In memory of my father
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**Typographical conventions**

Linguistic forms: Italics: *dog, black*

Meanings of linguistic forms: Single quotes: ‘dog’, ‘written record’

Citations: Double quotes: “…”

Emphasis: Bold face: **emphasis**

Cognitive categories/concepts: Small caps: DOG, VEHICLE

(Semantic) attributes: normal type in square brackets: [has legs], [can swim]

Cognitive metaphors/metonymies: + signs and small caps: 
+LIFE IS A JOURNEY+, 
+PLACE FOR INHABITANTS+

Domains/nominal fields: small italicised caps: *DOG, CHAIR*
Acknowledgements

Despite my colourful subject, I can confess that writing a thesis could be both grey and dull at times. Fortunately, I have been privileged to meet and work with a number of people who have reduced the number and length of those grey moments considerably.

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For a while, I terrorised almost any English speakers I could find with questions about their usage of terms such as turquoise, almond, cinnamon, emerald etc. Many thanks to Van Leavenworth, Dot Åström and Mary Söderström for patiently answering such questions.

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Introduction

0.1 Preliminaries

This work is a contextual study of a collection of English colour terms. Here contextual is used loosely in the sense that the colour terms are not analysed in isolation but in conjunction with other linguistic units. The overall aim of the study is to describe and analyse a number of aspects of the semantics of English colour terms within the framework of cognitive linguistics. The material on which this work is based is an extensive language corpus – the Bank of English. The focus of the study is not, however, on the numbers that can be extracted from the corpus, but on the processes involved when the meaning of colour terms is extended from the prototype.

It may perhaps be considered both a bold and foolish task to choose a subject such as colour semantics, which has attracted such a great interest in the last thirty years. Since the publication of Berlin and Kay’s (1969) epoch-making study of Basic Colour Terms, few areas in semantics have been studied so thoroughly; Maffi’s (1991) bibliography of colour categorisation research between 1970 and 1990 exceeds two hundred books and articles. Moreover, MacLaury (1997) claims that since 1858 more than 3000 works have been written where colour terms are the major issue. In the light of such numbers, one may justifiably enquire whether there is actually anything left to uncover, especially in a language like English; a language which is often used as a metalanguage in this particular field of research and which, as the lingua franca of the (western) world, is perhaps more researched than any other language. Nevertheless, my answer to such an enquiry would definitely be yes; in the present work I hope to demonstrate that there is still room for a study of English colour terms.

There are, in particular, three aspects of this dissertation which render it supplementary to the existing body of research. They are intimately related, referring to different planes, as it were, of the study. First, the method and the material used here could be seen as suggesting a new and complementary way of studying colour semantics. To the best of my knowledge, no one has previously systematically used an extensive computerised language corpus for the description of colour term usage.1 The majority of articles and books that are devoted to colour semantics use the anthropological method of naming and mapping, i.e., they are essentially context-free studies. The relatively few studies that are more linguistically oriented have most often used dictionaries or introspection as their sources. Here I show that language corpora can reveal data that will allow a more comprehensive account to be made of the semantics of English colour terms.

A second feature of this study that complements previous research is its focus on extensions from the prototype. Whereas the lion’s share of earlier work has been devoted to prototype phenomena and the size of categories, the present study is

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1 However, very late in my work with this dissertation I was made aware of a similar method being employed by a Finnish postgraduate student, Seija Kerttula. Although we both use language corpora we focus on different semantic issues.
primarily concerned with the peripheral references of colour terms. This is actually a consequence of the choice of method: whereas mapping and naming are excellent tools for the study of prototypes and categorial size in the colour domain, corpus studies, although they cannot be used to this end, can instead point to other semantic phenomena.

The third feature of this study, making it a complement to previous research, is its consistent use of linguistic theory for the description and analysis of the corpus material. It would seem that much colour term theory is primarily devoted to the cognitive and/or anthropological fields. Having said this, I should acknowledge the inter-disciplinary character of colour term research, and I myself also move freely among the fields, whilst maintaining a focus on linguistic aspects. In this dissertation, I try to explain and discuss facets and patterns of colour term usage, viewing them through the theoretical framework of cognitive linguistics. Thus, the primary aim is not to develop this theory further but to see whether its constructs can be fruitfully exploited in the analysis of colour term semantics. The version of cognitive linguistics that I draw most heavily on is that proposed and developed by Langacker (1987, 1991a, 1991b, 1999, etc.). This means that I prefer his terms rather than similar constructs with different names suggested by other authors. However, what is presented here is my own conception of Langacker’s theory, and I have occasionally taken the liberty of slightly modifying his terminology. My aim is always to present as coherent a descriptive model as possible.

In this introduction, I present some explicit objectives of the study as well as my material and research method. The chapter ends with a brief outline of the book.

0.2 Aims

In recent years many authors dealing with colour terminology have expressed their dissatisfaction with the fact that most studies of colour terminology have followed similar lines. Maffi and Hardin (1997:352) discuss the merits of the type of research performed in the tradition of Berlin and Kay (1969), but also note that “the study of whole color-term systems has the potential to be very fruitful.” Furthermore, they (p 354) observe that “[a]nother point concerning the study of whole color-systems that warrants consideration is […] the study of the grammatical (morphological, syntactic) context of color words.” Levinson (forthcoming) makes a similar point. What some critics lack in the approach of the Berlin and Kay school is a proper linguistic analysis of each language before inter-language comparisons are made. As an example of what such an analysis should include, Levinson (p 7) mentions that (among other things)

the typical use and full referential range of each expression should be investigated without restricting oneself to a pre-set stimulus array, noting e.g. how and in what contexts color (and other surface) contrasts are made.

It is the overall aim of the present study to respond to the needs of such a linguistic description. Applying a corpus-based method, it is hoped that the present study can
shed some light on specific syntactic, semantic and morphological features of English colour terms. More specifically, a number of issues will be addressed which relate to the extension and delimitation of colour terms in context. Many of these issues seem to have been ignored previously, partly, no doubt, because the applied methodology could not unravel relevant information. In the present study I pay special attention to the following questions regarding colour terminology:

- What patterns of colour term distribution can be found in a large corpus such as the Bank of English?
- Can colour terms assume different functions and thereby be used outside their normal delimitations?
- How well defined are specific colour terms and are there terms which can be regarded as synonymous?
- Can the specificity of a colour term create readings which introduce additional meanings?
- How do figurative readings of colour terms arise?
- What linguistic or conceptual processes can be identified as participating in the extension of colour terms from the prototype?

Since very little descriptive corpus work has been done on these issues, parts of this study are mainly descriptive. However, as the final question above emphasises, one major objective is to explain the observed patterns in a framework built on cognitive grammar.

### 0.3 Method and material

#### 0.3.1 Introduction

This section presents the type of method and approach employed in the present work. First, I begin with a general discussion of the use of linguistic analysis in the study of colour terminology. This is followed by brief comments concerning corpus methodology and statistics, and the section ends with a presentation of the colour terms under investigation, and the corpora used for the study.

Over the years a number of different methods have been developed for the study of colour terminology. As might be expected, different research traditions employ different methods: Work with colour arrays (naming, mapping, identifying focal point) is a traditional anthropological method; response time, consistency and consensus of naming, and elicited lists are often used by psychologists; frequency in texts, morphology and word length have been part of the linguistic approach. A good insight into the various fields of colour studies and the methodologies used is offered by Hardin and Maffi’s (1997) anthology on colour categorisation.

Regarding the linguistic analysis of colour terms, the prime concern has frequently been to correlate various patterns with the evolutionary hierarchy of colour terms suggested by Berlin and Kay (1969). Little effort has been made to investigate why the figures presented in their study are as they are. Nor have researchers exploited the tools of linguistic theory to the extent that they could have
done, in my opinion. Corbett and Davies’ (1995, 1997) detailed study of a variety of linguistic and behavioural methods is a good example of this tendency. First, their point of departure illustrates the strong position Berlin and Kay’s theory occupies: the methods are tested, not the theory. Second, although they deal with an impressively large amount of linguistic material, they do not take the analysis beyond the surface figures. However, to do Corbett and Davies justice, it should be added that such an analysis would lie outside the scope of their investigation, but this is also precisely the point: the scope of linguistic studies of this type has been defined far too narrowly.

There are, however, researchers who have ventured to find their own analyses, and who have followed a different track in looking beyond mere frequency. Two researchers, Isabel Forbes and C.P. Biggam, have been the inspiration for my study. Forbes (1979, 1986) examined the relation between the two French words for BROWN: brun and marron. Crucially, in her 1979 article, Forbes took the investigation one step further than is usually the case by introducing a contextual element to colour designation. By asking her informants which colour word they would use to describe a collection of objects, she was able to demonstrate that it was not only the nuance of the colour that determined the use of one or the other seemingly synonymous forms, brun and marron, but also the domain of the described object. Thus, marron was only rarely used about hair, irrespective of the nuance, whereas brun was clearly the preferred term in this domain. A clear pattern emerged which was also confirmed by the study of a text corpus. What is interesting here is that neither marron nor brun can be said to be restricted to a narrow class of objects as is English blond for example, although there is still a clear pattern of domain preference. Needless to say, merely looking at frequency would not have revealed this pattern. Forbes does use frequency in her article, but then she applies a diachronic perspective to demonstrate that the marron/brun ratio is increasing, which may be taken as a sign of an ongoing change through which marron may succeed brun as a basic term. In her later study, Forbes (1986) shows that there are also dialectal differences to be found in the distribution of brun and marron.

Another notable exception in the linguistic analyses of colour terms is Biggam’s (1997, 1998) work on Old English colour terms. In her meticulous studies of colour terms for grey and blue, Biggam offers an impressively detailed analysis of the sense relations that obtain for each colour term. Among other things, she considers collocations, referents and contrasts (see, e.g., Biggam 1997: 81-85) to be able to draw conclusions about the extension of the word in terms of colour nuances. Furthermore, she uses these facts to determine the hyponymous status of the word, which, in turn, helps her decide whether a term is a Basic Colour Term or not. Thus, Biggam’s work illustrates that detailed contextual studies of a collection of individual tokens can be useful in the overall semantic characterisation of a given term.

It seems that the types of approach taken by Biggam and Forbes have not been fully explored in the general study of colour terminology. In the present study

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2 The notion of Basic Colour Term is described in detail in Chapter 1.
of corpus material, I try to combine all three approaches described above; following Corbett and Davies, I use the statistical method to be able to uncover general patterns for further and closer investigation. However, to be able to find interesting patterns beyond frequencies, I use Forbes’ domain approach and Biggam’s token approach.

A corpus-based approach implies that an important aspect of this study is what Svensson (1998: 3) called the real-data commitment: “Whenever authentic linguistic data is available it should be used, in context, cautiously and systematically.” Following this directive, I strive to ground my analytical claims in the patterns that my corpus material provides. Occasionally, complementary methods such as native speaker intuition, lexicographic descriptions as well as previous psycholinguistic and anthropological research are used to add further weight to a particular piece of evidence. However, the groundwork is essentially confined to the limits of the chosen corpus. In this sense, this study is close to that of Biggam; it is based on contextual material to which the investigator has indirect access only. However, there are some marked differences between my position as a researcher and that of Biggam. The most obvious difference is that, investigating facets of a contemporary language, I can interview native speakers, which makes it possible to check any claim against the intuition of the speakers. Another respect in which this study is different from that of the historical linguist is the richness of my material. Whereas Biggam’s analysis of BLUE in Old English is based on a total of 78 tokens, almost the same number of tokens figures in my study in connection with the highly infrequent term carmine. This is not to say that big is necessarily beautiful, but it gives a vivid illustration of the different conditions we work under.

0.3.2 The use of computerised text corpora – problems and solutions

As I have already pointed out, one reason for using the method employed here is to obtain a richer and more reliable material than is usually used in this type of analysis. I also want to take the linguistic analysis one step further, beyond the aspects of frequency. Having these aspirations, I had to confront a number of methodological problems. One such problem was how to collect my material.

In an eye-opening article Ball (1994) discusses some methodological problems concerning the use of computerised text corpora. One aspect of the method, to which she gives prominence, is the problem of recall and precision. Precision can be defined as the proportion of the retrieved material that is relevant. Recall, on the other hand, measures the proportion of the relevant material that was retrieved. To put it more simply: precision defines how much extra, irrelevant material you get and recall covers how much relevant material you miss. Precision is often easier to estimate than recall since it is generally very difficult to have a good picture of what may be missed.

In my work these aspects are intimately linked to the sense relations of homonymy and polysemy.3 It seems that most colour terms, if not all, have homonyms or are polysemous. Basic terms such as green, black, and white have identical forms functioning as surnames, which are homonyms. Non-basic terms,

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3 The issue of polysemy and homonymy is discussed in greater detail in Chapter 2, p 57.
on the other hand, are typically derived from flowers, metals and dyestuffs, so they exhibit polysemous relations with other senses. The form <rose> is a case in point. Apart from its colour sense, the form is also used as a proper name (homonymy), a plant name (polysemy), and as past tense of the verb rise (homonymy). Consequently, a search based on the form <rose> would yield very low precision but perfect recall. A use of the automatic tag for adjectives, on the other hand, would dramatically increase the precision, but would lower the recall. All nominal uses of the colour term rose, as in (1) below would be excluded.

(1) “Have you done my old room in rose, as you planned it?” asked Channing as offhandedly as she could. (BoE: usbooks)

Ball (1994: 296) makes a case for favouring poor precision: “To read a corpus is to encounter the unexpected and the undocumented at every turn. […] [W]ith perfect precision, we find exactly what we said we were looking for, and no more.” I have made a point of following Ball’s advice in this respect: when searching the corpus I did not use the tag option. Accordingly, my initial material encompassed perfect recall but low precision. However, the precision could be increased with the help of available computer commands. I eliminated the proper name problem by excluding all forms that contain capitals. This necessarily led to a decrease in the recall, but it would seem that nominal phrases containing colour words typically contain some article, and therefore I believe that this adjustment should not have markedly affected the reliability of the material. When it comes to highly frequent forms of a polysemous or homonymous character like rose, cream and navy, a grep-v command was used to remove the most frequent collocations containing a non-colour sense (e.g. double cream). The coordinated phrases that were automatically eliminated with this command can be found in Appendix 2. The final refinement of the material, however, was conducted manually, where the individual sentences were examined to determine whether the term had a colour sense. Even here mistakes are bound to have occurred, but given the richness of the material, I feel confident that any such mistakes should not affect the general conclusions of this work.

0.3.3 Statistics

Since it is unrealistic to analyse each individual example, many researchers – in view of the ever-increasing practice of using large text corpora – see the need to employ statistical tools. On the other hand, it might be argued that figures by themselves have little explanatory value, and they have to be examined and problematized further by the human analyst. Furthermore, as observed by Ball (1994), it seems that statistics lends itself best to certain types of investigation. As an example of the type of problem that can occur when statistics and analysis are not really compatible, Ball mentions hidden variables. The problem is that the

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4 “Grep” is a UNIX command for selecting lines matching a regular expression, on which the lookup commands g and v are based.

5 One such difficulty – even by hand – is to determine whether a form refers to dyestuffs or colour. In cases of doubt I have preferred colour classification.
relative frequency of a linguistic phenomenon has to be calculated in relation to the
number of possibilities of occurrence, not in relation to the number of words. Ball
also calls attention to the temptation that the text analysis tools of the software
package represent. These programmes are usually designed to process word level
phenomena and in particular various collocational patterns.

In the present study, the majority of statistical calculations are of the simple
and well-established type, such as chi-square goodness of fit, various correlation
calculations and collocational strength. As far as the last one is concerned, I used
the software available in the Bank of English. Occasionally, I used other types of
statistical tools because of the character of the material, and on these occasions I
give a short description of the tool.

In my use of collocational data, I have been influenced by Stubbs’ (1995)
critical discussion of different ways of calculating collocational strength. There are
three relatively well-established measures: raw frequency, t-score and MI-score.
Stubbs argues that naive use of these measures can be questioned since it is not
entirely clear what the last two actually measure. Underlying t-score and MI-score
is the assumption that the expected frequency and the measured frequency can be
contrasted. The problem is that the expected frequency is calculated as if words
occur totally randomly in a corpus, which, of course, is not the case. Church et al.
(1991) discuss the usefulness of these tools, giving a thorough description of how
the t-score equation is derived. Despite the reservations that can be made as to what
exactly the numeric value of these methods indicate, we should acknowledge their
usefulness in the identification of collocations which appear more often than can be
attributed to chance.

The approach I use in my work in this context is similar to the functional
account suggested by Stubbs (1995: 40-41):

They [MI-score and t-score; Stubbs uses the terms I and T-value] can be used as
filters which catch collocates likely to be of linguistic interest. [---] The cases which
survive the filters provide a set of words, based on solid quantitative evidence, for
further human interpretation.

In my study, I have occasionally used collocational calculations as filters, but at no
point are the calculations seen as anything more than tools for identifying
potentially interesting areas. Another researcher using a similar method is Deignan
(1999a, 1999b). She used collocational patterns as a means of identifying relevant
senses in her analysis of linguistic metaphors in corpus data.

To sum up, statistical calculations are useful tools when the analyst has to
process a large amount of data. However, because at the moment statistical
methods present many pitfalls, these tools should best be treated solely as filters for
identifying potential research areas.

0.3.4 The terms

One of the aims of the present study is to approach English colour terms without
any preconceived idea of basicness. Given this, the choice of colour terms to be

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6 I have used Woods et al. (1986) and Zar (1996) as my guides in finding suitable statistical tools.
investigated is of great importance – all the more so since the number of colour terms in English, as in any other language, is truly gigantic. The human eye can distinguish millions of shades and theoretically there could be the same number of corresponding colour terms. In 1930, Maerz and Paul listed 4000 English colour terms (Wyler 1992), and the number has undoubtedly increased since then. It would therefore be an impossible task to analyse all terms, and some sort of sampling has to be made. This study restricts the number of terms to 50 ‘basic’ forms – including their derivative forms (cf. Chapter 3.5).

In establishing the sample, I followed the assumption that salient terms are probably more interesting than other terms. Thus, rather than taking a random sample of terms my aim was to find the most salient ones. One hypothesis concerning salience was suggested by Berlin and Kay (1969: 6), who remarked that psychological salience could be indicated by “a tendency to occur at the beginning of elicited lists of colour terms.” The above-mentioned studies by Corbett and Davies (1995, 1997) seem to confirm this hypothesis.

In the light of these considerations, I have based my sample of terms on three studies: Battig and Montague (1969), Brown (1972), and Taft and Sivik (1997). Included in my study are those terms in Brown (1972: 139) and Battig and Montague (1969: 10) with a response frequency of more than ten, and all the terms listed in Taft and Sivik (1997: 31). I hope that this procedure will ensure that the terms under investigation are among the most salient in British English and American English.

In Battig and Montague’s study, performed in 1965, fifty-six categories were investigated, and the responses were given by students from the Universities of Maryland (270 subjects) and Illinois (172 subjects). The students were presented with notebooks and were asked to write down, in 30 seconds, as many items as they could for the specified category. Twenty-six colour terms got a higher score than ten. Brown’s study was also carried out in 1965, asking 200 Scottish undergraduates, 100 women and 100 men, to write down items in 28 categories in a booklet. The students were given one minute to write down as many items as they could for each category. Thirty-six colour terms got a score higher than ten. The similarity between the Scottish and the American tests of course invites a cross-examination, and one such examination was performed by Brown (1978). He found that there was substantial agreement between the American and Scottish studies in the field of colour terms, both as regards frequency and serial position. Neither study was performed in relation to other types of colour studies.

Taft and Sivik’s (1997) study is somewhat different from those previously mentioned. The only task that the respondents were asked to do was to write down as many colour terms as possible, in the order they thought of them. They were given one piece of paper with 50 numbered spaces and were told that if they needed

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7 Taft (1997: 11), referring to Nickerson and Newhall (1943), claims that we can distinguish among as many as “seven million differences in the psychological color solid.”

8 Taft and Sivik’s list only includes terms which scored above 50% (i.e. more than 50% of the subjects mentioned the term).

9 Serial position or rank order means the order in which the terms were listed. For example, in the case of colour, the terms red, blue, green and yellow had the lowest mean serial position in Brown (1972), i.e. they usually occurred among the first five colour terms listed.
more space they could use the back side of the sheet. Furthermore, there was no
time limit given for the accomplishment of the task. This made it possible for the
subjects to focus more effectively on this one task. The study is also different from
the previous ones in that the group was composed of people of different ages,
between 17 and 70 (the mean age of the Americans was 36). All in all, 31 colour
terms were mentioned by more than 50% of the subjects.

It should be mentioned that I have included one wild-card colour term, azure.
The inclusion of this colour term, which did not reach the critical number in any of
the above studies, was based on its semantic quality as a saturation term and as
such it plays a role in one of my case studies of specificity (Chapter 6). The colour
terms considered in this work are listed in Table 0:1 together with an indication of
the study they appeared in.

Table 0:1. Colour terms under investigation

<table>
<thead>
<tr>
<th></th>
<th>Colour term</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Amber</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Aqua(marine)</td>
<td>B&amp;M,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Azure</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Beige</td>
<td>B&amp;M,B,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Black</td>
<td>B&amp;M,B,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Blue</td>
<td>B&amp;M,B,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Brown</td>
<td>B&amp;M,B,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Carmine</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Charcoal (grey)</td>
<td>T&amp;S</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Chartreuse</td>
<td>B&amp;M,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Cream</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Crimson</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Emerald</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Fawn</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Fuchsia</td>
<td>T&amp;S</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Gold</td>
<td>B&amp;M,B,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Golden</td>
<td>B&amp;M,B,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Green</td>
<td>B&amp;M,B,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Grey/Gray</td>
<td>B&amp;M,B,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Indigo</td>
<td>B&amp;M,B</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Lavender</td>
<td>B&amp;M,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Lemon</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Lilac</td>
<td>B</td>
<td></td>
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<tr>
<td>24</td>
<td>Lime</td>
<td>B,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Magenta</td>
<td>B&amp;M,B,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Maroon</td>
<td>B&amp;M,B,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Mauve</td>
<td>B&amp;M,B</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Mustard</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Navy (blue)</td>
<td>B,T&amp;S</td>
<td></td>
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<tr>
<td>30</td>
<td>Olive</td>
<td>B&amp;M</td>
<td></td>
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<tr>
<td>31</td>
<td>Orange</td>
<td>B&amp;M,B,T&amp;S</td>
<td></td>
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<tr>
<td>32</td>
<td>Peach</td>
<td>T&amp;S</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Pink</td>
<td>B&amp;M,B,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Plum</td>
<td>T&amp;S</td>
<td></td>
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<tr>
<td>35</td>
<td>Puce</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Purple</td>
<td>B&amp;M,B,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Red</td>
<td>B&amp;M,B,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Rose</td>
<td>B&amp;M,T&amp;S</td>
<td></td>
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<tr>
<td>39</td>
<td>Rust</td>
<td>T&amp;S</td>
<td></td>
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<tr>
<td>40</td>
<td>Scarlet</td>
<td>B</td>
<td></td>
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<tr>
<td>41</td>
<td>Silver</td>
<td>B&amp;M,B,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>Tan</td>
<td>B&amp;M,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>Tangerine</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>Teal</td>
<td>T&amp;S</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>Turquoise</td>
<td>B&amp;M,B,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>Ultramarine</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>Vermillion</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>Violet</td>
<td>B&amp;M,B,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>White</td>
<td>B&amp;M,B,T&amp;S</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>Yellow</td>
<td>B&amp;M,B,T&amp;S</td>
<td></td>
</tr>
</tbody>
</table>

There are a few things to be noted in connection with this table. First, although they
are fairly frequent terms in a text corpus, highly domain-specific colour terms such
as blond and auburn did not reach the critical score in any list. Second, no
derivation of the type rosy or pinkish was mentioned. Neither possibility was
excluded by the formal instructions concerning the listing tasks. Consequently, it is
tempting to conclude that these terms are not considered to be ‘proper colour terms’

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10 Both *aqua* and *aquamarine* are taken into consideration whenever the form *aqua(marine)* is used.
11 *Gold* and *golden* are given separate entries since they do not behave similarly in terms of syntax.
Semantically they are essentially similar of course. However, the difficulty of isolating the colour sense of *gold*
means that it is mainly *golden* that has been taken into account.
by a majority of English speakers. Nor were ‘luminosity terms’ such as dark or light mentioned. Arguably, this is because they are not felt to be colour terms at all, although from the point of view of reference, technically speaking, they are closely related to the established colour terms black and white.

0.3.5 Corpora

The data used in my study come from the Bank of English corpus (henceforth BoE). The BoE is owned by Collins COBUILD, a division of HarperCollins Publishers, and is presently kept at the University of Birmingham, England. The corpus, which can perhaps best be characterised as a monitor corpus (cf. Sinclair 1991: 24-26), contained approximately 323 million words at the time of my initial sampling, February to June 1998, and it was one of the largest computerised corpora of English in the world, if not the largest. Since then the corpus has increased in size; with the latest addition in January 2002, it now contains some 450 million words.\(^\text{12}\) Three varieties of English are represented: British English (70%), American English (20%) and Australian English (10%).\(^\text{13}\) The BoE contains a number of subcorpora, representing different text genres. A complete list of the subcorpora (with abbreviations) and their size is given in Appendix 1. It should be noted, however, that the corpus could be said to be unbalanced in the sense that most subcorpora represent written varieties, among which newspaper language seems to dominate. It should also be emphasised that within some subcorpora there are groups of genres which are not controlled and which may display a great stylistic span; for example, in a given newspaper corpus we find both sports pages and editorials, presumably representing different registers\(^\text{14}\) and styles.\(^\text{15}\) Generally, I do not take genre into consideration in my analyses.

Following Clear (1992), we can say that the BoE corpus more accurately represents language reception\(^\text{16}\) than language production. Although the characteristics of the corpus may affect aspects of my study, this should only be in a minor way given the nature of my analysis.

The reason for choosing the BoE rather than any other corpus, such as the British National Corpus for example, was largely because of its size. As one of my aims of this study was to describe and analyse the use of non-basic colour terms, I found that size should be regarded as of prime interest: unless a reasonable number of tokens could be found, the reliability of the analysis would be questionable. Thus I agree with Clear (1992: 30), who maintains that “[t]he importance of the overall size of the corpus upon which claims about a language are based cannot be ignored – more is definitely better.” Additional factors favouring the BoE rather than the BNC were its inclusion of American material and the fact that the software

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\(^\text{12}\) This is of course slightly unfortunate, from the point of view of my research. Because the content of some subcorpora has been altered, my study cannot be copied. However, as far as it has been possible, I have chosen examples which are still available in the new corpus.

\(^\text{13}\) These figures represent the proportion at the time of my data collection.

\(^\text{14}\) The validity of this term is frequently discussed. Here it is used loosely.

\(^\text{15}\) Cf. Deignan (1999b) for an insightful discussion in greater detail concerning this fact.

\(^\text{16}\) Clear (1992: 24) suggests that this perspective is reflected by the question “What is the likelihood that a native speaker has encountered this word recently?” An alternative label could be language exposure.
available facilitated the collection of the material. Where the use of English colour terms is compared with those in Swedish, the Swedish examples were retrieved from the Swedish language corpus Språkbanken\(^\text{17}\) in Gothenburg.

**0.4 On the terminology of the dimensions of colour**

Most speakers of a language are aware that there are different qualities or dimensions intrinsic to the concept of colour. First, there is colour itself – we can distinguish red from yellow, for instance. But the fact is that we often qualify colour terms to account for the other dimensions. Thus, we can talk about “a dark red” but also “a dull red”; “a light red” but also “a bright red”. The above phrases reflect a three-way distinction which is traditionally made between hue, lightness, and saturation. These can be illustrated by the three-dimensional colour solid (cf. e.g., Boynton 1997 and Sivik 1997 for presentations of two different systems). Although it is not uncontroversial to reduce colour to these three dimensions (cf. section 1.2), I think one has to admit that the colour terms of English can readily be analysed in this way. Even so, it is clear, and this will be demonstrated later on, that other dimensions can be evoked through context in English. However, for the moment let us confine the discussion to these three dimensions. As this is an entirely corpus-based study, it is important to realise how these dimensions are coded linguistically, and, thus, address the question of appropriate terminology. The terminology is particularly relevant to the discussion of the semantics of more precise colour terms (Chapter 5).

Consider first the term hue, normally associated with colour. Munsell (1961: 15) defines hue as follows:

> It is that quality by which we distinguish one color family from another, as red from yellow, green from blue or purple. It is specifically and technically that distinctive quality of coloring in an object or on a surface; the respect in which red, yellow, green, blue, and purple differ from one another; that quality in which colours of equal luminosity and chroma may differ. \[italics original\]

Since hue corresponds to what we normally associate with colour, modification of ‘a colour’ in respect to hue is usually achieved with the help of another colour term, often a derived form, e.g. reddish purple, or yellowish green.

A second dimension of colour is lightness. Lightness is the “quality by which we distinguish a light color from a dark one” (Munsell 1961: 15, italics original). There is a wealth of terms currently used to refer to this dimension; an unfortunate circumstance which may cause confusion. Frequently used terms are value (e.g. Munsell 1961), lightness (e.g. Maffi and Hardin 1997, Kay 1999a), brightness (e.g. Berlin and Kay 1969, MacLaury (1992)) and tone (e.g. Biggam (1997)). As Biggam (1997) observes, the use of the term brightness to label this dimension is particularly unfortunate since the term bright as in, say, bright red in ordinary language, in fact denotes the third dimension – saturation. This is a potential source of ambiguity. Throughout this book therefore, I use the term lightness to indicate

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\(^{17}\) Språkbanken can be accessed via the Internet at: http://spraakbanken.gu.se/
this dimension. The term brightness only occurs in quotations from other authors. In everyday language emphasis on lightness is usually indicated by the terms dark and pale.

The third dimension of colour is that of saturation or chroma. It is the quality of a color by which we distinguish a strong colour from a weak one; the degree of departure of a color sensation from that of white or gray; the intensity of a distinctive Hue; color intensity. (Munsell, 1961: 16)

As the term saturation is rather uncontroversial and usually preferred, it is used in this study. Dull or greyish and vivid or bright are used in everyday speech to refer to low and high saturation, respectively.

0.5 Overview of the book

The book falls into two major sections: the first part, containing two chapters, provides a general background picture; in the second part, Chapters 3-6 deal with aspects of the literal use of colour terms, whereas Chapter 7 deals exclusively with the figurative use of colour terms.

Chapter 1 provides a comprehensive overview of the study of colour semantics since 1969. The development within the dominant theoretical framework as well as critical voices are discussed, and my own position with regard to the various theories is presented.

Chapter 2 contains a short description of some basic notions within the framework of cognitive linguistics. This chapter is mainly aimed at the uninitiated reader, who hopefully will be able to follow the reasoning in the later chapters with the help of this presentation. Some crucial concepts from the Langackerian framework are also presented and discussed.

Chapter 3 gives a comprehensive view of the frequencies of the colour terms under investigation in the BoE. Some general aspects of morphology and mini-syntax of colour terms are treated mainly on numerical bases; thus the chapter is to a large extent descriptive.

Chapter 4 deals with the issue of extension of colour terms outside their normal area of reference. It is argued that the majority of these instances can be attributed to the classificatory function of the colour terms in these instances. A case study provides a detailed theoretical account of the processes involved from the point of view of cognitive grammar.

Chapter 5 gives an account of the non-basic colour terms, here called elaborate colour terms. Questions of transparency and polysemy are discussed and the alleged synonymy and free variation of some terms are investigated in the corpus.

Chapter 6 discusses how the use of specific terms can highlight senses outside the colour domain. This phenomenon is discussed with reference to the linguistic construct of markedness, which is analysed within the framework of cognitive linguistics.
Chapter 7 examines the types of processes involved in the formation of figurative senses of colour terms. Instances of figurative use found in the corpus are discussed in relation to the theoretical account.

The Conclusion discusses how the results obtained in this work may affect the interpretation of previous research. Structures of the two categories of colour terms identified here, BCTs and ECTs, are suggested on the basis of usage patterns.
Chapter 1  Setting the Scene:  
Thirty Years of Studies of Colour Terminology

1.1  Introduction

This chapter surveys the literature on colour term semantics in order to create a suitable frame for the present study. As mentioned in the Introduction, the amount of written material that deals with colour terminology is so large that a full account would constitute a book in itself. For that reason, the survey is necessarily selective and only the most influential books and articles are presented.\(^1\) The chapter also examines some different methods and approaches that have been used in the study of colour terminology.

The time frame in the survey is confined to literature produced after 1969, the publication date of *Basic Color Terms*. This is an obvious starting point since every piece of work in colour semantics after the publication of this book has been forced, in one way or another, to relate to the results presented there. Broadly speaking, the research after 1969 can be divided into two categories.

- Research accepting the general basis of the Berlin and Kay theory.  
  This research typically tests the hypothesis on new material or applies new methods to confirm the theory.
- Research rejecting the whole premise of the Berlin and Kay theory.

The first category is considerably larger and is given much more space in my work.

This dichotomy structures the present chapter in that the first part of the chapter is concerned with research within the frame of the Basic Colour Theory. Special emphasis is given to the work of the original authors (especially Paul Kay) since they seem to be the ones moving the theoretical framework forward. After this, the main critique posed by the opposing camp is presented. Subsequently, I try to formulate my own position in relation to the two categories. The final part of the chapter briefly surveys the historical research of colour terminology and points to similarities to and differences from the present work. The present chapter does not include any references to previous studies of figurative use of colour terms; these are treated in Chapter 7.

1.2  The dominant theory: Berlin and Kay’s legacy

1.2.1  *Basic Color Terms*

The privileged position of *Basic Color Terms* should become clear if we describe the prevailing doctrine at the time of its publication. A cornerstone of post-Saussurian linguistics is that of the arbitrary nature of meaning. This idea had its

\(^1\) The Bibliography, however, is fairly comprehensive as regards recent materials.
sequel in the doctrine of relativism, the prime example of which is the Sapir-Whorf hypothesis. In linguistics, it was long argued that the domain of colour was the area par excellence for illustration of the arbitrary nature of language. Bloomfield’s (1933:140) statement, cited below, was a commonplace of the time as we find similar claims made by other authors, including Gleason (1962) in his classic textbook.²

Physicists view the color spectrum as a continuous scale of light waves of different lengths, ranging from 40 to 72 hundred-thousandths of a millimeter, but languages mark off different parts of this scale quite arbitrarily and without precise limits, in the meaning of such color-names as violet, blue, green, yellow, orange, red and the color names of different languages do not embrace the same gradations.

The view expressed by Bloomfield was widely accepted in linguistics for many decades. Studies performed in this tradition are, for example, Conklin (1964) and Lenneberg and Roberts (1956).

It was in fact the aim of Berlin and Kay (1969) (henceforth B&K) to refute this belief in relativity. Despite many studies demonstrating that the colour spectrum was divided in various ways, Berlin and Kay hypothesised that there was an underlying pattern of universality. They wrote (1969:2): “We suspect that this allegation of total arbitrariness in the way languages segment the color space is a gross overstatement.” In order to demonstrate this, they designed an experiment based on a number of assumptions which were given axiomatic status.

- Not all colour terms have equal status; there are basic colour terms (henceforth BCTs), and such a term can be defined by a few criteria. These criteria are: a) it is monolexemic, i.e. the meaning is not predictable from its parts; b) its signification is not included in that of any other colour term; c) its application is not restricted to a narrow class of objects; d) it must be psychologically salient for the informants – e.g. show a tendency to occur early in elicited lists, stability of reference across informants and occasions of use, and occurrence in the idiolects of all informants.³ (B&K: 6)

- There is an internal gradation in colour categories, which means that it is possible to isolate a focus of the category – a best example.

- The denotatum of a colour term is fully described by the three dimensions hue, lightness and saturation.

Although not explicitly stated, these axioms were in fact already part of an established tradition of studies in colour terminology. As far as the first axiom is concerned, B&K pointed out that the notion of basic colour terms had long been a working assumption in linguistics and anthropology, although not properly defined.

² For more evidence and references, see Berlin and Kay, 1969: 159-160 (footnote 1), and MacLaury 1997: 18-20.
³ There are four additional criteria which can be used for doubtful cases, cf. B&K (1969: 6)
The notion appeared in the work of Lenneberg and his associates (e.g., Brown and Lenneberg 1954; Lenneberg and Roberts 1956) and also in the work of Conklin (1964). Consequently, as they saw it, their achievement in this respect was only to give it a “unique operational definition.” Regarding the second axiom, Lenneberg and Roberts (1956: 16) make the following observation about the existence of a focus of colour categories:

[I]t appears that some stimuli are more likely to elicit a given verbal response than others. One can think, for example, of a color which is more typically yellow than another […] We shall use the term *focus* to describe that cluster of stimuli which has an extremely high probability of eliciting one distinct verbal response.

Concerning the third axiom, B&K were well aware that Conklin (1964), for instance, had demonstrated that there were other dimensions of meaning associated with colour terms, e.g., succulence and desiccation. However, in their quest for the underlying pattern they argued (p 160, footnote 2) that associations of that kind would have to be ignored. Again, this approach was anticipated by Lenneberg and Roberts (1956:14) who make similar reservations:

Since we are proposing to use the three perceptual dimensions as metalanguage in terms of which the referent of any color term can be described, we might pause to ask to what extent the coordinate system arising from the use of these dimensions might itself be culture bound. Two questions are involved: the first is whether the dimensions (hue, brightness, and saturation) are universally applicable […]. For the time being, we may leave the first question unanswered, recognizing, of course, that there is nothing “natural, logical, or necessary” in these dimensions. For our purposes, they are measuring sticks which can be conveniently used in describing cross-cultural similarities or differences.

Although Lenneberg and Roberts suggest that there is nothing “natural” in the dimensions, they have been treated exactly in that way since then. B&K (1969:160, footnote 2), for instance, refer to them as “the three psychophysical dimensions: hue, saturation, and brightness.” Today, most researchers seem to treat these dimensions as natural and universal dimensions grounded in physiological perception.

On the basis of the above-mentioned axiomatic assumptions, B&K asked native speakers of twenty languages to map the focal points and outer boundaries of each BCT in their language on an array of 329 Munsell colour chips. This procedure and material had been used in an almost identical form in another classic study, the aforementioned Lenneberg and Roberts (1956). They, however, had used a much larger inventory of colour terms (52 terms) and did not use achromatic chips (cf. B&K, p 103.). Subsequent to the empirical study and the analysis of the results, a third, heavily criticised, step in the study was added – a study of the literature concerning previously documented colour studies. On the basis of such studies, combined with studies of various types of lexicons and dictionaries, B&K established the BCTs of an additional 78 languages, reaching a total of 98 languages.
In sum, it can be claimed that B&K’s achievement was not based on novel methodology, nor on the postulation of radical axioms. Their study was quite traditional, in these respects, but what was actually new was the wide contrastive approach and, in particular, the equation of colour category to focus. B&K (1969: 13) write: “[W]henever we speak of colour categories, we refer to the foci of categories, rather than to their boundaries or total area …[italics original].” Even though the focal element had been recognised earlier no one had previously taken this radical step.

The results of their investigation were revolutionary in at least three respects.

- First, B&K succeeded in confirming their hypothesis; they claim that they have been able to show that “color categorisation is not random and the foci of basic color terms are similar in all languages.” (1969: 10)

- Second, which came as a surprise to B&K, there appears to be a universal process, which stipulates a fixed order in which BCTs are encoded in a language. B&K suggested that this process could be reduced to a typology of seven stages (cf. Figure 1:1 below). They observed that of a possible 2,048 (i.e. $2^{11}$) patterns only twenty-two combinations occurred in their material.4

- Third, apart from some doubtful cases (notably, Hungarian and Russian) no language seems to have more than eleven BCTs.

<table>
<thead>
<tr>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHITE and BLACK</td>
<td>RED</td>
<td>GREEN or YELLOW</td>
<td>GREEN and YELLOW</td>
<td>BLUE</td>
<td>BROWN</td>
<td>PURPLE PINK ORANGE GREY</td>
</tr>
</tbody>
</table>

Figure 1:1. Berlin and Kay’s 1969 typology of seven stages.

Berlin and Kay’s (1969: 104) own summary of these results provides us further indication of what they claimed to have found:

Our research to date points to three main conclusions. First, there exist universally for humans eleven basic perceptual color categories, which serve as the *psychophysical referents* of the eleven or fewer basic color terms in any language. Second, in the history of a given language, *encoding of perceptual categories* into basic color terms follows a fixed partial order. […] Third, the overall temporal order is properly considered an *evolutionary* one; color lexicons with few terms tend to occur in association with relatively simple cultures and simple technologies, while color lexicons with many terms tend to occur in association with complex cultures and complex technologies. [Emphasis added]

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4 It is important to understand that, for instance, RED in Figure 1:1 indicates that the focal colour of this third colour term is red. A stage II language with only three BCTs will have one term whose focus is red, but whose extension, of course, is much wider than that of English red.
As MacLaury (1997: 20-21) points out in his summary of *Basic Color Terms*, the view of the authors would seem to be that BCTs are universal “because neurology determines that there is no other way to see.” The use of the terms *psychophysical* and *perceptual category* above indicates this. In this view, the illusion of cross-linguistic relativity is created through the different number of BCTs, which frequently lead to differences among boundaries. Other elements adding to the perceived picture of relativism are the presence of non-basic terms and connotations. Instead we have a theory which could be given the label *evolutionary determinism*, since it suggests (cf. the quote above) that there are universal perceptual colour categories just waiting to be lexicalised.

### 1.2.2 The later development of the B&K theory

As mentioned earlier, the publication of *Basic Color Terms* caused a considerable stir among linguists and anthropologists. Generally, the theory received positive reviews despite its revolutionary content. A noteworthy spin-off effect of the book is that, ever since the publication of *Basic Color Terms*, the study of the colour field has become the scene of interdisciplinary activity including anthropology, behavioural psychology, linguistics, and neurophysiology. In this section I briefly discuss the developments that have taken place inside the B&K paradigm, as a result of new facts, criticism and speculation.

In my description of the development of the B&K universalist paradigm, I start with the main stream, which can be said to be represented by an anthropological method largely in line with the landmark work. Although the majority of the reviews were positive, there were also a few reviewers who criticised different aspects of the study (e.g. Hickerson 1971, Durbin 1972, McNeill 1972 and Conklin 1973). In response to some new facts and to problems already addressed in *Basic Color Terms* (the evolution of GREY, cf. B&K 1969: p 41-45), Kay (1975) suggested some modifications: GREY should have a wild-card status, meaning that it may occur earlier than was proposed in the original sequence (cf. Figure 1:1). Furthermore, a few of the earliest colour categories were renamed to avoid ambiguity: the category GREEN-and-BLUE was called GRUE and it was acknowledged that this category might have its focus in either GREEN or BLUE. Another important contribution was Kay’s observation that individual speakers in a language community could have a different number of BCTs.

Even in *Basic Color Terms*, B&K observed that contemporary formal theories of lexical definitions could not handle the structure of colour categories, as the structures were perceived in their work. A very important theoretical step in the development of the universalist theory was Kay and McDaniel’s (1978) attempt to

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5 However, in the American tradition the affinity between linguistics and anthropology has always been close, cf. the work of such people as Boas and Sapir.
6 I use the term *paradigm* here in a loose Kuhnian way, but this use should not be taken as programmatic. For an interesting and illuminating discussion concerning prototype theory as a paradigm in Kuhn’s (1962) sense, see Geeraerts 1997.
7 MacLaury (1997: Chapter 2) provides an excellent account of the history of colour ethnography from 1858 to the present. He also (468-469, footnote 16) provides a detailed list of studies 1970-1985 dealing with various related subjects.
8 Sampson (1980: 95-102) provides a good summary of early critique, and points to some questionable details in B&K’s methodology.
model an explanation of the facts observed using another framework. Drawing on recent work on colour perception (De Valois et al. 1966) and mathematical formalism, fuzzy set theory (Zadeh 1965), they tried to show that the evolutionary sequence of BCTs could be successfully modelled if fuzzy set logic was applied to opponent neural responses. According to De Valois and his associates, there are six types of cells, four of which determine hue and two of which determine lightness. The four cells which determine hue are called opponent response cells. According to the theory, the cells are organised in two pairs: Blue-Yellow and Green-Red. Kay and McDaniel argued that all basic colour categories can be seen as being formed from the human visual system’s six fundamental neural response categories (FNRs) by one of three fuzzy-logical operations:

- **Identity:** green (= neural response GREEN)
- **Fuzzy union:** grue (GREEN OR BLUE)
- **Fuzzy intersection:** orange (RED+YELLOW)

From this perspective it was possible to view the entire sequence as containing two movements:

- i) The progressive splitting of composite categories (such as macro-RED and GRUE) into neural categories: RED, GREEN, YELLOW and BLUE.
- ii) The formation of derived categories from the ‘neural’ ones. (i.e. the formation of BROWN, PINK and PURPLE)

Although the biological aspect of colour categorisation was mentioned in *Basic Color Terms*, it was Kay and McDaniel’s article that made an attempt to formulate a fully fledged theory of neurophysiological reductionism.9

Interestingly enough, Kay and McDaniel’s account accords BCTs unequal status: some BCTs, namely those corresponding to neural categories, seem to be more basic than the other colour terms. They are usually referred to as Primary Basic Terms (cf. for example Corbett and Davies 1995). Another aspect of Kay and McDaniel’s theory is that it does not restrict the number of BCTs to eleven. Kay and McDaniel note that there is room for at least fifteen BCTs: apart from the six Primary Basic Terms there are nine potential terms (Secondary Basic Terms) which can be modelled through fuzzy intersection – for instance, maroon (BLACK + RED) could very well develop into a BCT.

In response to the criticism of the data in *Basic Color Terms*, Kay, Berlin and Merrifield started the World Colour Survey (hereafter WCS) in 1976, whose main objectives were twofold (Kay, Berlin, Maffi and Merrifield 1997):

- i) To collect reliable data from a large variety of languages of the world.
- ii) To enhance knowledge of universals, variation and historical development in the field of colour terminology.

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9 Other studies taking this neurological predisposition approach are Ember (1978), von Wattenwyl and Zollinger (1979) and Lumsden (1985).
The WCS, but also other independent surveys (notably the work of MacLaury, see below) found some unexpected data, especially concerning the early categories. Kay, Berlin and Merrifield (1991), when summarising material from the WCS, devote their attention primarily to the early stages of the evolutionary sequence. To meet new data, the original evolutionary sequence was considerably elaborated, but the authors claimed that the original tenets were still valid:

> The wider range of data in the WCS has confirmed the main lines of the original hypotheses of Berlin and Kay regarding the existence of semantic universals in basic color lexicons and a system of partial constraints on the evolutionary development of basic color vocabularies. [---] More broadly, we may observe that the cultural construction of simple categories is in several respects constrained by biology. [---] It is clear that the color system of a given language at a certain moment can assume a large number of forms while remaining within the limits set by biology.

(Kay, Berlin and Merrifield, 1991: 23-24)

What should be stressed is that, in accordance with Kay and McDaniel’s (1978) speculations, the constraints on the evolutionary development of colour lexicon are believed to be predetermined by biology. However, as the last line of the quote above illustrates, the authors have moderated their claim considerably compared to that of Kay and McDaniel. In particular it appears that the frames set by biology allow a greater freedom to construct alternative colour categories.

The B&K model has been reformulated one more time, and, as was the case in Kay, Berlin and Merrifield’s (1991) article, it is the early categories which have attracted interest. In direct response to data collected by Levinson (forthcoming) but also in response to an alternative theory of colour term evolution, the Emergence Hypothesis (see below), Kay and Maffi (1999) presented a new model whose basis is still firmly placed within the paradigm. The model introduces four principles of colour categorisation, which account for the different patterns of categorisation that can be found in different languages up to Stage V (see Figure 1:1 above) ¹⁰. The four principles suggested by Kay and Maffi (1999: 745) are the following:

1. Partition
2. Black & White
3. Warm and Cold
4. Red

The first principle, Partition, is said to be language based; that is, it constitutes a generalisation of a tendency in language use to partition salient notional domains lexically. A similar idea is expressed by Clark (1992:371) under the name the exhaustive constraint. The other three principles pertain solely to the colour domain, and are based on Kay and Maffi’s analysis of available data. The principles reflect the tendencies in languages to partition certain categories early. On the basis of these four principles, Kay and Maffi can elegantly model, and thus

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¹⁰ It is at Stage V all Primary categories have been established according to the original B&K theory, see above.
resolve, the origin of unorthodox categories such as YELLOW/GREEN/BLUE and
YELLOW/GREEN, which could not previously be accommodated into the standard
theory. Kay and Maffi demonstrate that, in terms of evolution, we can distinguish
between a number of different “trajectories” reflecting different orders in which
these principles have been applied. The most common model is the application of
these principles in the order of their indexing presented above. However, different
application will yield other, slightly unorthodox, colour categories which have been
recorded in some languages. The Emergence Hypothesis states that principle (0)
may not be universally first, i.e. there are languages which do not partition the
entire colour domain. Levinson (forthcoming) demonstrates that this is the case in
Yéli Dnye.\textsuperscript{11}

It would seem, then, that the B&K model, although challenged by a great
amount of empirical data, can still accommodate most new facts and many of its
basic assumptions are still treated as valid, including

1) the elemental nature of four hue and two achromatic sensations, and
2) the existence of an evolutionary process.

At the present time, there does not seem to be any evidence which may threaten to
overturn the rule of the B&K paradigm.

1.2.3 Vantage theory – cognitive modelling at the fringe of the paradigm

During the past fifteen years another, alternative, model of colour categorisation –
Vantage theory\textsuperscript{12} – has emerged as a result of material collected by Robert
MacLaury in the Mesoamerican Color Survey (hereafter MCS). MacLaury was the
first researcher to identify empirically ‘exotic’ categories which did not comply
with the original B&K sequence. In a number of articles (e.g. 1987, 1992), he
reported patterns previously unrecorded, notably a YELLOW-WITH-GREEN category.
Although distinctly different, vantage theory still adheres to the basic assumptions
laid down by the B&K paradigm, and this explains why I place it here in my
account: He postulates the existence of BCTs (cf. MacLaury 1997: Appendix IV,
419-429), an elemental colour domain which can be studied in isolation, and claims
that colour categorisation is constrained by the physiology of colour perception.\textsuperscript{13}

It should also be mentioned that MacLaury has contributed to the
improvement of the methodology used in eliciting colour terms. Aside from
establishing the focus of a category and naming individual chips, he asks his
subjects to map the range of a specific colour term onto a chart.\textsuperscript{14} Furthermore,
MacLaury avoids the use of a preconceived notion of BCTs; the subjects are
allowed to use any terms they like in the naming task. These two methodological

\textsuperscript{11} Yéli Dnye is spoken on Rossel Island, Papua New Guinea. (Levinson, forthcoming: 10)
\textsuperscript{12} For an exhaustive presentation of all aspects of MacLaury’s theories, see MacLaury, 1997.
\textsuperscript{13} MacLaury (1997: 87) writes that “[t]he sameness [i.e. shared physiology of perception] imposes strong
constraints on color categorization in every language and in every individual system.”
\textsuperscript{14} In his 1997 book Color and Cognition in Mesoamerica, MacLaury gives a thorough description of his
methodology in Chapter 3.
novelties are prerequisites for the modelling of the data in vantage theory.\textsuperscript{15} MacLaury (1992: 141) describes vantage theory as

\begin{quote}
[a] model of category dynamics according to which people create, maintain and change a color category by analogy to the manner in which they keep track of their own position in physical space. People form the analogy specifically at the level of fixed and mobile co-ordinates, not merely between a space and a category as general entities.
\end{quote}

It would seem that MacLaury’s fixed and mobile co-ordinates are closely related to, if not identical with, the concepts of \textit{figure} and \textit{ground}, which are key notions used in psychology and cognitive linguistics (cf. Langacker 1987). Thus, MacLaury’s theory tries to explain change of colour categories in a quite different way from fuzzy logic à la Kay and McDaniel. Furthermore, MacLaury (1997: 93) introduces an important cognitive axiom in his model according to which paying attention to similarities and differences is a crucial cognitive quality. Similar thoughts have been expressed by Bolinger (1980) among others. In MacLaury’s theory, the introduction of similarity and distinctiveness as fixed or mobile coordinates (cf. the quotation above) determines the size of the category. Although initially there were major differences between B&K’s theories and vantage theory, it would seem that Kay and Maffi’s identification of colour categorisation principles (see 21-22 above) has moved the theory closer to vantage theory, to the extent that the principles stated seem to resemble MacLaury’s insights. However, vantage theory is not confined to the domain of colour, but, as MacLaury indicates (1997: chapter 6), may have wider implications in a general field of categorisation.\textsuperscript{16} I return to MacLaury’s theory in Chapter 4 in the context of type modification.

\section*{1.2.4 The quest for verification outside anthropology}

Outside anthropology proper, but still within the paradigm, Berlin and Kay’s theory has been tested by disciplines such as psychology and linguistics. One area on which attention has been focused has been that of the criteria for the identification of BCTs. Several commentators have pointed out that some criteria lack theoretical justification and that they constitute a hotchpotch of various aspects. Crawford (1982) tested the validity of the criteria and suggested some modification. His new definition (Crawford, 1982: 342) runs as follows:

\begin{quote}
A basic color term occurs in the idiolects of all informants. It has stability of reference across informants and across occasions of use. Its signification is not
\end{quote}

\textsuperscript{15} One interesting feature of MacLaury’s theory, a spin-off effect from both his theory and methodology, is that he has been able to identify a number of different semantic relations in the domain of colour: \textit{near synonymy}, \textit{coextension}, \textit{inclusion} and \textit{complementation} (1997:150-152). Of these relations, \textit{near synonymy} and \textit{complementation} should be familiar to the reader. This is also true of \textit{inclusion} which corresponds to the linguistic term \textit{hyponymy}. \textit{Coextension}, however, has not formerly been described in linguistics. Coextension in the domain of colour is characterised as a relation in which the ranges of two colour terms encompass each other’s focus. One term is dominant and larger, whereas the other is smaller and skewed.

\textsuperscript{16} Taylor and MacLaury (1995) is a volume which addresses the application of vantage outside the colour domain.
included in that of any other color term. Its application is not restricted to a narrow class of objects.

Quite a few researchers have subsequently used Crawford’s definition of a BCT rather than the one first suggested by B&K, see, for example, Biggam (1997: 17). Boynton and Olson (1990) tested the validity of Crawford’s criteria experimentally, examining three measures: consistency (i.e. within the subject), consensus (agreement among speakers) and response time. Boynton and Olson (1990: 1316) were able to show that there was “a complete dichotomy [...] between the use of basic and nonbasic chromatic terms to denote a set of samples [...].” They interpreted this as a verification of Crawford’s criteria, which they (p 1316) found both “substantial and sound.”

Another area that has attracted interest is the number of colour terms in various languages, and especially the question of whether there can be more than eleven BCTs. A group of researchers at the University of Surrey have discussed in a number of articles (Corbett and Morgan 1988, Moss 1989, Moss et al. 1990, Morgan 1993 etc.) the status of Russian and French colour terms, in particular words for BLUE, PURPLE and BROWN, reaching the conclusion that Russian has indeed two basic terms in the blue category: goluboj and sinij. One appealing aspect of the Surrey group’s work is that they have employed a number of different tests belonging to two broad categories: behavioural and linguistic tests. In a meta-analysis mentioned in 0.3.1, Corbett and Davis (1995, 1997) evaluated the adequacy of some of these tests with respect to the theory of BCTs, focussing on the validity of the results as measures of basicness. They demonstrated that certain tests, notably elicitation lists and frequency in texts were the most useful measures: elicitation lists discriminate reliably between basic and non-basic terms, while frequency correlates with the suggested evolutionary sequence and makes it possible to distinguish between Primary and Secondary basic terms. Corbett and Davies’ linguistic material is re-examined in greater detail in Chapter 3.

There have been other analyses of terms which are thought to be on the verge of becoming Basic Colour Terms. As suggested by Morgan (1993), beige in French might be one such term. Analysis of the status of the two French terms for BROWN: marron and brun (Forbes 1979, 1986), showed that there might be an on-going change in French through which marron is becoming a BCT at the expense of brun. A somewhat different approach to the entire field of colour in French can be found in Spence (1989). Zimmer (1982) suggested that German türkis, ‘turquoise’, could be bordering on becoming a BCT. Boynton (1997) pointed out that there is an area near the centre of the colour solid which is poorly covered by English BCTs and that this area (corresponding to tan/peach) might be the focus for a new BCT.

To sum up, the original suggestion put forward by Berlin and Kay has undergone substantial development, but the basic assumptions of their initial study remain valid. However, in its latest version, presented by Kay and Maffi (1999), at

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17 The Surrey group’s research scope in the colour field is much wider. It includes many more languages and terms.
18 Lyons (1999: 38) identifies beige as a basic term in French: “beige […] is a level-1 word in French.”
least one of the cornerstones of the theory has been abandoned – that of exhaustive partition of the colour domain. The basics of the theory have been confirmed outside anthropological methods, which further adds to its strength. It would also seem to be the case that most attention is now paid to details in various languages. Moreover, in general cognitive research the basics of the theory have been given canonical status, and its present position can be well illustrated by the following quotation from Valera, Thompson and Rosch (1991: 171):

> [C]olor categorization in its entirety depends upon a tangled hierarchy of perceptual and cognitive processes, some species specific and others culture specific. [...] [C]olor categories are not to be found in some pregiven world that is independent of our perceptual and cognitive capacities. The categories red, green, yellow, blue, purple, orange—as well as light/warm, dark/cool, yellow-with-green, etc.—are experiential, consensual, and embodied: they depend on our biological and cultural history of structural coupling.

### 1.3 An alternative position – some criticism of the BCT theory.

Although the position of the B&K paradigm seems to be unchallenged, there are a few dissenting voices present; researchers who adamantly reject the theory of BCTs and the evolution of these terms. These voices suggest that the whole project is doomed to failure and to producing misleading conclusions since it rests on erroneous assumptions. According to a number of authors, cf. Sahlins (1976), Lucy (1992a, 1997), van Brakel (1991), Saunders (1995), Saunders and van Brakel (1997), Lyons (1995, 1999) and Wierzbicka (1990, 1993, 1996), the patterns of universality that have been detected are really artefacts of the method. The general claim of these critics is that the axiomatic assumptions that are part of the study (see above) predict the results.¹⁹ The gist of this criticism can perhaps be captured in the following quote by Sahlins (1976: 8-9).

> [T]he problem is precisely what is here being called semantics. And it is surprising nonetheless to find anthropology conspiring with a certain cognitive psychology to collapse the problem of meaning into an act of pointing, that is, the act of naming objective differences present to the senses. It is curious also that the entire discussion of color categories [...] has chosen to relegate true ethnographic existence of color terms and percepts – their actual cultural significance as codes of social, economic, and ritual value – to a secondary place of connotation. [...] And as Saussure himself foresaw, when language is thus taken for a mere nomenclature rather than a differential system of meaningful values, cognition will be reduced to recognition, concept to percept, sign to signal – and in the end, culture to nature.

According to these critics, by restricting the study of colour terms solely to the dimensions of hue, lightness and saturation, the Western concept of colour has been superimposed on terms which may have much wider reference. On closer inspection, we can identify the following points as the targets of the criticism:

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¹⁹ For an insight into the sometimes heated debate between van Brakel and Saunders and the champions of the B&K paradigm, see Saunders and van Brakel (1997) with peer commentary. See also van Brakel’s (1993) and Hardin’s (1993) debate in *The British Journal for the Philosophy of Science*. 

First we have the issue of whether there is a basic domain of colour mentioned in Sahlins’ quote above. Lyons (1995:212), for instance, claims that Conklin (1964) showed that succulence and desiccation can be inherent in the meaning of a colour word, and should not be reduced to the status of connotation. A similar view is expressed by Lucy (1997).

Second, the question is whether the reduction of meaning to focus and to neurophysiological responses tells us anything about colour semantics (Wierzbicka, Lyons). Lucy (1992a: 180) describes the reductionism as follows: “But, in the end, the meaning is the denotation and the denotation is the focal color, and therefore the focal color is the semantic meaning of the ‘basic color terms’.” Lyons (1999: 52) maintains that “a distinction has to be drawn between the central, or focal, denotation and its total denotation.”

Third, the use of English terminology as metalanguage leads us to make inferences, i.e. see patterns where there are none to be found (Lucy 1992a).

Finally, there is the issue of context-free mapping. Lyons (1999:50) stresses that the B&K methodology favours “context-independent (second order) reference [of colour terms], rather than their use for the (first order) description of entities and substances of this or that color.” Lyons also discusses this in terms of referential and attributive use of colour terms. In his opinion, the B&K methodology is only concerned with the first type of use.

It should be mentioned, however, that most of these critical points have been answered by the proponents of the B&K paradigm. See for example Kay’s (1999a) reply to Lyons (1999).

Some of these critics have adopted a position on the issue of meaning which can be said to be a radicalised version of that expressed by Wittgenstein (1958). Wittgenstein (1958: 20 §43) observes that “[f]or a large class of cases—though not for all—in which we employ the word ‘meaning’ it can be defined thus: the meaning of a word is its use in the language.” In the context of colour terms, van Brakel20 (1993: 132) rephrases Wittgenstein in the following way:

So perhaps […] what all green objects have in common is that we have learnt to call them ‘green’ and what all kwaalt [‘yellow-green’, a Shuswap term] objects have in common is that Shuswap speakers have learnt to call them kwaalt and can teach us which things are kwaalt, just as we can teach them which objects are green.

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20 van Brakel (1991) evaluates the whole prototype “paradigm” from this Wittgensteinian point of view. In this article, he describes his own position as that of “open-ended holism” (p 248).
Wierzbicka (1996: 299) argues along similar lines when she points to the possibility that colour terms are learnt ostensively: “Blue means ‘what people call blue’.” However, Wierzbicka adds another dimension to the meaning of colour terms by claiming that we use experiential reference points for our definition of a primary colour concept. Like Kay and McDaniel she believes that colour terms like *orange*, *pink* and *purple* are conceptualised as mixtures: e.g. \( \text{ORANGE} = \text{YELLOW} + \text{RED} \) and \( \text{PURPLE} = \text{BLUE} + \text{RED} \). Wierzbicka accepts B&K’s results but refuses to see neurophysiology as the source of the universality. Rather she points to our shared experience. Thus, she argues that the definition of *red* could have the following appearance (Wierzbicka 1996: 317):

\[
\text{X is red.} = \\
\text{when one sees things like X one can think of fire} \\
\text{when one sees things like X one can think of blood} \\
\text{one can see things like X at times when one cannot see other things.}
\]

The difference in extension of colour concepts would then be due to differences in reference points. In a similar fashion all ‘early’ colour categories (i.e. before stage VII, cf. Figure 1:1) are given experiential definitions by Wierzbicka. The aim of her definitions is to identify the total denotation of a term, which is why some of her phrases can be rather lengthy. Although her theory is thought provoking, few people dealing with colour semantics seem to follow Wierzbicka’s tracks.

To sum up, we can see that the critics of the B&K paradigm are particularly concerned with two aspects of the research: first, the method – context free mapping on standardised charts – and, second, the reduction of meaning to focus. As stated by Sahlins above, the critics believe that these procedures guarantee the result. Proponents of the B&K research do not deny that meaning has wider implications that these foci (see, e.g., Maffi and Hardin 1997). They argue, however, that the aim has always been to uncover the underlying pattern of universality, and this can only be achieved through the restriction of colour studies to colour space.

