Umbrella Antonymy sentences on a ratio of 30:1.

The sentences above are sorted according to the adverb which gives them their extremity. Sentences 220 to 222 premodify their given antonyms with *very*. For example, the reference in sentence 220 to *the very young and the very old* identifies two areas on the scale of age, but does not encompass the entire scale (as, say, *everybody, young and old* would). Sentence 221 is slightly different in that it distinguishes between two groups of people: those who can afford to go to the law (*the very rich and the very poor*) and those who cannot (everybody else). As such, *very rich* and *very poor* are instantial co-hyponyms and the contrast of this sentence is effectively between them and those people who fall nearer the centre of the wealth scale. An interesting aspect of

sentence 222 is that a mid-point (*warm salads*) is actually specified by the text. *Very cold* and *very hot* mark either extremity of the "food temperature" scale, although the major contrast in this context is actually temporal, between *for thousands of years* and *now.*

The next trio of sentences use *too* as their adverb of extremity. This gives these examples an element of negativity. For example, sentences 223 and 224 respectively criticise track conditions for being *too wet or too dry* and soil for being *too light or too heavy.* Again, the two extremes of the semantic scale are united and contrasted with all that lies in between. Sentences 225 is analogous with sentence 221 because of its negation. By referring to *nothing* as *too large or too small,* the writer concentrates attention on middle of the semantic range, effectively chopping off both ends of the scale.

The final trio of sentences use adverbs other than *very* and *too* to signal extremity. The implication of Freud's assertion in sentence 226 is that human beings have no feelings of neutrality towards civilisation, only a *deep hate* and a *deep love.* Sentence 227 is similar to sentence 222 in that two extremes are negated (*there is no pure masculine or pure feminine*) and a central area is identified. The *warm salads* of this example are *homosexuality* and *bisexuality* (so to speak). Thus, *deep* and *pure* make their corresponding antonymous pairs more extreme in a similar manner to *very* and *too.*

The final example is typical of Extreme Antonymy in terms of its grammatical structure but less conventional in its choice of antonym. Here, the adverb *completely* allows both extremes of the "fear" scale to be negated. This means that Hsu Chu-chuan lies somewhere in the middle of *afraid* and *unafraid.* This seems not to imply neutrality or indifference because the speaker admits to being *not completely unafraid.* Such a distinction (Hsu Chu-chuan is presumably *slightly* afraid) may seem alien, perhaps because the notion of *unafraidness* is rare in English or perhaps because

of cultural differences in expression.

To conclude, Extreme Antonymy shares grammatical similarities with Umbrella Antonymy but remains semantically distinct (and much less frequent). A fascinating characteristic of Extreme Antonymy sentences is that the two outer areas of a semantic scale are presented in terms of their similarity, often being set up in opposition against the rest of the scale. One could label this the "Goldilocks Effect" - each extreme is united in its rejection, just as Goldilocks rejected the too-hot porridge and the too-cold porridge; the too-big chair and the too-small chair; and the too-hard bed and the too-soft bed, all in favour of something in between. The most popular framework for this category is *too X or/and too Y*, though *too* is substitutable for *very* or any other adverb which signals extremity.

6.3.6. Idiomatic Antonymy

Definition:	The co-occurrence of an antonymous pair within a framework that would be recognised as a familiar idiom, proverb or cliche.
Typical Frameworks:	*he's penny wise and pound foolish* *it's down in black and white* *sooner or later, we'll regret it*

The category of Idiomatic Antonymy accounts for antonyms which feature in an idiomatic phrase or proverb. My sample features only 23 such sentences (only 0.8%), but this figure might have been larger had different pairs been selected. For example, my sample does not feature antonyms such as *ups/downs* and *ins/outs*, which hardly ever function in a non-idiomatic fashion. In other words, the frequency of idiomaticity is not stable among all antonymous pairs and can vary from 0% to 100%. Below are six examples which arose in my database:

229 ind944: The **long** and the **short** of it is that height counts.

230 ind902: The critical point is that banks are understandably reluctant to throw **good** money after **bad.**

231 ind893: They evidently knew they could teach this **old** dog a few **new** tricks.

232 ind891: These abstract pieces seem to glow **hot** and **cold** and seduce by their brilliance.

233 ind892: Whoever said the **female** of the species was more deadly than the **male** hadn't met Lord William Whitelaw.

234 ind942: Sondheim's aptitude to polarise audiences is distressing to all concerned until everyone gets to know a new piece well enough to **agree** to **disagree**.

The first triplet of sentences above show antonyms being used as part a familiar expression. Sentence 229 features *long* and *short* in an umbrella context, but so cliched is this context that we no longer process it in terms of inclusivity. As sentence 229 is comparable with Umbrella Antonymy, so sentence 230 is comparable with examples of Transitional Antonymy, but the combination of the framework *throw X money after Y* and the antonyms *good* and *bad* make this example highly idiomatic. Finally, sentence 231 relies on an ancillary pair (*old/new*) to signal that *dog* and *tricks* are instantially contrastive. However, such is our exposure to this adage, we do not need to unpack the metaphor to glean its meaning.

Some writers play on this familiarity to give an unexpected angle to a common-place idiom* and sentence 232 illustrates this phenomenon by replacing the expression *to blow hot and cold* with *to GLOW hot and cold.* This is because, one assumes, the abstract pieces in question are glowing in some respect.

Sentences 233 is idiomatic because the quote from Kipling is so familiar that it has assumed proverbial status, and sentence 234 is idiomatic because the word-string *agree to disagree* has also become enshrined in the language to the extent that it is digested as a chunk rather than as the sum of its individual parts. The construction *X to Y*, where *X* and *Y* are antonymous verbs seems restricted to *agree/disagree* and *love/hate*. This is because most verbs are syntactically unable to occupy X-position.

*Another sentence in the corpus, indeed, refers to teaching *an old dogma new tricks.*

The majority of sentences categorised as Idiomatic Antonymy feature conventional idiomatic phrases which include an antonymous pair. A small number of sentences use word-play or puns to bring new life to these old platitudes. This category is also home to sentences which incorporate a familiar word-string which has become widespread in the language.

6.3.7. Conflicting Antonymy

Definition:	The co-occurrence of an antonymous pair within a framework which presents antonym in direct conflict with antonym.
Typical Frameworks:	*a case of X versus Y* *the clash of X and Y*

Conflicting Antonymy accounts for fewer than 1% of the sentences samples. Six of the 22 retrieved examples of this category are recorded below. Each feature an antonym being set up in direct opposition to its partner.

235 ind902: For the latter, the Poindexter trial was simply a **good** guy versus **bad** guy quarrel.

236 ind944: The survey also shows that the environmental movement has won the debate over **public** versus **private** transport.

237 ind913: It's the same battle, the **old** guard versus the **new** guard, as you can see in the USSR: cricket is not immune from the politics of real life.

238 ind922: One thing she points out is the intriguing clash of **masculine** and **feminine** qualities Shakespeare arranges at the character's first appearance.

239 ind904: Three more uniformed men patrolling the garden fence and three police vehicles parked outside illustrated the conflict between her **old** and **new** lifestyles.

240 ind892: So the poem seems to concern itself not just with the slave era or with the poverty of the post-colonial time, but with the construction of something from the clash of the cultures **white** and **black, rich** and **poor,** animist and Christian.

Sentences 235 to 237 pivot around *versus* and present antonyms in conflict with one another. This is usually accompanied by a nearby noun to reflect the conflict: *quarrel, debate* and *battle* respectively in the first triplet of sentences, which reflect an interesting semantic prosody.

The second triplet of sentences create a sense of conflict between antonymous noun-phrases but do not rely on *versus* to do so. Instead, they use nouns stronger than those found in sentences 235 to 237. For example, sentence 238 describes an *intriguing clash* between a pair of noun-phrases. Those *masculine and feminine qualities* belong to a framework which would usually be associated with Umbrella Antonymy. However, in this context, the antonyms share no sense of inclusiveness; rather, they conflict with one another. Indeed, sentence 239 refers to a *conflict* directly when describing the relationship between *old [lifestyles]* and *new lifestyles.*

Sentence 240 uses the noun *clash* to signal three separate distinctions. The antonymous pairs *white/black* and *rich/poor* are contrasted, and a difference is also noted between *animist* and *Christian.* However, this example is no different from other instances of Conflicting Antonymy. Antonymous noun-phrases are presented in terms of their dissimilarity, an encounter usually marked by *versus*, but occasionally making use of the framework *n between/of X and Y* where *n* is *conflict* or a synonym thereof.

6.3.8. Virgule Antonymy

Definition:	The co-occurrence of an antonymous pair separated only by an oblique stroke.
Typical Framework:	*their X/Y relationship* *an outdated X/Y distinction*

The smallest class of antonymy identified, Virgule Antonymy accounts for just 19 of the 3,000 database sentences and is a heterogeneous category. Occasionally, a pair of antonyms will be positioned on either side of an oblique stroke. Though such frameworks only occur once per 150 instances of antonymy, it is still interesting to examine why antonyms are used in this way and what function is served by the virgule in contemporary writing.

241 ind954: In the visceral imagination there appears to be some mistrust of the **alive/dead** distinction itself, some reluctance to accept that what is dead is henceforth and for ever devoid of life.

242 ind892: In his sharply written and strongly performed (by Ian Hughes and Pamela Nomvete above) yuppy morality tale, Below The Belt, Daniel Scott reverses **male/female** stereotypes with some skill; I would have liked to have found out where it went to.

243 ind904: The programme note promised a strong **masculine/feminine** contrast followed by final synthesis, yet even Kernis at his dreamiest carried a higher electrical charge.

244 ind892: Bell has a **love/hate** relationship with the classic, but does not underrate the prestige associated with winning a race better known than any other on the motor sport calendar, which is one reason why the pre-race organisation barely broke its stride when the sport's governing body kicked Le Mans out of the championship following a row over television rights.

245 ind912: Sussex's **new/old** boy Adrian Jones was another man of pace to make an immediate impression of an appropriate nature.

246 ind923: The US team feel wronged and are **happily/unhappily** letting their opponents suffer for it.

Each of their examples above use their antonymous pair in a slightly different way. In other words, the oblique stroke performs different roles in different contexts. For example, sentence 241 uses *alive/dead* as premodification for *distinction*, a highly metalinguistic use of antonymy. Effectively, the context treats the *alive/dead* distinction as "given" information. Sentence 242 also use its antonymous pair (*male/female*) as premodification, but here the noun-head is *stereotypes*. This example is given meaning by the verb *reverses*, which acknowledges the semantic difference between the antonymous pair. This makes the latter example more grammatical - if we replace the stroke with an *and*, the sentence remains valid, something which is untrue of sentence 244. Sentence 243 is similar to sentence 241 in that an antonymous pair (*masculine/feminine*), joined by a stroke, precedes a noun-head signalling disparity (*contrast*).

The phrase *love/hate relationship* occurs in sentence 244. This is interesting as, more than any other antonymous pair in this framework, this phrase has become part of our vocabulary. Within this context, Bell seems to *love* certain aspects of Le Mans but *hate* others. This is described as a *love/hate relationship*, a phrase which occupies semantic territory between the extremes of *love* and *hate* and incorporates aspects of both. In some respects, this makes it comparable with

sentence 245. Here, one assumes that Adrian Jones has played for Sussex in the past and recently rejoined the team again. Hence, he is either a *new boy* or an *old boy*, depending on one's interpretation. Finally, sentence 246 is equally subjective. The adverbs *happily* and *unhappily* are substitutable for one another in this context (making them co-hyponyms in that respect), depending on one's perspective about the situation. In the eyes of the US team, *happily* applies; in the eyes of their opponents, *unhappily* is more appropriate. Thus, the virgule is almost responsible for some kind of ancillary contrast here.

From this data, it is difficult to draw conclusions about this category of antonymy. At times, it is used metalinguistically to directly refer to a conceptual distinction. At other times, the antonyms are both applicable to the given context, illustrating that one's perspective may determine which (if either) is the more appropriate. Perhaps the only conclusion one can draw with confidence about Virgule Antonymy is that it is very infrequent, occurring in only 19 of the sentences sampled.

This concludes the taxonomy of minor classes. So far, this chapter has accounted for the function of 622 sentences by attributing them to one of eight minor categories of antonymy. However, a number of residual sentences inevitably remain which defy inclusion in any of the ten categories delineated so far. These sentences show antonymy being used in innovative or unusual ways. Some connections can be made between a number of these sentences, but individual classes have not been created because frequency is so low. Even if a dozen sentences could be found which share the same function, this would represent only 0.4% of the sample total. A brief analysis of the 65 unclassified sentences extracted will now be presented.

6.3.9. Residual Sentences

Only 2.2% of database sentences could not be attributed to any of the categories outlined so far in

this thesis. Patterns of usage among such sentences do emerge, but these patterns are weaker than those for higher frequency functions. This section will report on five of the ways in which antonyms function in these 65 residual examples.

1 Association
2 Simultaneity
3 Unity
4 Specification
5 Equivalence

Association describes the role of certain nouns which describe the relationship between antonyms; they all record an association of some description, but these associations are diverse. Simultaneity refers to antonyms which are equated with one another or which both apply to the same referent at once. Unity refers to antonyms which function as a single unit in text rather than as a pair of individual terms. Specification refers to antonyms which are used in classificatory terms to give more localised information. Finally, equivalence refers to contexts in which one antonym is described in terms of similarity to its partner. These functions will now be exemplified and discussed in turn.

6.3.9.1. Association

A number of residual sentences are presented in some sort of association or relation to one another, but that link neither brings them together enough to be umbrella antonyms, nor differentiates between them enough to be distinguished. Six examples are recorded below:

247 ind891: The treaty gives stability to an association between **rich** and **poor** which might otherwise be highly variable.

248 ind913: After yesterday's decision to allow South Africa to re-enter world cricket, Rice may prove the only tie between the **old** and **new** eras.

249 ind902: The links between **employment** and **unemployment** trends are weak for a variety of reasons.

250 ind892: If psychosocial thinking has made us rethink the relationship of **male** and **female** on the basis of mutual support and complementarity, is it not about time that we extended the same thinking to the encounter of faiths as well?

251 ind934: John Kirwan will be missed more for the stability he would have brought to this uneasy-looking blend of the **old** and the **new** than for the quality of his play, which the selectors clearly felt was no longer up to standard.

252 ind901: In that sense it was counter-productive of Panorama to use TV police themes as shorthand and risk muddling **fact** and **fiction.**

The first triplet of sentences each feature the preposition *between*, a familiar signal of Distinguished Antonymy, where, one could argue, these three sentences belong. It is certainly true that they follow closely the framework *NP between X and Y* where *X* and *Y* are noun-phrases which feature antonyms. The only problem here is that NP is not the word *difference* or a synonym thereof, although one might counter that a distinction of sorts must be presupposed for *between* to be present at all.

However, sentences 247 to 249 would not sit well among Distinguished Antonymy sentences because of the nature of the nouns which precede *between*. An *association* is not the same as a *distinction*, nor is a *tie* and nor are *links*. In many respects, these terms are the antithesis of a distinction, for instead of highlighting the disparity between antonyms, they focus on the connections.

In that respect, these sentences seem closer to examples 250 to 252 than to Distinguished Antonymy sentences. This triplet of sentences reflect an association between noun-phrases which arguably makes them analogous with Umbrella Antonymy contexts. However, inclusiveness is not being signalled in these sentences (*the relationship of BOTH male and female* would sound very awkward in sentence 250); rather, antonyms are being set up in some kind of correlation which is specific to the given context. Hence, noun-heads such as *relationship* and *blend* and verbs such as *muddling* are used to describe the association between antonyms.

Therefore, examples of association may share grammatical similarities with other categories, but they fail to meet semantic criteria for those categories. Such antonyms are typically placed in some kind of relationship with one another, but that relationship may defy generalisation.

6.3.9.2. Simultaneity

Occasionally, antonyms are directly equated with one another to create an unlikely or ironic parallel. Such sentences do not treat antonyms in terms of their similarity (as Umbrella Antonymy sentences do), but suggest that, in a given context, the dual properties of X and Y may be applicable to the same referent. This can be seen in the examples below:

253 ind903: But that **strength** could also be a **weakness** in that, internationally, he never really accepted that what was good for France was not necessarily equally good for the UK and the US.

254 ind923: As one senior Bank of Italy official remarked, 'Mr. Amato's **weakness** is his **strength**.'

255 ind944: Hyperspace is beautifully written, making **difficult** scientific ideas seem accessible, almost **easy**.

Sentence 253 describes a previously mentioned *strength* as a *weakness*. This apparent contradiction is licensed by perspective - we are told that, *internationally*, his persuasiveness (for wider context reveals that it is his persuasiveness which is under discussion) is a *weakness*; however, nationally (one assumes) it is a *strength*. In this sense, the antonymous pair of sentence 253 could even be seen as being indirectly ancillary to a second contrast.

Sentence 254 is also difficult to analyse. In effect, *weakness* and *strength* are here operating along different semantic scales. *Mr Amato's weakness*, one assumes, is a personal weakness, but his *strength* is a political strength. As such, the sentence functions on two levels: on the surface, antonym is equated with antonym, but, underneath, those antonyms do not directly contradict one another. Thus, no real paradox is created for the reader.

Sentence 255 describes a noun-phrase (*difficult scientific ideas*) as being *almost easy*. This is

slightly different from the previous pair of examples and is analogous with some examples of Transitional Antonymy. However, once again, the contrast between antonyms is licensed by differing perspectives. The ideas are usually *difficult*, but here seem *easy*.

Thus, a similar grammatical structure is adhered to in sentences which reflect simultaneity: *X is Y*, where *X* and *Y* are antonymous noun-phrases linked by *is*, another form of *to be*, or a copula verb such as *seem* (in which case they refer to appearance rather than simultaneity). Such sentences are too rare to justify being classified alone, but it is interesting to note that even functions of antonymy which are very infrequent tend to favour certain frameworks in text.

6.3.9.3. Unity

The sentences below initially seem identical to those belonging to Umbrella Antonymy because each antonymous pair is conjoined solely by *and*. Indeed, an element of inclusiveness can also be attributed to each example, yet this inclusiveness is so familiar that it seems almost over-inclusive. The antonymous pair have been brought so close together in these contexts that they function as a single multi-word unit, as one large noun-phrase rather than two small noun-phrases.

256 ind891: In most wars, of course, **right** and **wrong** are not nearly so clear-cut, whatever the warring tribes may think.

257 ind893: Friends of the Sudan may feel that the issues of **war** and **peace**, of famine and banditry are more pressing, but seemingly for most Sudanese the Sharia remains the central issue that must be resolved before other issues can be tackled.

258 ind941: Abuladze's reputation is, however, based on a trilogy of films that deal with fundamental questions of **good** and **evil**, **love** and **hate**, **life** and **death**.

In sentence 256, *right* and *wrong* are presented together, but act, in unison, as the subject of the clause in a way which umbrella antonyms tend not to. Umbrella antonyms linked by *and* can sustain the word *both* before the *X and Y* phrase. However, this would create an uneasiness in the sentences above. To speak of *issues of BOTH war and peace* (sentence 257), for example, would

sound odd. Sentence 258 presents three consecutive units, *good and evil*, *love and hate* and *life and death*, but the principle remains the same. Abuladze's films do not necessarily deal with those six issues individually; rather, they deal with the three concepts represented by each antonymous pair.

Such examples tend to be signalled by the lexical item which precedes the antonymous pair, usually a term such as *issues*, *questions* or *notions*. This word fills the *n*-slot in the archetypal construction *n of X and Y*. The unity created by this noun, and by our repeated exposure to the antonymous pair, leaves the sentence somewhere between the classes of Umbrella and Idiomatic Antonymy.

6.3.9.4. Specification

A small number of sentences quantify each antonym, but cannot be included in the quantitative section of Ancillary Antonymy because no element of contrastive power is being generated. The triplet of examples below illustrate this:

259 ind892: The centre was originally designed to hold 511 men in single cells, but it now houses over 600 **male** remand prisoners and 140 **female** inmates in separate wings.

260 ind892: A total of 2,103 drug users, 2,031 **male** and 72 **female**, had contracted Aids by the end of February, David Mellor, the Health Minister told MPs.

261 ind892: When the riot began there were 51 **male** and 140 **female** prisoners inside the remand centre.

The first point to make about the examples above is that they all feature the same antonymous pair. This is no coincidence - *male* and *female* are the only word-pair to serve the function of specification, probably because they are human and, unlike most pairs sampled, receptive to quantification.

The sentences above each feature numbers, but these numbers do not appear to be in contrast with one another. For example, sentence 259 specifies the number of male and females inmates in a

prison. But these numbers are not set up in opposition here - they are simply included to provide further information. The breakdown of male and female drug users in sentence 260 is not contrastive, it is there to provide additional detail. Likewise, the number of *male* and *female* prisoners identified in sentence 261 serves no contrastive function.

Therefore, specification describes sentences which may initially appear to be serving an ancillary role, but, on closer inspection, appear to not be involved in any contrast-generating context. The boundary between such sentences and those Ancillary Antonymy sentences which feature quantification (see 4.3.1.5) is sometimes difficult to pinpoint, but it would appear that the antonymous pair in the above sentence serve a taxonomic role, not an ancillary role.

6.3.9.5. Equivalence

Those residual sentences which serve the function of equivalence often follow the structure *X n of Y*, where *n* is *equivalent* or a synonym thereof. Three examples are recorded below:

262 ind904: Dorothy Richardson herself has said that Pilgrimage, her extended autobiographical novel, was 'an attempt to produce a **feminine** equivalent of the current **masculine** realism'.

263 ind891: Then there is the possibility that the Hairy Hands story is the **rural** version of the **urban** folk-myth - everyone has heard the one about the deep-fried chicken that was really a battered rat - which plays on people's fears about their environment.

264 ind894: To the side, a trio of women swoon or cower with their children, the **feminine** antithesis to this display of steely **masculine** resolve.

Sentence 262 is typical of the half-dozen contexts which feature equivalence. It refers to an *X equivalent* of a noun-phrase premodified by *Y*. Sentence 263 is similar but uses *version* to describe the relationship between the antonymous pair. So, a contrast is set up between antonyms, but this contrast is used only to reflect an underlying similarity. In other words, the similarity of sentence 263 is the *folk-myth*, but the antonymous pair describe the one way in which the *rural [folk-myth]* and the *urban folk-myth* differ.

In many respects, sentence 264 is the opposite of the previous pair of examples. Instead of *equivalent* or *version*, this sentence makes use of *antithesis* to describe the relationship between *feminine* and *masculine*. However, it is interesting to note that this example is grammatically identical to sentence 262, following the pattern *feminine NH of/to masculine n*, where *n* is *realism* in sentence 262 and *resolve* in sentence 264. Of course, sentence 264 cannot technically be described in terms of equivalence (only in a lack thereof), but it is semantically unique in the sample and it does share grammatical similarities with valid examples of this function. Perhaps this example would qualify as a sub-category of this residual class.

6.3.9.6. Summary of Residual Sentences

The database was found to contain 65 sentences which could not be attributed to any of the ten classes of antonymy first outlined in Chapter Three. Almost all of these sentences feature antonyms which serve one of five functions. The most common of these functions is association. Among the nouns found to link antonyms in the database are *blend, confusion, relationship, blur, tie, patchwork, mix, amalgam, juxtaposition, combination* and *interregnum*. Each of these terms creates a slightly different contextual relationship between antonyms and cannot be classified collectively. Other sentences show simultaneity being reflected by antonymy; other sentences show antonyms acting as a single meaningful unit in text; other sentences show antonyms functioning as part of a specification; and other sentences show antonyms reflecting equivalence of meaning. However, it should be remembered that, individually, these functions may only be served by antonymous pairs in as few as one context per thousand.

6.3.10. Summary of Taxonomy

The eight minor categories of antonymy described in this chapter collectively comprise only 20.7% of the total number of antonymous sentences retrieved from the corpus. Residual sentences account for a further 2.2%. However, these classifications often reflect the kind of functions

which pre-corpus linguists may have intuitively associated with antonymy. For example, in his discussion of sub-classes of antonyms, Cruse (1984: 208) cites examples such as *It's still dirty, but it's cleaner than before* which feature comparison. This use of antonymy is conspicuous; the context of each sentence forces us to consider the antonyms contrastively. This is even more true of sentences belonging to the class of Distinguished Antonymy. Because a *difference* between two antonyms is referred to, their contrastive potential is being fully tapped. Likewise, Transitional Antonymy sentences demand that we interpret antonyms in terms of their dissimilarity. Failure to do so would render the transition meaningless. Finally, Oppositional Antonymy makes the distinction between antonyms as overt as one can imagine by using antonymy in a self-conscious, metalinguistic fashion, effectively spelling out the relationship of antonymy.

