# **Chapter 5 – Metaphor and Conventionality Part I**

# **Evidence of metaphors displaying lexical primings through semantic association**

Contents

Chapter 5 – Metaphor and Conventionality Part I 81

Evidence of metaphors displaying lexical primings through semantic association 81

Introduction to the study 82

5.1 Study 1: Semantic associations with *cultivated* (adj.) 83

5.1.1 Keyword analysis 83

5.1.2 Noun collocates 87

5.1.3 Adjective/adverb collocates of *cultivated* (adj.) 91

5.1.4 Personal pronoun collocates of *cultivated* (adj.) 97

5.1.5 Summary of semantic associations with *cultivated* (adj.) 101

5.2 Study 2: Semantic associations with *flame* 102

5.2.1 Keyword analysis 102

5.2.2 Noun collocates 105

5.2.3 Lexical verb collocates 111

5.2.4 Adjective collocates 117

5.2.5 Pronoun collocates 120

5.2.6 Summary of semantic associations with *flame* 124

5.3 Study 3: Semantic associations with *grew* 128

5.3.1 Keywords 128

5.3.2 Noun collocates 131

5.3.3 Adjectival collocates 137

5.3.4 Personal pronoun collocates 144

5.3.5 Summary of semantic associations with *grew* 147

5.4 Chapter summary 148

References 150

## 5. Introduction

This chapter presents evidence of semantic primings found in the datasets of the items *cultivated, flame and grew*. Each item has two corpora: concordance lines of metaphoric uses and concordance lines of non-metaphoric uses (as summarized in Chapter 4). These are compared and contrasted to reveal evidence of lexical primings which I argue, help us to identify when words and phrases are being used metaphorically. The analysis in this chapter goes some way to answering the research questions, which are:

1. Can the theory of lexical priming account for how we recognize and understand metaphoric language?
2. What can corpus linguistic methods and Hoey’s theory of lexical priming add to our current understanding of metaphor from a linguistic perspective?

By beginning with semantic primings, this chapter provides the beginning of a top-down approach to analyzing the datasets. Specifically it focuses on lexical collocates and the wider semantic associations or preferences that these reveal. The analysis reveals that metaphors are used with different semantic purposes than non-metaphors: findings support the first part of the lexical priming theory.

Firstly, keywords in each sub-corpus are explored as a ‘way in’ to the frequent and potential items of interest for an investigation of semantic differences. Following on from this, frequent lexical collocates are explored, as these give a contrasting indication of the type of semantic imagery used with both metaphoric and non-metaphoric uses of the items. These are divided into nouns, verbs, adverbs and personal pronouns, depending on their importance to the item studies (*cultivated, flame, grew*). These collocates give an indication of the types of things being grown, the things being described as cultivated, or the behaviour and positioning of the flame, (whether it is associated with candles or fireplaces, for instance, or more abstract concepts such as emotion). Importantly, these collocates will also reflect the degree of animacy associated with each item: the flame, the thing being described as cultivated, or the thing associated with the action of growing. This, amongst other things should help to identify and characterize metaphoricity. Finally, semantic associations are shown by bold font within the text (e.g. **perception**). This is to differentiate them from collocates in the tables (CAPITALISED), collocates and node words which are italicized within the text (e.g. *cultivated*) and conceptual metaphors which are written in small caps (e.g. love is a journey). The results are divided into three separate sections: the analysis of *cultivated* in 5.2, *flame* in 2.3 and *grew* in 2.4.

## 5.1 Study 1: Semantic associations with *cultivated* (adj.)

### 5.1.1 Keyword analysis

As the focus of this study is on convention, the first step is to determine which frequent words and structures are repeatedly found alongside the metaphoric instances whilst not amongst the non-metaphoric instances. A sensible way to start is to look at keywords associated with each sub-corpus. The Keyword function (Scott, 2009) highlights the ‘keyness’ of items in one corpus, compared to a larger reference corpus[[1]](#endnote-1). To reiterate from the previous chapter, a word is key if it occurs in a text

[…] at least as many times as a user has specified as a minimum frequency, and its frequency in the text when compared with its frequency in a reference corpus is such that its statistical probability as computed by an appropriate procedure (either Dunning’s log-likelihood score (1993), or the chi-squared test) is smaller or equal to a p value specified by a user.

(Baker, 2004, 346-347).