### 1.4 My own position

Zlatev (1997) makes an interesting attempt at synthesising the differences between the Wittgensteinian position which, in its extreme, may lead to total relativism and a cognitive position which tends to emphasise universality. His model – situated embodiment – is meant to combine the strong points of the two theories and eliminate the shortcomings. In Zlatev’s view, the cognitive paradigm gives the categorisation of an individual too much credit, whereas the relativists give too much prominence to culture/society.

My own view is similar to Zlatev’s. I fully subscribe to the view that, as human beings, we are obviously constrained by the nature of our bodies. In this sense, we can say that perception constrains categorisation. However, I am far more doubtful whether the connection between perception and categorisation can be reduced to fuzzy set modelling, as Kay and McDaniel would have us believe. Thus, I want to state my reservations against neurophysiological reductionism.
Furthermore, I also feel sympathetic towards Lyons’ view that it is important to distinguish between (context-independent) referential use and descriptive (contextual) use. A moment’s reflection will certainly provide the reader with a number of examples which illustrate that the meaning of colour terms goes far beyond their foci. Below I have collected a few sentences which underline the need for contextual aspects to be taken into account in the description of the meaning of colour terms.

(1) a. Sgt Murdoch also said two cups of white coffee were found in Schwab’s room but he drank only black. (BoE: oznews)
   b. One of the Irishmen was blonde-haired and drove a white Toyota Celica and another used to drive the front of a lorry. (BoE: today)

(2) a. By the same token, when I whizz all over the globe, caring and sharing, there are bound to be a few under-privileged folk amongst my viewers, green with envy over my glamorous jet-set existence. (BoE: ukmags)
   b. It took an hour or more for the looting to be completed, and for the booty to be collected, in neat piles, on the green grass of the meadow. (BoE: ukbooks)

(3) a. But Arriet ‘Arman sent ‘er son to a grammah school proof that what “that lot over there” (Labour) were saying to the voters was he paused for breath, his face now puce. (BoE: times)
   b. His shirt was puce and his shorts khaki. (BoE: ukbooks)

It is quite clear that we have to speak of different meanings (in the sense of hue) of white, green and puce here. Whereas the (b) examples are likely to be near the centre of the category – or at least interpreted as such – the (a) examples are definitely not. Still, such use of white, green and puce has to be part of the meaning of the terms, and a theory of colour semantics should be able to handle such systematic usage.

My own position can be summarised as follows: I fully acknowledge the importance of the results and facts that have been compiled and processed from most of the world’s languages and that seem to testify to universal patterns in colour categorisation. I see no reason to question these results; instead these patterns should be taken as established facts within reasonable limits. One such example is the cognitive salience of the six landmark colours: WHITE, BLACK, RED, GREEN, YELLOW and BLUE. I also find it reasonable to assume that there is a colour domain, universal in character, which is an irreducible basic domain. Langacker (1987:149) points to the link between our sensory capacities and basic domains and claims that “[a]ll human conception is presumably grounded in basic domains.”

On the other hand, as hinted at above, it is my conviction that a comprehensive semantic description of the colour domain has to take into account usage in a wider sense. Because, as pointed out by Lyons (1999) and other critics, the naming and mapping procedures of the anthropological method do not reflect normal use, a contextual study of colour terms is likely to broaden our
understanding of colour semantics. It would seem clear that for a full picture to emerge, both the structure of the conceptual domain and the lexical field should be thoroughly examined. In creating such a picture it should be possible to combine the results of the mapping procedures with linguistic theories to explain extensions of the kind presented in the (a) examples above. Chapters 4-7 in this book represent such an attempt. It could perhaps be said that my main objection against traditional B&K research is that the scope of colour semantics has been too narrowly defined. It is now time to widen the picture. Furthermore, I believe that a study which takes colour term usage into consideration might be able to shed new light on debated issues and from a slightly different angle. One example of a debated issue of this kind is Conklin’s (1964) observation that ‘succulence’ is an inherent dimension of malatuy (GREEN in the B&K classification).

1.5 Colour semantics based on texts: historical studies of colour terminology

As was pointed out above, the method which dominates the study of colour terms has been that of mapping and naming in colour charts. Even if Kay (1999a: 78) refuses to see this as context-independent reference to the colour domain, it can be argued that this procedure hardly reflects normal usage of colour terms. In this sense, we can regard Lyons’ and Lucy’s criticism mentioned above as justified.

One conspicuous exception to the conformity of method is the historical study of colour terminology. A number of articles and books have been published discussing the colour terminology in ancient languages in the context of Berlin and Kay’s theory. The most thorough investigations in this respect are the monographs by Maxwell-Stuart (1981a and 1981b), Brenner (1982) and Biggam (1997 and 1998). Historical research of the colour systems cannot, per definition, employ colour charts so the researchers have had to resort to other methods. I discuss these below focussing on those methodological aspects which have influenced me, but I also point to some important differences between these historical studies and my own.

One noticeable feature of these studies is that they are all corpus studies in a strict sense, i.e. they explore the usage of certain colour terms in well-defined text corpora. Thus, Maxwell-Stuart examines the use of the terms γλαυκός (glaukos – ‘blue-grey’22) and χαροπός (charopos23) in Classical Greek on the basis of listed textual sources, Brenner analyses the meaning of the colour terms appearing in the Old Testament, and Biggam investigates how the colour areas BLUE and GREY were designated in Old English on the basis of, again, well-defined textual evidence. Another methodological element that these studies share is that they contain meticulous analyses of individual examples in context, allowing for conclusions to

22 According to Moonwomon (1994). Maxwell-Stuart (1981a:124) defines the most likely meaning of γλαυκός in prose as “light-blue, tending to a touch of milkiness or greyishness, as in steel grey.”
23 Maxwell-Stuart (1981b:3) describes the meaning of this terms thus: “It has been the convention to translate χαροπός, either as bright or grim or fierce, or to treat it as more or less a synonym of γλαυκός and so render it by blue-grey or grey-blue.”
be drawn as to the extension of the terms. The investigators have taken a number of parameters into account including the genre of the texts (for instance verse vs. prose) and the entity that a particular colour word describes in a particular context. This “interdisciplinary semantics” as Biggam (1997: 14) calls her approach involves

a wealth of helpful evidence from disciplines such as archaeology, botany, zoology, geology and many more, as well as from more structured methods of linguistic research. Evidence on colour semantics should be garnered from any discipline which can shed light on a particular case.

Biggam’s (1998: 312-323) clear summary of the vocabulary for GREY gives a good picture of the merits of this kind of approach. All three authors give attention to the etymology of the terms considered, but only as a marginal tool. As mentioned previously (Section 0.3.1.), Biggam’s insights have influenced my own study, although I have found it necessary to modify and simplify her methods due to the nature of my material.

There are some other characteristics of these studies which should also be mentioned. I discuss these briefly below merely to give a picture of the problems that historical semanticists face.

It seems that the nature of the historical material can constitute a major problem. If we look at the studies mentioned above, it turns out that colour terms are not very frequent in old manuscripts. This obviously affects the reliability of the conclusions drawn by the researchers. As examples of the low frequency, we can mention that in Maxwell-Stuart’s study of γλαυκός, the word appears 133 times in prose, that Brenner’s most frequent colour term, בַּּלָּבַּן (lābān – ‘bright/white’), occurs only 29 times, and that Biggam’s analysis of the field of BLUE is based on a total of 79 tokens of five different terms (hæwen being the most frequent one with 64 tokens). Brenner is also frequently faced with the problem of hapax legomena in her categorisation of secondary and tertiary colour terms. Thus, the possibility of exploring the domain of colour systematically is very limited in historical studies. What further complicates the picture for the historical linguist is the great span in years between the different texts in his or her corpus. As many as several hundred years can separate the youngest and the oldest texts. All three researchers are aware of this complication and try to adjust their conclusions accordingly, but it does, nevertheless, affect the reliability of the results. Another characteristic that these three historical studies share is that they are primarily descriptive and little semantic theory is used although Ullmann (1957 and 1962) and Lyons (1963) are mentioned and used by Brenner and Biggam. In relation to the B&K paradigm, it is an explicit objective of Biggam’s (1997, 1998) to establish whether Old English had BCTs for BLUE and GREY.

To sum up, these three studies show that there are other ways of examining the semantics of colour vocabulary than that of the traditional colour charts. The historical researchers were forced to explore new methods since the languages they

24 Brenner (1982: 33-34) makes a categorial distinction between primary, secondary and tertiary colour terms. The first category appears to be identical with BCTs.
studied were no longer spoken. Although the corpora set some limitations as to the reliability of the results, these methods are in my view appealing and should be explored by semanticists studying present-day languages.

1.6 The study of non-basic colour terms

Let me finally point out that work on non-basic colour terms is much less frequent when it comes to the study of colour nomenclatures. Generally speaking, we can distinguish between two types of research: the study of the development of non-basic terms, and the study of usage of non-basic terms in relation to gender. I discuss non-basic terms in greater detail in Chapter 5.

The category of non-basic terms is named Elaborate Colour Terms (ECTs) in the present study. ECT is preferred to Casson’s (1994, 1997) label secondary term since the latter, technically speaking, could include derivative forms (e.g. yellowish and pinky) and compound colour terms (e.g. red-brown and leaf-green); the term could also easily be confused with the notion of secondary basic terms (see 1.2.2. and 3.2). The term ECT is here understood as referring to conventional simplex lexemes (cf. Bauer 1983). The term has previously been used by Nowaczyk (1982) and Simpson and Tarrant (1991) in a similar fashion.

In the study of the origin and development of secondary terms, Casson (1994, 1997) has contributed with two important studies. He could show that there seems to have been a change in the semantics of ECTs in the history of English. The development, which took place in the Middle English period, meant that the emphasis was changed from lightness to hue. It appears that most secondary terms in Old English may have been lightness terms rather than hue terms, whereas hue became increasingly important during the Middle English period. Furthermore, Casson demonstrates that the development of new ECTs was normally based on a metonymic process in which entity stands for entity’s colour. I return to Casson’s discussions in Chapter 5. In another article, Smith et al. (1995) analysed the salience of basic and non-basic terms on the basis of a free-listing task, and suggested a typology of colour terms.

Most research dealing with ECTs, however, has dealt with these terms and gender. Following Robin Lakoff’s (1975) claim that women use specific colour terms more often than men, quite a substantial amount of research has been devoted to this particular issue. Rich (1977), Swaringen et al. (1978), Nowaczyk (1982), Simpson and Tarrant (1991) and Green and Gynther (1995) are among the researchers who have tested Lakoff’s (1975) claim empirically. There appears to be general agreement from this research that women do indeed use ECTs more often and also more accurately. Although the evidence is convincing, there are some aspects which deserve closer inspection. One such aspect is method. I have been critical elsewhere (Steinvall 2000) of the unproblematic way in which these studies have used one particular method: context free mapping and naming. To my mind, this method does not reflect the circumstances of usage with sufficient accuracy. Therefore I think that there is room and need to look at this phenomenon through corpus studies, especially in order to validate the claim that women use ECTs more often. In their handbook to the BNC, Aston and Burnard (1998) give an example of
how such an approach could be made, asking the question whether mauve is a particularly female term to use. My own investigation of Victorian poetry referred to above was also meant to test whether such preferences could actually be studied in corpora. It is my belief that studies along those lines may add to our knowledge of ECTs. The issue here is whether we should regard gender25 as an immediate or the ultimate explanation. It would seem that certain types of discourse have become gendered, and that these are characterised by fine colour distinctions. If this is true, then, ultimately, the focus on fine colour designation is likely to be a product of the nominal domain rather than gender. In Chapter 5, I look more closely at the distribution of some ECTs in relation to nominal domains.

1.7 Summary
The aim of the present chapter has been to give a brief summary of the current state of affairs in colour terminology research. Due to lack of space, I have been forced to focus on what I have called the B&K paradigm, which means that some aspects of present-day research have been ignored. The development of the paradigm has been presented and it has been demonstrated that most aspects of the original theory are still valid. I have also pointed to some important criticism and tried to identify my own position in relation to the paradigm and its critics. Finally, I have indicated that there are close affinities between the present study and those carried out in historical linguistics: in particular the use of a well-defined textual corpus and the inclusion of contextual elements. Important differences are the size of corpus and the systematic application of recent linguistic theory. In the next chapter, I give a presentation of the linguistic framework within which I develop my analysis.

25 Technically, the actual parameter that was considered in these studies is that of sex, and, indeed, all but Greene and Gynther title their studies as investigating sex. However, it would seem likely that this phenomenon is linked to gender roles rather than biology.
Chapter 2 Providing the Tools: Meaning in Cognitive Linguistics

2.1 Introduction
Chapter 1 described some controversies and results in colour terminology research over the last thirty years, pointing out that certain aspects of the subject have been infrequently investigated or been completely ignored despite the large number of publications. Very few studies have examined the use of colour terms outside the colour charts of the anthropological method – that is, little effort has been made to analyse phenomena related to usage from the point of view of semantic theory. The prime objective of my dissertation is to fill this vacuum, and this chapter offers a short presentation of the theory of semantics that is used in my study. The theoretical framework within which my linguistic analysis is carried out is that of cognitive linguistics. As a school of linguistics, cognitive linguistics has developed quickly during the last twenty years and is becoming increasingly influential, at least in terms of the number of publications. This relatively fast development has not been unproblematic, however. It soon becomes clear to the reader of almost any cognitive linguistics textbook that, although its central tenets are not disputed, cognitive linguistics is not a homogeneous school. What is particularly striking is the great variety of terms that characterises this theoretical model. (For brief summaries in this respect, see Taylor 1995, Clausner and Croft 1999.) The same term may be used differently by different writers, or different writers may use different terms to describe apparently very similar phenomena.

The purpose of this chapter is twofold. First, it aims at giving a coherent but condensed description of how meaning is analysed and conceived of within the framework of cognitive linguistics. In doing so, I discuss in passing the relevance of the theory in relation to colour studies. However, such mentions should only be viewed as appetisers in relation to the chapters to follow, and not as premature analyses. Furthermore, it should be emphasised that my account of cognitive linguistics is necessarily fragmentary rather than comprehensive. Second, despite the risk of adding to the terminological confusion, I also try to define the terms that are central in my own analyses. I owe much of my conception of semantics to the work of Langacker (1987, 1991b, 1999), but in some crucial respects, I prefer to use a terminology which differs from his.

The chapter is structured in the following way. It starts with an account of the notion of categorisation since it is a key concept in cognitive linguistics. This is followed by a presentation of how cognitive linguistics deals with other phenomena closely related to categorisation, such as context and situation. The third section presents an analysis of conceptual and lexical meaning from a cognitive perspective; in this section I define key elements and introduce a schematic figure of meaning that recurs throughout my dissertation. Finally, the last section gives an account of sense relations. These are discussed from two perspectives, which, it is argued, reflect the speaker – hearer situation.
2.2 Principles of categorisation

To be able to understand the world and interact with it, we sort our experiences, as it were, into boxes. This on-going sorting process, which for the most part is unconscious, is usually termed categorisation. As Lakoff (1987: 5-6) points out, categorisation is the basis for our ability to think, act and speak:

Every time we see something as a kind of thing, for example, a tree, we are categorizing. Whenever we reason about kinds of things—chairs, nations, illnesses, emotions, any kind of thing at all—we are employing categories. Whenever we intentionally perform any kind of action, say something as mundane as writing with a pencil, hammering with a hammer, or ironing clothes, we are using categories. The particular action we perform on that occasion is a kind of motor activity (e.g., writing, hammering, ironing), that is, it is in a particular category of motor actions. They are never done in exactly the same way, yet despite the differences in particular movements, they are all movements of a kind, and we know how to make movements of that kind.

Thus, from this point of view, categorisation is pivotal to any understanding of how our minds work and in particular how language works since there is an explicit link between categorisation on the one hand and thinking and understanding on the other. A crucial claim made by cognitive linguistics is that categories are formed through our interaction with the world. This interaction is experienced through our bodies and as a result categories are ultimately grounded in bodily experiences (cf. Varela et al. 1991). This highly egocentric position has been named experiential realism by Lakoff (1987:xv).

According to experiential realism, our conceptual system grows out of and is constrained by the limitations set by our bodies to experience in terms of perception, movement, and physical and social interaction. Consequently, abstract thinking and imagination, which are not directly grounded in bodily experience, are considered to be based on bodily experiences mediated through metaphor, metonymy or analogy. As an example, consider our understanding of time, which is frequently metaphorically understood as movement; thus we can talk about the conceptual metaphor +TIME IS A MOVING OBJECT+ (Lakoff and Johnson 1980: 42) – our notion of moving objects being experientially based.

Another consequence of the theory of experiential realism is that structural principles are also viewed as being ultimately grounded in bodily experiences. Johnson (1987) suggests that there is a set of image schemata which serves as structures for the organisation of our experience and of our understanding of the world. He (1987: 29) defines an image schema as consisting of a small number of parts and relations, by virtue of which it can structure indefinitely many perceptions, images and events. In sum, image schemata operate at a level of mental organisation that falls between abstract propositional structures, on the one side, and particular concrete images, on the other.

The view I am proposing is this: in order for us to have meaningful, connected experiences that we can comprehend and reason about, there must be pattern and order to our actions, perceptions, and conceptions. A schema is a recurrent pattern, shape, and regularity in, or of, these ongoing ordering activities. These patterns emerge as meaningful structures for us chiefly at the level of our bodily movements
through space, our manipulation of objects, and our perceptual interactions. [emphasis original]

Accordingly, image schemata form important structural principles, and Lakoff (1987) suggests that whenever we talk about structures in abstract domains, these structures should be understood as image schemata. An important characteristic of image schemata is that they are gestalt structures, meaning that, although they consist of smaller parts, they form organised and unified wholes. Important image schemata that will recur in my presentation are the **containment schema** (Johnson 1987: 22-23) and the **centre-periphery schema** (Johnson 1987: 124-25). Since both categories and concepts rely on structure, it follows that image schemata are preconceptually grounded in physical experience. It should now be clear that, in cognitive linguistics, categorisation is a mental phenomenon grounded in bodily experience and structured by abstract image schemata. Figure 2:1 below attempts to capture the essential features of this position. Structuring principles (image schemata) are the result of bodily experiences and the body’s interaction with the real world. Thus, categorisation is ultimately grounded in bodily experiences, and the body can be seen as a mediator, supplying the structures (schemata) for our conception of the real world. The most essential aspect of this view is that indicated by the small-headed arrows: categories are only indirectly linked to the real world—they are mental phenomena whose contact with the world is based on the body. Analogous with this, imagined alternative worlds are structured according to our embodied conception of the real world.

**Figure 2:1  Categorisation in experiential realism**

1 For a critical discussion of the employment of image schemata in cognitive linguistics, see Zlatev 1997.
How, then, do we categorise? In their pioneering work, Rosch and her associates (e.g. Rosch 1975b, Rosch et al. 1976), have demonstrated that categories are typically graded. The idea of categorical focus in fact started with Berlin and Kay’s (1969) study discussed in Chapter 1. As we have seen, colour categories do indeed have focal points and fuzzy boundaries and, subsequently, Rosch demonstrated that this is true of many other categories. Or, to be more precise, what she was actually able to demonstrate was that prototype effects occur in categorisation tasks. How these effects should be interpreted in terms of category structure and mental representation is discussed by Lakoff (1987: Chapter 4). As we noted in Chapter 1, Berlin and Kay’s universal pattern of colour categorisation hinges upon their equation of focus with category. However, this is hardly an accurate description of what categories are. It seems that the general idea within cognitive linguistics is that prototype effects should not be taken to be a characterisation of category structure. Furthermore, it has also been claimed that we cannot consider prototypes to be mental representations in a strict image sense.

In what follows I will attempt to give a summary of Langacker’s view of categorisation, a view to which I will adhere in my discussion of categorisation. Langacker makes a distinction between two types of categorisation: by prototype and by schema. The two modes of categorisation are viewed as intimately linked, but emphasise different aspects of the same phenomenon. It is important not to confuse Langacker’s schema with Johnson’s image schemata. Langacker (1987: 371) defines a schema as

an abstract characterization that is fully compatible with all the members of the category it defines (so membership is not a matter of degree); it is an integrated structure that embodies the commonality of its members, which are conceptions of greater specificity and detail that elaborate the schema in contrasting ways.

Figure 2:2, below, illustrates categorising principles in the Langackerian framework.

![Figure 2:2. Categorisation by prototype and schema. (Based on Langacker 1993: 2)](image-url)

Langacker (1993:2) observes that “although their relative importance varies from one category to the next, schemas and prototypes are both essential to category structure, reflecting different aspects of a unified phenomenon.” Extensions typically occur when we categorise a new experience that deviates slightly from previous experiences of a category as belonging to that category. Langacker claims
that extensions are characteristically made from the prototype. Extensions may be based on metaphor, metonymy, or other processes. From this extension a schema is abstracted, containing the common features of the prototype and the extension.

The solid arrows in Figure 2:2 illustrate the specialisation or “elaboration” of the schema that the prototype and any extension represent. The dotted lines upwards indicate the abstraction or “schematization” that is taking place as the common features of the instantiations are schematised. If new extensions are made, a new schema is extracted and thus, according to this model, any extension will lead to new schemata being formed on a more abstract level, so that the widening of a category will necessarily lead to a ‘higher’ structure (cf. Langacker 1987: chapter 10). This means that complex categories usually constitute quite advanced structures which Langacker describes as schematic networks of nodes representing schemata, prototypes and extensions. The network model is meant to capture the same kind of phenomenon as Lakoff’s radial category and both terms will appear in my analysis. Langacker (1999:101) observes that there are similarities between the models: “[t]o the extent that the network consists of chains of extensions radiating outward from [the prototype], it constitutes a ‘radial category.’” Lakoff (1987:91) describes a radial category as follows:

There is a central subcategory, defined by a cluster of converging cognitive models […]; in addition, there are noncentral extensions which are not specialized instances of the central subcategory, but rather are variants of it […]. These variants are not generated from the central model by general rules; instead they are extended by convention and must be learned one by one. But the extensions are by no means random. […]We will describe the extensions of a central model as being motivated by the central model plus certain general principles of extension. [italics original]

Some researchers, for example Dirven and Verspoor (1998), seem to have blended the ideas of radial structure and network into the term radial network.

Another feature of the network model is that a network is supposed to be dynamic and not static – it is constantly elaborated through the input of usage and experience. We are concerned here with the cognitive notion of entrenchment. Langacker (1999:93) describes it as a general psychological phenomenon characterised by the fact that

[the occurrence of psychological events leaves some kind of trace that facilitates their re-occurrence. Through repetition, even a highly complex event can coalesce into a well-rehearsed routine that is easily elicited and reliably executed.

Thus, continued activation of certain parts of the network (certain schemas, extensions or prototypes) will entrench these and may, as a consequence, restructure the network. For instance, the category COMPUTER has probably been restructured continually during the past twenty years, for the language users who have been part of the development.

It should be pointed out that, at first sight, Langacker’s idea of network does not seem to be entirely compatible with Wittgenstein’s (1958) and later Rosch and Mervis’ (1975) idea of family resemblances. Discussing the category Spiel (‘game’), Wittgenstein (1958: 31-33: §66-70) could demonstrate that there seems
to be no property that is shared by all the instances of this category. Instead the category is kept together through a chain of properties: the structure could be described as forming

a set of items of the form AB, BC, CD, DE. That is, each item has at least one, and probably several, elements in common with one or more items, but no, or few, elements are common to all items. (Rosch and Mervis 1975:575)

It is important to note that the highest order schema of any network is supposed to represent the commonalities of the entire concept of game. Given the lack of common properties, such a schema would have to be very general. Taylor (1995) rejects Langacker’s notion of schema for this very reason claiming that it is not meaningful to talk about abstract schemata which are almost empty. However, to my mind, the dynamic character of the network (cf. Langacker 1987: 381-386) makes it possible to accommodate family resemblance structures within the network metaphor. For instance, the network model can take other forms than that of a radial category.

In conclusion, the gist of categorisation in cognitive linguistics can be summarised as follows:

- Categorisation is a mental phenomenon through which we organise our understanding of the world.
- Categorisation is grounded in our bodily experience of the world.
- Categorisation creates cognitive categories or concepts which are typically complex structures.
- Concepts can be viewed as forming networks of any complexity in which the nodes can represent prototypes, extensions and schemas of any order.
- Cognitive categories (structures) are dynamic and under constant elaboration through our interaction with the real world.
- The repeated activation of certain categories or structures will entrench these and make them more salient from a cognitive point of view.

### 2.3 Situation, context and mental spaces

One of the most important aspects of the cognitive framework and the position of experiential realism is that there is no God’s eye view (cf. Johnson 1987). This suggests that things become meaningful only through the experiencing person. Accordingly, as mentioned above, semantic phenomena are always mental phenomena, created through the conceptualisation of the person. This, in turn, suggests that we cannot reduce meaning to a reference phenomenon in the “real
world” but have to consider it a mental phenomenon. As pointed out by Langacker (1987: 113-14), most of us are familiar with conceptual worlds, in terms of fantasies and dreams, so we know that we can create them. The important thing here is to realise that our understanding of the real world itself is also a conceptual world. Thus it makes sense to claim that it is this conceptual world of reality and not ‘the real world’ that is relevant for a discussion of meaning. This difference makes it possible to explain why people in earlier times actually did see trolls, for instance. Their understanding of the world shaped certain perceptions into these concepts, and gave them reference.2

For the purpose of the present study, there are a few key concepts that need to be presented and defined. Let us first consider situation and context. Since it is important to distinguish between our mental construal of the world and the world itself, this distinction is also necessary in terms of interpretation. Here, I follow Ungerer and Schmid (1996) and consider context a mental phenomenon, whereas situation refers to interaction between things in the real world. This suggests that context is linked to other key notions such as vantage point and construal, which are presented in 2.6. Situation, on the other hand, being a real world phenomenon entails no perspective or focus.

Intimately linked with the idea of context is the theoretical construct of mental spaces (Fauconnier 1994, 1997). Fauconnier (1994: 16) describes mental spaces as

structured, incrementable sets […] with elements (a, b, c, …) and relations holding between them (R1ab, R2a, R3cbf, …), such that new elements can be added to them and new relations established between their elements.

Less technically, we can view a mental space as our mental representation of ongoing discourse, or possibly of an ongoing situation. The mental space will continue to be built as the discourse proceeds, and occasionally new parallel spaces are built with the help of space builders. Thus, a mental space can be said to be our image (context) of what is being described (discourse) or being perceived (situation). Consequently, the current mental space will constitute the context for any mental representation.3 Fauconnier (1997: 39) observes that “mental spaces […] are internally structured by frames and cognitive models … [italics original].”4 This structure is created by the background knowledge provided by lexemes. Frames and cognitive models will be treated in the next section.

Langacker (1991b, 1999) suggests that we can view the mental space that is created in an on-going conversation as the joint construction of the two (or more) participants – a current discourse space (CDS). He (1991b: 97) defines it as a mental space which “comprises those elements and relations construed as being

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2 For further discussions of the consequences of this particular perspective, see Lakoff (1987) and Johnson (1987).
3 Lakoff (1987:281) claims that “A mental space is a medium for conceptualization and thought. Thus any fixed or ongoing state of affairs as we conceptualize it is represented by a mental space.” As an example Lakoff mentions (p 281) “our immediate reality, as understood.”
4 Frame in Fauconnier’s use appears to be very similar to that of Ungerer and Schmid (1996), i.e. it is centred around a verbal situation. For details, see Fauconnier 1997: 10-13.
shared by the speaker and hearer as a basis for communication at a given moment in the flow of discourse.” This space is constantly changing as the conversation proceeds but relies to a great extent on the fact that the structuring knowledge is shared by the speaker and the hearer. Following Langacker (1999), we can illustrate the situation as in Figure 2:3 below.

![Figure 2:3. Current discourse space and participant knowledge. (Based on Langacker 1999:263)](image)

Given the structure of the space and the (believed) shared knowledge, the hearer will expect the speaker to stay within the created space unless there is a formal sign of the creation of a new space. If such a sign is missing, the hearer tends to draw on situational and/or wider contextual knowledge to make sense out of what is being said. The shared knowledge of the space and its structure will also guide expectation in terms of level of specificity, an issue which will be readdressed in Chapter 6.

A new space other than default space can easily be built with the help of a space builder. Let us consider one example, based on Fauconnier (1997), sentence (1) below.

(1) I think that Bill is in love with Hillary

As pointed out by Fauconnier, a sentence of this type brings to the fore our background knowledge of what ‘x is in love with y’ means. In Fauconnier’s terms the phrase “I think” functions as a space builder creating a mental space of my belief in this particular case. Thus we can illustrate the process as in Figure 2:4 below.

5 F (in Fauconnier 1994) symbolises the “connector” (Fauconnier 1997:43), whose function is to link the objects in Base space with the roles in Belief space. In this particular example the connector is that of identity, i.e., b corresponds to b’.
Belief space is structured according to the background knowledge of the cognitive model of LOVE. Included in the structure of the space is also our background knowledge of the participants, in this case two people called Bill and Hillary. Exactly who these people are (i.e. to which individuals these names refer) will be determined by mutual assumptions relating to the context or situation and how we then interpret the statement in a wider sense will be affected by our knowledge of these people. Consequently, the meaning of love might be slightly restructured in accordance with our knowledge of the two people and their history etc.

To sum up, in this section the importance of distinguishing between the real world and our conceptual understanding of it has been pointed out. To codify this difference it was posited that a distinction be made between situation and context. Mental spaces were identified as important constructs for the understanding of conceptualisation and thought.

### 2.4 Characterising meaning

Cognitive semantics embraces a conceptualist view of meaning, where meaning is claimed to be encyclopaedic in nature. An important consequence of this view is that the meaning of any lexeme is in principle open-ended, since it may, in the individual speaker, evoke any kind of association. However, in practice, some meanings are conventionalised in the speech community, and it is these that I refer to when I talk about meaning. This is also true on the level of the individual: meanings are entrenched to a greater or lesser degree, due to frequency of usage.

**Figure 2:4. Space building. “I think that Bill is in love with Hillary”**

(Based on Fauconnier 1997:43.)
Following Langacker (1987), I will call the conceptual content of a lexical category a **predication**; however, frequently I will use the term **concept** loosely in the same sense. In cognitive semantics, the meaning of a lexical item is usually regarded as being best described in terms of a figure-ground relationship. Any linguistic concept (predication) is understood against some sort of background knowledge and the associations that are linked to the concept.

### 2.4.1 Domain, network and attribute

The background knowledge which serves as the ground for a predication (the figure) is called a **cognitive domain**, or shorter, **domain**. In Langacker’s view a domain is a conceptualisation of any sort and of any kind of complexity against which a meaning is created. Langacker (1987) makes a fine distinction between different types of domains. Most domains presuppose other underlying domains, so that a particular predication can be built on an advanced structure of domains. This is succinctly illustrated by Croft (1993), who discusses the underlying structures of the letter T. Croft demonstrates that the domain structure of this relatively simple concept can be quite deep. However, there are primitive domains which cannot be reduced to more basic ones – these are called **basic domains** (Langacker 1987). Examples of such domains are **COLOUR**, **SMELL** and **TWO- and THREE-DIMENSIONAL SPACE**. Non-basic domains are called **abstract domains** by Langacker. An abstract domain seems to correspond essentially to what Lakoff (1987) calls **ICM** – Idealised Cognitive Model.

It would seem that a predication is frequently characterised against a background of several domains, not just one. Langacker calls this ‘cluster’ of domains presupposed by a concept a **domain matrix** or **matrix**. Again we can find alternative terminology. For instance, Taylor (1995: 87) calls this construct **frame**: “In the following, ‘frame’ will refer to the knowledge network linking the multiple domains associated with a given linguistic form.” This use of **frame** seems to correspond closely to that of Fillmore (1985) and Barsalou (1992). As a technical definition of frame, Barsalou (1992: 28) offers the one used in artificial intelligence: “a fixed set of named slots whose values vary across applications.” Thus, although there seems to be a consensus as to how meaning should be defined, the great variety of terminology can be confusing. In this work the term **domain** will be used for this construct, irrespective of its complexity.

In a matrix there is usually one domain which is the most important for the characterisation of the predication. This domain is termed **primary domain** by Langacker (1987: 163-64). It seems that the connection between the primary domain and the figure is typically a part-whole or a subordinate-superordinate relation. These relations correspond to what in lexical semantics are termed **meronymy** and **hyponymy**. Clausner and Croft (1999) claim that the connection is

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6 Ungerer and Schmid (1996: 190) appear to believe, erroneously in my view, that the matrix contains only basic domains.

7 However, it seems that the notion of **frame** is being increasingly used to denote the background of a verbal situation. In this use it seems to constitute a special kind of domain. An example of this approach can be found in Ungerer and Schmid (1996). They (p 211) define **frame** as “a type of cognitive model which represents the knowledge and beliefs pertaining to specific and frequently recurring situations.”

8 The original italics have been normalised.
primarily of a part-whole kind. However, while this appears to be true of many basic level predications, it is certainly not true at a subordinate level; it seems reasonable to argue that the meaning of German Shepherd is primarily defined against the background of DOG. This is in line with views held in Gestalt psychology, where it is suggested that the whole is conceptualised before the parts (cf. the discussion of image schemata above). As mentioned earlier, the basic idea of figure-ground forms the foundation of Langacker’s theories. In addition, it should be stressed that this part-whole idea is completely different from the classical approach embodying necessary and sufficient conditions. The domains evoked by a lexical item are ranked according to their centrality or weight, to use another metaphor. The most central domain is the primary domain. Langacker (1999: 5) suggests that centrality can be determined in terms of likelihood and strength of activation. The notions of primary domain and centrality of domains explain the difference in meaning among concepts which evoke more or less the same kind of domains. Langacker mentions roe and caviar. Although, technically speaking, they denote the same thing the words have different meanings. In the framework described here, we can say that the primary domain of roe is FISH REPRODUCTION, whereas in the case of caviar this domain is marginally ranked.

The idea of background knowledge may need some further explanation and I use an example established in the literature for my presentation; that of a weekday, in my case Friday. The meaning of Friday can only be understood against our conception of the seven-day week, divided and organised according to certain principles. As pointed out by Lakoff (1987), this is an idealised model according to western principles. Time can be divided in numerous other ways; Aitchison (1994) mentions the Incas, who organised the week as a nine-day cycle. The basic idea, however, is that without the concept WEEK, we cannot understand the meaning of a weekday. If we return to our example Friday, it is clear that it is defined in relation to our concept of WEEK. As a domain, WEEK has to be considered an abstract domain since it presupposes a number of other domains, the day and night cycle being the most important one. (Cf. Taylor 1995: 84.) It is also clear that there are many other factors that affect the meaning of a word like Friday. However, the most important one is the week and its structure, so WEEK can be seen as the primary domain of FRIDAY.

If we want to maintain an encyclopaedic and open-ended view of meaning, we also have to acknowledge that the meaning of Friday can go beyond the mere designation of the sixth day of the week. People know a lot more than this about Fridays and to the degree that this is general knowledge, and culturally significant, we can say that it is part of the meaning of Friday. Such associations can be seen as other domains being part of the matrix.

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9 Other examples of the same phenomenon are the classic example of the morning star, evening star and Venus. (Mentioned by Langacker, 1987: 165).
10 As an aside, we can observe that there is a difference here between some European languages, in that for instance Swedish considers fredag, ‘Friday’, the fifth day of the week. However, in practice this does not lead to any communicative difficulties. Incidentally, there is also another model in English-speaking societies which can create a conflict: the division of the week into workdays and weekend suggests a different position for Friday.
In my presentation, I essentially follow Langacker's terminology, but with some important alterations. First and most importantly, I use the term *attribute* (following Barsalou 1992 and several others) for the units of association outside the primary domain mentioned above. The primary domain itself contains attributes, of course, but since these are at the very centre of the characterisation, there is no need to draw further attention to these properties. Consider, for example, *German Shepard*: the attributes of ‘dogginess’ are presupposed since the predication is defined against the primary domain of *DOG*. It seems to me that *attribute* defined thus basically corresponds to highlighted aspects of peripheral domains and also to what Langacker frequently mentions as “specifications”, “associations” and “properties” (cf. e.g. Langacker 1987: 158-161). It is essential to understand that attributes are not to be taken to be semantic features in the classical sense of necessary and sufficient conditions. An attribute is not in any sense an atomic feature, but it constitutes in itself a complex structure of meaning (cf. Smith and Medin 1981:17, Barsalou 1992: 30, Taylor 1995). Furthermore, attribute formation can be highly productive: Barsalou (1992: 31) argues that “people are highly creative in their construction of attributes, often producing new ones relevant to specific contexts.” For a technical definition of attribute I suggest a solution along the lines offered by Taylor (1995: 63), namely that attributes are dimensions (highlighted aspects of domains) in relation to which entities (abstract/concrete, thing/relation) are regarded as similar (or different).11

The fact that attributes have an internal structure, i.e. that they are concepts, is very interesting from a structural point of view, as it suggests that we can talk about a kind of limited degree of *recursiveness* in cognitive structures. Furthermore, the conventional link between two cognitive structures creates a relationship of *reciprocity* between the structures. If a concept functions as an attribute of another concept, then the converse should also be true. Langacker (1987: 164) argues that if [mouse] is an attribute (he does not use this term) of *CAT*, then [cat] is an attribute of *MOUSE*. It should be borne in mind, however, that this reciprocity is not necessarily symmetrical. On the contrary, it would seem that a normal occurrence would suggest *asymmetrical reciprocity*. For example, a typical (and thus central) attribute of swans, notably the Whooper Swan (*Cygnus cygnus*) and Mute Swan (*Cygnus olor*) is [white] – thus, in accordance with the above argumentation, white is part of the meaning of *swan*.12 The centrality of the attribute [white] can be demonstrated by the fact that most English speakers will mention white very early, if not first, when asked to mention a few attributes of *swan*. However, the reciprocity of the structures in this case is only true to a limited extent. It seems very unlikely that [swan] would be ranked very highly as an attribute13 of *white*, at

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11 The cognitive status of attributes is debatable. Medin and Barsalou (1987:460-61) commit themselves to a position in which they see attributes as being “convenient fictions that allow one to bring out relationships among concepts.” A similar view is expressed by Ungerer and Schmid (1996).
12 In fact, it could be argued that the attribute [white] is part of our overall model of *SWAN* in the northern hemisphere, ignoring the fact that e.g. the Mute Swan (*Cygnus olor*) may have tame black varieties. In Australia, where the Black Swan (*Chenopsis atratus*) is frequent, the conception of *SWAN* is likely to be slightly different.
13 Some readers may find it awkward to accept [swan] as an attribute of *WHITE*, from a technical point of view. However, if we are to take a maximalist view of meaning seriously, then we should include this type
least out of context. This asymmetrical reciprocity can be explained in terms of entrenchment and degrees of activation (cf. previous section). Although the colour white frequently occurs in our every-day life, very few indeed of these occasions are linked with the presence of swans. However, every time (more or less) we see a swan, we also perceive whiteness. Of course, even in the case of whiteness, context may restructure the category so that [swan] becomes more central – e.g. white being discussed in the context of bird watching.

The presence of recursive structures begs the question whether the meaning of a unit is supposed to include all possible underlying knowledge. Langacker (1987: 165-166) does not exclude this possibility but he questions the usefulness of such an assumption. Instead he suggests that we can

> delimit the semantic pole [i.e. the predication, or conceptual structure (A.S)] of a symbolic unit in the following way: a structure [X] figures directly in the encyclopedic characterization of a symbolic unit with access node [A] only if there is a structure of the form [A…X…] that has unit status; otherwise it figures only indirectly and is not an established part of the unit’s meaning. [emphasis original] (Langacker 1987: 165-166)

Expressed differently, we can say that an attribute \( \alpha_1 \) is part of a concept \( C_1 \) only if \( \alpha_1 \) directly contributes to the meaning of \( C_1 \). However, if \( \alpha_1 \) is an attribute of a concept \( C_2 \), which, in turn, constitutes an attribute \( \alpha_2 \) to \( C_1 \), then \( \alpha_1 \) cannot be seen as part of the meaning of \( C_1 \). But, as Langacker points out, such relations may easily become activated and hence reach attribute status. For a slightly different view on this matter see Croft (1993), who argues that entire domain structures are activated.

It appears, then, that predication, domain and attribute defined in the fashion suggested above constitute different facets of the same conceptualisation. In terms of figure – ground organisation, domain is a conceptualisation that represents ground. Predication represents the figure and attributes are concepts that function as peripheral dimensions or units which can be abstracted from the domain matrix, thus being part of the ground.

At this point it should also be mentioned that a distinction has to be made between conceptualisations per se and linguistic categories. This is necessary since not all concepts are linguistically coded. As demonstrated by Barsalou (1983, 1985), people can readily create ad hoc concepts for new categories which do not have direct linguistic encoding – e.g. THINGS THAT BABIES DO. In the domain of colour, it has often been pointed out that there is no adjectival lexeme to represent the entire domain; coloured, the best candidate, does not include black, white and of association, and I see no a priori reason to treat this particular meaning differently from, say, lightness. They do differ, of course, in terms of centrality, which is precisely the point I am trying to make.

14 An example of this could be the fact that swans are occasionally used to represent innocence. Although there might be several motivations for this, one conspicuous feature is the whiteness. White, in Western society is intimately linked with innocence. However, this motivation may not be clear to all members of the speech community and this kind of symbolism is frequently not understood.

15 Barsalou (1992:30) offers a similar view of attributes in relation to concepts. He defines an attribute as “a concept that describes an aspect of at least some category members.”
grey. Nevertheless, we can assume the existence of the colour domain. In this study, the terms **conceptual category** (all concepts) and **lexical category** (lexicalised concepts only) serve to clarify this distinction, whenever necessary.

Having defined a few key concepts, we are now in a position to present a figure of meaning which will recur in this dissertation. Figure 2:5 is an attempt to illustrate a simplified representation of meaning, according to the theory sketched above. The figure should be seen as a metaphor, and it is important to stress that I fully sympathise with Langacker’s ideas of a maximalist, open-ended view of meaning, which may be viewed as residing in processes (networks of activated nodes) rather than in static structures. However, for the sake of convenience this figure is preferred to other more complex and hence less transparent illustrations.

![Figure 2:5. Conceptual structure: attributes and primary domain](image)

The dotted line surrounding the structure is meant to illustrate the fact that it is not possible to draw a distinct line between essential attributes and those which are less important in the definition of a concept. The shaded centre of the figure represents the primary domain. Croft (1993: 344) describes the primary domain as “the domain in which the most central facts about the concept are defined.” These facts can reasonably be translated into attributes, but given the function of the domains as backgrounds against which the figure is defined, I have found it rational to ignore these attributes in this figure. The octagons are meant to represent non-central attributes which are part of the meaning. The distance from the centre is meant to be suggestive of the centrality of the attribute, and thereby its importance.

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16 However, consider the views of Lyons (1995, 1999) and Lucy (1997) mentioned in Chapter 1, as far as this assumption is concerned.
However, attribute structures can be affected by context and a specific context may shift the attribute structure considerably (cf. Ungerer and Schmid 1996 and Cruse 1986). Finally, I have divided the concept into two halves, one concrete and one abstract. This division is not to be interpreted as an indication that I believe all concepts can be divided in this fashion. On the contrary, reason suggests that it is more or less impossible to make a sharp division – any abstract conceptualisation is grounded in physical, embodied experience. However, for the purpose of the present investigation a simplification has been made. As an example we might claim that an abstract attribute such as [dangerous] may be part of the meaning of *knife*. Possibly the formation of this abstract attribute relates to experiences of other attributes of knife, plausibly [sharp], [can cut] and others. Thus, we can presume that the attributes themselves are connected in an intricate network model. Furthermore, it seems reasonable to assume that these connections may lead to joint centralisation, so that, for instance, a context which will centralise [sharp] as an attribute of *knife* may also centralise [dangerous]. This network is indicated by the dotted lines; however, these lines will not appear as regular features of this model. It should also be stressed that, although my figure here is symmetrical, there is no reason to assume that attribute structures are symmetrical.

The model may become clearer if we explain it by way of an example. Let us reconsider our example *Friday*. As mentioned above, the primary domain of *FRIDAY* is the seven-day week. Typically, this is the idea we evoke when we use the linguistic form *Friday*, cf. example (2) below.

(2) His arrest was followed by two more on Friday. (BoE: times)

In such a sentence, no other attributes apart from those residing in the primary domain are highlighted. However, as mentioned previously, we know many more things about Fridays. These aspects are usually culturally coded facets of experience. Thus, they are likely to change over time, whereas we can confidently assume that the primary domain of *FRIDAY* will not change – that is *Friday*, or the meaning of *Friday* out of context, is likely to be maintained. It should be observed that the stability of *Friday*, as far as the primary domain is concerned, is presumably much less characteristic of other concepts.

In the case of our example, many of the additional features that we associate with the meaning of *Friday* have arisen as a result of the fact that it is the last day of the working week. However, this cultural phenomenon is an idealisation since it is not true of all occupational groups. Furthermore this is a fairly new habit. Nevertheless, the attribute that this knowledge forms – it may be labelled tentatively as [free tomorrow] – is centralised in many usages of *Friday*. Consider, for instance, (3) below.

(3) Every night is Friday night when you’re a showbiz gadabout like me, but I do try to enjoy that special Friday mood that ordinary people only get at the end of the week. (BoE: sunnow)

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17 Cf. Lakoff’s (1987) notion of ICM (Idealized Cognitive Model); the point is exactly that mental models that serve as backgrounds are to a certain degree idealised.
It is quite clear that, contrary to (2) above, additional attributes are highlighted in our understanding of Friday. In addition to the obvious [free tomorrow], we might include attributes which are based on our experience of people’s habit of having a nice dinner and a few drinks on a Friday. Since the conceptual structure is based on experiential aspects, we can assume that there might be differences here among people. However, the general cultural model of a Friday evening can probably be expected to be reasonably salient to most language users.

Intriguingly, the importance of the attribute [free tomorrow] in FRIDAY can be demonstrated by the supposed synonym of Friday, the (jocular) phrase POETS day, cf. (4) below. Humorous though it is, it is also evidence of the conception of Friday in (parts of) the British English speech community.

(4) National Poetry Day was celebrated yesterday – a day early. After all, every one knows that Friday is POETS day. P Off Early Tomorrow’s Saturday. (BoE: today)

This aspect of Friday is also highlighted in an expression like a Friday afternoon car designating a car with which one experiences endless annoying problems. The cultural model (cf. Holland and Quinn 1987 for a detailed discussion of cultural model) behind such an expression is that the car was put together in a rush on a Friday afternoon when people were no longer concentrating on their work and just wanted to go home.18

The importance of the attribute structure for our understanding of a word, and the dynamics and cultural dependence of conceptual structures can be illustrated by (5) below.

(5) What makes you look so sad, and moodily? with such a Friday face. (1681 W. Robertson Phraseol. Gen. (1693) 1092) (The OED)

To the modern reader the collocation of sad and moodily, on the one hand, and Friday face, on the other, may come as a surprise. Given our own understanding of Fridays, we may be tempted to view this as an idiosyncratic formation. However, the now extinct usage of the expression Friday-faced had the meaning of ‘sad-looking’. Since the cultural model behind this meaning has vanished, we have great difficulty interpreting such a phrase correctly without extensive context. The underlying motivation for this phrase can be found in religious customs. Encyclopaedia Britannica tells us that

Until relatively recently, the most notable dietary law in Christianity was the Roman Catholic prescription to abstain from eating meat on Friday.

“dietary law” Encyclopædia Britannica Online.


18 It is interesting to note that the corresponding Swedish phrase is måndagsexemplar, ‘a Monday product’; the lack of concentration appears to be central in both these models.
Apparently, this was a tradition which had some influence on the meaning of *Friday* in England even after Catholicism had been abandoned. So much, in fact, that it could serve as the most conspicuous feature in an expression like *Friday-faced*. Accordingly, it may be claimed, with good reason, that culturally based attributes may be of considerable importance for the interpretation of lexemes even if the latter appear to be static from a technical-definitional point of view. This old meaning of *Friday* presupposed a completely different attribute structure than the current one. However, since the primary domain is the same, we have no difficulty understanding the word on most occasions. In a similar fashion, we can assume that colour terms, although their designata are firmly established within the colour domain, may take on and centralise attributes outside this domain. This is studied in greater detail in Chapters 4, 5, 6 and 7.

### 2.5 Conceptual processes

It was argued above that categories are frequently quite complex structures. It was further demonstrated that a category grows through extension; normally from a prototype of some sort. This extension may take place from a ‘local’ prototype, i.e. a non-central member of a category, in which case the overall picture of the category may be seen as having the characteristics of family resemblances. A pivotal concept in cognitive linguistics as far as category extension is concerned is that of *motivation* (cf. Lakoff 1987). Motivation creates a non-arbitrary link between a concept and its extensions and it is related to the background of other existing concepts and models within a speech community. Lakoff (1987: 113) observes that “[m]otivation depends on overall characteristics of the conceptual system, not just characteristics of the category at hand.” One can justifiably include in the notion of motivation the conventions of form-content relations that have been established in a particular speech community. However, motivation is a very broad concept, and could indeed be deemed a prerequisite for any kind of extension. In view of its general character, we can argue that the concept itself has very low explanatory power. Philosophically, on the other hand, it is important since it marks a position radically different from a traditional and disembodied view. The motivation for the extension of colour categories is analysed in greater detail here, primarily in terms of two conceptual processes – *metaphor* and *metonymy*.

Cognitive linguistics assumes that these two conceptual processes are of special importance. Theories of metaphor and metonymy go back as far as ancient Greece and Rome (cf. Warren 1995 and Koch 1999) and traditionally the processes have been regarded as rhetorical tropes. They were regarded as merely “figures of speech,” deviating from normal language usage. However, through the pioneering work of Lakoff and Johnson (1980) the conceptual nature of these processes has become apparent and has received a great deal of attention. Their importance goes

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19 For a detailed study of attribute evolution in a concept, see Persson’s (1994) article on the development of the meaning of the word *spinster*.

20 The work of Lakoff and Johnson was partly inspired by Reddy’s (1979) observations about the existence of a “conduit metaphor.”
beyond the mere extension of categories. Being conceptual processes they are
crucial to our understanding and structuring of reality.

The purpose of the present section is to provide the uninitiated reader with a
brief introduction to the nature of metaphor and metonymy; the references are
meant to guide the reader to more substantial analyses of these processes. Of the
two, metaphor attracted much more interest initially, but in the last few years the
study of conceptual metonymy has developed rapidly. In my study, metonymy is of
central importance, hence the section devoted to it is considerably longer. This
section also includes two Langackerian notions closely related to metonymy:
reference-point construction and active zone. Recently, several scholars (e.g.
Goossens 1995, Grady 1999 and Barcelona 2000) have observed that the relation
between metaphor and metonymy can be quite problematic and that there is often
an intricate interplay between the two. In my presentation below I ignore these
observations for the sake of brevity.

2.5.1 Metaphor

Although not the first to observe that there may be more to metaphor and
metonymy than their merely breaking the rules of grammar, 21 Lakoff and Johnson
(1980) (henceforth L&J) were the first to systematise linguistic material into a
coherent theory of conceptual metaphors. They showed that systematic analysis of
language use could indicate the presence of an underlying metaphorical conceptual
process which can explain whole collections of expressions. For instance, they
suggest (1980:4) that the expressions in (6) below point to an underlying
conceptual metaphor of +ARGUMENT IS WAR+.

(6) Your claims are indefensible.
He attacked every weak point in my argument.
His criticisms were right on target.
I demolished his argument.

However, in the view advocated by L&J, we not only use metaphors of war to
account for aspects of an argument, we in fact understand an argument as being
structured according to the same principles as obtain in war, or even more radically
(L&J: 5): “the essence of metaphor is understanding and experiencing one kind of
thing in terms of another [italics original].”

From a cognitive perspective, our understanding of the world is based on
bodily experience. Whenever there is a conceived similarity of some sort between
two types of experience we may categorise them as being similar (cf. above).
However, in the case of metaphor, there is a marked difference from normal
categorisation in that the notion of similarity crosses different domains of
experience. From the point of view of experiential realism described above, it
follows that abstract reasoning has to be grounded in bodily, concrete experience
and thus metaphorical structuring of abstract entities is a very common device.

Technically, metaphor has been described as the mapping of one domain onto
another. The source or donor domain is the domain that is mapped, and the target

21 Jakobson (1956) is mentioned by Koch (1999) as one of the first scholars to do so.
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22 Domain, as the name suggests is the recipient of the mapping. In the case of the +ARGUMENT IS WAR+ metaphor, ARGUMENTATION is the target domain and WAR is the source domain. Through the metaphorical mapping the target domain is structured in accordance with the source domain, which means that certain aspects of the source domain are hidden whereas others are emphasised. Thus, the effect of a conceptual metaphor is that the mapping transfers aspects of the source domain onto the target. For instance, the +ARGUMENT IS WAR+ metaphor imposes on us a picture of the other party involved as an opponent/enemy. We understand our verbal interaction as attacking or defending positions. A crucial feature, however, is that metaphoric mapping is always partial, not total. Were it not so, the source concept/domain would actually be the other (cf. L&J: 13) and we could talk about normal categorisation. In the above-mentioned metaphor there are numerous aspects of argumentation which have no correspondence in the WAR domain and, conversely, the structure of the WAR domain is not fully covered by aspects of the ARGUMENTATION domain. The metaphorical process is highly creative but, as far as conceptual metaphors are concerned, there is one important characteristic which should be mentioned that constrains the metaphorical process in some fashion. The Invariance Hypothesis (Lakoff 1990: 54) claims that “[m]etaphorical mappings preserve the cognitive topology (that is, the image-schema structure) of the source domain.”

23 This principle or hypothesis, depending on the weight we want to give it, thus imposes some constraints on the mapping – not every domain is suitable as source for, say, TIME – and at the same time it provides a structural explanation of metaphoric structures.

Once a metaphoric mapping becomes established in a speech community in terms of systematic exploitation, we can say that the target domain has been metaphorically structured in accordance with the source domain. As demonstrated by L&J and numerous other researchers, a substantial number of these metaphorical mappings are so well established and entrenched – “dead” in traditional terminology – that the average language user makes use of them unaware that they are metaphoric in nature. At this stage we can truly say that we have conceptualised one thing in terms of another.

2.5.2 Metonymy

As mentioned above, much of the early research in cognitive linguistics was centred around metaphor and categorisation. Metonymy was largely given a marginal position. However, in recent years, metonymy has attracted more interest. The publication of two new edited volumes devoted to metonymy (Panther and Radden 1999) and the interplay between metaphor and metonymy (Barcelona 2000) testify to the recently awakened interest in this conceptual process. From the large number of articles that have discussed the basic pattern of metonymy, I draw mostly on the analyses performed by Kövecses and Radden (1998) and Radden and

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22 In the discussion of an individual linguistic metaphor it is also customary to identify the vehicle, i.e. the form that ‘instigates’ the metaphorical process in the interpreter, cf. Fauconnier (1994), Warren (1995). The italicised words in (6) are vehicles.
23 For a critical view, see Brugman (1990).
Kövecses (1999). However, other influential articles and books are those by Croft (1993), Dirven (1993), Warren (1995), and Fass (1997). A common denominator in these latter works is their focus on the difference between metonymy and metaphor. Lakoff and Johnson (1980:36) stress that they are different processes and define the difference between metaphor and metonymy in the following way:

Metaphor and metonymy are different kinds of processes. Metaphor is principally a way of conceiving of one thing in terms of another, and its primary function is understanding. Metonymy, on the other hand, has primarily a referential function, that is, it allows us to use one entity to stand for another. But metonymy is not merely a referential device. It also serves the function of providing understanding. [italics original]

The referential function of metonymy was long considered to be of primary importance, cf. for example, Nunberg (1978), but an increasing amount of interest has come to be focussed on the non-referential aspects of metonymy. Nevertheless, many still consider the referential function to be central, e.g., Warren (1999).

The traditional definition of metonymy, as in the quotation from the OED below, hinges on the two ‘things’ being closely related.

A figure of speech which consists in substituting for the name of a thing the name of an attribute of it or of something closely related. (OED: metonymy)

“Closely related” needs further definition and some writers have used the term contiguity to account for a metonymic relation, for instance Ullmann (1957) and Dirven (1993). However, the introduction of a new term does not solve the problem unless it is properly defined. In the last few years it seems that general agreement has been reached that metonymy can be seen as mapping within a single conceptual cognitive unit. Lakoff (1987)\textsuperscript{24} and Lakoff and Turner (1989) suggest domain, Croft (1993) domain matrix, Radden and Kövecses (1999) ICM and Blank (1999) and Koch (1999) frame. These terminological differences should not obscure the fact that basically the terms refer to the same idea.\textsuperscript{25} The idea, however we name the unit in which metonymy occurs, specifies that metonymy is a conceptual phenomenon. Radden and Kövecses (1999: 21) give the following definition of metonymy, and presumably it can be used with the appropriate terminological changes to account for similar notions of metonymy within cognitive linguistics:

Metonymy is a cognitive process in which one conceptual entity, the vehicle, provides mental access to another conceptual entity, the target, within the same idealized cognitive model.

\textsuperscript{24} To be more precise, Lakoff (1987: 288) says: “A metonymic mapping occurs within a single conceptual domain, which is structured by an ICM.” It seems that some authors use domain and ICM synonymously whereas Lakoff himself seems to consider ICM a structuring principle of a domain. Whatever the difference, it must be a subtle one.

\textsuperscript{25} Rather, they are symptomatic of the terminological chaos that plagues some aspects of cognitive grammar. However, Koch (1999: 152-153) points to some important differences between the frame approach and the domain-matrix approach.
From this point of view, the difference between metonymy and metaphor can be said to reside in the conceptual distance between target and source: metaphor is mapping between domains, whereas metonymy is a process which operates within a conceptual domain.

Langacker (1993) sees metonymy as being grounded in one general phenomenon of cognitive processing: that of reference-point constructions. According to him (1993: 30), metonymy is prevalent because of the fundamental nature of the reference-point construction, and, consequently, metonymy serves a communicative as well as a cognitive function:

By virtue of our reference-point ability, a well-chosen metonymic expression lets us mention one entity that is salient and easily coded, and thereby evoke – essentially automatically – a target that is either of lesser interest or harder to name.

As Figure 2:6 shows, the reference-point is used to locate another entity which is somehow related to it.

![Diagram of reference point abilities](Based on Langacker 1993: 6)

Reference-point reasoning is dynamic in Langacker’s model; the initial reference-point (R) retreats in favour of the target (T), which may then serve as the reference-point for reaching a new target. To exemplify of the dynamics, Langacker (1993:26) mentions nested locatives as in (7) below, where a series of reference points are used to reach the target.

(7) Your copy of *Women, Fire, and Dangerous Things* is downstairs in the study in the bookcase on the bottom shelf next to the *Illustrated Encyclopedia of Glottochronology*.

The wider implication of reference-point constructions is demonstrated by Langacker’s analysis of possessives and the notion of topic using this construct.

The aspect of salience is also assumed by Croft (1993: 348) who suggests that the conceptual effect of metonymy can be described as “domain highlighting”. Barcelona (2000: 4) advocates a similar view, but sees the process as a special case of what Langacker has called activation. If we go back to Langacker’s (1993)
article, he argues that there are certain principles of salience to be identified, for instance human over non-human. This seems to make sense: if the function is to facilitate communication and highlight important features, then it seems logical that they are salient features. However, the contextual salience of a given situation may override these general principles. An instance of this is the notorious *ham sandwich* (Nunberg 1978: 41, Lakoff and Johnson 1980: 35, etc.). Its salience can arguably be seen as markedly high, from the point of view of the waitresses.

(8) The ham sandwich is getting impatient for his check.

However, the situational boundedness of this type of expression makes it a less good candidate for lexicalisation (cf. Seto 1999: 105). Obviously, the situation is not stable or typical enough to yield so much entrenchment. This does not preclude the fact that this metonymy +DISH FOR CUSTOMER+ and similar ones are quite productive in various contexts (cf. Clark 1992). Radden and Kövecses (1999), following Langacker (1993), list a number of principles, cognitive and communicative, which account for the choice of vehicle in cases of metonymy. As important factors they identify human experience, perceptual selectivity, cultural preferences and the principle of relevance, all of which can explain the principles underlying the choice of vehicles.

As was argued above, metonymy requires a relationship of contiguity between the target and the vehicle. Furthermore, it was argued that contiguity could be defined as a relationship existing inside an ICM or domain. Radden and Kövecses (1999) take this one step further and identify two general configurations to which most metonymies can be transferred:

- Whole ICM and its parts
  - Parts of an ICM

The first type includes examples such as

(9) *England* for ‘Great Britain’ (+PART OF A THING FOR THE WHOLE THING+)
(10) *They went to the altar* for ‘they got married’ (+SUBEVENT FOR WHOLE EVENT+)
(11) *Hoover* for ‘any vacuum cleaner’ (+MEMBER OF A CATEGORY FOR THE CATEGORY+)

These few examples do not do justice to Radden and Kövecses’ intricate analysis, but they serve as good starting-points for a discussion. What is at the centre here is the relationship between a whole and its parts. Typically, a relationship of this kind applies to things and their parts but as examples (10) and (11) illustrate, this is also applicable to events and categories. Radden and Kövecses list 21 different relationships of ten general types belonging to the part-whole configuration.

The second configuration that is metonymy-producing is characterised by conceptual entities being related with respect to the whole ICM. This characteristically applies to event situations and the participants therein. Radden and Kövecses (1999: 36) observe that “[p]art for part metonymies tend to build on the interaction between a relation and one of the things participating in the...
relation.” Typical types of ICMs are the Action ICM, the Causation ICM, the Location ICM, etc. Examples of these include

(12) *To blanket* the bed (+OBJECT FOR ACTION+)
(13) *Slow road* for ‘slow traffic resulting from the poor state of the road’ (+EFFECT FOR CAUSE+)
(14) *The whole town showed up* for ‘the people’ (+PLACE FOR INHABITANTS+)

Radden and Kövecses identify ten such types of part-part metonymies and list 28 examples of such relations. In my analysis of colour term usage I will essentially follow the ideas outlined above. However, one terminological difference is that I prefer the term domain to ICM.

Finally, let me introduce another construct of Langacker’s which can be viewed as a special case of metonymy – active zone. The active zone of an entity is described by Langacker as representing the parts of it that most directly participate in the relationship that is depicted. Consider the sentences below.

(15) I could hear a piano in the background. (BoE: usbooks)
(16) Lawrence was always out polishing his car. (BoE: today)

As observed by Langacker, there is a discrepancy here between the meaning of the lexeme and what is actually referred to. We cannot actually hear an object (like a piano); we hear sounds, and when we polish a car it is not the whole car, but the car enamel that we polish. As these examples demonstrate this situation is quite normal. From this observation, an active zone can be described as the portion of an evoked predication that participates directly in some relation. In other words, it could be claimed that the whole stands for some, in the specified context, essential part, which, thus, is only referred to indirectly; i.e., a conceptual metonymy of the type +THE WHOLE STANDS FOR A PART+. The active zone phenomenon is particularly relevant in the analysis of the naming function of colour terms. The phrase *blue pencil* is a case in point. In a normal reading *blue* does not refer to the colour of the whole pencil but to the colour of the lead, its active zone. Thus, it is only the active zone that is modified by the colour adjective. This type of usage is considered more closely in Chapter 4.