In other words, these four categories use their antonymous pairs in much the way that one might anticipate. They use antonyms in contrastive contexts, setting up a simple two-way distinction. Yet these four categories collectively account for just 17% of all sentences extracted. Umbrella Antonymy alone has double the frequency of these four classifications together. And yet Umbrella Antonymy does not focus on the distinction between antonyms. Rather, it takes for granted our awareness of the disparity between antonyms and uses this knowledge to signal something else, namely that a given noun-phrase is inclusive or exhaustive in some respect.

Like Umbrella Antonymy, Ancillary Antonymy is also twice as common as Comparative, Distinguished, Transitional and Oppositional Antonymy in total. And like Umbrella Antonymy, Ancillary Antonymy also does more than draw a simple distinction between a pair of antonyms. Contrasts are created in Ancillary Antonymy sentences, but these contrasts are designed to draw attention to a new, further contrast, usually arising between two words or phrases which would not otherwise be interpreted in terms of their dissimilarity.

In short, antonymy tends not to appear in a simple, contrastive context; such distinctions are perhaps considered too obvious to draw. Writers appear to prefer using antonymy as a signal, be it to encompass a scale or to highlight another nearby contrast. Merely stating that X is different from Y is felt to be an inefficient use of language, my data would suggest.

Inevitably, not all occurrences of antonymy fit snugly into the classes identified. However, it is interesting to note that a number of minor categories are closely related to larger classes of antonymy, grammatically speaking. For example, Extreme Antonymy is essentially a subset of Umbrella Antonymy, except for one important semantic difference: whereas umbrella antonyms incorporate an entire semantic range (or, at least, those parts of the range corresponding to each antonym), extreme antonyms incorporate the outer reaches of the scale only. Such usage remains inclusive, but it unites both extremes rather than the territory in between. Likewise, the residual function of unity also features sentences which are syntactically similar to Umbrella Antonymy because they feature a pair of antonyms linked only by *and*. However, unlike umbrella sentences, the function of this antonymy is not to signal inclusiveness, but, rather, to act as a single meaningful unit.

Similarly, the residual function of association is structurally reminiscent of Distinguished Antonymy sentences. Once again, the difference is semantic: distinguished antonyms are prized apart by a noun such as *difference* or *gap*, but associated antonyms are preceded by more neutral nouns such as *relationship* or *link*. Also, Conflicting Antonymy sentences are also similar to examples of Distinguished Antonymy in that antonym is pitted against antonym. However, conflicting antonyms represent this distinction as a direct opposition, often referring to a *clash* or employing *versus* to signal this encounter, whereas distinguished antonyms usually treat the distinction as "given" information.

Finally, one could make a connection between the residual function of specification and those ancillary sentences which feature quantitative B-pairs (see 4.3.1.5.). This distinction is perhaps the subtlest of all in that one must intuitively decide whether or not contrast is being imparted by the antonymous pair to nearby numeric values.

Therefore, a number of minor classes of antonymy could be seen as subcategories of larger classes of antonymy. They have been presented in isolation because of semantic criteria (technically, they are not performing the same role as antonyms in sentences belonging to their parent categories), but could easily have been analysed as special subclasses.

Other very minor categories are entirely self-standing. One cannot generalise about Idiomatic Antonymy. It seems that some antonymous pairs function as part of a well-known phrase or cliche. Similarly, the use of an oblique stroke between antonyms allows grammar to be condensed according to the wishes of the writer, so no single pattern has yet emerged in Virgule Antonymy sentences. Likewise, the residual functions of simultaneity and equivalence are without parallel. However, only in very restricted contextual circumstances can antonyms be directly equated with one another (as when simultaneous) and can a noun-phrase belong to one antonym but retain the potential to switch to the other (as when equivalent). In other words, these categories reflect functions of antonymy which are context-specific and therefore highly restrictive.

To conclude, some minor categories of antonymy (Idiomatic, Virgule and those residual sentences reflecting simultaneity and equivalence) feature sentences that genuinely use antonymy in an unusual manner which defies any proximity to other categories. Other minor categories (Extreme, Associated, Conflicting and those residual sentences reflecting association, specification and unity) are more closely related to larger categories, essentially being spin-off classes which fulfil a different semantic role. And yet other minor categories (Comparative, Distinguished,

Transitional and Oppositional Antonymy) represent antonymy at face value, placing their oppositions within a familiar framework, and exploiting their contrastive power. This is where they differ from the two major classes of antonymy (Umbrella and Ancillary Antonymy), which exploit our familiarity with antonymy and use such oppositions to fresh ends.

6.4. Summary of Chapter Six

This chapter has tackled those sentences which could not be classified in terms of either Umbrella Antonymy or Ancillary Antonymy. Eight minor classes have been identified, their frequencies ranging from 19 database sentences to 205 database sentences. Each has been examined in detail. 65 sentences could not be assigned to any of these eight categories and many of these examples have also been dissected.

This taxonomy of minor classes concluded by noting that some smaller categories reflect the kind of usage that one might expect from antonymy before looking at real data. Antonyms are distinguished from one another, compared with one another, and defined in terms of one another. However, such usage is relatively rare. The primary functions of antonymy in text were discussed in Chapters Four and Five of this thesis. It was also noted that a number of minor categories shared similarities with larger classes of antonymy and could even have been described as sub-classes thereof. This limits further the number of ways in which antonyms can be said to function. However, some functions of antonymy were found to be unrelated to any other categories and simply reflected less common usage.

This concludes my analysis of the 3,000 database sentences extracted. The remaining five chapters of this thesis will focus on various aspects of antonymy and what this database can tell us about the nature of the phenomenon. For example, Chapter Seven will now present a statistical analysis of how widespread antonymy is in journalistic text.

Chapter Seven:
The Endemicity of Antonymy

7. The Endemicity of Antonymy

7.1. Introduction

The previous four chapters have been concerned with the functions served by antonymy in text. Ten new classes have been proposed and the majority of the 3,000 database sentences have been distributed accordingly. The remainder of this thesis will consider other antonymy-related issues in the hope that fresh light may now be shed on the sense relation.

One of the questions raised by my research is this: exactly how widespread is antonymy in language? The answer is very difficult to gauge. Firstly, there is the problem of defining antonymy: the stricter the definition one uses, the less pervasive the phenomenon will appear. Then there is the even greater problem of counting: in order to arrive at an estimate of the proportion of sentences which feature antonyms, one would need to identify every single antonymous pair in use, then retrieve each sentence which features both of those words. But that would not be all - one would then need to edit all of these sentences (which would number over a million in my corpus) to eliminate those in which the word pair do not function antonymously (see 2.3.2.2.). Only then could one arrive at an approximation of the proportion of corpus sentences which feature antonyms, and this approximation would still fail to account for inter-sentential antonymous usage.

An easier way to estimate the prevalence of antonymy in text is to compare the expected co-occurrence rate of antonyms with their observed co-occurrence rate. Therefore, I shall now examine each of the 56 antonymous pairs in my sample to determine whether those antonyms co-occur more or less than would be expected by chance.

In examining the endemicity of antonymy in text, this chapter will also consider the usefulness of co-occurrence data as criteria for determining which pairs are "good opposites". A handful of

such pairs will be identified which, it will be argued, may lay claim to being among the most dyed-in-the-wool antonyms in English.

7.2. Co-occurrence Statistics

Listed below are the 56 antonymous pairs selected for study in this thesis. Each pair is followed by seven columns of figures: columns one and two simply record the raw frequency of each antonym in the corpus; column three records the number of sentences one would expect to feature both antonyms if those words co-occurred at random; column four records the number of sentences in the corpus which, in reality, contain both antonyms; column five records the Observed / Expected ratio, which is generated by dividing the figure in column four by the figure in column three; column six records the W2 / Observed ratio, which is generated by dividing the figure in column two (ie. the frequency of the less common antonym) by the figure in column four; finally, column seven records the W1 / Observed ratio, which is generated by dividing the figure in column one (ie. frequency of the more common antonym) by the figure in column four. The relevance of each column of numbers will be discussed in turn.

		W1	W2	Exp	Obs	O/E	W2/O	W1/O
active	**passive**	11411	2033	1.8	172	95.6	11.8	66.3
advantage	**disadvantage**	21531	2483	4.2	69	16.4	36.0	312.0
agree	**disagree**	18196	2472	3.5	153	43.7	16.2	118.9
attack	**defend**	43395	9198	31.0	273	8.8	33.7	159.0
cold	**hot**	16466	16026	20.5	751	36.6	21.3	21.9
correct	**incorrect**	10529	1484	1.2	34	28.3	43.6	309.7
dead	**alive**	32214	11661	29.2	565	19.3	20.6	57.0
deny	**confirm**	7514	6595	3.9	335	85.9	19.7	22.4
difficult	**easy**	54244	31395	132.4	434	3.3	72.3	125.0
directly	**indirectly**	14172	1377	1.5	492	328.0	2.8	28.8
drunk	**sober**	4730	1878	0.7	56	80.0	33.5	84.5
dry	**wet**	10978	5109	4.4	348	79.1	14.7	31.5
encourage	**discourage**	12586	1614	1.6	77	48.1	21.0	163.5
end	**begin**	145438	19682	224.6	740	3.3	26.8	196.5
explicitly	**implicitly**	1320	813	0.1	32	320.0	25.4	41.3

fact	**fiction**	78900	7391	45.3	503	11.1	14.7	156.9
fail	**succeed**	10963	8258	7.0	131	18.7	63.0	83.7
fast	**slow**	22625	17374	30.6	350	11.4	49.6	64.6
feminine	**masculine**	1191	903	0.1	140	1400.0	6.5	8.5
good	**bad**	181876	47247	668.1	4804	7.2	9.8	37.9
guilt	**innocence**	4229	3804	1.3	162	124.6	23.5	26.1
happy	**sad**	28217	9420	20.7	140	6.8	67.3	201.6
hard	**soft**	68635	11960	63.8	526	8.2	22.7	130.5
high	**low**	93232	41088	297.8	2847	9.6	14.4	32.7
honest	**dishonest**	6922	1084	0.6	28	46.7	38.7	247.2
legal	**illegal**	40832	11208	35.6	302	8.5	37.1	135.2
light	**heavy**	36832	22898	65.6	297	4.5	77.1	124.0
long	**short**	131582	52119	533.2	2168	4.1	24.0	60.7
love	**hate**	42541	6108	20.2	511	25.3	12.0	83.3
major	**minor**	45452	10624	37.5	432	11.5	24.6	105.2
male	**female**	16930	14883	19.6	2556	130.4	5.8	6.6
married	**unmarried**	25581	1033	2.1	101	48.1	10.2	253.3
new	**old**	341832	113065	3004.9	9426	3.1	12.0	36.3
officially	**unofficially**	6025	394	0.2	33	165.0	11.9	182.6
old	**young**	113065	83247	731.8	2704	3.7	30.8	41.8
optimistic	**pessimistic**	7123	1984	1.1	96	87.3	20.7	74.2
optimism	**pessimism**	5717	1163	0.5	91	182.0	12.8	62.8
prove	**disprove**	20968	258	0.4	35	87.5	7.4	599.0
permanent	**temporary**	10413	7878	6.4	351	54.8	22.4	29.7
poor	**rich**	34054	20999	55.6	2027	36.5	10.4	16.8
public	**private**	133056	61202	633.1	6741	10.6	9.1	19.7
publicly	**privately**	8108	6406	4.0	282	70.5	22.7	28.8
punishment	**reward**	6363	6152	3.0	38	12.7	161.9	167.4
quickly	**slowly**	25129	8958	17.5	83	4.7	107.9	302.8
recession	**boom**	22707	8678	15.3	334	21.8	26.0	68.0
right	**wrong**	125712	42376	414.2	2677	6.5	15.8	47.0
rightly	**wrongly**	4558	2681	1.0	182	182.0	14.7	25.0
rural	**urban**	8600	7923	5.3	515	97.2	15.4	16.7
small	**large**	86908	69219	467.7	2928	6.3	23.6	29.7
straight	**gay**	21672	9734	16.4	277	16.9	35.1	78.2
strength	**weakness**	19866	5971	9.2	441	47.9	13.5	45.0
success	**failure**	47816	24438	90.8	971	10.7	25.2	49.2
true	**false**	35357	10245	28.2	227	8.1	45.1	155.8
war	**peace**	81293	38258	241.8	2586	10.7	14.8	31.4
well	**badly**	178431	15772	218.8	712	3.3	22.2	250.6
win	**lose**	76372	27771	164.9	1125	6.8	24.7	67.9
TOTAL:		**2662409**	**955994**	**8441.8**	**55411**			
AVERAGE:						**6.6**	**17.3**	**48.0**

Table Seven: Co-occurrence of Antonymous Pairs

7.2.1. W1 and W2

The first two columns of the table above show the raw frequency figures for each antonym respectively. For example, *active* appears 11,411 times in the 280 million word corpus, and *passive* appears 2,033 times. It is perhaps surprising that the frequency of *active* is fivefold that of *passive*. However, such discrepancies are not unusual. Indeed, a number of word-pairs are made up of two antonyms, one of which is over ten times more frequent than the other. These pairs are *badly/well, directly/indirectly, fact/fiction, married/unmarried, officially/unofficially* and *disprove/prove*, the last-named of which is the most extreme example, with the frequency of *prove* outnumbering the frequency of *disprove* by 81:1.

One link between these six antonymous pairs is morphological. Four of the pairs are morphological antonyms (ie. antonymy has been formed by prefixing the positive term with *un, in, dis* or *il*) and this correlation is strengthened by the fact that the other five morphological antonyms in the database all show similar, though less extreme, distribution patterns. In every case, the seed word outnumbers its morphological antonym by a wide margin, signalling that antonyms created in this way are not as common in language as the words from which they are derived.

Four of the six word-pairs with uneven distribution are morphological antonyms, but two are not. So why does *well* outnumber *badly* and *fact* outnumber *fiction* so significantly? The answer to this question revolves around the number of other contexts in which these words may occur. For example, *well* can function adverbially (and therefore antonymously with *badly*), but it can also adopt other grammatical forms which could not possibly yield antonymy with *badly*, such as adjective, noun and interjection. *Well* may also be frozen as part of an idiom.

265 ind884: The **well** of explanation will never run dry, since the question is essentially unanswerable.

266 ind901: Early in his career he made what were revolutionary decisions; first, that to learn more about human physiology and disease one should study humans rather than animals, and to study humans one had to be qualified to look after them whether they were ill or **well**.

267 ind884: His Soviet Union squad seemed, **well**, asleep Yugoslavia had scored the first six points of the game and opened a 24-12 lead.

268 ind884: The show will include designs in hand-woven silk checks, as **well** as others in elaborate silk jacquards and taffetas.

269 ind884: Like an elephant with a broken back, it heaved and twitched and floundered helplessly, **well** and truly trapped.

270 ind884: The Home Secretary appoints us and the budget comes from the Treasury, but both Home Secretaries under which we have operated have gone to considerable lengths to stand **well** away from us.

None of the sentences above would allow the substitution of *well* for *badly*. The *well* of sentence 265 is a noun and no more than a homonym of the *well* which contrasts with *badly*. The antonym of *well* in sentence 266 could be *ill* or *unwell* but not *badly*, while sentence 267 shows *well* operating in a colloquial sense as an interjection.

Sentence 268 features the common phrase *as well as*, which reflects non-antonymous adverbial usage. It would not be grammatically incorrect to substitute *badly* into sentence 268, but the phrase *as well as* is not usually the opposite of the phrase *as badly as*. The *well* of sentence 269 operates as part of an idiom and the *well* of sentence 270 shows that even when functioning adverbially, *well* is by no means guaranteed to be interchangeable with its antonym.

It is for this reason that the frequency of *well* is so much greater than that of *badly* and it is for the same reason that the frequency of *fact* is so much greater than that of *fiction*. In the latter case, *fact* is usually preceded by either *in* or by a determiner; *fiction* is more limited in its grammatical scope and is only interchangeable with *fact* in a minority of sentences. This also helps to explain why *married* is more common than *unmarried*. Aside from morphological factors already discussed, *unmarried* is restricted to adjectival usage, but *married* acts as a verb also.

As one would expect, multi-functional words tend to arise more frequently in the corpus. Thus, *attack* outnumbers *defend* because it can function as a noun as well as a verb and *end* outnumbers

begin for the same reason.

One final connection which might be made between the six pairs of words with most uneven distribution is that a disproportionate number of them are adverbial. However, this may be coincidental. Although *badly/well, directly/indirectly* and *officially/unofficially* all share this property, other adverbial pairs in the database show less unequal distribution (for instance, *explicitly/implicitly, privately/publicly* and *rightly/wrongly*).

Indeed, it is interesting to pause for a moment to consider those word-pairs at the opposite end of the distribution scale, those which share similar frequencies. One could argue that this is a potential criterion for "good opposites" as it suggests (though not necessitates) that both words belong to the same grammatical class in a majority of contexts. Similarity of frequency also suggests that the words share equal coreness in language, which could be seen as a criterion of antonymy too. The five antonymous pairs whose frequency match most closely are:

			W1	W2	% sim
1	**cold**	**hot**	16466	16026	97.3%
2	**punishment**	**reward**	6363	6152	96.7%
3	**rural**	**urban**	8600	7923	92.1%
4	**guilt**	**innocence**	4229	3804	90.0%
5	**female**	**male**	14883	16930	87.9%

Table Eight: Antonymous Pairs Sharing Similar Distribution

The fact that these five word-pairs all share similar frequency can be interpreted in many ways. However, this similarity can only enhance their claim to be "good opposites". Although it would be folly to claim that equality of frequency was the sole criterion for antonymy, it seems fair to state that the similarity of frequency between *cold* and *hot* gives them greater claim to the status of being "good opposites" than the extreme dissimilarity of frequency between, say, *disprove* and

prove. One might say that the potential antonymity of *disprove* is usually dormant when *prove* is used, but the potential antonymity of *cold* is usually active when *hot* is used.

7.2.2. Expected Frequency

Using the raw frequency data in columns one and two, it is possible to calculate the expected number of sentences which feature both members of each antonymous pair. This is recorded in column three of Table Seven.

For example, were *alive* and *dead* in no semantic relationship, one would expect them to appear together in about 29 corpus sentences. This figure is calculated by multiplying the chance of *alive* appearing in a given sentence by the chance of *dead* appearing in a given sentence. The corpus contains approximately 12,862,340 sentences, so the chance of *alive* appearing in a random sentence is 11,661 divided by 12,862,340, which equals just over 0.09%, about once per 1,100 sentences. The chance of *dead* appearing in a random sentence is slightly greater: 32,214 divided by 12,862,340, which equals just over 0.25%, about once per 400 sentences. If we multiple these two likelihoods together, we find that *alive* and *dead* can be expected to occur together about once per 440,000 sentences (1,100 x 400). As there are 12,862,340 sentences in the corpus, this means that about 29 (12,862,340 / 440,000) of these sentences can be mathematically expected to feature both words.

To confirm the accuracy of this estimate, I randomly selected a word with a frequency similar to that of *alive*, but in no obvious semantic relation to *dead*. The word I chose was *blow*, which appears on 11,189 occasions in the corpus, just a few hundred times fewer than *alive*. I then counted the number of sentences which feature both *blow* and *dead*. In total, there were 32, close enough to the estimate of 29.2 to allay any fears.

Returning to the 56 word-pairs sampled, the range of expected frequencies calculated is enormous. Because *new* and *old* each appear in over 100,000 sentences, their expected co-occurrence rate is over 3,000. At the other end of the scale, because *explicitly* and *implicitly* each appear in under 1,500 sentences, their expected co-occurrence rate is just 0.1. In other words, my corpus would need to be ten times larger than it is before one single sentence could be expected to feature both *explicitly* and *implicitly*.

Calculating an expected co-occurrence rate for each antonymous pair is useful because it allows a comparison to be made between the number of corpus sentences one would expect to feature both antonyms and the number of corpus sentences which actually do feature both antonyms. The latter statistic is discussed next.

7.2.3. Observed Frequency

Column four of Table Seven shows the observed frequency of co-occurrence for each antonymous pair, ie. the number of sentences which actually feature both antonyms. Once again, a wide range of figures are recorded here. At the bottom end of the scale, twelve antonymous pairs co-occur in fewer than 100 sentences, the lowest being *dishonest* and *honest*, which co-occur in just 28 sentences. At the top end of the scale, a further twelve antonymous pairs co-occur in more than 1,000 sentences, the highest being *new* and *old* which co-occur in 9,426 sentences. The top ten word-pairs of the sample, in terms of co-occurrence frequency, are listed below:

			Obs
1	**new**	**old**	9426
2	**private**	**public**	6741
3	**bad**	**good**	4804
4	**large**	**small**	2928
5	**high**	**low**	2847
6	**old**	**young**	2704
7	**right**	**wrong**	2677

8	**peace**	**war**	2586
9	**female**	**male**	2556
10	**long**	**short**	2168

Table Nine: Word-pairs with Highest Rate of Co-occurrence

The most striking thing about the above list is that it appears very adjective-heavy. Nine of the ten pairs are adjectival and the sole exception (*peace/war*) is ranked only eighth. The most frequently occurring verbal pair (*lose/win*) would occupy twelfth spot on the list and the most frequently occurring adverbial pair (*badly/well*) would be in sixteenth place. To some degree, the high levels of co-occurrence recorded by adjectives justifies the attention traditionally paid to antonymous members of this word class by semantic theorists.

If frequency of co-occurrence is seen as a criterion of "good opposites", then *new* and *old* can rightfully claim to be the king (and queen?) of antonyms. By some margin, they are the most commonly co-occurring antonymous pair examined. Therefore, it is likely that they are among the most commonly co-occurring antonymous adjectival pairs in English, and it possible that they are among the most commonly co-occurring antonymous pairs in English.

The only pretenders to the crown of *new/old* would be a prepositional pair of words such as *against/for* or *from/to*. The former pair co-occur in over 50,000 corpus sentences; the latter co-occur in over half a million. The problem is that neither *against/for* nor *from/to* function antonymously in the majority of those sentences. In most cases, the co-occurrence will be "accidental" because *for* and *to* (and, to a lesser extent, *against* and *from*) are multi-functional items with extremely high frequency. The process of manually sifting valid antonymous sentences from masses of non-antonymous sentences is lengthy and beyond the scope of this study.

The most important aspect of the Observed Frequency column is that, without exception, the co-

occurrence figure recorded for each antonymous pair is greater than the Expected Frequency for that pair. In other words, all of the 56 word-pairs analysed co-occur more often than chance would allow. The significance of this co-occurrence will be discussed in the next section.

7.2.4. Observed / Expected

The figures in column five of Table Seven are calculated by dividing the observed frequency for each pair by their expected frequency. These figures effectively answer the question: how many times more do these antonyms co-occur than would be expected by chance? For example, *advantage* and *disadvantage* co-occur in 69 corpus sentences, yet they were only expected to co-occur in 4.2 corpus sentences. This means that their rate of co-occurrence is 16.4 times greater (69 / 4.2) than chance would allow.

The co-occurrence rate for all 56 word pairs analysed is statistically significant. Using the chi-square method, all pairs record a score of at least 15, the lowest being *quickly/slowly*, which scores 15.6. Any chi-square score over 10.83 is 99.9% significant at one degree of freedom (Oakes 1998: 266). Therefore, there can be little doubt that the rate of co-occurrence among these antonymous pairs is highly significant.

The range of values generated by the Observed/Expected calculation is broad, the smallest being 3.1 (*new/old*), the largest being 1,400 (*feminine/masculine*). The enormity of the latter figure can be partially explained by the corpus being too small to adequately generate an expected co-occurrence statistic for words which themselves are relatively infrequent. As the frequency of *feminine* is just 1,191 and the frequency of *masculine* just 903, the number of sentences in the corpus which one would mathematically expect to feature both words is only 0.0836. In other words, my corpus would need to be twelve times larger (around 3.3 billion words) before a single sentence could be expected to feature both *feminine* and *masculine*.

However, the corpus actually features not one, but 140 sentences which fulfil this criterion, generating an O/E figure of 1,400. Furthermore, *feminine/masculine* is not the only low frequency word-pair to generate a large O/E ratio: *explicitly/implicitly* should also co-occur in fewer than 0.1 sentences, yet records an observed co-occurrence of 32, resulting in an O/E figure of 320; *officially/unofficially* should co-occur in 0.2 sentences, yet records an observed co-occurrence of 33, resulting in an O/E figure of 165.

It is interesting to glance at the extreme figures generated by low frequency pairs, but, in many cases, the individual frequencies of the words involved are not large enough to make the O/E figure statistically valid. Or, rather, my corpus, big as it is by most standards, is not vast enough to support co-occurrence analyses of such infrequent terms. Therefore, I shall now turn my attention to those word-pairs which succeeded in recording a strong O/E figure despite being high frequency items. Below are the top five O/E scores for words with an expected co-occurrence rate of ten or greater:

			Exp	Obs	O/E
1	**female**	**male**	19.6	2556	130.4
2	**cold**	**hot**	20.5	751	36.6
3	**poor**	**rich**	55.6	2027	36.5
4	**hate**	**love**	20.2	511	25.3
5	**boom**	**recession**	15.3	334	21.8

Table Ten: Ranked Frequency for Observed/Expected Word-pairs

As this table shows, *female/male* generates by far the greatest O/E score for any high frequency word-pair. One would expect two words with the raw frequency of *female* and *male* to co-occur in about 20 sentences; however, the pair actually co-occur in over 2,500 sentences. Other high frequency word-pairs which co-occur significantly more than expected are *cold/hot* and *poor/rich*, both of which co-occur about 36 times more often than chance would allow.