Here, the function has been used to compare both the metaphoric and the non-metaphoric corpus by identifying keywords in each dataset when compared against the other. Scott (2009) claims that keywords provide a useful way to characterise a text or a genre. With regards to a direct comparison of the two datasets however (with no reference ‘norm’), any keywords identified may instead highlight distinctions in semantic associations between the metaphoric and non-metaphoric instances of *cultivated* and offer a starting point for a discussion of semantic differences. The Keyword function also provides a (statistically) reliable way of analysing the data more generally, before exploring colligation and larger chunks of language.

Table 5.1 presents the keywords in the metaphoric data. First the raw frequency is given and the percentage of the corpus that the instances comprise. In the fifth and sixth columns, the RC frequency and percentages refer to the reference corpus. In our case, it is the other dataset (metaphoric or non-metaphoric):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | METAPHOR |   |   |   |   |
| N | Key word | Freq. | % of corpus | RC. Freq. | RC. % | Keyness |
| 1 | MIND | 46 | 0.45 | - |  - | 63.89 |
| 2 | HER | 45 | 0.44 | - |  - | 62.50 |
| 3 | HIS | 73 | 0.71 | 14 | 0.14 | 44.04 |
| 4 | TASTE | 25 | 0.24 | - |  - | 34.70 |
| 5 | MAN | 35 | 0.34 | 4 | 0.04 | 28.33 |
| 6 | SHE | 33 | 0.32 | 4 | 0.04 | 26.00 |

Table 5.1. Keywords in metaphoric (adj.) dataset compared to non-metaphoric (adj.) dataset

The table reveals three ‘key’ nouns (*mind, taste, man*), and three ‘key’ pronouns (*his, her, she*). *Mind* and *her* are the most key with scores of 63.89 and 62.50 respectively. *Mind*, *her* and *taste* are not present at all in the non-metaphoric corpus, making them specific tometaphoric uses of *cultivated*. The lexical items *mind*, *taste* and *man* hint at *cultivated* being used to describe human perception and specifically a sense of mental accomplishment orrefined judgement (a *cultivated mind* or *cultivated tastes* for instance). By way of comparison, the non-metaphor data is given in Table 5.2:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | NON METAPHOR |   |   |   |   |
| N | Key word | Freq. | % of corpus | RC. Freq. | RC. % | Keyness |
| 1 | PLANTS | 43 | 0.42 | 0 |   | 51.52 |
| 2 | FIELDS | 37 | 0.36 | 0 |   | 51.34 |
| 3 | LAND | 46 | 0.45 | 3 | 0.03 | 45.43 |
| 4 | COUNTRY | 51 | 0.49 | 6 | 0.06 | 40.73 |
| 5 | WILD | 48 | 0.47 | 7 | 0.07 | 34.38 |
| 6 | THE | 747 | 7.25 | 550 | 5.34 | 31.95 |
| 7 | PLAIN | 22 | 0.21 | 0 |   | 30.51 |

Table 5.2. Keywords in non-metaphoric (adj.) dataset compared to metaphoric (adj.) dataset

The divergence in noun keywords indicates that semantic associations are very different between datasets. Table 5.2 reveals seven key items: five nouns (*plants,* *fields, land, country, plain*), all within a shared semantic field associated with non-metaphoric uses of **cultivating produce or land**, the adjective *wild*, and the determiner *the*. *Plants* and *fields* have the greatest ‘keyness’. A test of statistical significance on all keywords also reveals *fields* to be statistically more significantly frequent than expected. All items with a score of 5 or higher are given below. Where the score is highlighted in blue or green, the significant frequency is in the metaphoric or non-metaphoric data respectively:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | Metaphor |   | Non-met |   |   |
| Collocate | Expected freq. | Observed freq. | Expected freq. | Observed freq. | Log likelihood |
| MIND | 19 | 38 | 19 | - | 52.7 |
| FIELDS | 17.5 | - | 17.5 | 35 | 48.5 |
| THE | 253.44 | 222 | 253.56 | 285 | 7.82 |

Table 5.3. Keywords with a Log likelihood scores of 5 or above

Whilst *mind* is more significantly frequent in the metaphoric set (with the highest log likelihood score), *fields* and *the* are significantly more frequent in the non-metaphoric set. All items are significant to the 99.99th percentile, or in terms of p value, p < 0.0001[[2]](#endnote-2). Potentially most noteworthy to a colligation investigation is the presence of the grammatical item *the* in the non-metaphoric list. *The* may signal a preference for concrete references, most probably to things in the physical and real-world environment (anaphoric reference) and/or textual cohesion. These will be explored further in the coming sections. For now, the keyword analysis has provided initial avenues worthy of further exploration. Semantic associations are shown in both keyword lists, which remain distinct from one another. These are to do with mental accomplishment/judgement in the metaphoric set (mind, taste) and the physical, external environment in the non-metaphoric set (plants, fields, land, country, plain). There is also evidence of a human-related semantic field amongst the metaphors, expressed in the presence of personal pronouns and *man.* Finally, the keyword *the,* shown to be statistically significant in Table 5.3, suggests possible differences in referents and grammatical structures associated with both senses.