In colour semantics, metonymy is a frequently explored means of extension. Metonymy in the shape of reference point construction is extremely important for the understanding of extensions of colour terms in phrases such as *red hair*, where the term refers to very poor examples of the colour (Chapter 4). Metonymy is also the basic process through which colour terms acquire figurative meaning (Chapter 7).

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27 Other researchers have addressed this phenomenon; Cruse (1986) treats it as contextual modulation.

28 Traditionally this type of metonymy has been called synecdoche. Cf. also Seto (1999).
2.6 Two perspectives of meaning: semasiology and onomasiology

Intimately linked to observable phenomena in the studies of linguistic and conceptual categories are the two perspectives from which we approach studies of meaning. As pointed out by Geeraerts et al. (1994), the two perspectives present the investigator with different types of phenomena.

- The **semasiological perspective** takes a linguistic form as its starting point and is concerned with the extension and delimitation of it. This suggests that questions regarding prototypes, polysemy, vagueness and homonymy are dealt with from this point of view.

- The **onomasiological perspective**, on the other hand, takes a concept as its starting point, and is concerned with how it can be expressed/codified. Thus, questions of synonymy, hyponymy, and levels of representation are of prime interest.

Görlach (1997: 120-121) observes that these perspectives correspond to the speaker-hearer situation:

> The contrast between onomasiology and semasiology can be seen as reflecting the achievement of the speakers in expressing in linguistic form what they wish to communicate, and that of listeners in decoding the message.

The speaker’s view in a conversation is that of the onomasiological perspective; she/he has to determine how best to dress a particular thought. The hearer, in contrast, has a semasiological perspective; he/she will have to find the best interpretation of a presented form. Using the semiotic triangle of Ogden and Richards (1972), we can summarise the perspectives as in Figure 2:7 below.29

![Figure 2:7. Two perspectives of meaning seen in the semiotic triangle.](image)

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29 Here I have used Dirven and Verspoor’s (1998:28) modification of the semiotic triangle, as this version is more suitable in the context of cognitive linguistics. Ogden and Richards (1972:11) use the following labels: A = symbol, B = thought or reference, C = referent.
As was mentioned in Chapter 1, in the realm of colour terminology, traditional research has primarily been concerned with naming, i.e., onomasiology. However, MacLaury (e.g. 1997) has developed a methodology according to which both aspects are accounted for. His improved methodology has made it possible for him to establish a lexical relation which has not previously been identified in the literature – that of coextension (cf. footnote 15 p.23). Another study that has successfully explored the two perspectives in combination is the above-mentioned work by Geeraerts et al. (1994), in which the domain of clothes is analysed.

In what follows, I consider some aspects of these perspectives from the point of view of cognitive grammar. These aspects recur later in my analysis of colour terms usage. For the present, my presentation is restricted to some general observations.

### 2.6.1 The semasiological perspective: important sense relations

As stated above the semasiological perspective is that of the hearer, and is characterised by his/her encounter with a form. One immediate problem which appears is that of **vagueness** and **ambiguity**. Vagueness and ambiguity are related phenomena but are distinguished in so far as vagueness is considered to be related to one meaning (**monosemy**), whereas ambiguity is related to several senses, in particular the accidental phonological merging of two unrelated forms – i.e. **homonymy**. Figure 2:8 represents and summarises some crucial aspects of the semasiological perspective.

<table>
<thead>
<tr>
<th>FORM</th>
<th>One form</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROBLEM</td>
<td>Ambiguity</td>
</tr>
<tr>
<td>SENSE RELATIONS</td>
<td>Homonymy</td>
</tr>
<tr>
<td>(Unrelated senses)</td>
<td>(Related senses)</td>
</tr>
<tr>
<td>LEXEME STATUS</td>
<td>Two words or more</td>
</tr>
</tbody>
</table>

**Figure 2:8. Aspects of the semasiological perspective.**

Traditionally, efforts have been made to distinguish between ambiguity and vagueness. Taylor (1995) discusses the difference between polysemy and monosemy, and claims initially that, typically, polysemous senses refer to different
domains, and by virtue of that a polysemous word can be said to be ambiguous. However, he later qualifies this statement and notes that (p 100) “[a]n item can still be polysemous even if its different meanings need to be characterized against the same domain.” Using the classical instrument of zeugma, Taylor tries to demonstrate this latter point. However, he (p 102) is forced to confess that it takes “a sophisticated (and cooperative!) informant” to detect the zeugma in a sentence like (17) below.

(17) Both the ceiling and the bookcase are high.

A question which naturally arises is: Is it really a matter of polysemy if only sophisticated informants can detect it? To my mind, the answer has to be no.

Tuggy (1993) demonstrates that, in a cognitive framework, we can best consider the question of ambiguity and vagueness as a continuum or cline in which polysemy occupies a middle position. Following Tuggy’s example, we can consider the examples *bank*, *paint* and *aunt*. In terms of the Langackerian notions of schema and entrenchment, the extreme case of ambiguity – homonymy – will have a very abstract schema which is hardly entrenched at all, whereas in the prototypical case of vagueness – monosemy – the schema will be well entrenched and very specific. On the other hand, the elaborations will be well entrenched in the case of homonymy, but only marginally entrenched in the case of monosemy.

| a. bank | b. paint | c. aunt |

**Figure 2:9.** Examples of the continuum of ambiguity and vagueness. Based on Tuggy (1993: 283). *Paint* is construed as polysemous following Tuggy’s suggestion.
Polysemy will form a middle ground in this view. Figure 2:9 above, adapted from Tuggy (1993:283), illustrates the cline.

The entrenchment of a unit is indicated by the thickness of the lines. We can say that bank is homonymous, paint is polysemous and aunt monosemous. Thus polysemy can be seen as filling out the continuum between the two extremes. Tuggy’s model gives a more dynamic account of the classical problem of vagueness vs. ambiguity than the traditional one which entailed these categories being viewed as well-defined.

One characteristic of polysemous words is that several senses are similar enough to create a well-entrenched schema, but at the same time the individual senses are salient enough to afford them unit status. Possibly this can be related to a difference in the structure of the primary domain. Accordingly, in the case of a polysemous lexeme we have two or more senses which are well entrenched but are profiled against different domains. However, as a rule there is one sense which has a privileged position, the prototype. Since prototypes are experientially based, it is fairly obvious that they are intimately linked with cultural practices and other similar phenomena. For example, paint (cf. Figure 2:9 above) can be construed so that either sense may be the prototype, but because of the well-entrenched schema this does not significantly affect the structure of the category.

As far as colour terms are concerned, we saw in Chapter 1 that the prototypes, or focal colours, are to a certain extent determined by our biology, especially in respect to the primary basic terms: black, white, red, yellow, green and blue. Kay and McDaniel (1978) tried to demonstrate that foci, and indeed entire categories, could be derived from neurological responses to perception. 30 An alternative way of explaining the universal pattern presented by Berlin and Kay is that suggested by Wierzbicka. In a number of publications (Wierzbicka 1990, 1992, 1996), she does not question the original results of Berlin and Kay’s study, but she claims that the landmarks are experientially grounded and that the universal pattern is originates in universal landmarks, for instance the sky (in the case of blue).

However, my prime concern in this work is not the prototypes but the extensions, that is, precisely the kind of phenomena that Tuggy discusses. The issue of monosemy, polysemy and homonymy is therefore readdressed in the chapters that follow. Briefly, Chapter 4 is concerned with vagueness as this appears to be a phenomenon related to certain uses of Primary BCTs. Chapter 5, addressing ECTs, is particularly concerned with polysemy, and finally Chapter 7, dealing with figurative usage, questions whether some of the figurative uses have reached a stage where we should talk about homonymy rather than polysemy. As a final note it should be mentioned that one reason the issue of polysemy is only a marginal problem in the case of BCTs, is probably inherent in the definition of BCTs: one of B&K’s original criteria explicitly eliminates all cases of polysemous terms.

2.6.2 The onomasiological perspective

As mentioned earlier, the onomasiological perspective is closely linked to the speaker situation. Starting with a concept or, more vaguely, an idea, the speaker can

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30 Dedrick (1998) gives a detailed presentation from a philosophical perspective.
choose to refer to it in a number of different ways. Thus, this perspective is related to the ideas of *sense* and *reference*, in that we can denote the referent through a number of different expressions, each with a different sense. From a cognitive perspective, this phenomenon is frequently analysed in terms of *construal*. *Construal* means the way we choose to view a particular situation or entity. In Langacker’s analysis, construal is a complex mental phenomenon which includes a number of cognitive abilities (Langacker 1999: 5). One such ability is zooming in, which correlates with *specificity*. We can choose to portray a situation or a thing at different degrees of specificity, which will include a corresponding inclusion of details. Consider the chains of specificity below (from Langacker 1999).


Viewed in terms of vagueness, one can reasonably claim that a general term is usually much more vague than a specific one: *Chianti* is arguably less vague than *wine*. It seems, however, that the preferred level of specificity in most types of communication is not that which is most specific. In an early influential article, Brown (1958) suggests that most conversation takes place at the middle level of specificity. This preferred level has later been termed the *basic level*. Rosch et al. (1976) tested the existence of this notion experimentally and found that it can be defined in terms of a number of different parameters. The most important aspect was that of attributes: They could demonstrate that the number of attributes shared by members of a category is maximised at the basic level and, at the same time, the basic level minimises the number of attributes shared with other categories. Lakoff (1987: 47) claims that basic level categories are basic in four respects: *perception* (a single mental image), *function* (general motor program), *communication* (shortest, most commonly used) and *knowledge organisation* (maximise attributes). In Lakoff’s view, basic level knowledge is organised primarily around part-whole divisions; attributes of basic-level categories are primarily of the part-whole type.

The sense relation that holds between the various levels is usually termed *hyponymy*. The general term in a hyponymous relationship is called *superordinate*, the specific term *hyponym*. In this thesis I will use the general term *hyponymy* for any kind of inclusion relation. In the domain of colour terms we have clear cases of hyponymy structures. Consider the diagram below, based on some of the colour terms under investigation.

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31 *Reference* and *referent* are here taken to be mental phenomena.
Hyponymy is a non-reversible, unidirectional relation in that example (20) entails (21) but not vice versa.

(20) He painted the car scarlet.
(21) He painted the car red.

However, the nature of the colour domain creates some difficulty in the otherwise straightforward relation of hyponymy. Hues that are lexicalised as ECTs and occur frequently are typically borderline cases and occupy slots between two BCTs. The colour maroon is a case in point. Consider these definitions of maroon taken from the OED and Longman:

‘A particular kind of brownish-crimson or claret colour.’ (The OED)
‘A very dark red-brown colour.’ (Longman)

Although maroon is readily categorised as a type of red under normal circumstances, it is not true that every nuance of maroon is red. Consider example (22) below:

(22) Introduced to Britain as long ago as 1835, bestowed with an Award of Merit 1938, this plant was all but lost to cultivation until fairly recently. Often referred to as “Chocolate Cosmos” because the deep maroon, almost black, velvety flowers have more than a hint of the aroma of chocolate. (BoE: ukephem)

It seems that we are concerned here with a hue that few people would call red. One way of solving this problem would be to take the same view as Biggam (1997: 31) does, who argues that a term can be the hyponym of two superordinates. This seems to be a reasonable solution in the domain of colour, and is probably valid in other domains.

In the domain of colour, it is frequently assumed that BCTs correspond to basic level terms. Although this might appear to be the case, it must be borne in mind that there seem to be other principles involved in the case of colour – notably the (supposed) biological predestination of this categorisation. However, the picture appears to be even more complex. To my mind, it seems that a term like blond(e) could be said to be basic level and a colour term, although it does not qualify as a BCT. Arguably, the term is frequent enough (which implies deep entrenchment) to be considered basic level. Dedrick (1998) and Lyons (1999) discuss this paradox as a general issue. It is also interesting to note that Rosch et al. (1976) suggest that the expertise that a person may possess can affect basic level categorisation so that the basic level may not be the same for two people. However, in the domain of colour terms, some researchers, notably MacLaury,32 do not allow such dynamism, probably on the grounds of the assumed biological constraint.

Another sense relation which falls within the onomasiological perspective is that of synonymy. It has long been recognised that synonymy is a problematic

concept as there seem to be very few words which are truly synonymous. Cruse (1986) proposes that synonymy can be conceived of as a scale. The zero point would be what Cruse (1986: 268) terms “absolute synonymity” the definition of which would be that “two lexical units would be absolute synonyms (i.e. would have identical meanings) if and only if all their contextual relations [...] were identical.” Given this definition, we can assume that it is virtually impossible to find absolute synonyms unless we have a loose interpretation of “all their contextual relations.” This is clearly demonstrated by Cruse. Thus, we can safely claim that most cases of synonymy can be considered to be partial.

From an encyclopaedic perspective this is obvious, since there will always be attributes, if peripheral, distinguishing the meaning of one form from another. Persson (1990) suggests an alternative analysis of partial synonyms. On the basis of corpus research, he advocates a position in which synonymy is seen as a special case of hyponymy. Persson observes that synonyms typically have a shared central meaning, something that is also characteristic of co-hyponyms. As with hyponymy, this suggests that different forms may describe a given entity – the choice of form that has to be made by the speaker. In the case of colour terms this problem arises particularly in the choice of specific terms. For instance, a particular purplish-red nuance may possibly be described as crimson, magenta, maroon or purplish-red. The question to be asked is whether these terms are to be treated as synonymous. In Chapter 5 we will investigate further the extent to which Elaborate Colour Terms can be said to be synonymous, and also whether there are contextual factors that determine the choice of term.33

In a wide sense it can be argued that the onomasiological perspective is concerned with lexical fields. Dirven and Verspoor (1998: 37) loosely define a lexical field as “a collection of words that all name things in the same conceptual domain.” This definition appears to result in a double structure:

A conceptual domain against which concepts are defined.
A lexical field in which lexemes name these entities.

The important difference would appear to be one which has caused such great controversy in colour terms studies. Although colour terms typically refer to the colour domain, they may have much wider designations. However, Berlin and Kay (1969) were not interested in the designation of colour terms (the lexical field) as much as the structure of the conceptual domain COLOUR.

From the point of view of the onomasiological perspective, the relevant terminology can be summarised tentatively in the way suggested in Figure 2:10 below. The circle represents the idea that the speaker wants to express. The rectangles represent predications of different levels of specificity; the two smallest rectangles are almost synonymous and include the particular idea to be expressed.

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33 Kay (1999: 81-82) discusses synonymy in colour space and observes that a colour word may be replaced by another word for the same category. In the transition time these terms will appear to be synonymous. He further claims that in his own speech tan, beige; chartreuse, lime and turquoise, aqua represent such synonymous pairs in free variation. The question is whether this could be regarded as evidence of synonymy. This is discussed further in Chapter 5. Another problem to be discussed later is the relation between colour definitions as such and usage.
The growing size of the rectangles illustrates a hyponymy structure. From the domain of colour terms we may let colour represent a superordinate term, red a basic level term and scarlet and crimson hyponyms. If there were two rectangles which had perfect overlap, they would be considered absolute synonyms.

![Diagram of hyponymy structure](image)

**Figure 2:10. The onomasiological perspective.**

### 2.7 Summary

The aim of the present chapter was to provide a brief introduction to the analysis of meaning in the theory of cognitive linguistics. Many of these concepts are given further clarification in the chapters that follow. The basic terminology used in this dissertation has been presented, and the stage is now set for the study proper.
Chapter 3  Colour Terms in the Bank of English: Some Statistics

3.1 Introduction
The primary aim of this chapter is to present some general observations pertaining to the usage of colour terms in English on the basis of frequencies obtained in the BoE. Since the figures presented in this chapter receive closer scrutiny and theoretical treatment in the chapters to follow, we can regard this chapter as a point of departure for the analysis of colour terms in context. Most of this chapter is concerned with the frequency of colour terms in relation to various parameters. Thus, primarily my observations are subjected to statistical analysis, using some elementary tools. However, some brief discussions of semantic issues are also offered. The use of statistical calculations in linguistic studies related to semantics is a rather recent phenomenon and the value of the method was briefly discussed in Section 0.3.3. Statistics are useful in that they can serve as good reference points for comparisons with other researchers’ results. This is one of my aims here, and as far as possible, I compare my material with previous research in the area of colour semantics or other studies which mention related observations.

3.2 Word frequency
The frequency of colour terms in texts has repeatedly been proposed as one useful criterion in judging whether or not a term can be regarded as a BCT. It has been argued that the more frequent the occurrence the greater the salience of the term. Hays et al. (1972) were the first to make this claim, and it has been repeated by several others. Corbett and Davies (1995), in their evaluation of methods employed in identifying BCTs, consider word frequency in texts and they analyse material from a number of different languages. In the case of English, they use the figures provided by Johansson and Hofland’s (1989) analysis of the LOB corpus. It should be pointed out that, while doing so, they only consider colour words in their adjectival function. The advantage of such an approach, Corbett and Davies (1995: 329) claim, is that it allows “more reliable comparisons with other languages.” I am far from convinced that this is necessarily the case. Although colour terms are prototypically adjectival and are said to be prototypical adjectives (cf. Dixon 1982: 46), it is quite clear that colour terms are also nominal in character, and my view in the matter is that it would be wise to consider colour terms irrespective of their formal label if we want to achieve a clear picture of this particular semantic domain. From their examination of the LOB figures, Corbett and Davies report a high correlation between frequency and the evolutionary hierarchy suggested by Berlin and Kay (tau = 0.77, p < 0.001).1 Similar high correlations between

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1 In their article, Corbett and Davies report correlation in terms of Kendall’s tau, rather than the more common Spearman’s rho. They argue that Kendall’s tau is more appropriate in view of the many ties that appear in Berlin and Kay’s hierarchical order of colour terms (Corbett and Davies 1995: 309-312). However,
frequency and the B&K hierarchy have been observed by McManus (1983, 1997) in his studies of poetry and various computerised databases. Generally, the analysts have seen this as evidence of the accuracy of Berlin and Kay’s theory.

Whereas the frequencies of BCTs have been studied previously, very few studies have been devoted to ECTs regarding their frequency in texts. To the best of my knowledge, the only two studies addressing this subject have been Frank’s (1990) on advertising, and my own, Steinvall (2000), on Victorian poetry. Thus this is very much unexplored territory, and consequently there is no other material with which comparisons can be made. This is also one reason why the focus in this chapter is on BCTs. ECTs are dealt with in greater detail in Chapters 5 and 6.

In Figures 3:1 and 3:2 below the data of the colour terms under investigation are presented. It should be pointed out that the frequencies of the terms gold, golden and silver have been calculated on the basis of a random sample of one thousand tokens. An asterisk beside the estimated terms indicates this in the diagram.

apart from the first comparison, in this dissertation I will use Spearman’s rho, which can be corrected for tied data (Zar 1996: 390).

2 There are some aspects of McManus (1997) which, to my mind, drastically reduce the value of his study. First, the corpora are ill-defined and therefore it is difficult to determine what they represent. For instance, it appears that some corpora contain abstracts rather than “real texts.” Second, and much more seriously, McManus does not seem to be bothered by the problem of polysemy and homonymy. In an off-hand manner he (1997: 369) notes that “[i]t is possible that grey/gray is anomalous [i.e. more frequent than its position in the B&K hierarchy would predict] because of its usage as a proper name, although Black, White, Green, and Brown are also common proper names.” This failure suggests that large question marks have to be placed over the results McManus presents.

3 As mentioned earlier (Chapter 1), Corbett and Davies do not test the validity of the theory, but only the suitability of the methods.

4 The very high frequencies of gold, golden and silver and their polysemous character precluded a manual counting of the tokens that have colour designation. Instead the frequencies of these terms in their colour sense were calculated on the basis of a random sample of a thousand tokens which was analysed in order to identify the number of colour designations (and from there derived meanings). The proportion of colour terms in the population was estimated by the proportion of colour terms in the sample (± 95 % confidence interval), assuming a binomial distribution. The following procedure was applied, cf. Zar (1996: 521-526).

The proportion was calculated \( \hat{p} = \frac{X}{n} \), where \( n \) = sample size (here 1000), and \( X \) = the size of the colour category in the sample. The size of the entire colour category (\( Y \)) was then calculated \( Y = \hat{p}N \), where \( N \) = the entire population (i.e. number of all tokens of the word form). A determination of a 95% confidence interval for the categories was also calculated. The lower confidence limit for \( \hat{p} \) is

\[
L_1 = \frac{X}{X + (n - X + 1)F_{\alpha(2),v_1,v_2}}, \text{ where } v_1 = 2(n - X + 1), \text{ and } v_2 = 2X.
\]

The upper confidence limit for \( \hat{p} \) is

\[
L_2 = \frac{(X + 1)F_{\alpha(2),v_1,v_2}}{n - X + (X + 1)F_{\alpha(2),v_1,v_2}}, \text{ where } v_1 = 2(X + 1) = v_2 + 2, \text{ and } v_2 = 2(n - X) = v_1 - 2.
\]

My samplings gave gold: \( N = 43286; X = 84, Y = 3636; 95 \% \text{ confidence interval } = 2934 - 4499. \)

\text{golden: } N = 14646; X = 272, Y = 3984; \text{ confidence interval } = 3612 - 3994. \)

\text{silver: } N = 14354; X = 253, Y = 3632; \text{ confidence interval } = 3284 - 3642. \)
As Figure 3:1 suggests, the same pattern of frequency materialises in the BoE as in the studies mentioned above; that is, there is a high correlation between the frequencies of BCTs and their position in the B&K hierarchy. In the BoE the correlation is very high (tau = 0.834, p < 0.001), higher than that in LOB.

A few other observations can also be made here. One methodologically interesting fact is that it is not possible to use frequency as a criterion for distinguishing between BCTs and non-basic colour terms. The three metal colours...
golden, gold and silver are as frequent as purple and orange. Corbett and Davies (1997: 208) make a similar remark, but they argue that frequency is “a strong separator for primary [i.e., in the case of English, black, white, red, green, yellow and blue] versus secondary basics.” In my view, this claim is slightly misleading. Corbett and Davies arrive at this conclusion since they take the means of the token frequency of the two categories into consideration. The use of means however, presupposes that a categorisation in Primary BCTs and Secondary BCTs has already been made, and if that is so there is no need for a separator. On the other hand, we can also see that only yellow clearly violates Corbett and Davies’ claim in my material and, incidentally, the same phenomenon can be detected in their own study.

3.2.1 The problem of yellow

It seems that yellow frequently causes problems for investigators who would like to see a correspondence between frequency and the B&K hierarchy; see, for example, Corbett and Davies (1995) and McManus (1997). It is interesting to note that this phenomenon is not confined to English, but seems to have wider significance: in the lists of Hays et al. (1972) we find the words representing YELLOW deviating from the expected pattern in French, German, Spanish, Russian and Romanian. Corbett and Davies (1995) using different corpora confirm the patterns for Russian and French. In a later version of their article, Corbett and Davies (1997: 206) observe the problem of the yellow category term and concede that “[w]e have no explanation for this, but it seems to be a common problem.” If we take a closer look at Figure 3:1, however, I think that we can identify a plausible reason for the relatively low frequency of yellow. It can be presumed that the large number of occurrences of the colour terms gold and golden should affect the frequency of yellow. Indeed, there is also the term blond(e) signifying a yellow colour in the domains of hair and, more rarely, beer.

Strangely enough, Corbett and Davies seem to have overlooked these colour words; golden at least should have been mentioned in their presentation – Johansson and Hofland (1989: 170) report 46 instances of golden. True, not all of these are necessarily instances of colour representation, but the same problem arises in the cases of silver and bronze, which are considered by Corbett and Davies. Blond(e) and gold have low scores as adjectives and could justifiably be excluded.

If we summarise the scores for yellow, gold, golden and blond(e) in BoE, we get a figure for the yellow category which is on a par with the figures for the other elemental colour terms green and blue: 26 317. Thus it would seem that the

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5 McManus (1997:370) notes that taking non-basic colour terms into consideration may explain the low frequency of yellow. However, it is not clear how we are to understand McManus’s view of semantics, as he claims that non-basic terms are only of interest “if they [non-basic colour terms] are being used as synonyms for the eleven basic colour terms...” This is an odd claim given the fact that we would normally describe the relation between BCTs and ECTs as one of hyponymy, admittedly with some special cases (see Section 2.6.2). But how is one to determine whether, for instance, gold is synonymous with yellow? And under what circumstances is it not? Needless to say, this claim does not make sense at all from a cognitive linguistic perspective; the terms gold and yellow would never be considered synonymous, again cf. Section 2.6.2.

6 There are 5 643 instances of blonde and blond without a capital B in the BoE.
unexpectedly low frequency of the primary BCT yellow and corresponding terms in other languages could be due to the fact that this category, YELLOW, is not structured in the same way as the other primary colour categories. Whereas we find a clear predominance of the BCT in other categories, this is not true of YELLOW, where terms denoting gold and its colour are very frequent and where there is a special term for yellowish hair. I feel confident that we will find similar patterns in, for instance, Russian and French. We can only speculate why this is so, but the great importance of gold in European cultures, and elsewhere, would no doubt provide a good explanation.

3.2.2 The proportions of colour term categories
One feature of basic level terms is that they constitute the type of words preferred in everyday language use (cf. Brown 1958, Lakoff 1987 and Chapter 2). Although, as pointed out previously (2.6.2), there is no immediate relation between BCTs and basic level, it is still interesting to note that the overall pattern of BCT usage is overwhelming in the BoE. Approximately 92 % of all tokens involving the colour terms under investigation are BCTs. Figure 3:3 below gives a picture of the domination of BCTs. It might be claimed that this picture is slightly misleading since phrases such as charcoal grey and azure blue are counted twice, both as ECTs (charcoal and azure) and as BCTs (grey and blue), although the actual specific designata (the nuances the phrases refer to) occur only once. Thus it could be argued that the figures show a slightly more dominant picture for BCTs than is actually true. On the other hand, the aim of the figures is specifically to illustrate the frequency of the terms, and in view of this I think it is justifiable to treat phrases in this way.

Figure 3:3. Proportions of tokens in the BoE: BCTs and ECTs

7 If we take into account the confidence intervals for the calculated tokens of gold, golden and silver, we get a maximum of 92.62 % and a minimum of 91.95 % for the BCT category.
8 It should be stressed that the frequency of BCTs gives us no idea of the specificity as such of the denotata, since many of the BCTs may be qualified by other phrases, as in, for example, bright blue or pea-green.
There are other categories that can be explored in a similar manner, including two categories which are easily comparable: chromatic colour terms and achromatic colour terms. Figure 3:4 illustrates such a comparison. In the second category, that of achromatic colour terms, I have included the terms *black*, *white*, *grey/gray*, *charcoal*\(^9\) and *silver*.\(^{10}\) As Figure 3:4 demonstrates, every second mention of a colour term in the BoE corpus is an achromatic colour term.\(^{11}\)

![Figure 3:4. Proportions of tokens in the BoE: chromatic and achromatic terms](image)

Clearly, the very high frequency of the terms *black* and *white* is the main reason for this pattern, cf. Figure 3:1. This may seem somewhat surprising given the fact that we can hardly be said to live in a world where achromatic colours have a great impact. These figures could apparently be taken as clear indications that colour term usage goes well beyond the merely descriptive. Consequently, it is crucial to distinguish between **achromatic colours** and **achromatic colour terms**. Although achromatic colour terms typically designate achromatic colours, and are defined in this way, they are not confined to this territory. On the contrary, Figure 3:4 is a good indication that this is not the case. Intriguingly, this seems to be a unidirectional phenomenon; I cannot think of one occasion on which a chromatic colour term would denote an achromatic colour nuance. It is tempting to see this as an indication of the primacy of lightness in terms of communication.

Whether or not the pattern in Figure 3:4 is culturally grounded is open to speculation and will remain so until we receive a vast amount of data for other languages. However, an analysis of the material for Russian provided by Corbett and Davies (1995) indicates that we can find a similar pattern in that language. In Corbett and Davies’ list, 48.18 % of the tokens are achromatic colour terms. Although the figure is slightly lower than that for my English material (50.48%), it is still very high, and we should bear in mind that Russian texts are likely to include

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\(^9\)The problem of double representation of phrases like *charcoal grey* and *azure blue* is of course also present in these figures.  
\(^{10}\)Although *cream* is usually defined as “yellowish white” (see Appendix 4), and may be treated as a hyponym of *white*, I have not included it among the achromatic colour terms since the yellow element clearly indicates that we are concerned with a chromatic colour term.  
\(^{11}\)If we take the confidence interval of the calculated terms into account we get a maximum of 49.72 % for chromatic terms and a minimum of 49.35 %.
far fewer references to the black and white skin dichotomy that we can assume is fairly frequent in British and American texts. The figures are not really equivalent since Corbett and Davies present very few non-basic terms, so a figure comparable to mine concerning achromatic colour terms is probably slightly lower than that given above.

There are a few possible explanations for this pattern. One explanation would suggest that we are concerned here with a diachronic phenomenon. That is, some collocations of black and white were formed at a time when there were few colour terms around. Thus, they represent, as it were, relics or fossils from the past.

Another explanation suggests that we take the contrast of lightness as primary when we categorise the colour of objects. It has been argued (MacLaury 1997, Kay and Maffi 1999) that lightness may be more basic from a conceptual and perceptual point of view, and these frequencies may support that claim. Furthermore, the antithetical character of this dimension (white vs. black) makes it particularly suitable in terms of categorisation of things. It would then seem that, although we can “zoom in” and be more precise in our designation, there is no communicative pressure to do so and thus we get a high frequency of achromatic terms. In Chapter 4 I try to suggest a model which may explain the pattern preference of black and white.

3.2.3 Frequency and age

One aspect of Berlin and Kay’s hierarchical order of colour categorisation is that it entails a temporal perspective. Thus, the RED category is assumed to be older than the PURPLE one, and consequently the same assumption is usually made about the terms, i.e. red should be older than purple. However, occasionally a BCT can lose its basicness for some reason and be replaced by a new BCT. Forbes (1979) demonstrates that this seems to be an on-going process in French, in which the older term, brun, is currently losing ground to marron. Few studies have been carried out in this area so little is known about the mechanisms involved.

In this section, I investigate whether there is a connection between frequency and age. As a general rule, most basic terms are as old as the oldest written records, but there are BCTs which have developed more recently. In so far as ECTs are concerned, Casson (1994) suggests that English went through a change in Early Middle English during which hue became more dominant at the expense of brightness. Thus most of the ECTs studied here developed after AD 1300. He suggests that the quick increase in colour terms can be related to developments in the textile and dyeing industries. However, fashion is an ever-changing industry, and if terms were confined to this domain quite a few of them would probably die out. In Steinvall (2000), I showed that old terms were preferred to newer, transparent, terms by poets in the nineteenth century. Thus, the picture might be quite complex.

12 MacLaury (1992, 1997) has claimed that colour categorisation on the basis of lightness very often precedes colour categorisation by hue. Indeed, Casson (1997) suggests that this could be the case in English.

13 However, apart from the above-mentioned Forbes (1979, 1986), I should also mention Biggam (1997, 1998) and Kristol (1980).
The null hypothesis suggests that there is no connection between frequency and age, whereas my working hypothesis is that there is. As regards establishing the age of the terms, I have used the same method as Casson; that is to say, it is determined from the historical quotations in the OED. The full list of terms and their age can be found in Appendix 5. A scatter plot for my variables is shown in Figure 3:5 below. The null hypothesis could be rejected as the Spearman rank correlation test shows that there is a significant correlation between frequency and age ($r_s = 0.682$, $N=50$, $p< 0.001$). Within the category of ECTs, there is also a significant correlation between age and frequency, if not as high ($r_s = 0.422$, $N=39$, $p < 0.01$). Thus, we can establish that, among the terms I have chosen to investigate, there is a clear pattern suggesting that those terms which are fairly frequent in the BoE tend to be older than less frequent ones. Before we draw any far-reaching conclusions we have to remember the basis for the selection of terms – elicitation lists. Therefore, we must not conclude that older terms are necessarily more frequent than younger terms. There is no direct causal relationship: many quite old colour terms are only marginally used in English (cf. Casson and Gardner 1992, Casson 1997). Nevertheless, this correlation does indicate that there might be something interesting going on here, and this tendency should be borne in mind during the more detailed study of ECTs in Chapter 5.\footnote{Without anticipating later discussions, I would like to suggest that one likely explanation is that terms which show high frequency are not confined to a single domain, say, horticulture, but can be used in many different domains. Such an expansion of usage could reasonably correlate with age.}
3.3 Colour terms as nouns

It is generally agreed that colour terms are *bona fide* adjectives. However, in contrast to other such adjectives (e.g. the adjectival classes Dimension, Age and Value, cf. Dixon 1982: 55), colour words are readily conceived of as nouns. We have no problem in understanding the meaning of a colour term as relating to the profile of a certain area in the colour domain. Clausner and Croft (1999: 12) make the interesting observation that “[c]olor concepts function like proper names for different locations in the COLOR domain (the focal colors).” We can say that whenever we refer directly to the colour domain, we use colour terms in their nominal form. This fact has had methodological implications, as mentioned earlier in Chapter 1 (pp 25-28). Lyons (1999: 48) points out that one has to distinguish between referential use (involving reference to the colour domain itself, i.e. nominal use) and descriptive or attributive use (involving adjectival use). Since context-free studies, naming colour chips for instance, imply referential use, Lyons claims that traditional colour term studies have only explored the first type of use. Regular language use on the other hand is primarily a matter of the second type.
Kay (1999: 78) rejects this analysis emphatically, stating that “[w]orkers in the B&K tradition have not, to my knowledge, studied color nouns …” The discussion was presented in some detail in Chapter 1, and I shall not reiterate here. My aim is not to resolve this issue, it is much more modest: as this seems to be an area which has been ignored (even deliberately so, recall that Corbett and Davies (1995: 329) omit nominal usage from their account for the sake of “allowing more reliable comparisons with other languages”), I intend to present the most obvious aspects that could be obtained from the BoE in this respect.

This section, then, explores nominal usage of a sample of colour terms, to estimate the frequency of occurrence of colour terms as nouns. For this particular study, I did not examine all tokens, of course – the size of my material precluded such an approach. In fact, this would have been possible if I had relied on the tags that the BoE supplies. However, although some people claim that machine tags have a high degree of accuracy – Manning and Schlütze (1999: 371) mention a figure as high as 95-97% – my own impression is that the polysemous nature of many colour terms severely affects the reliability of machine tags. Instead, I chose to examine a random sample of 200 instances of a collection of 25 colour terms. The terms that I looked at were the eleven BCTs, the six most frequent ECTs (with the exception of *golden* (which cannot be used as a noun) and *gold* (my sample only contained 84 occurrences), plus eight more terms, which were randomly chosen from my selection of colour terms.

The study demonstrated that the proportions of nominal usage differed somewhat. In Table 3:1 below, the colour terms are ordered according to their overall frequency in the BoE, *chartreuse* being the least frequent term and *black* the most frequent (cf. Figures 3:1 and 3:2). Simply put, it would appear that the more frequent a term is the lower the proportion of nominal usage. In fact this was quite the opposite to what I had expected – my working hypothesis was that figurative usage of the most common terms would mean they were more frequently used as nouns. One factor that may have affected this picture is the exclusion of plurals. On the other hand, my impression is that plurals referring to colour space are fairly infrequent.

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15 As examples supporting my view, I can mention that all instances of *chartreuse* and *mustard* are tagged as common singular nouns (NN) in the BoE, whereas all instances of *lilac* are tagged as adjectives (JJ). Needless to say this is not correct from any reasonable linguistic point of view.

16 For the terms with a score lower than 200, all examples were taken into consideration. For the terms with higher frequencies than 200, the procedure was more complicated. To obtain a random sample of instances, the following procedure was decided on: For the BCTs which are not polysemous, i.e. in effect all but *orange*, I used the BoE software, which allows the investigator to choose a random sample of any size of a term. Words with initial capitals or all in caps were eliminated. As far as the other terms are concerned, the material was saved in files in the Wordsmith Concordance program, so that each sentence containing a colour instance was enumerated. With the help of the random number generation analysis tool in the spreadsheet program Microsoft Excel, a random sample of 200 numbers was collected for each colour term – each number obtained from the tool corresponding to a particular sentence, i.e. an instance.
Table 3:1. Colour terms as nouns.

<table>
<thead>
<tr>
<th>Colour Term</th>
<th>Frequency</th>
<th>Sample Size</th>
<th>Tokens as Noun</th>
<th>Percentage Nouns</th>
</tr>
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<td>White</td>
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<td>Green</td>
<td>28664</td>
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<td>29</td>
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<td>27102</td>
<td>200</td>
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<td>17.5</td>
</tr>
<tr>
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<td>12</td>
</tr>
<tr>
<td>Yellow</td>
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<td>12</td>
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<tr>
<td>Brown</td>
<td>11927</td>
<td>200</td>
<td>25</td>
<td>12.5</td>
</tr>
<tr>
<td>Pink</td>
<td>8924</td>
<td>200</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>Purple</td>
<td>3779</td>
<td>200</td>
<td>33</td>
<td>16.5</td>
</tr>
<tr>
<td>*Silver</td>
<td>3631</td>
<td>200</td>
<td>19</td>
<td>9.5</td>
</tr>
<tr>
<td>Orange</td>
<td>3553</td>
<td>200</td>
<td>31</td>
<td>15.5</td>
</tr>
<tr>
<td>Cream</td>
<td>1384</td>
<td>200</td>
<td>36</td>
<td>18</td>
</tr>
<tr>
<td>Scarlet</td>
<td>1208</td>
<td>200</td>
<td>42</td>
<td>21</td>
</tr>
<tr>
<td>Navy (blue)</td>
<td>1126</td>
<td>200</td>
<td>55</td>
<td>27.5</td>
</tr>
<tr>
<td>Crimson</td>
<td>878</td>
<td>200</td>
<td>32</td>
<td>16</td>
</tr>
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<td>Beige</td>
<td>748</td>
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<td>45</td>
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</tr>
<tr>
<td>Turquoise</td>
<td>639</td>
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<td>428</td>
<td>200</td>
<td>37</td>
<td>18.5</td>
</tr>
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<td>Lilac</td>
<td>340</td>
<td>200</td>
<td>57</td>
<td>28.5</td>
</tr>
<tr>
<td>Lime (green)</td>
<td>339</td>
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<td>59</td>
<td>29.5</td>
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<tr>
<td>Peach</td>
<td>299</td>
<td>200</td>
<td>60</td>
<td>30</td>
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<td>Indigo</td>
<td>200</td>
<td>200</td>
<td>85</td>
<td>42.5</td>
</tr>
<tr>
<td>Mustard</td>
<td>108</td>
<td>108</td>
<td>29</td>
<td>26.9</td>
</tr>
<tr>
<td>Chartreuse</td>
<td>35</td>
<td>35</td>
<td>15</td>
<td>42.9</td>
</tr>
</tbody>
</table>

In order to see whether the trend was an actual one, the significance of the hypothesised correlation was tested. Before this was done, the data were transformed to facilitate the calculation in accordance with established methods. The $X$ values represent the overall frequency of each colour term and the nature of this distribution (cf. Figures 3:1 and 3:2) implied that a logarithmic transformation was suitable. The $Y$ data represent proportions and thus arcsine transformation is called for (cf. Zar 1996: 346, and also Woods et al. 1986: 220, 245-46). The calculation showed that there is a significant negative correlation, Pearson’s $r = -0.85$ ($p < 0.001$). Figure 3:6 below illustrates the distribution after the transformations. Proportionally, colour terms with low frequency appear more often as nouns than terms with high frequency occurrence.

---

17 Thus $X' = \log X$
18 Thus $Y' = \arcsin \sqrt{Y}$
The correlation between low frequency and nominal usage deserves closer inspection. Some preliminary observations show that we can distinguish between a number of typical instances of the nominal usage of colour terms. By far the most common constructions are prepositional phrases, notably those containing *in* and *of*. These two account for more than forty per cent of all instances of colour terms used as nouns. If we take all prepositional phrases into account we get a figure as high as sixty per cent. The examples below illustrate some typical constructions.

1. Knits are the big news, worn hugging the body in fine crochet or rib dresses, cropped well above the belt in fluffy mohair and Fair Isle sweaters, or all thrown together for true sweater dressing in shades of chocolate, charcoal and cream. (BoE: brmags)

2. … then on for a swim in what Princess Margaret, during her honeymoon, baptised the “Nylon Pool”, where the water, cradled by a sandbar, is the colour and smoothness of pale chartreuse. (BoE: times)

3. Priced at £24.99, it is also available in navy and black (BoE: guard)

4. She let it ring for the machine to pick up and continued the delicate work of spraying on the paint so that it made a seamless gradient from the lightest cobalt on the horizon to the deepest indigo at the top. (BoE: brbooks)

As we can see in these examples, the prepositional phrases typically evoke the colour domain more or less overtly. It would seem that the “zooming in” that colour specificity entails leads in many cases to a direct reference to colour space. The precision, as it were, decontextualises the colour from the object. As one might
have expected, phrases of this type appear to be much more common in the context of fashion and gardening, when one is likely to discuss similar instances of an object which differ only in respect to nuances. This is also a type of context in which the nuance itself is of prime importance since one is trying to create a whole of matching nuances. It appears that specific terms which are fairly infrequent seem to be primarily used in such contexts. BCTs and some frequent ECTs, on the other hand, are used much more freely and occur in many more nominal domains.

The relatively high frequency of the in constructions is interesting from a theoretical point of view. Langacker (1987: 227), discussing atemporal relations, posits that there is an IN-relation between the head and the modifier in a phrase like red book. Arguably, an object cannot occupy a place in the colour domain, and so Langacker’s solution is that the colour serves as a landmark with which the trajectory (the object) is connected through an IN-relation. The adjectival meaning then arises in the profiling of the relationship between a colour sensation and an object (cf. Langacker 1991b). In a footnote, Langacker (1987: 228, fn 9) states that “[t]his analysis predicts that some languages might express a similar concept by means of an oblique phrase (literally, in red) rather than an adjective.” The relatively high proportion of in-constructions in the noun material can be interpreted as evidence supporting this hypothesis. However, more detailed investigations have to be carried out in this area.

Another fact worth mentioning is that colour terms occasionally represent count noun usage, thus designating a bounded region in the colour domain (cf. Langacker 1991b: 29). Our normal conception of colour terms is that, in their nominal interpretation, they represent mass nouns as in the examples above. In (5) and (6) below, however, there can be no doubt that we are dealing with count noun instances. It is typical of these instances that, as in examples below, they are modified by some attribute. As shown by Svensson (1998: 166), this is quite a common phenomenon among mass nouns when they appear as count nouns. The function of the attribute is to provide a type specification of the mass entity, thus creating a bounded region of the normally unbounded substance. In the examples below, the construction leads us to believe that there are other types of amber and peach, respectively.

(5) Bundaberg rum is one of the world’s best dark rums. It glows a deep amber in the glass with a rich and penetrating aroma. (BoE: oznews)

(6) Kim teamed this with a blue floral border and sunny peach paper above the dado, while the stair rails and hall cupboard have been dragged in a soft peach, and the paintwork is offset by the mid-blue carpet. (BoE: brmags)

By and large, this type of construction is infrequent. Without a premodifying adjective the number of instances of colour terms as count nouns is very low indeed; in the pilot sample of 5 000 instances (25 * 200) there were only two (2) such constructions, one of which is given in (7).
(7) And you also know that you have to make your colors evolve so that if you have an indigo, but you want indigo to continue, you can’t show the same indigo. Well, you—you could, but you really should try to show a fresh indigo. So you may want to make it a bit more purple. (BoE: npr)

This clearly indicates that people very seldom find reason to construe parts of colour space as bounded without first further specifying it in terms of a type.

To summarise the section on nominal use of colour terms, we can state that the prima facie relation between low frequency and nominal usage seems to be related to the type of discourse in which these rare terms are used. However, there is room and need for more detailed research in this particular field.

3.4 Colour – colour combinations

It has been observed by some authors, e.g. Levinson (forthcoming), that there is a kind of micro-syntax of colour terms, stipulating the order in which the terms should occur when combined. In this view, the much higher frequency of blue-green than green-blue in English is not based on some perverse fondness of designating bluish green areas with slightly more green in them, but is based on other principles. A large corpus is of course the perfect setting for uncovering such patterns, and below I present the patterns detectable in the BoE. I have restricted my investigation to BCTs, mainly because ECTs have a habit of appearing together with their superordinate BCT, as in, for example, charcoal grey.

When processing the corpus, we have to be aware that not all colour term combinations can be viewed in terms of a micro-syntax. Very often we find enumerations of colour terms where more than just two colour terms appear: blue/green/red/yellow or blue, green, red, yellow. Consequently a search for blue followed by green in BoE is likely to contain such combinations. The figures below are based on eliminations of co-occurrences in which the colour terms are separated by a full stop, a comma or a slash. Only spaces and dashes have been allowed between the terms. Despite these precautions there are some further factors which may affect the result. First, we may still end up with an example like (8) below in which the colour terms follow one another but they do not qualify the same noun, and cannot possibly be seen as constituting an instance of a micro-syntactic pattern in the sense sketched above. Without reading every sentence, it is not possible to eliminate instances like that exemplified in (8) and eventually I decided to let such sentences remain in the material. A sample test showed that their impact was very marginal indeed.

(8) And quotas is a great issue because it separates blacks from white blue-collar workers. (BoE: npr)

Second, quite often we find combinations in which it is difficult to judge whether the colour terms are meant to designate a blend or two parallel instances. In cases like black-white it is obvious that the latter is intended, but in the case of blue-grey both interpretations are possible occasionally. However, to my mind these two
possible interpretations do not alter the fact that these collocations instantiate micro-syntactic patterns – the reading does not affect the syntax significantly.

To determine whether there was an existing micro-syntactic pattern, combinations of the type $C_1C_2$ and $C_2C_1$ were tested for chi-square goodness-of-fit. The null hypothesis was that the two combinations are equally common in the English language (i.e. a 1:1 ratio). A combination was deemed to suggest a pattern when $\chi^2 > 3.841$, $p < 0.05$, i.e. a strong deviation from the original hypothesis. In addition to this standard procedure, I have chosen to stipulate a size filter and exclude all combinations where $n < 25$ in order to avoid patterns which may be idiosyncratic and negligible. In the end, this filter only excluded four combinations, all but one fitting the general structure outlined below.

In Table 3:2 below, I have indicated in size and bold figures the combinations that showed significant dominance, i.e. those which could not be accounted for within the null hypothesis. There were seventeen combinations that met the criteria of significance outlined above: blue-black, black-white, grey-black, blue-green, blue-grey, blue-white, purple-blue, red-brown, grey-brown, yellow-brown, grey-green, yellow-green, red-green, grey-white, orange-red, red-white and yellow-white. There is a clear pattern where most of these phrases contain colour terms denoting adjacent colours in the colour domain. This could be interpreted as showing that this type of construction most often refers to a nuance somewhere between the two colours mentioned in the phrase. Conspicuous exceptions are black-white and red-green. In these two cases, it is quite clear that we cannot talk about modification or a nuance between the colours, since they are opposites (cf. Wittgenstein 1978 and Westphal 1987). We can preferably view them as attributive dvanda compounds (cf. Bauer 1983) or as attributive analytic compounds (Downing 1977: 824). An important characteristic of these two phrases is that a majority of the instances do not refer to the colour domain at all. Red-green refers frequently to politics as in (9), whereas a majority of the black-white instances refer to racial issues, as in (10). Although they constitute special cases, their patterns conform to the general picture.

(9) The low turnout in what was the first direct election of a mayor of Frankfurt does not negate the belief that the red-green alliance has lost out. (BoE: guard)

(10) Bill Clinton’s Texas address was promised after the acquittal of OJ Simpson exposed the country’s black-white divide. (BoE: today)

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19 Data were analysed by a $\chi^2$ goodness-of-fit using Yates’ correction for continuity. Since the null hypothesis here assumes a 1:1 ratio, the following equation was used: $\chi^2 = \frac{(f_1 - f_2)^2}{n}$ (cf. Zar 1996: 465); $n$ indicates the total number of tokens of the two combinations, $C_1C_2$ and $C_2C_1$.

20 The choice of 25 tokens is purely arbitrary and may perhaps justifiably be challenged. The recommended minimum value is 5 per cell, but this would allow single texts with a few tokens to make an impact.

21 As an example Downing (1977: 824) mentions love-hate relationships.
<table>
<thead>
<tr>
<th>COLOUR TERMS IN HEAD POSITION</th>
<th>Black</th>
<th>Blue</th>
<th>Brown</th>
<th>Green</th>
<th>Grey/Gray</th>
<th>Orange</th>
<th>Pink</th>
<th>Purple</th>
<th>Red</th>
<th>White</th>
<th>Yellow</th>
<th>SUM: MOD</th>
</tr>
</thead>
<tbody>
<tr>
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<td>0</td>
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<td>14</td>
<td>12</td>
<td>5</td>
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<td>10</td>
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<td>87</td>
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<td>153</td>
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<td>47</td>
<td>157</td>
<td>269</td>
<td>79</td>
<td>2111</td>
</tr>
</tbody>
</table>
A closer inspection of the combinations reveals that a pattern of preferred slots can be constructed. In Table 3:2, I have indicated this pattern in shades of grey. Some terms prefer to take the modifier slot, whereas other terms occur much more often in the head slot. The shadowed areas indicate that blue, grey/gray, red and yellow are the preferred terms in the modifier slot whereas black, brown, green and white occur more often as the second element (i.e. the head slot). As we can see below, this systemisation accounts for almost all significant instances, thirteen out of seventeen.

Of the four not covered by the system described above, two contain colour terms which have the same preference, blue-grey (modifier position) and black-white (head position). One could, perhaps, expect that, under such circumstances, we would not find a significant difference from the null hypothesis. However, the frequent occurrence of these two phrases seems to have ‘carved out’ a pattern. The other two patterns which reached significant preference for one order, orange-red and purple-blue, contain terms outside the observed patterns. The modifier slot in these phrases is taken by the Secondary BCT, rather than the Primary BCT; it may make sense that a chronologically more recent and less frequent term would not take the position associated with the head. However, this is pure speculation; it should be observed that in the case of orange-yellow and yellow-orange no significant difference could be found although the sum of the two combinations was fairly high. Furthermore, brown, although a secondary BCT, has the head position as its preferred slot.

Finally, it should be pointed out that there are three patterns (in the suggested systemisation in grey tone in Table 3:2) which have not been realised in actual usage, these are blue-brown, yellow-black and red-black. One plausible reason for this is that we have difficulty in imagining any nuance between them.

How should we understand these patterns? From the point of view of colour semantics, it would seem that there is very little that blue, grey, red and yellow have in common. The same is true of black, brown, green and white. And maybe the answer is as simple as that – terms which denote adjacent areas do not pick the same syntactic slot. Consider blue and green for example. Green occurs far more often in the head position and blue in the modifier position. It is no wonder then that speakers of English say blue-green (301 instances), rather than green-blue (17 instances). The colour terms in modifying positions very seldom co-occur since their denotational areas in reality prevent this in the sense of designation of an intermediate area. If this is so, then we may expect a similar pattern in other languages. However, if there is no deeper explanation, we could theoretically assume that the reverse pattern could also occur, meaning that terms which can be found in the modifier slot in English might equally well prefer the head position.

To give this hypothesis further support I made a pilot study of the equivalent

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22 There is a difference, favouring yellow as a head, but since $\chi^2 = 1.8906$, $0.25 > p > 0.10$, the null hypothesis cannot be rejected.

23 However, technically a shade like maroon could be viewed as BLACK + RED (cf. Kay and McDaniel 1978: 641).
Swedish colour terms. The pilot revealed almost exactly the same pattern as that of English. There were two exceptions: the pattern containing BLUE and GREY showed no significant preference, and in the case of BLUE and PURPLE, blå-lila, ‘blue-purple’, was the preferred construction. In the second case, it seems likely that the disyllabic structure of lila could be of decisive importance, leading to its favouring the second position. As far as general conclusions are concerned, we may have to find languages which are further apart geographically, culturally and genealogically to be able to reveal other patterns.

The only similar study to my knowledge is Conley and Cooper’s (1981) study of conjoined ordering of colour terms. However, conjoined phrases of the type black and blue are both semantically and syntactically different from the construction considered here. Nevertheless, there are two patterns which are shared by the studies: the preference for white in the second position and the preference of red in the first position.

To sum up, in this section we have been able to verify what many researchers have long suspected to be the case; the existence of a pattern of preferred positions in colour-colour phrases in English. It was shown that the pattern could be broken down into a small but clear system of preferences. I have argued that the system may have been arbitrarily “carved out” from usage; one conspicuous feature of the pattern is that the terms which favour the same slots do not denote adjacent colours. A similarity to the unveiled system can be demonstrated in Swedish, but more languages will have to be investigated for more far-reaching conclusions to be drawn.

### 3.5 Colour terms and bound morphemes

When we look at English colour term morphology, we can observe that there are actually very few bound morphemes that can be attached to colour terms. There are a few derivational morphemes and the comparative and superlative forms, no more. In my treatment of morphemes I have chosen to exclude the ‘zero morpheme’ – the nominal use of colour terms has already been dealt with – and the plural -s.

#### 3.5.1 Derivational morphology

It was one of Berlin and Kay’s (1969: 6) subsidiary criteria that a dubious candidate for classification as a BCT “should have the same distributional potential as the previously established terms.” Dixon (1982: 23-24) makes a similar point while claiming that “it is unlikely that a word low in the hierarchy would have morphological/syntactic possibilities that a higher term lacks.” On the basis of

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24 My Swedish study only concerned the patterns which showed significant preferences in English. For this study, I used the corpus Språkbanken and the following subcorpora: p65, p76, dn 87, p95, p96, p97, p98, rom i, rom ii.
25 As argued above, this would seem to be an expected outcome in view of the fact that both terms prefer the modifier slot.
26 The plural morpheme, –s, was excluded mainly for practical reasons. It occurs most often in figurative constructions (e.g. whites in the sense of ‘white people’), and, furthermore, in the case of ECTs, it usually denotes a plural form of the object from which the colour term was derived (e.g. peaches in the sense of ‘fruits’).
these two statements, Corbett and Davies (1995) investigate the derivational possibilities in French and Russian. They report that both Russian and French primary BCTs have significantly more derivatives, and that there is a correlation between B&K’s suggested hierarchy and the number of derivational possibilities. They ignore English, probably because of the relatively few possibilities there are in this language. Corbett and Davies’ study differs from the present one in that they are concerned with the number of derivational possibilities open to each term and in that they treat each possible morpheme as an either-or case on the grounds of the appearance of a form in derivational dictionaries. Although it served a purpose in Corbett and Davies’ (1995) study, I find this way of treating morphological possibilities most doubtful. Certainly, this category, like so many other phenomena in linguistics, is likely to have fuzzy boundaries; the failure to list a morphological form in a dictionary entry does not necessarily mean such a form is not possible. This problem is discussed further below.

In this section, I present the frequency of derivational forms in the BoE. By doing so, I show that morphological possibilities and productivity in this respect are characterised by the fuzziness that we can find in so many aspects of language usage. The derivational possibilities that are open to English colour words are: –ish, –y, –ly, –ness, –en, –ed and –ing. There are also such possibilities as –ishly, –ishness, –ished, –ily, –iness, –ened and –ening, but these are secondary derivations, presupposing the existence of the previously mentioned suffixes –ish, –y and –en. Thus, in English, we have a small number of derivational possibilities, most of which can still be considered to be productive. This means that, in theory, if need be they can be used with any colour term. In view of this fact, the frequency of the derivations is more telling than their occurrence in dictionaries.

In my discussion below I focus my attention on the first two derivative forms –ish and –y. My reason for doing so is that these appear to be competing forms with more or less the same meaning. Thus, a corpus study may reveal interesting patterns. The rareness of the other morphemes, and the fact that –en is restricted to black, white and red, have led me to exclude them from further analysis. An additional reason for concentrating on –ish and –y is that these morphemes have been discussed recently in the context of colour terms by Wyler (1992) and Frankowska (1995).

Let us first establish that the meaning of these two suffixes is usually regarded as virtually the same. The OED states that –ish has the following history in the domain of colour:

Added to adj's. with the sense ‘Of the nature of, approaching the quality of, somewhat’, apparently first with words of colour (which may have been treated as ns., and so have originally come under 2): e.g. bluish (a 1400), blackish (a 1500), brownish, reddish, whitish, yellowish, etc.

For –y, the OED states that:
In the 15th cent., if not earlier, certain monosyllabic adjs. were extended by means of this suffix, app. with the design of giving them a more adjectival appearance [...]. In this application the suffix has not infrequently come to express much the same notion as -ish; this is particularly so with colour-epithets, as blacky, yellowy, and esp. when these are used quasi-advb., as greeny-blue, bluey-green, reddy-brown.

In a similar fashion, the CCELD (Collins COBUILD) defines the meaning and function of –ish as “added to […] describe something as having a particular […] colour, but only to a limited extent …[f]or example ‘reddish’ means slightly red,” and –y as “added to colour terms in order to form adjectives that describe something as being roughly that colour or having some of that colour in it”. Marchand (1969) makes the same observation, and, in addition, he (p 353) claims in reference to –y that “[t]he type is weak, –ish being the stronger rival of the suffix.” Berlin and Kay (1969) and Dixon (1982) say that these derived forms occur more frequently and freely with the BCTs than with the non-basic terms. However, these claims appear to be based entirely on impressionistic data as no evidence is presented.

Wyler (1992) illustrates another approach. He (1992: 134-135) provides a list of derivations based on the entries in the Shorter Oxford English Dictionary (edition 1980) (henceforth, SOED). His list is restricted to the following forms: blackish, reddish, yellowish, greenish, bluish, brownish, greyish, pinkish, purplish and yellowy. Since he star-marks forms like whitish and greeny, he would appear to suggest that these forms are ungrammatical, something which may come as a surprise to some speakers of English. Wyler gives no motivation for his choice of dictionary, but the flaw in his method can be illustrated by consulting of the OED, the very dictionary on which the SOED is founded. Almost all of his star-marked forms appear in the OED as attested. There are other aspects of the study which raise questions. For example, he (1992: 135-136) claims that “[w]ith the exception of ‘rose’ […] none of these colour terms [i.e. what I here call ECTs] occur other than as in the representation given above [i.e. the root form].” This statement is much stronger than those of Berlin and Kay (1969) and Dixon (1982), and to my mind this seems to be far too rigid a statement to make given Wyler’s weak empirical foundation. In fact, it could be claimed that Wyler’s reliance on the forms listed in one dictionary leads him to stray way off the mark in his discussions on morphology and colour terminology, and he is demonstrably wrong on many occasions.

Frankowska (1995) devotes one section of her essay on the suffix –ish to the domain of colour terms. Her study exemplifies another type of approach in that she bases it on examples taken from newspapers and books (in other words, a type of corpus material) and the intuition of a few native speakers. Furthermore, her wording is much more careful than Wyler’s as she points out that the nature of her material may suggest that the acceptability of some forms can be questioned. Indeed, she found that, occasionally, there was no agreement among the native

27 Somewhat confusingly, Wyler does not use the traditional way of indicating word forms, italics, e.g. rose. Instead he uses inverted commas which would normally indicate meaning. I have retained his notation in the quotation.
speakers as to the acceptability of certain forms. The general pattern that
Frankowska (1995: 41-42) was able to uncover was that

the application of the suffix [...] is completely unlimited when the base is a focal
term. Consequently, we are free to derive the following complex forms: whitish,
blackish, yellowish, brownish, pinkish, reddish, greenish, bluish, violetish, greyish.
However, when the base is a shade, a secondary colour or a very specific colour, the
derivation appears to be blocked quite frequently.

Among the acceptable forms, apart from those mentioned above, she lists khakish,
amberish, goldish, silverish and marblish and among doubtful forms (i.e. cases
where the native speakers were not in agreement) ?fawnish, ?peachish,
?crimsonish, ?mauvish and ?maroonish. The unacceptable forms listed include

As an overall conclusion Frankowska suggests that the more specific a colour
term is the less acceptable is a derivation of that term containing the suffix –ish.
This conclusion is in broad agreement with Dixon’s proposals. However, although
this is certainly true as a general characterisation, I think the examples given above
also demonstrate that the picture is quite complex. The above conclusion cannot
explain why amberish would be acceptable but not olivish. In fact, it would appear
to be quite difficult on many occasions to establish to what degree one colour term
is more specific than another. It may be the case that a term can be said to be more
specific in the sense that it is only used in certain types of discourse, say, that of
fashion. However, there seems to be no reason why it could not still take a
derivational suffix given the right context.

One important source for the lack of certain forms, overlooked by the two
above-mentioned researchers, could be phonological constraints. Such constraints
could plausibly explain why informants are less happy with peachish, orangish,
beigeish and fuchsiaish. Should there be a semantic constraint we would also
expect forms such as peachy, orangey, beigey and fuchsiay to be unacceptable and
not to occur in texts.
Figure 3:7. Derivations of –ish, number of occurrences.

In Figures 3:7 above and Figure 3:8 below we get an overall picture of the number of tokens of the derivations of –y and –ish that occur in the BoE. As Figure 3:7 clearly illustrates, it seems that the derivation of –ish is largely confined to BCTs. This fits well with Frankowska’s observation above, and with Dixon’s prediction. The rank of the colour terms does not correlate with Berlin and Kay’s evolutionary hierarchy ($r_s = 0.247$, $p > 0.05$), nor with the frequency rank of the BCTs in the corpus ($r_s = 0.227$, $p > 0.05$). However, this appears to be strongly linked to the low frequency of blackish and whitish. A post hoc correlation test without blackish and whitish showed a significant correlation with the Berlin and Kay hierarchy ($r_s = 0.866$, $p < 0.05$). The position of blackish and whitish is further discussed below.

Figure 3:8. Derivations of –y, number of occurrences.
The picture we get when we consider the –y suffix is very different from that of the –ish suffix. The most conspicuous feature of the –y derivations is perhaps the predominance of the ECT derivations rosy, silvery and creamy. A rank correlation test of the BCTs showed no significance correlation to the Berlin and Kay hierarchy ($r_s = 0.206, p > 0.05$), nor to the rank frequency of the BoE ($r_s = -0.427, p > 0.05$). It seems that –y occurs much more freely with non-basic colour terms than does the –ish suffix. This last statement may not be statistically significant due to the low frequency of each type, but it is worth noting that, apart from fawnish and greyish, all forms containing –ish also occur with the –y form, whereas no less than thirteen forms containing –y do not occur in the –ish form.28 It can also be observed that Marchand’s (1969) claim of the weaker character of –y, mentioned above, seems to be confirmed here. In those cases where a term occurs with both –ish and –y, the –ish form is much more frequent.

As in the case of –ish, the –y suffix is only rarely attached to black and white. The low frequency of blacky, blackish, whitey and whitish can reasonably be explained by the fact that there is little need for these terms. The sense of ‘of the nature of, approaching the quality of, somewhat’ black/white is lexicalised in the words dark and light when reference is made to lightness. If reference is made to colour, these terms seem to be preferred together with some colour word as a head, as in, say, dark grey rather than blackish. The meanings of these expressions are not of course the same, although they may refer to the same type of nuance. Blackish and whitish take the focus of black and white as their reference points, whereas modifications of grey start from grey. The low frequency of these terms suggests that this is quite an unusual perspective, possibly due to the absoluteness of black and white.