Once again, although a high co-occurrence figure could not be seen in isolation as a valid criterion for antonymy, one would be surprised if a pair of "good opposites" did not score well in this test. Hence, it is reassuring to note that all 56 of the antonymous pairs examined record an O/E score of at least three. In other words, every pair of antonyms analysed co-occurs in corpus sentences at least three times more often than expected. This confirms beyond any doubt the tendency of antonyms to co-occur and proves that the phenomenon of antonymy is syntagmatic as well as paradigmatic.

The lowest O/E score was recorded by *new/old* (3.1), followed closely by *badly/well, begin/end* and *difficult/easy* (all 3.3). However, it would be premature to jump to any conclusions about these pairs being poor opposites. All four pairs feature high frequency words with uneven distribution, the most extreme case being *well*, which arises on 178,431 occasions in the corpus, compared to *badly*, which records only 15,772 hits. This suggests that these words are unfaithful antonyms, that they are often used in sentences where they cannot be substituted for their antonym because of their polysemy. In turn, this suggests that the number of observed sentences which feature both antonyms is distorted by the inclusion of non-antonymous usage. And this, in turn, could render the O/E figure artificially low.

Nevertheless, a correlation emerges between frequency and O/E. High frequency antonyms tend to record lower O/E figures because they have more scope to be used in ways which leaves their potential for antonymy untapped. For example, it is very difficult to envisage a context in which *explicitly* and *implicitly* are not syntactically substitutable for one another, yet words such as *well, end* and *easy* will often function in ways such that their status as antonyms is irrelevant. Thus, one could conclude that the more core an item is in one's vocabulary, the less faithful it may be to its antonym.

7.2.5. Word 2 / Observed

The sixth column of figures is calculated by dividing the number of sentences which feature the less frequent antonym (as recorded in column two of Table Seven) by the number of sentences which feature both antonyms. Thus, the W2/O figure for *attack/defend* is 33.7: the frequency of *defend* (9198) divided by the number of co-occurrence sentences (273). Therefore, we can state that 1 in 33 sentences which feature *defend* will also feature *attack*. With *bad/good*, the W2/O figure is 9.8 so we can state that about one in every ten sentences which feature *bad* will also feature *good*. The lower the figure in this column, the stronger the likelihood of co-occurrence. The lowest ten figures calculated are recorded below:

			W2/O
1	**directly**	**indirectly**	2.8
2	**female**	**male**	5.8
3	**feminine**	**masculine**	6.5
4	**disprove**	**prove**	7.4
5	**private**	**public**	9.1
6	**bad**	**good**	9.8
7	**married**	**unmarried**	10.2
8	**poor**	**rich**	10.4
9	**active**	**passive**	11.8
10	**officially**	**unofficially**	11.9

Table Eleven: Ranked Frequency for W2/O Word-pairs

As the table above shows, if a sentence features *indirectly*, the chance of it also featuring *directly* is greater than one in three. This makes *directly* an excellent collocate of *indirectly*. Other pairs in this list are also morphological antonyms (*disprove/prove, married/unmarried, officially/unofficially*) and it would seem that morphological antonyms tend to cling to their root word more closely in text than lexical antonyms.

However, not all of the word-pairs above are morphologically related. Data show that more than one in six sentences which feature *female* will also feature *male*; *feminine/masculine* co-occur at a similar rate. It is difficult to know why gender-based adjectives co-occur with such force. It could have something to do with *female/male* being a non-gradable pair, but *alive/dead* are also non-gradable and their tendency to co-occur is much less noticeable. Besides, *feminine/masculine* are a gradable pair.

If an adequate explanation can be found to explain the high co-occurrence rate of *female/male* and *feminine/masculine*, it would probably take into account the semantics of these terms. This is confirmed by the fact that other gender terms also generate low W2/O scores. For example, to take a selection of gender-based word-pairs at random, *father/mother* generate a W2/O score of 8.4; *daughter/son* score 8.9; *man/woman* 11.0, and *brother/sister* 11.2. These figures all reflect a co-occurrence rate which is stronger than the average among antonyms, though an exception to this norm is *boy/girl* which scores a less marked 20.2.

At the other end of the scale, *punishment/reward* scores 161.9, the weakest of a sampled antonymous pair. Perhaps because *reward* acts as a verb as well as a noun in text, it would seem that these words are less drawn to one another than other pairs. This could weaken their status as "good opposites". However, even though only one in every 162 sentences which feature *reward* also feature *punishment*, it should be remembered that less than one in 2,000 *reward* sentences would feature *punishment* if these words co-occurred at random.

7.2.6. Word 1 / Observed

The seventh and final column of figures is calculated by dividing the number of sentences which feature the more frequent antonym (as recorded in column one of Table Seven) by the number of sentences which feature both antonyms. This tells us what proportion of W1 sentences also

feature W2. The lower the figure in this column, the stronger the tendency for the higher frequency word to co-occur with its antonym. And the lowest figure recorded by any antonym is that of *male*. This word occurs on 16,930 occasions in the corpus, about 2,000 more times than *female*. These antonyms co-occur in 2,556 sentences which means that one in every 6.6 sentences, which features *male* also features *female*.

At the other end of the scale, the highest figure in this column is recorded for *prove*. Only one sentence per 599 which features *prove* also features *disprove*. This suggests that the pair are unevenly matched antonyms. It would seem that *prove* is only used in terms of its antonymy with *disprove* in a fraction of contexts. The rest of the time, this antonymity remains dormant. As the next two highest scoring antonymous pairs are *advantage/disadvantage* and *correct/incorrect*, morphology can be cited as the prime factor in this high W1/O score. The ten lowest Word 1 / Observed ratios are listed in the table below:

			W1/O
1	**female**	**male**	6.6
2	**feminine**	**masculine**	8.5
3	**rural**	**urban**	16.7
4	**poor**	**rich**	16.8
5	**private**	**public**	19.7
6	**cold**	**hot**	21.9
7	**confirm**	**deny**	22.4
8	**rightly**	**wrongly**	25.0
9	**guilt**	**innocence**	26.1
10	**directly**	**indirectly**	28.8

Table Twelve: Ranked frequency for W1/O word-pairs

It is interesting to compare those pairs which score well in Table Twelve (W1/O) with those that score well in Table Eleven (W2/O). Some correlation emerges, but this pattern is not as strong as one might expect. For example, *directly/indirectly* tops Table Eleven but is only tenth in Table

Twelve. This is because *indirectly* is very faithful to *directly*, but *directly* is less faithful to *indirectly*. Conversely, *female/male* and *feminine/masculine* score well in both tables because the raw frequency of each word is comparable to that of its antonym and both pairs of words co-occur at a high rate relative to their frequency. Interestingly, *private/public* occupies fifth place in both tables, illustrating its status as a favourite journalistic antonymous pair. *Poor/rich* also appears in the top ten of both tables, but *rural/urban* scores much better in W1/O than it did in W2/O, a fact partially explained by the similarity of frequency between these two words.

7.2.7. Totals & Averages

Using the figures calculated for each specific antonymous pair, it is now possible to generate an average O/E figure, an average W2/O figure, and an average W1/O figure which can be used as a basis for more general observations about the phenomenon of antonymy.

7.2.7.1. Average O/E

The sum of all the figures in column three of Table Seven is 8,441.8. In other words, one would expect the 56 antonymous pairs studied to co-occur with one another in a total of about 8,442 sentences. The actual number of co-occurrence sentences is 55,411. This means that, on average, the 56 word-pairs selected co-occur 6.6 times more often than would be expected by chance.

When Justeson & Katz carried out the same experiment on the Deese antonyms, they found that antonyms co-occurred in the same sentence 8.6 times more often than would be expected by chance (1991: 142). These two figures, calculated independently, are close enough to prove that antonyms do co-occur in text at a relatively high rate. However, the difference between my figure of 6.6 and Justeson & Katz's figure of 8.6 requires further investigation.

One disparity between our methodologies is that Justeson & Katz limit their research to words which function adjectivally whereas my database includes non-adjectival antonymous pairs.

Therefore, one explanation could be that antonymous adjectives display a higher co-occurrence ratio than antonymous non-adjectives. I tested this theory by calculating co-occurrence ratios for antonymy by grammatical class. The results are presented below:

	Obs	Exp	O/E
adjectives	45020	7330.2	6.1
nouns	5195	411.4	12.6
verbs	3380	457.1	7.4
adverbs	1816	243.1	7.5
total:	55411	8441.8	6.6

Table Thirteen: Observed/Expected Frequency of Word Pairs by Grammatical Class

As this table shows, adjectives do not co-occur any more often than the average for all word-pairs sampled. Antonyms which are adjectival co-occur 6.1 times more than would be expected by chance. The difference between this figure and the average for all antonyms (6.6) is minor. Verbs and adverbs co-occur slightly more than average, but the most striking difference arises when nouns are examined. The nine antonymous pairs of nouns selected co-occur, on average, 12.6 times more than expected. This is almost double the average for all antonyms. The reason for this is difficult to pinpoint, but it is clear that, in my data, antonymous nouns keep closer company with one another than antonyms belonging to any other grammatical class.

However, the analysis presented in Table Thirteen has not been able to account for the difference between my co-occurrence figure of 6.6 and Justeson & Katz's co-occurrence figure of 8.6. The explanation seems not to lie in their adjectives-only policy, but rather in their choice of corpus. The Brown corpus is tagged, so Justeson & Katz were able to restrict their search to adjectival uses of their chosen antonyms. The newspaper corpus on which my statistics are based is untagged. This creates the problem of "wastage" - polysemous words being retrieved as part of,

say, an adjectival antonymous pair when one or both words are actually functioning as nouns. The level of "wastage" in my corpus is impossible to gauge with accuracy, but the expected number of co-occurrences for each word-pair would rise if the raw frequency of each word was adjusted to account for polysemous usage. In turn, this would allow the O/E figure to rise towards Justeson & Katz's estimate of 8.6.

In other words, although I have calculated antonyms to co-occur within the same sentence 6.6 times more often than expected, this may be distorted by polysemy and the true figure may be nearer to 8.6 or even higher.

7.2.7.2. Average W2/O

In addition to calculating an O/E figure, Justeson & Katz also compute a W2/O figure of 14. This allows them to state that "co-occurrences took place on average once per 14 sentences containing the less frequent member of an antonym pair" (1991: 141). The W2/O figure is calculated by dividing the frequency of the less common antonym by the number of sentences in which both antonyms appear. Therefore, according to Justeson & Katz, co-occurrence takes place once per every 14 opportunities in text. By totalling the frequency of the less common antonym of each word-pair (955,994) and dividing by the number of co-occurrence sentences (55,411), I was able to calculate this figure to be 17.3. In other words, according to my data, antonyms co-occur about once every 17 opportunities. Once again, the difference between my figure and that generated by Justeson & Katz is relatively small and can be largely accounted for by the fact that my corpus is untagged.

7.2.7.3. Average W1/0

Justeson & Katz did not calculate an average W1/O figure. In one sense, this figure is not as fundamental as the W2/O statistic because it does not reflect co-occurrence opportunities taken.

However, a brief glance at the differences between the word-pairs of Table Eleven and those of Table Twelve demonstrates that antonyms which score well on one criterion do not necessarily score well on the other.

The total of column one of Table Seven is 2,662,409. The average W1/O score is calculated by dividing this figure by the sum of column four, 55,411. The result is 48.0. This means that lower frequency antonyms co-occur with their partner once per 48 opportunities, on average. Higher frequency antonyms co-occur with their partner once per 17.3 opportunities, on average, it was determined in the last section. "Good opposites", one might speculate, will record a lower than average score for both tests.

7.2.8. Co-occurrence criteria for "good opposites"

This chapter has examined the raw frequency of antonymy in a large corpus and considered whether any criteria can be developed to identify "good opposites" in language. The problem is that the notion of "good opposites" is largely subjective*. However, one can justify making a handful of initial requirements of antonymy:

1 A good pair of antonyms should share a similar level of coreness in language. In other words, their corpus frequencies should be comparable to one another. Some antonyms sampled outnumber the partners by up to 80 times in text. This seems to detract from their compatibility. Those antonyms whose frequencies are most similar are *cold/hot, punishment/reward* and *rural/urban.*

2 As similarity of coreness is a criterion of good opposition, so too is coreness itself. Carter notes that "the less *core* a word is, the more difficult it is to find an antonym for it" (1987: 36). With this in mind, pairs with high rates of observed co-occurrence are given priority

*Cruse identifies interesting semantic criteria for "good opposites" (1986: 262), but co-occurrence data are not used.

over those with lower rates. Top scorers are *new/old, private/public* and *bad/good.*

3 A high Observed/Expected ratio is also desirable when identifying strong antonymous pairs. All antonymous pairs examined co-occur in text at least three times more often than chance would allow. Therefore, one could reason that the higher the O/E ratio, the stronger the antonymous pair. *Female/male* scores the highest by far, with *cold/hot* and *poor/rich* behind.

4 The W2/O figure calculated for each pair represents the number of opportunities for co-occurrences per actual co-occurrence. The lower this score, the greater the chance of the antonym with lower frequency appearing in a sentence alongside its partner. Given that good antonyms can be expected to be faithful to one another in text, this seems like a fair criterion. Top three pairs: *directly/indirectly, female/male* and *feminine/masculine.*

5 If the W2/O figure is relevant, so too is the W1/O figure. This records the number of times in which the antonym with higher frequency co-occurs with its partner, relative to its raw frequency. Essentially, it measures how faithful the more core antonym is to its less core partner. Highest fidelity is achieved by *female/male, feminine/masculine* and *rural/urban.*

The criteria above are based solely on raw frequency and co-occurrence frequency. No attention is paid to how antonyms actually function in text. A more thorough test of antonymity might factor in the kind of framework each word-pair favours. However, if one applies the five criteria of "good opposites" outlined above to the 56 word-pairs selected, only five antonyms record an above-average score for each test:

female/male
high/low

peace/war
poor/rich
public/private

Each of these pairs records a frequency similarity of more than 40%, an observed co-occurrence score in excess of 1,000, an O/E figure above 6.6, a W2/O figure of under 17.3, and a W1/O score of under 48.0. As such, based only on co-occurrence criteria, one could argue that these five word-pairs are the most "hardcore" antonyms in language, or, more specifically, in newspaper text; it is no co-incidence that three of these pairs are closely connected with the political world (*peace/war, poor/rich* and *public/private*).

Whether it is reasonable to identify "good opposites" exclusively on the basis of co-occurrence criteria is debatable. However, the statistics recorded in Table Seven prove that all antonyms co-occur at a statistically significant rate. On average, antonymous word-pairs co-occur at least 6.6 times more often than chance would allow.

7.3. Summary of Chapter Seven

This chapter has presented a statistical analysis of antonym co-occurrence in text. All 56 word-pairs selected for study have been investigated in terms of raw frequency, expected frequency and observed frequency. These figures have been used to calculate the significance of co-occurrence and the proportion of actual co-occurrence to possible co-occurrence for each antonym. Based on this data, five criteria for "good opposites" have been established, and five of the word-pairs sampled were found to record above-average scores for every criterion. Arguably, this gives them some claim to be among the most antonymous word pairs in English.

Unfortunately, this analysis does not yet justify its chapter heading. The endemicity of antonymy, if antonymy is indeed endemic, remains unproven. This chapter has shown that antonyms co-occur, often at a very significant rate, but it does not demonstrate that antonymy is endemic in

language. To address this, we must begin with the figure of 55,411, the aggregate number of sentences which feature both members of each antonymous pair (Table One, column four total). A further 10,326 sentences can be added to this aggregate to account for the *un*-words retrieved from the corpus. This gives a new total of 65,737, the total number of corpus sentences which feature both members of a selected antonymous pair. This approximates to one sentence per 195 in the corpus.

However, the true proportion of antonymous sentences is likely to be much greater. My database, though relatively large, incorporates no more than a sample of all antonymous pairs in language. Many other pairs could have been included and rough estimations suggest that a broader definition of antonymy could have yielded up to 200,000 further antonymous sentences. Indeed, the proportion of sentences which feature both members of an antonymous pair could be as high as one in 50. Although this is an unsubstantiated estimate, the demonstrable fact that antonyms co-occur in at least one sentence in 195 is sufficient to evidence some degree of endemicity.

The next chapter of this thesis will investigate an aspect of antonymy which may have been previously over-looked: the sequence in which antonyms appear in text. Antonyms tend to show a bias towards appearing in a certain sequence in text. Chapter Eight will examine this sequence, speculate why it may have arisen, and explore examples and counter-examples in text.

Chapter Eight:
Antonym Sequence

8. Antonym Sequence

8.1. Introduction

The purpose of this chapter is to explore the database with a view to determining whether (and why) antonyms tend to occur in a particular sequence. Given that antonyms are equal in many respects (effectively being co-hyponyms and showing "minimum contrast" (Clark 1970: 275)), one would not necessarily expect word pairs to have marked and unmarked sequences in text. In other words, there is no obvious reason why, say, *good* should appear before *bad* in a disproportionate number of sentences, nor is there any reason why *bad* should appear before *good* in a disproportionate number of sentences. However, if we examine the 117 sentences retrieved from the corpus which feature both *good* and *bad*, we find that *good* appears before *bad* 100 times and *bad* appears before *good* just 17 times. In other words, according to this sample, *good* precedes *bad* in 85% of sentences which feature both of those words.

Furthermore, *good/bad* is not the only word-pair to evidence such a bias: *win* precedes *lose* in 84% of sentences; *rich* precedes *poor* in 86% of sentences; and *male* precedes *female* in 83% of sentences. Indeed, of the 56 antonymous pairs sampled, only 9 do not show any marked preference* towards either word. The majority of pairs favour a given sequence over the reverse of that sequence; this chapter will investigate why.

8.2. Sequence Statistics for Antonymous Pairs

The figures presented in the table below shows the tendency of X to appear before Y (and vice versa) in sentences when X and Y are antonymous. To take *agree/disagree* as an illustration, column one shows that *agree* appears before *disagree* in 90% of the sentences analysed. The figure in column two shows the raw frequency of this percentage, namely 44. Thus, *agree* precedes *disagree* in 44 database sentences. Conversely, *disagree* precedes *agree* in 5 sentences, which

*Marked preference is here defined as a bias in excess of 60%.

corresponds to a proportion of 10%. Pairs are listed in descending strength of bias.

100%	(18)	**correct**	**incorrect**	(0)	-
100%	(14)	**prove**	**disprove**	(0)	-
100%	(44)	**rightly**	**wrongly**	(0)	-
99%	(78)	**directly**	**indirectly**	(1)	1%
97%	(33)	**confirm**	**deny**	(1)	3%
96%	(24)	**officially**	**unofficially**	(1)	4%
90%	(44)	**agree**	**disagree**	(5)	10%
90%	(28)	**married**	**unmarried**	(3)	10%
89%	(55)	***true***	***false***	(7)	11%
87%	(27)	**legal**	**illegal**	(4)	13%
87%	(52)	**right**	**wrong**	(8)	13%
86%	(88)	**rich**	**poor**	(14)	14%
85%	(100)	**good**	**bad**	(17)	15%
84%	(49)	**lose**	**win**	(9)	16%
83%	(72)	**male**	**female**	(15)	17%
83%	(20)	**boom**	**recession**	(4)	17%
83%	(10)	**honest**	**dishonest**	(2)	17%
79%	(22)	**temporary**	**permanent**	(6)	21%
79%	(42)	**well**	**badly**	(11)	21%
78%	(46)	**hot**	**cold**	(13)	22%
76%	(16)	**optimism**	**pessimism**	(5)	24%
76%	(67)	**success**	**failure**	(21)	24%
75%	(38)	**begin**	**end**	(13)	25%
75%	(27)	**advantage**	**disadvantage**	(9)	25%
74%	(35)	**optimistic**	**pessimistic**	(12)	26%
74%	(77)	**hate**	**love**	(27)	26%
72%	(34)	**publicly**	**privately**	(13)	28%
71%	(20)	**quickly**	**slowly**	(8)	29%
71%	(180)	**old**	**new**	(74)	29%
71%	(49)	**old**	**young**	(20)	29%
71%	(95)	**public**	**private**	(39)	29%
71%	(22)	**wet**	**dry**	(9)	29%
70%	(44)	**succeed**	**fail**	(19)	30%
69%	(47)	**masculine**	**feminine**	(21)	31%
67%	(24)	**fact**	**fiction**	(12)	33%
66%	(29)	**innocence**	**guilt**	(15)	34%
66%	(21)	**high**	**low**	(11)	34%
64%	(32)	**large**	**small**	(18)	36%
64%	(21)	**gay**	**straight**	(12)	36%
64%	(29)	**happy**	**sad**	(16)	36%
63%	(60)	**active**	**passive**	(36)	37%
63%	(19)	**attack**	**defend**	(11)	37%
63%	(12)	**reward**	**punishment**	(7)	37%
61%	(17)	**encourage**	**discourage**	(11)	39%
61%	(11)	**drunk**	**sober**	(7)	39%
61%	(22)	**long**	**short**	(14)	39%

60%	(9)	**war**	**peace**	(6)	40%
59%	(16)	**minor**	**major**	(11)	41%
57%	(16)	**fast**	**slow**	(12)	43%
57%	(44)	**heavy**	**light**	(33)	43%
56%	(18)	**hard**	**soft**	(14)	44%
56%	(15)	**easy**	**difficult**	(12)	44%
54%	(29)	**dead**	**alive**	(25)	46%
54%	(13)	**urban**	**rural**	(11)	46%
54%	(19)	**weakness**	**strength**	(16)	46%
53%	(16)	**implicitly**	**explicitly**	(14)	47%

Table Fourteen: Word Sequence Statistics

Three of the 56 word-pairs examined achieve a 100% score: *correct* precedes *incorrect, prove* precedes *disprove*, and *rightly* precedes *wrongly* in every sentence retrieved. To some extent, these statistics need to be adjusted to account for the relatively low sample size. Only 18 *correct/incorrect* sentences were included in the database and only 14 *prove/disprove* sentences were included. With *rightly/wrongly*, this figure rises to 44 which, though more substantial, remains relatively small. From such a limited sample, one could not infer that *correct/incorrect, prove/disprove* and *rightly/wrongly* never appear in reverse sequence, but one could infer that such a sequence is very rare.

Three other pairs occurred in the same sequence within all but one sentence retrieved. Thus, a strong bias is shown by *directly* to precede *indirectly, confirm* to precede *deny*, and *officially* to precede *unofficially*. Table Fourteen also shows that the pairs *agree/disagree* and *married/unmarried* appear in that sequence in 90% of contexts extracted. A further nine pairs feature in a given sequence in over 80% of sentences. Significantly, these include pairs which are heavily represented in the database. For example, *rich/poor* and *good/bad* both feature in over 100 sentences and show a powerful bias towards occuring with *rich* and *good* first respectively.

At the other end of the scale, a bias of between 60% and 70% is less marked and a bias of

between 50% and 60% could not be seen as marked in any sense. For instance, *easy* precedes *difficult* in 56% of sentences sampled. However, if just two of those sentences which feature *easy* before *difficult* were replaced by two sentences which feature *difficult* before *easy*, then the *difficult* would show a bias of 52%. Therefore, such pairs are better described as having not [yet] developed a marked/unmarked sequence in text.

8.3. Marked and unmarked (or unmarked and marked?) antonym sequence

Table One shows that the majority of antonymous pairs favour a certain word sequence in text. Following Birdsong (1995), McCarthy (1998) discusses iconicity in the word order of binomials from a pedagogical perspective, concluding that binomials, "because of their idiomaticity" (1998:148), may be best treated as "unanalysable wholes" rather than as the sum of their individual parts. With this in mind, I shall now examine some of the possible reasons why one sequence is given preference over the reverse of that sequence in text. Below are eight factors which may influence the sequence in which antonyms appear.