### 5.1.2 Noun collocates

We will now turn to the noun collocates specifically, which it is hoped will highlight more semantic differences between the two groups. Table 5.4 reveals the most frequent nouns in the metaphoric dataset. Collocates are specified throughout the analysis as items with a minimum frequency of 5 and a collocate horizon of 5 on either side of the node. Frequency is measured as both a total figure and frequency per thousand words (freq. ptw):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | METAPHOR |   |   |   |   |
| R | Collocate | Total Freq. | Freq. ptw | Left Freq. | Right Freq. |
| 1 | MIND | 38 | 3.69 | 10 | 28 |
| 2 | TASTE | 23 | 2.23 | 1 | 22 |
| 3 | MAN | 21 | 2.04 | 12 | 9 |
| 4 | MINDS | 16 | 1.55 | 1 | 15 |
| 5 | INTELLECT | 14 | 1.36 | 2 | 12 |
| 6 | RACES | 12 | 1.17 | 1 | 11 |
| 6 | SOCIETY | 12 | 1.17 |  - | 12 |
| 7 | PEOPLE | 11 | 1.07 |  - | 11 |
| 8 | MEN | 10 | 0.97 | 2 | 8 |
| 9 | INTELLIGENCE | 9 | 0.87 | 2 | 7 |
| 10 | UNDERSTANDING | 8 | 0.78 | 1 | 7 |
| 10 | TASTES | 8 | 0.78 | 1 | 7 |
| 11 | WOMAN | 7 | 0.68 | 3 | 4 |
| 11 | EYE | 7 | 0.68 | 1 | 6 |
| 11 | CLASSES | 7 | 0.68 |  - | 7 |
| 12 | WOMEN | 6 | 0.58 |  - | 6 |
| 12 | LIFE | 6 | 0.58 | 5 | 1 |
| 12 | CHARACTER | 6 | 0.58 | 2 | 4 |
| 13 | GENTLEMAN | 5 | 0.49 |  - | 5 |
| 13 | NATION | 5 | 0.49 | 2 | 3 |
| 13 | LANGUAGE | 5 | 0.49 | 3 | 2 |

Table 5.4. Noun collocates of *cultivated* (adj.) in metaphoric dataset (minimum freq. 5)

Many of the nouns above are associated directly with human concepts. There are items referring to **men and women** (*man, men, woman, women, gentleman*), **collective groups of people** (*races, society, nation, classes*), **parts of the body** relating to **perception** (*mind, taste, eye*), and **human qualities** (*intellect,* *intelligence, understanding, language, character*). Every noun, with the exception of *life* and *people,* which are too general to classify semantically, fits into one of the above four categories, making the semantic associations of *cultivated* (adj.) in its metaphoric sense fairly fixed. These associations are also unique to the metaphoric data. Furthermore, none of the above collocates are present on the non-metaphoric list, making them specific to metaphoric uses.