How should we understand the different pictures that the two diagrams present? A closer inspection of Figures 3:7 and 3:8 suggests that, although similar in meaning, the two suffixes use different reference points. Given the character of Figure 3:8, it might be proposed that terms such as rosy, silvery, creamy, rusty and peachy do not derive their sense from the colour terms rose, cream, silver, rust and peach, respectively. Instead they should be considered derivations from the entity that the nominal form designates. Apart from the BCTs, most of the terms that are attached to –y could be either objects or colours. Significantly, it is pink (also a flower) which occurs most often with –y of the BCTs.

The fact that rosy (1 104 tokens) is much more frequent than the term rose (632 tokens, cf. Figure 3:2) in reference to colour suggests that their semantic relation is not the same as that between, say, brown and browny. Indeed, if we assume that there is a link between frequency and conventionalisation, rosy is the more conventionalised colour term in the speech community. Furthermore, from a diachronic point of view, we can see that rosy is the older of the two in the sense of colour; the OED lists 1374 as the first quote for rosy, and 1530 for rose.29 In addition to this, it should also be mentioned that a quarter of the instances of rose

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28 Some preferences may, as suggested above, be explained by phonological or, indeed, graphical constraints. Thus the occurrence of peachy and beigey but not beigish and peachish may have phonological grounds, whereas the lack of greyy or greiy may be due to graphical preferences.

29 In the case of creamy, peachy and rusty, these forms are older than the zero-forms in reference to colour.
are linked to the phrase *rose-tinted/coloured glasses/spectacles*. Rosy, on the other hand, seems to be used much more freely, although there is a preference for phrases such as *rosy cheeks* and *rosy future* as in (11).30

(11) After poorly attended, but decisive local government elections, some predict a *rosy future* for Nigeria, under a civilian government, benefitting from booming oil revenues. (BoE: bbc)

On the basis of the above facts, it is tempting to suggest that *rosy* and *rose* (and similarly *cream – creamy*, *silver – silvery*, *rust – rusty* etc.) might be viewed as two alternative derivations, –*y* and zero, available in English for denoting a colour nuance similar to that typical of the object from which they are derived. In view of the high frequency of *rosy*, it is somewhat surprising that *rose* rather than *rosy* appeared in the elicitation studies on which I base my choice of terms. One plausible answer may be that derived terms are not regarded as ‘proper’ colour terms.

The –*ish* suffix appears to be derived from a colour term which refers to a salient focal point in the colour domain. This could explain the closed character of the –*ish* category. However, a few ECTs occur with –*ish* and Frankowska’s (1995) informants were willing to accept forms like *amberish* and *khakish*. It seems however that the majority of these derivations are used to modify another term as in (12) below.

(12) Concrete used to cover any large surface will very quickly craze unless you allow for expansion joints. Many precast coloured concrete slabs come in rather sickly greens and *mauvish pinks*, colours which will swear with any planting. (BoE: brbooks)

In fact, most colour terms with the suffix –*ish* and –*y* are used in this way. However, as far as the –*y* suffix is concerned, this appears to be its main function when attached to a BCT; this usage is proportionally lower in the case of BCT–*ish*. One factor which no doubt affects the different patterns of these morphemes is their age as productive morphemes in the colour domain. Predictably, –*ish* is the older suffix according to the OED; derivations from colour terms are found as early as 1379 (*yellowish* and *whitish*31), whereas the first colour term derivations of –*y* found in the OED comes two hundred years later, in 1594 (*blacky*).

To sum up, we can say that both –*ish* and –*y*, being productive morphemes, are free to form derivative forms with most, if not all colour terms. However, the functional need for an approximate form of a very precise term is strictly limited so they do not occur very often in texts. Moreover, it appears that –*ish* is the more frequent derivative form when it comes to BCTs, suggesting that it refers to a

30 Whether or not a phrase like *rosy future* is closely related to the colour sense is debatable. However, I have chosen to treat it as such. Both *rose* and *rosy* have been taken into account when they have figurative senses of ‘good.’ For a more detailed discussion of this particular sense, see Section 7.7.

31 In fact, the OED lists the first quote of *whitish* as dating from 1398, but in the quotation for *yellowish*, *whitish* also occurs: “1379 Glouc. Cath. MS. 19 No. I. i. iv. lf. 11 It ys evirmare *whitish* or *30lowyssh*.” [Emphasis added].
nuance which deviates from a salient reference point in the colour domain. In the case of ECTs, –y seems to be preferred and occurs most often with transparent terms – i.e. terms which also have an object sense. This implies that it is the object that serves as the reference point and not a nuance in the colour domain.

3.5.2 Inflectional morphology

The only inflections I consider here are the comparative and superlative forms. In theory there should be no constraints apart from phonology on this formation. However, as Figure 3:9 illustrates, it is quite unusual to inflect colour adjectives. And, as is so often the case, we find that it is the terms commonly referred to as primary BCTs that are inflected most often, with the exception of yellow. Another conspicuous feature is that the comparative form occurs much more often. However, this seems to be the case for most, if not all adjectives, and makes sense semantically. Whereas the comparative form merely expresses that something exceeds a reference point, the superlative form identifies a particular instance as the most extreme instance within a defined group of reference. In other words, we can say that comparatives are comparisons in which an individual token serves as ground, whereas superlatives are comparisons in which a group of individuals (arbitrarily delimited for the purpose of comparison) serves as ground.

Dixon (1982: 19) observes that the semantic structure of the colour field affects the meaning of the comparative form – the domain precludes converse relations between the forms. He even suggests that “the term comparative, although morphologically apposite, is perhaps semantically inappropriate.” However, I see no reason why converse relations should be part of the notion of comparativeness. As Dixon correctly points out, a converse relation is the result of the semantic structure of a field (it allows antonymy), and consequently it is not directly related to the semantic notion of comparativeness. To say that X is redder than Y is an act of comparison. The fact that we cannot construe this to mean that Y is bluer/yellower/browner than X does not appear to me to be really relevant.

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32 A random check of the following typical adjectives in the BoE gave the frequency pattern below: old (comp.: 23674, sup.: 5782), young (comp.: 16718, sup.: 4323) tall (comp.: 1415, sup.: 594), short (comp.: 4188, sup.: 895) angry (comp.: 200, sup.: 50)
33 The description of comparative forms of adjectives is a much greater issue, of course, cf. Rusiecki (1985).
When we look at Figure 3:9, we see that, unpredictably, the superlative form is most frequent in the case of black. However, a closer examination of the actual text data reveals that the use of blackest is primarily used in a figurative sense, as in (13) and (14) below.

(13) Monday was one of Sarajevo’s blackest days since the Bosnian war erupted in April 1992, and it was Bosnian Serb forces who carried out this atrocious attack on civilians shopping at the city’s main market. (BoE: indy)

(14) His blackest humour is devoted to the complexity of rules he has to cope with. (BoE: econ)

Indeed, the most frequent collocations are of the first type, blackest day(s) and blackest moment, where the meaning of black can be paraphrased as ‘sad’ or ‘worst’. This particular meaning of black does not seem to occur in the comparative form; intriguingly, it is also the case that saddest is a more frequent form than sadder in BoE, so this pattern may be due to the structure of this particular domain. One idea is that this type of meaning can frequently be exposed to hyperbole.

On the whole, an analysis of the individual examples reveals that the use of comparative forms is either confined to certain domains, such as HAIR, FACE, and SKY, or is purely figurative. It is typical of the preferred domains that the colour term does not represent the best example of the colour (as viewed in the domain of colour), but a generalised use (extension from the focal colour, i.e. metonymy); for example, red hair can more correctly be described as orange or rust-coloured on most occasions, and someone who is described as red in the face very seldom has the colour of a traditional fire engine; it is more like a pinkish red hue. It is also interesting to note that, in the case of facial colour, the majority of comparisons are made with the same object. Thus we find examples of what might be called
temporal or type-token comparisons rather than comparisons between two present objects, as in (15) below.

(15) His big white face was whiter than usual. (BoE: npr)

Here, the white face of a person is compared with the same person’s normal facial colour. This type of comparison can also be construed as taking place between two mental spaces (cf. Section 2.3 and Fauconnier 1997). We compare the facial colour that this person normally has (this knowledge resides in a generic space, G) with that expressed in the current discourse space (CDS).

![Diagram](image)

Figure 3:10. Comparison between mental spaces.

It is also significant that the only ECT that appears in the comparative, puce, is most frequent in the domain of facial colour (see Chapter 5) and can be regarded as polysemous, with the figurative meaning of ‘anger’. Both interpretations are possible in (16).

(16) And people were furious? Well, William Rees-Mogg went puce and Paul Johnson went pucer: he asserted that Hitchens had slurred the saintly one as a lesbian; (BoE:guard)

In conclusion we can say that the use of inflectional forms of colour words is very infrequent when comparing two objects present in the same mental space. One possible explanation for this may be that, in cases where we are comparing and focussing on different nuances of, say, red, we employ more definite colour terms. This usage will be given closer attention in Chapter 5.
To sum up, it can be noted that the overall pattern of morphology bears a close resemblance to the evolution of colour terms, as suggested by Berlin and Kay. Previous studies in the area have shown that these are the forms that informants deem to be acceptable, and that they are the forms one tends to find in dictionaries. I have here demonstrated that the frequency of these terms also correlates with the sequence.

### 3.6 Colour terms in different subcorpora

The overall frequency of the colour words I have chosen to investigate (cf. Figures 3:1 and 3:2) is approximately 979 tokens per million words.\(^{34}\) This figure is very similar to that obtained by Corbett and Davies (1995) for the LOB corpus: 974. However, there are a few differences that should be indicated. First, as mentioned earlier, Corbett and Davies consider colour terms only in their adjectival function and, as demonstrated in Section 3.3, nominal usage can play a significant part. Second, apart from the BCTs, Corbett and Davies include no more than three colour terms: silver, bronze and scarlet. On the other hand, Johansson and Hofland (1989), on whom Corbett and Davies base their frequencies, do not specify how they treat polysemous words, so Corbett and Davies’ inclusion of orange, silver and bronze could be called into question.

My own analysis of LOB shows that the score for orange is correct (the fruit sense is invariably tagged as nominal) whereas that of silver includes three instances of silver medal(list) which I find very doubtful as references to colour; such phrases have not been included in my material. Accordingly, in my view, bronze should not have been included at all since all tokens in LOB occur in the context of medal/medallist.\(^{35}\) If we adjust for these facts, we get a figure of 961 colour words per million words in the LOB corpus. Given the other differences, this figure seems to be comparable to my own.

There are additional differences which make comparison difficult. One such difference is the composition of the corpora. Whereas LOB is composed of written British English texts, BoE includes both written and spoken texts, from Britain, the USA and Australia. Corbett and Davies (1995) observe that colour terms are much more frequent in the Russian corpus they use for their analysis, 2261 tokens per million words, and they suggest that this may be connected with the composition of the corpora.\(^{36}\) In order to make a more thorough investigation of the frequency of colour terms in different text types, an analysis was made of the frequency of terms in some of the subcorpora of the BoE. Five different British subcorpora were considered, each representing a medial genre of some sort: brspok, brmags, bbc, guard and brbooks. I specifically chose British texts to eliminate the problem of dialectal preferences. However, having said that, I should also acknowledge that

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\(^{34}\) If we take the confidence interval into account we get a figure between 982 and 975 per million words.

\(^{35}\) To do Corbett and Davies (1995: 329) justice, it should be pointed out that they are aware of the problem of polysemy. They state that: “[t]he frequencies of silver and bronze are probably over-estimates of their use as colour adjectives, however”.

\(^{36}\) The characteristics of this corpus are described in greater detail in Corbett and Morgan (1988). It is a frequency dictionary edited by Zasorina (1977) and it is based on a corpus containing 1 056 382 words. It contains journalism, drama, non-fiction and literature.
there is considerable variation within these subcorpora and that they contain in fact several different text types themselves. Nevertheless, the clear picture that Figure 3:11 presents can give us some general ideas of colour frequency in different types of media. The only similar study I know of is that carried out by Corbett and Morgan (1988) for Russian. However, their study does not include spoken material, nor broadcasting media, and the text types are not readily comparable with those of the BoE.

Before we look at the figures I should also point out that the frequencies of the calculated terms gold, golden and silver are not included in these figures. This, of course, means that the figures could be slightly higher. However, it is the relation between the genres which I find interesting, and I feel confident that the exclusion of these terms has not affected the overall picture in any vital way.

Figure 3:11 demonstrates clearly the differences between the various genres. Most conspicuous is the markedly lower frequency in the spoken corpora brspok and bbc. There is a formal difference between these two corpora, in that brspok contains spontaneous spoken material, whereas the bbc corpus contains broadcast material, much of which may have been written down before being spoken. Nevertheless, it appears that the transient character of speech makes people less keen to use colour terms. Another important characteristic of the radio medium, which may explain the low frequency of colour terms in the bbc corpus, is the fact that the radio listener, i.e. the addressee (directly or indirectly) of what is said, cannot see what the speaker is talking about, and under such circumstances mentioning the colour of a particular object may seem unnecessary. This is of course a feature which radio shares with the written medium (unless pictures are provided). It would appear, however, that the permanent character of the written material allows it to be more detailed with respect to descriptions.
Another striking feature is the very high frequency of occurrence in magazines. It seems reasonable to relate this high figure to the typical content of magazines, both in terms of topics and layout. Many magazines pay great attention to subjects which are intimately linked to colours and thus colour terms: e.g. fashion, cosmetics and horticulture. Advertisements containing colour references may also be more frequent in magazines than in a newspaper like The Guardian (guard corpus). Finally a very important factor is the presence of colour pictures in many magazines and books. It would seem that an interesting and possibly fruitful approach could be to study the correlation between use of colour terms and pictures in various media.

If we consider the proportion of BCTs and ECTs, we find once more great differences between the spoken and the written texts. Table 3:3 gives the precise figures. When we read these figures we should, again, bear in mind that these do not include the terms gold, golden and silver, so comparisons should only be made with the other subcorpora.

**Table 3:3. Elaborate colour terms in five subcorpora**

<table>
<thead>
<tr>
<th></th>
<th>BRSPOK</th>
<th>BRMAGS</th>
<th>BBC</th>
<th>GUARD</th>
<th>BRBOOKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCTs tokens</td>
<td>8013</td>
<td>50531</td>
<td>7091</td>
<td>19792</td>
<td>54343</td>
</tr>
<tr>
<td>ECTs tokens</td>
<td>165</td>
<td>3587</td>
<td>30</td>
<td>740</td>
<td>3090</td>
</tr>
<tr>
<td>Per cent ECTs</td>
<td>2.02 %</td>
<td>6.63 %</td>
<td>0.42 %</td>
<td>3.60 %</td>
<td>5.38 %</td>
</tr>
<tr>
<td>ECT types ($n \geq 5$)</td>
<td>10</td>
<td>36</td>
<td>2</td>
<td>32</td>
<td>34</td>
</tr>
</tbody>
</table>

There is a very noticeable difference between spoken and written corpora. This difference is manifested more in terms of types than proportion, although the proportion in the bbc corpus is also markedly low. The colour terms that were mentioned more than five times in the bbc corpus were maroon and scarlet, and the ten mentioned in the spoken corpus were amber, beige, cream, emerald, maroon, navy, olive, rose, scarlet and turquoise. All of these colour terms are among the most frequent ECTs (cf. Figures 3:1 and 3:2), as might have been expected. If we look at the terms mentioned in the spoken corpus we can also see that no particular area seems to be favoured. Most frequent are ECTs in the brmags corpus and, in fact, all colour terms under investigation occur more than five times in this subcorpus. It seems likely that these patterns can be explained along the lines outlined above. Fashion, for instance, is a subject which has a need for specificity. Furthermore, magazines and books frequently contain colour pictures in relation to fashion articles. In the context of a picture, it makes sense to be more precise in colour designation. The relation between specificity and different domains of the qualified noun will be further explored in Chapter 5.37

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37 Stoeva-Holm (1996) gives a thorough description of colour term usage in German fashion magazines. Interestingly, she gives a diachronic perspective, demonstrating that the type/token ratio has hardly changed at all over a hundred years.
3.7 Summary
The aim of this chapter was to give a general description of colour term usage in the BoE. Some of the frequency patterns may provide starting points for a closer semantic analysis of colour terms. Through statistical calculations based on the corpus material – mainly frequencies – it was possible to identify a number of patterns in relation to age, nominal usage, morphology and colour-colour combinations. The picture formed by these patterns does not unequivocally support a theory of BCTs in its most rigid expression. On the whole, clear category boundaries have not appeared. Instead the notion of fuzziness dominates. However, if we consider the internal structure of the BCT category, we can note that frequency of occurrence, age and the use of –ish correlated fairly well with the hierarchy suggested by B&K. This may reflect a conceptually privileged position of the early terms, something which will be readdressed in Chapter 4.

There are also signs which imply that the domain of the qualified noun may be of some importance when it comes to the meaning and behaviour of typical ECTs. Chapters 5 and 6 investigate these patterns more closely from a semantic point of view.
Chapter 4  Different Planes:
Colour Terms as Adjectival Type Modifiers

4.1 Introduction

Consider the sentences below, focusing on the word red.

(1) Red beets make a good garnish.
(2) The boy with red hair stood out in the crowd.
(3) The red paint spilled onto the floor.
(4) Her red dress made her the center of attention.
(5) He saw red when his secretary came in an hour late.

Would you say that red means the same thing in these sentences?

In a classic study, Halff et al. (1976) asked 19 subjects to judge whether the redness of red was the same in these sentences (and 15 more of this type), or whether some reds were redder than others. The result supported their hypothesis that (p 382) “context places bounds on the internal representations of a concept.” Furthermore, they claim to have shown that “there is little agreement even in our own culture concerning the meaning of any particular color word.” Although their first conclusion seems to be valid, the second one appears to be much more controversial. It would seem to be a gross overstatement to claim that there is little agreement as to the meaning of a term like red. Indeed, it was demonstrated by Berlin and Kay (1969) that even the same speaker may classify borderline cases differently from time to time, but they showed convincingly that there is general agreement as far as the focal colour is concerned (cf. Chapter 1). However, the methodological approach of Halff et al. is quite different from that of B&K and they certainly did discover something; the question is, what?

On closer inspection we can see that red in these sentences has what we might call different functions. Red in red beet and red hair is not just a description of some beets and some hair; its function is to point to some particular type of beets and a certain type of hair. In sentences (3) and (4), on the other hand, the function of red is precisely descriptive. Finally, in (5), we are concerned with a non-literal use of red. The main function in this case could perhaps be described as the transfer of meaning to some other domain (here ANGER). It is tempting to suggest that the result Halff et al. were able to reveal is closely linked to these different functions. It seems that a detailed study of the functions will give us additional knowledge regarding the meaning of colour terms. It may also be the case that some of the issues that have characterised debates on colour semantics are due to the failure to acknowledge the existence of these different functions.

This chapter considers in some detail the functions that a colour term may have when it appears in the position of an adjectival attribute modifier in a noun phrase. The focus is on what can be called type modification or classifying function.
(i.e. that represented by examples (1) and (2) above). This function is of special interest for three reasons:

- it seems to be restricted to only a few terms, whereas any colour term can be used for descriptive purposes.

- it would appear that this function allows the colour term to be used outside the domain of its normal designation; consider, for example, the phrase red hair in (2). On many occasions red hair is as close to orange or rust as to red and would possibly be more correctly described as such.

- finally, it would seem that type modification is intimately linked with some aspects of figurative usage.

The aim of the chapter is primarily to investigate both descriptively and analytically the first two phenomena described above. An empirical study of two corpora (the OED and the BoE) will test the truth of the first claim, whereas the nature of the second phenomenon will be analysed on the basis of some individual examples. The third observation above will be treated in Chapter 7.

The present chapter is organised in the following way. First, there is a general description of some suggested ways of classifying adjectival functions, followed by a discussion of some adjectival functions of special interest for the present study and their placing within the framework of cognitive grammar. In the latter part of the chapter, an empirical study is presented together with a theoretical analysis of the phenomenon. The chapter ends with a discussion of the possible implications of the results of the present study for the interpretation of previous works.

### 4.2 Classifying adjectives

Adjectives can be classified in a number of different ways depending on the perspective adopted. We can, for example, distinguish between attributes and predicate complements on the basis of their syntactical position. From a semantic point of view, other distinctions can be made: one such common distinction between adjectives is that between absolute and relative (or object-related) adjectives. Absolute adjectives are characterised by the fact that their meaning is not dependent on the character of the noun, compare lively (absolute) vs. large (relative) in the sentences below.

(6) The lively Chihuahua was unusually large.
(7) The lively Irish Wolfhound was unusually large.

Whereas the meaning of lively remains more or less the same, that of large is changed considerably due to the character of the nouns. More technically, it could be argued that it is not the actual meaning of the word that changes so much as the reading (interpretation) or referential scope. Colour terms have usually been considered absolute adjectives – our understanding of red is not affected whether it
qualifies cat or flower. However, as we could see above, this is not entirely true – there is a certain amount of vagueness even among absolute adjectives. It would seem that many absolute adjectives do not have antonyms; instead the semantic opposition is one of complementarity (cf. Dixon 1982). Relative adjectives, on the other hand, are typically characterised by having an antonym; e.g. dimension adjectives (big, small, thin), age adjectives (old, young), and a few more. And, as was demonstrated in (6) and (7), the interpretation of relative adjectives is largely dependent on the meaning of the head noun.

Other classifications are possible. As early as the 1920s and 1930s, Jespersen suggested a classification of adjuncts, i.e. modifiers in attributive positions, on syntactic grounds. He (1924: 108-144) distinguished between restrictive and non-restrictive adjuncts on the basis of their syntactic relation to the noun. The two types correspond to the two types of relative clauses with the same name. Thus a restrictive adjective can usually be rephrased in terms of a restrictive relative clause, as demonstrated in (8) and (9) below.

(8) Can you give me the red jersey?
(9) Can you give me the jersey that is red?

Similarly, a non-restrictive adjunct corresponds to a non-restrictive clause. Jespersen makes some notes about the function, arguing that that of restrictive adjectives is to help the speaker identify the object, by specifying it. The function of non-restrictive adjectives, on the other hand, is merely “ornamental” (p 112) in his view.

A different type of distinction, and one that I will try to explore in the context of colour terms, has been suggested by Teyssier (1968), Warren (1984, 1988) and Magnusson and Persson (1986). They advocate a tripartite functional distinction between identifying, classifying and characterising functions. The last two roughly correspond to what other authors have discussed in terms of “reference-modifying” and “referent-modifying” functions (Bolinger 1967), “intensional” and “extensional” (Siegel 1980), “non-predicating” and “predicating” (Levi 1976, 1978).

4.2.1 Three classes of attribute modifiers

The basic function of adjectives, most researchers would probably agree, is to ascribe, connect, a property to a thing. However, the purpose of this ascription can be analysed in terms of the three classes suggested above. To my knowledge, the first person to make a distinction between identifying, classifying and descriptive adjectives was Teyssier (1968). As far as identification is concerned, he (1968: 227) observes that

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1 See Dixon (1982: 15 ff) for a thorough semantically based account of different types of adjectives.
2 A functional distinction of adjectives is also made by Halliday (for instance, 1994: 184-186). He distinguishes between epithets and classifiers, the latter identical with the classifying function outlined here.
3 Additional types of classification are intersective vs. non-intersective (Siegel 1980), synthetic vs. absolute (Taylor 1992).
the adjective is assimilated to a defining function of a syntactic order. It then points to
ONE particular instance of the object thus determined, its main function being […] to
substantiate (or expand) the ‘definiteness’ implicitly contained in the determinative.
[emphasis original]

In the terminology of Jespersen, this means that the identifying function produces a
restrictive meaning. Teyssier mainly discusses adjectives which have only this
specific function; words such as right (not left), first, same and only. However, as
pointed out by Warren (1984, 1988) and Magnusson and Persson (1986),
practically any adjective can be used to this end, provided it creates a contrast
between the intended referents and other possible referents within the same frame
of discourse, or mental space (cf. Chapter 2). This means that permanent as well as
temporary properties may be highlighted for this purpose. Since the intention is to
identify a referent, in whatever mental space, obviously the noun phrase has to be
specific. An important point is that the converse is not necessarily true; it does not
follow that specific reference entails identifying function. Consider (10) below.

(10) Soon after the maroon-clad waitress took one of our orders, food started to
arrive, and it never seemed to stop. (BoE: usnews)

Whether we should regard maroon-clad as identifying or descriptive cannot be
determined on the basis of this sentence alone, but has to be left to wider context. A
restrictive reading with identifying function is possible in the event of there being
another waitress with slightly different clothing. However, a descriptive
interpretation would appear to be more likely. Our knowledge of restaurants tells us
that waitresses usually wear some kind of uniform and that their job is to pick up
orders, so we have no problem understanding the definite article here. In fact, the
wider context (which is not supplied) confirms the speculation that this is the first
mentioning of a waitress: no other waitress is ever mentioned and thus context will
direct the reading of the attribute into having a descriptive function – i.e. a non-
restrictive reading. What we have learnt is that waitresses at this particular
restaurant usually wear maroon dresses. The fact that quite a substantial amount of
context has to be considered to be able to distinguish between an identifying and a
descriptive reading makes it difficult to study these functions carefully in a large
language corpus. I have therefore decided against investigating these functions
thoroughly. However, I will return to them from time to time.

When it comes to the classifying function, Teyssier (1968: 228) points out that

in the case of CLASSIFICATION the adjective is assimilated to a categorizing function
of a semantic order. It then points to A SPECIMEN of a class of objects, its main
function being to substantiate (or expand) the inherent ‘indefiniteness’ (i.e. a degree
of extension) of the noun it applies to. [emphasis original]

Furthermore, he observes that most adjectives can be used this way, but claims (p
228) that some types of adjectives “are intrinsically more ‘classifying’ than others”,
namely those denoting nationality, age, size, and colour. Intriguingly, these belong
to the core adjective classes, as defined by Dixon (1982: 54-55). Prima facie,
Teyssier’s statement appears to be contradicted by Warren’s (1988: 127) assertion that “[s]ome premodifiers are basically descriptors, viz. unaffixed bona fide adjectives (old, wise, sad, red, tall)…” However, on closer examination, there is no contradiction here. Classification is concerned with more or less permanent (or perceived as such) properties through which several tokens can be typified. Consequently, these properties can make us view these tokens as forming a sub-type of their own. Magnusson and Persson (1986: 207) take this one step further when they argue that description precedes classification from a conceptual point of view. For the cognitively oriented linguist, this makes perfect sense; only from our situational, token-related, experiences can we classify objects, cf. Figure 2:2, which illustrates schematisation from the point of view of cognitive grammar.

Teyssier makes another interesting observation in connection with classifying adjectives. He points out that they are usually used together with nouns which have general meaning, such as (Teyssier’s examples) man, woman, child, girl, and bird. Nouns with prototypically unique reference, like father and mother do not co-occur with adjectives with classifying function. Since the classifying function of adjectives creates subcategories it borders on compounding, especially endocentric compounds (cf. Bauer 1983), a fact which will be given further attention below.

Let us finally consider descriptive adjectives, which form an intermediate category in Teyssier’s (1968: 229) view, but, he observes, “the additional qualification half way between identifying and classifying adjuncts is necessarily of a different nature.” It merely describes the noun, the object, by the indication of some, at a particular point in time, relevant features of a thing. This means that the relation between the noun and the attribute differs in character from the cases discussed above – in Jespersen’s terminology we can say that descriptive attributes are non-restrictive. Contrary to the classifying function, the descriptive function focuses on specific instances and, accordingly, we can describe this function as referent-modifying, in the terminology of Bolinger (1967). Descriptive attributive adjectives are also necessarily predicing, and can usually be paraphrased in a complement structure (copula + predicative complement) as in a red book – a book which is red. Magnusson and Persson (1986: 207) suggest that the aim of description is to bring an entity into focus either for the main purpose of drawing attention to some of its properties or to do so as a piece of side-information as something else is predicated about it. The entity described is perfectly independent in the context, and there is no reason to be interested in classifying or identifying it. [emphasis added]

Thus, it is the property that attracts the focus of attention, not the entity. If we go back to example (10) above (the maroon-clad waitress), we could argue that it was the colour maroon that was the main interest. The intention was probably to tell us that all waitresses in this restaurant or bar wore an outfit of this colour. As we shall

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4 The properties should last long enough or be repeated with such frequency that they can serve as reference points for the identification of the type.

5 This is also clarified by Warren (1988: 130): “Although, admittedly, there are some adjectives that are basically descriptive [...] and some tend to be classifying [...] these are in no way restricted as to these functions. The former may very well serve as classifiers or identifiers and thus become non-predicating …”
see in the next chapter, the focus on the colour itself is of essential importance for
the use of many ECTs. This is also to say that any type of property can be used in
descriptions, irrespective of whether or not the property is permanent outside the
current discourse space.

To sum up this account of adjectival functions, we can note that they operate
on different levels of abstraction and with different purposes. Whereas identifying
and descriptive use refers to token entities with specific reference, classifying use is
more abstract in that it is concerned with type entities with non-specific reference.
Furthermore, we have observed that there can be said to be an underlying syntactic
difference codified in Jespersen’s terms restrictive – non-restrictive, which
describes the relation between the modifier and the head. These differences are
summarised in Table 4:1 below.

Table 4:1. Discourse functions of attributive adjectives

<table>
<thead>
<tr>
<th>MODIFIER-HEAD RELATION</th>
<th>LEVEL OF REFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TYPE</td>
</tr>
<tr>
<td>RESTRICTIVE</td>
<td>Classifying</td>
</tr>
<tr>
<td>NON-RESTRICTIVE</td>
<td>—</td>
</tr>
</tbody>
</table>

4.3 Planes and valence relations

In order to make a proper description of adjective-noun phrases we need to
establish how the functions that were identified above can be described in the
framework of cognitive grammar. Let us first consider the nature of the ascription
that adjectives typically perform. In Warren’s (1984, 1988) view, the semantic
content of adjectives can be divided into two components: referential content and
a connecting link.6 As the term suggests, the referential content constitutes the
substantial meaning of an adjective. The connecting link, on the other hand,
organises the relation between the modifier and the head. Warren suggests that the
relation can and should be analysed in terms of semantic roles.

We can illustrate this type of analysis by looking at her (1984: 22) treatment
of criminal in criminal assault, criminal case and criminal court. The referential
meaning of criminal can be identified as ‘crime’ in this view. However, we get the
full adjectival meaning of criminal only by considering whole noun phrases. These
meanings are paraphrased below; the connecting links are given in small caps:

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6 As Warren herself points out, this mode of analysis was also used by Aarts and Calbert (1979). They,
however, use the term (predicational) relator, rather than connecting link.
**Criminal assault:** “assault CONSTITUTING a crime”; Role combination: RESULT – SOURCE.

**Criminal case:** “case CONSTITUTED BY a crime”; Role combination: SOURCE – RESULT

**Criminal court:** “court DEALING WITH crimes”; Role combination: AFFECTED OBJECT – ACTOR.

This account is extremely convincing, especially when Warren’s rich material is taken into consideration. However, it should be pointed out that Warren is primarily concerned with denominal adjectives. Nevertheless, in a later article (Warren 1988), she suggests that central adjectives may also show the same patterns of referential content and connecting links. As regards the status of the connecting links, Warren argues that there is a limited set of covert links – structural default devices in a language – but she acknowledges that there are also other, idiosyncratic, formations. Downing (1977) in her study of nonce compounds strongly rejects the idea of a limited number of connecting links, and she (1977: 840-41) points to the fact that

because of the important differences in the functions served by compounds, as opposed to the sentential structures which more or less accurately paraphrase them, attempts to characterize compounds as derived from a limited set of such structures can only be considered misguided. A paraphrase relationship need not imply a derivational one.

As we observed above there is a close affinity between compounds and the classificatory usage of adjectives; thus there is little reason to believe that there should be any marked differences, if any at all, between these two processes.

In Langacker’s (1987, 1991a, 1991b, 1999) conception of cognitive grammar, he accommodates Downing’s claim that it is the nature of the entity that determines the relationship. Consequently, he prefers to talk about the formation of complex structures in the metaphor of *valency*. In chemistry, a valence relation means the sharing of electrons among atoms to form molecules. In linguistics we can understand it as the sharing of elements, or structures. Langacker (1987: 278) points out that “[i]t is only by virtue of having certain substructures in common that two component expressions can be integrated to form a coherent composite expression.” Although he stresses the importance of the internal structure of the components and the, in principle, very rich number of potential combinations, Langacker acknowledges the fact that established conventions usually sanction only a fraction of the available combinations, but they dominate if we look at instances. Of course, Warren’s well-documented work clearly testifies to the truth of such an assumption. However, the important contribution of Downing and Langacker is that their approach takes the focus off the connecting link itself and puts it instead on the nature of the shared structures. As an example on how valence relations work we can mention _old_ in various combinations. As demonstrated by Taylor (1992), we can interpret an expression like _old friend_ in two ways: that the person (the friend) is old, or (more likely) that there has been a fairly close relation with this person for a long time. These two possible readings are linked to the two
possible valence relations that can be established between old and friend. Both interpretations reside in the structure of friend: either it is the FRIENDSHIP structure that determines the valence relation or it is the HUMAN structure (a friend usually being human).

If we look more carefully at colour term usage we can observe that there is little controversy here. Colour terms normally ascribe colour to the surface of an entity, as in (11) below. Accordingly, in Warren’s terminology, the connecting link can be identified as HAVING and the role combination as PART-WHOLE.

(11) The Senator is the ideal host. You feel that, when you arrive in front of the green house in Mount Vernon Avenue with the wide porch that runs around the corner. (BoE: usbooks)

However, on closer examination we can find that the picture is somewhat more complex than this. Unless we are prepared to give some very loose interpretations to the notions of connecting link and the role combinations, we cannot readily say that the above mode of analysis is able to explain the nominal phrase red pencil, in the sense ‘a pencil which leaves red marks when used.’ In cognitive grammar we can explain the formation of such a structure through the concept of active zones. The notion of active zone was described in Section 2.5.2. It seems that type modification involving colour terms frequently exhibits active zone features. Another example of an active zone phenomenon in a classifying usage is black eye.7

What we also need is a concept of reference which can accommodate the two levels mentioned above (cf. Table 4:1) – type and token. In his most recent book, Langacker (1999) offers the construct of plane for treating the levels of reference observed above. A crucial distinction that has to be made is that between type and instance in Langacker’s view. This division has in fact greater significance within cognitive grammar, but for the present purpose I restrict my attention to the noun phrase. Langacker (1991b: 53) claims that “[t]he semantic content of a simple noun like site amounts to nothing more than a type specification: it specifies the basis for identifying various entities as being representatives of the same class but not tied to any particular instance of that class [emphasis original].” This means that a type specification directs our attention to certain objects but makes us exclude others in our mental activities. The instance level, which is represented by a full nominal, the site, “presupposes instantiation of the type in question and designates one or more instances [emphasis original].” (1991b: 53)

Thus, a nominal adds additional information to the type specifications; essentially two pieces of information are present in a nominal:

7 Technically, it is not the eye that is black, but the area around the eye. For another interesting discussion of categorization and type modification, but within a theory of a slightly different nature (conceptual blending), see Turner and Fauconnier (1995), who, among other things, discuss red pencil.
1) there is some indication as to the quantity of the type;
2) there is some indication as to how the type relates to the speech event and the participants therein – this second feature is called **grounding** by Langacker.

The differences we have established between *type* and *instance* can be codified metaphorically in Langacker’s suggestion of planes. Type plane is far more abstract and can be instantiated by several instances as demonstrated in Figure 4:1 below. Figure 4:1b illustrates that grounding is an essential and necessary part of the instance plane. Since generics usually lack grounding – a precise connection with the speech event – it follows, as observed by Magnusson and Persson (1986: 205), that the attribute has a classifying function.

![Diagram of type and instance plane](Based on Langacker 1999: 271)

**Figure 4:1. Type and instance plane.**
(Based on Langacker 1999: 271) G = grounding

Another central aspect is the fact that type specification can be quite complex. As Langacker (1999: 272) points out, “there is clearly no limit, as we can go on to form ungrounded compounds evoking type specifications of indefinite complexity (e.g. *cat-lover hater behavior modification school instructor*).” Relating to Figure 4:1a, we may for instance assume that there is a subclass $T_1$ which contains instances $t_i$ and $t_k$, which may be represented as in Figure 4:2 below. The figure...
Chapter 4

illustrates how a quality Q shared by some instances can be used for modification in type plane, thus creating a subtype, T₁.

In the rest of the chapter, I try to explore whether, as concerns colour terms, there are any restrictions on what colour terms can be used as type modifiers. First, however, a discussion of the difference between compounds and phrases.

Figure 4:2. Type modification and subclassification.

4.4 Compounds, phrases and lexicalisation

Before we approach the empirical part of this chapter, we should stop and consider some aspects which in a sense are peripheral, but are nevertheless relevant to this study. One such aspect concerns the issue of whether it is possible to make a clear distinction between compounds and adjective-noun phrases that represent type modification. Since type modification, as described above, creates subtypes of an established class of nouns it would seem that this process is very close to that of compounding. Bolinger (1967: 32) notes that any attempt to make such a distinction would yield an idiosyncratic result: “It appears that there is no way to
draw a line between reference modification [= type modification] and compounds.”
A similar observation is made by Halliday (1994: 185), discussing the difference
between compounds and phrases. He points out that “the line […] is very fuzzy and
shifting, which is why people are often uncertain how to write such sequences.”

From the point of view of cognitive grammar, the difference between
compounds and syntactic phrases is really a non-issue. Semantically, both phrases
and compounds form complex composite structures, the analysability and
compositionality of which may show degrees of difference. The concept of
**composite structure** is defined by Langacker (1987: 487) as “[a] structure that
results when two or more structures in a given domain (phonological, semantic, or
symbolic) combine in a valence relation.” Traditionally, two criteria are mentioned
as rules of thumb for the identification of compounds (cf., for instance, Fromkin
and Rodman (1998) or Dirven and Verspoor (1998)); they are stress and meaning:

- a compound has one main stress usually on the first syllable whereas
  phrases have two stresses, the main one falling on the second element.

- The sum of the meaning of the forming elements is not equal to the
  meaning of the compound.

However, as might be expected, these criteria are by no means as clear-cut as they
appear. Bauer (1983) discusses the issue of stress at some length and concludes that
stress is not a defining criterion for compounds.

Turning to the other criterion, “the sum of the meaning”, it would seem that
we can translate this into a question of the **compositionality** of the structure, in
cognitive terminology. Compositionality is usually understood as referring to the
composition of an entity; that is, to what degree we can predict the meaning of the
whole from the meaning of the parts. Full compositionality thus entails that the
meaning of the parts of an expression fully covers the meaning of the whole.
Langacker (1987) points out that the underlying problem of compositionality, as it
is usually discussed, is the building block metaphor. This metaphor forces upon us
a conception of meaning as building blocks which are put together in accordance
with some design (= syntactic rule, or, to use Warren’s (1984) vocabulary,
*connecting link*), so that \([A] + [B] = [AB] = [C]\). This is the pattern we expect from
the most common nominal phrases so that green + house = green house. However,
in cognitive grammar, there is a much more flexible view of meaning in that it
comprises encyclopaedic knowledge. Langacker (1987: 453) therefore suggests that
the composite structure should be viewed

as a coherent structure in its own right: component structures are not the building
blocks out of which it is assembled, but function instead to *motivate* various aspects
of it. From this perspective there is nothing problematic about a composite structure
evoking a knowledge system (abstract domain) to which neither of its components
provides direct access; nor is it surprising that in many instances the component
structures motivate and highlight selected facets of the composite meaning, but
nonetheless fail to exhaust its content.
The notion of motivation is central in cognitive linguistics and Lakoff (1987) discusses compound formation in a similar fashion. He too observes that the parts in a compound motivate the meaning of the whole but, he (1987: 147) stresses, “more is required: a relevant ICM where each part of the compound fits some element of the ICM.” Recall (Chapter 2) that Lakoff’s ICM and Langacker’s abstract domain appear to be more or less the same type of construct. As an example, Lakoff mentions chains of compounds such as topless dress, topless waitress, topless dancer, topless bar, topless district. Arguably, to understand an expression like topless bar, we need a knowledge structure which goes well beyond that provided by the two components in isolation. We cannot understand or successfully analyse the phrase in the old building block metaphor.

Nevertheless, the formation of this compound is well motivated if one has acquired the necessary knowledge. In the traditional building block metaphor we can illustrate the meaning of [C] of such a compound as [ABX], where [X] represents some additional meaning; that is, the meaning of C > [AB] (cf. Langacker 1987: 450). Furthermore, it may also be the case that the meaning of the composite structure builds on ‘stretched’ meanings of the components so that [C] = [A’B], as in the case of greenhouse. This compound follows the established pattern of boathouse and henhouse; the difference being that [A’] represents a special case of [A],8 here a metonymic extension.9

A related issue is that of lexicalisation. From the point of view of cognitive linguistics this issue is best discussed in terms of the concept of entrenchment, which was described in Section 2.2. In short it suggests that repeated occurrences of some concept or combination of concepts make it easier to access them again. In the context of lexicalisation, we can note that Langacker (1999: 93) gives the following description of what the entrenchment of such structures leads to:

When a complex structure comes to be manipulable as a “pre-packaged” assembly, no longer requiring conscious attention to its parts or their arrangement, I say that it has the status as a unit.

If such a unit has symbolic representation we can reasonably equate this with lexicalisation in its traditional sense. It is important, however, to appreciate that we are once again concerned with fuzziness; both Downing (1977: 839) and Langacker (1987: 59-60) emphasise that it is in reality impossible to decide exactly when unit status is acquired.

To recapitulate this section, we can tentatively summarise the fuzzy notions of compounding and syntactic phrases by means of a figure. We have seen that compositionality and entrenchment provide important dimensions for our categorisation of a phrase as a compound. It is tempting to see these notions as representing two mutually independent axes, as in Figure 4:3 below.

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8 It is interesting to note that on those occasions when [B’] represents a special case of [B], this leads to a different class of compounds; for instance, a turncoat is not a type of coat. Cf. Bauer (1983) on the traditional division between endocentric and exocentric compounds.

9 In line with Levi’s (1978) analysis of noun-noun compounds, we can identify the covert predicate in these expressions as FOR.
The diagram is intended to illustrate the general tendency in the process by which a syntactic phrase becomes a compound. If a composite structure, which a syntactic phrase constitutes, is repeatedly used with reference to a particular type, it will become more deeply entrenched, and in so far as the type becomes more specifically defined, the phrase will lose in degrees of compositionality. If we relate this more specifically to type modification, we can observe that generics (such as red roses in *Red roses are rare these days*) will typically belong to the upper left-hand corner, whereas other instances of type modification can be more deeply entrenched and decompositional to a lesser degree.

One such example could be *beige book*, which does not refer to any beige book, but to a periodical report of a survey of the economic conditions around the USA conducted by the Federal Reserve. Moreover, compounds normally have a fairly high degree of conventionalisation and can show, in extreme cases, close to no compositionality.\textsuperscript{10} One such extreme is *greenmail*,\textsuperscript{11} which means “The practice of purchasing enough shares in a firm or trading company to threaten a take-over, thereby forcing the owners to buy them back at a premium in order to

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\textsuperscript{10} Gunnar Persson (pc) points out that the final stage in this development is when assimilation processes have obscured the original compound on the phonological side as well. One such example is *daisy* (Bellis perennis), Old English: ᐚæs ᐃæe, ‘day’s eye’. Such fusions appear to be fewer after the advent of printing.

\textsuperscript{11} Admittedly, the conventionality of *greenmail* in the whole British-American speech community can be questioned. It is, however, conventional in certain types of discourse.
retain control of the business.” (OED definition) However, it should be emphasised that Figure 4:3 is only meant to be suggestive; thus compounds may very well exhibit close to full compositionality and still be perceived as compounds.

Similarly, as demonstrated by Downing (1977), compounds may be formed for the nonce. One characteristic which seems to be obligatory is that, at an initial stage, a composite structure is well motivated within the mental space (usually, Current Discourse Space) contextually, situationally or linguistically. But, as described earlier, if the phrase becomes conventionalised within a speech community, it will be defined in relation to some domain matrix just like any other expression, and in this process of abstraction, additional specific attributes may be added (or centralised) or, indeed, taken away (decentralised). The fact that lipstick nowadays can be bought in liquid form suggests that the traditional definition meaning of the word lipstick, as that in the OED: “A stick of cosmetic for colouring the lips,” is now slightly misleading. Hence, from the point of view of compositionality, we can reasonably say that the compound now exhibits this to a lesser extent (cf. Downing 1977).

To sum up, the purpose of the present section was to problematise two established linguistic concepts: compounds and type modification. It was suggested that these notions exhibit fuzziness in relation to important dimensions, and it is therefore argued that we can best understand these notions as representing the poles of a continuum.

4.5 Type modification in two different corpora

As stated above, the main aim of this chapter is to establish aspects of colour term usage for the purpose of type modification. Having established some theoretical frames, it is now time to turn to the language material. First, however, we will have to formulate clearly what we are actually looking for, as this may have methodological implications.

A number of questions seem relevant to the present study:

- What colour terms are most frequently used for type modification and compounding?
- Can we identify a specific class of colour terms that performs this function?
- In what nominal domains do we find type modification involving colour terms?

On a second level we may enquire

- What mechanisms are involved in the apparent extension of terms (cf. red hair)?
- What level of specificity do the heads of the compound exhibit?
- Does the colour term modify the whole area indicated by the head, or do we find that some other linguistic phenomena are involved?
In view of our observation that compounds and type modification phrases cannot be viably distinguished, it follows that a comprehensive study should include both compounds and phrases. This creates a methodological problem. How do we obtain representative material that contains both types? Some compounds are written as one word, others and all phrases as two words. A second problem is how to distinguish type modification from token modification in a corpus as this distinction can be said to be cryptotypic – it is functionally and semantically important but hidden, lacking formal representation.\(^{12}\)

To be able to give as broad a picture as possible I decided to make two separate investigations, probing two different types of language material: the OED and the BoE. By dividing my investigation in this way, I hope to be able to describe and identify different aspects of this usage. The OED represents the broad, codified aspect with a historical dimension, whereas the BoE represents preferences in present-day usage. This means that while the OED provides figures which give us an estimation of the width of type modification for a term (how widely a term is used for type modification), the BoE gives us a picture of the salience of particular kinds of type modification (what sorts of type modification occur most frequently). The two investigations will be presented separately, but a summary will provide a comparison.

### 4.5.1 The OED

In this part of my study, I counted and classified all entries (compounds and lexicalised phrases) in the OED according to the colour term and the domain of the noun. Phrases or compounds marked as obsolete were not included. My approach more or less parallels that of Verspoor (1998),\(^{13}\) the major differences being the source (Verspoor used *Webster’s*), the size (Verspoor confined her study to *blue*, *red* and *black*) and the number of categories of nouns (I have opted for a more refined categorisation). Another similar study is that of Bennett (1988). He provides very rich lists of colour collocations; collocations which he collected from a number of different dictionaries (including the OED), but also from newspapers and magazines and through personal communication. However, the looseness of his method and the fact that he also includes place names occasionally (for instance, *Greenland*) have led me to choose my own, more well-defined, material.

Even if the material is well-defined, a dictionary approach can be problematic. Verspoor (1998) claims that the confinement to one dictionary is preferable since one can assume that there is a coherent strategy within the dictionary. True as this may seem, I have come to doubt it during my work with the OED. Only words with an entry of their own were collected, but occasionally I saw other forms as in the

\(^{12}\) The notions of cryptotypes and covert categories were introduced by Whorf. Lee (1996: Chapter 4) gives an excellent account of Whorf’s development of these notions and how other scholars have used them thereafter.

\(^{13}\) I would like to thank Marjolijn Verspoor for kindly sending me her article.
quote below, which, for some obscure reason, were not given their own entry – there is no explicit comment by the editors concerning the choices.  

2. a. In names of varieties of fruits or plants, as violet clover, maize, plum, etc.  
   b. In names of birds, insects, etc., as violet bee, cormorant, crab, creeper, heron, etc.  
   (The OED: violet)

This means that the figures presented below do not necessarily represent a coherent strategy. Nevertheless, I feel confident that they provide a clear picture of the general tendency.

Moreover, it should be mentioned that each entry was only counted once, irrespective of the number of reported senses – related or not. This procedure probably disfavoured the most frequent terms in particular. My reason for proceeding in this way was based on the notorious difficulty that the questions of polysemy, homonymy and vagueness can cause (cf. Chapter 2). This approach eliminated that problem altogether. The drawback is, of course, that I allowed the lexicographers make my decisions for me. Figure 4:4 below gives an overview of the colour terms which are preferred for the purpose of creating subclasses in the OED.

The distribution of colour terms may not come as a great surprise in view of the patterns presented in Chapter 3. We can observe that the Primary Basic terms are those most frequently used for this purpose. In fact this group (with the possible inclusion of grey) is fairly well-defined in terms of frequency. This is not the case with the Secondary BCTs, which are mixed with non-basic terms.

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**Figure 4:4. Lexicalised phrases and compounds in the OED**

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14 For example, we find that red plum, black plum, grey plum and yellow plum have their own entry in the OED, but not violet plum (mentioned in the quote above). One possible explanation for the patterns observed above could be the fact that the OED has a long history involving several editors.
The null hypothesis suggests that there is no correlation between lexicalisation and the B&K hierarchy. However, a rank correlation test showed that there was a significant correlation between the lexicalised pattern above and the B&K hierarchy \( (r_s = 0.893, p > 0.01) \). There was also a high correlation between the lexicalised patterns of the OED and the frequency rank of the BCTs in the BoE \( (r_s = 0.936, p > 0.001) \). Taken together this may be a strong indication that a term used for type modification has a conceptually privileged position. This is further discussed below.

On the individual level, we can somewhat surprisingly observe that *rose* has a slightly higher figure than its supposed superordinate *pink*. One plausible explanation for this is the age of the terms. *Rose* (although the hyponym) is older than *pink* in its colour sense; *rose* was first recorded as a colour in 1530, and *pink* not until 1720. It seems likely that *rose* may have been the more salient of the terms until quite late. If we look at the nominal domains to which the compounds and phrases refer, we can also detect a great difference. Out of the 53 instances of *rose* no less than 48 (90%) refer to natural domains such as *ANIMALS* and *PLANTS*. The figures in the case of *pink* are 33 and 20 (60%). On the other hand, 11 instances of *pink* refer to artefacts or have figurative meanings whereas, in the case of *rose*, we can only find two instances in artefactual domains and none of figurative use. Again, this may be indicative of the lateness of the acquired salience of *pink*, as we can assume that these artefactual subcategories were created later: all the first instances listed in the OED date from the 19th and 20th centuries.

Another conspicuous fact is the privileged status of *red* among the chromatic colour terms – it occurs more than three times as often in compounds and classifying phrases than any other chromatic term. A closer examination reveals that *red* is used for this purpose particularly in the domains of plants and animals. It is tempting to see the high frequency of *red* as supporting Sahlins’ (1976: 4) claim that *red* "stands out in relation to all other hues by virtue of a reciprocal heightening effect between saturation and brightness.” It should be borne in mind, however, that the frequency pattern reflects primarily the great salience of the term *red*. Since quite a few of these instances with *red* actually refer to objects whose colour is only marginally red, we need a theoretical model to be able to accommodate Sahlin’s claim. One example is *red onion*, whose colour, I think many people will agree, is closer to purple than to red. I return to this issue in Section 4.6 below.

If we then take a look at the domains, we can see that it is above all in natural domains that type modification and compounding occur in the OED material. We find much more infrequent use in domains related to humans or artefacts. Table 4:2 below presents the figures from my investigation for a collection of terms. However, the presentation is restricted to the most frequent terms only. For most colour terms listed here, the proportion between natural objects and the other categories was that more than 60% of the instances referred to the natural category. It should also be mentioned that among artefacts I have included everything
manipulated by human beings, so, for instance, food and beverages are part of this category, thus *white meat* and *white wine* are categorised as artefacts.\(^{15}\)

### Table 4.2. Domains of compounds and phrases in the OED. Number of instances.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>NATURAL OBJECTS/PHENOMENA</th>
<th>HUMAN RELATED</th>
<th>ARTEFACTS</th>
<th>FIGURATIVE USE</th>
<th>TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Type of Domain</td>
<td>Diseases</td>
<td>Plants</td>
<td>Animals</td>
<td>Minerals</td>
</tr>
<tr>
<td>Red</td>
<td>Diseases</td>
<td>8</td>
<td>105</td>
<td>142</td>
<td>42</td>
</tr>
<tr>
<td>White</td>
<td>Diseases</td>
<td>15</td>
<td>62</td>
<td>49</td>
<td>21</td>
</tr>
<tr>
<td>Black</td>
<td>Diseases</td>
<td>16</td>
<td>51</td>
<td>36</td>
<td>13</td>
</tr>
<tr>
<td>Blue</td>
<td>Diseases</td>
<td>4</td>
<td>30</td>
<td>33</td>
<td>19</td>
</tr>
<tr>
<td>Green</td>
<td>Diseases</td>
<td>3</td>
<td>20</td>
<td>36</td>
<td>10</td>
</tr>
<tr>
<td>Yellow</td>
<td>Diseases</td>
<td>7</td>
<td>37</td>
<td>31</td>
<td>9</td>
</tr>
<tr>
<td>Grey/Gray</td>
<td>Diseases</td>
<td>2</td>
<td>11</td>
<td>45</td>
<td>14</td>
</tr>
<tr>
<td>Silver</td>
<td>Diseases</td>
<td>2</td>
<td>28</td>
<td>32</td>
<td>0</td>
</tr>
<tr>
<td>Golden</td>
<td>Diseases</td>
<td>0</td>
<td>40</td>
<td>17</td>
<td>2</td>
</tr>
<tr>
<td>Rose</td>
<td>Diseases</td>
<td>5</td>
<td>19</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>Brown</td>
<td>Diseases</td>
<td>3</td>
<td>7</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Purple</td>
<td>Diseases</td>
<td>1</td>
<td>18</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>Scarlet</td>
<td>Diseases</td>
<td>2</td>
<td>14</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td>Pink</td>
<td>Diseases</td>
<td>2</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Gold</td>
<td>Diseases</td>
<td>0</td>
<td>9</td>
<td>21</td>
<td>1</td>
</tr>
<tr>
<td>Orange</td>
<td>Diseases</td>
<td>0</td>
<td>7</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>TOTALS</td>
<td></td>
<td>70</td>
<td>463</td>
<td>511</td>
<td>151</td>
</tr>
</tbody>
</table>

How can we explain this clear tendency? The fact that the majority of instances serve to form classes (or rather, subclasses) of natural objects – animals, plants, minerals and diseases – seems to indicate that we can find a close affinity between the function of colour terms here and the naming principle of taxonomic structures of biology and geology. In a frame semantic study of names for fungi, Persson (2000) demonstrates that [colour] is one of a limited number of naming attributes. This makes sense since colour is a very important signal tool in nature. Consider, for example, how male birds change their plumage for the mating season so as to attract females. Similarly, poisonous frogs in the rainforest are very brightly coloured to give clear signals. It is logical then, that these patches of colour would serve as reference points for naming. The same logic applies to minerals and plants. One aspect that may favour colour over many other attributes is that it is an attribute which is very often accessible at a distance. Other attributes such as [smell], [taste] and [locality] (mentioned by Persson 2000: 306) are not as easily accessible, and not as transparent in the context of, say, a walk in the forest.

\(^{15}\) Note that modifications of colour terms, e.g. *blue-grey* were not included. Furthermore, I only included instances in which the colour term serves as the modifier; thus a phrase like *Coventry blue* was not taken into account.
This salience of colour makes it an excellent naming device for creating subcategories of a more general category. Consider, for example, naming habits in relation to various varieties of trees. In the case of oak, we can find mentioned in the OED: *blue oak, black oak, golden oak, grey oak, red oak, scarlet oak* and *white oak*. Indeed, there is also *rose oak*, which, strictly biologically speaking, is not an oak but some Indian species of rhododendron, according to the OED.\(^{16}\) As Table 4:2 illustrates, this kind of subcategorisation is quite common among plants as well as animals and minerals. It would be tempting to see the head in such compounds (here *oak*) as representing the basic level. However, Rosch et al. (1976) demonstrated that this does not seem to be the case. In their study they could demonstrate that what they had assumed to be superordinate categories (*tree, fish* and *bird*) in fact showed basic level characteristics, and that *oak, birch, eagle* and *sparrow* were subordinates.\(^{17}\) Rosch et al. discuss this phenomenon at length and conclude that the basic level might previously have been at a lower level of abstraction in English-speaking societies. They (1976: 431-432) point out that

\[\text{that English speakers once made basic level distinctions at the level of the genus is suggested by the number of monolexemic terms for biological genuses available in English (see the *bird, fish, and tree* names in Battig and Montague, 1969) Such lists of terms are not similarly available for subordinates of *chair, shirt, hammer* or for any other nonbiological basic level terms in our taxonomies. Thus, biological taxonomies are probably of the type in which two basic level groupings are possible, but our city dwelling subjects appeared to be ignorant of the attributes characteristic of the generic level biological categories in their environment.}\]

Irrespective of whether or not we treat the head as basic level, the figures above testify to the usefulness of colour as a naming attribute for subclasses. In view of these observations, it is interesting to look at Kay and Maffi’s (1999) brief discussion of the impact of colour in different societies. They (1999: 746) claim that

\[\text{in a technologically simple society, color is a more predictable, hence less informative, property of things than in a technologically complex one. Except perhaps for a few pairs of closely related species of birds or of fish, it is rare that naturally occurring objects or the artifacts of technologically simple societies are distinguishable only by color. In technologically complex societies, on the other hand, artifacts are frequently to be told apart only by color. […] [A]lmost every kind of material thing we encounter in daily life—clothing, books, cars, houses—presents us with the possibility that two tokens of the same type will be distinguishable only, or most easily, by their colors.}\]

This is perfectly true, of course. The question, however, is whether Kay and Maffi’s conclusion is correct (p 746): “As technology develops, the increased importance of color as a distinguishing property of objects appears to be an important factor in causing languages to add basic color terms, i.e., to refine the
lexical partition of the color domain (Casson 1997).” This speculation is based on the pattern that Berlin and Kay found, which suggested that there was a correlation between technological complexity and the number of BCTs in the language. However, what Kay and Maffi actually discuss here is instance modification and to be more precise the type which Warren (1984) calls identifying function. To my mind, we could turn this argument on its head if we take a wider view: precisely because colour is predictable in nature it is very informative and useful as a naming device for the identification of species or subspecies – types. For this purpose well-entrenched, basic terms are needed. Consider again Table 4:2, and the frequency of type modification and compounds in the categories of natural things. Since there is no other difference between a white and a brown (or say, a beige) raincoat except the colour, this distinction has very little informative value in terms of classification. Of course, the value increases if we pay special interest to the colour itself, due to fashion trends, for instance. However, for this purpose there is no need for a basic colour vocabulary. I shall return to this issue in greater detail in the next chapter as I discuss ECT usage, i.e. non-basic terms. My main point here is that type modification is likely to be of great importance from a functional perspective, and that colour serving as a central naming attribute should stimulate the development of BCTs. However, as Table 4:2 indicates, it may be the case that only a few basic terms are needed for this purpose. It could also be that the method of identifying BCTs in primitive cultures has, in itself, blocked the recording of important type modification terms. This of course is mere speculation.

Finally we can note that another interesting aspect of type modification is that it frequently allows the colour term to be ‘stretched’ outside its normal boundaries, cf. for example white coffee, blue oak and red onion, whose colours would not be designated by these terms had they been presented in the context of a colour chart. We shall take a closer look at the processes involved in this pattern, but first we shall consider the other method outlined above – a study of the BoE.

4.5.2 The BoE

When looking for type modification in the BoE, we are faced with the methodological problem of finding instances of this function. How can we distinguish these from instance modification? Finding all cases of type modification in the BoE would be a Herculean task outs tripping even the Augean stables, so obviously we have to set some limits to our study.

Below I present a study of the most frequent collocations of each colour term in my sample. The thirty colour adjective + noun phrases that had the highest t-score values18 for each colour term were considered. Combinations that had a t-score value lower than 2 were omitted (in reality, this means n < 4). Since type modification creates subtypes, it follows that this type of adjective is placed close to the noun, cf. Teyssier (1968) and Warren (1984). This is of course a position open to instance modification too. However, we would expect type modification to show strong collocational ties, since it creates subtypes. After the thirty phrases had

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18 In principle, I could just as well have used frequency, but the t-score method has the advantage of eliminating very frequent words such as grammatical words. Section 0.3.3 gives a very brief summary of the methods of calculating collocational strength.
been collected, I tried to determine whether or not each individual phrase could be regarded as representing type modification. For this purpose I used the context that could be provided in the BoE and two test devices introduced by Warren (1984: 86). Type modification is not gradable and thus the adjective cannot take the premodifier *very* without some change in abstraction. Consider the less felicitous *a very black olive*, which can only be interpreted as token modification. Furthermore, as a category has been formed, negation is performed by the prefix *non-* rather than *un-. Consider (12) below; *unwhite* does not exist of course, but the use of *non* indicates the status of *white washes* as a case of type modification.

(12) For the uninitiated, “micro” and “ultra” refer to concentrated products. “Colour” products are best for *non-white washes*, as they do not contain bleach or whitening agent. (BoE: today)

Despite these tools and a vast context, determining whether a phrase represents an actual instance of type modification can still be quite problematic. One such example could be the phrase *the amber liquid*, referring to beer¹⁹ as in (13) below.

(13) A good site for connoisseurs of the *amber liquid* is the Beer Masters Tasting Society at # Beermasters # (BoE: oznews)

The phrase is used here in a way that would give *amber* type modification status although a phrase such as *amber liquid* would not be seen as a subtype under normal circumstances. The trouble is that some colour term phrases can represent both type and instance modification. In (13), for example we have a case of generic reference. Generally, I tried to estimate how frequent the type usage is; that is, if there was only the odd generic phrase, such collocations were not included. I tried, on the whole, to be inclusive, but in the end it only seemed to affect the figures marginally. Because of this difficulty I chose to present both the generous and the more restrictive figures in the diagram below.

Another methodological detail should be mentioned. Sporadically both the singular and the plural forms of a word occurred among the 30 phrases under consideration (e.g. *white man* and *white men*). On such occasions, only one form was considered and the sample was supplemented with the most frequent noun phrase outside the original 30. Despite this procedure, there are quite a few phrases in the material which have similar meanings but contain distinct words. Thus, my material contains the phrases *black person*, *black population* and *black people*.

Finally, it should be stated that compounds written as one word were not taken into account. Again, to do this proved difficult in view of the method outlined above. However, since compound material was included in the dictionary part of my investigation, the exclusion of compounds here should not affect the general impression.²⁰

¹⁹ The phrase *amber liquid* is also frequently used in reference to whisky.
²⁰ Another fact which should be mentioned is that *gold* was not included in this study; mostly because of the difficulty of isolating the colour meaning. In the case of *golden* and *silver*, it was only when the colour designation was clear to me that the collocations containing these terms were included.
Below I present the overall frequencies. The continuous line represents the restrictive approach to type modification, whereas the broken line represents the more inclusive approach. As we can see, it springs few surprises: the pattern is very similar to that of the OED and of the frequency list presented in Chapter 3: BCTs occur most frequently, in particular the Primary BCTs. A rank correlation test of the BCTs showed that there was significant correlation with the B&K hierarchy ($r_s = 0.843$, $p < 0.01$) and also the frequency rank in the BoE ($r_s = 0.817$, $p < 0.01$). As we can see the BCTs form an identifiable group apart from the presence of golden, silver, and scarlet. There is, however, a great span within the group.