8.3.1. Morphology

The biggest single factor affecting the sequence in which antonyms appear is morphological derivation. For proof of this, consider the nine antonymous pairs sampled which feature morphologically-related antonyms (ie. antonymy formed by prefixing a word with *un-*, *il-*, *in-* or *dis-*) and their tendency to appear in text with their morphological antonym in second position:

		unmarked sequence
correct	**incorrect**	100%
prove	**disprove**	100%
directly	**indirectly**	99%
officially	**unofficially**	96%
agree	**disagree**	90%
married	**unmarried**	90%
honest	**dishonest**	83%

legal	**illegal**	87%
advantage	**disadvantage**	75%

Table Fifteen: Sequence of Morphological Antonyms

The table above shows that all the morphological antonyms examined have a strong tendency to place their root word before their derivation. The pair with the least pronounced bias are *advantage* and *disadvantage*, which still favour that sequence in text, but not to the same degree as the other morphological pairs - in one quarter of sentences sampled, *disadvantage* precedes *advantage*. Further proof of the extent to which morphology affects antonym sequence can be found in Table Fourteen. Of the ten pairs which record the strongest bias, seven are morphological antonyms.

As one would expect, this pattern is also reflected in the "un-words" portion of the database. Of the 156 sentences randomly selected which feature a word and the *un*-version of that word, 130 present the root word first and the morphological antonym second. This corresponds to about 84%, which is compatible with the scores for individual pairs in Table Fifteen.

In total, the nine word pairs in Table Fifteen feature in 295 of the 3,000 database sentences. Of these 295 sentences, the root word precedes the morphological antonym in 270. Only 8.5% of examples resist this sequence. If one adds the 156 "un-word" sentences, we find that 400 out of 451 sentences (88.7%) feature their root word before their morphological antonym. This suggests that morphology is a powerful criterion of antonym sequence in text. However, it does not explain why morphologically related antonyms adhere so closely to this sequence. For this, we must examine the role of other factors, and, as one would expect, overlaps arise between these factors. Indeed, morphology may be a symptom of antonym sequence more than a cause, as subsequent sections will show.

8.3.2. Positivity

If one member of an antonymous pair has more positive connotations than the other, it can often lay claim to being the first-mentioned of the pair in most sentences. As Lyons notes, "the positive opposite tends to precede the negative when opposites are co-ordinated" (1977: 276). For example, *good* is a more positive word than *bad.* Therefore, *good* precedes *bad* in 85% of the sentences retrieved which feature both items. Their corresponding adverbs show the same pattern, with *well* preceding *badly* in 79% of sentences extracted. For the same reason perhaps, *optimism* and *optimistic* appear before *pessimism* and *pessimistic* in 76% and 74% of sentences respectively. Also, *success* and *succeed* are the initial antonyms in over 70% of their sentences and *right* and *rightly* precede *wrong* and *wrongly* in 87% and 100% of sentences retrieved respectively.

A clear pattern can be identified here - antonyms with positive associations are being given priority over antonyms with negative associations. Furthermore, the more positive the associations, the more marked the pattern tends to be. For instance, other words which occur before their antonymous partner in a high percentage of sentences include *win* (84%), *boom* (83%), *true* (89%) and *rich* (86%). These words carry strongly positive connotations, especially if one compares them with their negative partners (*lose, recession, false* and *poor*). Words which carry less positive associations (but which, nonetheless, remain positive) include *active* (because *passive* usually suggests weakness), *easy* (because *difficult* is often a term of criticism) and *innocence* (which can carry connotations of naivity, but remains much less negative than *guilt*). These words are all positive, but their positivity is less clear-cut than earlier examples. Because of this, although they precede their antonyms in a majority of sentences, that majority is less marked (63%, 56% and 66% respectively).

Other antonyms which tend to occur in a sequence influenced primarily by positivity are *confirm/deny, encourage/discourage, happy/sad, love/hate* and *reward/punishment.* More marginal

cases include *fast/slow* and the corresponding adverbial pair *quickly/slowly*. High speed is not always thought of positively (it often has associations with danger), but this is arguably outweighed by the negativity of *slow* and *slowly* (which can be linked to inertia, sluggishness or even unintelligence).

Similar problems are raised by *attack* and *defend*. These words occur in that sequence in 63% of sentences retrieved, suggesting, perhaps, that *attack* is the more positive antonym. Though the act of attacking is not usually seen in a good light, it could be interpreted as the more active antonym, with *defence* possibly implying weakness. An alternative explanation is that *attack* is often used metaphorically, in which case it need not carry such negative connotations. If something bad is being attacked, that criticism could be seen in a positive light, which may help to explain why it appears first in a majority of contexts.

Most antonymous pairs sampled appear in a sequence of positivity when one antonym can be identified as being the more positive*. However, some counter-examples are unavoidable and four pairs seem to buck the trend of sentences mentioning the more positive antonym first: *dead* precedes *alive* in a majority of sentences; *weakness* precedes *strength*; *war* precedes *peace*; and *drunk* precedes *sober*. To a greater or lesser degree, each of these pairs are occurring with their negative partner before their positive partner. Each of these counter-examples will be returned to and explanations sought. However, in general, it would appear that positivity is a key factor in determining which antonym should appear first in the sentence.

Indeed, one could go further and argue that this criterion subsumes the criterion of morphology. If we re-examine the nine morphological pairs listed in Table Fifteen, we can see that the root word is the more positive word in almost every case. For example, *advantage, correct* and *honest* are

*Though this is not always the case - pairs such as *female/male, cold/hot* and *private/public* seem largely unbiased.

positive terms; *disadvantage, incorrect* and *dishonest* are negative terms. The counter-example here is *married/unmarried*, which would require a greater degree of subjective judgment before either member could be labelled as positive.

So, why has the criterion of morphology been presented separately from the criterion of positivity? For two reasons, the first of which is intimated by the problem of *married/unmarried.* Morphologically derived antonyms are usually negative, but they are not always negative. Consider the antonyms *selfish* and *unselfish.* The negative term here is the root word; the morphological antonym carries more positive connotations. Similarly, *uncensored, uncontaminated* and *unbiased* are all frequently presented as positive terms, despite their prefix. Very few sentences feature these words and their corresponding antonyms, but the tendency among those which do is to present the [negative] root word before the [positive] morphological antonym in a majority of sentences*. Therefore, the criterion of morphology could be seen to over-ride the criterion of positivity.

This relates to the second reason for keeping the two criteria distinct, namely that morphology affects antonym sequence much more powerfully than positivity. The nine morphological antonyms occurred in the expected sequence (root word first; morphological antonym second) in 91.5% of sentences. But positive words precede negative words in only 77.9% of database sentences. This latter percentage is based on all word pairs where a positive and negative term can be identified, including morphological antonyms. Again, this suggests that the criterion of morphology is stronger than the criterion of positivity and explains why it has been given attention separately in this section.

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*Only five such sentences were found in the corpus: two showed *selfish* preceding *unselfish*, one showed *unselfish* preceding *selfish*, and two showed *uncontaminated* preceding *contaminated.* In other words, four out of five examples placed their root word first, in spite of its negative associations.

8.3.3. Magnitude

Morphology and positivity are the two most important factors in determining antonym sequence, but the concept of size also seems to be important in the case of a handful of word pairs. For example, *large* occurs before *small* in 64% of sentences sampled. One might link this with the criterion of positivity (bigger is usually better), but *small* could hardly be seen as a negative term in the same way as *failure* or *hate.* Therefore, the expression of magnitude itself appears to be a valid criterion of antonym sequence.

A second example is the pair *long* and *short*, which occur in that sequence in 61% of sentences sampled. A third, though perhaps more marginal example, is the pair *high* and *low*, which follow that sequence in 66% of the sentences sampled. *High* does not reflect magnitude as directly as *large* and *long*, but it could still be seen as the "greater" antonym when compared with *low.*

A possible counter-example is the pair *heavy/light.* Given the favoured sequence of the pairs above, one might expect *heavy* to precede *light*, as it would usually express the greater magnitude. However, the sentences sampled show a slight bias to the contrary.

8.3.4. Chronology

If one antonym is prone to precede the other in the real world, this sequence will be reflected in the syntax of an average sentence. For example, *begin* precedes *end* in three quarters of all sentences sampled. The reason for this is that the beginning of an event always precedes its end; to reverse this normal sequence in language would be marked.

This theory is interesting if applied to the pairs *new/old* and *old/young*. In 71% of *new/old* sentences sampled, *old* appears before *new*. However, in 71% of *old/young* sentences sampled, *young* appears before *old.* This supports the view that, when deciding upon antonym sequence, we are aware of the polysemy of *old* - when we refer to "not new" *old*, we are likely to treat it as

antonym one; but when we refer to "not young" *old*, we are likely to treat it as antonym two.

The logic behind this is perhaps analogous with the logic behind the favoured sequence of *begin* and *end*. Chronologically, *old* precedes *new* because, for example, old houses were built before new houses. *Young* also precedes *old*, though not literally (because old people were born before young people), but rather in the sense that one is 20 years old before one is 40 years old. Therefore, in text, *old* tends to precede *new*, but *young* tends to precede *old*.

This awareness of the temporal aspect of antonymy could help to explain why *attack* tends to precede *defend*, although it would hardly account for the tendency of *dead* to precede *alive*. One might also apply this criterion to *temporary/permanent*, arguing that *temporary* precedes *permanent* in 79% of sentences sampled because things are often *temporary* before they become *permanent*.

8.3.5. Gender

One of the most striking preferences among antonymous pairs is that of *male* and *female*. The former precedes the latter in 83% of sentences sampled. One could explain this with reference to the morphological relation between the two words, but the "prefix" *fe-* is hardly commonplace and *female* is not a low frequency derivation of *male*, as one could perhaps describe the relationship between *unmarried* and *married*. Besides, *male* and *female* may not be morphologically related - this could be an example of folk etymology, with *male* and *female* being derived from the distinct Latin terms *masculus* and *femina*.

The positivity criterion should not apply - only sexists would identify *male* as being positive and *female* as being negative* (or vice versa) - so we are only left with the option of recognising

*Although Lyons does apply the theory of "positive antonym; negative antonym" very liberally, arguing that a positive term can be identified in irreversible binomials such as *man/woman* and *food/drink* (1977: 276).

gender itself as a criterion of antonym sequence. This is supported by an examination of the normal sequence of *feminine/masculine*. Once again, the bias is not trivial - 69% of sentences retrieved feature *masculine* before *feminine*. This seems to confirm the tendency for things male to be given priority over things female in text, as does the propensity of *he* to precede *she*, and *him* to precede *her*.

The word-pair *gay/straight* does not provide a counter-example to this, but remains interesting because *gay* precedes *straight* in 64% of sentences sampled. A possible explanation for this is that *gay* is the less polysemous of the pair and is better able to signal the scale along which the words operate than *straight*.

8.3.6. Phonology

The tendency of *male* to precede *female* in text is so strong that gender alone may not be sufficient to account for it. Given that this sequence is especially noticeable in umbrella contexts such as *male and female* or *male or female*, it is possible that phonological factors are at work here. If we say *male and female*, the phonetic repetition of *male* is interrupted by two syllables; however, if we say *female and male*, the phonetic repetition of *male* is interrupted by only one syllable. Subconsciously, we may wish to keep identical syllables away from one another in speech and, perhaps, text. This would provide another explanation as to why root words precede their morphological antonyms in text.

To investigate the hypothesis that word-length influences antonym sequence, those antonymous pairs which differed in syllables from one another (*boom/recession, easy/difficult*, etc) were separated from those which did not (*confirm/deny, explicitly/implicitly*, etc). 21 pairs were found to contain antonyms of different length. Of those, 17 tended to feature the shorter antonym before the longer antonym. Admittedly, nine of these 17 pairs were morphological antonyms, but even

among lexical pairs, twice as many showed a bias towards placing their low-syllable word before their high-syllable word than showed a bias towards the contrary. This may help explain why the following pairs tend to appear with their shorter antonym first: *male/female, boom/recession, well/badly, fact/fiction, reward/punishment, drunk/sober, easy/difficult* and *dead/alive.* Only four of the 56 word-pairs sampled act as counter-examples: *begin/end, succeed/fail, happy/sad* and *innocence/guilt.* It could be that other factors (such as positivity or chronology) outweigh phonological factors in these examples.

8.3.7. Idiomaticity

Some word pairs seem to favour a certain sequence, not because of abstract semantic criteria, but because they have developed semi-idiomatic status, perhaps as a result of a certain coinage-point in their history. The best example of this is the antonymous pair *war* and *peace*, which tends to follow that sequence despite *peace* being the more positive term. One explanation may be Tolstoy's novel *War And Peace*, which perhaps set a precedent for these antonyms to occur in that sequence. Conscious of this in the back of our minds, it is possible that we remain disinclined to reverse this sequence.

A second possible example is the word-pair *alive/dead* which occurs with the negative term (*dead*) in first position in a majority of sentences. To a small extent, this could be influenced by the *Wanted Dead Or Alive* cliche of certain films, usually Westerns, and, one assumes, authentic posters of fugitives from American history. Though the tendency of *dead* to precede *alive* is only slight (54% of sentences sampled), the difference between this and other overtly positive/negative pairs is significant (*good* precedes *bad* in 85% of sentences, *win* precedes *lose* in 84%, etc). It would be interesting to test this theory by considering the sequence of *peace/war* and *alive/dead* in pre-20th century corpora.

Weaker cases could be made for the pairs *fact* and *fiction* (because of traditional classification of books, perhaps) and *true* and *false* (because of quizzes, games, etc), although the latter is also explicable in terms of the criterion of positivity.

8.3.8. Frequency

When first approaching the issue of antonym sequence among antonymous pairs, one hypothesis of mine was that the higher frequency antonym in any given pair would be more likely to occur first in the sentence. I had assumed that the more common antonym would "lead the way", so to speak, being the more familiar. However, my testing of this hypothesis proved inconclusive.

In some cases, there seemed to be a strong correlation between frequency and word-sequence. For example, the frequency of *drunk* is more than twice that of *sober*, and *drunk* precedes *sober* in 61% of sentences sampled. Similarly, *light* precedes *heavy* in most sentences sampled; perhaps the fact that *light* features in 14,000 more corpus sentences than *heavy* is significant?

However, whilst frequency is possibly an influencing factor in determining sequence for some pairs, other antonyms suggest that this correlation should be treated with caution. Consider the pair *confirm/deny* - of the 34 sentences extracted which feature these words, only one features *deny* before *confirm* (see sentence 286, later). Yet *deny* is the higher frequency word in text, occurring 7,514 times to *confirm*'s 6,595. Other large discrepancies include *boom* and *recession* which arise in that sequence in 83% of sentences retrieved despite the raw frequency of *recession* being almost treble that of *boom*. A similar pattern emerges with *rich* and *poor*. Over 34,000 corpus sentences feature *poor* but only 21,000 feature *rich*. Yet *rich* precedes *poor* in 88% of sentences examined.

Such evidence diminishes the case for frequency to be included as a criterion of word-sequence among antonymous pairs. In total, 34 of the 56 word pairs examined show a bias towards placing

their higher frequency item first in sentences. However, the other 22 pairs do not, which means that frequency, if an influencing factor at all, belongs towards the bottom of the list of significant criteria.

8.3.9. Summary of Criteria

The factor which seems to influence the sequence in which antonyms appear most strongly is morphology. Morphologically related antonyms tend to occur in text with the seed word first and the *un-/dis-/in-/il-* version second. All nine morphological pairs examined follow this pattern in at least 75% of sentences extracted. Two pairs, *correct/incorrect* and *prove/disprove* appear in that sequence in every sentence extracted.

The second most significant factor is positivity. This criterion is related to the criterion of morphology in that morphological pairs tend to feature one positive and negative item. However, positivity alone is a weaker influence than morphology. Nonetheless, almost all word pairs sampled which feature one positive and one negative item place their positive antonym first in a majority of sentences. Thus, *success* precedes *failure*, *happy* precedes *sad*, *right* precedes *wrong*, etc.

Other factors affect fewer antonymous pairs, but it would seem that magnitude can be an influencing factor in that the more substantial antonym tends to precede the less substantial antonym (ie. *large/small*). Chronology may also be of significance when applicable, so *begin* tends to occur before *end* in sentences. Gender may be a contributing factor, as *male* antonyms usually precede *female* antonyms. And phonological factors may also influence the tendency of some pairs to become enshrined in a given sequence, with shorter antonyms preceding longer antonyms (ie. *boom/recession*). Finally, the sequence of a pair of words may become enshrined because of repeated exposure from a particular source, *war* and *peace* being a possible example.

8.4. Reasons underpinning criteria

One can only speculate about the reasons why there is a marked and unmarked sequence for antonymous pairs and why some sequences are stronger than others. However, some factors can be seen to influence this sequence. For example, it seems irrefutable that writers give lower priority to the morphological antonym than to the word from which it is derived. But why should this be so? Why not the other way round? Likewise, why should positive antonyms precede negative antonyms or large antonyms precede small antonyms? From what cultural, social, psychological or linguistic sources did these tacit, but rarely broken, rules originate?

Such questions are always difficult to answer, but some ideas are more plausible than others. For example, our tendency to give priority to positive antonyms over negative antonyms could reflect a speaker's intuition to mention the "happier" alternative first. Once this sequence becomes established in spoken English, writers become more likely to reflect this in written English. In other words, it is possible that alluding to *success* before *failure* is preferable precisely because *success* itself is preferable to *failure*.

Sequencing antonyms according to the criterion of magnitude suggests we give priority to that which is more substantial. Thus, language here seems to reflect visual dimensions - what we see first is articulated first. Temporal dimensions are also reflected among antonymous pairs when chronologically earlier antonyms appear first in sentences. The criterion of gender suggests some degree of sexism (in the language, not in the individual), but this is mitigated by the fact that writers tend not to innovate in the area of antonym sequence, but rather follow the accepted norm, as the criterion of idiomaticity testifies. Once a given word sequence is established, it tends to become relatively fixed in the lexicon. Finally, phonological factors may apply in that identical syllables tend to be kept apart in text. This results in root-words preceding their morphological antonyms and there also seems to be a general tendency for shorter antonyms to precede their

longer partners in text.

8.5. Problem Pairs

Collectively, the above criteria account for the bias displayed by almost all of the word-pairs examined. However, a handful of antonymous pairs remain unaccounted for. Most of these pairs can be discounted because the bias they show is too insignificant to worry about, especially given the relatively small number of sentences sampled. For example, of the 24 *rural/urban* sentences retrieved, 11 mention *rural* first and 13 mention *urban* first. To speculate about this "bias" is unnecessary; all that has been illustrated is that writers show no strong sequential preference when using these words.

Similarly, *implicitly* precedes *explicitly* in 53% of sentences retrieved, *weakness* precedes *strength* in 54% of examples, *soft* precedes *hard* in 56% of examples, *light* precedes *heavy* in 57% of examples, and *minor* precedes *major* in 59% of examples. Though some of these patterns are slightly unexpected, these statistics really only illustrate that these words have not developed a strict sequence in text.

More relevant is that *hot* precedes *cold* in 78% of sentences sampled and that *wet* precedes *dry* in 72% of sentences sampled. These patterns are difficult to account for in terms of positivity (*hot* weather is usually preferable to *cold* weather, but *wet* weather is rarely preferable to *dry* weather), nor does morphology play any role in their word sequence. Both pairs of words feature the same number of syllables and magnitude is not applicable. It would seem that these pairs have adopted a sequence which cannot be explained with reference to any of the usual criteria, although it may be relevant that *hot* and *wet* were traditionally seen as prerequisites for fertility.

Perhaps the least explicable sequence of all antonymous pairs sampled belongs to *private/public* and *privately/publicly*. In 71% of sentences examined, *public* precedes *private* and in 72% of

sentences examined *publicly* precedes *privately*. This would strongly suggest that this sequence has become established in text, though, once again, it is difficult to know why (or when) this might have happened.

8.6. Reverse sequence sentences

Most word-pairs examined have been shown to favour one sequence over another. But only three of the 56 pairs remain faithful to their preferred sequence in every sentence. And even those pairs who chalk up a 100% score do so only as part of a relatively small sample. In other words, many sentences contain antonymous pairs which break the accepted rules, as those rules have been outlined above. I shall now examine some of those sentences with a view to assessing why writers might choose to flout convention. Firstly, I shall return to *good/bad* and examine the 15% of sentences which break the regular sequence pattern. I shall then examine a selection of sentences which feature morphological antonyms in reverse sequence, before briefly investigating sentences which feature non-morphological pairs in reverse sequence.

8.6.1. Examples of "bad" and "good"

At the beginning of this chapter, I focused on *good* and *bad* to illustrate how most antonymous pairs give syntactic priority to one antonym over the other. Of the 117 sentences retrieved which feature both *good* and *bad*, 100 featured the words appearing in that sequence. I would now like to place the accent on those 17 sentences which do not occur in the more conventional sequence.

A brief analysis of these 17 sentences shows that 14 belong to the class of Ancillary Antonymy, three typical examples of which (sentences 271 to 273) are presented below. Also presented below are the three sentences in which *bad* precedes *good*, but do not form an ancillary pair (274 to 276). The first of these sentences belongs to the class of Transitional Antonym; the latter pair are Umbrella Antonymy sentences.

271 ind962: Luckily, all these subjects which are very **bad** for *master classes*, are very **good** for *after-dinner speaking*.

272 ind964: The Conservative Party may be **bad** at *many things*, but it has been superbly **good** at *winning general elections*.

273 ind943: All **bad** medicine for *Britain* and therefore **good** medicine for *the IRA*.

274 ind892: 'No amount of fixing,' Alan Jay Lerner liked to say, 'can turn a **bad** musical into a **good** one.'

275 ind913: It's important to keep hold of the whole gamut of art, not just selected highlights - we cover the **bad** art as well as the **good**.

276 ind964: Speaking generally, I think an English player would not act like that but foreigners are bringing **bad** things as well as **good** things to the game here.

The first triplet of sentences show *bad* and *good* helping to signal a further contrast within each sentence (*master classes* and *after-dinner speaking* in sentence 271; *many things* and *winning general elections* in sentence 272; *Britain* and *the IRA* in sentence 273). The significance of *bad* preceding *good* in these sentences may be diminished by the syntactic distance of antonyms from one another. The closer together antonyms are in text, the more likely they are to follow their normal sequence. This is illustrated by the following statistic: in total, 47% of *good/bad* sentences belong to the category of Ancillary Antonymy, yet if we focus solely on reverse sequence sentences, this figure rises to 82.3%. This suggests that normal sequence is more readily reversed when antonyms function in an ancillary fashion. However, that is not to say that sequence is irrelevant in Ancillary Antonymy sentences - it is interesting to note that of the 55 ancillary sentences retrieved for this antonymous pair, only 14 feature *bad* before *good*. Thus, at some level, our intuitions about word sequence are still operating, even when the antonymous pair are relatively distant from one another in the sentence.

Sentence 274 refers to a transition, in this case from a *bad musical* to a *good one*. Like Ancillary Antonymy examples, this framework allows antonyms to keep syntactic distance between themselves. In turn, this diminishes their need to conform to normal sequence.

The umbrella constructions *X and Y* and *X or Y* are least likely to feature their antonyms in marked sequence. Indeed, of the 47 *bad/good* Umbrella Antonymy sentences extracted, only two feature *bad* before *good.* Furthermore, a brief glance at these two examples (sentences 275 and 276) shows that neither employ a standard *X and/or Y* framework. Rather, both sentences use the construction *X n as well as Y [n].* This is significant as it pushes the antonyms further apart, allowing the distance between X and Y to be closer to the distance created in Ancillary and Transitional Antonymy sentences. Perhaps this is why the sequence of *bad* and *good* seems less significant. One might also argue that the semantics of *X as well as Y* places more emphasis on X than Y. For example, sentence 275 refers to *the bad art as well as the good,* drawing additional attention to *bad.* This construction seems less marked than *both bad and good art.*

8.6.2. Morphological Examples

One of the most important criteria when determining antonym sequence was deemed to be morphology. The nine morphologically-related antonymous pairs sampled stay true to their favoured sequence most faithfully. The class of antonymy which evidences word sequence bias being adhered to most commonly is Umbrella Antonymy, especially when the antonymous pairs are linked by either *and* or *[n]or.* Therefore, I shall now examine the most "anarchic" of examples - morphological word pairs linked only by *and* or *[n]or* which reverse their normal sequence.

My database of 3,000 sentences is too small to fully examine this phenomenon so the statistics below are based on my entire, 12-million sentence corpus. Table Sixteen shows the nine morphological word pairs sampled, the number of sentences in which they occur in their unmarked sequence, and the number of sentences in which they occur in their marked sequence. This survey is limited to the frameworks *X and Y, X or Y* and *X nor Y* and therefore identifies word pairs which function as Umbrella Antonymy and, to a smaller extent, Distinguished Antonymy (eg. *the difference between X and Y*).

		unmarked sequence	marked sequence
advantage	**disadvantage**	12	-
agree	**disagree**	48	1
correct	**incorrect**	13	-
directly	**indirectly**	365	3
honest	**dishonest**	3	-
legal	**illegal**	80	2
married	**unmarried**	25	-
officially	**unofficially**	9	-
prove	**disprove**	29	-
		584	6

Table Sixteen: Antonymous Sequence for X and/[n]or Y *Framework*

The figures presented above are very convincing. In total, the nine antonymous pairs appear in an *X and/[n]or Y* environment in 590 sentences. In 584 of those sentences, the sequence of the antonymous pair is unmarked. Thus, we find numerous examples such as:

277 ind951: None, bar Germany, has experienced a flood of newcomers, though all have experienced a rise in immigration - **legal** and **illegal** - and have tightened their controls as a result, even without having passport controls on their national borders.