Each of the four semantic categories also have members which are related but are not as frequent as collocates. Thus whilst not specifically characteristically associated with *cultivated* as a metaphor, they still help to strengthen the semantic associations. In the group of people defined by **gender**, there are also six instances of proper nouns (e.g. *Mrs* *Douglas, St Paul, Sir Philip*), as well as more general members (*lady, girls, boy,* *womanhood, himself*). In terms of **collective groups of people,** there are *audience,* *family, laborious millions, associates* and *the wealthy*. In the group relating specifically to **perception**, there is *feeling* and *voice*. The group referring to other **human qualities,** however, is by far the largest group when including single occurrences. Other items include *thoughtfulness, refined pursuits, literary acquirements, appreciation, enjoyments,* *freedom* and *sensibility.* In total, concordance lines with one or more noun members of these four semantic associations amount to 60/375 or 16%. It is expected that other lexical words will extend these categories further, in the coming sections of the analysis. Firstly, though, the non-metaphoric noun collocates are listed for comparison in Table 5.5:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | NON METAPHOR  |   |   |   |
| R | Collocate | Total Freq. | Freq. ptw | Left Freq. | Right Freq. |
| 1 | FIELDS | 35 | 3.40 | 1 | 34 |
| 2 | PLANTS | 34 | 3.30 |  - | 34 |
| 3 | LAND | 32 | 3.11 | 3 | 39 |
| 4 | COUNTRY | 28 | 2.72 | 8 | 20 |
| 5 | GROUND | 21 | 2.04 | 3 | 18 |
| 6 | PLAIN | 19 | 1.84 | 9 | 10 |
| 7 | VARIETIES | 17 | 1.65 | 3 | 14 |
| 8 | LANDS | 13 | 1.26 |  -  | 13 |
| 9 | GARDEN | 9 | 0.87 | 2 | 7 |
| 10 | GARDENS | 8 | 0.78 | 1 | 7 |
| 10 | VALLEY | 8 | 0.78 | 2 | 6 |
| 10 | PATCHES | 8 | 0.78 | 6 | 2 |
| 10 | TREES | 8 | 0.78 | 5 | 3 |
| 11 | PLANT | 7 | 0.68 | 4 | 3 |
| 11 | SPECIES | 7 | 0.68 | 3 | 4 |
| 12 | OAT | 6 | 0.58 | 2 | 4 |
| 12 | SOIL | 6 | 0.58 | 4 | 2 |
| 12 | FOREST | 6 | 0.58 | 4 | 2 |
| 13 | DISTRICT | 5 | 0.48 | 1 | 4 |
| 13 | STATE | 5 | 0.48 |  - | 5 |
| 13 | WHEAT | 5 | 0.48 | 2 | 3 |
| 13 | SPOTS | 5 | 0.48 | 1 | 4 |
| 13 | FLOWERS | 5 | 0.48 |  -  | 5 |

Table 5.5. Noun collocates of *cultivated* (adj.) in non-metaphoric dataset (minimum freq. 5)

There is a clearly noticeable semantic diversity between the two lists of nouns (Tables 5.4 & 5.5). In the table above, all items (with the exception of *species, country,* *state* and *district* which will be returned to) are concrete things. *Spots* and *patches* also refer in each individual case to physical areas of land. The largest category accommodates all plant/organic life, which can be sub-divided into **items which are cultivated** (*flowers, wheat, oat, plant/s*) and **items in which cultivation takes place** (*forest, valley, land, ground, plain*). A semantic category can also be formed to accommodate **areas of land**, which differ by degrees of size and abstract/concreteness: *valley, ground, patches* and *spots* are concrete and specific in their reference to an area of land; *district, county* and *state* refer more accurately to abstract boundaries, which may be geological, cultural or political. Other nouns with fewer occurrences but semantically related to those above include *agriculture, desert, sand, grass, toadstools,* *horseradish, fig, mushrooms*. The majority of these are **items which are cultivated**, followed by **places in which cultivation takes place**. In fact, 1.68 semantically related nouns occur on average per concordance line of *cultivated* (adj.) in a non-metaphoric sense (or 732 token instances in total). If the semantic category is extended to accommodate geological or geographical lexis such as **climate** or **landscape** (*clime*, *temperature*, *weather* and *wind)* as well as any of the above semantic groups, the figure increases to 1.90 items per concordance line or per instance of *cultivated* (829 token instances). Thus *cultivated* (adj.), when used in a non-metaphoric sense, can be said to occur always (based on the average figure) with at least one collocate relating to organic life, landscape, and/or weather.

A more technical point of contrast with the metaphoric noun collocates is that there is a much more uneven left/right distribution: the total figures for left and right distribution in the metaphoric noun collocates are 20.76% and 79.24% respectively and in the non-metaphoric set are 12.72% and 87.28%. This unevenness is more prevalent amongst the most frequent collocates (e.g. *fields, plants, land* where over 90% of instances occur on the right of *cultivated*). This suggests a greater degree of fixed structures amongst the non-metaphoric uses and their noun collocates. More specifically, five of the eight most frequent collocates (those with a frequency of 17 or above) occur more often in R1 position than any other position. This hints at a colligation for noun collocates which will be explored in the following chapter.