Furthermore, as stated earlier, we can see that an inclusive approach to what is type modification does not alter the picture significantly. The most conspicuous change is that the gap between golden (or blue) and purple increases, creating two distinct categories. Another noticeable fact is that we can see that brown occupies a much more prominent position in this study than in that concerned with the OED. On closer examination, it appears that brown occurs frequently in the domain of artefacts, but more seldom in that of natural objects. The fact that the colour collocations listed in the OED favour the domain of natural objects made brown a much less salient colour in that study than in this one. Recall also the different aspects that the two corpora are likely to emphasise.

![Figure 4:5. Number of type modifications among the 30 most frequent collocations (T-score > 2.0) in BoE.](image)

There are a few facts which deserve closer inspection. But before we do that let us consider the categories of the type modifications. Since the instances are far fewer than in the OED, I have restricted this categorisation to three categories only, which correspond to the overall categories in the OED table – natural objects, humans and artefacts. When we look at Table 4:3 below we can note some differences as compared to the OED table above.
Table 4:3. Type modification in different categories in the BoE.

<table>
<thead>
<tr>
<th>COLOUR TERM</th>
<th>CATEGORIES OF THE HEADS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nat obj</td>
<td>humans</td>
</tr>
<tr>
<td>black</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>red</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>green</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>white</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>brown</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>yellow</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>silver</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>grey</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>blue</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>golden</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>purple</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>scarlet</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>pink</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>orange</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>54</td>
<td>46</td>
</tr>
</tbody>
</table>

Table 4:3 demonstrates some interesting details. First, we can see that the category most frequently exposed to type modification is that of artefacts. Furthermore, it can be observed that the category of natural objects, which dominated the lexicalised material, occurs comparatively seldom among the most salient collocations of type modification in the BoE corpus. Given the type of texts we find in the BoE, and the method of collection, this was to be expected. In fact, it is only golden and silver which are frequently used to this end. Presumably, their polysemous nature (the metal sense being prototypical) disfavours the use of these terms in the artefactual category\(^{21}\). Finally, we can note that the most frequent classification in the human category is based on black and white. Given the social structure of the USA, Great Britain and Australia, the prominence of this distinction was a likely pattern.

It would seem that a detailed comparison between black and white could be particularly fruitful, since they are the only terms which demonstrate clear antonymy (cf. Hunt Lazerson 1977). It might be expected that some kind of symmetry could be found, although the method would favour the marked variety as it were – the one needing the extra specificity. If we compare the actual types of words which are most frequently modified, we get an interesting picture.

Table 4:4 shows instances of type modification combinations of black and white that were among the 30 most frequent adjective-noun phrases in the BoE. If we consider the upper part of the table we find little symmetry. In most cases there is not a corresponding opposite form: there are no white holes or white eyes, nor any black blood cells (they are red, of course) or black flour.

\(^{21}\)It could, of course, be due to the classification of the present author. In order to avoid inclusions of the metal sense, I may have been too harsh in my judgements.
Table 4.4. Type modifications in BoE containing *black* and *white*.

<table>
<thead>
<tr>
<th>NATURAL OBJECTS</th>
<th>HUMANS</th>
<th>ARTEFACTS</th>
<th>ABSTRACT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Black</strong></td>
<td><strong>White</strong></td>
<td><strong>Black</strong></td>
<td><strong>White</strong></td>
</tr>
<tr>
<td>olives</td>
<td>water</td>
<td>hair</td>
<td>hair</td>
</tr>
<tr>
<td>holes</td>
<td>eye</td>
<td>blood (cells)</td>
<td>coffee</td>
</tr>
<tr>
<td></td>
<td></td>
<td>collar</td>
<td>pepper</td>
</tr>
<tr>
<td></td>
<td></td>
<td>knight</td>
<td>tie</td>
</tr>
<tr>
<td></td>
<td></td>
<td>man</td>
<td>man</td>
</tr>
<tr>
<td></td>
<td></td>
<td>woman</td>
<td>woman</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Americans</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>students</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>children</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>person</td>
<td>people</td>
</tr>
<tr>
<td></td>
<td></td>
<td>leaders</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>population</td>
<td>majority</td>
</tr>
<tr>
<td></td>
<td></td>
<td>guy</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>players</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>males</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>supremacist</td>
<td></td>
</tr>
</tbody>
</table>

The most conspicuous difference is that which we can find between *black* and *white* with reference to race. As we can see, although there is some symmetry, there is also a considerable overrepresentation in the black field. Apparently, it is much more common to identify black people as blacks, than white people as whites – unless, of course, we would like to claim that the BoE contains many more references to people with black skin. This is not likely to be the case. How should we understand this? Lee (1992: 92) analyses the use (in an English newspaper) of *black* in a phrase such as *black township* as a marker of the perspective of the speaker: “The reference to the *black township of Soweto* rather than simply to *the township of Soweto* is directed to an expectation on the part of the reader that people are white, unless otherwise specified.” Lee goes on to claim that in an African newspaper directed to black readers this type modification would be unnecessary. Even if we may quibble over some of the details in the analysis, it would appear that Lee has identified an important aspect here. In the population of types in Table 4:4 above no less than 15 relate to the black race and only seven to the white race. If we compare the individual frequency of the phrases which occur with both colour terms we get additional evidence for this pattern:

*Black people* (2110) vs. *white people* (932)

*Black man/men* (2147) vs. *white man/men* (1705)

*Black woman* (551) vs. *white woman* (322)
The most reasonable interpretation of these figures is that they support Lee’s analysis. Black people form a minority in all the countries (Great Britain, the USA, Australia) from which language material has been collected for the corpus. What is more, the media are also controlled by the white majority. Thus, the corpus can be said to reflect a white perspective. Furthermore, a plausible interpretation would embrace a wider perspective and assume that it is not only, as Lee suggests, the writer and the audience who are important factors here but in particular the structure of society. It is part of our (subsumed) knowledge of American and British society that students are usually white, thus it may be important information to pass on that a particular group of students is black. This would be true even if the writer and the reader were black. Consequently, I would prefer to understand the frequent classification of people etc. in terms of black as reflecting the structure of society in which blacks represent a peripheral group (in terms of power and influence), than restricting its use only to the perspective of the writer or an assumed audience. As we shall see below, this pattern is closely linked to the overall pattern of type modification – it would appear that type modification is primarily used for the designation of subtypes which are peripheral in the overall category. In this context, it should also be mentioned that once a phrase or compound has been conventionalised, it may take on new attributes. This is certainly the case with black in this context which also has strong social attributes.

4.5.3 Summary: a comparison between the two approaches

To sum up, although in a sense they measure different aspects of the speech communities, the two corpus investigations present results that are remarkably similar in certain respects. The same colour terms occur in the top positions, and both sequences correlate with the overall frequency pattern of the BoE corpus. The OED study gave us a general picture of the frequency with which a term is used for type modification, and it was demonstrated that red, white and black predominated. The category most often modified was that of natural objects. The BoE study, on the other hand, gave us some idea of what kinds of type modification occur most frequently in Present-Day English. The same group of colour terms occurs most frequently in this study too, but there was a marked difference in terms of domain. Natural objects occurred very seldom here. Presumably, this reflects the different characters of the corpora as well as the different methods. In total, it seems that colour terms which are very frequent are likely to be used for the purpose of type modification. One way to interpret this is that the salience of the term and the colour are decisive.

4.6 Decoding the process

As a final part of this chapter, I look more closely at the actual process of type modification. Without recognising explicitly the process of type modification some scholars have commented on the formation of such phrases, observing the metonymical patterns involved. In this section I put special emphasis on the process since it might explain the apparent restriction on which colour terms are used to
this end. A further issue that is addressed is how type modification relates to basicness and figurative usage.

It became apparent in both the dictionary and the corpus studies above that there are, in fact, very few terms which are frequently used for type modification: there are the six Primary BCTs and to a certain degree also brown, grey, golden and silver. It would appear that the formation of subclasses with the help of colour terms is a very good example of prototype phenomena. The colour terms are used to classify marginal subtypes\(^{22}\) of a category, and frequently the colour of the object constitutes an instance of the colour word which is fairly distant from the focal colour. Thus we can talk about prototype phenomena on two levels, as it were: within the colour domain and within the domain of the item.

The fact that colour terms occasionally designate ‘unorthodox’ nuances has been observed previously by some scholars. Bennett (1988) uses the term radicalisation to account for this phenomenon. Mainly discussing it in the context of the black-white dichotomy, he mentions examples such as black and white coffee and black and white mint. No clear definition is offered of how we should understand the phenomenon, and at the end of his discussion, Bennett (1988: 33) suggests that “the corollary of radicalisation is de-colouring” and that “radicalisation is in fact a simplification of the communicative task.”\(^{23}\) Verspoor (1998: 10), discussing compounds containing colour words, points out that

at the semasiological level, color words in these compounds often refer to peripheral members of the color category, especially when they serve to distinguish entities (animals, flowers, babies) from more prototypical members of a particular category.

However, it is Clark (1992) who has addressed this issue most thoroughly from a theoretical point of view. He discusses the phenomenon in terms of conceptual and lexical possibilities and three broad constraints which apply to the conceptual possibilities: similarity constraint, preference constraint and exhaustiveness constraint. Clark (1992: 371) defines the three constraints as follows:

**Similarity constraint.** For each salient possibility in the specialized conceptual field, apply the term for the most similar possibility in the general conceptual field.

**Preference constraint.** For terms in the specialized lexical field, prefer common over uncommon terms from the general lexical field.

**Exhaustiveness constraint.** Partition the possibilities in the specialized conceptual field in such a way that, for most practical purposes, they are exhaustively covered by the chosen terms with the maximum amount of information value.

He observes that there are usually two sets of possibilities that interact in communication: first, different conceptual fields contain different sets of possibilities; second, the corresponding lexical field contains a number of possibilities. In the case of skin colour, for example, Clark (1992: 370) identifies a number of aspects, the important ones for our purpose being: skin color is highly

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\(^{22}\) The whole process of subcategorisation appears to start with marginal subcategories.

\(^{23}\) Using Bennett’s terminology, Wyler (1992) observes that other colour words apart from black and white are used in the same fashion. However, his line of reasoning is at times very obscure. For a critical review, see Biggam (1995b).
correlated with race, skin color can change with emotion and sickness, skin color can change with exposure to the sun. An illustration of the function of the above-mentioned constraints is given as he explains why white people are not called pink.

The answer is that white is the commoner term, a basic brightness term, and so it is preferred over pink. That is, as English evolved, there was a preference for assigning the commonest possibilities in the lexical field to the commonest possibilities in the conceptual field, even if it led to distortion outside that field. (Clark 1992: 371)

If we want to translate this into the terminology of cognitive linguistics, we could say that we are concerned here with semasiological and onomasiological salience (cf. 2.6). The preference of common terms is connected with what term is most frequently used for nuances in a particular area. This is probably an important factor; as the two case studies above demonstrated there is a clear preference for a few very frequent terms only. However, I would like to elaborate on Clark’s conceptual constraints; similarity and exhaustiveness.

How, then, should we understand cognitively the preference for certain terms in the context of type modification? From the point of view of conceptual organisation I think we can best conceive of it as a reference point phenomenon, in which the prototype of the general category serves as the reference point (cf. 2.5.2). The type of reference point construction I suggest here is also intimately linked with another construct in cognitive linguistics: the egocentric perspective or vantage point of the conceptualiser. A vantage point can be characterised as the position taken by the conceptualiser when construing a particular situation, context or concept. It often entails a fixed position, usually that of the speaker in a communicative situation, but, as emphasised by MacLaury (1997), it is possible to shift vantages.

An important prerequisite for my theory is the presence of salient reference points (foci) in the colour domain. As we could see in Chapter 1, the existence of such foci is one of the basic claims of the B&K theory. Further evidence has been collected by Rosch (1975c, Heider [= Rosch] 1972), who demonstrated that colour category foci were salient cognitive reference points in terms of naming and memorability. This evidence suggests that there are specific points in the colour domain which are much more salient than the average colour nuances. Accordingly, we might conceive of the colour domain in a three-dimensional form as in Figure 4:6 below. The ‘peaks’ here demonstrate the cognitive salience of specific points in the colour domain. The checked pattern represents the 320-chip Munsell colour array used in the WCS and the MCS (cf. Chapter 1). The position of the reference points is that indicated by MacLaury (1997: 12) for a speaker of American English (himself, actually). The height of the peaks is intended to be suggestive (though exaggerated) and correlates roughly with the position of the colour terms in the B&K hierarchy.

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24 It should be acknowledged that reality is slightly more complex than this image suggests since the third dimension of colour – saturation – is ignored in this model.
25 Achromatic colours are not included in the model as the normal mode of presentation would be misleading.
In my presentation below I discuss the process of reference point construction for the purpose of type modification in relation to the three main classes distinguished above: humans, natural objects and artefacts.

Let us first consider skin colour, and return to the question posed by Clark (1992) of why white people are called white. In my opinion this puzzle cannot be properly explained without taking into consideration the fact that black people are called black. It would seem reasonable to assume that the classification of white people is secondary to that of black people and that this classification reflects some kind of reciprocal distinction or possibly a shift of vantage point. Type modification entails paying attention to details that separate the subcategory from the general category and in this case it is clear that the darkness of the skin is one of the most conspicuous details. Moreover, the vantage point in the classification of black people has been that of the relatively light-skinned European, and from that perspective by far the most salient colour should have been black. Thus, one could claim, BLACK would serve as the most useful reference point for classifying black people. Conversely, then, since the categorisation of black presupposes a focus on lightness it follows that WHITE was chosen for the opposite perspective whenever needed. Incidentally, we can observe that white occurs much later than black in a classificatory use in the domain of skin colour: in 1604 according to the OED

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26 The classification in English and most other European languages may ultimately go back to the Latin term *niger*, ‘black’. Cf. the term *Negro*, which occurs significantly later, according to the OED 1555, via Spanish.
(black, 890). This seems to confirm the above line of reasoning which is that we first classify those objects that deviate from the norm and only later name and subclassify the norm itself.

Let us consider the reference-point construction in more detail here. It entails the use of one salient point in order to access another less salient entity of some sort. With our metaphor of a mountainous landscape, we can clearly see how it works. As the purpose in our context is to distinguish between types, the colour terms referring to the peaks serve as reference points to indicate where we assume we will be able to find the classified object. As our attention is directed towards distinction, the present category – i.e. that of the vantage – is narrowed down and the named category is expanded. MacLaury (1997: 93) emphasises the important role of this type of cognitive activity, and mentions as a cognitive axiom the fact that “an individual attends simultaneously to similarity and distinctiveness and can reciprocally shift the strength of emphasis.” The colour term directs our attention even to fairly vague nuances of the colour; apparently we organise our viewing so that all other nuances serve as ground, and the named one as figure.

This becomes particularly clear in the categorisation of East Asians as yellow people and North American Indians as redskins, which can be successfully explained in the same manner. The colour terms refer to cognitively salient reference points and emphasise difference. Thus, I would argue that the phrase yellow people – coined much later than the classification of white and black people, the first quotation in the OED dates 1787 – gives us no idea of the extension of yellow in the 18th century, viewed on the Munsell array. Similarly, red (first used to this end in 1587) in redskin gives us no idea of the actual colour of the people’s skin. What we learn is that the group of people we are concerned with have a skin colour that is distinctly redder than our own skin, and possibly redder than that of Africans and Asians, but there is no clue as to how close to the focus of red we should look. Using our previous metaphor, we can say that the ‘peak’ of RED, cf. Figure 4:6, gives us an idea of approximately where we could expect to find the colour.

As pointed out previously in this chapter, the conventionalisation of a phrase such as black people will lead to its acquisition of a much richer and more complex structure than the surface of the phrase suggests. The phrase is defined, like any other concept, against some background knowledge, domain, based on experience and/or prejudice. We find good evidence of this in the decidedly pejorative meaning of the phrases redskin and yellow people. Perhaps the best example of the rich inventory of attributes is Toni Morrison’s description of former president Bill Clinton as the first black president of the USA. This suggests that additional attributes have been centralised in this concept. In Cultural Studies and other disciplines this richness of meanings is recognised, and concepts such as BLACK and WHITE in their racial sense are frequently treated as social constructs (cf., for instance, Ware 1992 and Stokes 2001). Thus, classifying use of a colour term may

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27 The OED quotes 1591 as the date for the first instance of black man and 1695 for white man.
28 However, MacLaury’s primary interest so far has been the colour domain itself, and he seems to have been little interested in the kind of phenomenon discussed here.
29 Hawkins (2001) analyses racial classification in terms of colour in the context of political oppression.
easily lead to a metonymical extension and figurative senses. An advanced attribute structure, which the entrenchment/ conventionalisation of type modification can give rise to, may lead to metonymical extension as is evidenced by a phrase such as the *yellow peril* with reference to East Asians. Here, *yellow* alone stands for the entity people, and the pejorative meanings are emphasised. The close relation between type modification and figurative extensions is discussed in greater detail in Chapter 7.

As an alternative classification from a different vantage point, we can mention an example given by Siegel (1980). In Ngamambo, the term for RED is used to classify Europeans, i.e. what we call white people. Siegel (1980: 169) observes that

> the Ngamambo speaker makes no claim that these individuals are women who are red in any absolute sense, any more than an English speaker would claim that they are women who are white in any absolute sense.

This classification indicates the importance of the vantage point for categorisation. From the point of view of a dark-skinned person, the pinkish (and probably in an African context slightly redder than in Europe) skin of a European could be called either *red* or *white*; it would appear that these two salient reference points could serve equally well for distinguishing this subcategory from the general category. Apparently, the Ngamambo chose *red* as the reference point. However, this is just one piece of evidence and more is needed concerning other reference points and vantages to strengthen this hypothesis.

As an aside, we may observe that there used to be an alternative classification of black people: as *bloamon* (literally ‘blue man’) as in (14) and (15) below (possibly through the influence from Old Norse):

(14) Of Ethiope he brohte Þa bleomen. (OED: 1205 Lay. 25380)
(15) Blac as a bloamon. (OED: 1225 Ancr. R. 234)

This classification suggests a different reference point, but the vantage must reasonably have been the same. One explanation of the use of *blue* could be that it emphasised the lack of red in the colour of black people. Evidence of this use can be found in Swedish where certain black people are occasionally referred to as “blue-black,” Swedish *blåsvart*. It would seem that this usage might reflect the ambition of the user to exclude people with slightly lighter skin and more brownish

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30 Ngamambo is also known as Moghamo-Menemo and is a language of Northern Cameroon. It was spoken by approximately 87 000 speakers in 1982, (International Encyclopedia of Linguistics, 1982). According to Siegel (1980: 158), Ngamambo only has three colour words: those denoting BLACK, WHITE and RED.

31 Another study which provides information of type modification from another vantage point, is Bender’s (1983) report on Sudan Arabic terms for skin colour.

32 In a Swedish phrase such as the now extinct *blämörker* ‘blue darkness’ the function of ‘blue’ seems to be that of emphasis. There is also an interesting habit in Swedish of using *blå*, ‘blue’ for emphasis in contexts where there is no colour connection at all, as in *blåneka* (literally ‘to deny blueyly’), *bläkör* (‘to drive blueyly’), *blådåre* (‘blue fool’ = ‘madman’) and *blåljuga* (‘to lie blueyly’ = ‘to lie excessively’). This could possibly be a parallel to the English phrase *do something until one is blue in the face*. 
skin. This is mere speculation, however. The present-day form *blaَََ* is defined as blackish blue by the OED and Biggam (1997: 100) describes *blaَََََen* as dark blue. It is also thought that Swedish *blå*, ‘blue,’ may have had a darker sense earlier. However, it would seem that *bloa* only occurs in this construction, so it was probably a marginal construction.

When we turn our attention to natural objects, the same kind of pattern can be established. As we could see in the OED study, colour terms frequently serve the purpose of type modification in the category of natural objects. Below, we will consider one particular instance, namely that of oak, but I feel confident that the general patterns can be translated to most other instances within this category. In the case of oak there are numerous subcategories, many of which have colour names: *blue oak* (*quercus douglasii*), *black oak* (*quercus velutina*), *golden oak*, *gray oak* (*quercus grisea*),34 (northern) *red oak* (*quercus rubra*), *scarlet oak* (*quercus coccinea*) and *white oak* (*quercus alba*). This uniform naming habit, however, disguises two possible areas of modification, as can be observed in Figure 4:7. The naming strategy of *white oak* may in fact refer to both leaves and bark since the leaves have a whitish green colour underneath. However, most people seem to think that it is the whitish grey bark that has given the tree its name.

![Subtypes of oak. Naming strategies involving colour.](image)

Following Langacker’s terminology, we can analyse this picture as a type of active zone phenomenon (cf. 2.5.2), which in turn is a special kind of reference point construction. Thus, it is communicatively more relevant to refer to the whole tree rather than to the trunk and leaves as they are natural parts of a tree. Although there are names of the type *blue-leaf oak* or *black-trunk oak*, they are very infrequent.

We could argue, however, that the picture is even more complex than the above indication would suggest. *Red oak* and *scarlet oak* are called so because of the outstanding coloration of their autumn leaves. This characteristic feature is, of

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33 The colour semantics of Middle English appears to have been rather complicated, since there was another term for ‘black’, *swart*, which could be used for classifying people (cf. the OED). This second term may have affected the salience of the term *black*.

34 The OED gives some additional possibilities for the name *grey oak*: any of several American oaks, esp. *quercus coccinea* or *q. borealis*; the first being identical with scarlet oak.
course, only present during a relatively short period of time (although periodical). In fact any reference to the colour of the leaves may represent a third type of reference point construction – a temporal one. Even though some trees may have no leaves for a large part of the year, the leaves still serve as a useful reference point. It is certainly the case that the Gestalt of a tree is one in which leaves are present. For example, children in the north of Sweden invariably draw trees with leaves even though all trees except firs and spruces lack leaves for approximately eight months of the year. At any rate it would seem that salient features can serve as naming attributes even if they are not of a permanent nature.

Let us return to the issue of colour naming again and consider the name *blue oak*. If we take a closer look at a leaf from a blue oak we can establish that the leaf is bluish green with a tinge of grey.\(^{35}\) However, my own impression is that few people would call this colour *blue* in the context of an evening dress. In fact many people would probably say that it is more green than blue. (In the context of an evening dress, the term *teal-green* may possibly be used.) Accordingly, we could say that the naming principle here constitutes a parallel to that of skin colour. Because the normal colour of oak leaves is green we can identify the vantage point as *GREEN*, and when naming the intended nuance, *BLUE* serves as a good reference point, as attention is given to distinctiveness.\(^{36}\) Consider Figure 4:8 below.

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\(^{35}\) The PLANTS National Database describes the colour of the foliage as grey-green in the section called plant characteristics. However, in the section called plant guide, the colour is described as blue-green. The colour pictures that are available on the database show leaves with a bluish-greyish-green colour in which the green element clearly dominates. The PLANTS National Database is accessible at http://plants.usda.gov.

\(^{36}\) This might also be analysed as a kind of figure-ground phenomenon. Consider how a blue oak stands out in a collection of other green trees. However, that would not explain the use of the term *blue*. 

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**Figure 4:8.** A tentative picture of the reference point phenomenon *blue oak.*
The same kind of analysis would explain the other tree names. For instance, the bark of the trunk in the cases of white oak and black oak is likely to be lighter and darker than that of the most common oak. The colours of the leaves of red oak and scarlet oak are characterised by a conspicuous reddish element in the autumn, especially so in the case of the scarlet oak.37

Summarising the impression we get from viewing type modification in terms of skin colour and tree names, it seems reasonable to conclude that the salience of a particular term in relation to a particular nuance depends very much on the vantage point of the conceptualiser. A particular nuance may for instance be called bluish green, green, blue, teal or even turquoise, but which term is most useful (or salient) can only be determined in a wider context. It would appear that in cases of type modification, language users tend to prefer terms that have very salient prototypes. This is clearly demonstrated by the characteristics of the OED material and a few seconds of reflection can provide the reader with numerous examples: red and white wine; red, black and yellow beans and so on. We are probably concerned with a mixture of semasiological and onomasiological salience, i.e. the salience of the term and of the cognitive reference point.

Before we conclude this section let us consider a kind of artefactual type modification which demonstrates yet another type of reference point construction. Consider the frequently occurring classification of coffee as white and black. Although black coffee can exhibit a colour which is close to black (in the best case scenario of strong coffee), white coffee is nowhere near a whitish colour. Bennett (1988: 32-33) discusses this phenomenon and suggests that “describing coffee solely in terms of black and white is a simplification by means of the elimination of colour; this is followed by radicalisation (viewable also as a further simplification) of the corresponding tone into black or white.” Bennett uses the term “describe” but arguably the division of coffees into black and white makes no claim about the colour but refers to the inclusion or not of milk – thus it is classifying and not descriptive. It would seem that with a reference point model we can explain the naming much more economically. As mentioned above what is referred to in white coffee is the milk that is poured into the coffee, and, thus, since the attribute [milk] is at the very heart of this subcategory, it serves as an excellent reference point for this kind of type modification.

To sum up, we have seen in this section that the cognitive abilities of reference point reasoning and vantages combined with salient foci in the colour domain can help us explain instances where the use of colour terms goes beyond their normal area of designation, which can occasionally be found in type modification.

37 There is an alternative motivation for the term red in red oak. It could also refer to the reddish interior wood of the tree.
4.7 Wider implications – another look at previous investigations

It would seem that the conclusions that have been reached on the basis of the material investigated here may be fruitfully applied to patterns established in previous investigations. For instance, the distinction between type and token modification (or description and classification) appears to have been ignored so far in colour term semantics. In my background chapter, I mentioned Forbes’ (1979) seminal study of *brun* and *marron* in French. In this article, Forbes observes that *brun* and *marron* qualify different types of objects. For instance, *brun* is very much preferred when it comes to hair or skin, whereas *marron* is preferred in the context of food and clothes. It could be speculated that this pattern might very well be due to the fact that *brun* (the long established term) has predominantly retained classificatory functions, whereas *marron* (the more recent term) is primarily used for descriptive purposes. Lyons (1999: 48) appears to have made the same observation, although not giving it technical representation, since he claims that “[w]hen *brun* is used of the colour of someone’s hair, skin or eyes, it means ‘dark’ rather than specifically ‘brown’.” This is true in the sense, as stated above, that the colour itself is not of primary interest, it only has a classificatory function delimiting a subtype. Thus, *brun* is used to contrast a type of eyes with blue and green eyes, so it is possible to say that it only means ‘dark’. Further evidence supporting this theory can be found in Schäfer’s (1999: 98) claim that the relation between *brun* and *marron* is similar to that between *blond* and *jaune*. It would seem that the former term is mostly used for type modification, cf. also the use of *blond(e)* in English. Furthermore, it would seem likely that Conklin’s (1964) and Lyons’ (1999) observations concerning Hanunóo and Greek colour terms can be better understood if we take type modification into account.

Another pattern that would be very interesting to explore in the wake of this study is the result of the step by step mapping used by MacLaury. As described in MacLaury (1997: 77), having stopped once, the subject was encouraged to continue mapping (putting grains of rice on colour arrays) until (s)he insisted that the term applied to no other colours. It would seem that the continued mapping after the first step may reflect extensions of a colour term due to type modification. It might also be fruitful to compare the extension that MacLaury achieved in this way with the Langackerian concept of *dominion* (cf. Section 2.5.2 in the context of reference point construction). This construct was not treated in my discussion here but may very well have explanatory power.
4.8 Summary

The aim of this chapter was to describe and analyse an apparent phenomenon in colour semantics: the fact that some colour terms occasionally refer to areas which may be better described by other terms. In the course of this chapter, it was demonstrated that it is important to take into account the different functions that the colour word may have. It was established that the above phenomenon appears particularly in the context of what in cognitive linguistics has been called type modification.

Two corpora were investigated, and although they were different in character and the methods were distinct, the overall patterns proved to be conspicuously similar. Type modification is primarily explored by a small number of colour terms (the Primary BCTs). Very often the nominal heads represent basic level categories, although in some natural domain their taxonomic position has been changed to the subordinate level (e.g. red oak).

In the analytical part of the chapter, it was argued that, from a semasiological perspective, the detected phenomenon could best be analysed in terms of reference point constructions. It was demonstrated that subcategorisation entails taking a vantage point from which attention is paid to distinctness. This includes a process which would appear to favour salient reference points, such as WHITE and BLACK. The favoured position of these concepts may explain the high frequency of the corresponding terms found in Chapter 3. In conclusion, the restriction of type modification to a few colour terms only is probably determined by both semasiological and onomasiological salience. As pointed out by Clark (1992), there is a preference for salient terms, and these terms refer to salient concepts in the colour domain which can serve as reference points for categorisation.
Chapter 5  Elaborate Colour Terms: Definition, Formation and Usage

5.1 Introduction
Whereas the previous chapter was mainly concerned with the most frequent terms in the corpus, the basic colour terms, the present chapter deals with the other extreme – Elaborate Colour Terms. It was demonstrated in Chapter 3 that BCTs comprise a clear majority – 92.2% – of the total number of tokens in the BoE, even when the highly frequent terms gold, golden and silver were included among the ECTs. As we could see in Chapter 4, few ECTs are used for classificatory purposes, which may explain their rareness. Furthermore, it seems reasonable to assume that identifying use is proportionally rather small since the precision of an ECT would entail the presence of a fairly similar colour nuance. Grice’s maxim of Quantity¹ predicts that the speaker is likely to use a more general term if there is no special need for great precision, which in the case of the identifying function would require a similar nuance. Moreover, even in a situation with fairly similar nuances, I find it more probable that the speaker will opt for modified general terms rather than an ECT, as in, for example, purplish-red, dark red. This might be an additional factor contributing to the low frequency of these terms. If this assumption is correct, then it would seem that ECTs are most often used for descriptive purposes, ascribing a particular colour to an entity.

In Chapter 1, I pointed out that most research dealing with ECTs has been gender oriented, testing whether women use ECTs more often than men. Although these studies focussed on gender differences, some of the results have a wider significance. One such result, relevant to the present study, was found by Nowaczyk (1982). He was able to demonstrate that, on the whole, men and women are not very accurate at matching colour nuances and colour terms. Although the women in his study were significantly better than the men, the overall figures are not impressive: women 42% correct, men 35%. I find these figures of great interest because they seem to indicate that there is a certain ‘looseness’ involved in the usage of these specific terms. “Looseness of specific terms” is almost an oxymoron and indicates a certain paradoxical aspect of the usage of these terms.

This looseness serves as the overarching theme of both this and the following chapter. The first part of this chapter considers how these specific terms are defined in first a technical colour dictionary, and then common language dictionaries. The second part of the chapter deals with the emergence and formation of ECTs. If language users generally have a fairly poor idea of the exact designation of these terms, then their history may be important for a full understanding of their function. As a bridge between this and the final part, sense relations pertaining to ECTs are briefly discussed. The chapter ends with a study of the frequency of ECTs in a

¹ The maxim of Quantity is expressed as follows (Grice 1989: 26):
1. Make your contribution as informative as is required (for the current purpose of the exchange)
2. Do not make your contribution more informative than is required.
number of nominal categories. Since colour terms are acquired in the context of things, the domain of the noun may be significant for the full characterisation of the term. The study investigates a number of colour terms with similar areas of designation. Thus, the issue of free variation is tested empirically, the aim being to demonstrate that terms may have different salience in different nominal categories. The next chapter takes ECT usage one step further and considers contexts where attributes other than the nuance seem more important.

5.2 Defining ECTs

5.2.1 The standardisation approach

From a technical point of view, it is of course important that colour nuances be properly and individually defined. It would create serious problems if manufacturers’ notions of colours were as vague as those of ordinary people. They may well be in fact, but there are means of standardisation to help people in their production of coloured goods. Somewhat confusingly, there are several systems for colour naming, for instance the ISCC-NBS system, the OSA system and the NCS system, to name only a few. Since the differences between these systems are irrelevant to the present study, I will not try to account for them. On the contrary, below, I restrict myself to one system through a brief presentation of some aspects of one standardisation book: Kelly and Judd’s (1976) *Color: Universal Language and Dictionary of Names*. It represents the ISCC-NBS system and is published by the US Department of Commerce, according it a privileged position among the standards. The main purpose of this presentation is to provide a starting-point for a discussion of how we can keep track of ECTs.

Kelly and Judd’s dictionary is interesting because they use two different notational systems to realise their ambition to standardise colour reference. For the more technical definitions, they standardise colour names with the help of formal notations that refer the reader directly to colour charts. However, they also use a system of controlled everyday language, or, in other words, a transparent metalanguage. Thus, the three dimensions hue, lightness and saturation are codified in everyday vocabulary – Kelly and Judd (1976: A14-A16) introduce a system of four classes for the coding of these dimensions: generic hue names, intermediate hue names, lightness names and saturation names. The controlled language terms are meticulously defined in that there are charts that clearly identify their position. The first group consists of 13 names: the terms defined as BCTs plus olive and yellow green. This is striking, not least because olive is frequently defined as ‘(deep) yellowish green.’ In Kelly and Judd’s description, olive has low saturation and lightness and seems to include elements of brown. The second group consists of sixteen hue names according to a system of derivative forms, e.g. yellowish green and greenish yellow. The one exception in this group is violet. Lightness and saturation are closely linked dimensions, so the naming system

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2 There is a thorough presentation of most colour order systems at http://www.colorsyst.com/. A historical background is also included.

3 This is not unique for the ISCC-NBS, however, it is in fact true of many systems.
combines these two. A nuance of great lightness and low saturation is termed very pale, whereas a nuance of little lightness and high saturation is called very deep. Extremely high saturation is termed vivid.

According to Kelly and Judd, on these principles it is possible to define one nuance of maroon as ‘deep reddish brown.’ One nuance of magenta, on the other hand, is ‘deep purplish red.’ Since Kelly and Judd standardise colour terms, they quote various dictionaries dealing with a wide range of fields such as biology, soil colours, plastics etc., and as there appears to be some variation, the qualification “one nuance of …” is needed. Apparently terms like maroon and magenta can designate slightly different nuances in different fields: the book defines eleven nuances of maroon and seven of magenta. In total, 7,500 colour names are defined.

In the preface to the part called “The Color Names Dictionary,” Kelly and Judd (1976: III) suggest that

> the dictionary will serve not only as a record of the meanings of the 7,500 individual color names listed but it will also enable anyone to translate from one color vocabulary to another. As an example, what is the meaning of Griseo-Viridis? This dictionary shows that Griseo-Viridis (biology) = Serpentine (fashion) = Mint Green (mass market), or in ordinary language, a light green.

In the book the terms crimson, plum, maroon, magenta, fuchsia and carmine include either of the two neighbouring nuances ‘dark purplish red’ and ‘deep purplish red.’ In view of this, we may ask how we distinguish between these terms. Furthermore, the fact that the designation of a term might differ slightly depending on the domain of the noun would seem to add to the problem. There is evidence of this difficulty elsewhere; as was suggested by Nowazcyk’s (1982) study, it seems that speakers find it quite hard to match terms and nuances. We can find additional evidence of the difficulty of describing the meaning of ECTs when we look at less technical definitions – those found in language dictionaries.

### 5.2.2 Dictionary definitions

Definitions of colour terms in dictionaries largely resemble those discussed above, with the obvious difference that there are no technical definitions referring to a particular conception of the colour domain. There is also one other conspicuous difference in that the definitions of colour terms in dictionaries can be divided into two general types. Apart from definitions like those we could find in Kelly and Judd, we have descriptions of the most basic terms. These colour words are not defined with reference to other colour terms but with reference to natural objects. As an example we can consider red. In all the six dictionaries I have studied, red was defined in relation to blood, and other mostly natural objects; two examples can serve as illustration.

First, we have Webster’s definition:

> A color whose hue resembles that of fresh blood or the ruby or is that of the long-wave extreme of the visible spectrum.

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4 Kelly and Judd (1976:11-13) provide a detailed account of the different colour name systems that they deal with.
Second, the OED, which defines red in a very similar way:

The colour which appears at the lower or least refracted end of the visible spectrum, and is familiar in nature as that of blood, fire, various flowers [...] and ripe fruits.

Note that most of these examples refer to the focal colour of the colour category. This type of definition is used for the following colour terms: black, white, red, green, yellow, blue and brown. Thus, this group consists of the Primary BCTs and brown. It is also interesting to note that grey is frequently defined in the same way, most often in relation to ashes. This is somewhat surprising since grey obviously represents a colour between black and white, and could be defined in that way. Incidentally, this way of defining colour terms is similar to Wierzbicka’s (1990, 1992, 1996) suggestion regarding the conceptual structure of colour terms (cf. Section 1.3). In Wierzbicka’s (1996: 330) view, the meaning of the most basic colour terms can be seen as quotations incorporating “fundamental and visually salient features of human environment: the sky, the sun, vegetation, fire, the sea, the naked earth, the earth covered with snow.” Without taking any standpoint on the overall issue, we can agree with Wierzbicka that these features at least serve as good reference points, and the dictionary usage confirms this.

Apart from the terms mentioned above, the other terms are generally defined in relation to the basic colour terms, in a system similar to that designed by Kelly and Judd (1976). However, although dictionaries use the same type of controlled language for this descriptive purpose, there is considerable variation in the definitions. Consider the selection given in Table 5:1 below. (A full list of definitions can be found in Appendix 4.) Aside from the first two (lemon and lime), the terms represent three categories to be explored in greater detail in the case study in Section 5.5 below. Table 5:1 reflects some conspicuous differences in the definitions of the colour terms. Take for example magenta: Whereas CIDE states that it is ‘a dark purplish colour’, Longman defines it as ‘a bright pink colour’. Quite a few of the dictionaries define lavender, lilac and mauve in exactly the same way, ‘a pale purple colour’. Intriguingly, the one dictionary that does distinguish between these, Webster’s, defines maroon and magenta in the same way, ‘dark reddish-purple’, two colour terms which are defined differently in most other dictionaries. Another striking detail is that the OED tries to maintain a difference between the terms aqua and aquamarine. It is quite clear that it is difficult to define the exact nuance of an ECT. Moreover, it should be noted that no dictionary tries to contrast one ECT with another; they are always defined in relation to BCTs.

If we turn to another area of the colour spectrum, we can see that Webster’s defines lemon yellow as ‘a brilliant greenish yellow’ suggesting both a green element and high saturation, whereas all the other dictionaries stress the single

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5 This is rather similar to what Nord (1997) found in language dictionaries for German, French and Italian.
6 Some researchers have criticised Wierzbicka’s claims for not being testable. A critical examination of Wierzbicka’s theories can be found in Kemmerer (1999).
7 The unorthodox definition of lemon in Webster’s could be due to the lack of, or confusion with, the colour term lime in the dictionary, but this is mere speculation. Somewhat confusingly, yellow is partly defined as “the colour of ripe lemons”. See Appendix 4. It should be noted that there may be dialect differences present here, and that American English is only represented by Webster’s Dictionary.
yellow element of lemon, and four of them low saturation; ‘a pale yellow colour’. In the case of lime (green) we can observe that opinions differ as regards saturation, as both bright and pale are used. More confusing is the fact that CIDE, which uses the term lime green, defines the colour as “a light bright greenish yellow colour,” thus suggesting a stronger yellow element than the green. This would appear to be counter-intuitive given the explicit mentioning of green in the name lime green.

Table 5:1. Dictionary definitions of some elaborate colour terms

<table>
<thead>
<tr>
<th>Colour Term</th>
<th>WEB</th>
<th>OED</th>
<th>LONG</th>
<th>OALD</th>
<th>CIDE</th>
<th>CCELD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lemon</td>
<td>A brilliant greenish yellow</td>
<td>Pale yellow</td>
<td>A pale yellow colour</td>
<td>A pale yellow colour</td>
<td>A pale yellow colour</td>
<td>Bright yellow in colour</td>
</tr>
<tr>
<td>Lime</td>
<td>——</td>
<td>[Lime green]</td>
<td>A light bright greenish yellow</td>
<td>A pale green colour</td>
<td>A light bright greenish yellow</td>
<td>Pale yellowish-green in colour</td>
</tr>
<tr>
<td>Crimson</td>
<td>Deep purplish red</td>
<td>Of a deep red somewhat inclining towards purple</td>
<td>Having a deep purplish red colour</td>
<td>A deep red</td>
<td>A strong, slightly purplish, deep red colour</td>
<td>A dark, purplish-red colour</td>
</tr>
<tr>
<td>Magenta</td>
<td>A deep purplish red</td>
<td>—</td>
<td>A bright pink colour</td>
<td>A colour between purple and red</td>
<td>A dark purplish red colour</td>
<td>A dark, reddish-purple colour</td>
</tr>
<tr>
<td>Maroon</td>
<td>A dark red</td>
<td>A particular kind of brownish-crimson or claret colour</td>
<td>A very dark red-brown colour</td>
<td>A dark brownish red colour</td>
<td>A dark reddish-purple colour</td>
<td>Dark reddish-purple in colour</td>
</tr>
<tr>
<td>Plum</td>
<td>A dark reddish purple</td>
<td>A shade of purple</td>
<td>A dark red colour, like a plum</td>
<td>A dark reddish-purple colour</td>
<td>A darkish purplish red colour</td>
<td>Dark-red or purple in colour</td>
</tr>
<tr>
<td>Puce</td>
<td>——</td>
<td>Of a flea colour; purple-brown or brownish purple</td>
<td>Dark brownish purple</td>
<td>(of) A brownish purple colour</td>
<td>A dark purplish red colour</td>
<td>A dark purple colour</td>
</tr>
<tr>
<td>Lavender</td>
<td>A pale purple</td>
<td>A very pale blue with a trace of red</td>
<td>A pale purple colour</td>
<td>A pale purple colour</td>
<td>A pale purple colour</td>
<td>A pale bluish purple colour</td>
</tr>
<tr>
<td>Lilac</td>
<td>A moderate purple</td>
<td>Of the colour of lilac blossom [= pale pinkish violet]</td>
<td>A pale purple colour</td>
<td>A pale purple colour</td>
<td>A pale purple colour</td>
<td>A pale pinkish-purple colour</td>
</tr>
<tr>
<td>Mauve</td>
<td>A moderate purple, violet, or lilac color</td>
<td>The colour of ‘mauve’. [= A bright but delicate purple]</td>
<td>A pale purple colour</td>
<td>A pale purple colour</td>
<td>A pale purple colour</td>
<td>A pale purple colour</td>
</tr>
<tr>
<td>Aqua (marine)</td>
<td>A pale blue to light greenish blue</td>
<td>Aquamarine: bluish-green</td>
<td>A greenish blue colour</td>
<td>Defined in terms of the colour of the stone: “a pale greenish-blue precious stone”</td>
<td>Bluish green</td>
<td>A greenish blue colour</td>
</tr>
<tr>
<td>Turquoise</td>
<td>A light greenish blue</td>
<td>The colour of the turquoise [of a sky-blue to apple-green colour]</td>
<td>A greenish-blue colour</td>
<td>A greenish-blue colour</td>
<td>Bluish green in colour</td>
<td>A bright blue colour that is fairly light and often greenish</td>
</tr>
</tbody>
</table>

* Not defined as a colour term: “Used for the name of a brilliant crimson aniline dye [...]” Interestingly enough, this definition is altered in the new draft edition of the OED available online at http://dictionary.oed.com/. The new definition suggests “[a] purple-pink aniline dye.”
In conclusion, we can say that the difficulty does not reside in an approximate definition of the terms; most dictionaries seem to agree about the BCTs between which any specific ECT is positioned. Rather, the difficulty is to approximate which BCT nuance is the more dominant, and, in particular, to describe the degree of lightness and saturation of the nuance the term refers to. Here we find considerable differences. In cases such as lemon and lime, we might have expected more or less identical definitions in the dictionaries given the prevalence of the fruits from which the colour terms are derived. If we can find this kind of disparity in language dictionaries, can we then assume that the average language user will be in full control of the differences between, say, magenta and maroon, or lavender, lilac and mauve?

Let me finally mention an attempt to move away from the imprecise language definitions of colour terms. This attempt can be found in Longman, in which a number of terms are presented and illustrated in the context of a painting. This provides the reader with a possibility of viewing, and thus identifying the reference points of the terms directly in the colour domain. However, the success of this approach can be questioned. First, it would seem that some colours may have come out poorly in the printing process; for instance, the alleged turquoise colour appears to be far from what is normally conceived of as turquoise. Second, the terms are presented in the context of a painting scene, and there are three distinct areas in which colour terms are expressed together with their alleged meaning: the painting itself, a palette and a box containing tubes. Unfortunately, in this mode of presentation, adjacent nuances (technically speaking) are not presented in proximity, and, as a result, it may be difficult to appreciate the difference between, e.g., purple, violet and mauve.

If it was the belief of the lexicographer that these colour terms contrast with one another, then I think a simpler colour chart presentation would have been much more helpful. In addition, I would suggest that it would have been more helpful if the colour terms had been presented in the nominal domain where they are most frequently used. For example, rather than defining beige in the domain of facial colour (which is the case in the picture), where it is very rarely used, it could have been defined in the domain of clothing.

5.2.3 Summary
In this section we have considered the way that ECTs are defined in a technical dictionary and in typical language dictionaries. We could see that in the latter there is considerable variation between the definitions and an examination of Appendix 4 will provide the reader with further evidence of this. In fact, it would appear that the only ECTs that are consistently defined are those which designate nuances within the area of a single BCT, as in the case of emerald, for example.

One reason for the difficulty could be that ECTs, like BCTs, cover areas of the colour spectrum and do not refer to one particular nuance alone. Therefore we get a slight overlap between different ECTs. On the basis of the definitions in Kelly and Judd (1976), it is possible to draw a tentative picture of the relation between a number of closely related colour terms. Figure 5:1 below represents such an
attempt. The greyish areas at the centre of the figure represent ‘deep purplish red’ and ‘dark purplish red,’ two nuances which most of these terms seem to refer to.

Plum describes an area which is darker and slightly less saturated than the one designated by magenta. Both these terms include nuances which are more purple. Crimson, on the other hand, is redder and has high saturation. Maroon is darker and less saturated and includes elements of brown. In contrast to language dictionaries, where puce is given some brownish or purplish element much like maroon, Kelly and Judd define the term as “dark red”.

Thus, as Figure 5:1 illustrates there is a slight overlap between the various colour terms. The problem, if we are to make a guess on the basis of the language dictionary definitions, appears to be that ECTs lack salient reference points (foci) in the colour domain. There is an overlap between BCTs, but there is little controversy about where the focus of the category lies, and all the dictionaries provide more or less the same definition, describing the focus.

![Figure 5:1. The semantic relation between some ECTs](image)

In the case of ECTs this reference point is missing and the dictionaries define different parts of the area designated by the term. The next section considers the
emergence of ECTs in the light of these facts. Why, we may ask, are there so many terms if their mutual relation is difficult to establish?

5.3 The Emergence of ECTs.

5.3.1 The motivation
The evolution of Elaborate Colour Terms has been studied by Casson (1994, 1997). In his articles, he convincingly demonstrates that English went through a change from being a language that focussed on lightness aspects to becoming a hue-focussed language. Although this was a long process, Casson identifies this shift as taking place in the Middle English period. His conclusion with regard to this shift deserves to be quoted in its entirety:

Culture members, responding to increases in societal complexity and diversity, restructure their systems of color categorization by differentiating new concepts and innovating new vocabulary [...]. The color shift from brightness to hue in the evolution of English basic color terms can be seen as a response to an increasingly complex color world in the Middle English period (1150-1500). The development of secondary color terms, beginning in the late medieval period (1350-1500) can also be attributed to this increasingly diverse array of culturally significant colors. The response of culture members to these changes was a “cognitive refocusing.” (Casson 1997: 237-238)

Although Casson’s overall conclusion is most persuasive, I do not fully agree with his statement that the Middle English period saw a growing complexity from the point of view of colour. To my mind, this is true only to a certain extent, namely in relation to one particular domain – that of textiles. As far as other areas of experience are concerned, it is reasonable to claim that the colour nuances that were named in the Middle English period (and later) were already present in the everyday life of the common people in the Old English period. These nuances could be found in the colours of flowers, of sunsets, of berries, etc. However, as Casson so insightfully points out, they lacked cultural significance. In an illiterate and predominantly agricultural society like that of the Old English period (and, indeed, the Middle English period and even later), there was no, or very little, functional need for elaborate descriptions of flowers and berries; at least not to the extent that new terms were coined. Furthermore, there was always the possibility of nonce formations. As suggested above, classifying and identifying functions tend to opt for the most general contrasting term. However, with descriptive use, it is the colour itself which is of particular importance, and this was certainly the case in the context of clothes.

Casson sees the growing cultural importance of these nuances as intimately linked with the increasing use of exclusive dyed products. This seems to be a correct conclusion. Although native dyes such as woad and madder already existed, it appears that the increasing trade with the Mediterranean region and the

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9 Kerttula (forthcoming) examines in great detail the origin of 100 English colour terms.
10 See also Biggam (1997: 40-78) for an exhaustive summary of research in Old English colour terminology.
Elaborate Colour Terms: Definition, Formation and Usage

The development of the woollen industry stimulated the use of other dyes. Carus-Wilson (1952: 371) claims that

the northern dyers vastly extended the range and variety of their colours with more exotic products from Asia as well as from the Mediterranean. Kermes, now commonly called grain (granum), from Asia Minor, Spain and Portugal was now used in the North as it had been in the South in Roman days; with it was dyed the costly scarlet worn by kings.

We can argue that textiles coloured with dyestuff from abroad had a high cultural significance. Not only because the colours were different from those obtained from native dyes, but in particular because they signalled exclusivity and, thus, wealth. It therefore became important to designate these colours properly. Consider Chaucer’s classic description of the wife of Bath in the general prologue to The Canterbury Tales (l. 453-457): 11

Hir coverchiefs ful fyne weren of ground;
I dorste swere they weyeden ten pound
That on a Sondai weren upon hir heed.
Hir hosen weren of fyn scarlet reed,
Ful streite yteyd, and shoes ful moyste and newe. [emphasis added]

The mention of scarlet here is hardly accidental, and I would argue that its major significance lies outside the colour domain; it goes well with the characterisation of the wife that she should wear exclusively dyed stockings. Thus, the difference between scarlet and red was significant in the domain of clothes, but it was probably highly insignificant in the domain of flowers. There is a great deal of evidence of this state of affairs in the Middle English period. If we look more closely at the oldest terms in Casson’s (1994) list, that is, the ECTs established before 1500, we find the following twelve terms: ash, auburn, azure, blond, crimson, gold, ochre, russet, scarlet, silver, vermilion and violet. As Casson (1994: 15) points out, all but three (ash, auburn and blond) were relevant to the domain of textiles. Furthermore, the colour red appears to have been particularly significant, and especially the kermes dye since no less than three colour terms derive their meaning directly or indirectly from this dye: crimson, scarlet and vermilion.

The tendency towards emphasis of ECTs in the domain of clothing appears to be valid for modern English usage as well. A study of a random sample of the material in the BoE reveals that the main use of ECTs in the BoE is confined to artefactual domains such as textiles, clothes, interior decoration, cosmetics and vehicles. Of natural domains, it is only in the domain of plants that we find extensive use of ECTs, and then it is in the somewhat artificial context of horticulture (see also section 5.5). It appears common to these domains that they involve some kind of compositional thinking with regard to colour. Furthermore, they constitute domains of experience which seem to be salient in particular types of discourse where they are granted high cultural significance. Consider, for

11 A detailed study of Chaucer’s colour term usage can be found in Biggam (1993). Incidentally, she does not include this particular instance of scarlet. This could be due to her confinement to adjectival use, or possibly to an interpretation of scarlet as having the meaning of ‘scarlet dye’.
instance, the great number of specialised magazines in these fields. As might be expected, it is in the brmags subcorpus that we find the most frequent use of ECTs and it is also in this subcorpus that there are more than five mentions of all the ECTs studied here, cf. Section 3.6 (p 92-94). Moreover, these magazines are characterised by a multitude of photographs and pictures, often accompanied by comments concerning the composition of colours; the colours are not mentioned for the purpose of classifying a type or identifying a particular instance. Often they are mere descriptions to help the reader create a picture. Recall Magnusson and Persson’s (1986) claim that the aim of description is to draw attention to the property, not the entity.

However, it would also appear that in reference to some entities the colour terms are used to evoke other types of associations outside the colour domain. Bergh (1997) demonstrates that the terminology used for car colours tends to be more suggestive than precise; other areas which might present a similar pattern are fashion, interior decoration and cosmetics. As an example of the associations sought after in the creation of a colour term in cosmetics, consider the following scene in Margaret Atwood’s *The Robber Bride* (1994: 433). Roz, one of the protagonists, invents a new colour term:

> She’s thought of another river name too, another colour: *Athabasca*. A sort of bronzed pink. Frostbite crossed with exposure. How you get in the North without sunblock.

The next section examines more closely the formation of ECTs from a cognitive linguistics point of view.

### 5.3.2 The process of creation

It seems that almost all ECTs, and, incidentally BCTs too (cf. Shields 1979), originate as names of entities. The evidence is overwhelming. Casson (1994: 13) demonstrates that the entity senses predate the colour senses in all the cases of his study. Furthermore, when a colour term is a loanword, it would seem that the corresponding term in the supplying language originally referred to an entity. The cognitive process that we are concerned with here is that of **metonymy**. In Section 2.5.2, I gave a general description of this process in a cognitive framework, identifying several different types. The type of mapping we are concerned with here can more precisely be described as $+$ CATEGORY FOR SALIENT ATTRIBUTE $+$, or to use Casson’s (1994: 14) wording: “entity stands for entity’s color.” On the whole this appears to be a very common type of metonymy.

What makes the type of metonymy involved in the formation of colour terms rather special is that it also leads to a change in word class, allowing the concrete surface of the entity to be abstracted and moved to other entities without evoking the whole of the entity. It can be argued, however, that in its reference to colour space, the colour term represents an uncountable noun, cf. Kay (1999), and Langacker (1991b). Twardzisz (1997) treats zero derivation of adjectives from

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12 A conspicuous exception would be *magenta*, which is the name of an Italian town where there was a battle in 1859, shortly before the dye was discovered. However, the formative process essentially parallels that of the normal type.
nouns, and gives a brief account of colour terms. It would seem to make sense both cognitively and communicatively that that which instantiates the best example of a colour also represents that colour. However, having said this, we must make due allowance for the fact that what constitutes the best example is culturally coded.

Using the figure presented in Chapter 2, we can illustrate the metonymic mapping +CATEGORY FOR SALIENT ATTRIBUTE+ as in Figure 5:2 above. As the figure demonstrates, this metonymy can be viewed as a subtype of the more general part-whole metonymy. Figure 5:2 indicates that the focus of attention is shifted from the primary domain of the default predication (the entity) to one, usually central, attribute; hence, a new primary domain is evoked (COLOUR) at the expense of the previous one, which becomes a part of the attribute structure. This is possible through the reciprocity mentioned in Section 2.4.1. Furthermore, the metonymical process leading to a new prediction will necessarily result in some change of the attribute structure. Some attributes may be lost whereas others may be retained or even centralised. Recall (Chapter 2) the complex network that we can assume forms a conceptual structure. By means of an example, we may note that the form lemon in its colour sense may vaguely evoke associations to attributes of the entity. This, however, is not the same as to say that the lemon nuance evokes the same associations. Furthermore, given the name of present-day vogue colour terms such as orchid and cappuccino, it is tempting to suggest that these other attributes are in fact almost as important as the actual nuance, the primary domain of COLOUR.13

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13 Leech (1981:16-17) discusses a similar phenomenon in terms of reflected meaning.
Bergh’s (1997) study of colour terms for cars provides ample evidence of the tendency for colour terms to be used for their peripheral associations rather than for precision, examples such as smaragdsvart, ‘emerald black’ and diamantblå, ‘diamond blue’ demonstrate that associations are more important than the information value.

Casson (1994) presents a very strong case for this kind of metonymy being the source of all ECTs. However, he takes the establishment of this historical development one step further and claims that we are concerned here with a unidirectional process. A weak interpretation of this claim is that Casson only suggests that all colour terms ultimately go back to an entity meaning, and the evidence certainly points in that direction. But, if we are to take the term unidirectional at face value, then Casson appears to maintain that the opposite process is not possible, and this is unquestionably incorrect. There are numerous examples of cases where a colour stands for an entity. Suffice it to indicate, at this point, that the classifying terms of races, whites and blacks, represent such a mapping. This will be dealt with in more detail in Chapter 7.

Let us finally consider an intermediate stage of development. It seems that the mapping +WHOLE THING FOR A PART OF THE THING+ is, as it were, lexicalised in the paraphrastic expression x-coloured (where x is an entity). In this phrase the whole entity is evoked but at the same time the focus is placed on one attribute – the surface colour. Although this type of construction might be claimed to be a borderline case as a colour term, I have included it in my study. It might be argued, however, that the colour terms that demonstrate a significant proportion of such constructions are poorly entrenched as colour terms. The terms that have the highest proportions of this type of construction are rose (114/632), cream (100/1384), and rust (42/174). In particular rose appears to have a weak identity as a colour term, despite its relatively high frequency; there is also the phrase rose-tinted, and in both cases the meaning is figurative rather than literal. It was also shown in Chapter 3 that the term rosy is much more frequent than rose in its colour sense.

To sum up, in this section the process of formation of ECTs has been identified as one of metonymy. Typically, the name of an entity that constitutes a salient example of the colour is metonymically extended to designate the colour itself. In this process a number of attributes linked to the entity may be retained as attributes to the colour term, which is also true of the previous primary domain. It was argued that, in many cases, these other attributes may be just as important as the reference to the colour domain. It was also shown that the evolution of ECTs is a fairly recent development correlating with an increasing cultural importance of colour nuances in clothes.

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14 The figures represent the frequency of the phrase x-coloured and the total frequency of the term referring to colour.
5.4 The sense relations of ECTs

So far in this chapter, we have addressed formal definitions of colour terms and the formation of the terms. The insecurity in the dictionary definitions and the formation of ECTs from names of entities seem to raise questions concerning the semantics of ECTs. The purpose of this section is to look more closely at sense relations obtaining within the field of ECTs. The sense relations of special interest are introduced in Figure 5.3 below.

As an example of the various relations, let us consider the term *fuchsia*. The colour term derives from “a genus of ornamental shrubs (family Onagraceae)” (OED). Thus, it could be claimed that there is a polysemous relation between the entity sense and the colour sense. The colour term *fuchsia* is defined quite differently in the dictionaries (cf. Appendix 4) so that it is actually possible to suggest three different superordinates: red, purple and pink. Finally, depending on our understanding of *fuchsia*, we might consider plum, mauve, rose or magenta to be near synonyms of the term.

As pointed out in Chapter 2, these various sense relations are dependent on the perspective we choose to apply to our study. Synonymy and hyponymy are the main concern from the point of view of the onomasiological perspective. Polysemy, on the other hand, reflects a semasiological perspective.

Figure 5.3. Semantic relations relevant to the analysis of ECTs.

5.4.1 Polysemous relations

Let us first consider the relation between the entity sense and the colour sense. Following Casson’s convincing argumentation, we have concluded that almost all ECTs are ultimately derived from names of entities through a process of metonymy. It was also suggested that the construction *x-coloured* represents an intermediate stage in this process. Once a metonymic mapping of the above type
has been exploited or encountered by a language user a number of times, it will have reached a certain degree of entrenchment, thus achieving unit status as a colour term. At that point, it can no longer be claimed that an active metonymic mapping is taking place, instead there will be a complex network, or radial structure.\textsuperscript{15} Another way of describing the state of affairs is to say that there is a polysemous sense relation between the entity sense and the colour sense. As was stressed in Chapter 2 following Tuggy (1993), we can best conceive of the dimensions of homonymy, polysemy and vagueness as a continuum. With respect to ECTs we can observe that different ECTs appear to have different relations to their senses of objects and that this may possibly be analysed in terms of this continuum.\textsuperscript{16}

One way of estimating the distance between two polysemous senses in the case of colour terms could be to relate it to the dimensions of transparency and opaqueness. This would suggest that terms which are regarded as opaque do not share any attributes with the original entity, whereas transparent terms do so to a varying degree. Typically ECTs which are loanwords have very little contact with the original entity sense. However, the issue of transparency and opaqueness is not as straightforward as one would wish. First, we have to acknowledge that different speakers may have different opinions, depending on their knowledge of the world: what some people may find to be transparent colour terms, others may find opaque. Hence, we would expect to find some fuzziness when we consider the language community as a whole. In Casson (1994), this issue is addressed and studied, and he demonstrates that there is considerable agreement among speakers as far as these parameters are concerned. No less than 73 of his 92 terms (i.e. 79\%) were given an almost unanimous vote as either transparent or opaque (only one dissenting voice among the twenty informants). On the other hand, it still meant that 19 terms showed some degree of fuzziness with respect to these dimensions. Unfortunately, Casson does not tell us which terms. I myself was surprised to find \textit{amber} and \textit{lavender} among the opaque terms, so we may speculate that these two were among the 19 terms exhibiting fuzziness.\textsuperscript{17}

A second aspect of this matter is how we should understand transparency. In his investigation, Casson asked his informants two questions in order to determine whether a colour term was transparent or not:

\begin{itemize}
  \item whether the term had a noncolour meaning or not, and if so,
  \item what the meaning was.
\end{itemize}

To me, true transparency would also imply that one’s knowledge of the entity would be helpful for the identification of the colour nuance. Accordingly, I think that Casson’s questions only verify a limited degree of transparency. Consider the

\textsuperscript{15} This is of course an individual process that will vary among speakers, depending on age, interests etc. What one speaker perceives as a novel term, others may find to be an established term.

\textsuperscript{16} It is, however, possible to make finer distinctions. Magnusson and Persson (1986) argue that there is a qualitative distinction between homophonous transcategorial derivatives and polysemous items belonging to the same category. The transcategorial relation (i.e. involving shift of word class) is called \textit{synsemy}.

\textsuperscript{17} The opaqueness of these terms is likely to be culturally conditioned. Lavender is native to Europe, and the largest and most significant source of amber is the shores of the Baltic Sea.
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terms *navy* and *orchid*, both classified as transparent. No one could seriously suggest that *navy* is transparent in a strict sense; indeed, there is only an indirect link between the (abstract) entity sense and the colour sense. Similarly, orchids are familiar to most people as flowers, but it would seem that few have actually seen many orchids. Furthermore, since we are concerned here with a group of flowers, it is more or less impossible to predict the nuance of the colour term. In linguistic terms we could say that this type of polysemy is slightly different, since the key-mediating attribute is missing. The formative process of *navy*, for instance, can be viewed as a complex series of metonymies, whereby the name for an abstract entity has come to serve as the name for the typical colour of the uniforms worn by the sailors representing this entity. This aspect of marginal transparency appears to be quite common. The presence of colour terms also designating relatively common objects that show variation in colour testifies to this: examples of such terms in my material are *plum*, *olive*, and *lilac*, and among Casson’s terms we can mention *chocolate*. Presumably, the colour term usually refers to the most prototypical colour of the entity, but this is still one aspect which can be said to represent only a limited degree of transparency.