278 ind902: He said that whether the figure was **correct** or **incorrect** was now immaterial.

279 ind893: I can neither **prove** nor **disprove** the idea that the entire world is of my own creation: that not only this review, but also the book I'm reviewing, are products of my imagination.

If one imagines these sentences with their antonymous pair in reverse, the difference is subtle. On one hand, no loss of grammaticality is encountered and the semantics of the sentence remain unchanged. However, on the other hand, if the difference is so negligible, how does one account for the fact that 99% of sentences which feature morphological antonyms in these constructions adhere to established word sequence? This question is very difficult to answer because it is easier to speculate about why antonyms occur in reverse sequence than it is to speculate about why the original sequence was developed. However, it is certain that though the sequence "rule" of

antonymy is unspoken, it is also almost entirely unbroken.

The next step is to examine the six sentences which do break the rule, all of which are presented below. The first triplet of sentences below contain *directly* and *indirectly*. The reason that this pair yields as many as three rogue sentences is mostly attributable to its high raw frequency - in total, 368 *directly/indirectly* sentences follow an *X and/[n]or Y* framework, more than the other eight word pairs collectively. The next two sentences feature *illegal* and *legal* in that sequence; the final sentence features *disagree* and *agree* in that sequence.

280 ind932: In my 17 years with the group, I served **indirectly** and **directly**, no fewer than 20 chairmen and managing directors.

281 ind932: Through these holdings, CGIP **indirectly** and **directly** controls 20 per cent of CGS.

282 ind923: Economists estimate that between 1.5 and 2.5 jobs depend, **indirectly** or **directly**, on every Californian defence job.

283 ind954: The stricter approach coincides with growing demands for curbs from Congress, where bills have been tabled aimed at reducing both **illegal** and **legal** immigrants.

284 ind893: There is a thin line between **illegal** and **legal** drugs (that is, alcohol and tobacco).

285 ind942: There were 248 statements to **disagree** or **agree** with more or less strongly.

So, what do the above sentences have in common which allows them to present their antonyms in the "wrong" sequence? This is not easy to judge. By a ratio of 120:1, one usually expects to find *directly and/or indirectly*, but the first triplet of sentences above all refer to *indirectly and/or directly*. One possible explanation for this reverse sequence is that the *indirectly* of each sentence is fronted because it is more significant that the *directly*. For example, in sentence 280, it is possible that the 20 chairmen served were mostly served *indirectly*. Similarly, in sentence 281, it is possible that the 20% of CGS owned by CGIP is mostly held *indirectly*. Nevertheless, these sentences are the exceptions which prove that the rule is not, in fact, a rule, but merely a convention.

Sentence 283, which refers to *illegal and legal immigrants*, may be speculated about with more confidence. The phrase *illegal immigrants* is much more common that the phrase *legal*

immigrants in text, occurring 691 times in the corpus, compared to 28. Thus, the writer of sentence 283 may have found *illegal* more intuitively available than *legal* in the antonym one position. This could help explain the reverse sequence, and the fact that this is one of only two corpus sentences which refer to *illegal and legal* rather than *legal and illegal.*

The other example in sentence 284, which refers to *a thin line between illegal and legal drugs.* One explanation for this reverse sequence may lie in the post-modification of *legal drugs.* In parentheses, we find *that is, alcohol and tobacco.* This relates to *legal drugs,* so, had *legal drugs* appeared first in the sentence, this post-modification would have split the antonymous pair. Although it has been argued that identical syllables like to be separated in text, an entire interpolation may have been considered excessive and damaging to the "umbrellaness" of the context. This may explain why *legal* and *illegal* arise in dispreferred sequence, although it should be noted that *drugs,* like *immigrants,* collocates more with *illegal* than *legal.*

Sentence 285 is more difficult to explain. Perhaps the statements in question showed a greater tendency to be disagreed with than agreed with. Whatever the logic behind this sequence, and the other five contexts above, such sentences are very much the exception to the norm. Among the morphological antonyms chosen for study, normal sequence is adhered to in 99% of sentences.

8.6.3. Non-Morphological Antonyms

The story is much the same with antonymous pairs that are not morphologically related: when a strong antonymous sequence emerges, that sequence is rarely broken. Two word pairs which illustrate this categorically are *rightly/wrongly* and *confirm/deny.* In total, *rightly* and *wrongly* appear in an *X and/[n]or Y* framework in 170 corpus sentences. Of those 170 corpus sentences, *rightly* precedes *wrongly* in every one without exception. In total, *confirm* and *deny* appear in an *X and/[n]or Y* framework in 317 corpus sentences. Of those 317 corpus sentences, *confirm* precedes

deny in 315. The two rule-breakers are below:

286 ind893: When asked to **deny** or **confirm** whether he would be going to South Africa, the Bath centre said: 'Why do you want to know?'

287 ind884: Mr Sununu, 49, would neither **deny** nor **confirm** the reports, saying that 'a request isn't a request until the tall, thin guy sings', referring to Mr Bush.

There is nothing extraordinary about these sentences, although one could argue that the emphasis is more on denial than confirmation in each example because both sentences are accusatory. Perhaps the writer has reversed expected sequence to focus on the fact that neither respondent is actively denying their respective charge. One flaw in this explanation is that many *confirm/deny* sentences could be described in this way, yet fewer than 1% place *deny* in front of *confirm*. This suggests that the rule of sequence usually over-rides any rhetorical consideration.

8.7. Summary of Chapter Eight

The majority of established antonymous pairs examined prefer one sequence over the other. In the case of some antonymous pairs (*rightly/wrongly, prove/disprove, correct/incorrect*), no evidence of that sequence being reversed can be found in my sample. Once a sequence is established, it tends to become fixed, but many different criteria can influence why a particular antonymous pair favours a certain sequence. This chapter has shown that morphologically related antonyms tend to occur with their root-word first and their *un-, il-, dis-* or *in-* version second. Pairs with one positive and one negative term tend to mention their positive term first. Other factors such as magnitude, chronology, gender, phonology, collocation profile and frequency can also influence antonym sequence.

However, the rules of sequencing are not as rigid as the rules of grammar and it is interesting to examine those sentences which flout accepted word sequence. Sometimes, there would appear to be a specific purpose (an ancillary function may be being served or some rhetorical affect may be

intended), but often no clear explanation can be found. It would seem that conventions are there to be rejected as well as accepted.

One final example of such rule-bending can be found in the wedding vows taken by brides and grooms at the altar: promises are made *for richer and for poorer* (positive antonym; negative antonym), *for better and for worse* (positive antonym; negative antonym), and *in sickness and in health* (negative antonym; positive antonym). The rationale behind this final antonym sequence is difficult to fathom, though phonological factors may be at work.

Chapter Nine:
Antonymy, Word Class and Gradability

9. Antonymy, Word Class and Gradability

9.1. Introduction

When selecting a sample of antonymous pairs suitable for analysis in this thesis, two of the criteria followed were that:

a) Word pairs selected should not be restricted to a single grammatical class, but should feature nouns, verbs and adverbs, in addition to adjectives.
b) Words selected should not be restricted to one traditional category, but should include both gradable and non-gradable antonyms.

The reason for the first criterion is that the phenomenon of antonymy is not restricted to a single grammatical class, even though early analyses of the sense relation tended to focus primarily on adjectives (eg. Lyons, 1974). However, just as a majority of native speakers would identify *heavy* as being the opposite of *light*, so too would a majority of native speakers identify *strength* as being the opposite of *weakness*, *win* as being the opposite of *lose*, and *quickly* as being the opposite of *slowly*. Thus, nouns, verbs and adverbs were included in my sample as well as adjectives.

The reason for the second criterion is that, if asked to provide a list of "opposites", most native speakers would not discriminate between gradable and non-gradable pairs. In other words, antonyms such as *new/old, happy/sad* and *poor/rich* would be interspersed with antonyms such as *man/woman, alive/dead* and *true/false*. Despite this, Cruse (1986) and Lyons (1977) do not refer to non-gradable pairs as being "antonyms" at all, reserving that label for gradable pairs. This seems counter-intuitive and my database was designed to incorporate both gradable and non-gradable antonymous pairs.

This chapter will now consider two questions: whether the function of antonymy in text is related to word class and whether the function of antonymy in text is related to gradability.

9.1.1. Antonymy and Word Class

This section will consider the question of whether the function of antonymy varies according to the word class to which that antonymy belongs. In order to analyse this, my original sample of 3,000 sentences needed to be broken down according the grammatical class of each antonymous pair therein. This caused some headaches because a number of word-pairs function as both nouns and adjectives. For example, 57% of *poor/rich* sentences sampled feature those words operating as nouns*; 43% feature those words operating as adjectives. Other antonymous pairs also function as both nouns and adjectives, though in a less marked fashion: most occurrences of *right/wrong*, for instance, are adjectival, but 18% are nouns; similarly, *new/old* function as nouns in 14% of sentences sampled, *private/public* in 19%, and *old/young* in 25%.

An interesting anomaly is the pair *hate/love* in that they occur both as nouns and verbs. The distribution favours the latter, with 82% of sentences sampled featuring verbal antonymy and 18% featuring *hate/love* as nouns.

The *un-words* component of the sample breaks down as follows: 112 of the 156 sentences sampled feature adjectival antonyms; 16 feature nouns; 20 feature verbs and 8 feature adverbs. This is interesting because these pairs have not been chosen according to any grammatical criteria. The only prerequisite is that they are morphologically linked by the prefix *un*. Therefore, from this admittedly small sample, we can infer that about 71% of *un-* antonyms are adjectival, about 11% are verbs, about 13% nouns and about 5% adverbs. Whether this distribution would be similar for non-morphologically related antonyms is nearly impossible to gauge, though it seems fair to say that most antonyms in English are probably adjectival. It should also be noted that these figures would vary according to the morpheme applied: antonyms formed by the prefix *dis-* would show a stronger bias towards verbal pairs (*like/dislike, connect/disconnect, appear/disappear*, etc).

*Or, at least, *rich* and *poor* are serving as adjectival noun-heads (ie. *the gap between rich and poor*).

In total, the 3,000 sentences sampled feature 1,739 instances of adjectival antonymy, 520 instances of nominal antonymy, 427 instances of verbal antonymy, and 314 instances of adverbial antonymy. The table below presents the distribution of these sentences in relation to the new categories of antonymy to which they have been assigned.

	anc	umb	com	dis	trn	opp	ext	idi	cnf	vir	oth	TOT
adjectives	704	636	112	93	58	23	27	20	17	13	36	1739
nouns	161	129	55	68	32	26	9	-	5	6	29	520
verbs	185	206	25	-	-	8	-	3	-	-	-	427
adverbs	112	180	13	-	-	5	4	-	-	-	-	314
totals	1162	1151	205	161	90	62	40	23	22	19	65	3000

Table Seventeen: Antonymy by Grammatical Class (raw frequency)

Table Seventeen shows the breakdown of new classes of antonymy across word class. So, of the 1162 sentences belonging to the category of Ancillary Antonymy, 704 are adjectives, 161 are nouns, 185 are verbs and 112 are adverbs. Or, to look at the data from another perspective, of the 427 verbal pairs in the database, 185 function in an ancillary fashion, 206 function in an umbrella fashion, 25 are comparative, 8 are oppositional and 3 are idiomatic. The table below reflects this latter set of data in percentage form.

	anc	umb	com	dis	trn	opp	ext	idi	cnf	vir	oth	TOT
adjectives	40.5	36.6	6.4	5.3	3.3	1.3	1.6	1.2	1.0	0.7	2.1	100
nouns	31.0	24.8	10.6	13.1	6.1	5.0	1.7	-	1.0	1.1	5.6	100
verbs	43.3	48.2	5.9	-	-	1.9	-	0.7	-	-	-	100
adverbs	35.7	57.3	4.1	-	-	1.6	1.3	-	-	-	-	100
totals	38.8	38.4	6.8	5.3	3.0	2.1	1.3	0.8	0.7	0.6	2.2	100

Table Eighteen: Antonymy by Grammatical Class (percentages)

Reading left to right along each row, Table Eighteen shows the proportion of antonyms sampled (by grammatical class) which fall into each of the new categories identified. For example, 40.5% of all sentences sampled which feature adjectival antonymous pairs function as ancillary antonyms. A further 36.6% function as umbrella antonyms, 6.4% as comparative antonyms, etc.

The lowest row of figures shows the proportion of all 3,000 sentences which fall into each new class of antonymy. As discussed in Chapter Two, the categories of Ancillary Antonymy and Umbrella Antonymy are significantly larger than any other, each accounting for between 38% and 39% of all database sentences. The eight smaller classes outlined in this taxonomy achieve a strike-rate of between 6.8% (Comparative Antonymy, occurring in every 15th antonymous sentence) and 0.6% (Virgule Antonymy, occurring in every 160th antonymous sentence). These categories will now be briefly re-examined in turn to determine the extent to which each framework is affected by grammatical class.

9.1.1.1. Ancillary Antonymy

In total, 38.8% of database sentences feature Ancillary Antonymy. And if we examine these sentences word-class by word-class, we find relatively little variation from this figure: 31.0% of nominal antonymous pairs feature ancillary antonymy, as do 35.7% of adverbial pairs, 40.5% of adjectival pairs and 43.3% of verbal pairs. These figures suggest that Ancillary Antonymy appears to cross grammatical class, paying little attention to whether the antonymous pair are adjectives, nouns, verbs or adverbs. The following four sentences illustrate this:

288 ind951: Cane is a victim of what Ben Fletcher, professor of business psychology and Dean of the Business School at the University of Hertfordshire, defines as the classic stressful situation - a job with **high** ***demands*** but **low** ***support.***

289 ind901: However, it is the scale of ***Labour*** **success**, not of ***Conservative*** **failure** that stands out.

290 ind963: The key question was this: at what point does ***sport*** **end** and ***political manipulation*** **begin**?

291 ind912: The mood at Labour's headquarters, a redundant school in Chepstow, was **publicly** ***restrained*** and **privately** ***buoyant.***

Although the quartet of sentences above are not alike in every way, they each exemplify the phenomenon of Ancillary Antonymy. As discussed in Chapter Four, an antonymous pair is drawing out an opposition between a pair of words or phrases which may not otherwise be considered contrastively. For example, in sentence 288, the antonymous pair of adjectives, *high* and *low* highlight the contrast between the nouns *demands* and *support*; in sentence 289, the established antonymy belongs to the noun-heads *success* and *failure* which signal an opposition between *Labour* and *Conservative*; sentence 290 relies on an antonymous verbal pair (*begin/end*) to create a distinction between the noun-phrases *sport* and *political manipulation*; and sentence 291 uses a pair of antonymous adverbs (*privately/publicly*) to enhance the contrastive power of *restrained* and *buoyant*. Of these, the antonymous pair of sentence 290 is the most ancillary as its corresponding B-pair (*sport* and *political manipulation*) is the least inherently contrastive.

In other words, antonyms are being used to signal contrast regardless of which of the four word classes examined they belong to. Furthermore, the B-pairs signalled also seem to cross the boundaries of grammatical class, being nouns in sentences 288 to 290 and being adjectives in sentence 291. Therefore, from this analysis, it would seem that the antonymity of a given word is more important in an Ancillary Antonymy sentence than its grammatical class.

9.1.1.2. Umbrella Antonymy

Whilst Ancillary Antonymy varies little according to grammatical class, the frequency of Umbrella Antonymy sentences seems more susceptible to change according to the word-class of the given antonymous pair. Table Eighteen shows that 36.6% of adjectival antonyms function in an umbrella fashion, a proportion very near to the norm for all word-classes of 38.4%. However, only a quarter of all antonymous nouns selected fall into the category of Umbrella Antonymy. This contrasts with verbal antonyms, 48.2% of which occur in an umbrella environment, and adverbial antonyms, 57.3% of which occur in an umbrella environment. In other words, Umbrella

Antonymy seems to disfavour nouns, but favour verbs and adverbs.

However, one could interpret these statistics quite differently, arguing that they still reflect similarity, albeit a less marked similarity that those shown by ancillary antonyms. For example, one can safely state that the phenomenon of Umbrella Antonymy pervades all four word-classes. Among nouns it is least common, yet one quarter of all sampled sentences (129 in total) which feature antonymous nouns still feature that pair in an umbrella framework. Though some variation arises regarding the extent to which umbrella antonymy arises across different grammatical classes, there can be little doubt that it does arise all four word-classes examined.

To illustrate the ability of umbrella antonyms to cross grammatical class, I shall now examine two frameworks closely associated with Umbrella Antonymy (*X as well as Y* and *both X and Y*) and exemplify their relative blindness to grammatical class.

X as well as Y:

292 ind924: It would be interesting to hear all experiences, **good as well as bad.**

293 ind944: John Hoddinott, president of Acpo and Chief Constable of Hampshire, said DNA testing is a tremendously powerful tool - it proves **innocence as well as guilt.**

294 ind921: Part of the fuss can be explained by our ambivalent feelings about the Duchess of York, whom the press, and perhaps even their readers, soon learned to **hate as well as love.**

295 ind924: John Major has repeatedly said, **privately as well as publicly,** that I have his complete backing.

The four sentences above show that antonyms can function as part of the same lexico-syntactic framework regardless of word class. Here, the pattern *X as well as Y* occurs with antonymous adjectives (*good/bad*), nouns (*innocence/guilt*), verbs (*hate/love*) and adverbs (*privately/publicly*). Though the immediate environment of each antonymous pair remains unaffected by grammatical class, one could argue that the four examples are not entirely identical. For example, the phrases *good as well as bad* and *privately as well as publicly* are entirely removable from their context, whereas *innocence as well as guilt* and *hate as well as love* are not removable. An explanation

behind this is that nouns and verbs are more essential in syntax than adjectives and adverbs, which are often removable in text, whether antonymous or not. The important fact is that the function of *X as well as Y* is similar in each example: regardless of whether the antonyms are adjectives, nouns, verbs or adverbs, they always signify inclusiveness or exhaustiveness when inserted into this framework.

To illustrate further the ability of umbrella antonyms to cut across word-class, the lexico-syntactic framework *both X and Y* is exemplified below with examples of antonymy encompassing all four grammatical classes examined.

both X and Y:

296 ind963: In this city, at least, it is as funky to be passionate about films - **both old and new** - as it is to be about football everywhere else.

297 ind923: Like all of us, athletes need to find a way of rationalising **both failure and success.**

298 ind953: When I hear grateful tourists saying their meal was 'very good', I **both agree and disagree.**

299 ind953: Unless we can secure huge changes in attitudes to drug abuse, many thousands will continue to suffer **both directly and indirectly** from the consequences.

Once again, each of the four sentences above uses antonymy primarily to signal inclusiveness, even though each pair of antonyms belongs to a different grammatical class. In sentence 296, *both old and new* signals that the films alluded to are of all eras; sentence 299 is similar in that *both directly and indirectly* refers inclusively to the suffering mentioned. Sentences 297 and 298 are inevitably different because their antonymous pairs are nouns and verbs respectively, but the former speaks of rationalising *both success and failure* and the latter tells of how one might *both agree and disagree* with a proposition. Sentence 298 is slightly different in that *both* is interchangeable with *simultaneously* here; *agree* and *disagree* apply concurrently, something which is untrue of the other three examples. However, inclusiveness is still signalled here in a fashion comparable to that of adjectival and adverbial antonyms in sentences 297 and 298.

Therefore, we can see that Umbrella Antonymy sentences have the potential to feature antonyms of different grammatical classes within the same lexico-syntactic frameworks. This is not to say that the likelihood of an antonymous pair of nouns occurring in an umbrella environment is the same as the likelihood of a pair of antonymous adverbs occurring in the same environment. The fact that adverbs and verbs tend to favour Umbrella Antonymy at double the rate of nouns is difficult to explain. It would seem that descriptive word-classes lend themselves more to qualities of inclusiveness/exhaustiveness than word-classes which express actual abstract or physical concepts.

9.1.1.3. Comparative Antonymy

As Table Seventeen shows, Comparative Antonymy is another class of antonymy which is able to cross the boundaries of word-class. In total, every 16th sentence retrieved features some form of antonymous comparison. That figure rises to every 10th sentence for antonymous nouns and falls to every 24th sentence for antonymous adverbs. Four of the 205 sentences retrieved and classified in terms of Comparative Antonymy are listed below, one representing each grammatical class analysed:

300 ind893: She objected to a system whereby if you are **rich** you can buy access to programmes more tasteless and more indecent than if you are **poor**.

301 ind911: Institutional investors may, however, be sympathetic in special cases as they realise that the retention of key executives is as, if not more important, in a **recession** than in a **boom**.

302 ind931: Douglas Hurd, the Foreign Secretary, said afterwards: 'It's always better to **win** than to **lose**, but it doesn't affect our ability to ratify the treaty.'

303 ind951: In every part of the country, more people think **badly** of him than think **well**.

The quartet of sentences above do not adhere tightly to a strict lexico-syntactic framework like those associated with umbrella antonymy, but they each feature a comparison between a pair of antonymous concepts. For example, sentence 300 compares *rich* and *poor* in terms of access to programmes; sentence 301 compares *recession* and *boom* in terms of the importance of retaining

executives; sentence 302 compares *win* and *lose* in terms of quality; and sentence 303 compares *badly* and *well* in terms of how people think of someone.

Grammatical class seems to hold relatively little sway over the semantic function served by antonymy in these examples. Indeed, one could easily imagine a nominalised version of *rich* and *poor* in sentence 300 (*the rich can buy access to programmes more tasteless and more indecent than the poor*), and *win* and *lose* in sentence 302 (*winning is always better than losing*). Such flexibility of word-class confirms that the antonymous pairs in the sentences above appear to have been chosen more because of their semantic opposition than because of any grammatical criteria.

However, this is not to say that word class is an irrelevance - the influence of grammatical class on Comparative Antonymy can be seen in sharpest focus if we examine the respective ratios of adjectives to nouns. Among ancillary examples, adjectives outnumber nouns at a ratio of 4:1; among umbrella examples, this rises to 5:1. But when Comparative Antonymy is analysed, the ratio falls to 2:1. This less marked pattern is also reflected by other minor categories - the adjectival bias of Distinguished Antonymy sentences is as low as 3:2 and, among Oppositional Antonymy sentences (to be discussed next), nouns are actually more common than adjectives. This illustrates that although most functions of antonymy can be served by word pairs belonging to all four grammatical classes, variation between individual categories is not uncommon.

9.1.1.4. Oppositional Antonymy

So far, the three categories of antonymy examined have each been available to adjectives, nouns, verbs and adverbs. This is also true of Oppositional Antonymy sentences, even though the total number of examples belonging to this class is much lower (62, compared with 1,162 ancillary contexts, 1,151 umbrella contexts and 205 comparative contexts). Antonymous nouns (5.0%) favour this category most strongly, but adjectives (1.3%), verbs (1.9%) and adverbs (1.6%) also

occur in this sort of framework, as the following sentences illustrate:

304 ind923: Here Farrell's complicity becomes **active, not passive**, as he promotes an architecture (Post-Modernism) suggesting that you can have it both ways: that an architecture of facades need not be compromised by whatever it contains.

305 ind884: Well, without the combination of an arms race and a network of treaties designed for **war, not peace**, it would not have started.

306 ind894: "If the aim is to reduce unemployment it is nonsense to sign up to measures which we all know will add to labour costs and will **discourage, not encourage**, employment in this country," Mr Fowler said in a scrutiny debate on the Charter.

307 ind893: However, the citizen pays for services to work **well, not badly**.

The four sentences above provide further evidence that antonymous pairs serve certain functions in text and that these functions are not bound by the restrictions of grammatical class. Each example places antonyms within the framework *X not Y*, negating the second antonym in order to bolster the first. This strategy can be seen in operation with adjectives in sentence 304, nouns in sentence 305, verbs in sentence 306 and adverbs in sentence 307. Though, as Table Seventeen illustrates, Oppositional Antonymy seems to especially popular with antonymous nouns, it crosses all word-class boundaries and, despite only 62 such sentences being plucked from the corpus, it yields a fairly even distribution of antonyms across grammatical classes.

9.1.1.5. Distinguished Antonymy

The next class to be analysed is Distinguished Antonymy. Even though this category accounts for more sentences than the class of Oppositional Antonymy, Distinguished Antonymy does not feature sentences which belong to all four grammatical classes. In total, just over 5% of all sentences retrieved were assigned to the category of Distinguished Antonymy. However, all 159 of these sentences feature antonyms which belong to one of two grammatical classes - adjectives and nouns. The reason for this is perhaps that one can distinguish between "things" more easily than one can distinguish between "actions". Thus, pairs of nouns and noun-modifiers (adjectives) are differentiated between more frequently than pairs of verbs and verb-modifiers (adverbs). Further

proof of this is provided by the distribution of word-class among Distinguished Antonymy sentences: 5.3% of adjectives and 13.1% of nouns are distinguished - a proportional bias towards "things".