At the other end of the scale, we can find terms like *silver* and *lemon*. They designate entities with which people frequently interact, almost on a daily basis. Thus, they are likely to be truly transparent. Moreover, the link between the entity and colour sense is evident since there is very little or no variation in the colour of lemons as we usually meet them.18

Having established these different aspects of transparency and opaqueness, we should now be able to draw some linguistic conclusions. First, if a term is conceived of as transparent, even in a relaxed sense, it is likely that the colour term will share a number of attributes with the entity from which it was derived. No doubt this is why we find terms such as *orchid*, *cappuccino* and *cinnamon* in cosmetics and fashion – the words are associated with exotic tastes, smells and rareness. This is of course a modern trend, but in line with that described earlier for Middle English, where exclusive dyes and gems tended to create new colour terms.

Second, it is tempting to see the transparent relation as a function of the degree of entrenchment/conventionalisation that the varieties exhibit. If the object sense is very entrenched, as we can assume is the case with *silver*, then we expect a stronger influence from its attribute structure. It seems possible that the more deeply entrenched term lends attributes to the formally identical colour term. Thus, we would have a more complex attribute structure. For a less entrenched term such as *fawn*, this would not be the case, since the attribute structure of the entity sense might be poorly developed. Finally, in cases where the colour term was borrowed, like *magenta* and *mauve*, there might be no influence at all from the object sense.

On the basis of this argumentation it is possible to make a rough and general categorisation into four types of polysemous relations based on the different degrees of entrenchment/conventionalisation of the colour term and the entity. Figure 5:4 tries to capture the different types on the basis of the frequencies in the

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18 This makes the definition of *lemon* in Webster’s (cf. p 137) even more surprising.
BoE. A bold box illustrates a well-entrenched term \((n > 500)\), a broken box represents senses of low entrenchment. It may be somewhat surprising to see that the majority of ECTs are derived from objects whose terms are not very salient. The results can also be compared with Casson’s (1994) classification of transparent (T) and opaque (O) terms.

As can be observed, there is generally a good agreement, in that colour sense derived from poorly entrenched entity senses are classified as opaque. However, on closer inspection the picture is even more complex. Another complicating factor is the complex structure of some terms, e.g. lemon. In these cases there are a number of senses which can be derived from the object. It could be argued that these other senses may also affect the full semantic structure of the colour sense. The question is what kind of relations obtain between the derived senses, as in Figure 5:5 below.

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19 For a detailed study of the relative basicness of English colour terms, see Kerttula (forthcoming). The issue of prototypicality and frequency is very tricky. Alan Cruse (pc) pointed out to me that see in the sense ‘understand, know’, is more frequent in computer corpora than see in its notionally prototypical sense of ‘using one’s eyes.’

20 This figure is arbitrarily chosen and may be justifiably challenged. However, for the current aim of illustrating the difference between various term it serves a purpose. The character of the BoE is also likely to affect whether an entity is classified as salient or not.

21 Carmine and golden were not tested for transparency and opaqueness by Casson (1994).
Added to these directly derived senses, there are also metaphorical extensions from the object or from one of the derived senses. Examples of such additional senses are lemon and peach in the senses of ‘bad’ and ‘good’. It seems unlikely that a car manufacturer will ever call a particular yellow nuance lemon since the collocation of lemon and car is likely to create undesirable meanings.

Polysemy may occasionally cause ambiguity. This would appear to be a marginal problem in so far as ECTs are concerned. Nevertheless, ambiguity does occur sporadically and it would seem that this is particularly frequent when the entity domain of the colour term is that of metal or gemstones. Possibly, this is because of the valence relation (cf. 4.3) that the modified noun makes possible. Consequently, silver hair and amber light are not ambiguous, whereas silver buckle and amber earrings potentially are. In the latter cases, the character of the noun makes two interpretations possible (material and colour), the issue being whether it is the surface, i.e., the colour, or the content of the entity that is being described. For the compilation of my frequency lists this was occasionally a problem, but in practice it would have little significance.

To sum up, we can say that polysemy and its related concept transparency are important aspects of the full description of the meaning of an ECT. It is also argued here that the polysemous relation and the issue of transparency can be described in terms of degree, one important factor being the entrenchment of the two senses, the object and the colour. Furthermore, it is suggested that associations linked to the nominal concept from which the colour sense was derived may be of significance for the usage pattern of the colour term.

5.4.2 Hyponymy

As far as hyponymy is concerned, it was pointed out in Chapter 2 that, in the colour domain, this is a semantic relation of a complex nature. There are numerous colour terms which designate areas located between the best examples of some BCTs. Examples of such terms are turquoise (between blue and green), maroon (red, brown and purple), amber (yellow and brown), crimson (purple and red), and there are many more. Is it correct then to say that these ECTs are hyponyms of both these colour terms? Although this is a tempting solution in some cases, for instance turquoise, it is more problematic in others, for instance cream. Prima facie, it
would seem that a corpus study should be able to offer us some guidance in this respect. Quite frequently ECTs form what could be termed polysynthetic structures together with BCTs. Thus, we find *turquoise blue*, *lime green*, and *lemon yellow*. However, on closer inspection it seems that this type of construction is by far the most frequent as regards ECTs that clearly designate nuances within the field of reference of only one BCT, as in *charcoal grey* and *azure blue*. When it comes to a term like *maroon*, for instance, the corpus is not very helpful at all; there is one instance of *maroon-red*, one of *maroon-purple* and one of *maroon-brown*. In my opinion, we have to acknowledge that certain domains of experience do not readily lend themselves to the sometimes blunt tools represented by semantic formalism. The colour domain appears to be one such.

5.4.3 Synonymy

From the dictionary definitions we could see that there are several terms which appear to denote more or less the same area in the colour domain. Should not these terms be considered synonymous? Kay (1999: 81) points out that ECTs have succeeded one another in certain areas and that this occurred in North American English in the twentieth century; indeed it is an on-going process:

> The colors that I learned to call *tan*, *chartreuse* and *turquoise* are called by members of my children’s generation *beige*, *lime* and *aqua*, respectively. A representative corpus that spanned the last few decades would show the synonym pairs (*tan*, *beige*), (*chartreuse*, *lime*) and (*turquoise*, *aqua*). In my speech each of these pairs now occurs, as far as I can tell, in free variation, and there are doubtless other North American speakers in the same boat.

We find two interesting statements here. First, Kay points to the possibility that we may be faced with the phenomenon of change in apparent time (and indeed, real time), among the terms which denote more or less the same area in the colour domain. Second, he suggests that, in this shift, some speakers will use the terms virtually synonymously (“in free variation”).

From the point of view of semantics assumed here, it does not matter whether two entities may be used in free variation – their conceptual structures are likely to be different, and it would therefore be misleading to claim that true synonymy exists. It has been pointed out by many commentators that it is impossible to find perfect synonyms, since most words differ in some respect (cf. 2.6.2). Some scholars have therefore argued that alleged synonyms are better viewed as co-hyponyms (cf. Persson 1990). However, the fact that native speakers claim to use terms in free variation deserves closer attention. A case study below explores three areas of the colour domain in which we find colour terms defined in more or less the same way in the colour dictionaries.

5.5 A case study of ECT synonymy – domain preference and salience

The aim of this case study is to investigate the salience of effects of some ECTs in relation to different nominal categories. The study focuses on terms which belong to the same area in the colour domain and which could be regarded as near
synonyms. It is particularly alleged synonymy and free variation that are considered from the point of view of the language corpus. As described by Langacker (1999), the continual entrenchment of a unit is closely related to usage and encounter; it can be viewed as the abstraction (or schematisation) of relevant information from the context (cf. Section 2.2). This suggests that the character of the noun may be of considerable importance in the conceptual structure of the ECT since colour terms are mentioned in the context of some object and since the ECTs, generally speaking, have low frequencies and thus low degrees of entrenchment. It may be that some ECTs are used particularly often in some nominal domains, in the same way as blond(e) and auburn are more or less restricted to the domain of HAIR. Previously in this chapter I have pointed to domains such as FASHION and HORTICULTURE where ECTs appear to be particularly frequent.

What led me to realise the importance of the nominal category was an answer I received from an informant when I played around with different ideas of transparency. I asked my informants if they knew what nuance almond was, and in what context, if ever, they would use it. This particular American male informant gave the following answer:

I think of two things, actually. The first color nuance is a very pale brown color close to the color of a shelled almond or a peanut. The second is a mustard-yellow closer to deep yellow than lemon yellow. [...] I know I would use this term to talk about the color of major appliances (refrigerators, ovens) because that’s what my above connotations are based on. The almond color was mustardy in the 70’s and is the lighter color now.

Here we can see two strategies for the designation of the term: to look for the colour of the object, or to look for a salient context (object) where the term occurred. Apparently the term could give access to a particular nominal context in which this informant frequently encountered the term. Thus, the designation was accessed through a mental space or possibly domain matrix evoked by the described entity rather than directly in the colour domain.

The aim of my case study is to examine the relation between general nominal categories and a number of ECTs. As pointed out above, the low frequency with which an ECT is used makes the nominal category likely to be of importance. BCTs, on the other hand, probably also show variation over nominal categories, but their high entrenchment precludes nominal categories from having any deep impact on their meaning.

Three areas of the colour domain were chosen for this case study. All three areas are designated by more than one term, thus suggesting intricate semantic sense relations. The terms that refer to these areas are

- crimson, magenta, maroon, plum and puce (‘dark/deep purplish/reddish/brownish red/purple’)
- lavender, lilac and mauve (‘pale purple’)
- aquamarine and turquoise (‘greenish blue’)

...
The areas differ to some extent in size and the degree of referential equivalence between the terms in each group varies. However, as can be seen in the definitions quoted in Table 5:1 above, there is considerable variation among the dictionaries and we can guess that the same insecurity can be found in the speech community as a whole. In common with Kay’s (1999: 81:fn 12) claim, it may be assumed that some people will state adamantly that there are differences among lavender, mauve and lilac, one being more bluish and one more pinkish (cf. the definitions of CCELD in Table 5:1), whereas for others they are synonymous in terms of colour designation (cf. most other dictionaries in the same table). Still others will only be aware of one or two of them as colour terms. What I want to explore is the kind of difference we can discern in the language community, as represented by the BoE corpus.

The case study of ECT usage as described below is based on my material from the BoE. The occurrences were categorised according to the nominal field to which the colour term ascribed its nuance. This approach was inspired by Forbes’ (1979) investigation of the French terms brun and marron. By asking informants to list things that they would call brun and marron respectively, she was able to demonstrate that the use of these terms partly appears to fall into complementary categories. My hypothesis is that we may find a similar pattern when it comes to all ECTs with potential referential identity.

However, in contrast to Forbes, I have preferred to place the entities in general categories, which I call nominal fields. These can be equated with the notion of domain in its vague sense, but given the technical use of domain that has been employed here, I have found it practical to use a different term for this categorisation. However, in want of a synonym, I have occasionally used domain. The categories are notional and somewhat ill-defined, but are apparent enough for the present purpose. The labels of these fields should be self-explanatory, although some may need further explanation. First, as is demonstrated in numerous publications, any categorisation will be complex in the sense that there are bound to be borderline cases and fuzziness. Since I have opted for few fields these are necessarily of a general nature and in borderline cases I have chosen to use an inclusive approach rather than categorise something as ‘other’. As examples I can mention that shoes are part of the clothing field, tiles are part of background decoration. Second, the rationale behind distinguishing between furniture and background decorations such as wallpaper, curtains, carpets and painted walls is based on the fact that pieces of furniture tend to serve as figures, whereas the entities belonging to the second category are characteristically ground elements. Finally, it should be noted that each super-field – natural objects, human and artefacts – contains a hotchpotch category named other, containing objects which could not be classified in the other nominal fields.
Table 5:2. The distribution of a selection of ECTs in different nominal fields.

<table>
<thead>
<tr>
<th>ECT</th>
<th>NATURAL THINGS</th>
<th>HUMANS</th>
<th>ARTEFACTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Animal kingdom</td>
<td>Plants</td>
<td>Celestial phenomena</td>
</tr>
<tr>
<td>crimson</td>
<td>31</td>
<td>294</td>
<td>51</td>
</tr>
<tr>
<td>magenta</td>
<td>9</td>
<td>77</td>
<td>2</td>
</tr>
<tr>
<td>maroon</td>
<td>6</td>
<td>70</td>
<td>0</td>
</tr>
<tr>
<td>plum</td>
<td>5</td>
<td>21</td>
<td>2</td>
</tr>
<tr>
<td>puce</td>
<td>—</td>
<td>3</td>
<td>—</td>
</tr>
<tr>
<td>SUM</td>
<td>51</td>
<td>465</td>
<td>55</td>
</tr>
<tr>
<td>lavender</td>
<td>4</td>
<td>109</td>
<td>10</td>
</tr>
<tr>
<td>lilac</td>
<td>3</td>
<td>159</td>
<td>4</td>
</tr>
<tr>
<td>mauve</td>
<td>6</td>
<td>271</td>
<td>10</td>
</tr>
<tr>
<td>SUM</td>
<td>13</td>
<td>539</td>
<td>24</td>
</tr>
<tr>
<td>Alt. fields</td>
<td>Nat. water</td>
<td>Art. water</td>
<td>Human – mostly eyes</td>
</tr>
<tr>
<td>aqua (marine)</td>
<td>1</td>
<td>19</td>
<td>12</td>
</tr>
<tr>
<td>turquoise</td>
<td>16</td>
<td>15</td>
<td>122</td>
</tr>
<tr>
<td>SUM</td>
<td>17</td>
<td>16</td>
<td>141</td>
</tr>
</tbody>
</table>

Table 5:2 above gives the numbers for each category. On the basis of these figures we can analyse the material from two different points of view; we can estimate the relative semasiological and the onomasiological salience of the terms. In Chapter 1, I mentioned that MacLaury’s improved fieldwork methods allowed him to consider both these perspectives within the confines of the colour domain. However, what I will do here is not only to go beyond the colour domain, but to ignore it completely.

To my knowledge, the most systematic work employing these perspectives in a study of lexical semantics is that of Geeraerts et al. (1994). One of the great achievements of this meticulously conducted corpus investigation of words for garments in Dutch is that the authors try to quantify semantic phenomena. In my analysis below, I draw heavily on the approach taken in that work, with a few necessary alterations.

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22 The onomasiological and semasiological perspectives are discussed and defined in 2.6.
5.5.1 The semasiological perspective

As argued in Chapter 2, a semasiological perspective asks of a given form what its semantic range is. Thus polysemy, homonymy and vagueness are sense relations which can be addressed from this perspective. However, as Geeraerts et al. (1994) demonstrate, prototype phenomena, such as fuzzy boundaries and salience effects, can also be successfully studied; technically, these phenomena could be included in the semantic notion of vagueness. If we apply this reasoning to the present study, we may ask in what nominal field a particular ECT occurs most often. Should there be any salience effects in relation to the preference of nominal field, we might suggest that this gives us additional information about the meaning of the term. We could say that a certain nominal field is particularly salient in the usage of the term – a salient attribute – in the same way as one might propose that [hair] is a salient attribute of BLOND(E).

As was discussed above, it seems reasonable to suppose that we acquire colour names in the context of nouns, rather than in the context of the colour domain itself. Thus it may be that some nominal fields are particularly salient in a term. We can calculate the semasiological salience of a nominal field as the ratio of the frequency of a term within a specific field to the overall frequency of the term. The null hypothesis would suggest equal distribution across the fields. Table 5:3 below presents the results of the calculation in percentages. The focus is the horizontal axis of the table; the highlighted figures indicate which field is most salient in each case. Note that whereas some colour terms show a high degree of preference for one field, other terms are more evenly distributed. The distribution was tested for chi-square goodness-of-fit, and showed significant deviation from the null hypothesis (p < 0.05) for all terms.

In the brownish/purplish red field, we find an interesting pattern of differing distributions. Crimson and magenta are most often used in the field of PLANTS, whereas CLOTHING is the most salient nominal field in plum and maroon. Thus, the figures suggest that an English speaker would be likely to use crimson in the context of flowers, and plum in the context of clothing if asked to illustrate the usage of the colour terms. Given the character of the BoE (cf. 0.3.5), however, encounter might be a better term than use. The corpus more accurately reflects the likelihood of being exposed to a term than of using it.

The colour term puce has a conspicuous distribution. In contrast to the other terms in the purplish/brownish red area, however, puce is most frequently used in the field of FACE. This is quite surprising. Why would a specific colour term be used particularly often to designate facial colour? Dictionaries suggest that puce is a “dark brownish purple” colour.
Table 5:3 Salience effects of nominal fields.

<table>
<thead>
<tr>
<th>ECT</th>
<th>NATURAL THINGS</th>
<th>HUMANS</th>
<th>ARTEFACTS</th>
<th>SUM (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Animal kingdom</td>
<td>Plants</td>
<td>Celestial phenomena</td>
<td>Other</td>
</tr>
<tr>
<td></td>
<td>3.5</td>
<td>5.8</td>
<td>2.6</td>
<td>6.9</td>
</tr>
<tr>
<td>magenta</td>
<td>4.6</td>
<td>1.0</td>
<td>0.5</td>
<td>1.5</td>
</tr>
<tr>
<td>maroon</td>
<td>1.2</td>
<td>13.5</td>
<td>0.0</td>
<td>1.4</td>
</tr>
<tr>
<td>plum</td>
<td>3.7</td>
<td>15.7</td>
<td>1.5</td>
<td>0.7</td>
</tr>
<tr>
<td>puce</td>
<td>0.0</td>
<td>3.9</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>lavender</td>
<td>1.5</td>
<td>39.6</td>
<td>3.6</td>
<td>2.9</td>
</tr>
<tr>
<td>lilac</td>
<td>0.9</td>
<td>46.8</td>
<td>1.2</td>
<td>1.2</td>
</tr>
<tr>
<td>mauve</td>
<td>1.2</td>
<td>54.1</td>
<td>2.0</td>
<td>3.6</td>
</tr>
<tr>
<td></td>
<td>Nat. water</td>
<td>Art. water</td>
<td>Eyes</td>
<td></td>
</tr>
<tr>
<td>aqua (marine)</td>
<td>0.5</td>
<td>0.5</td>
<td>10.2</td>
<td>6.5</td>
</tr>
<tr>
<td>turquoise</td>
<td>2.5</td>
<td>2.3</td>
<td>19.1</td>
<td>0.9</td>
</tr>
</tbody>
</table>

The use of *puce* as a facial colour correlates very strongly with anger and rage as in examples (1) and (2) below. However, I find it hard to believe that a person even at the peak of anger would have an actual puce nuance to his/her face – this seems to be a clear case of hyperbole. The pattern can be interpreted as an indication that *puce* could be on its way out of the colour domain and into designation of an abstract quality – great anger – instead. Example (2) can be interpreted in this way. Incidentally, the same kind of development can be found for the term *livid*. This kind of usage is addressed in greater detail in Chapter 6.

(1) She was in the drawing room when Billy burst in, his face *puce* and his eyes wild. (BoE: brbooks)

(2) Laudrup lobbed long to David Robertson who tapped past Thomson from five yards. Jimmy Nicholl, *puce* no doubt by half-time, brought on both substitutes for the restart. (BoE: indy)
In the purplish/brownish red area most terms show a clear preference for one particular nominal field. The one exception is magenta, which, apart from the field of PLANTS, also has a high frequency of occurrences in the hotchpotch field of ARTEFACTUAL OTHER. On closer inspection, it turns out that in this latter category, we find two particularly frequent applications of the term. First there are quite a number of references to printing and ink. This is due to the fact that magenta is one of the subtractive primary colours, thus anyone familiar with colour photography will be well aware of the colour of magenta. Incidentally one might feel hesitant about whether this nuance and that of magenta flowers are really identical. Amazingly, the second most frequent use of magenta in this field refers to a famous stamp (a misprint). As we can see in the example below, it is unique and therefore it can be referred to by its colour – which functions almost as a proper name.

(3) In the world of rare stamps, that is done by myth and legend. Some stamps simply acquire an aura, a mystique. Some never do. Demand is what makes the black and magenta so much more valuable than the others. (BoE: brbooks)

Finally it should be pointed out that a great number of the maroon instances in the field of clothing are linked to sports activities. It appears that a number of sports clubs have maroon as part of their official uniform. In particular this is true of various teams representing Queensland (Australia), and if we look at the statistics (Appendix II) we can see that maroon is indeed over-represented in the subcorpus of Australian English (oznews). In all the other subcorpora but one (spoken British English – brspok) crimson is more frequent than maroon. In oznews, maroon is four times as frequent as crimson (maroon 115 instances vs. crimson 28). Although it can be shown to be linked to sports, it may be assumed that the term maroon occupies a different position in the Australian speech community than in the British. The fact that the colour term is frequently used should make it more salient to people. In England, the same colour is usually termed claret in the context of football; Aston Villa’s colours are for instance called claret and blue.

If we consider the other two areas we can see that aquamarine has no clear field of preference, although it is clearly a term which is mostly used together with artefactual things. Turquoise, on the other hand, shows a clear preference for the CLOTHING domain. Interestingly enough, all the terms in the pale purple field are most frequently used in the field of PLANTS. Although there are slight differences, it is striking how similar these terms are as far as field salience is concerned; lavender and lilac especially show great similarity, whereas mauve appears to be slightly more anchored in the PLANT domain.

In sum, we can say that the ECTs studied here most frequently occur in two nominal fields, those of vegetation and clothing. This suggests that, at least in some cases, we are likely to associate the meaning of a colour term not only with a particular nuance but also with a nominal field, or domain. Moreover, it could be shown that terms in the purplish/brownish red area of the colour domain differed with respect to the preference of nominal field. This might be an indication that the speech community prefers to distinguish similar terms in this way. However, no such pattern could be found in the pale purple area – on the contrary, these terms demonstrated remarkable similarity with respect to nominal field preference.
5.5.2 The onomasiological perspective

Let us now turn to the complementary perspective and consider onomasiological salience. In Chapter 2, it was argued that onomasiological variation is closely related to basic level effects and sense relations such as hyponymy and synonymy. It has been argued that the most salient level in a hyponymy structure can be equated with the basic level (Rosch et al. 1976, Lakoff 1987). Here we can also include Langacker’s notion of entrenchment. The more deeply entrenched a unit is, the higher its onomasiological salience, cf. Geeraerts et al. (1994). In my study here, I would like to see whether there are any differences in salience among the terms when we consider a number of different nominal fields. Since we have stipulated full referential equivalence, the terms are treated as if they could be exchanged without any change in nuance. Thus, to put it simply, the study asks which ECT is most likely to be used if we want to describe a particular nuance of an object belonging to a particular nominal field. To exemplify; if we saw a purplish red car and wanted to describe it which term would we choose? Crimson, magenta, maroon, plum or puce? Since I am only interested in the relation among the ECTs of a particular area I have not taken into consideration the BCTs red and purple, nor possible modifications of these, such as purplish-red.

A great achievement in Geeraerts et al.’s work is that they give their notion of onomasiological salience an operational definition thus making calculations possible. They (1994: 138) define it as

the ratio between the frequency with which the members of a lexical category are named with an item that is a unique name for that category, and the total frequency with which the category occurs in the corpus.

Here we will modify this operational definition so that we can make it fit the character of the present investigation. The onomasiological salience of a term was calculated as the ratio of the frequency of a term within a specific field to the overall frequency of the nominal field. The null hypothesis would suggest equal distribution among the terms. The figures were tested for chi-square goodness-of-fit, and the marked figures within a nominal field indicate that the null hypothesis could not be rejected ($p > 0.05$). The figure for the most salient term in each field is highlighted in bold characters.

A closer look at Table 5:4 reveals some interesting details. First, as might have been expected, crimson, given its high overall frequency, is quite salient in most nominal fields. However, one conspicuous aspect of the deduced pattern is the comparatively lower salience of crimson in artefactual nominal fields. In the fields of CLOTHING, ROAD VEHICLES and FURNITURE maroon is distinctly more salient. It might be that crimson is felt to have a fairly formal and old-fashioned tone (cf. the age of the term), and is thus unsuitable in the discourse of fashion. Moreover, as was pointed out above, the salience of maroon in the domain of CLOTHES can be partly explained by its frequent occurrence in sports. The strong position of

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23 Geeraerts et al. (1994: 146) maintain that “the basic level hypothesis suggests that co-hyponyms should have entrenchment values of the same magnitude, but this is disconfirmed […] here.” However, as pointed out by Ungerer (1996), this seems to be the authors’ interpretation, which cannot be found elsewhere. The central idea of my study here is that the terms will differ in entrenchment in different nominal fields.
crimson in the field of other human references can be attributed to its frequent use in connection with blood.

Table 5:4 Salience effects of ECTs in some nominal fields – an onomasiological perspective.24

<table>
<thead>
<tr>
<th>ECT</th>
<th>NATURAL THINGS</th>
<th>HUMANS</th>
<th>ARTEFACTS</th>
<th>Other</th>
<th>Proportion of all instances (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Animal kingdom</td>
<td>Plants</td>
<td>Celestial phenomena</td>
<td>Other</td>
<td>Face</td>
</tr>
<tr>
<td>crimson</td>
<td>60.8</td>
<td>63.2</td>
<td>92.7</td>
<td>71.9</td>
<td>59.2</td>
</tr>
<tr>
<td>magenta</td>
<td>17.6</td>
<td>16.6</td>
<td>3.6</td>
<td>3.1</td>
<td>2.9</td>
</tr>
<tr>
<td>maroon</td>
<td>11.8</td>
<td>15.1</td>
<td>0.0</td>
<td>21.9</td>
<td>1.0</td>
</tr>
<tr>
<td>plum</td>
<td>9.8</td>
<td>4.5</td>
<td>3.6</td>
<td>3.1</td>
<td>3.9</td>
</tr>
<tr>
<td>puce</td>
<td>0.0</td>
<td>0.6</td>
<td>0.0</td>
<td>0.0</td>
<td>33.0</td>
</tr>
<tr>
<td>P</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
</tr>
<tr>
<td>lavender</td>
<td>30.8</td>
<td>20.2</td>
<td>41.7</td>
<td>26.7</td>
<td>41.2</td>
</tr>
<tr>
<td>lilac</td>
<td>23.4</td>
<td>29.5</td>
<td>46.2</td>
<td>13.3</td>
<td>23.5</td>
</tr>
<tr>
<td>mauve</td>
<td>46.2</td>
<td>50.3</td>
<td>41.7</td>
<td>60.0</td>
<td>35.3</td>
</tr>
<tr>
<td>p</td>
<td>—</td>
<td>***</td>
<td>—</td>
<td>**</td>
<td>—</td>
</tr>
<tr>
<td>Alt. fields</td>
<td>Nat. water</td>
<td>Art. water</td>
<td>Humans, mostly eyes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>aqua (marine)</td>
<td>5.9</td>
<td>6.3</td>
<td>13.5</td>
<td>66.2</td>
<td>20.7</td>
</tr>
<tr>
<td>turquoise</td>
<td>94.1</td>
<td>93.8</td>
<td>86.5</td>
<td>79.3</td>
<td>73.7</td>
</tr>
<tr>
<td>p</td>
<td>***</td>
<td>**</td>
<td>***</td>
<td>—</td>
<td>**</td>
</tr>
</tbody>
</table>

A second point worthy of attention is the status of puce in the nominal field of FACE. We saw earlier that puce is used most frequently in this field and only rarely

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24 *** = p < 0.001, ** = p < 0.01, * = p < 0.05
otherwise. However, this does not mean that *puce* is the most salient red-purplish colour in the field of face – the figures above demonstrate that *crimson* is much more salient. This underscores the importance of describing ECTs from both perspectives. However, the choice between *puce* and *crimson* is not entirely irrelevant, as is further described in Chapter 6.

If we look at the green-blue area we can see that *turquoise* is much more salient than *aquamarine* in all nominal fields. It is only in the field of *ARTIFICIAL WATER*, i.e. in the context of pools and bathtubs, that the latter term is close in salience to the former. This suggests that whenever the blue-green area is to be designated by an ECT, *turquoise* is the more likely choice. It may even be suggested that *aqua(marine)* is a hyponym of *turquoise*.

Finally we have the pale purple area. *Mauve* is the most salient term in the fields of *VEGETATION* and *FURNITURE*, and two ‘other’ categories. However, the most conspicuous fact is that the null hypothesis could not be rejected in most fields. Thus, it seems that these three terms are equally salient in most fields. Does this mean that they are synonymous or used in free variation? Not necessarily, but other methods have to be employed to prove this.

To sum up, this case study demonstrates that we can find additional features which are important for the characterisation of the colour domain by studying the use of the terms in the context of nominal domains. It was shown that there may not only be differences between colour terms in relation to their own anchor points in nominal domains, but also in terms of salience in a specific nominal domain. On the whole, onomasiological salience in various nominal domains coincided with the overall salience of a term. The distribution of *crimson* and *maroon* was a notable exception.

Other terms that show this preference for certain nominal fields are *beige, fawn, navy, teal* and *cream*, which all occur most often in the field of *CLOTHING*. *Lemon*, on the other hand, is very frequently used in reference to the colour of flowers. These would seem to be important facts that might well be taken into account by lexicographers in trying to describe the meaning of ECTs.

### 5.6 Summary

The aim of the present chapter was to give a general semantic characterisation of non-basic colour terms, here called Elaborate Colour Terms. Two types of definitions were studied. It was shown that the technical dictionary used a controlled language together with formal notations. Ordinary language dictionaries use a similar kind of controlled language in their entries. However, a comparison between several dictionaries revealed that there is considerable variation concerning exactly where the lexicographers place ECTs in the colour spectrum. It was argued that this is probably due to the lack of salient reference points for these colour categories. This seems to verify what has been found in other studies: a certain degree of insecurity as to the reference of ECTs. It would be interesting to use the methodology of MacLaury (1997) to investigate further the relation between various ECTs.
ECTs are typically derived from names of entities and to the extent that this connection is apparent to the language users, this polysemous state of affairs might possibly affect the conceptual structure, giving access to a richer collection of attributes. It was demonstrated that a number of sense relations could be discerned and that the concept of transparency can be more complex than may appear at first sight.

The second part of the chapter discussed various sense relations, and a case study showed that terms which appear to be close to synonymous may differ with respect to semasiological and onomasiological salience. In conclusion, conceptual complexities and differences in salience undermine claims that there may be synonymy between ECTs.
6.1 Introduction

So far in this dissertation, I have principally been concerned with reference within the colour domain. Chapter 4 showed that a classificatory function of a term may allow it to refer outside its normal area, and that the choice of term may be dependent on the vantage of the conceptualiser. Chapter 5 dealt with ECTs and it was argued that the domain of the noun may be of importance when we choose a colour term to describe an object.

In the present chapter, I consider more closely some extra meaning effects that appear to be created under particular circumstances, especially in the use of ECTs. The chapter can be seen as a transition between the previous chapters and the next one, which deals exclusively with figurative meanings of colour terms. Here, I examine cases where the main reference is clearly within the colour domain, but where it would nevertheless seem that it is the extra, non-colour, meaning that is actually more important. In the case of figurative meaning, on the other hand, the reference of the colour term has moved out of the colour domain completely. However, it is not possible to draw a precise boundary and some of the cases that I discuss below could possibly be viewed as instances of figurative use.

There are at least two phenomena that can be identified, and it is these two phenomena that will be dealt with here. Consider (1) and (2) below:

(1) Her cobalt eyes are hidden by taupe-coloured sunglasses which she takes off only once. [—–] The sienna tint of her slightly weathered skin is evidence of a love of outdoor activity. (BoE: oznews)

(2) Maria was livid because it meant everyone was looking out of the window instead of wishing her happy birthday. (BoE: brmags)

Sentence (1) contains very precise colour terms when describing the actress Jane Fonda. However, it would appear that this precision is unwarranted from the point of view of colour. I myself had no idea of the exact designation of cobalt, taupe and sienna, and most of the native speakers I have consulted have confessed insecurity in this respect. Presumably this would be true of most readers of the magazine article where the phrase was recorded, so why this exactness? A number of my informants have spontaneously pointed to the almost ridiculous effect of the colour terms in (1). So, one possible answer to the above question is the extra meanings that such precision seems to evoke, here in terms of emotive overtones.

In the first part of this chapter, I discuss the type of phenomenon illustrated by (1) and analyse it with the help of Cruse’s (1977) modification and elaboration of the Jakobsonian concept of markedness. Using a case study of saturation terms, I argue that overspecification can create ‘extra’ meanings and highlight attributes
outside the colour domain. A previous attempt along the same lines of argumentation can be found in Steinvall (2000), in the context of Victorian poetry.

Sentence (2) illustrates that an ECT may become closely related to specific moods, and in this particular case, the connection has reached so far that the colour term can stand for the mood. In fact, it can be argued that the term *livid* has almost completely left the colour domain; this appears to be the case in (3) below, where both *livid* and *scarlet* are mentioned without any apparent contradiction being felt.

(3) Prue was *livid* now, *scarlet* with humiliation. There had better be a damn good explanation. (BoE: usbooks)

It was demonstrated in Chapter 5 that *puce* is seldom used to denote other colours than facial ones, and this appears to be even more true of *livid*. In both cases, the colour term is used in connection with a particular mood. In the second part of this chapter, I explore the relationship between colour terms and emotions and attempt to establish whether there is any systematicity. However, since I am primarily interested in the fuzzy territory between literal and figurative use, I take into account only those occasions on which the colour refers to skin colour. Both general patterns and the function of specific terms are considered.

### 6.2 Markedness and specificity

The notion of markedness goes back to the Prague school of linguistics and in particular the Russian scholars Roman Jakobson and Nikolai Trubetzkoy. Markedness in its prototypical form entails a binary opposition between a marked and an unmarked feature or term, be they phonological, morphological or semantic, where the unmarked feature represents a default ‘value.’ The idea of markedness has proved to be a very useful tool employed in many schools of linguistics, and as the idea has spread the definitions of markedness have become less specific and more vague than was Jakobson’s original definition. Andrews (1990) provides a critical exposure of the history and development of the concept of markedness.

In Lyons (1977), we can find a good illustration of the standard conception of markedness theory in relation to the analysis of lexical structure. He (p 305-306) identifies three different forms of markedness: “formal” (e.g. *count* – *countess*), “distributional” (e.g. *high* – *low*)\(^1\) and “semantic marking” (e.g. *dog* – *bitch*). Semantic marking, which is the most important for the present study, is specified by Lyons (1977: 307) as indicating that “[a] semantically marked lexeme is one that is more specific in sense than the correspondingly unmarked lexeme.”

It is a slightly different notion of semantic markedness that I will take into account here, one put forward by Cruse (1977).\(^2\) Cruse’s use of markedness theory is original in two respects. First, he elaborates the notion of semantic markedness. As we could see above, Lyons’ definition of semantic markedness is unidirectional

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1. Here *low* can be said to be marked since its distribution is lower. For instance, it does not usually occur in questions referring to height; consider the odd nature of ‘How low is that bridge?’
2. Other researchers, notably Rosch (1978), Clark and Murphy (1982), have observed the effect of unwarranted specificity.
and has a straightforward relation to specificity: in a lexical relation it is always the more specific term that is the marked one. Drawing on Brown’s (1958) observations, Cruse, on the other hand, identifies an intermediate level of specificity, which in his opinion is the unmarked one. He calls this level “**INS (Inherently Neutral Specificity)**” (Cruse 1977: 155). It corresponds more or less exactly to what is identified as the Basic level in cognitive linguistics (cf. Chapter 2). In Cruse’s view both subordinates and superordinates are marked in their relation to the basic level. Basic level terms such as *car* and *dog*, are inherently neutral as regards specificity and would be the normal terms used in conversation.³

In certain contexts, however, there may be a need for a higher degree of specificity. Consider (4) below (taken from Cruse 1977: 156):

(4)  
(a) I’ll have to take the dog to the vet tomorrow.  
(b) I’ll have to take the alsatian to the vet tomorrow.

*Dog* is basic level and *alsatian* is subordinate. Nevertheless, depending on the context, either sentence can be preferred. In a context in which only one dog is concerned, sentence (b) would appear to be less normal. However, if there were several dogs involved in the context, then sentence (a) would be uninformative and strange.

This illustrates Cruse’s second modification of markedness theory in comparison with the version suggested by Lyons. He stretches the idea of markedness to include pragmatic considerations. With the help of Grice’s maxim of Quantity,⁴ Cruse maintains that it is possible to identify contexts in which a subordinate term would be contextually unmarked. In other words, the preferred level of specificity and what can be interpreted as marked is very much contextually bound. Cruse (1977: 156) formulates a rule to account for how an utterance can be said to be unmarked:

To obtain an unmarked utterance in a given context, use INS unless this results in an abnormal communication, in which case deviate from INS to the minimum degree required to ensure normality.

This is, basically, an application of the maxim of Quantity. Following Cruse (1977: 156), we can refer to terms meeting the above rule as **CNS, Contextually Neutral Specificity**. The analysis demonstrates that it is important to distinguish between INS and CNS. Whereas INS is a cognitive-semantic unit identifiable in isolation, or with a minimum context influence, CNS is only identifiable in a specific context. Accordingly, the full meaning of a marked lexeme and, in fact, its very status as marked can only be established in context. An interesting consequence of Cruse’s theories, which is not predictable from Lyons’ model of semantic marking, is that the system is asymmetric. Cruse (p 159) points out that

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³ As stated by Ungerer and Schmid (1996: 63), the basic level is usually preferred when we first introduce a subject.
⁴ The maxim of Quantity is expressed as follows (Grice 1989: 26):
   1. Make your contribution as informative as is required (for the current purpose of the exchange).
   2. Do not make your contribution more informative than is required.
[164 Chapter 6]

The inherent nature of the inherently neutral level [i.e. the basic level] is reflected in the fact that if an INS is not at the same time CNS, then it must lead to an abnormal communication: it can never give rise to a marked utterance.

[---] A level of specificity other than INS, however, has no inherent character: it may yield marked, unmarked or abnormal utterances, depending entirely on the context. [Emphasis added].

Consequently, the use of hyponyms and superordinates normally has one of two functions (if we may assume that people avoid abnormal communication): either it is contextually motivated and produces an unmarked utterance, or it is not contextually motivated and, hence, produces a marked utterance. A marked utterance could be interpreted as a flouting of the maxim of Quantity, and the hearer might look for other meanings. In what follows, I take a closer look at the use of four ECTs in relation to the notion of markedness.

6.3 The marked use of saturation terms

As could be seen in Chapter 5, most ECTs occupy a position in the colour domain which makes them difficult to classify in terms of hyponymy. It would, for instance, be misleading to say that turquoise is a hyponym of blue but not of green. The fact that many terms have this intermediate position makes them less likely to exhibit markedness phenomena of the type discussed here. As noted by Clark and Murphy (1982), referents which are atypical of a category may generate specific vocabulary: it is more reasonable to refer to an ostrich by the term ostrich rather than the term bird. By the same token, intermediate colour terms such as turquoise, lime and maroon may be used more frequently in unmarked contexts due to their intermediate position in relation to BCTs: a turquoise nuance is a poor example of both green and blue and may therefore readily elicit the term turquoise in most contexts.

There are, however, terms which appear to be good candidates for marked usage. These colour terms are what I call here saturation terms. A saturation term, as it is used here, refers to an ECT which designates an area of high saturation clearly within the scope of a BCT. In everyday language but also in the controlled language of dictionaries, such nuances are frequently referred to as “bright” or “vivid” (cf. 0.4, 5.2.1 and 5.2.2). For example, the OALD defines scarlet as “a bright red colour” which would make it into a saturation term according to my definition. What makes saturation terms particularly interesting is the fact that they refer to what most people appear to classify as the most typical example of a particular BCT. Collier (1973) observed that the focus of the BCTs coincided with the areas of highest saturation and suggested that Berlin and Kay’s (1969) result could be an artefact of their experimental procedure (the Munsell chart used by B&K was maximised for saturation). Although he was later (Collier et al. 1976) able to demonstrate that BCT foci were stable at a uniform level of saturation, he still maintained that (1976: 889) “basic color words are associated with colors of high saturation.”

In view of these observations, we may enquire why there should be ECTs that designate the best example of the general, BCT, category. It this particular
circumstance that makes saturation terms a fitting object of study. Given Casson’s (1994) research, it is tempting to suggest that there could be a cultural explanation. The fact that it was difficult and expensive to create dyes and colours that could produce bright colours made it socially and culturally important to designate these colours using precise terms.

Here the identification of saturation terms is based on their codification in dictionaries (cf. the dictionary study of ECT definitions in 5.2.2). The study is delimited so as to include only saturation terms referring to areas within the four chromatic Primary Basic Colour categories (i.e. BLUE, GREEN, RED and YELLOW). A term is regarded as a saturation term if its dictionary description includes the terms bright or vivid and it is only described with reference to one of the Primary BCTs. Dictionary definitions can be found in Appendix 4. As mentioned in Chapter 5, there are considerable differences between the six dictionaries studied, but with an inclusive approach (I have included a term if it is mentioned in any one dictionary as “bright” or “vivid”) the eight colour terms listed in Table 6:1 can be considered to be saturation terms.5

Table 6:1. Saturation terms

<table>
<thead>
<tr>
<th>PRIMARY BCT</th>
<th>BLUE</th>
<th>GREEN</th>
<th>RED</th>
<th>YELLOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOKENS IN BoE</td>
<td>27102</td>
<td>28664</td>
<td>38912</td>
<td>13055</td>
</tr>
<tr>
<td>SATURATION TERM</td>
<td>Azure</td>
<td>Ultra-</td>
<td>Emerald</td>
<td>Carmine</td>
</tr>
<tr>
<td>TOKENS IN BoE</td>
<td>136</td>
<td>35</td>
<td>326</td>
<td>80</td>
</tr>
<tr>
<td>TRANSPARENCY</td>
<td>Opaque</td>
<td>Opaque</td>
<td>Transparent</td>
<td>Opaque7</td>
</tr>
</tbody>
</table>

It was argued in Chapter 5 that the transparency of a term may influence the full impact of the meaning of it and therefore this aspect (based on Casson’s 1994 classification) has been included in Table 6:1. The frequencies clearly demonstrate that there appears to be one term in each BCT category which dominates as a salient saturation term. These four salient terms, azure, emerald, scarlet and golden, are the focus of attention. We can also observe that the total frequency of

5 Crimson might be considered a good candidate too, as the OALD defines it as “a deep red.” Deep usually refers to a combination of high saturation and little lightness. However, all other dictionaries included a purple nuance in the term, which led me to decide against including it.

6 The figure for golden is an estimation, cf. 3.2.

7 Carmine does not occur in Casson’s (1994) list, but I think it is safe to categorise this term as opaque. Cf. the etymology given in the OED.
the saturation terms is only a small fraction compared with that of the superordinate basic term, except in the case of golden vs. yellow, where the saturation term has a much stronger position. The structure of the yellow category was discussed in 3.2.1.

6.3.1 The pattern

Before we look at the data, a methodological issue should be mentioned. Since the aim is to study marked use, the questions arise of how to find these marked instances and how to abstract general patterns. If Cruse’s (1977) line of reasoning is correct, then it could be claimed that, for a marked reading to occur of a particular collocation, the minimum criterion should be that the basic level term should be the normal choice; the INS should be the CNS, to use Cruse’s terminology. One problem is that Cruse’s theory and examples deal with nouns, whereas adjectives are of principal concern here. This suggests that we have to take into account the objects to which the colour terms ascribe a specific nuance, and therefore this study is based on adjective-noun collocations.

I decided on the following procedure in approaching my material. Since the saturation terms are the centre of attention, I recorded the 25 most frequent saturation term+noun collocations (although *n* could not be lower than 2). Included in this operation were also the phrases of the type ECT-BCT + noun (e.g. *emerald-green …*) since I felt that they should be part of a full description. Next, the frequency of the superordinate BCT+noun collocations was recorded; thus in this second step, the nouns were the same as from the first step. Finally, to obtain a clear picture, the collocations were sorted into general categories on the basis of the noun. After this initial work, the individual examples were examined in search of marked meanings.

This section is organised in a similar way: First the overall pattern is presented together with some general observations; then individual examples are scrutinised, and at the end of the section I present an interpretation of the processes involved.

The first term to be considered is emerald, the saturation term of green. Emerald is a transparent term and most English speakers are probably aware of the precious stone from which the colour term is derived. The nouns below were qualified by emerald and/or emerald green at least twice in the Bank of English corpus. The words appear in order of frequency; the most frequent collocations are mentioned first. Those marked with an asterisk represent collocations appearing only with emerald green.


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8 As a result of the software available at the BoE, singular and plural nouns are listed as two different collocations.

9 The actual exploration of the BoE took place on August 9, 2001, which means that it was done after the modification of the BoE corpus in September 2000. However, this should not have affected the result.
Table 6:2 presents the nouns organised in nominal fields and includes the total score for each group. The nominal fields are only meant to be notional and are not given any theoretical definitions (cf. Chapter 5). The scores can then be compared with those of the BCT green. These groups seem to form a good basis for an investigation of markedness effects involving emerald.

As the frequencies suggest, green is a much more common collocation of these nouns in most cases although there are some individual exceptions. Notably, isle(s) occurs more often together with emerald. It should be remembered that the set phrase the Emerald Isle referring to Ireland has been excluded since it is normally spelt with capitals. Even if the notion of nominal field is tentative and not well-defined here, it is nevertheless obvious that emerald is most often used in reference to predominantly natural objects and less often to artefacts. A conspicuous detail is that the phrase emerald green, rather than emerald, referred to all nouns within the nominal field of CLOTHES.

Table 6:2. Nouns qualified by emerald organised in nominal fields.

<table>
<thead>
<tr>
<th>NOMINAL FIELD</th>
<th>NOUNS</th>
<th>TOTAL SCORE EMERALD (GREEN)</th>
<th>TOTAL SCORE GREEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye</td>
<td>Eyes</td>
<td>12</td>
<td>422</td>
</tr>
<tr>
<td>Water</td>
<td>Lake(s), sea, water(s)</td>
<td>14</td>
<td>125</td>
</tr>
<tr>
<td>Landscape features not including water</td>
<td>Landscape, rice, paddy, valley, grove, pasture</td>
<td>14</td>
<td>91</td>
</tr>
<tr>
<td>Grass</td>
<td>Greens, fairways, turf, lawn, grass</td>
<td>12</td>
<td>223</td>
</tr>
<tr>
<td>Clothes</td>
<td>Dress, suit, velvet, ankle socks</td>
<td>12</td>
<td>163</td>
</tr>
<tr>
<td>Island</td>
<td>Isle(s)</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Animals</td>
<td>Doves, iguanas</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

The next term, azure, is classified by Casson as opaque. Like emerald the colour term is derived from a precious stone, in this case lapis lazuli. The following nouns occurred at least twice in the corpus together with azure. The pattern is quite similar to that of emerald.

Sky(ies), water(s), sea(s), kingfisher, eyes, Caribbean, Mediterranean, *flowers.\(^{10}\)

\(^{10}\) The asterisk indicates that flowers was modified by azure-blue.
In the case of *azure kingfisher*, it is the name of a species (*alcedo azurea*) and hence, an example of classificatory use and not description. It has not therefore been included in the table.

**Table 6.3. Nouns qualified by *azure* organised in nominal fields.**

<table>
<thead>
<tr>
<th>NOMINAL FIELD</th>
<th>NOUNS</th>
<th>TOTAL SCORE AZURE (BLUE)</th>
<th>TOTAL SCORE BLUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td><em>Water(s), sea(s), Caribbean, Mediterranean</em></td>
<td>30</td>
<td>531</td>
</tr>
<tr>
<td>Sky</td>
<td><em>Sky(ies)</em></td>
<td>18</td>
<td>926</td>
</tr>
<tr>
<td>Eye</td>
<td><em>Eyes</em></td>
<td>4</td>
<td>1684</td>
</tr>
<tr>
<td>Plants</td>
<td><em>Flowers</em></td>
<td>4</td>
<td>247</td>
</tr>
</tbody>
</table>

As might have been expected, *azure* is mostly used in reference to water and the sky. In common with *emerald*, *azure* is used primarily in reference to the colour of natural objects.

If we then turn our attention to the much more frequent use of *scarlet*, a slightly different pattern appears. In the case of *scarlet*, it was possible to collect 25 collocations with a score higher than two. In fact the number of collocations was much higher but only the 25 most frequent were taken into consideration. The collocations are listed below.

> *Fever, woman, lipstick, flowers, silk, sea perch, dress, letter, berries, blooms, tunic, lips, macaw, velvet, leather, cloak, robe(s), cloth, jacket, women, pimpernel, poppies, gown, hips*

One conspicuous detail that makes *scarlet* different from the previous terms is the fact that there are several instances which do not occur together with the superordinate terms *red*. Thus, we have *scarlet fever, scarlet woman* and *women, scarlet sea perch, scarlet letter*,\(^{11}\) *scarlet macaw* and *scarlet pimpernel*, but no corresponding *red fever* etc. In all these cases we can talk about *scarlet* as exercising type modification, i.e. having a classificatory function (cf. Chapter 4). In some of these collocations, *scarlet letter* and *scarlet woman*, the colour term has acquired figurative meaning. These particular collocations are dealt with in greater detail in Chapter 7. Another detail that is different is the complete lack of nominal collocations containing *scarlet red*. Below the collocations have been organised in nominal fields on the basis of the noun. The above-mentioned instances of type modification have not been included.

\(^{11}\) The collocation *red letter* does exist of course, but with a distinctly different meaning from that of *scarlet letter*.
### Table 6:4. Nouns qualified by scarlet organised in nominal fields.

<table>
<thead>
<tr>
<th>NOMINAL FIELD</th>
<th>NOUNS</th>
<th>TOTAL SCORE SCARLET</th>
<th>TOTAL SCORE RED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clothes</td>
<td><em>Silk, dress, tunic, velvet, leather, cloak, robe(s), cloth, jacket, gown</em></td>
<td>91</td>
<td>561</td>
</tr>
<tr>
<td>Plants</td>
<td><em>Flowers, berries, blooms, poppies, hips</em></td>
<td>51</td>
<td>287</td>
</tr>
<tr>
<td>Cosmetics</td>
<td><em>Lipstick, lips</em></td>
<td>31</td>
<td>259</td>
</tr>
</tbody>
</table>

As Table 6:4 demonstrates, the use of *scarlet* is different from that of *azure* and *emerald*. In contrast to those terms, *scarlet* occurs most frequently when qualifying an item of clothing.

Finally, there is the transparent term *golden*. The 25 most frequent nominal collocations can be found below.

```
Syrup, hair, light, retriever, glow, eagle(s), beaches, tan, perch, sand(s), arches, plover, dome, curls, hue, caster sugar, pheasant, skin, seal, crust, leaves, rod, beach, *flowers, *foliage, *leaves, *ray, *petals, *fruits, *daffodils12
```

Here, as in the case of *scarlet*, there are a number of collocations which do not occur together with the superordinate BCT, *yellow*, and which have the function of type modification. Among the 25 collocations given above, the following can be categorised as instances of type modification: *golden syrup, golden retriever, golden eagle(s), golden perch, golden plover, golden caster sugar, golden pheasant, golden seal*, and *golden rod*. There are no corresponding phrases containing *yellow*.

There is another feature which makes the relationship between *golden* and *yellow* decidedly different from that between the other terms we have considered: the relatively low salience of *yellow*. This is apparent from the frequencies in Table 6:1, but it becomes even more conspicuous when we look at these collocations. Among the 25 collocations of *golden* there are only two instances where the *yellow + noun* collocation has a higher score than that containing *golden*. These two collocations are *yellow light* and *yellow skin*. Tellingly, these two collocations have completely different meanings from those containing *golden* so we cannot talk

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12 The star-marked words are collocations of *golden-yellow*. They are added to the 25 collocations of *golden* because they are at least as frequent as *golden beach*. 
about greater precision in the latter case (yellow light typically refers to traffic lights, and yellow skin refers to the skin of fruit or (rarely) East Asians). This pattern becomes very clear when we look at the collocations organised in nominal fields. As in the case of scarlet, I have not included type modifications in the categorisation in Table 6:5.

Table 6:5. Nouns qualified by golden organised in nominal fields.

<table>
<thead>
<tr>
<th>NOMINAL FIELD</th>
<th>NOUNS</th>
<th>TOTAL SCORE GOLDEN (YELLOW)</th>
<th>TOTAL SCORE YELLOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>Light, glow</td>
<td>157</td>
<td>160</td>
</tr>
<tr>
<td>Landscape features</td>
<td>Beach(es), sand(s)</td>
<td>140</td>
<td>28</td>
</tr>
<tr>
<td>Hair</td>
<td>Hair, curls</td>
<td>119</td>
<td>83</td>
</tr>
<tr>
<td>Skin</td>
<td>Tan, hue, skin</td>
<td>84</td>
<td>33</td>
</tr>
<tr>
<td>Plants</td>
<td>Leaves, flowers, foliage</td>
<td>74</td>
<td>439</td>
</tr>
<tr>
<td>Building</td>
<td>Arches, dome</td>
<td>58</td>
<td>2</td>
</tr>
<tr>
<td>Cooking</td>
<td>Crust</td>
<td>17</td>
<td>1</td>
</tr>
</tbody>
</table>

The nominal field of COOKING should be mentioned in more detail. It would seem that the use of golden as denoting objects within the domain of COOKING is actually much more frequent than the collocation golden crust suggests. However, due to the method used here, the high frequency of this domain could not be detected, apart from this collocation. Typically the syntactic structure of this use is that of (5) below.

(5) For crunchy sauteed potatoes, use a floury variety. Roughly chop and parboil, then saute in butter and olive oil, stirring until golden. (BoE: brmags)

This kind of reference to the colour of food is frequently in the form of golden-brown. Accordingly, it would seem that golden could be viewed as a subordinate of brown in this particular context.

To sum up, we have seen in this section that the saturation terms seem to be particularly frequent in connection with certain nominal categories. It was also apparent that there are some individual differences between the terms. Whereas azure and emerald are quite infrequent and mostly used for descriptive purposes, scarlet and especially golden are frequent and both terms are also regularly used for classificatory purposes.

6.3.2 A look at some individual examples

Although the categorisation in nominal fields revealed the existence of patterns, it gave us no guidance as to whether these patterns were indications of marked
readings. In what follows, individual examples are presented and compared with the intention of demonstrating the extra meaning that these terms may exhibit in certain contexts.

Let us first consider emerald. The nominal fields that were of special interest listed in Table 6.2 included Eye, Water, Landscape Features Not Including Water, Grass, Clothes, Island, and Animals. Of these, the first four would appear to be of special interest: they constitute fields in which we would not normally assume great precision. Below are some examples relating to Eye.

(6) … the tears and forced the sparkle back into her remarkable emerald eyes. She ran a hand through her hair; it sprang back into order, (BoE: brbooks)

(7) And she retains her femininity, sparkling emerald eyes and lovely long curls of dark red hair. (BoE: oznews)

(8) In Dublin this week you can’t move without seeing the face of Mary Black. Her raven black hair and emerald eyes look out from giant posters all over town. (BoE: today)

(9) Oxford guy longish brown hair, 30 years old, 5’10 green eyes medium build, clean shaven, boyish looks and straight acting. (BoE: ukmags)

(10) … Karen stopped, drove a finger straight at my face, and glared at me with her fatigued green eyes. (BoE: usbooks)

It would seem that the use of emerald creates some extra meaning. This extra dimension is quite difficult to pinpoint in the examples containing the word emerald. In the first two examples much of the force is carried by the adjectives remarkable and sparkling, and it could be argued that not much would be lost if green was substituted for emerald in (6) and (7). But something is lost and in (8) the force of emerald in comparison with green is apparent; there is more to it than simply precision. In fact, this becomes very clear if we do it the other way; substituting emerald for green in (9) and (10) creates strange sentences.

It seems that the precision that the use of emerald suggests evokes an emotional perspective on the part of the describer which goes less well with the assumed objectivity of (9). Furthermore, there appears to be an element of ‘positiveness’ in emerald which makes it clash with fatigued in (10). On the whole, all eleven examples of emerald (green) eyes in the BoE carry to a greater or lesser extent these dimensions, which will be labelled attributes below, in line with the description of meaning presented in Chapter 2.

Preliminarily, we can observe that English speakers usually classify people’s eye colours in three wide categories: blue, green or brown. Therefore, green eyes is an unmarked collocation which can be used in any context. Emerald eyes, on the other hand, is a specification beyond what is normal. It could be argued that it is a

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13 Actually, this is true of Island and Animals too. They are excluded since Island is quite similar to landscape features and Animals is very infrequent.
violation of the maxim of Quantity and therefore attributes outside the colour
domain are given weight.

A look at some of the other nominal fields mentioned in Table 6:2 tells a
similar story. Consider the examples below in the field of *LANDSCAPE FEATURES*.

(11) Driving the final sector down through the foothills to the coast, our road threads
its way through an emerald valley of great scenic beauty to reach the old Black
Sea port of Trabzon. (BoE: brephem)

(12) Now, everywhere she looked she saw her beloved, emerald landscape, and no
way out. (BoE: brbooks)

(13) But in the storm’s wake, a brown gash between 20 and 30 miles wide now cuts
across the emerald landscape. Andrew tore across the Everglades from east to
west like a runaway chainsaw. (BoE: npr)

(14) Many centuries ago the remote desert oasis of San Pedro de Atacama had been
the centre of a flourishing Paleolithic civilization based within impressive rock
fortresses built upon the steep mountains that almost encircle the green valley.
Thousands of ancient graves scattered throughout the hills were beginning to
yield their secrets. (BoE: brbooks)

(15) In ancient times, a Paez Indian chieftain would climb a peak and look out over
the surrounding rivers and green valleys. Whatever his gaze reached
determined what belonged to his clan. (BoE: npr)

(16) High winds and rain clouds were sweeping across the flat green landscape as
Alan fought with the controls and tried to land. (BoE: brbooks)

As in the case of eye colour, *green* appears to have a neutral tone here. In some
cases, its function is close to classificatory, categorising these landscape features as
fertile in contrast to, say, a parched valley. It could be argued tentatively that *green*
here functions as a metonym for verdure. Consequently, the use of *green* goes well
with an objective description like that in (14).

The function of *emerald* is essentially the same as that in the domain of eyes.
Since we do not normally contrast shades of green in nature, at least not in cases
such as valleys, we are led to consider the use of *emerald* in this context as a
flouting of the maxim of Quantity. Therefore we look for external significant
features. Again there is an element of positive emotion present. The marked term
can tentatively be said to produce an association such as sunlight, both literally and
figuratively. The strong element of subjectivity is also apparent. Example (11) and
(12) can be said to illustrate this point. The marked character of *emerald* can also
be demonstrated by the fact that it does not function well in sentences characterised
by an objective tone, such as (14) and (15). The implication of a temporal feature
like sunshine in *emerald* (cf. (16) in which *emerald* would be strange) suggests in
turn less time stability than the use of *green* does. This may be a further reason why
*emerald* appears to be unsuitable in the sentences above. On the other hand, as
could be predicted, there is no problem in substituting *green* for *emerald* in (11),
(12) and (13). The same pattern can also be found in the other nominal fields containing natural objects: WATER, GRASS and ISLANDS.

Let us finally turn our attention to the nominal field of CLOTHES, another field where emerald occurs. Interestingly, it is virtually impossible to detect the same kind of effects as those we could discern above. A substitution of emerald for green does not seem to create the same markedness. It is significant that in the collocation belonging to this field, emerald is often accompanied by green. Apparently, what makes the nominal field of clothes different from those examined above is that clothes may occur in different nuances of green, and it is therefore quite natural to make a fine distinction. Such precision would not imply subjectivity but, on the contrary, a focussed objectivity. This would appear to be the difference and therefore we do not find a markedness effect; it is not perceived as a violation of the maxim of Quantity, but rather as CNS, contextually neutral specificity.

To sum up, this examination of some instances of emerald demonstrates that the use of this term can lead to marked meanings. It appears that these are likely to arise in contexts where the degree of specificity that the use of emerald suggests is unexpected. Thus, it could be claimed that emerald is always marked when used with nouns that refer to categories such as LANDSCAPE FEATURES or EYES. As predicted by Cruse’s theory, emerald does not give rise to marked readings in nominal fields where we might expect this kind of precision. Accordingly, in the field of CLOTHES it is not possible to detect any such effects, cf. (17) below.

(17) There were elegant ladies in dark velvet suits and pearls, a redhead girl in an emerald green suit, a tall blonde in corduroy shorts and a skintight animal-print top. (BoE: brmags)

If we consider azure, a similar pattern emerges. Azure is most often used in reference to water or to the sky, and with it there follow elements of positiveness and subjectivity; consider the examples below.

(18) Cozumel, just a short sail from Playa del Carmen, is a diver’s paradise, with clear blue waters unrivaled in the Caribbean. (BoE: usbooks)

(19) A strong contender for the title of Most Beautiful of all Club Med villages is the village at Punta Cana on the remote southeastern tip of the Dominican Republic. Here, the beach is breathtakingly lovely, banked on one side by a grove of coconut palms and on the other by the azure waters of the Caribbean Sea. (BoE: usbooks)

(20) “I can’t believe it. January 6 and I’ve got miles and miles of sand to myself. You can stick your shimmering azure seas. The North Sea here is a beautiful autumnal shade of brown”. (BoE: times)

(21) The view was breathtaking. The cloudless azure sky contrasted vividly with the deep green of the trees which rustled gently in the afternoon breeze, and on the horizon he could make out the hazy outline of one of the country’s many extinct volcanoes, which shimmered like a flickering mirage in the distance. (BoE: brbooks)
And we can only marvel at the golden domes and great bell-tower of Zagorsk, silhouetted so defiantly beautiful against the crisp blue sky. (BoE: ukephem/02)

I was unconscious for three days; but I returned into consciousness for several seconds, and I saw that I was lying on the ground, and I saw the blue sky; but then I saw that my legs were turned something like ninety degrees to another side; (BoE: bbc)

As these examples demonstrate, azure very often comes with a distinct tone of exotica; azure skies and azure waters most often refer to places like the Caribbean or the Mediterranean or somewhere near the equator. Again, the effect of azure is best captured if we try to put it in a more neutral context: whereas azure goes well with the subjective and emotional tone of (21), it becomes decidedly more awkward in the more neutral narrative of (23). One may also wonder whether the sea outside Torquay could ever be called azure even if it should happen to have that particular nuance on one day – this is of course part of the humour in (20). Although it is true that the water and the sky have a deeper nuance of blue close to the equator, it is quite clear that it is not the nuance that is of primary interest.

The collocation azure eyes occurs only four times, which is surprising given the high frequency of blue eyes. One conjecture concerning the low frequency is the strong connection to the exotic that seems to characterise other uses of azure. It may be that this strong connection creates a notion of exaggeration which blocks the usage. It could also be that azure is so strongly associated with water and sky (cf. Table 6:3) that other collocates appear a little strange.

If we look at the collocation azure-blue flowers, we find a similar pattern to that of emerald in the nominal field of clothing. In a sentence like (24) below, there is no marked reading which creates extra meanings. We find only precision. Again this is probably due to the character of the field, and possibly the type of discourse that we find here – a horticultural context.

Not just any member of the versatile Linum family, but a herbaceous queen called Linum narbonense. A flamboyant native of Southern Europe – we started growing it in 1759 – it’s famed for its three month display of silk, saucer-shaped, five-petaled, azure-blue flowers. (BoE: brmags)

As mentioned earlier, the collocations of scarlet reveal a different story. Table 6:4 shows that, ignoring the classificatory use of the term, we find scarlet in three lexical fields: clothes, plants and cosmetics. In all of these fields, precision is quite natural. Thus, it is very difficult to detect any markedness effects in the case of scarlet. Furthermore, it would seem that scarlet has a slightly different meaning structure than azure and emerald. There are a number of cultural and historical attributes which are attached to scarlet and which may be centralised in certain contexts. The OED mentions that scarlet may designate

[official or ceremonial costume of scarlet, as the uniform of a soldier, the gown or robe of a doctor of divinity or law, a judge, a cardinal, etc.; also, the scarlet coat worn in the hunting field.” [The OED: scarlet A.3.]
It would seem that this kind of use is becoming rare and the few times such a connection is evoked, it is usually in the context of some historical discussion or referring to the military parade uniform. Another attribute that has been associated with *scarlet* is prostitution. In (25) *scarlet* could actually produce both links, given the status of Princess Diana, but the explicit mention of *scarlet woman* is likely to eliminate the royal association altogether.

(25) Diana swept into Paris for a gala dinner wearing a plunging gown in vivid *scarlet*. A *scarlet dress* for a *scarlet woman*? The newspaper headlines in Britain wrote themselves. (BoE: oznews)

In *scarlet woman* we have classificatory use only and it is not an example of a marked reading. Although the process involved here could be viewed as analogous to that observed for *azure* and *emerald*, there are apparent differences. First, the describer is not emotionally affected. Second, the connection is less direct in (25), and would probably be lost unless it was spelt out. One might assume, however, that a collocation like *scarlet lips* could evoke the same kind of subjectivity as *emerald eyes*.

As observed above, *golden* is different from the other saturation terms in that it does not seem to contrast with its superordinate BCT (*yellow*) in the same way as the other terms. It emerges that *golden* contrasts with *yellow* on very few occasions. However, this does not appear to cancel out marked readings. Instead of a contrast with *yellow* we find other types of contrasts. In the context of hair, the unmarked choice would be *blonde*, of course. Consider the examples below. Here we can detect more or less exactly the same effects as with *azure* and *emerald*.

(26) Of sister Jessie, Howes wrote: “The best looking of the girls, with long *golden hair* and the most beautiful skin. She was much more sociable than the rest of us, and from the age of six was hardly ever home to tea.” (BoE: times)

(27) Imagine that you are sitting on a beautiful island beach of *golden sand* with palm trees behind you and wonderfully, brightly-coloured birds flying back and forth between the trees. (BoE: ukbooks)

(28) The Atlantic shores offer a choice of holiday environment. Sunny Isles, at the northern end of Miami Beach, has a pleasant family atmosphere, *golden beaches* and is within easy reach of the glamorous Bal Harbour shopping mall. (BoE: ukephem)

It may be argued that the extra meaning of *golden* does not draw as much on the contrast in precision as on its transparent character. However, one factor which counters this is that, as in the case of the previous terms, the marked subjective reading of *golden* seems to disappear in certain nominal fields such as *PLANTS* and *CLOTHING*. Here, apparently, the specific term is CNS, cf. in (29) below.

(29) There are several different forms of this shrub. One is of compact habit, another has *golden foliage* and two varieties have *golden* and *yellow berries*. (BoE: ukmags)
The mention of both golden and yellow makes it quite clear that golden has CNS status. Furthermore, in this phrase we can also see that golden and yellow can function as co-hyponyms.

To sum up, a closer look at the individual examples reveals that we do indeed find effects that go beyond the colour domain in the use of these terms. This is especially clear in the case of azure, emerald and golden. It could be observed that the effect correlated clearly with the character of the nominal field. Typically the elements of extra meaning arose in fields where this kind of specificity is not expected. This is also probably the main reason why few markedness effects could be found in the case of scarlet. It appears that this term is primarily used together with nouns from domains where high precision concerning colour is only to be expected.

6.3.3 Theorising the effects

In this final section on saturation terms, I try to analyse the origin of the effects that seem to follow a marked use of these terms. It was argued above that two features are closely linked with marked use of saturation terms: subjectivity on the part of the describer and positiveness. Thus, the use emerald eyes and golden hair in the description of a person tells us more about the describer’s attitude than about the appearance of the person. It would seem that unwarranted precision creates this kind of effect. This has been pointed out previously: Rosch (1978: 45) observes that “substitution of subordinate terms for basic-level object names in scripts gives the effect of satire or snobbery.”

But where does the effect come from? Cruse (1977) draws on Mehrabian’s (1981 [1971]) notion of verbal immediacy. In Wiener and Mehrabian (1968: 36), we find a good example of how immediacy and specificity are connected according to this theory. They argue that

> [t]he greater the number of possible additional referents (other than the specific object referred to in the communication) denoted by the particular symbol, the greater is the ambiguity and the less denotative specificity in the communication. As an example, parents referring to their son’s fiancée might say, “our-daughter-to-be”, “our son’s fiancée”, “his fiancée”, “his lady friend”, “his friend”, “she”, or “the person”. These examples are ordered in decreasing degrees of denotative specificity and are interpreted in this framework as expressing decreasing degrees of preference, affect, or evaluation. [emphasis added]

Conversely, an increasing degree of specificity entails greater preference and affection. However, Caffi and Janney (1994) evaluating different approaches to emotive communication point out that Mehrabian and Wiener’s study is ex-negativo, i.e. what can really be demonstrated is mainly non-immediate communication.

Cruse (1977) proposes a modification of this approach to specificity. Instead of claiming that specificity necessarily entails liking, he draws attention to the fact that unpleasant things can also be highly specified by precise terms. Thus, he (1977: 163) suggests that “underspecification de-emphasizes the feature which is omitted, while overspecification emphasizes or intensifies the added feature.” Essentially I follow this idea, although I adjust it slightly to be able to fit it into the
theory of cognitive linguistics adopted here. Accordingly, I talk about attributes, and with an encyclopaedic view of meaning, attributes outside the colour domain may be taken into account.

Broadly speaking, we can talk about two factors that are important for the creation and interpretation of a marked utterance:

- The context in which the utterance appears.
- The attribute structure of the colour concept.

Context appears to be the more important factor. It is the context that will decide whether or not the specificity in the utterance is contextually motivated (CNS). If not contextually motivated, the specific utterance may generate extra meanings. These pieces of extra meanings may very well be fairly peripheral attributes in an unmarked context, which are then centralised in the marked context. As an example of the effects consider (30) below.

(30) For our interview, Brady chooses a rather different environment, an airy Italian restaurant in Knightsbridge. To get there she drives me through the West End in her **Porsche Carrera**. (BoE: ukmags)

The unmarked choice here would be *car*\(^\text{14}\) unless there has been a previous discussion of the different cars that are available. A closer examination of the context reveals that this is not the case here. Thus, the mention here of the make of car could possibly highlight attributes such as [expensive] and [exclusive], and, interestingly enough, these attributes seem to affect the owner indirectly in the sense that we project onto her related attributes such as [wealthy] and [vain]. In a different context the mention of the same make could highlight an attribute like [fast], or be unmarked as in (31) below.

(31) Lucky then recruited me for the Cuban GP in Havana, on 28 February. This was now Castro’s Cuba, and the Communists certainly ran things more efficiently; I learned the new part-aerodrome circuit in a borrowed **Porsche Carrera** and an RSK 1600 before the Maserati was ready, and when I finally took it out it felt very nice, but not exceptionally fast. (BoE: brbooks)

Consider also the effect if we substitute *Trabant* for *Porsche* in (30) – our view of Brady changes considerably.

It appears that it is a parallel type of effect that we find in the readings of saturation terms where we would not normally expect the precision that the terms provide. In the case of *golden*, it may be that the transparent character of the colour term influences the reading suggesting that an attribute such as [valuable] is central when marked. In fact, it may be that such an attribute is available most of the time. Or to put it differently, *golden* is always marked for [positive].

In the cases of *emerald*, *azure* and *scarlet*, the activation of attributes could tentatively be described in terms of metonymy. If we accept Cruse’s suggestion

\(^{14}\) If anything at all since *drive* suggests *car*. 

above that what is highlighted is the attribute added, we may enquire what this attribute actually is. Here there are two possible interpretations. One is to restrict our search to the colour domain. What we find then is the emphasis of saturation, or in everyday language, the ‘brightness’ of these terms, or possibly ‘intensity’. From this analysis we can let a number of metonymies lead us to the effect. A tentative process is outlined below.

I suggested earlier that the extra meaning could be described as ‘positive’ emotions. Through a process involving a series of (established, conceptual) metaphors and metonymies the addressee can arrive at such an interpretation. The characterisation below is based on eyes.

- Brightness and intensity can metonymically stand for warmth (sun, fire). [metonymy]

- So if a person’s eyes are bright or intense, then (s)he must be warm inside. [metonymy]

- Warmth inside a person derives from strong feelings. [metonymy]

It should be noted that the locus of these feelings need not necessarily be the possessor of the bright eyes. On the contrary, although we are likely to construe a person described as having emerald eyes, we may well contend that it is actually the narrator who creates this image under the influence of her/his own feelings. This would also seem to be in line with the argumentation of Wiener and Mehrabian’s emphasis of immediacy. Recall how the highlighted attributes of the Porsche Carrera in (30) indirectly affected the reader’s view of the owner.

In the case of natural objects (azure waters, emerald valleys, golden beaches) we get an essentially parallel process:

- Objects in nature which are bright and intense are exposed to sunlight.

- Sunshine correlates with good mood.

- If a person describes an object as being bright, then (s)he feels positive towards it.

However, I would like to suggest that it is not only the difference in ‘denotative’ specificity that is important. In my view, peripheral attributes may also be of great importance. Rather than focussing on brightness, we could also argue that most saturation terms have some peripheral attribute of ‘positiveness’, in the case of golden and emerald, such attributes can certainly be mediated by the transparent character of the colour term. In the case of azure, these attributes may be historically motivated. Remember the importance of the dyes, thus the use of azure may have a history through which certain positive attributes may have been acquired.
In connection with this second stand, the status of these attributes can be discussed further. In a usage-based model such as cognitive linguistics, attributes are abstracted from usage. This suggests that the frequent association of [positive] in connection with azure, emerald and golden may lead to these attributes being part of a conventionalised meaning. It might be felt that these terms belong to a particular genre – indeed, this can be vaguely verified: most examples occur in written subcorpora. In this view, these three saturation terms can be construed as forming a class of colour terms used for emphasising positive emotions rather than specifying colour designation. The use of azure, emerald and golden for descriptive purposes entails, in most nominal categories, no commitment to colour nuance as much as to mood. This would also explain why these terms usually form phrases of the type emerald-green and golden-yellow when they are used for descriptive purposes only. Other colour terms that appear to have a similar function in certain categories are turquoise and amber (e.g. eyes) and olive (skin).

Relating to what was observed above, it should also be mentioned that this use of ECTs appears to be tied to particular genres characterised by emotional texts. Such genres are for instance travel brochures (emerald waters, azure skies, golden beaches) and Mills & Boon novels (golden hair, emerald eyes, olive skin). As an example of the latter, consider (32) below.

(32) There was a sort of evil witchery in her glittering green eyes, her pale magnolia skin, her sensual, crimson mouth. (BoE: brmags)

In this section I have tried to demonstrate that colour terms can be used for the purpose of creating extra meaning even though the term still refers to the colour domain. I have looked at one particular type of colour terms – saturation terms – and I have shown that three of these are frequently used for this purpose. The extra meaning that is usually created is one of emotional affect. An important factor for this usage has proven to be the nominal field and it is probably for this reason we interpret the skin colour of Jane Fonda (sienna skin) favourably in (1).

6.4 Facial colour and mood

In this part I consider briefly how the description of facial colour collocates with mood. In English and in many other European languages, it is quite common to use colour terms as an indication of different emotions, and very often the colour term refers to the facial colour of the person experiencing the emotion. Consider for example such English expressions as to be white with fear, green with envy, red with anger, to be yellow. Although the motivation behind some of these expressions merits a detailed study of its own, my main concern here is to establish an overall pattern and in that way shed some light on the function that an ECT may have in this context. Generally speaking, it would seem strange that people make the effort of specifying the exact nuance of the facial colour when people are upset. Thus, it would seem that the use of an ECT in this context to a certain degree parallels what was discussed in the first part of the chapter – the effect of unwarranted precision. However, the effect here appears to be slightly different.
Below, I first describe briefly the collocations between emotions and facial colours that could be found in the BoE and then consider the systematicity in some detail and offer an explanation.

6.4.1 Colour terms and emotions in the BoE.

There are several difficulties involved in a study of colour terms and emotions in a corpus. In the first part of this section, I describe some of the problems I have encountered and how I have tried to cope with them.

One important issue that becomes immediately urgent is what emotional words should be included. Although Ekman and his associates (Ekman et al. 1972) claim to have identified basic emotions that correlate with facial gestures, it is clear that many more lexemes have to be included in a corpus study than those designating the basic emotions. Fortunately, there are a number of studies concerned with emotional lexemes, for example Storm and Storm (1987), Shaver et al. (1987) and Johnson-Laird and Oatley (1989). In this study, I have taken into account the 80 highest ranked emotion words in Shaver et al. (1987). The authors asked 112 subjects to rate 213 emotion words on a 4-point scale, so what I have included are emotion terms that appear to be firmly established within this lexical field. All the emotion terms considered by Shaver et al. are nouns (e.g. anger, rage, guilt and happiness), a fact which may affect the result since emotions can also be expressed by adjectives and verbs.

The emotion words were searched for in the BoE in combination with the fifty colour terms that are considered in this dissertation. The amount of context taken into account for the search was a span of 5:5, which means that to be registered the colour word had to appear within five words on either side of the emotion word. This span is more generous than that used by most corpus researchers use: Sinclair (1991) claims that collocations outside a span of 4:4 are of less interest, and Stubbs (1995) restricts his study of semantic profiles to a span of 3:3. However, even a span of 5:5 does not completely exclude the probability that interesting patterns may occur outside this scope.

Having completed the search, I examined each example manually since quite a large part of the assembled material contained colour words which had no relation at all to the emotion word, as in (33) below.

(33) Senior played excellent golf from tee to green, but had no joy with his putting. (BoE: oznews)

Thus, a simple statistical study would be quite misleading. Since I was interested in the fuzzy boundary between literal and figurative meaning, I only included colour terms which referred to skin colour. Accordingly, a phrase such as black despair was not included although there is a clear connection between the colour and the emotion.
6.4.2 Results

Of the eighty emotion terms considered, no fewer than fifty were linked to some colour term on at least one occasion. However, quite a few of these revealed the black despair structure and were excluded. The number of emotion terms co-occurring with a mention of skin colour was 28, a considerably lower, but still quite high, number. The number of colour terms used for reference to skin colour in connection with emotions, on the other hand, was very low. Only 13 colour terms were recorded in this context. Notably, blue was missing despite its close connection with melancholic feelings. Niemeier (1998) and Verspoor (1998) speculate that the connection between blue and melancholy might have been motivated by facial colour, but there is no evidence of this from usage.

The analysis proceeded in the following way. In order to structure the material, I used a taxonomy of the words presented Shaver et al. (1987). They asked 100 subjects to sort the 135 emotion words that received the highest scores in the procedure described above. This meant that all emotion words used in this study were included in the taxonomies. After the subjects had completed their task, Shaver et al. performed a cluster analysis of the result and were able to identify six major clusters with a number of subclusters. The six clusters were named in accordance with the Ekmanian tradition LOVE, JOY, SURPRISE, ANGER, SADNESS and FEAR.

Table 6:6 summarises the collocation between facial colours and emotions, and the results are discussed in greater detail below. The names of the subcategories are those suggested by Shaver et al. (1987: 1067). The table is divided into three parts which represent three different foci in the colour domain. First we have one centred around red, and the colour terms are listed from the lightest ones to the darkest, white and black included. The second category centres in the yellow and green area of the spectrum, and finally there is a category of achromatic terms. Black and white occur in two places, but this is only for expository reasons and a term can only be scored in one place. As might be expected, the most common structure among these collocations was ‘colour term with emotion term’, as in green with envy. There were, however, also some other phrases.

Table 6:6 illustrates quite clearly that there is a general tendency for positive feelings belonging to the emotional domains such as JOY and LOVE to be only vaguely associated with facial colours. Furthermore, the few occasions on which there is such a colour reference, the colour term is one of lightness, pink in particular. This correlates nicely with the fixed expression in the pink, which, incidentally, had nothing to do with the colour initially, at least if we are to believe the OED:

\[ I 2. \text{fig. a. The ‘flower’, or finest example of excellence; the embodied perfection (of some good quality).} \]
\[ b. \text{The most perfect condition or degree of something; the height, extreme. Also freq. with ellipse of of condition, of health, etc. colloq. [The OED: pink, n 4]} \]
Table 6.6. Emotional terms co-occurring with colour terms in BoE.

<table>
<thead>
<tr>
<th>Colour term</th>
<th>EMOTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>LOVE</td>
</tr>
<tr>
<td></td>
<td>HAPPINESS</td>
</tr>
<tr>
<td></td>
<td>ZEST</td>
</tr>
<tr>
<td></td>
<td>PRIDE</td>
</tr>
<tr>
<td></td>
<td>EXASPERATION</td>
</tr>
<tr>
<td></td>
<td>ENVY</td>
</tr>
<tr>
<td></td>
<td>SADNESS</td>
</tr>
<tr>
<td></td>
<td>FEAR</td>
</tr>
<tr>
<td></td>
<td>NERVOUSNESS</td>
</tr>
<tr>
<td>Pink</td>
<td>1</td>
</tr>
<tr>
<td>Red</td>
<td>1 3 1 4 55 1 6 22 2 1</td>
</tr>
<tr>
<td>Scarlet</td>
<td>1 4 2</td>
</tr>
<tr>
<td>Magenta</td>
<td>1</td>
</tr>
<tr>
<td>Crimson</td>
<td>1 3</td>
</tr>
<tr>
<td>Purple</td>
<td>1 1 22 3</td>
</tr>
<tr>
<td>Puce</td>
<td>1 1 2</td>
</tr>
<tr>
<td>Black</td>
<td>3</td>
</tr>
<tr>
<td>Yellow</td>
<td>1</td>
</tr>
<tr>
<td>Green</td>
<td>1 94</td>
</tr>
<tr>
<td>Emerald</td>
<td>2</td>
</tr>
<tr>
<td>White</td>
<td>1 9</td>
</tr>
<tr>
<td>Grey</td>
<td>2 2</td>
</tr>
<tr>
<td>Black</td>
<td>1</td>
</tr>
</tbody>
</table>

Here we have a few examples of pink and positive feelings.

(34)  Surprise was a splendid seaman, but in formal gathering he was usually so shy, ill-at-ease and constrained that it was no kindness to address him; but this afternoon he was bright pink with pleasure … (BoE: brbooks)

(35)  We planned on and on, calculating railroad cars and super tankers scattering secret seasoning to the ends of the Earth. Exhausted and pink with excitement, he presented me a four-ounce bottle of his miraculous concoction. (BoE: npr)

The negative basic emotional concepts of ANGER and SADNESS show rather similar patterns in colour term usage. In particular, this is true of the subcategories of RAGE, SHAME and NEGLECT, which all draw on the red category.  

15 The centrality of red in connection with emotions was also found by Hupka et al. (1997).
course, since most of us have, at some time, experienced and seen blushing in the context of these emotions. Kövecses (2000) demonstrates that such disparate languages as English, Chinese, Japanese and Hungarian share this way of expressing anger. Possibly analogous with these underlying models, there is a noticeable tendency for colour terms referring to darker nuances to indicate greater amplitude of the emotion. The fact that purple occurred far more often with rage than with the more modest term anger would appear to corroborate this observation. It would seem to make sense that if the anger increases and, thus, the pressure of the fluid or the heat according to the metonymic models, then the colour should also be stronger. Thus, it could be claimed that these examples of hyperbole are motivated by underlying metonymic/metaphoric models. Compare (36) and (37) below.

(36) Thomasina glared at Kathryn, who nodded, and the maid, her face red with anger, backed out, throwing one last cautionary look at her mistress. (BoE: brbooks)

(37) He practically threw himself out of his chair at me, his face purple with rage. “How the hell did you know about that?” he hissed. (BoE: brbooks)

The same kind of logic would also appear to be true of shame and embarrassment, but it is not explored as often as in the case of anger. This is probably linked to the fact that we do not experience these feelings as being as variable in strength as anger.

One emotional concept that has a completely different colour association pattern is envy. In fact, we have here by far the strongest collocation in green with envy. It may be justifiably questioned whether this actually refers to facial colour, but since the structure is identical with other phrases referring to skin colour there is no a priori reason to exclude the phrase. The motivation for this phrase is obscure, but Niemeier (1998) speculates that it might be linked to sickness. There is, however, another possibility. As observed by Geeraerts and Grondelaers (1995), the ancient and medieval physiological theory of the four humours and the four temperaments has left many traces in English vocabulary. In this system yellow was associated with the liver and a choleric temperament, which seems to have included facets such as envy and jealousy; cf. the association of jaundiced. Since there was also a green variety of jaundice, an association with green may have been created this way. In this model, the connection between the green colour of sickness and envy is stronger than in that suggested above, but unfortunately there is no clear evidence of this connection.

FEAR, finally, is more strongly connected with whiteness, although the overall number of phrases was surprisingly small. This connection would seem to be based on experience – people may turn pale when they encounter something frightening – and is conventionalised in many phrases.

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16 A similar pattern was found by D’Andrade and Egan (1974).
6.4.3 ECTs and mood

Only five ECTs appear together with emotional words in the whole BoE corpus, which is somewhat surprising. They are scarlet, crimson, puce, magenta and – emerald. Of these the first three are fairly conventionalised and I was in fact surprised by their low frequency, six, four and seven tokens, respectively. Emerald, on the other hand, came as a great surprise. However, it would seem that crimson, scarlet and puce occur much more often without the emotion being spelt out, or with it mentioned at a considerable distance. Consider the examples below.

(38) Am too embarrassed to explain that I was talking to my son and mercifully it is too dark for cab driver to notice that I have turned crimson. (BoE: today)

(39) Charles Montagu Doughty (1843-1926) would have turned puce at such an impertinent question. (BoE: indy)

The main function of these terms is to emphasise the strength of emotion. It seems legitimate to ask why one would describe facial colours with such precision, and the answer appears to be that to do so suggests intensity. In fact, it seems that these terms fit the general pattern observed above by which stronger and darker colour imply stronger emotion. It is interesting to note that puce, which realistically denotes a nuance that could never occur in a face no matter how much rage was felt, is on the verge of leaving the colour domain to denote instead the abstract emotion of anger. In this, it is going through a parallel process to livid, cf. example (2) at the beginning of this chapter.

The best example of the logic that we can see in this close connection between colour terms and emotions is the use of emerald in connection with envy. In the first part of this chapter, we could see that a marked use of emerald tends to evoke positive feelings, but here we can see it used emphasise envy as in (40).

(40) Mars is strongly placed, imbuing you with the kind of energy, courage and sheer sex appeal that make lesser mortals emerald with envy.

Although a jocular phrase, it nicely illustrates that ECTs may adopt this function of intensifiers even in cases where the main sense of the colour term no longer concerns colour but something else. This may explain why terms like puce and magenta are somewhat paradoxically used when their precision has nothing to do with the actual colour of the object (i.e. the face).
6.5 Summary

The aim of this chapter was to study the effects that sometimes occur when specific colour terms are used unwarrantedly. In the first part of the chapter, it was demonstrated that the use of saturation terms such as *azure*, *emerald* and *golden* in nominal domains where one does not normally make fine distinctions creates extra meanings. The process was described in terms of markedness, which implied that peripheral attributes were centralised, or could be viewed as a metonymy involving the dimension emphasised by the colour term – ‘brightness’. It was also suggested that the frequent use of these saturation terms for this purpose may in fact change their default value so that their main function becomes to create extra meaning. However, more research is needed in this area.

In the second part of the chapter, a brief study of colour terms and emotion words demonstrated that specific terms such as *puce*, *crimson* and *scarlet* can be used to emphasise the strength of emotions. The study also demonstrated that there appears to exist a model in English by which darker colours imply stronger emotions of anger and sadness. Having said that, I should acknowledge that this model is based on one part of the English-speaking population; whether or not the same patterns of usage occur among speakers of African origin is uncertain. As demonstrated in Chapter 4, colour and race are closely associated in English speaking communities and the pattern identified here may also be part of that picture.
Chapter 7  Figurative Use of Colour Terms

7.1 Introduction
In this final chapter of my dissertation, we have reached a stage where colour terms no longer refer to colour at all, but to other concepts. In short, this chapter deals with some aspects of the figurative use of colour terms. Since the area of figurative use is so vast – a comprehensive account would merit a dissertation in its own right – the chapter is restricted to a few themes that have been mentioned earlier in this dissertation. These themes are the conceptual process of metonymy, type modification and ECT use. Some attention is also given to the minor networks of related meanings that seem to be generated once a figurative sense becomes established.

This early stage of the chapter is a suitable place to define exactly what I mean by figurative use. It is not always easy to draw the line between figurative and non-figurative language, and, as we could see in Chapter 6, colour terms frequently allude to other meanings. However, in the previous chapters, the primary domain of the predication was the colour domain, and the other meanings could be viewed as additional associations or attributes. In my definition, a figurative expression of a colour term is one in which the primary domain of the predication to which the colour term refers is not the colour domain.

In such a definition hyperbolic use like that dealt with in Section 6.3 cannot be considered figurative, even though it evokes other meanings and even though some metonymic models participate in the formation of these meanings. Furthermore, this definition gives us the tool with which to determine whether expressions like those given below should be included in an account of figurative usage of colour terms.

(1) Red herring
(2) Pink elephant
(3) Black sheep

In the account of previous studies below, it can be seen that such expressions have very often been included, presumably under the assumption that the function of red/pink/black serves some further purpose other than merely ascribing a colour to the noun. However, on closer examination, we can note that these three phrases are quite different from the point of view of figurative analysis. In the case of red herring, this refers a particular type of smoked herring and the figurative meaning of this expression goes back to some aspects of how this fish was used. Thus, technically speaking, red cannot be regarded as having a figurative function in this expression.1 Rather, it is the whole phrase that produces the figurative meaning; the

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1 Cf. the following quotation in the OED: “The trailing or dragging of a dead Cat, or Fox, (and in case of necessity a Red-Herring) three or four miles – and then laying the Dogs on the scent. (1686 N. COX Gentl.)
compositionality is very low indeed. On similar grounds, phrases such as redtops, blue-collars, white collars and blackshirts are not dealt with here as they have the same process of formation.

Pink elephant, on the other hand, illustrates a case in which the colour term functions as a trigger. In this process, pink does not carry any figurative meaning in itself – its meaning has to be construed as literal – but this very act forces us to make a figurative reading of the entire noun phrase. In contrast to red herring, there is no possible literal interpretation of the phrase, at least under normal circumstances. If someone claims to see pink elephants we know that there is something wrong with him/her; (s)he might be suffering from delirium or may have been drinking too heavily or otherwise have upset his/her mind or vision. However, the phrase is most often used jocularly as in (4) below.

(4) OZRIC Tentacles got together around the time of the 1983 Stonehenge Festival driven by a mutual liking for widdly-twiddly guitar sounds, ‘jams’ that go on for as long as it takes, and an unshakeable belief that if you smoke enough marijuana to floor a herd of pink elephants – everything will make perfect sense. (BoE: brmags)

Black sheep as in (5) below is a complex construction analytically.

(5) Malena, the black sheep of a noble family, takes many years to prove her own worth, having grown up in the shadow of her twin sister Reina, who has qualities everyone loves. (BoE: oznews)

On the one hand, there are black sheep, which are typically less frequent than white sheep. On the other hand, the meaning of the expression does not follow from any aspect of the behaviour of these black sheep; apart from their colour, there is nothing special about them. Instead, the figurative meaning draws on black in the sense of ‘bad’, ‘evil’, a sense which occurs in many other phrases containing black. Consequently, black sheep illustrates a “proper” instance of figurative usage of a colour term.3

The present chapter differs methodologically from the previous chapters where numbers played a part in my argumentation. Since I am mainly interested in the figurative process and a number of structurally related questions, my discussions are primarily based on individual examples. The majority of these are taken from the BoE corpus. There are other, more statistically oriented, studies of figurative use in relation to corpora: Deignan (1999a) shows that collocational aspects are helpful in analysing metaphorical meaning. Furthermore, Moon (1998) provides a useful discussion of how to study fixed expressions and idioms in language corpora, and also demonstrates that most idioms are quite infrequent, less than 1 per million tokens.

Recreat. v. (ed. 3) 65”. However, this categorisation could perhaps be viewed as overstating the case, since the figurative use of the phrase is considerably more frequent than references to the original literal entity.

2 The phrase could, of course, refer to a toy.

3 For a full analysis of the expression, sheep has to be analysed metaphorically, of course. However, my focus is the colour term.
The chapter is structured in the following manner. First, there is a brief presentation of previous research in the field of figurative use of colour terms, since this was not part of the general presentation of colour research in Chapter 1. After this presentation, two types of metonymical mapping are presented and discussed. In this presentation I use the figure of conceptual structure introduced in Chapter 2. Having established these general processes, the remainder of the chapter deals with variation within a mapping.

7.2 Previous studies

In view of the fact that colour terminology and metaphors have been two subjects of interest in linguistics in the last few decades, surprisingly little attention has been given to the combination of the two – the figurative use of colour terms. In English, fewer than ten studies have been devoted to this particular field since 1978. These articles and books can be seen as forming groups from the point of view of the methodology used and the type of analysis carried out, and I discuss them as such.

The first three articles to be published in this field were all concerned with colour metaphors in diverse languages. Derrig (1978), Wescott (1983) and Kikuchi and Lichtenberk (1983) are similar in the sense that they look for universal patterns, based on studies of unrelated languages. Consequently, the aim is of a general descriptive character and little effort is made to provide a coherent theory to accommodate the results obtained. They are also methodologically similar in as much as they analyse phrases from various dictionaries. There is surprisingly little agreement among these three studies. Derrig notes that there is a correlation between figurative usage and the evolutionary sequence suggested by Berlin and Kay (1969), whereas Kikuchi and Lichtenberk reject this claim. All three studies find some patterns which they argue are universal, but the only two patterns that all three agree on is that BLACK tends to have associations linked to ‘malevolence, evil’ and WHITE to ‘innocence, goodness’.

Kós-Dienes (1983) conducted a similar study, but she was primarily concerned with the related languages Swedish and English and the typologically different, but culturally related language, Hungarian. She demonstrated that there is a great deal of correspondence between the languages. Most of it seemingly based on shared cultural models. Moreover, Kós-Dienes investigated associations linked to the colours as such by means of a questionnaire and found that there was some correlation between the associations and the figurative usage. Furthermore, on the basis of the questionnaires, she could demonstrate that, in some cases, there was strong reciprocity between the symbolic use of a colour and the concept it referred to. For instance, most informants said that black could symbolise death, and the mention of death made people think of black. The relation between red and love, on the other hand, did not show this strong reciprocity, to mention one example (p 63).

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4 The great risk of confining to the material in this way can be illustrated by the fact that Wescott claims that green has the metaphorical meaning of ‘pretentious’ in Swedish. However, the sole phrase that he refers to – att göra sig grön – ‘to make oneself green’, is at best a very marginal expression in Swedish: none of my informants had any idea of the meaning of the phrase. Needless to say, there are many more figurative expressions in Swedish that contain the term green, but with different meanings.
Bennett (1988) and Wyler (1992), mentioned previously (Chapters 1, 3 and 4), also discuss figurative use of colour terms. Concerning colour collocations, Bennett’s work is the most thoroughly performed so far from a descriptive point of view. The book contains a very large appendix which functions as a dictionary of English colour collocations. Unfortunately, the theoretical side of Bennett’s work is not as strong as the descriptive and he offers very little guidance concerning the patterns that can be discerned.

Wyler (1992) discusses figurative usage in only one of the chapters of his book, and in contrast to the above-mentioned studies he rejects the idea that colour terms can be used metaphorically. He argues that (p 147):

we must […] ask ourselves whether it is correct to speak of metaphor where colour names occur in structures in which they do not retain any semantic content [+ COLOUR], or whether it would not be more appropriate to consider colour terms in structures with figurative meaning as symbols in accordance with [the] definition ‘a symbol is something which stands for something’.

Thus, Wyler comes close to recognising the metonymic character of the use, but instead advocates a symbolic analysis without clarifying the difference. He claims that a symbolic analysis would allow us to focus our attention on the structure as a whole, and “the empirical experience represented in, and expressed by, this structure” (Wyler 1992: 147). The problem that Wyler encounters is a result of his view of semantics, which is based on the notion of semantic features. With an encyclopaedic view of language, this problem does not arise. Some of Wyler’s observations are clever but his theoretical basis prevents him from creating a comprehensive picture, which is why he has to resort to the symbolic theory, although he notices that (p 148) “colour terms must be associated with human experience”.

In order to be able to explain the symbolic force of a colour term, say, red, he has to isolate semantic features which are common to this term, and which can be deduced through associations. Wyler (1992: 155) states that

common semantic features which constitute the figurative usage of a specific colour term have little to do with the underlying hue: they are part of a meaning expressed with the help of an arbitrary sign or lexeme in a given context.

Thus, he completely overlooks the possibility of a cultural motivation for figurative uses of a colour term, despite his observation of the link to experience. For red Wyler identifies the features [+DYNAMIC], [+DIRECTED TOWARDS /AGAINST] and [±POSITIVE]. To my mind, the vagueness of these features illustrates that this approach represents a kind of cul-de-sac.

In three recent articles the subject of the figurative usage of colour terms has been addressed on the basis of the assumption that this use could best be understood in terms of metonymy. This could possibly be viewed as a sign of the development of the field of conceptual metaphors and metonymies during the 80s and 90s.

Verosub (1994) restricts her study to the colour red, and she sets out to demonstrate that (p 27) “RED forms the basis of a highly abstract, greatly extended
metonymic system”. Thus she is the first to identify the metonymic character of the acquisition of figurative meanings. According to Verosub the unifying idea at the centre of RED is IMPORTANT THINGS ARE RED\(^5\). From this general idea she identifies two “universal” and highly important substances that are red: blood and fire. These are meant to form the bases for metonymic systems of signs. It is interesting to note that these substances are also part of Wierzbicka’s (1990) definition of RED. However, although Verosub states explicitly that she is mostly concerned with language evidence, it would seem that she looks at red primarily from the point of view of semiotics and only rarely takes linguistic evidence into consideration.

A more relevant study is Niemeier’s (1998). In common with Verosub, she assumes a metonymic basis for figurative expressions of colour terms and, furthermore, a possible prototypical centre for the category which may be universal. The latter point is, however, much more vaguely suggested. Niemeier is a linguist, and focuses exclusively on the linguistic side of colour. Furthermore, using a theory of cognitive semantics, she can easily handle the difficulties that forced Wyler and Verosub into *ad hoc* solutions. Niemeier (1998: 123) declares that “the conceptual contiguity of metonymy is based on extralinguistic experiences and connotations and is therefore culture-dependent”. Another commendable aspect of Niemeier’s study is that she is not content with using dictionaries – in addition, she uses two corpora, the BNC and the *Collins Cobuild CD-Rom on Collocations*. The extensions of the colour terms are presented as radial networks emanating from a prototypical centre of universal character. Figure 7:1 below illustrates the network of the term *red*. It should be noted that Niemeier agrees with Verosub and Wierzbicka in her identification of the universal features of blood and fire.

Nevertheless, there are a few details for which Niemeier can be criticised. First, she does not define exactly what she means by *metonymies*. The term suggests that there are several different metonymic processes involved at work, but they are never identified. Instead collections of individual expressions are analysed, and groups are formed which seem to have similar motivations. However, whether or not these correspond to different processes is not made clear. The fact that a word attracts different associations is by no means a sign of difference in process.

A second criticism that can be levelled at Niemeier is that she does not make explicit what she means by the term *radial network*,\(^6\) and how exactly it refers to her figures (as in Figure 7:1 below). The term itself is vague and suggests a blend of Lakoff’s (1987: 91-114) *radial category* and Langacker’s (1987: 162-166) *network model*. However, it is unclear whether Niemeier actually claims that her model has conceptual status or whether it is to be taken as a typology. If it is conceptual, one is tempted to see the centre as more basic. However, although universal tendencies may suggest cognitive basicness, it is difficult to see why this should be the case here. On the whole, the merits of Niemeier’s study clearly outweigh the question marks.

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\(^5\) Verosub writes these phrases in italics, but since she seems to imply that they have some sort of conceptual status, here I follow the linguistic tradition of writing conceptual metonymies in small caps.

\(^6\) This term is also used by Dirven and Verspoor (1998).
In another recent article, Verspoor (1998) discusses some aspects of figurative use of colour terms. She too adheres to the idea of metonymy and she points out that metonymic use of colour terms is closely linked to our interaction with things and what we find important in our environment. Thus, she is more interested in the individual instances of metonymic motivation than the overall patterns that Wyler, Verosub and Niemeier strive to illustrate.7

The latest and hitherto most ambitious contribution to the study of figurative use of colour terms is Ohtsuki’s (2000) *A Cognitive Linguistic Study of Colour Symbolism*. In this book the author presents a new model based on “symbolic mappings” which are said to be different from metaphoric and metonymic mappings: “symbolic operations reflect an independent, autonomous relationship between different symbolic meanings, even if they may contain metaphorical and metonymic elements” (p 79). It is Ohtsuki’s ambition to give a unifying account of colour symbolism as economically as possible. In his model he tries to merge cognitive linguistic features with traditional logic. Thus, for each colour term he identifies a number of prototypical meanings, “Initial meanings” (p 81), from which the various symbolic expressions of the colour term can be derived in accordance with a limited number of logico-conceptual operations (pp 91). Moreover, Ohtsuki suggests a number of overarching “Principles” which are necessary to explain the nature of the operations and variables that are part of the

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7 Dobrovol’skij and Piirainen (1996, 1998) also treat figurative use of language and colour symbols. However, since they do this in a larger theoretical context, I have not included their study in the overall presentation.
description. Finally, his analysis results in a suggestion for a new categorial structure, an “arbor symbolica” (p 108), which is said to incorporate both the classical category and Lakoff’s (1987) radial category.

This short summary cannot do justice to Ohtsuki’s work; the theoretical model is quite complex. However, there are a few aspects of his model that I find less convincing. Let me here briefly point to one problem. To me it is not clear what the model is supposed to capture. A cognitive model would seem to claim that it is concerned with the organisation of a speaker’s mind. However, in his application of the model to English, Ohtsuki (2000: 122) points out that the derivations go beyond particular languages, the following derivations of symbolic meanings of colour terms should not be regarded as being confined to English alone. Some of the senses, even though they may not be realized in English, are theoretically necessary as intermediate steps in deriving other senses.

Thus, Ohtsuki (p 124-126) suggests that black as in black market, i.e. in the sense of ‘illegal,’ should be viewed as conceptually derived via a very advanced chain from the initial meaning ‘darkness’:

\[
\text{DARKNESS} \rightarrow \text{NIGHT} \rightarrow \text{SLEEP} \rightarrow \text{DEATH} \rightarrow \text{HELL} \rightarrow \text{DEVILS/DEMONS/SATAN} \rightarrow \text{EVIL/BADNESS/IMPURITY} \rightarrow \text{ILLEGALITY}
\]

I do not find this particularly psychologically plausible. From the point of view of my native language Swedish, in which a corresponding phrase, svart marknad ‘black market,’ ‘illegal market’ exists, I can truthfully say that I see no reason at all why this meaning of svart should be derived via HELL. I can appreciate that black in the sense of ‘illegal’ may be motivated in relation to DARKNESS, but I can see many more intuitive paths to this connection. In short, occasionally Ohtsuki’s ambitious system of derivations does not seem psychologically reasonable.

To sum up, to date the study of the figurative use of colour terms has developed from sketchy descriptive and dictionary-based studies in search of universals, to methodologically and theoretically well-grounded approaches in which cultural significance and metonymic mapping have been observed as important features. However, although metonymy has been established as the formative process, the details of the process have not been closely scrutinised. Moreover, no one has given any attention to the close relation between type modification and figurative use, and ECTs have generally been ignored altogether. These are themes that are treated below. First, however, a specification of my view of the formative process.

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8 Kós-Dienes (1983: 35), however, observes in passing that the colour term in a phrase like white lie has a classifying function.
7.3 Basic assumption
As the presentation above illustrates, the figurative use of colour terms has been explained in various ways: metaphor, symbol and metonymy. In my analysis, I follow Verosub’s, Niemeier’s and Verspoor’s insight that metonymy is the basis of the figurative use of colour terms. This assumption has in practice an axiomatic character and thus my analysis does not take any other option into consideration. The axiom can be formulated as follows:

Ultimately, all cases of figurative use of colour terms go back to metonymic processes in which some experience is linked to a contiguous colour.

This is not to exclude metaphorical mappings from the entire framework, but such a process can only be of a secondary nature, i.e. there must first have been a metonymic process. Research in the area of synesthesia may in the end demonstrate that direct metaphorical mappings in the basic domain are possible, but, in my opinion, the evidence presented so far is not convincing, and the phenomenon is far too rare to set its mark on whole speech communities.9

The emphasis on cultural and experiential grounds may be felt to be a case of stating the obvious, but there is lexicographic evidence of an opposing view. The quotes below from the OED appear to indicate a belief that the inherent character of the colour forms the basis for the figurative meaning of the term.

Rhetorically. With reference to the qualities of this colour: bright-hued, brilliant, splendid, gaudy, gay; (of sin) deep-dyed, grave, heinous.  

purple patch, passage, piece, a brilliant or ornate passage in a literary composition.  
(The OED: purple, sense A.3.a [emphasis added])

In allusions to the glaring effect of the colour.  
1820 Hazlitt Lect. Dram. Lit. 16. The deathblow which had been struck at scarlet vice and bloated hypocrisy.  
(The OED: scarlet, sense B.2.a [emphasis added])

I find it very questionable indeed to claim that there are associations of this kind. If this were so, people would have no trouble interpreting phrases like purple prose, since they would be self-explanatory. However, my own experience is that native speakers unaware of this phrase find it almost impossible to figure out the meaning unless they are presented with some context. To my mind, it seems much more likely that these meanings arise from intricate patterns of metonymy based on culturally defined meanings of a colour. I hope to be able to show that this is so as we proceed. If these motivations are no longer apparent, it may be argued that these senses have become independent and should be treated as homonyms. I return to this issue in 7.6.1.

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9 A thorough treatment of synesthesia is presented by Cytowic (1989).
7.4 Figurative colour expressions and classificatory use

Before we take a look at the metonymical processes involved in the creation of figurative colour expressions, I would like to point to the resemblances that exist between figurative use and type modification. The phenomenon of type modification or as it was also designated, classificatory use, was dealt with in Chapter 4. It was demonstrated that a few colour terms, notably the Primary Basic Colour Terms, are frequently used to categorise purposes with respect to the noun they modify. Thus, the function of the term is not to describe an entity but to classify it as belonging to a category. A property used for this purpose should thus be both salient and general, and I argued in Chapter 4 that this might explain the preference for certain colour terms. Conceptually, this process was described as a kind of reference point construction in which the term for a salient colour was used as the vehicle for accessing the category.

It seems that figurative use of colour terms to a certain extent parallels this description. It is classificatory and thus related to type and not token. What is sought after is generality and not precision and it is therefore hardly surprising that the same terms that are frequently used for type modification are also used figuratively. This becomes particularly apparent if we take into account the most frequent figurative use of *black* in the BoE, in reference to people of African origin. Consider the phrases below.

*Black people*
*Black community*
*Black pride*
*Black music*
*Black English*

Except for the first phrase, *black* has here a figurative meaning suggesting ‘of black people,’ thus the primary domain of BLACK is no longer the colour domain. It should also be noticed that these examples are not really on an equal footing. The first two figurative expressions, *black community* and *black pride*, primarily evoke a sense of African-American people – we cannot talk of *community* and *pride* being modified. However, in the last two examples, this is precisely the case. *Black music* and *black English* are a type of music and a type of English\(^\text{10}\) and not just anything performed or spoken by this particular racial and social group. Thus, the phrases give rise to other meanings than just race. Experience and knowledge (which to varying degrees may be based on prejudice) are likely to generate more attributes than just race. Admittedly, the link to African-American people is strong, but in principle these entities have become independent and, as was argued in Chapter 4, it can be claimed that they are less compositional than the first types mentioned above. A white artist can play black music (cf. (6) below), but it might be questionable whether a white person would ever be categorised as belonging to the black community.

\(^{10}\) In the recognition of Black English as a dialect in its own right, or even a language, other names for this dialect have been preferred, e.g. *African American Vernacular English* (AAVE) (Trudgill 2000: 42) and *Ebonics*. 
Chapter 7

I think the fact that Elvis’ first national TV appearance and Brown vs. Board of Education happened just about the same time is no coincidence. I mean, he was the first white man who sang black music and made it acceptable for white kids to listen to it. (BoE:npr)

The whole issue of black and white in reference to race is a very delicate matter, and the most important reason why this is so is precisely the additional meanings that arise in type modification. The close relation between social, political, economic, cultural and racial issues creates a situation in which white and black have absorbed a great many attributes which may be important in certain contexts. This example serves to illustrate that the figurative use of colour terms appears to presuppose a process similar to that of type modification. In the case of figurative usage, a colour has to co-occur with some object or some other quality to the extent that a reference to the colour can suggest the object or the other quality.

It seems that there are other similarities between figurative use and classifying use of colour terms. Quite often, it appears, the function of the figurative expression is to classify a subtype. Consider examples such as blue movie, purple prose, yellow journalism, black magic, and white lie. They all refer to subtypes: a type of movies, a type of prose, a type of journalism etc. However, in contrast to the examples of type modification discussed in Chapter 4, the colour terms above refer to abstract notions and not to concrete colours. Below the process of connecting the colour term and the abstract quality is discussed in some detail.

7.5 Metonymical processes

In this dissertation I have earlier shown that metonymy plays a central role in colour semantics. One such important role is its presence in the derivation of colour terms, which appears to be based on a +THING FOR SALIENT PROPERTY+ metonymy. Below I survey the two types of metonymical processes that are involved in the creation of the figurative use of colour terms. One of these is the exact opposite of that mentioned above; a property stands for some entity. The patterns correspond to two general configurations of metonymy-producing relationships identified by Radden and Kövecses (1999). They can be described as part-whole and part-part, respectively. The first type is very productive in the use of colour terms and it is this process that is usually referred to when discussing figurative colour expressions, cf. Niemeier (1998). The second type, however, entails an attribute standing for another attribute and in Radden and Kövecses’ analysis this usually takes place at a higher level of organisation – that of an event. However, I think it can be used for lower levels and I suggest that the formation of some colour metonyms can be modelled successfully in this way.

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11 This level of organisation would appear to correspond to what Ungerer and Schmid (1996) treat as a frame.
7.5.1 Part-whole metonymy

Part-whole metonymy is a simple and very productive type of metonymy. We find it in an example such as (7) below.

(7) The tests that the military administers to all recruits or to all potential recruits before they come in is rather similar to other standardized tests in that blacks tend to score lower than whites. (BoE: npr)

The mapping relies on a simple part-whole relationship in which a salient attribute may stand for the entire category. In the context of race, Radden and Kövecses (1999) suggest the metonymy +DEFINING PROPERTY FOR THE CATEGORY+, but this is far too strong a suggestion in my opinion. As mentioned above in Section 7.4, blackness in this sense can be problematised largely in social contexts. As additional evidence the racial classifications in apartheid South Africa can be mentioned. Instead I prefer the slightly less absolute +SALIENT PROPERTY FOR THE CATEGORY+. This kind of metonymy is very close to the classificatory phrases black people and white people. Using the figure that was introduced in Chapter 2, we can illustrate the difference as below.

![Figure 7:2. Conceptual structure of the phrase black people.](image-url)
As the figures illustrate, the difference can be said to be that in the nominal phrase the primary domain is explicitly mentioned together with the typifying attribute, whereas in the second case the primary domain is maintained although unmentioned and the salient attribute stands for the whole category. We can contrast this metonymy with that forming new ECTs, described in Chapter 5. Whereas that type of metonymy introduces a new primary domain (COLOUR), here it is retained although indirectly accessed via the mentioning of the salient colour attribute.

Warren (1999: 123) discusses referential metonyms and noun-noun compounds, but her observations are also valid here. She notes that what they have in common is that “they involve two referents which are connected by an implicit link.” The main difference is that in the case of compounds, the two referents are mentioned, whereas in the case of metonymy only the vehicle\(^{12}\) is mentioned. Moreover, Warren notes that the referring item in the compound also functions as the head (her example is chair in armchair). She suggests that the implicit referent in a metonymy serves the same function of head and referring item.

The part-whole type of metonymy is not at all restricted to skin colour but is also applicable in the context of other domains. As observed by Norrick (1981), it is conspicuously productive in sports, in which the colour of the jerseys can stand for the club or the players, especially in football and rugby. There is a notable pattern in this usage: a newspaper summary of a game could use a phrase like the Sky Blues even if Coventry City played in their yellow away colours. However, it

\(^{12}\) For a definition, see footnote 22, page 51.
would not be possible to use the phrase *the Yellows* in the newspaper.\(^{13}\) In a report on TV, on the other hand, *the Yellows* could be an option since the reference would be obvious. As mentioned in 2.5.2, it seems that a metonym has to reach a certain degree of conventionalisation for it to be an option outside the immediate situation (cf. the *ham sandwich*). In this it is similar to what we observed for type modification in Chapter 4.

A similar kind of metonymic pattern can be identified in the context of other types of uniforms. However, very often when it comes to uniforms and other such clothing, the attribute is not a single colour term but a nominal containing a colour term and a noun. As was pointed out at the beginning of this chapter, this is technically not a proper colour metonym, but there are obvious similarities to what was discussed above and therefore it is briefly discussed. Consider the examples below.

(8) In Rwanda the Australians have won widespread praise from other members of the 5000-member multinational force of blue berets for the pivotal role they have played, especially in establishing medical services that have helped an estimated 30,000 people. (BoE: oznews)

(9) The anti-fascist, seven-strong outfit signed the deal last Friday (February 12), in Cable Street, East London, site of pitched battles between blackshirts and anti-fascists in the 1930s. (BoE: ukmags)

The difference between these and the aforementioned ‘pure’ types is really only one of degree and definitely not type. These latter examples use noun phrases as their point of reference, and hence coincide with the overall typical pattern of metonymy. These compounds are known as *exocentric compounds* (Bauer 1983) or sometimes *bahuvrihi compounds*. Their metonymic character has previously been observed by Warren (1995). One important reason we find one type in football and rugby, and the other type of relation when it comes to other uniforms, would seem to lie in the very nature of football and rugby shirts. The characteristics of the game – friend and foe mixing, the passing of the ball etc – suggest that the players should wear shirts of very distinctive colours. And since all teams wear shirts which are distinctive it does not make sense to mention this specifically; hence we get generalisations of the type *Sky Blues* and *Claret and Blues* and not *sky-blue shirts*, *claret and blue shirts*.

The +SALIENT ATTRIBUTE FOR THE CATEGORY+ also occurs in references to objects in nature. The most common ones are *blue* in reference to the sky, as in *out of the blue*, which has taken on additional meanings and *green* in reference to grassed ground as in *village green* and *a green* in golf.

In principle the same kind of metonymy, +SALIENT ATTRIBUTE FOR THE CATEGORY+, can be found in an expression such as *the green peril*, which used to be a name for absinthe, the strong greenish alcoholic liquor popular at the turn of the century. The quote below, taken from the OED, is an instance of such use.

\(^{13}\) An additional factor is that football teams tend to change their away colours frequently.
(10) This taxing of the green peril will no doubt be popular. (The OED)

As with black in the sense of ‘Afro-American’, we are concerned here with a metonymic function that is referential. The difference is that the target is reached through two vehicles (in fact), one of which is concrete, and the other abstract.\(^{14}\) The domain for such a formation is given in Figure 7:4 below.

\[\text{Figure 7:4. ABSINTHE as the green peril.}\]

Let us now consider another subtype of the part-whole metonymic structure. This subgroup can be illustrated by the expression green fingers as in (11).

(11) If you’re not blessed with green fingers or the urge to cultivate, you can still enjoy cooking with herbs. (BoE: oznews)

This frozen phrase represents, in its figurative sense, the meaning

‘to be unusually successful in making plants grow.’ (The OED)

What makes this structure more difficult to analyse is the fact that we are concerned here with two mapping processes which together form one coherent

\[^{14}\text{It is interesting to note that the head designates the abstract entity. One would be tempted to think that the opposite formation would be the one preferred. There is evidence of such phrases as in the potent green in the following example: “I have not felt myself since my generous allowance of the potent green on Thursday…” (the OED). Incidentally, this formation with peril was quite productive; consider the red peril and the yellow peril. These two phrases are still being used but then in reference to sport, and in particular football, where yellow and red cards are given for offences.}\]
Figurative Use of Colour Terms

Figurative expression. However, it is possible to identify the vehicles and targets that operate within the expression.

Green fingers - successful plant growing

Again the colour term represents a simple part-whole metonymy of the type +SALIENT ATTRIBUTE FOR THE CATEGORY+, where green, the colour of the leaves of the plant, stands for the whole plant. The case is slightly more complex when we look at growing and fingers. It seems clear that we are concerned with metonymy in this case too. However, fingers can hardly be seen as standing for GROWING, rather it seems to be the case that the whole domain of PLANT GROWING has to be evoked. One of the more important attributes of plant growing is manipulation by the human cultivator; we have to water the plants, give them fertiliser, and change the soil. All this manipulation is done with the help of the hands and therefore it seems reasonable that the hand, or the fingers (or as the case may be, the thumb – green thumbs) represent this manipulation. It should be noticed that it is indeed the fingers that are most useful when it comes to plant growing – a prototypical scene is someone putting his/her finger into the soil to check the moisture. Thus fingers stands for manipulation through a metonymic process in the domain of plant growing. Plant growing represents in fact an event domain in which we find participants and processes. Fingers for ‘manipulation’ represents a part-part metonymy; tentatively, the relationship can be described as +INSTRUMENT FOR ACTION+. To summarise, we can say that green fingers represent a double metonymy but not in the same sense as the green peril, as the two vehicles do not activate the same target.

To sum up this section, we can note that part-whole metonymy is a common process which may occur in patterns of varying complexity. Colour term metonymy of this kind can typically be described as +SALIENT ATTRIBUTE FOR THE CATEGORY+.

7.5.2 Part – part metonymy

As was mentioned earlier, Radden and Kövecses (1999) identify another type of metonymy which seems to be more complex. It may be that this type, part – part metonymy, can explain examples of the kind below.

(12) The British public think green issues are important, but they do not think they are sufficiently important to warrant the return of single subject campaigners as Members of Parliament. (BoE: brbooks)

15 What may be discussed is whether the growing of plants can be seen as anything more than just manipulation of the circumstances under which the plant is being cultivated.
(13) This month is a busy one for the travel industry, which will bombard us with 120m brochures. But do we need so many? This is about **purple prose**, right? Wrong. It’s a question of waste paper. (BoE: times)

(14) Most Russians avoided overt protests but took risks nevertheless by turning to the **black market** for such things as jeans. (BoE: indy)

(15) Concurrently, Kane’s ideals for his newspaper as set out in his “Declaration of Principles” are contrasted with the actuality that his newspapers engaged in **yellow journalism** under his direction. (BoE: usbooks)

These metonyms are clearly different from the ones we have discussed so far. It is not the case that the colour term stands for an object whose colour it describes. Rather it seems that the colour term represents an abstract quality.

Let us consider *purple* in **purple prose** more closely, and have a look at its motivation. As mentioned above (Section 7.3), the OED suggests that this is a metaphor, where the character of the colour motivates the construction. Another alternative, closer to my own but still different, is Ohtsuki’s (2000: 178) suggestion which is presented below. He is only aware of *purple prose* in the sense of ‘unduly pungent and profane words’ (2000: 179) and this might explain the derivation. As Figure 7:5 illustrates, he identifies BRUISE/WOUND/SWELLING as the **Initial meaning**. This is based on the experience that the human body turns a purplish colour when bruised. The next step is based on ‘causality,’ purple may represent the cause of the bruise – hence, an assault. The final step is based on ‘involvement,’ where profanations (*purple language*) typically contain assaults against God (Ohtsuki 2000: 177)

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![Figure 7:5. Ohtsuki’s (2000) derivation for a few senses of PURPLE.](image-url)

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Although elegant, I find this derivation of the phrase less convincing, in particular in view of phrases such as purple patch and purple passage, which are obviously related to purple prose. Furthermore, the intermediate step of VIOLENCE/ASSAULT is not lexicalised in English. It is important to distinguish between the historical motivation and the synchronic state of affairs, but there may very well be some connection. In Section 7.6.1, the synchronic picture of purple in its figurative sense is given, whereas the immediate focus is that of diachrony.

The OED points to the phrase purpureus pannus in Horace’s De Arte Poetica, and it is possible that the phrase purple patch was originally a calque. Nevertheless, I think we can assume some motivation for its adoption. Purple, in its original meaning – Lat. ‘purpureus’ – used to be a typical attribute of a kingly court. For instance, the OED lists the first meaning of purple thus:

1. a. Of the distinguishing colour of the dress of emperors, kings, etc.; = L. purpureus, [...] in early use meaning crimson; hence, imperial, royal.

The frozen phrase born in the purple is another piece of evidence for this association. I suggest therefore that the formative domain of purple as ‘splendid’ was that of ROYALTY. In this domain, there are both [purple] as a typical concrete attribute and [splendour] as an abstract attribute, i.e. a typical association.

Figure 7:6. Purple as ‘splendour’, ‘brilliance’ in the formative domain of ROYALTY.

The arrow indicates that the attribute [splendour] becomes linked to and associated directly with purple and can be referred to through the term purple. On the basis of a phrase like born in the purple, we can also conclude that purple was a salient feature in the domain of royalty. Splendour was, of course, also linked to the
highest representative on earth. Thus, the relation between the attributes [purple] and [splendour] is motivated partly because of their relative salience in the domain as argued above. The metonymy can be described as +SALIENT CONCRETE ATTRIBUTE STANDS FOR SALIENT ABSTRACT ATTRIBUTE+. Figure 7:6 illustrates this connection. However, the analysis demands yet another step; to be able to account for the use of purple with reference to texts, we have to assume a conceptual metaphor, which can be identified tentatively as +A TEXT IS AN OBJECT FOR DECORATION+. Then we can dress up a text in purple and create a splendid piece.

This formation is interesting for another reason. It illustrates the process through which a metonym may lose its original motivation and become a frozen phrase, a fossil. In this case, two things have happened which have created a certain amount of opaqueness round a phrase like purple prose. First, the meaning of purple changed from the original crimson tone, to what we today conceive of as purple but which is not the colour that kingly robes used to have. Second, and more importantly, in modern monarchies, it is no longer the habit of the royalty to wear such purple clothing as a symbol of their status. Thus, [purple] (or, more correctly, [purpureus]) is no longer an attribute of ROYALTY. Moreover, although, there is still a fascination with royalty in Great Britain, it seems likely that there are a good many other attributes which are much more salient than [splendour]. So in fact both attributes have lost their salience and therefore the connection is lost. In Figure 7:6, this is illustrated by the arrows directed out of the domain. This development is possible since neither [purple] nor [splendid] is in any sense a defining attribute of ROYALTY. This is likely to be a common pattern of the part-part metonymy. The colour represents a salient and fairly general but non-defining attribute and the abstract concept is also a general association.

The development of purple illustrates the “vulnerability” that exists because of the indirect link between the vehicle and the target. Should the attributes, for some reason, lose their status in the formative domain, it may become difficult – even impossible – to decode the metonym, and it has to be learnt as a lexeme in its own right. It may even perhaps be valid to talk of homonymy being created. This seems to be a process which has happened time and again, and it is likely that phrases like yellow press and blue joke are other examples. Here the original motivations are no longer present for most language users, and, if unfamiliar with their meaning, a speaker will have great difficulty deciphering their senses, although the context tends to provide sufficient help. Moreover, at least in some cases, it seems that once the motivation has been lost, the metonymic meaning is only marginally productive. That is, it appears to be preferred only in frozen phrases, often with a classificatory function. Consider for instance the alliterative use of purple: purple patch, purple piece and purple prose.

Let me also add a note on the identification of the formative domain. It should be stressed that the formative domain of ROYALTY is only meant to be suggestive. It may very well be the case that this domain can be more accurately identified. However, this should not undermine the force of my argumentation the main point of which is the presence of a part-part mapping and the lingering of phrases after the original motivation is lost due to changes in the formative domain.
There are other types of figurative phrases which may be analysed in the same way. One such meaning is that of ‘evil’, ‘malevolence’ etc. in connection with \textit{black}. Kikuchi and Lichtenberk (1983) could demonstrate in their cross-linguistic comparison that this connection is one association which seems to be almost universal in character. Even if this is not the case, the cross-linguistic evidence suggests that we are concerned with a connection that may be based on some universal experience. One such experience, which is common, is night. Kikuchi and Lichtenberk (1983: 31) give the following account of the connection, which I believe is essentially correct:

Blackness is associated with darkness/night. And darkness/night typically evokes fear in people: one cannot see what goes on, and one feels threatened. In other words, darkness/night is perceived as malevolent, and its outstanding characteristic, blackness, is metaphorically transferred to malevolent events, deeds and characters.

The only reservation I have against the suggested connection is that I insist that the association is based on metonymy not metaphor. This model seems to be a much more convincing explanation than Ohtsuki’s (2000) attempt, mentioned above, to derive the meaning ‘evil’ from blackness in no less than seven steps, via SLEEP and HELL. It is cognitively more economical to view the mapping as taking place in one formative domain to which the two concepts are contiguous. Accordingly, we have, in essence, a formative process similar to that for \textit{purple} in its meaning of ‘splendid’, the difference being that this connection is still open to interpretation since we all experience night. Graphically, we would have a similar picture to that of Figure 7:6, without the arrows pointing out of the domain. Similarly, the connection between \textit{green} and \textit{ecology} as in (12) can be modelled as a part-part metonymy in the formative domain of \textit{NATURE}.

Let us finally consider the example \textit{yellow journalism}. According to the OED, this is

\begin{quote} [a] use derived from the appearance in 1895 of a number of the New York World in which a child in a yellow dress (‘The Yellow Kid’) was the central figure of the cartoon, this being an experiment in colour-printing designed to attract purchasers.\end{quote}

Apparently, we are here dealing with a very salient individual example, a \textit{paragon} (Lakoff 1987: 87), serving the purpose of connecting one concrete attribute [yellow] with an abstract attribute which can be tentatively identified as [unscrupulous] or [sensational]. Although the original motivation is lost, the phrase has been retained in the domain of journalism in a phrase such as \textit{the yellow press}. It seems plausible that this sense should remain since it fits the general derogatory senses that the figurative use of \textit{yellow} tends to have. Consider, for instance, the sense ‘cowardice’ in \textit{yellow streak} as in (16) below.

\begin{quote}
(16) The majority of Members of Parliament are said to be in favour as, I am sure, is a majority of the public. Yet suddenly a \textit{yellow streak} has appeared, running from right-wing MPs through the whips’ office to spread as a stain down the Cabinet’s back. Someone is running scared of something. (BoE: times)
\end{quote}
Thus, we may find cases of remotivation, where the original motivation for a sense development has been lost.

To sum up, in this section we have identified two types of metonymical processes which are possible explanations for the formation of figurative expressions with colour terms. Of these types the first, based on a part-whole mapping appears to be very productive. The second mapping, part-part, can be used to explain phrases such as black market. However, it was also demonstrated that if the motivation for such a mapping is culturally determined it may be lost, as in the cases of purple patch and yellow press, and then the figurative meaning of the colour term has to be learnt as a separate word, and the phrase as an idiom.