Indeed, when adjectival antonyms fall into this class, they tend to be differentiated as part of a noun phrase. The first triplet of sentences below show Distinguished Antonymy sentences which feature antonymous adjectives; the latter show Distinguished Antonymy sentences which feature antonymous nouns.

308 ind893: This punishment did not discriminate between the **active** and **passive** conspirators but nor did it alter the fact that all alike had been let off lightly in the courts.

309 ind903: But one of the failings of the play is that it never allows for any distinction between **true** and **false** rhetoric.

310 ind884: More precisely than he knew, Mr Todd, of the Transport and General Workers Union, defined a crucial difference between the **old** and **new** approaches to Labour politics.

311 ind953: To them, unlike Mr Bragg, the distinctions between **fact** and **fiction** or **good** and **bad** are not always so obvious.

312 ind901: It's true that his advocacy can make the difference between **success** and **failure** for a young band.

313 ind952: But then, crowds do not discriminate any too nicely between **guilt** and **innocence** when their blood is up.

All six of the sentences above distinguish between a pair of noun-phrases which feature antonyms. In sentences 308 to 310, the antonymy is expressed adjectivally, enabling contrast to arise between different aspects of the same concept (namely *active and passive conspirators, true and false rhetoric* and *old and new approaches to Labour politics*). In sentences 311 to 313, the antonymy is expressed by nouns, enabling contrast to arise directly between different concepts (namely *fact and fiction, good and bad, success and failure* and *guilt and innocence*).

The typical lexico-syntactic framework associated with Distinguished Antonymy (*difference between X and Y*) is not popular among verbs (unless nominalised, ie. *winning/losing*) and nor is it popular among adverbs. The sentence below shows that it is possible for adverbs to be

differentiated in text, but this example was retrieved not from my database, but from elsewhere in the corpus. No similar examples were found in the database.

314 ind911: The difference between a **well** and **badly** structured fund can be startling.

This sentence is syntactically akin to the previous six in that two antonymous noun-phrases, linked by *and*, follow the words *difference* and *between*. The only difference is that antonymy here is expressed not by adjectives or nouns, but by adverbs. My sample would suggest that such constructions are very rare, though it is perhaps surprising that not a single such sentence was randomly extracted.

9.1.1.6. Transitional Antonymy

The class of Transitional Antonymy is similar to Distinguished Antonymy because it too is restricted to the classes of adjectives and nouns, in my sample at least. Only 3.0% of all database sentences fall into the category of Transitional Antonymy. If we restrict this to adjectival antonymy, the proportion rises slightly to 3.3%. If we restrict this to antonymous nouns, the proportion rises significantly to 6.1%. However, if we restrict this to antonymous verbs and adverbs, the figure drops to zero. In other words, just like Distinguished Antonymy, Transitional Antonymy favours nouns, but disfavours verbs and adverbs.

Just as the statistical distribution of Distinguished Antonymy and Transitional Antonymy is similar, so the explanation is similar - Transitional Antonymy sentences describe a movement from one antonymous state to another. This state tends to be a noun-phrase with antonymy expressed by adjective or noun-head, as the following sentences illustrate:

315 ind942: How easy to slip from the **legal** to the **illegal** trade, especially when the law is so patchy and the temptation so great.

316 ind902: The main problem with the proposal, as with all radical reforms, is the difficulty of transition from the **old** system to the **new**.

317 ind954: How does he effect the transition from **private** to **public** self, like Wonderwoman going into a spin?

318 ind892: This would undermine the UN's hope that a tidy transition from **war** to **peace**, from South African colonialism to Namibian nationhood, would set a precedent for UN attempts to defuse crises elsewhere.

319 ind923: Inflation is a tax which redistributes wealth to the **sophisticated** from the **unsophisticated.**

320 ind963: But it's been strangely quiet in Twickenham over the last week or two, and I must say my **optimism** is turning to **pessimism.**

The transition in each of the above sentences is from one noun-phrase to another. In the case of the first triplet of sentences, antonymy arises in the premodification of the noun-head (eg. *from the legal to the illegal trade*); in the case of the second triplet of sentences, antonymy arises within the noun-head (eg. *from war to peace*). As with Distinguished Antonymy sentences, verbs and adverbs are less easily accommodated by Transitional Antonymy frameworks and no examples of either were retrieved as part of the sample. However, verbs and adverbs are not precluded by definition from this category - it is possible to construct artificial contexts in which members of these word class form the basis of a contrast (*they have gone from winning elections to losing elections; I went from playing well to playing badly*).

No other class of antonymy features database sentences which contain antonyms belonging to all four grammatical classes. The next section briefly examines the classes of Extreme, Idiomatic, Conflicting and Virgule Antonymy.

9.1.1.7. Smaller Classes

Each of the remaining classes of antonymy contain 40 or fewer of the 3,000 sampled sentences. This makes it difficult to draw safe conclusions about the relationship between such categories and grammatical class. However, it is noticeable that, even among low-frequency categories, equal distribution across word-class is not uncommon. For example, Extreme Antonymy shows a very similar dispersion between adjectives, nouns and adverbs (1.6%, 1.7% and 1.3% respectively), although my sample records no example of antonymous verbs functioning in this way.

This is because it is difficult to imagine a pair of verbs occurring in a framework similar to those below:

321 ind942: The meticulous lawnsman will aerate it every fortnight throughout the year except when the soil is too **wet** or too **dry**.

322 ind894: Given the dearth of literature on the subject of maturity of fine wines and the fact that most fine wines are drunk either too **young** or too **old**, this is a welcome book.

323 ind913: Mr Baker rejected 'armchair critics' who had attacked the police for either responding too **quickly** or too **slowly** to street disturbances.

In my sample, idiomaticity happens only to occur with antonymous adjectives and verbs (*to blow hot and cold, to agree to disagree*, etc). However, a wider sample of antonymous pairs may well have also retrieved idiomatic contexts which feature antonymous nouns and adverbs. Therefore, the fact that only two word-classes have been classified in terms of Idiomatic Antonymy may not be of significance.

Similarly, Conflicting Antonymy is limited to adjectives and nouns in my sample. This makes it analogous with Distinguished and Transitional Antonymy in that linguistic "things" (nouns or noun-modifiers) are necessary to maintain the grammaticality of associated frameworks. Virgule Antonymy is also not found with verbs or adverbs, but as only 19 of the 3,000 sentences retrieved feature this phenomenon, one cannot read too much into this distribution.

9.1.2. Summary of Antonymy and Word Class

This analysis of antonymy by grammatical class suggests that the use of antonymy is influenced more by semantic than grammatical factors. That is not to say that no correlation at all emerges between new categories of antonymy and word-class, but that this correlation is not as strong or as consistent as one might expect.

In all four of the word-classes examined, at least 50% of sentences fall into one of the two major

classes, Ancillary and Umbrella Antonymy. Adverbs tend to favour the latter class and nouns tend to favour the former class, but these preferences are slight. What is important is that these categories are not simply the product of grammatical factors; it is not true, for instance, that all umbrella sentences feature adjectives or that all ancillary sentences feature verbs.

On the other hand, some new classes of antonymy avoid certain word-classes entirely because it is grammatically difficult (or even impossible) to house such words within their associated frameworks. Thus, verbal and adverbial antonyms are not found in Distinguished or Transitional Antonymy sentences. However, not all small categories share this trait and the word-class distribution of Oppositional Antonymy, for example, is remarkably consistent.

Indeed, although the statistical analysis presented in Table Seventeen is open to interpretation in many ways, I am sufficiently persuaded that the role of antonymy in text is not influenced by grammatical class as significantly as one might expect. Writers use antonyms to serve much the same purposes, regardless of whether those antonyms are adjectives, nouns, adverbs or verbs. Therefore, one could conclude that antonymy is not only a phenomenon which crosses word-classes, it is (to some degree, and especially in the case of the two largest categories) a phenomenon which functions the same irrespective of word-class.

9.2. Antonymy and Gradability

Having considered the relationship between antonymy and word-class, I shall now briefly examine whether any correlation holds between antonymy and gradability. Chapter One of this thesis outlined the various classifications of antonymy developed by semantic theorists such as Leech (1974), Lyons (1977) and Cruse (1986), showing that the most fundamental distinction made about antonymous pairs involves gradability. Word pairs which refer to either end of a scale but leave "semantic space" between themselves are known as gradable antonyms; word pairs which

collectively exhaust all "semantic space" in their scale are known as non-gradable antonyms. Examples of the former include *cold* and *hot*, which sandwich terms such as *warm, tepid, chilly* and *cool*; examples of the latter include *alive* and *dead*, which leave no room for in-between descriptions - one is either living or not living. Chapter Two of this thesis outlined new classifications of antonymy, suggesting that the phenomenon may be described according to its textual function rather than according to intuitive criteria. I shall now explore whether any relationship holds between traditional categories and new classes of antonymy.

9.2.1. Gradable and Non-Gradable Pairs

My sample of 56 antonymous pairs includes 31 adjectival pairs. Of those 31 pairs, 25 are gradable and 6 are non-gradable. The six non-gradable pairs are *alive/dead, correct/incorrect, false/true, female/male, illegal/legal* and *married/unmarried.* Paradoxically, the term "non-gradable" does not mean that these words are never graded in text - one can imagine a context in which each of these words might be modified, most notably *true*, which is often preceded by *very, quite, extremely*, etc. The definition of non-gradable antonymy is that the application of one antonym logically precludes the application of the other. Put more simply, if one is *dead*, one cannot also be *alive*. Similarly, to be *unmarried* is entirely synonymous with being *not married.* Compare this to non-gradable pairs: being *not young* does not necessarily make one *old*; being *not poor* does not necessarily make one *rich*, and so on. With these terms, middle ground is possible.

One could argue that the distinction between gradable and non-gradable pairs is not always clear cut. For example, *correct/incorrect* is treated here as a non-gradable pair, but *honest/dishonest* is treated as a gradable pair. In some respects, the distinction between *dishonest* and *not honest* is only marginally greater than the distinction between *incorrect* and *not correct.* However, honesty, being the more subjective attribute, is more receptive to grading than correctness, and whereas *incorrect* covers everything that is not correct, one can imagine somebody being *not honest*

without actually being *dishonest.* Nevertheless, the distinction between gradable and non-gradable pairs is intuitive and often fine, as Palmer points out when stating that "some pairs of adjectives, e.g. *honest/dishonest, obedient/disobedient, open/shut* are ... gradable in terms of *more* and *less*, yet ... the denial of one is usually taken to assert the other" (1976:81).

9.2.2. Statistical Analysis

Collectively, the six non-gradable pairs analysed feature in 283 database sentences and the 25 gradable pairs feature in 1,456 database sentences. Their distribution across new classes of antonymy is recorded in the table below:

	anc	umb	com	dis	trn	opp	ext	idi	cnf	vir	oth	TOT
Gradables	636	492	90	69	54	21	26	21	13	9	25	1456
Non-Gradables	69	145	22	22	4	2	1	2	1	4	11	283
Total	705	637	112	91	58	23	27	23	14	13	36	1739

Table Nineteen: Raw Frequency of Gradable and Non-Gradable Antonyms

In Table Nineteen, all 1,739 database sentences which feature an adjectival antonymous pair are classified according to their textual function and to their status as gradable or non-gradable. Immediately, one is struck by the dissimilarity of frequency between non-gradable ancillary antonyms (69) and non-gradable umbrella antonyms (145) because distribution of antonymous function across these two classes is usually very similar*. This correlation becomes more apparent if the raw frequency statistics of Table Nineteen are expressed in percentage terms.

	anc	umb	com	dis	trn	opp	ext	idi	cnf	vir	oth	TOT
Gradables	43.7	33.8	6.2	4.8	3.7	1.4	1.8	1.4	0.9	0.6	1.7	100
Non-Gradables	24.3	51.2	7.8	7.8	1.4	0.7	0.4	0.7	0.4	1.4	3.9	100
Average	40.5	36.6	6.5	5.2	3.4	1.3	1.6	1.3	0.8	0.7	2.1	100

Table Twenty: Percentage Frequency of Gradable and Non-Gradable Antonyms

*Of the 3,000 sentences sampled, 1,162 feature Ancillary Antonymy and 1,151 feature Umbrella Antonymy, a difference of just 11.

The above table shows the proportion of gradable and non-gradable pairs which fall into each new class of antonymy. For example, 43.7% of gradable pairs sampled belong to the category of Ancillary Antonymy, 33.8% belong to the category of Umbrella Antonymy and 6.2% belong to the category of Comparative Antonymy. These figures are very similar to the average for all sentences of 40.5%, 36.6% and 6.5% respectively, though this similarity is not unexpected given the dominance of gradable pairs overall.

If we now examine the percentages recorded by non-gradable pairs, we find important differences. Less than one quarter of non-gradable pairs occur in Ancillary Antonymy sentences, but over half occur in Umbrella Antonymy sentences. In other words, non-gradable antonyms show a marked preference for umbrella constructions and tend to favour sentences such as those below:

324 ind963: I doubt there are many men, **alive or dead**, who have not come a cropper, at one time or another, at the hands of a member of the UNfairer sex.

325 ind953: Bishop Lindsay carefully avoided any reference to the reason why Anglicans, **married and unmarried**, are joining the exodus to Rome.

326 ind884: Part of the novelty was that the masters of the flat and the crown codes, **male and female**, were brought together.

The sentences above show non-gradable antonymous pairs serving to exhaust the scale against which they operate. Thus, the *men* of sentence 324 are said to be *alive or dead*; the *Anglicans* of sentence 325 are *married and unmarried* and the *masters of the flat and crown codes* of sentence 326 are *male and female*. The reason why non-gradable antonyms tend to be used in this fashion proportionally more often than gradable antonyms is because non-gradable antonyms are better equipped to exhaust their entire scale. For evidence of this, compare the triplet of sentences above with the triplet of sentences below, each of which feature a pair of gradable antonyms.

327 ind893: Three-deep they stood, **old and young**, almost all carrying a votive candle tied with a black ribbon.

328 ind892: Labour proposes new tax bands for **rich and poor**.

329 ind934: Because making Bills, **good** or **bad**, gets ministers on television and makes government look important.

Lexico-syntactically, sentences 327 to 329 are very similar to sentences 324 to 326. They also serve a similar function - to signal inclusiveness or exhaustiveness of scale. However, in some respects, gradable antonyms do not serve this function as successfully as non-gradable antonyms. For example, the phrase *old and young* may be synonymous with *of all ages*, but it could equally refer exclusively to *old people* and *young people*, which does not exhaust an entire range. Similarly, the tax bands alluded to in sentence 328 could apply to *rich and poor* (meaning all people, regardless of wealth) or *rich* and *poor* (meaning those at either end of the wealth scale).

On the other hand, *dead or alive, married and unmarried* and *male and female* automatically exhaust their entire scale because no other points on that scale exist. Thus, non-gradable antonyms arise in proportionally more Umbrella Antonymy sentences because they are more semantically exhaustive. Gradable antonyms may signal exhaustiveness of scale, but non-gradable antonyms necessitate exhaustiveness of scale.

This raises the question of why writers choose to record one non-gradable pair over another. For example, to return to sentence 324, it would be equally feasible (or even more feasible) to describe the men as *married or unmarried*, rather than *alive or dead*. So why is the latter scale identified? One could even ask why any non-gradable scale should be identified given that one antonym or the other must always apply to the corresponding noun-phrase. The answer to this was touched on earlier in this thesis (see 5.3.1.) - in addition to signalling exhaustiveness of scale, the non-gradable pairs of sentences 324 to 326 fulfil another, perhaps more important role: they identify the relevant scale. For example, *married and unmarried* signals that this is the scale against which we should measure Anglicans *in sentence* 325. The reason for identifying a relevant scale is often because one antonym is an unexpected inclusion, such as the *female* of

sentence 326's *male and female**.

Because non-gradable antonyms favour Umbrella Antonymy environments, other classes are inevitably disfavoured. Therefore, we find that the ratio of gradable to non-gradable antonyms in Ancillary Antonymy sentences is as high as 9:1 (despite being nearer 3:1 for Umbrella Antonymy examples). This means that gradable pairs are used to signal contrast more frequently than non-gradable pairs in text. Among low-frequency classes, proportions vary. The gradable:non-gradable ratio for Comparative Antonymy sentences is 4:1 and for Distinguished Antonymy sentences, it is 3:1. This suggests that, in relative terms, non-gradable pairs show a slight bias towards these classes, as the overall ratio is approximately 5:1. This is surprising in that one would expect texts to differentiate between pairs such as *poor* and *rich* more frequently than pairs such as *dead* and *alive*, where the distinction is clear cut. Transitional Opposition favours gradable pairs by a ratio of 13:1, Oppositional Antonymy by 10:1 and Extreme Antonymy by 26:1. However, with fewer than a handful of sentences for each category featuring non-gradable antonyms, safe conclusions are not easily drawn.

9.2.3. Summary of Antonymy and Gradability

In general, writers use non-gradable pairs in much the same way as they use gradable pairs. All ten functions of antonymy identified yield examples of both gradable and non-gradable pairs. The majority of these categories show no significant bias. However, one generalisation may be made from the data - non-gradable antonyms do tend to favour Umbrella Antonyms. Over half of all occurrences of *alive/dead, correct/incorrect, false/true, female/male, illegal/legal* and *married/unmarried* function in an umbrella framework. Only one third of gradable adjectives arise in similar sentences. From this we can conclude that the less gradable a pair of words are, the more likely they become to express exhaustiveness in text.

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*The unexpectedness of *female* is here compounded by the reference to *masters*.

9.3. Summary of Chapter Nine

This chapter has examined the ways in which antonyms of different types function in text. Firstly, we examined whether the grammatical class to which an antonymous pair belongs influences the function that it is likely to serve in text. Data evidence some correlation, but this correlation is relatively minor. Umbrella Antonymy, Ancillary Antonymy, Comparative Antonymy and Oppositional Antonym each accounted for sentences featuring antonyms which belong to all four parts of speech investigated. Adverbs and verbs were shown to have a slight bias towards Umbrella Antonymy, while antonymous nouns tended to disfavour this class. One important proviso to this generalisation is that some word classes did not feature verbs or adverbs at all because of grammatical factors. For instance, no examples of adverbs or verbs being classified as Distinguished Antonymy or Transitional Antonymy were found. This suggests that the textual profile of antonymous verbs and adverbs is slightly different from the textual profile of antonymous adjectives and nouns. However, in general, the extent to which the function of antonymy is oblivious to word class is surprising and enough to state that antonymy is used primarily because of its semantic value.

This is confirmed by the second part of the chapter, which investigated whether the traditional category to which an antonymous pair had been assigned influences the function that it is likely to serve in text. Thus, the database was broken up according to whether the antonymous pair of each sentence was gradable or non-gradable. It was found that non-gradable pairs showed a bias towards Umbrella Antonymy and functioned in an ancillary fashion significantly less often than their gradable counterparts. However, once again, it is interesting to note how relatively minor the difference between gradable and non-gradable antonym function is in text. Non-gradable pairs occurred in sentences belonging to all ten classes identified, and, in the case of the majority of classes, the distribution was relatively similar.

Therefore, one can say that the textual function of antonymy is not greatly influenced by either word class or by gradability. Umbrella Antonymy is disproportionally favoured by verbs, adverbs and non-gradable antonyms, while antonymous nouns incline more towards the categories of Comparative, Distinguished, Transitional and Oppositional Antonymy. However, this disproportion, though not insignificant, remains relatively minor given that traditional studies of antonymy often focussed solely on adjectives and disputed whether non-gradable pairs were valid antonyms at all.

Chapter Ten:
Framework Productivity

10. Framework Productivity

10.1. Introduction

This chapter will explore the productivity of frameworks associated with some of the new classes of antonymy identified in Chapter Three. Productivity here refers to the "statistical readiness" (Baayen & Renouf, 1996) of lexico-syntactic constructions to incorporate other related terms. The purpose of this investigation is to discover the extent to which such frameworks elicit contrastive items in text. Initial experiments will be conducted to discover whether lexical signals of antonymy are robust enough to identify new contrast terms of a given word. This chapter aims to discover which words are set up in opposition against one another in text and why. It will consider how exclusively each framework houses terms which are to be interpreted contrastively and it will consider the potential of these frameworks to retrieve further, less conventional contrast words from the corpus.

10.2. Identifying Productive Frameworks

The methodology which will be used to test the productivity of antonymous frameworks is based on that used by Renouf (1996) and by Hearst (1998) to test the productivity of frameworks associated with hyponymy. Renouf's strategy (as expounded in a 1993 proposal for the ACRONYM project) involves identifying frameworks associated with nymic pairs (synonyms, hyponyms, antonyms, etc), then examining those frameworks to discover which other nyms are elicited by each lexico-syntactic environment. I shall now apply this methodology to test the productivity of frameworks associated with new classes of antonymy.

Most of those new classes of antonymy tend to favour certain lexical environments in text. For example, the majority of sentences classified in terms of Distinguished Antonym incorporate the phrase *difference* [or a synonym of difference] *between X and Y* where X and Y are an

antonymous pair. Therefore, the construction *between X and Y* can be identified as a potential productive framework. In other words, we know that *between X and Y* is a popular framework among established antonymous pairs, but what other relationships hold between words which fill the X and Y slots in this construction?

The framework *between X and Y* is an obvious choice because nearly all Distinguished Antonymy sentences conform to this structure. Another class of antonymy for which productive frameworks may be identified is Umbrella Antonymy. Typical constructions include *both X and Y, neither X nor Y, either X or Y* and *X as well as Y*. Also, a number of smaller categories favour certain constructions. For example, Comparative Antonymy sentences often feature the framework *more X than Y* and Transitional Antonymy sentences often feature the framework *from X to Y*. Other constructions which could be examined in terms of their productivity include *X not Y, X rather than Y* and *X as opposed to Y* (Oppositional Antonymy); *very X and/or very Y* (Extreme Antonymy); *X versus Y* (Conflicting Antonymy) and *X/Y* (Virgule Antonymy). Ancillary Antonymy sentences contain two pairs of contrast terms and, as such, tend not to make use of stable lexico-syntactic frameworks.

To investigate all of the frameworks mentioned above would be time-consuming and would occasionally require a corpus larger than my 280 million word database. Therefore, this chapter will restrict itself to three frameworks which trial data suggest might prove productive, to a greater or lesser degree, in retrieving contrastive items of a given seed word. The three frameworks chosen are all high frequency and are associated with large classes of antonymy. Two belong to Umbrella Antonymy and one belongs to Distinguished Antonymy, as these categories are among the most reliable in terms of lexical signalling. The frameworks chosen are:

both X and Y [Umbrella Antonymy]

between X and Y [Distinguished Antonymy]
whether X or Y [Umbrella Antonymy]

The productivity of these frameworks will be tested by placing a word in the X-position, extracting all concordances which feature that word-string from the corpus, then examining which items occupy the Y-position. Three words will be placed in X-position for each framework. I shall begin by investigating an antonym from my sample, *good.* If these frameworks are in any sense productive, intuition demands that they should retrieve *bad* and, to a lesser extent, *evil* in Y-position with high frequency. I shall then examine *natural* to discover which words are most commonly set up in opposition against this adjective. Finally, I shall examine *style* to test, among other things, whether these frameworks are as productive when applied to nouns.

10.2.1. Seed Word: "good"

The first word which will be tested in X-position is *good*, which appears on 181,876 occasions in the corpus. Being among the highest frequency adjectives in language, *good* can be expected to occur in the frameworks under investigation at a healthy rate. And, being a familiar antonym, it should become apparent whether the frameworks chosen are productive in terms of retrieving contrast terms. Each of the three frameworks under scrutiny will now be examined in turn, beginning with *both X and Y.*

10.2.1.1. both good and ...

The lexical word-string *both good and* appears in a total of 63 corpus sentences. In 45 of those 63 sentences (71.4%), it is followed immediately by *bad.* Thus, sentences such as the following are very common:

330 ind891: The procedures recommended by the authors could pass very unfair judgements upon many schools, **both good and bad.**

331 ind924: Splendidly though he responded, Gascoigne's efforts had the effect of deflecting attention from **both good and bad** points about the performances of others.

332 ind931: Luck, **both good and bad**, tends to even itself out over a period of time.

The above examples are standard Umbrella Antonymy sentences in which *both good and bad* serves to exhaust its respective noun-head (*schools, points* and *luck* respectively). As such, these sentences are typical of those which a productive lexico-syntactic framework would be expected to retrieve. A further 4 of the 63 sentences recorded *evil* appearing immediately after *both good and*. Three of those sentences are listed below:

333 ind901: Great possibilities exist for **both good and evil.**

334 ind902: The forming of human character is a little understood process, but it does, in almost all cases, develop consistencies for **both good and evil.**

335 ind943: The intense vitality of Gordimer's prose conveys the density and the variousness of human life in a time and place where the old order is rapidly changing, where **both good and evil** are possible, where nothing can yet be taken as achieved and yet everything is excitingly there for reshaping and re-inventing: 'Everyone wants their own future arranged around them,' she writes, 'everyone has plans for a structure of laws to contain their ideal existence.'

Once again, it is pleasing to find such contexts being retrieved. In each of the examples above, the antonymous pair function as nouns rather than adjectives, but the effect is the same - to identify a scale and signal inclusiveness.

This leaves 14 occurrences of *both good and* which are followed by neither *bad* nor *evil*. These are listed below, together with the noun-head they modify:

both good and **flawed** (King Hassan's reign)
both good and **pathetic** (years)
both good and **wicked** (people)
both good and **nasty** (youths)
both good and **hard** (times)
both good and **not green** (God)
both good and **true** (a story)
both good and **lasting** (friends)
both good and **powerful** (patriotism)

both good and **new** (a paper)
both good and **friendly** (a service)
both good and **inimical** to the Labour Party (Conservative belief)
both good and **non-sexually explicit** (a novel)
both good and **great** (wines)

The concordances above make interesting reading. Some Y-position words are very useful contrast terms for *good*. For example, *flawed* and *pathetic* are valid potential antonyms of *good*, even though neither have become enshrined as an "opposite" in the same way that *bad* has. As *good* is antonymous with *evil* as well as *bad*, it is pleasing to note that *wicked* and *nasty* have also been retrieved.

One would not intuitively identify *hard* as an antonym of *good*, but this contrast is perfectly valid within its given context - *hard times* are quite the opposite of *good times*. This is a phrasal opposition, whereas most Y-position items reflect single-word contrast*. Another example of a retrieved phrase which initially seems odd, but is actually acceptable within context is *not green*. Here, *green* means "environmentally-friendly", so a contrast of sorts is being set up regarding ecological issues, although this opposition is more *ad hoc* than the previous example.

However, the phrase *both X and Y* does not always reflect an obvious contrast. For example, a story is described as being *both good and true*; one would not want to consider these terms as potential antonyms. In such contexts, it would appear that the framework signals unlikely inclusiveness. Perhaps there is some reason why one would not expect that particular story to be both *good* and *true*. Alternatively, these words could simply be coupled together without any overt element of contrast being created at all. This appears to be the case with *both good and lasting*. Similarly, no contrast is generated between *good* and either *powerful*, *new*, or *friendly*. These are just further attributes of the thing described as *good*.

*This is largely because the X-position terms used in this experiment are non-phrasal.

When *Conservative belief* is characterised as being *both good and inimical to the Labour Party*, no contrast is generated, as being *inimical to the Labour Party* is not at odds with being good for Conservative belief. A more borderline example is the novel described as being *both good and non-sexually explicit*. It seems unlikely that these attributes are to be interpreted contrastively, unless, that is, the author regards *sexually explicit* as being good.

Finally, *both good and great* is an interesting example because a distinction is made, but that distinction is not at the usual point on the scale on quality (ie. between *good* and *bad*). Rather, this context distinguishes between *good* and something better than good. While these terms are instantially contrastive, one could not identify *great* as being a potential antonym of *good*.

10.2.1.2. between good and ...

The framework *between good and Y* occurs in 140 corpus sentences, more than double the number of *both good and Y*. However, the distribution of *bad* and *evil* is very different. Of the 140 examples of *between good and Y*, 50 feature *bad* in Y-position, but 78 feature *evil* in Y-position. This is a marked difference from the ratio of *both good and Y*, where ten times as many sentences featured *bad* than *evil*.

This raises the question of why Umbrella Antonymy sentences tend to feature *good/bad* (eg. *both good and bad*) and Distinguished Antonymy sentences tend to feature *good/evil* (eg. *between good and evil*). It would seem that the scale of quality (*good/bad*) is used more to signal inclusiveness (usually when referring to people), while distinctions are more commonly made between *good* and *evil* (often in contexts such as a *struggle, battle* or *war*). It may also be relevant that Distinguished Antonymy sentences are prone to favour nouns (such as *good/evil*) and Umbrella Antonymy sentences are prone to feature adjectives (such as *good/bad*)*.

*See Table Eighteen for further details.

Of the 140 sentences which feature *between good and Y*, only 12 feature neither *bad* nor *evil* in Y-position. These contexts are listed below, together with their corresponding noun-head, where appropriate:

between good and **poor** (schools)
between good and **poor** (performance)
between good and **lousy** (comprehensives)
between good and **harmful** (foods)
between good and **greed** (a struggle within Lewis)
between good and **suspicious** (toadstools)
between good and **good to soft** (the going)
between good and **very good**
between good and **very good**
between good and **excellent** (Melborne's eateries)
between good and **really great** (wine)
between good and **the best**

Once again, some of the occurrences at the lower end of the frequency scale are valid contrast terms and others are not. Two contexts show *poor* occupying Y-position in the *between good and Y* framework, in relation to *schools* and *performance*. This is an excellent contrast term, as is *lousy*. Other words are negative, but perhaps more context specific: *harmful*, when applied to *food* does contrast with *good*; and the struggle within a boxer between *good* and *greed* is an interesting instantial opposition. When applied to *toadstools*, a contrast between *good* and *suspicious* is acceptable, though it is difficult to imagine this opposition being valid in many other contexts. The distinction between *good* and *good to soft* relates to ground conditions at a horse-racing meeting and is equally context specific.

Most interesting, perhaps, are the distinctions made between *good* and other, more extreme points on the scale of quality. On two occasions, *very good* is contrasted with *good*, and *excellent, really great* and *the best* each appear in opposition on one occasion. This is reminiscent of the *both good*

and great word-string retrieved earlier. Although one would expect *good* to contrast exclusively with negative items in language, it would seem that many writers choose to exploit its latent contrast with "super-positive" terms instead.

10.2.1.3. whether good or ...

Of the three lexico-syntactic frameworks analysed, *whether X or Y* is the least common. In the corpus, only 8 sentences feature the word-string *whether good or Y*. In 7 of those sentences, *bad* fills the Y-position; in the eighth, *evil* fills the Y-position. This bias toward *bad* is not unpredictable given that Umbrella Antonymy sentences have already been shown to favour *bad* over *evil*. It is interesting to note that no other words fill Y-position in the framework. This may suggest that non-standard oppositions avoid this construction, although, given it only occurs in eight sentences out of 12 million, such a conclusion may be prematurely drawn.

10.2.1.4. Summary of "good"

This analysis of *good* has shown that it is possible to retrieve contrast words from the corpus using productive lexico-syntactic frameworks. Collectively, the three frameworks examined occur on 236 occasions in the corpus. On 114 of those occasions (48.3%), the given word-string is followed by *bad*. This is compatible with our intuitions - one could predict that *bad* would be set up in opposition against *good* most commonly. Indeed, one could also predict that *evil* would be runner-up; *evil* fills the Y-position in frameworks analysed on 88 occasions (37.3%). However, the purpose of this experiment is not to prove that *bad* and *evil* are antonymous with *good*; rather, it is to show that the three frameworks identified are fertile enough to be deemed productive. This seems indisputable.

Interestingly, *bad* and *evil* were not the only terms retrieved using this method. A further 34 sentences (14.4%) yielded a word or phrase other than the established antonyms. Some of these

words and phrases were interesting potential opposites of good; others were more context-dependent distinctions. Useful contrast words included *wicked, nasty, pathetic, poor* [twice], *lousy* and *flawed*. Of those words which would not be intuitively recognised as antonyms of *good* were a group of terms at the extreme of the quality scale (such as *great, really great* and *excellent*), as well as words which lack any obvious contrast (such as *true, friendly* and *lasting*).

However, in total, over 90% of items extracted using the three lexico-syntactic frameworks yield potential contrast terms for the given seed word. This suggests that all three constructions are productive and may now be used to examine words which have not yet been established as belonging to a high-frequency antonymous pair.

10.2.2. Seed Word: "natural"

The next word which will be placed in X-position is *natural*, which occurs on 22,920 occasions in the corpus. If pressed to give an "opposite" of *natural*, most speakers would probably opt for *unnatural*. It will be interesting to discover whether this opposition is reflected in text.

10.2.2.1. both natural and ...

The output generated by a search for this word-string comprises 33 concordances. Each of these is recorded below, together with the word or phrase which follows *both natural and* and the noun-head to which the adjectives refer.

both natural and **accurate** (their response to the camera)
both natural and **artificial** (light)
both natural and **artificial** (lighting)
both natural and **artificial** (light)
both natural and **artificial** (the essence of man)
both natural and **artificial** (everything that exists)
both natural and **assisted** (fertility)
both natural and **beneficial** (high altitude)

both natural and **coloured** (light)
both natural and **heraldic** (devices)
both natural and **human** (perturbations)
both natural and **inevitable** (process)
both natural and **inevitable** (that...)
both natural and **lucid** (her acting)
both natural and **man-made** (components)
both natural and **man-made** (beauty)
both natural and **man-made** (beauty)
both natural and **man-made** (disasters)
both natural and **man-made** (facilities)
both natural and **man-made** (polymers)
both natural and **market** (forces)
both natural and **prudent** (paying debts)
both natural and **safe** (white sugar)
both natural and **sensible** (idea)
both natural and **social** (sciences)
both natural and **social** (sciences)
both natural and **spiritual** (creatures)
both natural and **superb** (a history of vodka)
both natural and **synthetic** (fibres)
both natural and **taboo** (a child's sexuality)
both natural and **technical** (the effect)
both natural and **violent** (causes)
both natural and **vital** (USA action)

It can be seen that *both natural and* occurs less frequently in text than *both good and* (33 hits of the former compared to 63 hits of the latter), but that the Y-position output is more diverse. However, this is not to say that no patterns emerge in the concordances above: of the 33 occurrences of this lexico-syntactic framework, 6 are followed by *man-made* and 5 are followed by *artificial.* Both of these terms make excellent contrast words for *natural.*

Retrieved on two occasions each are *inevitable* and *social.* Neither initially appeal as being good oppositions for *natural,* but, within its given context, *social* is entirely valid. This is because of the common academic distinction between *natural sciences* and *social sciences. Inevitable* works

less well as a contrast word of *natural*, suggesting that the *both X and Y* framework functions here only in terms of inclusiveness.

Many of the words retrieved in Y-position on one occasion only are also non-contrastive. However, interesting and valid oppositions of *natural* include *market* (in terms of forces), *synthetic* (in terms of fibres), *violent* (in terms of death) and *assisted* (in terms of fertility).

10.2.2.2. between natural and ...

Ten sentences feature the phrase *between natural and Y*, significantly less than the 140 sentences which featured *between good and Y*. All ten *between natural and Y* contexts are recorded below:

between natural and **artificial** (ozone)
between natural and **artificial** (worlds)
between natural and **artificial** (worlds)
between natural and **created** (forms)
between natural and **cultivated** (areas)
between natural and **juridical** (persons)
between natural and **man-made** (assets)
between natural and **metal** (packaging)
between natural and **moral** (evil)
between natural and **supernatural**

The only word to occur in Y-position more than once is *artificial* (once when applied to *ozone* and twice when applied to *worlds*). This confirms that *artificial* is commonly set up in opposition against *natural* in text. It is interesting to note that *between natural and man-made* also appears. This suggests that *man-made* also shares a strong contrastive profile with *natural*. Significantly, it also confirms that similar words occupy the Y-position in the frameworks *both X and Y* and *between X and Y*.

All of the six words retrieved on one occasion reflect contrast to a lesser degree, with

supernatural perhaps being the most interesting, especially because it ties in with *spiritual*, which was picked up by *both natural and Y. Created* and *cultivated* are both relatively synonymous with *man-made*, and *metal* is another example of a potentially valid, but unpredictable contrast - within the field of *packaging*, *metal* and *natural* may be a more familiar distinction than the lay-person realises.

10.2.2.3. whether natural or ...

In terms of quantity, *whether X or Y* is the least frequent of the three frameworks examined. However, the quality of the contrast words generated is not compromised, as the eight concordances below illustrate:

whether natural or **artificial** (hormones)
whether natural or **electric** (light)
whether natural or **imposed** (punishment)
whether natural or **man-made** (environment)
whether natural or **man-made** (beauty)
whether natural or **otherwise** (phenomena)
whether natural or **step** (parents)
whether natural or **through external intervention** (chemical changes)

Pleasingly, both *artificial* and *man-made* arise in Y-position: the former on one occasion (noun-head: *hormones*); the latter on two occasions (noun-heads: *environment* and *beauty*). This means that all three lexico-syntactic frameworks have successfully retrieved both of these words.

One-off contrast terms again include valid and useful examples. For example, *step* is not the kind of word one would intuitively identify as a potential opposite of *natural*. However, within the given context of parentage, this contrast is not only legitimate but very interesting. It is also reassuring to note the appearance of *otherwise* in Y-position. Though this term is not a valid opposite of *natural* in itself, *otherwise* effectively functions as a proform for unspecified contrast words in

text*. Finally, the description of *chemical changes* (*whether natural or through external intervention*) is significant because it illustrates that contrast terms are not restricted to single words. In this context, *through external intervention* is as valid an opposition as *artificial* or *man-made*.

10.2.2.4. Summary of "natural"

Collectively, the three frameworks examined as part of this study feature *natural* in X-position in a total of 51 sentences. In 9 of those sentences, *artificial* occupies Y-position and, in a further 9 of those sentences, *man-made* occupies Y-position. This strongly suggests that those two words are the primary textual contrast terms of *natural*. Indeed, over one third of all frameworks examined feature either *artificial* or *man-made* in opposition with *natural*. No other term is retrieved on more than two occasions from the corpus. As with *good*, low frequency items tend to be a mixed bunch. However, a number of interesting potential contrast words for *natural* were found, including *synthetic, created* and *imposed*.

This output is particularly interesting if analysed in light of the range of antonyms which lexicographers have paired intuitively with *natural*. For example, Webster's Dictionary of Synonyms (1951) lists three antonyms: *artificial, adventitious* and *unnatural*. The inclusion of the first-mentioned of this trio is supported by this experiment, but *adventitious* does not occupy Y-position at all. This is not surprising given that the word occurs only seven times in the entire corpus (or about once per 40 million words in text).

More interesting is the non-appearance of *unnatural* in textual opposition with *natural*. These words do co-occur in sentences, often in Umbrella Antonymy sentences, but never in any of the frameworks analysed. This could be interpreted as a flaw in the retrieval strategy or it could be interpreted as revealing an interesting aspect of *natural*: namely, that it prefers to contrast with

*Another word which serves a similar role in umbrella contexts is *not*, as in children's hide-and-seek cry of "coming, ready or not!".

lexical opposites rather than its morphological opposite. This latter interpretation is supported by the fact that *natural and/or unnatural* occurs 13 times in the corpus, but *natural and/or artificial* appears 25 times and *natural and/or man-made* appears 43 times. It would be interesting to discover whether other adjectives follow this trend of favouring non-morphological contrast words even when a morphological antonym is available.

Collins Cobuild Dictionary (1987)* cites six antonyms of *natural*, beginning with *unnatural*. The other contrast words suggested are *surprising* (not retrieved in text), *contrived* (not retrieved), *artificial* (retrieved 9 times), *man-made* (retrieved 9 times), and *processed* (not retrieved). Chambers Dictionary of Synonyms and Antonyms (1989) suggests *unnatural, artificial, man-made, affected* and *contrived.*

Therefore, some correlation emerges between intuitively identified antonyms and antonyms identified by productive lexico-syntactic frameworks: all three dictionaries cite *artificial* as a good opposite and only the oldest of the three fails to cite *man-made*. However, I would suggest that other recommended antonyms (*adventitious, processed* and even *unnatural*) are not placed in textual opposition against *natural* as often as may have been anticipated. Moreover, it could be argued that such words are less valid contrast terms of *natural* than *synthetic, supernatural, assisted* or other Y-position words which have not been cited by lexicographers, but which have been retrieved in this experiment.

10.2.3. Seed Word: "style"

The final word to be placed in X-position is *style*, which occurs on 34,029 occasions in the corpus. Being a noun rather than an adjective, *style* will test whether the frameworks identified are robust enough house words belonging to more than one grammatical class. With regard to

*This dictionary made use of a corpus which was smaller than my own (about 20 million words), but which was not newspaper specific.

contrastive profile, *style* could not be described as an established antonym of any other word, so it was interesting to discover in what oppositions (if any) it was used in text.

10.2.3.1. both style and ...

The framework *both style and Y* arises in 26 corpus sentences. However, the words which fill Y-position are diverse and only a couple are retrieved on more than one occasion. All contexts are listed below:

both style and **a demonstration of reaching speed**
both style and **achievement**
both style and **commercial space**
both style and **content** (x4)
both style and **date**
both style and **emotion**
both style and **fashion**
both style and **feeling**
both style and **heart**
both style and **history**
both style and **performance**
both style and **personality**
both style and **personnel**
both style and **policy**
both style and **prices**
both style and **qualifications**
both style and **reputation**
both style and **standards**
both style and **substance** (x5)

Two words are set up in opposition to *style* more commonly than anything else - *substance* appears in Y-position five times and *content* appears in Y-position four times. These contexts reflect a trend for *style* to be seen as meaningless or superficial, and licenses its opposition with more "weighty" terms such as *substance* and *content*. Other words which reflect this trend but only occur once in this position include *performance, policy, achievement* and *standards*. From

examining its antonymous profile, one might infer that *style* has developed a pejorative sense in the language.

It is also interesting that this construction sees *style* contrast with *emotion, feeling* and *heart.* This subset of "passion" terms suggest that *style* is sometimes felt to be incompatible with strong emotions. This reaffirms its negative connotations in text.

10.2.3.2. between style and ...

16 corpus sentences incorporate the construction *between style and Y.* The proportion of these in which Y-position is filled by *content* or *substance* is very high, as can be seen:

between style and content (x4)
between style and disorder
between style and grape
between style and political ideology
between style and quality (x2)
between style and subject
between style and substance (x5)

One quarter of all *between style and* constructions are followed by *content.* Over 30% are followed by *substance.* This means that only 6 of the 16 occurrences of this lexico-syntactic framework feature other terms. On two occasions, this term is *quality*, which conforms to the underlying trend for *style* to be treated negatively in text and be synonymous with emptiness or absence of quality.

However, a reminder that these frameworks are not exclusively inhabited by contrast words is provided by *grape.* The sentence from which this word-string is taken actually explores the relationship between the style of a given wine and the nature of the grape used in its production. However, *grape* could hardly be seen as a valid and useful opposite of *style*, merely an instantial

collocation.

10.2.3.3. whether style or ...

This lexico-syntactic framework was not found in the corpus at all, probably because *style* functions most commonly as a noun and nouns do not lend themselves readily to this construction. This raises the issue of whether it remains a valid productive framework for antonyms. However, just because a framework is not receptive to all word classes, it does not follow that the framework is not useful in yielding interesting contrast words. The criterion is quality of contrast, not quantity.

10.2.3.4. Summary of "style"

The contrastive textual profile of *style* is intriguing. The framework *both style and Y* occurs 21 times in the corpus; the framework *between style and Y* occurs 15 times; and the framework *whether style or Y* does not occur at all. Most commonly retrieved in Y-position is *substance* (10 hits; 24.4%). In second place is *content* (8 hits; 19.5%). Between them, these two words are retrieved in Y-position in 43.9% of frameworks. This suggests that *style* tends to be set up in opposition against things with greater intellectual depth. These sentences tend to use *style* to describe the manner in which something happens and use the Y-position word to describe the end result. It is interesting to note that *style* is never seen to contrast with concepts such as *inelegance* or *tastelessness*, as Chamber's Dictionary of Synonyms and Antonyms (1989) suggests it should.

Some of the low-frequency words retrieved in Y-position also evidence *style* being treated as a negative attribute. On two occasions, *quality* is contrasted with *style* and words such as *policy* and *political ideology* also seem to be considered incompatible with *style*. Such contexts, it might be noted, often refer to the current Prime Minister, Tony Blair.

10.2.4. Summary of Chapter Ten

The aim of this chapter was to determine whether any of the lexico-syntactic frameworks associated with the various new classes of antonymy could be used to assess the contrastive profile of a given seed word in journalistic text. A number of frameworks could have been chosen, but this preliminary study has investigated the productivity of three common constructions: *both X and Y, between X and Y* and *whether X or Y.*

The first word to be placed in X-position was *good.* The output generated by this item strongly suggested that the frameworks chosen were fertile: *bad* was retrieved in Y-position in almost half of all occurrences; *evil* arose in a further 37% of contexts. In the remaining 15% of contexts, about half featured a contrast word (albeit instantial in some cases) of *good.* Thus, well over 90% of all occurrences of the three frameworks identified were contrast-generating.

This output augured well for the productivity of the frameworks selected, and justified the examination of other seed-words. An analysis of *natural* showed that two words were set up in opposition more often than any others. Indeed, between them, *artificial* and *man-made* occurred in Y-position in over a third of all contexts retrieved. In text, these words seem to be more popular contrast terms of *natural* than *unnatural* and other antonyms recommended intuitively by lexicographers.

Finally, an analysis of *style* also revealed a pair of terms competing with one another to become the favoured textual opposition: *substance* was retrieved on 10 occasions and *content* on 8 occasions. The majority of sentences extracted showed *style* being placed in opposition against things of intellectual or emotional significance rather than simply against things which lack style.

This chapter may be seen as initial evidence that the automatic retrieval of antonyms in text is possible using some of the lexico-syntactic frameworks associated with new classes of antonymy.

Further research would be necessary to identify which constructions are most fertile; certain grammatical classes could prove to be more inclined to certain frameworks. However, the results presented in this chapter are sufficient to demonstrate the productivity of three frameworks in text and much of the output generated (both high and low frequency) would be of interest to dictionary-makers who currently appear to identify antonyms using only their own intuitions.

Chapter Eleven:
Evaluation

11. Evaluation

11.1. Introduction

The previous ten chapters of this thesis have analysed antonymy from a number of different angles. This chapter aims to reconcile these various avenues of investigation and assess in what ways our knowledge of antonymy has been enhanced. The chapter will be presented as a series of questions which may reasonably be asked of the thesis, namely:

1 What is so special about antonymy?
2 What is wrong with existing literature and theory about antonymy?
3 Why is this study any better?
4 What does antonymy do in text?
5 Why have these classes not been suggested before?
6 What makes "good opposites"?
7 What else is important about antonymy?
8 Does this research have any flaws?
9 What aspects of antonymy remain unexplored?
10 So what is antonymy then?

In providing answers to these ten questions, it is hoped that the purpose of this study will become apparent. These answers will include an overview of this thesis, a discussion of its limitations, and some ideas about future research in this field.

11.1.1. What is so special about antonymy?

Among sense relations, antonymy is unique in that examples become entrenched in our psyche from a very early age. We do not seem to commit synonyms or hyponyms to memory in anything like the same way as antonyms, which soon become fixed in the mental lexicon. This familiarity with antonymy is exploited in many aspects of contemporary culture, as Chapter One demonstrated.

The reason why antonymy infiltrates consciousness so deeply is more difficult to identify. Despite being brought together under the umbrella term of "sense relations", the phenomena of antonymy, hyponymy, synonymy, etc are very diverse. What differentiates antonymy is that it is a two-member system (as opposed to synonymy, where *sofa, settee* and *couch* could all be seen as similar in meaning) and that each member is faithful to the other (as opposed to hyponymy, where *dog* is one of many hyponyms of *animal* and can itself act as a superordinate term). Though Chapter Ten showed that a given word may be set up in opposition against a number of contrastive items in text, antonyms generally have only one established partner* and this may help the pair to become fixed in language. Two-member systems seem able to form closer associations than multi-member systems, even when non-antonymous (eg. *fish and chips, rest and recuperation, kiss and tell*).