7.6 Post-mapping development: local networks and domain logic

As mentioned above, it is unrealistic to view these metonymical processes as being activated all the time. On the contrary, we must consider these processes initial stages in the formation of figurative expressions. Like any phrase, the colour phrase will become conventionalised if the motivation is viewed as being good enough. At this stage, the original mapping may be retained as a connection in a schematic network of senses (cf. Chapter 2, and Langacker 1987); the colour term has become polysemous. This new element of meaning may, however, develop further, and motivate new, slightly different, meanings which can be viewed as forming local networks of meanings or local radial structures. Another type of development that can be noticed in some domains is that once a metonymic pattern has become conventionalised, more colour terms can be mapped onto that domain. It is as if the logic of the colour domain itself had been mapped. Below, I discuss these two developments briefly on the basis of a few examples.

7.6.1 Local networks and valence structure

When I talk about a local network of meanings, I suggest that within the overall schematic network which can characterise a concept, there might be nodes that are intimately linked and from which one may extract a subschema. This process would parallel the kind of process described by Langacker (1987: 383) in the context of the category TREE. Another possibility is to analyse the development in terms of Lakoff’s (1987: 204) radial structure.

It was mentioned earlier that Niemeier’s (1998) analysis of colour metonyms appears to be influenced by the idea of radial structure. However, the term she prefers is radial network. On the whole Niemeier’s analysis is quite convincing, but it is necessary to understand the details of the network or radial structure. In the present section these details are precisely the focus; I restrict my discussion here to established substructures of the larger network that the colour term may comprise. Furthermore, I discuss how we should view these substructures internally, but also their relation to the entire colour structure.

In the first part I focus my attention on one particular extension of a colour term, namely that of green in the sense which may be loosely described as
‘environmentally friendly’ or ‘ecological’, for a detailed analysis. The OED defines the meaning as

[o]f, pertaining to, or supporting environmentalism (esp. as a political issue); that belongs to or supports an ecological party; loosely, environmentalist, ecological.

The CIDE suggests a similar definition: “(someone who cares a lot about matters) relating to the protection of the environment.”

It is clear that green in connection with the environment originally had a strong political overtone. The association dates from the early 1970s in West Germany where political groups emphasising the environment made use of this symbol. I argued above that the connection between ‘ecological’ and green could possibly be modelled as a part-part metonymy in the formative domain of NATURE. An additional important prerequisite for the success of this mapping was no doubt the tradition in Europe of symbolising political movements in colours. However, my focus here is the development since then. Although there is still a strong element of political meaning, it appears that green has taken on the more general meaning of ‘ecological’ which does not necessarily have political undertones. Consider the collection of examples below from the BoE.

(17) He added that as part of the BMW Group they were investing in green cars such as hydrogen-powered ones. (BoE: times)

(18) Currently, the EU is also trying to force them to abandon their green policy on recycling plastics because countries like England want to sell beer in cans. (BoE: guard)

(19) The Green party – at its annual conference – has been discussing how a Green government would run the economy on environmental principles. The party’s Environment spokesman, Mr David Fitzpatrick, told delegates meeting in the Midlands city of Wolverhampton that a green economy would be based on energy efficiency, recycling and sustainable growth. (BoE: bbc)

(20) “It would be very useful to be able to extend the measurement of economic activity to changes in the environment and the resource base,” he said. “This would enable broader assessments to be made of implications of economic growth, the contribution of sectors particular environmental problems and the sectorial and national implications of environmental policy measures.” Mr Willis said one way to measure the contribution of environment to the economy would be an environmentally adjusted or “green GDP”. (BoE:oznews)

(21) In the US, the oil industry still has its head in the sand. But other corporate players see profits in green industry. (BoE: newsci)

Blatná (1996) briefly compares the use of green and Czech zelený in the sense of ‘ecological.’

Two such groups were Grüne Aktion Zukunft, ‘Green Campaign for the Future’, and the grüne Listen, ‘green lists’ (of ecological election candidates).
(22) But opting for an extra 5-8 per cent on your electricity bill still does not
guarantee that you personally will receive green electricity – the companies
simply promise to use the money for research and to buy some green energy.
(BoE: guard)

(23) The second myth which annoys me is the claim by the Gas Industry that gas is a
green fuel. Gas is a fossil fuel the same as oil and coal and helps towards
global warming. (BoE: bbc)

(24) … because you know consumers increasingly and you know do look to green
products and green companies you know. (BoE: brspok)

(25) Ted Halstead, of the New America Foundation, a think-tank with backing from
Silicon Valley, points out that green ideas, such as transferring taxes from
payroll to carbon emissions, might actually be supported by many “sunrise
knowledge” industries – to the detriment of what he calls “sunset extractive”
industries. (BoE: econ)

(26) Mr Hague will tell a business environment awards ceremony: “There is a
fundamental problem with green taxes. They are not what businessmen call
win-win.” For if you just impose more and more green taxes, you put up costs,
make Britain less competitive and destroy people’s jobs and livelihoods.
(BoE: indy)

(27) Indeed, the tax has been promoted not as an environmental measure, but simply
as a way to cut the $300 billion budget deficit. But the effects of the tax would
certainly have been green. (BoE: econ)

As these examples amply demonstrate, the use of green is quite flexible, and in
some cases it may be difficult to decide whether the term refers to ideas linked to
the Green Party or to a more general concept of ‘ecological’. It seems reasonable to
interpret this as a diachronic process through which green becomes more and more
flexible. Its great flexibility is also demonstrated by its ability to qualify far more
nouns than the potential synonym ecological. Using Langackerian terminology, it
could be claimed that green (in this sense) can be involved in a great number of
valence relations (cf. Chapter 4). Originally restricted mostly to the domain of
POLITICS, green can now be used to modify distinct objects in other domains –
concrete objects, as in green car. This, of course, opens up the possibility of
ambiguity as in the aforementioned phrase. In these nominal constructions green
may modify different conceptual structures of the noun: the surface of the car (the
default reading – the car has green colour) or the exhaust aspect of a car (a green
car emits very little exhaust fumes).

Using the concept of local network introduced above, we can see the
expanding use in various new domains as forming nodes in a minute local network
as in Figure 7:7. This network expands as new domains are explored by the
adjectival concept. The difference between these uses of green is very small and is
to a large extent based on the valence relation that exists between the noun and the
adjective due to the nature of the noun or the particular domain to which the noun
belongs. Strictly speaking, it is doubtful whether we could say that green in green GDP and green car has the exactly same meaning; whereas ‘environmentally friendly’ could be used for green in green car, it works less well in green GDP.

However, the meanings are similar enough for an overarching schema to be very narrow. Furthermore, it would seem that this schema is much more entrenched /conventionalised than the distinct meanings for each collocation. Thus it is reasonable to say that green in this sense exhibits \textit{vagueness}, rather than polysemy, cf. Tuggy (1993) and Chapter 2, and especially Figure 2:9.

In a similar fashion we can assume that other metonyms may expand and drift in meaning. A good example of this is the change of meaning of purple, in phrases like purple prose and purple patch. As could be seen in the definition of these phrases quoted from the OED, the traditional sense was ‘a brilliant or ornate passage in a literary composition.’ Although the meaning appears to have been positive originally, it is very clear from the material in the BoE that there is quite frequently a disapproving element involved. Purple passages and instances of purple prose are exaggerated and kitsch. The quotations below show both senses.

(28) These maps accompany equally gorgeous photographs and the kind of \textit{purple prose} that has made Oz Clarke such a popular contributor to the BBC’s Food And Drink programme. (BoE: today)

(29) Reilly’s book has its failings; he is not a natural writer and has a tendency to launch into \textit{purple prose} that should have been curbed by his editor, but his is an important book. (BoE: times)

As ideals change, what is regarded as eloquent by people in one generation may be thought of as pretentious and tasteless by the next generation. However, the local
network of *purple* in this sense has developed further, and there is also the possibility of using *purple* in reference “to writing or speaking that contains a lot of offensive or taboo words” (The CIDE), which is the sense Ohtsuki (2000) derives from bruising. It could perhaps be argued that taboo words are used to produce adorn language. Here we clearly have a case of category extension that is greater than that described above in the case of *green*. However, I could not find any clear example of this use in the BoE, so the construction may still be marginal. In the OED there are many more examples of *purple* in the sense of ‘splendid’ in the quotes, but it has been difficult to find instances of this usage in the BoE. It would seem that the use is mostly confined to the domain of *LANGUAGE*. There is one notable exception, however; *purple patch* is quite often used with reference to the domain of sport, in which it designates a moment of brilliance as in (30) below. In fact, of all the derived senses in this local network, this is the one occurs most frequently in the BoE.

(30) But he is a talented swing bowler who ended last summer with his county in splendid style. It was probably that *purple patch* which brought his potential to the attention of the England selectors. (BoE: indy)

This sense of ‘brilliance’ is, of course, slightly different from that which refers to style in literature so here we would be concerned with another node in the local network.

The overall confinement of this network to one particular domain, and the relatively low frequency of this usage in the BoE, could probably be partially explained by the fact that the original motivation for this sense of *purple* has been lost. Thus, the phrase may be difficult to interpret – it is almost like a fossil in the language. The same can be said about phrases such as *yellow* in the sense of ‘unscrupulous’ and *blue* in the sense of ‘indecent,’ as in *yellow press* and *blue movie*. It could be argued that in so far as these local networks are distant from other derived meanings of the colour term, they are probably more like homonymous than polysemous senses. Again, consider Tuggy’s (1993) continuum of homonymy and polysemy (cf. Figure 2:9). Where the motivation is still clear, we can talk about polysemy, but once it has been lost, then it seems that the overarching schema is likely to be very abstract and vague and, consequently, it is more reasonable to treat the senses as homonyms.

### 7.6.2 Domain logic

Another phenomenon that may occur once a metonymic mapping has established itself and reached a certain degree of conventionalisation is something that could be described as the development of domain logic. This can be exemplified by the use of *pink* in the sentence below.

(31) “I’m a Labour Party member,” a second member of the delegation said, “but I’d happily support the Liberal Democrats if they had the best chance of winning in my constituency.” Should they? Should you, if you consider yourself left-wing or even *pale pink*. (BoE: indy)
We have no difficulty at all of understanding this use of *pink*. What is interesting is that there is no direct mapping here between the concepts of (a smaller degree of) SOCIALISM and PINK, but instead the motivation is based on some notion of domain logic. Intriguingly, this application could possibly be viewed as a kind of metathetic mapping. A perceived similarity between the two domains IDEOLOGY and COLOUR makes it possible to map the concrete domain onto the abstract one. The similarity appears to reside in the boundless character of the two domains. Exactly like the colour domain, the political domain is characterised by salient prototypes and fuzzy boundaries; just as there is a salient red colour, there are hardcore communists, but there are also less salient nuances that belong to the same category. However, as this reasoning demonstrates, there is no full mapping between the two domains. On closer inspection, we can observe that what is mapped is, in fact, the area of one basic colour; a colour which is metonymically linked with one particular ideology. Furthermore, there is only one dimension from the colour domain that actually participates in the mapping, namely lightness. Thus, a light nuance of the colour suggests a low commitment to the political idea. In English, this use appears to be restricted to the colour red whereas, in Swedish it is possible to characterise a lukewarm supporter of the right-wing party as *ljusblå*, ‘light-blue.’ On the other hand, *rosa*, ‘pink’ is not (or very seldom) used to designate a supporter of moderate socialism.

The same kind of application of a colour term is very frequent in the case of grey, which then designates a middle area of some domain. For instance, in the domain of economy, the phrase grey may refer to what is a borderline case between what is legal and illegal. Black in reference to illegal is quite common as in black market and black economy, whereas white does not occur at all. This can probably be explained by the fact that it is the natural vantage point for categorising the other activities. It should be noted that, strictly speaking, from the point of view of the law, no true fuzzy border exists between what is legal and illegal. However, morally and ethically such vagueness may exist. According to the OED, the meaning of grey market can be defined as

> any unofficial or unorthodox trading (usu. of items which are scarce or in great demand) which, although legal, may be considered unethical; also loosely, = grey economy s.v. GREY a. 8 a. Cf. *PARALLEL importing. (OED online: grey market,)

Thus, by using this colour term, speakers are able to create a zone of fuzziness where non-figurative language would suggest strict divisions. What has happened is that the structure of the domain of lightness and its continuum is mapped onto the legal domain. In this sense the figurative expression is much more practical and efficient than a non-figurative one. Grey market can also have another meaning of

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18 Askedal (1987) discusses political colours in Norwegian. He observes that whereas *mørkerød* and *mørkeblå* (‘dark red’ and ‘dark blue’) are regularly used with ideological implication, this does not seem to be the case with *grønn* (‘green’). This is true of Swedish too, and presumably this is due to the fact that the ‘green’ ideology has not yet been developed far enough to suggest shades of commitment.

19 It would be tempting to suggest that this could be due to Swedish *rosa* containing more elements of purple than English *pink*. However, Sivik and Taft (1994) demonstrate that Swedish *rosa* is centred in the unique red hue plane whereas *pink* also has some elements of blue at the centre.
“[t]rading in a security prior to its official quotation on the Stock Exchange” (OED Online). This is actually the most frequent meaning in the BoE, but this is probably due to the character of the corpus.

In this section we have seen that the conventionalisation of a colour term in reference to some domain may open up the possibility of a metaphor-type mapping in which domain features from the colour domain are mapped onto the abstract concept. In doing so it is possible to talk about indefinable phenomena in a very economical way. However, although this second stage may be viewed as metaphorical, it is important to stress that the initial mapping is based on metonymy.

7.7 Figurative use of ECTs

It has previously been observed by researchers (e.g. Bennett 1988) that ECTs and some Secondary BCTs, notably *orange*, very seldom take on figurative meanings and only rarely occur in figurative expressions. In the light of my analysis here, where I have indicated the similarity between type modification and figurative use, this is not surprising. It seems that the low salience of both the colour concept and the term makes an ECT a less likely candidate for figurative use. There are a few instances of figurative use of ECTs, but they are very rare. Below, I present the few that I have found, including material outside the BoE. Apart from just mentioning the instances, I point to possible motivations for the figurative development. In the BoE corpus, I have been able to identify four ECTs which may be used figuratively. They are *scarlet, rose, lavender* and *puce*. The development of *puce* was mentioned in Chapters 5 and 6 and it is therefore not dealt with in any detail here. To these ECTs, we could also add the terms *silver, gold* and *golden*, which quite often occur figuratively. However, it seems that most of these meanings draw on the metal meaning of these terms and for that reason they are ignored. In addition to the above-mentioned four terms, I am aware of a figurative use of *beige*, and although this use could not be found in the BoE, I take it into account in my discussion below.

Of these ECTs, it seems that *scarlet* has the most conventionalised figurative meaning, although it is mainly restricted to the phrase *scarlet woman*, ‘a notoriously immoral woman; a prostitute.’ (The OED) The origin of this meaning can be traced back to the Bible, Rev. xvii. 1-5:

1. And there came one of the seven angels which had the seven vials, and talked with me, saying unto me, Come hither; I will shew unto thee the judgment of the great whore that sitteth upon many waters:
2. With whom the kings of the earth have committed fornication, and the inhabitants of the earth have been made drunk with the wine of her fornication.
3. So he carried me away in the spirit into the wilderness: and I saw a woman sit upon a scarlet coloured beast, full of names of blasphemy, having seven heads and ten horns.
4. And the woman was arrayed in purple and scarlet colour, and decked with gold and precious stones and pearls, having a golden cup in her hand full of abominations and filthiness of her fornication:
As in the case of yellow press mentioned above, here we are clearly concerned with a paragon (Lakoff 1987: 87), a very salient individual example in which the mention of scarlet colour and the abstract quality of sin are contiguous. Moreover, it is quite clear that the use of this colour here is not accidental but is closely linked to the fact that clothes dyed with scarlet were very exclusive.\(^{20}\) Too much fondness for worldly and exclusive things was seen as a deadly sin in earlier ages.

Nowadays, the use of scarlet in this way probably draws on another paragon, Nathaniel Hawthorne’s novel The Scarlet Letter. In this novel, a woman is forced to wear the scarlet letter A on her dress since she refuses to name the father of her illegitimate child. The important point is that the figurative meaning has to draw on cultural meanings (the domain of CLOTHING and the non-defining attribute of ‘exclusivity’) and cannot be derived from the inherent qualities of the colour itself. Below are two examples of scarlet woman from the BoE.

(32) I’d betrayed him by “allowing” her to leave. He called our mother a whore and a scarlet woman. (BoE: brmags)

(33) She seemed to accept her role as the English aristocracy’s scarlet woman - in fact, she played it to the hilt, relishing her own shamelessness. (BoE: brmags)

Ironically, scarlet could previously refer to “the gown or robe of a doctor of divinity or law, a judge, a cardinal, etc.; also, the scarlet coat worn in the hunting field” (The OED). Furthermore, it could refer to the rank that followed with the robe. So, actually the same original culturally defined property, namely that of being the colour of an exclusive dye, led to two very different figurative meanings. This second meaning of scarlet may, incidentally, be compared with that of purple discussed above.

Lavender and beige have probably also acquired their figurative meanings via the domain of CLOTHING. Lavender is associated with homosexuality and there are a few instances of this use in the BoE, as in (34) below.

(34) As Madsen is eager to reveal, “lavender marriage,” a marital contract between a lesbian woman and a gay man—was common in Hollywood. It afforded deep cover and “decency” and the studios often forced it where scandal loomed.

According to the Bloomsbury Dictionary of Contemporary Slang, lavender in the sense of ‘homosexual’ has developed as

\(^{20}\) The choice of scarlet is almost accidental, as the whore is also dressed in purple. In fact this illustrates the original meaning of purple as ‘purpureus’ a nuance almost identical to that of scarlet and based on a very exclusive dye. Consider also the colour of the robe that Christ wore during his crucifixion; Matt. xxvii. 28 describes it as scarlet, whereas Mark. xv. 17 and John. xix. 2 describe it as purple.
[a] facetious term appropriated from the heterosexual mockery for use by the gay community itself; the colour and the scent of lavender being thought as quintessentially feminine and ‘old-maidish’, respectively.

Thus, we would be dealing with a parallel to the development of pink, which is the more established and much more linguistically productive colour reference to homosexuality. This formation could tentatively be viewed as a type of part-whole metonymy, similar to that of uniforms, which has been taken one step further. The colour of the uniform may stand for the people. Later, some attribute associated with these people has been associated with the colour and the colour term. An important difference is that we are not talking about a formal uniform here, but some (prejudiced) idea of typical clothing.

Beige may be used with the figurative meaning of ‘uninteresting,’ ‘unimaginative’ or ‘boring’ as in (35).

(35) Maybe that’s what was wrong with your marriage—too beige.  

From the quotes in the Random House Dictionary of American Slang, it appears that this use of beige developed fairly recently, in the 1980’s, and the formation could be explained in the same way as lavender. Beige occurs most often as a textile colour and since the colour beige has little hue and saturation, clothes of this colour may appear boring as fashion changes, and so too the people who wear the colour. The important point is that the mapping must have taken place in some nominal domain and not directly in the colour domain – we experience and contrast colours as attributes in nominal domains, not directly in the colour domain. This use of beige is essentially parallel to the more established use of grey. It seems that the figurative use of beige was originally an American phenomenon, which may explain why it could not be found in the BoE. This figurative use of beige is currently becoming frequent in Swedish. Below is one example.

(36) Att ha ett namn som blir obsolet om mindre än två år är en aning beige, men det är i mitt tycke också det enda beigea med tidskriften.  
[To have a name which will be obsolete in less than two years is somewhat beige, but it is in my opinion the only beige thing about the magazine.]  
(Språkbanken: SVD2:0903 LED)

Incidentally, it is possible to trace a previous parallel development to that of beige in this sense. Drab originally referred to a kind of cloth and later to the colour of the cloth. Finally it developed a figurative meaning of ‘boring’, ‘dull,’ which is the one mentioned in dictionaries. In the BoE, both the colour sense and the figurative sense occur. Below is an example of the latter, where presumably beige or grey could also be used.

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22 The NTC’s Dictionary of American Slang and Colloquial Expressions suggests that it is a Californian phenomenon.
(37) The latest Royal break-up proves that our rulers have nothing to offer their subjects, millions of whom endure *drab* but happy married lives. (BoE: today)

Although it is my belief that these meanings are based originally on metonymy, it seems that the connection between colour and certain moods has become almost metaphorical. It would seem that it is in particular the dimensions of saturation and lightness that play a role here: colours of very low saturation such as *grey*, *beige* and *drab* are considered boring, whereas high saturation (‘brightness’ cf. Chapter 6) is considered positive. Consider the use of *colourful person* in (38) below.

(38) She was an outgoing, beautiful and colourful person. She spoke her mind and we loved her for that. (BoE: oznews)

Similarly light can stand for what is positive and dark for what is negative. However, this applies mainly to *white* and *black*.

Finally there is *rose*, which may be associated with ‘cheerful optimism’ and indicate that a person’s views are naïve and ‘unduly optimistic’ (The OED); this is particularly the case in the phrases *rose-coloured* and *rose-tinted glasses* or *spectacles*. Dobrovol’skij and Piirainen (1998: 21) point out that this association has cross-linguistic parallels which they suggest that this may be due to the colour pink being frequently associated with pleasant things such as female babies. True as this may appear, it seems equally possible that the meaning is derived from the entity rose. What supports this latter interpretation is that it is not possible to use *pink* in the same sense. Furthermore, in all the cases that Dobrovol’skij and Piirainen present, the term is that which can also refer to a rose. This is the case in Swedish where *skärt*, ‘pink,’ does not give rise to the association, but *rosenrött*, ‘rosy-red,’ ‘rosy-red,’ ‘can. It can also be noted that *rosy* may carry the same associations.

### 7.8 Summary

In this chapter I have discussed the process that leads to the figurative use of colour terms, and I have identified this process as one of metonymy. It was suggested that there are two types of configurations that can explain the types of figurative meanings that tend to develop. There is the part-whole relation in which the colour term refers to some object and can stand for that object. This relation appears to be very productive and particularly in sport. The other configuration can be described as part-part and entails a colour term being associated with some object or domain able to stand for some abstract quality which is also linked to the entity or domain. It was shown that if these attributes lose their salience in the formative domain, the link becomes opaque which may result in the usage being restricted to a few frozen phrases. Furthermore, it was argued that the identification of salient colours and colour terms for the mapping is essentially parallel to that for type modification discussed in Chapter 4. This probably explains why the salient Primary Basic terms are those that predominate. Very few ECTs have figurative meanings and those that do, either seem to draw on one nominal domain in particular, or appear to acquire the figurative meaning from the original entity rather than the derived colour, as in the case of *rose*. 
Concluding Remarks

Commenting on the Berlin and Kay tradition of colour semantics research, some scholars, notably Lucy (1997) and Lyons (1999), have criticised the method of mapping colour terms onto colour charts, a very common procedure in the study of colour semantics. It is claimed that the method leads the researcher to restrict his investigation, and thus to underestimate the complexity of the field of colour semantics. Lyons (1999) points out that the above-mentioned method favours context independent reference (i.e. reference directly in the colour domain) rather than contextual use (i.e. description of the colour of entities). The present thesis has been written with this remark in mind. One aim was to explore a new method of approaching colour semantics – to consider English colour terms in context. For this purpose I used an extensive computerised text corpus, the Bank of English. Although the corpus represents the type of language English speakers are exposed to rather than what they produce, it is hoped that the study of this corpus will contribute to the understanding of colour categories. The material was approached on three levels: general corpus statistics, the categories of the nouns described by the colour terms, and individual examples.

Because of the nature of text corpora, my focus was reference outside the normal area of designation of a colour term, i.e. extensions from the prototype. Using the theory of cognitive linguistics, I tried to analyse and describe the processes involved. Some theoretical constructs proved to be particularly useful in accounting for English colour term usage: notions such as entrenchment, plane, reference-point, vantage, salience, markedness and metonymy.

In this closing chapter, in addition to summarising some of the results, I would like to point to some general conclusions that may be suggested on the basis of what has been described here. These suggestions concern the existence of a colour domain, and the structure of the colour term category. I also mention some possible future studies where the results obtained here could be refined and complemented by other methods.

Some critics of Berlin and Kay’s (1969) idea of Basic Colour Terms reject the existence of a colour domain on the grounds that it cannot be assumed to be universal (cf. Section 1.2). In many languages, it is argued, one cannot reduce other associated meanings to mere ‘connotations,’ and thus mapping procedures on a colour chart exclude important aspects of these terms. A frequently quoted example of the lack of a colour domain is Hanunóo colour terms as described by Conklin (1964). Conklin shows that the terms malatuy (GREEN) and marara? (RED) in addition to colour evoke the meanings of ‘succulence’ and ‘desiccation,’ respectively. This division (or opposition) is mainly significant in the domains of plants, and Conklin (1964: 191) mentions that “[a] shiny, wet, brown-colored section of newly cut bamboo is malatuy.” Thus, although the colour is closer to marara?, the bamboo is still described as malatuy because of the succulence. However, it is doubtful whether this can be said to disqualify the notion of a colour domain. Consider how a dark-skinned European can be referred to as white and a
light-skinned African as black in the context of race. As I have tried to show in this thesis, it is quite often the case that other concepts or domains are associated with colour. With an encyclopaedic view of meaning, this is not a problem – it is reality. We can assume the existence of a basic colour domain against which colour terms are primarily defined while other meanings can nevertheless be successfully accounted for.

In this thesis, I have demonstrated that colour terms may take on a classifying function (classifying a subtype) and in doing so they can refer to nuances which might well lie outside their normal area of designation (Chapter 4). As an example we can mention that white wine is usually far from white. Two powerful theoretical constructs for my analysis of the usage of colour terms in classifying function are vantage and reference point. The vantage represents the perspective of the conceptualiser and the reference point is a salient landmark through which the target, the classified entity, is accessed. The choice of reference point is largely based on the vantage point of the conceptualiser and since it is a matter of characterising a type, generality (and thus, salience) is striven for. It seems that the use of malatuy in Hanunóo in classifying bamboo (cf. above) could be modelled in the same way as the use of blue in e.g. blue oak and white in e.g. white people. In so far as attributes co-occur, they may be associated with one another, as in Hanunóo. The importance of salience is further evidenced by the fact that the classifying function is primarily restricted to a small number of terms, those referred to as Primary BCTs (i.e. black, white, red, green, yellow and blue).

The co-occurrence of colour and a concept or another attribute is taken one step further in figurative usage. It has been argued in this thesis that figurative expressions of colour terms are based on metonymy (Chapter 7). Langacker (1999) claims that reference-point constructions and metonymy are related in character, and that metonymy can be viewed as a special case of the former. Moreover, figurative expressions show another similarity to classifying usage in that they frequently have a classifying function, designating a subtype of some sort (purple prose, yellow press). In cases such as whites – white people, the closeness between the two types of usage becomes very apparent. This may also explain why figurative usage appears to be restricted to only a few colour terms.

Two different types of metonymy were identified as participating in the formation of figurative usage of colour terms: a part-whole metonymy (+SALIENT ATTRIBUTE FOR OBJECT+) and a part-part metonymy (+SALIENT CONCRETE ATTRIBUTE FOR SALIENT ABSTRACT ATTRIBUTE+). The first type is very common and usually transparent as in the case of skin colour – whites. However, if the second type is generated from cultural patterns and these are changed, then the original motivation for the mapping may be lost, as in purple prose and yellow journalism. In such cases it may be valid to talk about the creation of homonymy, since the meaning of purple in purple prose has to be learnt quite separately from the colour sense. Generally, figurative senses of colour seem to be culturally motivated, which explains why previous researchers have found few universal patterns.

The third type of usage evoking meanings outside the colour domain has been analysed in this thesis in terms of markedness. It was argued that the precision of
ECTs may in some nominal domains be interpreted as a flouting of Grice’s maxim of Quantity, and hence lead the hearer to look for additional meanings (Chapter 6). My case study of saturation terms showed that these additional meanings may derive from the nature of the added feature (in this case ‘brightness’), or the transparency of the term (as in golden). However, it is also clear that non-transparent terms are able to yield extra meanings (sienna skin). In conjunction with expressions of emotions, specific terms referring to facial colour appear to suggest an intensification of these emotions (scarlet with embarrassment).

Transparency is a common feature among non-basic colour terms, elaborate colour terms (ECTs), and is the result of their metonymical derivation from entities. This metonymy (+OBJECT FOR SALIENT ATTRIBUTE+) is the exact opposite to one of the processes creating figurative meanings of colour terms. In describing the semantics of ECTs, entrenchment (within the speaker) and conventionalisation (within the speech community) are important dimensions. Some colour terms are closely linked to certain nominal domains such as VEGETATION and COSMETICS and are thus poorly conventionalised, whereas other terms are used more generally and show a higher degree of conventionalisation. In nominal domains where ECTs commonly occur, marked readings do not arise since the specificity is to be expected and is not interpreted as a flouting of the maxim of Quantity.

On the basis of the observation made about usage patterns and frequencies of occurrence, it is possible to give a usage-based characterisation of the two categories of colour terms discussed in this thesis – Basic Colour Terms and Elaborate Colour Terms.

A BCT is a colour term which is centred on a salient point in the colour domain. In my description of English colour term usage in the Bank of English, I have identified a number of features that seem to correlate with basicness. English BCTs have the following linguistic characteristics to a greater or lesser degree:

- They may be frequently used for type modification (i.e. classificatory use of subtypes), e.g. blue oak, white coffee.

- They occur with the derivational suffix –ish, e.g. reddish, greenish.

- They occur with the inflectional forms –er and –est e.g. blacker.

- They have high overall frequency.

- They occur in colour-colour combinations with fixed positions and without implying a hyponymic relation, e.g. blue-green.

- They have figurative meanings, e.g. green products (‘ecological’), to be green (‘inexperienced’).

On the whole, the terms usually defined as BCTs fit this category description, but the usage patterns do not yield a clear-cut picture of basicness. The Primary BCTs (black, white, red, green, yellow and blue) form a more homogeneous group than
the group of BCTs as a whole if we only look at these features. The BCT *orange*, for example, has few of these characteristics. There are also some ECTs which show degrees of basicness; in particular, *silver* and *gold(en)*.

Elaborate Colour Terms also appear to have some typical features. On the basis of what was described in Chapters 3, 5 and 6, we can identify the following characteristics as being typical of ECTs:

- They are derived from some entity, and frequently the entity can be identified, e.g. *turquoise, cream*.
- They are used almost solely for descriptive purposes (token plane).
- They may generate extra meanings through a violation of Grice’s maxim of Quantity in some nominal domains, e.g. *emerald eyes, azure waters*.
- They occur mostly in written texts, typically magazines and books.
- They are frequently inconsistently defined in dictionaries.
- They may occur with the derivational suffix –*y*, e.g. *rosy, rusty*.

Among the BCTs, *orange* shares quite a few of these features with the ECTs. From this linguistic evidence, it is tempting to suggest that the category of colour terms should be viewed as a radial category (Lakoff 1987). The centre of the category comprises the Primary Basic Colour Terms and the periphery the ECTs. The most peripheral members of the colour term category would be nonce terms and colour terms restricted to certain nominal domains. From a cognitive point of view, this category would have to be considered dynamic, meaning that a colour term may move towards the centre and out from the centre, depending on its entrenchment within a speaker. On a higher level, i.e. the speech community, the dynamics of such a change could possibly be described in a diachronic study, but also synchronically as in Forbes’ (1979, 1986) studies of *brun* and *marron* in French.

As a colour term becomes increasingly entrenched or conventionalised it moves towards the centre of the category. As described in Chapter 5, increased entrenchment also entails greater ‘freedom’ from the entity of derivation. The more entrenched a term becomes the more likely it is to acquire the characteristics listed for basic terms. A colour term may also move out of the colour term category if it is consistently used in one nominal domain and in close connection with other attributes. This appears to be the case with English *puce* (Chapters 5 and 6).

To sum up, this study of English colour terms in context demonstrates that with the assumption of a basic domain of colour and important cognitive notions such as *domains, attributes, reference point constructions, metonymy*, and *entrenchment* described above, it is possible to account for many facets of English colour term usage. It may be possible to use these models to explain patterns in languages which have been regarded as being very different. It is hoped that the
Concluding Remarks

results obtained here will encourage other researchers to explore the corpus based method further and include other languages.

**Prospects for further research**

The fact that there have been relatively few approaches to colour semantics based on texts means that there are numerous possibilities for further research. Below I have indicated a few of these.

- Chapter 4 demonstrated that type modification might extend a term outside its normal area of designation. A comparison between this type of extension and MacLaury’s (1997) step-by-step mapping technique in the colour chart would probably be very fruitful.

- It may be potentially rewarding to review the previous studies of Lyons, Conklin and Forbes to determine whether some of the observed usage patterns may be part of the phenomena that arise from type modification (classifying function).

- Closer textual examination of the identifying and descriptive function of colour terms is necessary. I have here assumed that the identifying function is mainly restricted to BCTs but a detailed study might bear out this assumption.

- The borderline between basic and non-basic terms should be investigated more carefully, preferably using a number of different tools – texts as well as colour chips. Interesting terms to study would be *purple, orange, beige, turquoise, olive, and crimson* and possibly a few more.

- The study of ECTs in Chapter 5 could also be followed up by other methods. Rather than testing colour naming with the help of colour chips one could do it with the help of a nominal context of clothes or flowers or cars. This could more clearly establish whether some ECTs are firmly anchored in certain domains only.

As these suggestions indicate, great advances may be made by combining established anthropological and psychological methods with text studies.
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Appendix 1. Description of the Bank of English Corpus

This appendix presents subcorpora in the Bank of English and their sizes at the time of my sampling of the corpus (February – June 1998). The Bank of English contained approximately 323 million words at that time.

<table>
<thead>
<tr>
<th>Subcorpus</th>
<th>Abbreviation</th>
<th>Size (number of words)</th>
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<tr>
<td>UK Independent newspaper</td>
<td>indy</td>
<td>19,452,295</td>
</tr>
<tr>
<td>Australian newspapers</td>
<td>oznews</td>
<td>33,378,314</td>
</tr>
<tr>
<td>UK ephemera</td>
<td>brephem</td>
<td>4,721,964</td>
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<tr>
<td>UK general interest magazines</td>
<td>brmags</td>
<td>30,137,896</td>
</tr>
<tr>
<td>UK spontaneous speech</td>
<td>brspok</td>
<td>20,181,050</td>
</tr>
<tr>
<td>US ephemera</td>
<td>usephem</td>
<td>1,255,655</td>
</tr>
<tr>
<td>UK BBC World Service broadcasts</td>
<td>bbc</td>
<td>18,522,600</td>
</tr>
<tr>
<td>UK Guardian newspaper</td>
<td>guard</td>
<td>24,261,095</td>
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<td>newsci</td>
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</tr>
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<td>npr</td>
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<td>UK Books</td>
<td>brbooks</td>
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Appendix 2. Regular Expressions Eliminated via Automatic Commands.

Below is a list of the regular expressions that were automatically eliminated with a grep-v command when I collected my material. “Grep” is a UNIX command for selecting lines matching a regular expression, on which the lookup commands g and v are based. The v-command selects only those lines which don’t match the entered regular expression. After this, the material was examined, and all the remaining non-colour tokens were eliminated.

**Peach**
ripe peach\|peach essence\|peach halves\|peach juice\|peach kernel\|peach melba\|peach orchard\|peach orchards\|peach palm\|peach schnapps\|peach tree\|peach trees\|peach baskets\|peach brandy\|peach chutney\|peach cobbler\|peach flavouring\|peach flavour\|peach flesh\|peach fuzz\|a peach of a\|peach perfume\|peach pie\|peach potato\|peach pie\|peach sauce\|peach-skin\|peach slices\|peach aroma

**Rust**
anti-rust\|anti rust\|emerge from rust\|damage from rust\|won’t rust\|doesn’t rust\|will rust\|against rust\|any rust\|can rust\|cluster-cup rust\|for rust\|from rust\|get rust\|it rust\|mean rust\|more rust\|not rust\|noticed rust\|old rust\|prevent rust\|ring-rust\|ring rust\|structural rust\|virtually rust
rusted\|rust away\|rust has\|rust inhibitor\|the rust off\|rust-proof\|rust proof\|rust-proofing\|rust resistant\|rust-resistant\|rust wreck\|rust disease\|bit of rust\|flakes of rust\|heap of rust\|a lot of rust\|signs of rust

**Plum**
ripe plum\|Victoria plum\|wild plum\|plum brandy\|plum cake\|plum draw\|plum flavours\|plum fruit\|plum job\|plum jobs\|plum position\|plum pudding\|plum ride\|plum role\|plum roles\|plum sauce\|plum tomato\|plum tomatoes\|plum tree\|plum trees\|plum assignment\|plum chutney\|plum jam\|plum marmalade\|plum orchard\|plum post\|plum posts\|plum posting\|plum prize\|plum puree\|plum stones\|plum post\|plumposts\|plum posting\|plum prize\|plum puree\|plum stones\|plum assignment\|plum chutney\|plum jam\|plum marmalade\|plum orchard

**Rose**
actually rose\|they all rose\|anxiety rose\|assets rose\|audience rose\|autumn rose\|average rose\|ball rose\|balloon rose\|BHP rose\|blossoms rose\|body rose\|Brian rose\|business rose\|China rose\|Christmas rose\|climbing rose\|color rose to\|Commonwealth rose\|companies rose\|affair rose\|aircraft rose\|air rose\|Airways rose\|Anna rose\|anger rose\|ANZ rose\|approvals rose\|American rose\|yen rose\|GDP rose
confidence rose\|Conservatives rose\|contract rose\|New Corp rose\|costs rose\|Cross rose\|crowd rose\|curtain rose\|debt rose\|decisions rose\|delegates rose\|deputies rose\|dollar rose\|division rose\|dust rose\|earnings rose\|Earnings rose\|English rose\|Europe rose\|Eva rose\|eventually rose\|executives rose\|expectations rose\|exports rose\|Exports rose\|eye brows rose\|factories rose
figure rose\|figures rose\|flames rose\|funds rose\|George rose\|Gil rose\|Gilts rose\|Gold rose\|goods rose\|group rose\|he rose\|He rose\|heart rose\|heat rose\|hills rose\|Holdings rose\|homes rose\|House rose\|I rose\|immediately rose\|imports rose\|index rose\|Index rose
Jesus rose | Jill rose | leaders rose | level rose | levels rose | of living rose | London rose | market rose | month rose | moon rose | mortgages rose | numbers rose | mortgage rose | offences rose | optimism rose | orders rose | pay rose | period rose | permits rose | pound rose | price rose | production rose | products rose | profit rose | profits rose | rate rose | rates rose | red rose
registrations rose | repayments rose | revenues rose | revenue rose | sales rose | services rose | share rose | shares rose | She rose | she rose | slopes rose | spending rose | spirits rose | States rose | steam rose | stock rose | stocks rose | sun rose | surplus rose | tax rose | temperature rose | temperatures rose | tempo rose | they rose | They rose | thing rose | toll rose | trade rose | trees rose | Turnover rose | turnover rose | trusts rose | UK rose | unemployment rose | US rose
vacation rose | value rose | visitors rose | voice rose | voices rose | volume rose | volumes rose | wages rose | water rose | We rose | we rose | week rose | which rose | White rose | white rose | who rose | wild rose | wind rose | workers rose | world rose | year rose | a yellow rose | yield rose | yields rose | 1994 rose | 1997 rose
a rose is | a rose by | rose bed | rose beds | rose-beds | a rose between | rose bowls | rose bowl | rose breeders | rose bud | rose buds | rose-bush | rose-bushes | rose bushes | rose collis | rose collection | rose country | rose-covered | rose & dollar | rose every | rose fragrance | rose fragrances | rose family | rose fertilizers | rose fertilizer | rose for | rose arches | rose garden | rose-garden | rose gardens | rose-gardens | rose geranium | rose given | rose grew | rose grafted | rosegrower | rose-grower | rose-growers | rose growing | rose-growing | rose had | rose hip | rose-hip | rose hips | rose-hips | rose is | rose, jasmine | rose last | rose leaves | rose lovers | rose may | rose motif | rose named | rose oil | rose on | rose otto | rose out | rose pattern | rose-patterned | rose perfume | rose petal | rose petals | rose-petals | rose rust | rose-scented | rose show | rose smell | rose so | rose specialists | rose stem | rose stems | rose symbol | rose that | net rose to | rose tree | rose trees | rose type | rosetypes | rose varieties | rose water | rose-water | rose were | rose window | rose-window | rose windows | rose-windows | rose wine | rose wines | rose a | rose above | rose abruptly | rose after | rose again | rose alarmingly | rose an | rose last | rose higher | rose less | rose markedly | rose modestly | rose nearly | rose nearly | rose rapidly | rose roughly | rose sharply | rose slightly | rose slowly | rose steadily | rose unexpectedly | rose up | rose yesterday | rose-coloured | rose-colored | rose colour | rose color | Rose rose and fell | Rose and a | rose and put | rose and came | rose and asked | rose and ran | rose and said | rose and shook | rose and stepped | rose and stood | rose and stretched | rose and walked | rose and told | rose and took | rose and then | rose and began

**Cream**

anticeptic cream | avocado cream | barrier cream | body cream | butter cream | camouflage cream | chocolate cream | cleansing cream | clootted cream | coconut cream | cold cream | conditioning cream | custard cream | dairy cream | double cream | eye cream | face cream | fresh cream | full cream | hand cream | heavy cream | moisturizing cream | mustard cream | night cream | potato cream | pouring cream | salad cream | sharish cream | single cream | skin cream | sour cream | soured cream | spermicidal cream | special cream | sun cream | whipped cream | whipping cream | whip the cream | waterproof cream | zinc cream | triple cream | shaving cream | cream bun | cream buns | cream, butter | cream cake | cream cakes | cream cheese | cream cleanser | cream cleansers | cream cracker | cream crackers | cream eggs | cream-filled | cream, jelly | cream liqueur | cream pie | cream pies | cream sauce | cream sauces | cream soup | cream tea | cream teas | cream until | strawberries and cream | cream and strawberries | add the cream | add cream | apply cream | apply cream | cream and fruit | cream and garlic | cream and jam | ice cream | ice-cream | Ice cream | Ice-cream | ICE CREAM | ICE-CREAM
Navy
American navy|airforce and navy|airforce and the navy|army and navy|army and the navy|Party and navy|Australian navy|British navy|Chinese navy|the entire navy|federal navy|former navy|French navy|German navy|Israeli navy|Italian navy|Japanese navy|merchant navy|official navy|the old navy|the regular navy|republican navy|Russian navy|Swedish navy|Soviet navy|US navy|United States’ navy|the whole navy|Weimar navy|Yugoslav navy
Navy
Navy can|the navy has|the navy had|the navy is|the navy could|the navy would|the navy was|the navy aircraft|the navy and airforce|the navy and army|the head of the navy|the navy, army|the navy, airforce|the navy began|the navy ship|the navy ships|the navy boats|the navy came|the navy captain|the navy commanders|the navy continued|the navy divers|the navy engineer|the navy found|the navy took|the navy waited|the navy gunboat|the navy gunboats|the navy had|the navy vessels|the navy veteran|the navy high command|the navy leaders|the navy lieutenant|the navy minister|the navy spokesman|the secret of the navy|the strength of the navy|the size of the navy|the history of the navy|the record of the navy|join the navy

Olive
olive branch|olive bread|olive grove|olive groves|olive hatches|olive leaf|olive leaves|olive nymphs|olive oil|olive paste|olive pate|olive press|olive presses|olive processing|olive orchard|olive orchards|olive salad|olive tree|olive trees|olive wood|olive virgin

Orange
Orange|orange blossom|orange drink|orange fruit|orange fruits|orange grove|orange groves|orange juice|orange-juice|orange marmalade|orange peel|orange sauce|orange slice|orange slices|orange sorbet|orange tree|orange trees|orange zest|orange flavour|orange-flavored orange, apple|orange brandy|orange butter|orange cake|orange crop|orange custard|orange flavoured|orange-flavoured|ORANGE|orange grower|orange growers|orange liqueur|orange oil|orange orchard|orange orchards|orange pekoe|orange plantation|orange plantations|orange seller|orange squash|orange squeezer orange-flower water|orange flower water|orange, grapefruit|orange harvest|orange segments|orange box|orange boxes|orange crates|orange season|orange soda|orange stick|orange tea|orange and|orange bomb|orange bone|d’orange|orange-bluhende|orange-flowering orange, blackcurrant|orange biscotti orange and almond|orange and blackcurrant|orange and chocolate|orange and clove|orange and date|orange and grapefruit|orange and grapes|orange and honey|orange and lemon|orange and lime|orange and other|orange and pineapple|orange and raspberry|orange and strawberry|orange and sweet|orange and you

Violet
Violet|VIOLET|Ultra violet|ultra violet|Ultra-violet|ultra-violet|African violet|shrinking violet|dog violet|dog-violet|nodding violet|violet cream|violet tea|violet leaf|violet leaves|violet-scented|violet-scented|water violet|tooth violet|shy violet

Silver
Silver|SILVER|silver dagger|silver medal|silver medallist|silver lining|silver plated|silver-plated|silver medalist|silver jewellery|silver spoon|silver plate|silver chain|silver-plate|silver medals|silver tray|silver wedding|silver jubilee|silver horn|silver gilt|silver-gilt|silver spoons|silver bracelet silver platter|silver anniversary|silver ring|silver cutlery|silver wires|silver trophy|silver earrings|silver rats|silver-framed|silver coins|silver bullet|silver jewellery|silver mining|sterling silver|Sterling silver|olympic silver|silver and bronze
Golden
Golden\|GOLDEN\|golden age\|golden opportunity\|golden rule\|golden boy\|golden girl\|golden oldies\|golden handshake\|golden rules\|golden goal\|golden chance\|golden oldie\|golden future\|golden era\|golden handcuffs\|golden wedding\|golden years\|golden triangle\|golden days\|golden period\|golden summer\|golden couple\|golden jubilee\|golden statue\|golden chances\|golden opportunities\|golden touch
golden share\|golden chain\|golden parachute\|golden egg\|golden eggs\|golden thread\|golden serve\|golden hello\|golden parachutes\|golden boot\|golden remove\|golden moment\|golden treasure\|golden moments\|golden scenario\|golden hellos\|golden crown\|golden cool\|golden fleece

Gold
Gold\|GOLD\|Olympic gold\|carat gold\|won gold\|solid gold\|win gold\|Games gold\|struck gold\|copper-gold\|pure gold\|team gold\|African gold\|individual gold\|winning gold\|Commonwealth gold
gold medal\|gold medals\|gold medallist\|gold medalist\|gold medallists\|gold plated\|gold rush\|gold leaf\|gold-leaf\|gold mining\|gold standard\|gold bars\|gold chain\|gold stocks\|gold bullion\|gold price\|gold coins\|gold watch\|gold mines\|gold production\|gold reserves\|gold ring\|gold assets\|gold chains\|gold jewellery\|gold prices\|gold producer\|gold project\|gold digger\|gold-digger\|gold rings\|gold bracelet\|gold miner\|gold teeth\|gold tooth
### Appendix 3. Frequency of Colour Terms in the Bank of English

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<th>BUC</th>
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Total in BoE:

<p>| Lavender        | 1048 |
| Lemon           | 566  |
| Lilac           | 213  |
| Lime            | 589  |
| Magenta         | 338  |
| Maroon          | 576  |
| Mauve           | 684  |
| Mustard         | 314  |
| Navy (blue)     | 1526 |
| Olive           | 409  |
| Orange          | 3553 |
| Peach           | 302  |
| Pink            | 8924 |
| Plum            | 134  |
| Puce            | 76   |
| Purple          | 3779 |
| Red             | 38912|
| Rose            | 632  |
| Rust            | 174  |
| Scarlet         | 1208 |</p>
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Appendix 4. Definitions of Colour Terms

The following list illustrates the definition of the colour terms under investigation as they are defined in six contemporary dictionaries.

The dictionary are: The Oxford English Dictionary (OED), Cambridge International Dictionary of English (CIDE), Collins Cobuild English Language Dictionary (CCELD), Webster’s New Encyclopedic Dictionary (Web), Longman Dictionary of Contemporary English (Long), and Oxford Advanced Learner’s Dictionary (OALD).

The text is quoted from the dictionaries. Text within brackets […] is my own addition or summary.

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<th>CIDE</th>
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<td>Of a clear yellowish brown.</td>
<td>A yellowish brown colour.</td>
<td>[The colour of the substance amber, which is said to be a yellowish-brown orange traffic light which shows between the green and the red…]</td>
<td>Yellowish-brown or orange.</td>
<td>Yellowish-brown or orange.</td>
</tr>
<tr>
<td>Azure</td>
<td>The blue color of the clear sky.</td>
<td>A light blue colour.</td>
<td>A bright blue colour like the sky.</td>
<td>The colour of the stone, which is said to be a pale greenish-blue precious stone.</td>
<td>The bright blue colour of the sky on a sunny day.</td>
<td>A bright blue colour, like the sky.</td>
</tr>
<tr>
<td>COLOUR TERM</td>
<td>CCLED</td>
<td>CIDÉ</td>
<td>OALD</td>
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</tr>
<tr>
<td><strong>Black</strong></td>
<td>Of the darkest colour there is, the colour of the sky at night when there is no light at all.</td>
<td>The darkest colour there is, like night without stars.</td>
<td>Of the very darkest colour; the opposite of white.</td>
<td>The dark colour of night or coal.</td>
<td>Absorbing all light: ‘of the colour of night (J.)’, ‘of the colour of soot or coal’.</td>
<td>The color of soot or coal</td>
</tr>
<tr>
<td><strong>Blue</strong></td>
<td>The colour of the sky on a sunny day.</td>
<td>The colour of the sky without clouds on a bright day, or a darker or lighter without variety of this.</td>
<td>Having the colour of a clear sky or the sea in sunlight.</td>
<td>The colour of the clear sky or of the sea on a fine day.</td>
<td>Of the colour of the sky and the deep sea.</td>
<td>The color of the clear daytime sky: a color lying between green and violet in the spectrum</td>
</tr>
<tr>
<td><strong>Brown</strong></td>
<td>The colour of earth or wood.</td>
<td>The colour of chocolate or earth.</td>
<td>Having the colour of chocolate, or coffee mixed with milk.</td>
<td>Having the colour of earth, wood or coffee.</td>
<td>A composite colour produced by a mixture of orange and black […] Brown is the colour produced by partial charring or carbon-ization of starch or woody fibre, as in toasted bread or potatoes, peat, lignite, withered leaves, etc.</td>
<td>Any of a group of dull colors between red and yellow in hue</td>
</tr>
<tr>
<td><strong>Charcoal</strong></td>
<td>—</td>
<td>Dark grey.</td>
<td>A very dark grey colour.</td>
<td>—</td>
<td>A dark grey colour.</td>
<td>—</td>
</tr>
<tr>
<td><strong>(grey/gray)</strong></td>
<td>—</td>
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<td>COLOUR TERM</td>
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<tr>
<td>Cream</td>
<td>A yellowish-white colour</td>
<td>The colour of cream, [which is defined as] thick yellowish-white liquid.</td>
<td>Pale yellow, almost white.</td>
<td>Yellowish-white in colour.</td>
<td>Cream-coloured, yellowish white.</td>
<td>A pale yellow.</td>
</tr>
<tr>
<td>Crimson</td>
<td>A dark, purplish-red colour</td>
<td>A strong, slightly purplish, deep red colour</td>
<td>A deep red.</td>
<td>Having a deep purplish red colour.</td>
<td>Of a deep red somewhat inclining towards purple.</td>
<td>Deep purplish red.</td>
</tr>
<tr>
<td>Emerald</td>
<td>Bright green in colour</td>
<td>[[Not defined, but the stone is described as] a bright green transparent precious stone.</td>
<td>Of a bright green colour.</td>
<td>Bright green.</td>
<td>Brilliantly green like the emerald.</td>
<td>Bright or richly green.</td>
</tr>
<tr>
<td>COLOUR TERM</td>
<td>CCELD</td>
<td>CIDE</td>
<td>OALD</td>
<td>LONG</td>
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</tr>
<tr>
<td>Green</td>
<td>The colour of grass or leaves.</td>
<td>A colour between blue and yellow; the colour of grass.</td>
<td>Of the colour of growing grass and the leaves of most plants and trees.</td>
<td>The colour of grass or leaves.</td>
<td>The colour which in the spectrum is intermediate between blue and yellow; in nature chiefly conspicuous as the colour of growing herbage and leaves.</td>
<td>A color whose hue is somewhat less yellow than that of growing fresh grass or of the emerald or is that of the part of the spectrum lying between blue and yellow.</td>
</tr>
<tr>
<td>Grey/Gray</td>
<td>The colour of ashes or of clouds on a rainy day.</td>
<td>Is a mixture of black and white, the colour of clouds on a rainy day.</td>
<td>Of the colour of ashes or lead.</td>
<td>Having a colour of black mixed with white, like the colour of ash; the colour of smoke and rain clouds.</td>
<td>The colour intermediate between black and white, or composed of a mixture of black and white with little or no positive hue; ash-coloured, lead-coloured.</td>
<td>One of the series of shades formed by a blending of black and white.</td>
</tr>
<tr>
<td>COLOUR TERM</td>
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<tr>
<td>Magenta</td>
<td>A dark, reddish-purple colour.</td>
<td>A dark purplish red colour.</td>
<td>A colour between purple and red</td>
<td>A bright pink colour.</td>
<td>—</td>
<td>A deep purplish red.</td>
</tr>
<tr>
<td>Olive</td>
<td>Yellowish-green in colour.</td>
<td>The colour of olives that are not ripe.</td>
<td>Yellowish green. (Of the skin): yellowish brown.</td>
<td>A deep yellowish green colour Olive skin/complexion – that is yellowish brown.</td>
<td>1)A dull somewhat yellowish green. 2)Yellowish brown or brownish yellow in the complexion of persons or races. 3)A dull ashy green with a silvery sheen.</td>
<td>A yellow to yellowish green color Olive green: a color greener, lighter, and stronger than average olive color.</td>
</tr>
<tr>
<td>Orange</td>
<td>A colour between red and yellow.</td>
<td>A colour between red and yellow.</td>
<td>The reddish yellow colour of an orange.</td>
<td>A colour that is between red and yellow.</td>
<td>The reddish yellow colour of the orange.</td>
<td>A color between red and yellow.</td>
</tr>
<tr>
<td>COLOUR TERM</td>
<td>CCELD</td>
<td>CIDE</td>
<td>OALD</td>
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</tr>
<tr>
<td>Peach</td>
<td>Pale pinky-orange in colour.</td>
<td>A pale pinkish-orange colour.</td>
<td>A pinkish-orange colour.</td>
<td>A pale pinkish-orange colour.</td>
<td>The colour of a ripe peach, a soft pale red. Or, the colour of peach-blossom, a delicate rose or pink.</td>
<td>A moderate yellowish pink.</td>
</tr>
<tr>
<td>Pink</td>
<td>A colour that is between red and white.</td>
<td>A pale red colour.</td>
<td>Of a pale red colour.</td>
<td>A pale red colour.</td>
<td>A light or pale red colour with a slight purple tinge.</td>
<td>A pale red.</td>
</tr>
<tr>
<td>Puce</td>
<td>A dark purple colour.</td>
<td>A dark purplish red colour.</td>
<td>(Of) a brownish purple colour.</td>
<td>Dark brownish purple.</td>
<td>Of a flea colour; purple-brown or brownish purple.</td>
<td>—</td>
</tr>
<tr>
<td>Purple</td>
<td>A reddish-blue colour.</td>
<td>A dark reddish blue colour.</td>
<td>Having the colour of red and blue mixed together.</td>
<td>A dark colour that is a mixture of red and blue.</td>
<td>Mixtures of red and blue in various proportions, usually containing some white or black, or both, approaching on the one side to crimson on the other to violet.</td>
<td>A color about midway between red and blue.</td>
</tr>
<tr>
<td>Red</td>
<td>The colour of blood or of a ripe tomato.</td>
<td>The colour of fresh blood.</td>
<td>Of the colour of fresh blood or a similar colour.</td>
<td>The colour of blood or fire.</td>
<td>The colour which appears at the lower or least refracted end of the visible spectrum, and is familiar in nature as that of blood, fire, various flowers [...] and ripe fruits.</td>
<td>A color whose hue resembles that of fresh blood or the ruby or is that of the long-wave extreme of the visible spectrum.</td>
</tr>
<tr>
<td>COLOR TERM</td>
<td>CCELD</td>
<td>CIDE</td>
<td>OALD</td>
<td>LONG</td>
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<tr>
<td>Rust</td>
<td>A reddish-brown colour.</td>
<td>A reddish brown colour like that of rust.</td>
<td>A reddish-brown colour.</td>
<td>—</td>
<td>The colour of rust [a red, orange or tawny coating].</td>
<td>A strong reddish brown.</td>
</tr>
<tr>
<td>Silver</td>
<td>Greyish-white in colour.</td>
<td>The colour of silver; [which is described as] a valuable shiny white metal.</td>
<td>Looking like silver: [which is described as] a shiny white precious metal.</td>
<td>The colour of silver [ = a shiny whitish valuable metal].</td>
<td>A silvery lustre or colour. Silver-coloured; having the colour of silver, of a greyish white hue with a metallic lustre.</td>
<td>A medium gray.</td>
</tr>
<tr>
<td>Tan</td>
<td>A light yellowish-brown colour.</td>
<td>Pale yellowish brown.</td>
<td>A yellowish-brown colour. The brown colour of the skin of normally white people after it has been exposed to the sun.</td>
<td>A light yellowish brown colour. The brown colour that someone with pale skin gets after they have been in the sun.</td>
<td>The colour of tan or tanned leather; of a yellowish or reddish brown; tawny; bronzed, sunburnt.</td>
<td>A light yellowish brown. A brown color imparted to the skin by exposure to the sun or weather.</td>
</tr>
<tr>
<td>Tangerine</td>
<td>—</td>
<td>Dark or reddish orange colour.</td>
<td>A deep orange-yellow colour.</td>
<td>—</td>
<td>A deep orange colour.</td>
<td>—</td>
</tr>
<tr>
<td>Teal</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>A greenish blue colour.</td>
<td>A shade of dark greenish blue resembling the patches of this colour on ... the teal.</td>
</tr>
<tr>
<td>Turquoise</td>
<td>A bright blue colour that is fairly light and often greenish.</td>
<td>Bluish green in colour.</td>
<td>A greenish-blue colour.</td>
<td>A greenish-blue colour.</td>
<td>The colour of the turquoise [=] of a sky-blue to apple-green colour.</td>
<td>A light greenish blue.</td>
</tr>
<tr>
<td>COLOUR TERM</td>
<td>CCELD</td>
<td>CIDE</td>
<td>OALD</td>
<td>LONG</td>
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</tr>
<tr>
<td>Violet</td>
<td>A bluish purple colour.</td>
<td>A bluish purple colour.</td>
<td>The colour of wild violets;</td>
<td>A colour between purple and blue.</td>
<td>The colour of violets, a blue or bluish-purple colour.</td>
<td>A reddish blue.</td>
</tr>
<tr>
<td>White</td>
<td>The lightest of colour there is,</td>
<td>A colour like that of snow,</td>
<td>Of the very palest colour,</td>
<td>The colour of milk, salt, and snow.</td>
<td>Of the colour of snow or milk; having that colour produced by reflection, transmission, or emission of all kinds of light in the proportion in which they exist in the complete visible spectrum, without sensible absorption, being thus fully luminous and devoid of any distinctive hue.</td>
<td>The color of fresh snow.</td>
</tr>
<tr>
<td>Yellow</td>
<td>The colour of lemons or egg</td>
<td>A colour like that of a lemon</td>
<td>Of the colour of e.g. a ripe</td>
<td>The colour of butter, gold, or the middle part of an egg.</td>
<td>Of the colour of gold, butter, the yolk of an egg, various flowers and other objects […] in the spectrum between green and orange.</td>
<td>A color whose hue resembles that of ripe lemons or sunflowers or is that of the part of the spectrum lying between green and orange.</td>
</tr>
<tr>
<td></td>
<td>yolks.</td>
<td>or gold or the sun.</td>
<td>lemon, an egg yolk or gold.</td>
<td></td>
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</tr>
</tbody>
</table>
Appendix 5. English Colour Terms and their Age

<table>
<thead>
<tr>
<th>Colour Term</th>
<th>First recorded</th>
<th>Colour Term</th>
<th>First recorded</th>
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</thead>
<tbody>
<tr>
<td>Amber</td>
<td>1500</td>
<td>Maroon</td>
<td>1791</td>
</tr>
<tr>
<td>Aqua (marine)</td>
<td>1862</td>
<td>Mauve</td>
<td>1860</td>
</tr>
<tr>
<td>Azure</td>
<td>1481</td>
<td>Mustard</td>
<td>1848</td>
</tr>
<tr>
<td>Beige</td>
<td>1879</td>
<td>Navy (blue)</td>
<td>1840</td>
</tr>
<tr>
<td>Black</td>
<td>700</td>
<td>Olive</td>
<td>1662</td>
</tr>
<tr>
<td>Blue</td>
<td>1300</td>
<td>Orange</td>
<td>1600</td>
</tr>
<tr>
<td>Brown</td>
<td>1300</td>
<td>Peach</td>
<td>1848</td>
</tr>
<tr>
<td>Carmine</td>
<td>1799</td>
<td>Pink</td>
<td>1720</td>
</tr>
<tr>
<td>Charcoal</td>
<td>1952</td>
<td>Plum</td>
<td>1878</td>
</tr>
<tr>
<td>Chartreuse</td>
<td>1884</td>
<td>Puce</td>
<td>1787</td>
</tr>
<tr>
<td>Cream</td>
<td>1872</td>
<td>Purple</td>
<td>975</td>
</tr>
<tr>
<td>Crimson</td>
<td>1400</td>
<td>Red</td>
<td>700</td>
</tr>
<tr>
<td>Emerald</td>
<td>1598</td>
<td>Rose</td>
<td>1530</td>
</tr>
<tr>
<td>Fawn</td>
<td>1881</td>
<td>Rust</td>
<td>1716</td>
</tr>
<tr>
<td>Fuchsia</td>
<td>1923</td>
<td>Scarlet</td>
<td>1386</td>
</tr>
<tr>
<td>*Gold</td>
<td>1400</td>
<td>*Silver</td>
<td>1481</td>
</tr>
<tr>
<td>*Golden</td>
<td>1300</td>
<td>Tan</td>
<td>1749</td>
</tr>
<tr>
<td>Green</td>
<td>700</td>
<td>Tangerine</td>
<td>1899</td>
</tr>
<tr>
<td>Grey/Gray</td>
<td>700</td>
<td>Teal</td>
<td>1923</td>
</tr>
<tr>
<td>Indigo</td>
<td>1622</td>
<td>Turquoise</td>
<td>1853</td>
</tr>
<tr>
<td>Lavender</td>
<td>1882</td>
<td>Ultramarine</td>
<td>1598</td>
</tr>
<tr>
<td>Lemon</td>
<td>1796</td>
<td>Vermilion</td>
<td>1400</td>
</tr>
<tr>
<td>Lilac</td>
<td>1791</td>
<td>White</td>
<td>950</td>
</tr>
<tr>
<td>Lime</td>
<td>1923</td>
<td>Violet</td>
<td>1370</td>
</tr>
<tr>
<td>Magenta</td>
<td>1860</td>
<td>Yellow</td>
<td>700</td>
</tr>
</tbody>
</table>