However, there is more to antonymy than collocation. Lyons quotes the German semanticist Trier (1931) as stating that "every word that is pronounced calls forth its opposite" (1977: 270). This may be hyperbolic, but it begins to explain the unique relationship holding between antonyms. As humans, we have an urge to dissect and this is often reflected linguistically. Perhaps this urge is related to the fact that we are all either *male* or *female*. That dichotomy is natural, but other dichotomies are more artificial. For example, people are still labelled as being *black* or *white*, despite the multitude of skin-colours which abound (none of which, ironically, are truly *black* or *white*) and the frequent unhelpfulness of the distinction. On a religious level, we find oppositions such as *heaven* and *hell*, *God* and *the Devil*, *pure good* and *pure evil*. It is as though, as Trier suggests, that we conceptualise words, not just in terms of what they mean, but in terms of what they do not mean. Therefore, knowing the antonym of a given word or concept enhances our understanding of that word or concept. This may explain why words are sometimes coined with no obvious function other than to act as an antonym. For example, *able-bodied* is increasingly used

*Some, such as *happy*, may have two (*sad* and *unhappy*), but even this term has more synonyms than antonyms (*delighted, ecstatic, cheerful*, etc).

as an antonym of *handicapped* and neologisms such as *undelete* and *unsubscribe* are becoming familiar Internet terms. This suggests that, as humans, we have an urge to organise the world in terms of oppositions and that antonymy is a linguistic reflection of this. As Lyons states:

> It is ... a fact of which the linguist must take cognizance, that binary opposition is one of the most important principles governing the structure of language. (1977: 271)

11.1.2. What is wrong with existing literature and theory about antonymy?

Chapter One of this thesis gave an overview of the ways in which antonymy has traditionally been classified. Nothing is "wrong" with the analyses reported there, but, to a greater or lesser degree, all such studies are based on personal intuition. This does not detract from their validity, but it does suggest that antonymy may also be approachable from a corpus perspective, where individual interpretation is less significant and the nature of antonymy can be gauged more objectively.

Traditionally, antonymy is classified according to its inherent semantic properties. For example, amongst other distinctions, gradable antonyms (*hot/cold, tall/short, hard/soft*, etc) are differentiated from non-gradable antonyms (*dead/alive, male/female, legal/illegal*, etc). This distinction has been criticised on the grounds that most non-gradable antonyms are, in fact, commonly graded in text. However, the distinction may also be questioned on another level, namely whether non-gradable pairs function any differently from gradable pairs. If, as I argue in 9.2, they do not, it begs the question of why these abstract, intuitively-derived categories of antonymy should continue to be of linguistic interest. One answer is that, in the abstract, the mental lexicon can provide insights into the ways in which we interpret the world; a corpus-based study of antonymy does not displace this, but runs parallel to earlier research and provides an alternative view of the phenomenon.

To give another example of traditional antonymy theory being amenable to a more text-driven approach, sentences such as those exemplified in 4.3.2 question the accepted notion of an

antonymous pair having a marked and unmarked term. Many semanticists* argue that one antonym can be used in an unmarked fashion (*how high is that building?*) while its partner remains marked (*how short is that building?*). This is challenged by database sentences which use constructions such as *how good or bad*, *how well or badly* and *how easy or difficult*. This framework, though comparatively rare, suggests that writers do not always feel that the unmarked antonymy is truly unmarked.

In isolation, these arguments hardly render useless the entire body of literature about antonymy. Indeed, many analyses of the phenomenon which rely on little more than personal intuition remain useful and insightful. Most notably, Cruse classifies antonymy with care and the distinctions he makes between individual pairs of antonyms are often fascinating. However, this study allowed for the phenomenon to be examined from a totally new perspective, as the following section will explain.

11.1.3. Why is this study any better?

As Chapter Two explained, this study used a 280 million word corpus of newspaper text to discover more about how antonymy functions in text. From this corpus, a database of 3,000 sentences was retrieved. Each of these sentences featured both members of an antonymous pair. Analysing this database allowed antonymy to be classified in a different way from ever before.

Semanticists such as Cruse have theorised about individual antonymous pairs in detail. However, recent advances in technology now allow for those theories to be put to the test. For example, when defining the category of "complementaries", Cruse states that such pairs "can be diagnosed by the anomalous nature of a sentence denying both terms "(1984: 198), inserting various non-gradable pairs into the framework *neither X nor Y* and claiming that such contexts are infeasible. However, my corpus yields the following counter-examples, which suggest that this criterion is

*See Palmer (1976: 80) or Cruse (1986: 208), among others.

not watertight.

336 ind951: In a Birkbeck tutorial, a second-term group was wrestling with a theory that statements can be **neither true nor false.**

337 ind933: The door is **neither open nor closed.**

338 ind884: It is a bit harsh to write this unpretentious whodunnit off as 'dead theatre', for really it is **neither alive nor dead,** but in limbo.

339 ind951: Jobs will just be jobs, **neither male nor female.**

340 ind924: Many of the Free churches now ordain women, following the scriptural tenet that 'in Christ there is **neither male nor female'.**

341 ind904: To walk in and say 'I'm sorry I'm late' was **neither male nor female:** it was just grown-up.

The six sentences above each show a non-gradable pair occuring in a *neither X nor Y* framework. In the first triplet of sentences, these pairs are *true/false, open/closed* and *alive/dead.* In the second triplet of sentences, the pair is *male/female,* which occupies this framework quite frequently. These examples show that intuitive criteria are not ideal as a means to distinguish between pairs. Contexts which seem unacceptable in the mental lexicon may not be so readily rejected by all writers and corpus data provide an opportunity for antonyms to be analysed in terms of what they do, rather that what they are. Once again, this example illustrates how corpus evidence may be used to supplement traditional semantic theory.

11.1.4. What does antonymy do in text?

Chapter Three showed that about 98% of the database sentences can be attributed to one of ten classes. The smallest of these classes, Virgule Antonymy, features in just 19 of the 3,000 sentences; the largest, Ancillary Antonymy, features in 1,162 sentences. From examining the distribution of sentences among classes, it becomes apparent that the functions of antonymy in text, though diverse, are far from random. Two classes dominate the distribution: Ancillary Antonymy accounts for 1,162 sentences and Umbrella Antonymy accounts for 1,151 sentences. Collectively, these two functions account for antonymous pairs in 77.1% of contexts retrieved from the corpus.

Umbrella Antonymy features a word pair which expresses exhaustiveness or inclusiveness of scale. Typically, antonyms are conjoined by *and* or *or*. In such contexts, the antonymity of the pair is secondary to their status as co-hyponyms. No contrast is drawn between antonyms; rather, their similarity is exploited as a means to express an encompassing quality.

Ancillary Antonymy describes sentences in which the antonymous pair acts a contrast-generating device, signalling or creating another opposition elsewhere in the sentence. Over a third of all sentences which feature an antonymous pair also feature another, related contrast. This is because writers exploit the familiar opposition of an established antonymous pair as a strategy to make a less obvious opposition seem more contrastive.

Other functions of antonymy are considerably less common: in 6.8% of contexts, antonyms were found to be placed in comparison with one another (eg. *more X than Y*): in 5.4% of contexts, antonyms were distinguished from one another (eg. *difference between X and Y*); and in 3.0% of contexts, antonyms were used as part of a transition or change (eg. *from X to Y*). Other classes were even rarer, each accounting for 2% or less of contexts. These were Oppositional Antonymy (eg. *X not Y*), Extreme Antonymy (eg. *very X and very Y*), Idiomatic Antonymy (eg. *the long and the short of it*), Conflicting Antonymy (*a clash of X and Y*) and Virgule Antonymy (eg. *X/Y*).

In general, one could say that writers choose to exploit our familiarity with antonymy. More than other sense relations, antonymous pairs are a fundamental part of our mental lexicon. Writers "cash in" on the status held by an antonymous pair when they use it to act as a lexical signal itself (as in Ancillary Antonymy sentences) or to act as a signal of exhaustiveness or inclusiveness (as in Umbrella Antonymy sentences). Antonymy occasionally occurs in other, perhaps more predictable ways, such as to mark a distinction, comparison or transition, but these contexts are relatively rare.

11.1.5. Why have these classes not been suggested before?

Corpora have been used in previous investigations of antonymy and, as one would expect, functions of antonymy similar to those identified in this study have been noted. The difference between this study and others is that it classifies pairs according to usage and provides new terminology with which to talk about antonymy. However, previous work on antonymy has used data similar to that used in this study. For example, Justeson & Katz (1991) cite a total of 21* contexts which feature an established antonymous pair. Of those, 12 feature antonyms functioning in what I have been calling an umbrella environment. Three such examples, retrieved by Justeson & Katz, are recorded below.

342 The welfare of citizens, **old** and **young**, is the responsibility of the community.

343 The religion, in fact, is an expression of the unity of the group, **small** or **large**.

344 The shutter aperture *may be made* ***larger*** *or* ***smaller*** *by changing the foil area and adjusting the electrical* energy input to the foil.

Justeson & Katz describe this use of antonymy by stating that "when antonyms co-occur, it is usually by substituting for one another in phrases that are otherwise repeated word-for-word within the sentence" (1991: 143). The problem with talking about substitution is that antonyms are not entirely substitutable for one another in text. As Chapter Eight of this thesis illustrated, antonyms tend to follow a set sequence within the sentence and, although substituting antonym for antonym would not result in ungrammaticality, this sequence is not usually reversed. Describing these contexts as "umbrella" seems preferable.

Among the other 9 antonymous contexts cited by Justeson & Katz are examples of Distinguished Antonymy, Transitional Antonymy and Ancillary Antonymy. The ancillary function of antonymy is illustrated in the sentences below, which were all found in Justeson & Katz's corpus.

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*This figure does not include Justeson & Katz's examples of "relational adjectives" or "colour adjectives".

345 It certainly looked as if *their own Congregationalists* were **wrong** and *the Baptists* **right.**

346 Her *subject* was **large** - *a copy of the Last Supper* - and her *canvas.* **small** - *the head of a tiny screw.*

347 It *assumes that things are as they seem* when they seem **best,** and when they seem **worst** it *overlooks them.*

This triplet of sentences exemplify Ancillary Antonymy well. In sentence 345, *right* and *wrong* signal that *their own Congregationalists* should be contrasted with *the Baptists*. Sentence 346 is different in that it features two B-pairs: *large* and *small* help us to see her *subject* (*a copy of the Last Supper*) and her *canvas* (*the head of a tiny screw*) in opposition. Finally, *best* and *worst* mark a contrast between clauses in sentence 347. Justeson & Katz analyse these contexts in terms of antonym substitution and do not differentiate between ancillary and umbrella functions. However, it seems evident that the function of antonyms in sentences 342 to 344 differs from the function of antonyms in sentences 345 to 347.

Mettinger (1994) cites many more antonymous contexts than Justeson & Katz, but his examples remain compatible with the classes outlined in this thesis. Below are eight contexts taken from Mettinger's corpus, accompanied by the classes to which I would assign them:

Ancillary: Where *Miss Milray* was **hard,** *she* was **soft**...(p.63)

Umbrella: ...girls **fat** and **thin, short** and **tall, clean** and **dirty**... (p.35)

Comparative: But it's the **usual** rather than the **unusual** thing to happen. (p.39)

Distinguished: ...everyone knew the difference between **right** and **wrong**. (p.44)

Transitive: Someone has turned the **comedy** into a **tragedy**. (p.37)

Oppositional: It's no longer **attack** but **defence**. (p.37)

Extreme: ...either this crime was very **simple**...or else it was extremely **complex**. (p.50)

Idiomatic: He looked Poirot **up** and **down**... (p.48)

Eight of the ten classes of antonymy identified in Chapter Three of this thesis are exemplified by contexts cited by Mettinger. The only classes not reflected are Virgule Antonymy and Conflicting Antonymy, both of which are very low frequency. Mettinger identifies functions similar to those found in my database, but he prefers to describe them in terms of "frames" such as *X and Y, X not Y, X rather than Y* and *from X to Y*. Though these frames approximate to my classes of Umbrella, Oppositional, Comparative and Transitional Antonymy, Mettinger provides no frequency information and, like Justeson & Katz, does not isolate contexts in which antonyms function in an ancillary fashion.

So, this study is not the first to consider how antonymy operates in text. However, it is the first to make use a large corpus and classify antonymy accordingly. Previous studies have discovered examples of antonymous usage which are very similar to those identified in this thesis. This research quantifies these contexts and assigns labels to each function of antonymy.

11.1.6. What makes "good opposites"?

Chapter Seven of this thesis concerned itself with the endemicity of antonymy in text. In analysing this (and concluding that antonymy is, indeed, commonplace in language*), co-occurrence statistics were calculated. Some antonyms, it was noted, co-occurred at much higher rates than others. It is reasonable to assume that significance of co-occurrence may be related to the antonymity of a given pair, especially as other commentators have noted that "adjectives [or words in general, one presumes] may be more or less antonymous rather than simply antonymous or not antonymous" (Justeson & Katz 1991: 147). Five criteria, based on co-occurrence, were formulated and it was found that five of the 56 word pairs sampled recorded above-average scores for each test. Unfortunately, whether that makes the following pairs "good opposites" can only really be judged against personal intuition; however, the five "super-antonyms" of journalistic text

*Antonyms co-occur in at least one sentence in 195, and possibly in as many as one sentence in 50.

were found to be *female/male, high/low, peace/war, poor/rich,* and *public/private.*

11.1.7. What else is important about antonymy?

In classifying antonymy and discussing the implications of those classes, this thesis has touched on many aspects of antonymy. Three of those aspects of antonymous usage will now be discussed: firstly, the tendency of most word pairs to appear in a certain sequence within the sentence; secondly, the relative insensitivity of antonyms to matters of word class and gradability; and thirdly, the productivity of antonymous frameworks in text.

11.1.7.1. Antonyms favour a given sequence.

Not much attention has traditionally been paid to the sequence of antonyms in text, an oversight which Chapter Eight of this thesis aimed to address. Lyons noted that "the positive opposite tends to precede the negative when opposites are co-ordinated" (1977: 276) and positivity appears to be an important criterion in determining which antonym should appear first in the sentence. However, other factors may also be identified. For example, among morphological pairs, the root word (eg. *correct*) precedes the derived word (eg. *incorrect*) in a very large majority of contexts. This is often subsumed by the criterion of positivity, but morphology is the more powerful influence. Other factors include magnitude (largest first), chronology (earliest first) and gender (most male first). Phonological criteria (shortest word first, among others) may also a more subtle, underlying factor.

The cumulative effect of these factors is that the majority of antonymous pairs sampled show a bias towards occurring in a given sequence. In the case of some pairs, this bias is slight, but eight pairs sampled favoured a given sequence in upwards of 90% of database contexts. This is a hitherto unexplored aspect of antonymous usage.

11.1.7.2. The textual function of antonymy is not a product of word class or gradability.

Chapter Nine of this thesis explored whether any correlation emerges between the function of antonymy in text and two variables: the word class to which each pair belong and their status as gradables or non-gradables.

The focus of many early analyses of antonymy* was on adjectival pairs, with nouns and verbs being used only to exemplify relational oppositions, such as reciprocality. Adverbial pairs were largely ignored and links between antonyms belonging to different word classes were rarely forged. This thesis explored whether there was any justification for this and discovered that, in general, antonyms function in a similar fashion irrespective of word class. For example, the two most common functions served by antonymous pairs were found to be umbrella and ancillary, regardless of whether those pairs were adjectives, nouns, verbs or adverbs. The majority of frame-works associated with antonymy are able to house antonyms belonging to any of these word classes. Though some exceptions were found, this suggests that semantics takes precedence over grammar; that the antonymity of these pairs dictates their usage, not their grammatical status as adjectives, nouns, verbs or adverbs.

Furthermore, the function of antonymy is also not closely related to the gradability of a given pair. Non-gradable pairs showed some tendency to favour umbrella contexts and disfavour ancillary usage, but, in general, antonyms were found to function in a similar fashion regardless of whether they were gradable or not. For example, even though only 283 occurrences of non-gradable antonymy were included in the database, all ten classes of antonymy identified featured a non-gradable pair on at least one occasion. This questions the importance traditionally attached to the gradable/non-gradable distinction and supports the view that antonym usage is largely unrelated to the inherent semantic properties of individual pairs.

*Palmer (1976: 78-85) is a good example.

11.1.7.3. Some antonymous frameworks are productive.

The issue of productivity was addressed in Chapter Ten of this thesis. Individual analyses of most new classes had shown that certain lexico-syntactic frameworks tended to accompany certain functions. For example, the construction *from X to Y* was generally associated with Transitional Antonymy, the construction *X not Y* with Oppositional Antonymy and the construction *more X than Y* with Comparative Antonymy. The association between framework and function was stronger in some cases than others. For example, almost all Distinguished Antonymy sentences relied on *between X and Y*, whereas Umbrella Antonymy sentences used a plurality of frameworks such as *both X and Y, neither X nor Y* and *X and Y alike*. Despite being the most popular class of antonymy, no corresponding frameworks were closely associated with Ancillary Antonymy.

In Chapter Ten, a trio of frameworks were tested by placing a new word in X-position and examining Y-position output to discover whether or not it was contrastive. In general, it was found that these frameworks were successful in retrieving a range of terms, the majority of which were indeed contrastive. This enabled antonymous profiles to be developed for seed-words, namely *natural* (which was found to contrast most frequently with *artificial* and *man-made* in text) and *style* (which contrasted with *substance* and *content*). This is an area of research which is especially amenable to further investigation.

11.1.8. Does this research have any flaws?

The corpus used in this study consists of 280 million words of newspaper text, spanning the period from October 1988 to December 1996. By current standards, this corpus is difficult to fault in terms of size, but one could argue that journalistic text is not representative of language in general. Certainly, the role served by antonymy in speech is not considered by this thesis, which is a matter of some concern because spoken language has primacy over written language. On the

other hand, newspapers are a good reflection of current usage and no corpus could ever guarantee total representativity.

The database derived from this corpus could be criticised from a number of angles. The 56 antonymous pairs selected for study were chosen largely from personal intuition and the number of examples retrieved for each pair was also determined manually. In some respects, this makes a mockery of objectivity. However, such criticism should be placed in context. Studying antonymy is more problematic than studying, say, modal auxiliary verbs, which are finite in number and can be sampled accordingly. Antonymous pairs are impossible to quantify because their definition is dependent on personal intuition. What might be identified as a good pair of "opposites" by one speaker may be dismissed by the next. No definitive list of antonyms in English will ever exist, yet this study, like all others, required a starting point. Therefore, it was decided that the sample should be created intuitively, but according to certain criteria regarding the proportion of antonymous pairs which should be selected from each grammatical class and from each traditional category, etc*. Inevitably, this leaves the study vulnerable to criticism that it is based on an unrepresentative sample of antonymous pairs, but any corpus-based analysis of antonymy needs to be based on something and this sample is among the largest and most diverse used in any such study.

One might also argue that, though using corpus data is more scientific than not using corpus data, the classes of antonymy discovered and outlined in this thesis are still subject to the interpretation of one analyst. For example, despite looking at real data, neither Mettinger (1994), Fellbaum (1995) nor Justeson & Katz (1991) identified the function which I refer to as Ancillary Antonymy. On a smaller scale, individual sentences can cause problems regarding which class of antonymy they should properly be assigned to. The examples below illustrate some of the more subjective choices which needed to be made.

*See 2.3.2.2. for further details.

348 ind954: However, critics say the league Tables encourage schools to concentrate on getting the maximum number of pupils through five GCSEs at top grades and are increasing polarisation, with a widening gap between pupils who do **well** and those who do **badly**.

349 ind902: It was **sad** but **happy** that Ashley Lawrence should have been among dancers when he died.

350 ind884: For years her book has seemed a **minor** classic; now perhaps it will be a **major** one.

Sentence 348 exemplifies a difficulty first encountered in 5.3.1.6. This sentences contrasts *pupils who do well* with *those [pupils] who do badly*. This is preceded by reference to *a widening gap*, which would usually be seen as a signal of Distinguished Antonymy. However, one could also argue that this antonymy is ancillary in that *well* and *badly* signal an opposition between two different groups of pupils. When analysing this sentence, I adopted the latter perspective, reasoning that, in the real world, this sentence alludes to two distinct referents and that *well* and *badly* mark a contrast between them. However, one could counter-argue that this example features a framework typical of Distinguished Antonymy: *gap between X and Y* where X and Y are antonymous noun phrases (*pupils who do well* and *those [pupils] who do badly*). Subjectivity inevitably affects classification.

At first glance, sentence 349 seems analogous with sentence 152 in that *but* is being used in an umbrella context to signal that something is, inclusively, *sad* and *happy*. However, this example has actually been classified in terms of Ancillary Antonymy, even though the B-pair is not easily identified or italicised. My logic is that *sad* seems related to the fact that Ashley Lawrence died and *happy* seems related to the fact that he was among dancers at the time. However, not everybody would have interpreted this sentence in that way.

Finally, sentence 350 is reminiscent of those examples discussed in 4.3.1.4 in that it is on the border of Ancillary Antonymy and Transitional Antonymy. This sentence has been classified in terms of the latter because of the transition made by the book in question. However, one could claim that this sentence features an element of ancillary contrast; that *minor* is related to the period of

time associated with *for years* and that *major* is associated with *now*. Both interpretations could be justified, though in this example I favoured the former because no B-pair is as evident as in, say, sentence 58, which is, one must acknowledge, otherwise very similar in many respects.

These examples show that although corpora allow for antonymy to be approached in a more objective light, output is still subject to individual interpretation. This is not necessarily a "flaw" in my research, but it would be interesting to discover whether other analysts, given similar data, would distribute sentences among classes in similar proportions to those of this investigation.

11.1.9. What aspects of antonymy remain unexplored?

This study reports on an analysis of 3,000 sentences, all of which feature an antonymous pair. However, not all kinds of antonymous pair are included. For example, adjectives are only sampled in their base form, never in their comparative or superlative form. This precludes contexts which incorporate *richer/poorer* or *best/worst*. Similarly, those nouns selected for study are only sampled when occuring in the singular, so pairs such as *men/women* are not included. Also, verbs are only considered in their base form, so although *win/lose* is sampled, *won/lost, winning/losing* and *wins/loses* all remain uninvestigated. Reciprocal pairs such as *buy/sell* and *teach/learn* are not sampled. Prepositions are not handled at all by this thesis, and it would be interesting to discover whether the textual profile of pairs such as *from/to* and *for/against* differ from other pairs analysed here. Furthermore, commentators such as Fellbaum (1995: 289) point out that antonyms co-occur across word class. As such, the antonymy arising between *succeed/failure, successes/fail, succeeding/failed*, etc might be explored.

It should also be noted that this thesis deals exclusively with intra-sentential occurrences of antonymy. However, antonyms also co-occur inter-sententially and it would be interesting to discover whether the functions of antonymy identified here could be used to describe how antonymy

operates across whole texts.

Finally, as mentioned in the previous section, this study also restricts itself to analysing the function of antonymy in written text. A corpus of spoken data would show whether (and in what ways) antonymy is used differently in speech. It would also be of interest to discover how antonymy functions in other languages.

11.1.10. So what is antonymy then?

The problem of finding an accurate and workable definition of antonymy has been with us throughout this thesis. However, we are now in a position to recommend a new definition, while being aware that this definition must pick up a number of threads. For example, it must account for the fact that antonymy is both a semantic and a lexical relation. Antonymy is lexical because only some word pairs on a given scale are identifiable as opposites. On the scale of height, this lexis is *tall* and *short*, not *lofty* and *petite*. This is partly explained by Carter's notion of "core vocabulary" (1987) and partly explained by Muehleisen's notion of "shared semantic range" (1997: iii). Antonymy is semantic for more obvious reasons - word pairs need to belong to the same scale and occupy opposite halves of that scale.

A definition of antonymy should also incorporate function as a criterion. Table Four showed that all 56 of the word pairs sampled function in an umbrella fashion at least once in the database, and that all but two word pairs function in an ancillary fashion at least once in the database. On average, antonyms function in an umbrella fashion in 38.4% of sentences sampled and in an ancillary fashion in 38.7% of sentences sampled. As these distributions are relatively consistent across pairs, one would not expect to find an antonymous pair which did not fulfil such roles in text.

Finally, a new definition should acknowledge that the litmus test for antonyms is that they should be intuitively available to native speakers. Antonymy differs from other sense relations in that it is

easily exemplified because of our familiarity with "opposites". Any definition of antonymy which is not compatible with native-speaker intuition is inherently flawed. Therefore, this definition should demand that an antonymous pair be enshrined in the mental lexicon as a criterion.

Among criteria which need not be included in this definition is anything relating to grammatical class, gradability or morphology. This thesis has shown that the function of antonymy remains similar, regardless of whether those pairs are adjectives (*cold/hot*), nouns (*advantage/disadvantage*), verbs (*attack/defend*) or adverbs (*quickly/slowly*). The function of antonymy is also largely unaffected by whether the pair in question is gradable (*bad/good*) or ungradable (*male/female*) and whether the pair is morphological (*honest/dishonest*) or lexical (*love/hate*). Criteria of this kind are unnecessary because antonymous pairs serve similar functions in text regardless of these classifications. Moreover, criteria of this kind are unnecessary because all of the antonymous pairs cited in this paragraph would be immediately recognised as "opposites" by any native speaker.

So, this thesis will close by presenting a new definition of antonymy which incorporates relevant criteria (lexis, semantics, function, familiarity) but which does not incorporate less relevant criteria (morphology, gradability, word class). It is hoped that this definition may prove useful to future researchers of antonymy:

> Antonyms are pairs of words, belonging to a variety of grammatical classes, which contrast along a given semantic scale and frequently function in an umbrella and ancillary fashion such that they become lexically enshrined in the mental lexicon as "opposites".

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