In terms of noun collocates only, these have shown to be distinct in their association with metaphoric or non-metaphoric instances of *cultivated.* Moreover, the large majority of nouns (collocates and less frequent nouns) reflect prominent semantic associations which will be returned to in the adjective/adverb analysis. Whilst nouns associated with one of the four main semantic categories occur in 16% of all metaphoric lines, the nouns associated with the semantic associations in the non-metaphoric data account on average for every instance. Thus there is less variety amongst semantic categories associated with the non-metaphors. This in turn makes the set more fixed, possibly resulting in stronger primings associated with this use.

### 5.1.3 Adjective/adverb collocates of *cultivated* (adj.)

Next, the adverbs and adjectives associated with *cultivated* are presented. First those occurring with *cultivated* in a metaphoric sense are given in Table 5.6:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | METAPHOR |   |   |   |   |
| R | Collocate | Total Freq. | Freq. ptw | Left Freq. | Right Freq. |
| 1 | HIGHLY | 42 | 4.08 | 42 |  - |
| 2 | MORE | 32 | 3.11 | 28 | 4 |
| 2 | MOST | 32 | 3.11 | 26 | 6 |
| 3 | REFINED | 17 | 1.65 | 7 | 10 |
| 4 | INTELLIGENT | 6 | 0.58 | 3 | 3 |
| 4 | BEAUTIFUL | 6 | 0.58 | 2 | 4 |
| 4 | VERY | 6 | 0.58 | 3 | 3 |
| 5 | EVERY | 5 | 0.49 | 3 | 2 |

Table 5.6. Adverb/adjective collocates of *cultivated* (adj.) in metaphoric dataset

Immediately, the metaphoric set shows a semantic preference amongst the majority of items: they appear to reflect positive traits related to human development or improvement (*intelligent, refined, beautiful*). There are also superlatives and items conveying a degree of comparison (*highly, more, most, very, every*). Thus the large majority of adjectival uses of *cultivated*, in its metaphoric sense, describe a situation of positive and unmatched refinement of a person or their character/perception. *Highly* *cultivated*, *more cultivated* and *most cultivated* are the most frequent collocations; between them, occurring over ten times in every thousand words. *Refined* and *beautiful* appear most often on the right: in these cases, mostly following *and*. The rest of the items most often occur on the left and modify *cultivated* directly. In the cases of *highly*, *more*, *most* and *very* the item is always modifying *cultivated* and conveying a pragmatic association of intensification, which itself creates the semantic association of **refinement.**

Table 5.7 shows the adjectival/adverb collocates for the non-metaphors:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | NON METAPHOR |   |   |   |
| R | Collocate | Total Freq. | Freq. ptw | Left Freq. | Right Freq. |
| 1 | WELL | 40 | 3.88 | 37 | 3 |
| 2 | HIGHLY | 18 | 1.75 | 18 |  - |
| 2 | WILD | 18 | 1.75 | 11 | 7 |
| 3 | MORE | 13 | 1.26 | 9 | 4 |
| 4 | LITTLE | 9 | 0.87 | 6 | 3 |
| 5 | MOST | 8 | 0.78 | 7 | 1 |
| 5 | EVERY | 8 | 0.78 | 5 | 3 |
| 6 | FERTILE | 7 | 0.68 | 5 | 2 |
| 6 | VERY | 7 | 0.68 | 5 | 2 |
| 6 | PARTIALLY | 7 | 0.68 | 6 | 1 |
| 7 | GREEN | 6 | 0.58 | 4 | 2 |
| 7 | RICHLY | 6 | 0.58 | 6 |  - |
| 7 | SEVERAL | 6 | 0.58 | 4 | 2 |
| 7 | ENCLOSED | 6 | 0.58 | 4 | 2 |
| 8 | GREAT | 5 | 0.48 | 4 | 1 |
| 8 | BEAUTIFUL | 5 | 0.48 | 4 | 1 |
| 8 | LONG | 5 | 0.48 | 1 | 4 |
| 8 | SMALL | 5 | 0.48 | 4 | 1 |
| 8 | FAR | 5 | 0.48 | 2 | 3 |

Table 5.7. Adverb/adjective collocates of *cultivated* (adj.) in non-metaphoric dataset

Table 5.7 is over twice as long as Table 5.6 meaning that a larger set of adverbs and adjectives are reoccurring (ptw) with the non-metaphoric uses of *cultivated*, again suggesting a more fixed usage in a non-metaphoric set. An initial glance at the table above is enough to conclude that there is no semantic preference. The majority of items are physical in their description and rely less on perception than was the case for the metaphoric set (i.e. *refined, beautiful,* *intelligent*). Looking at individual uses of the above collocates within concordance lines reveals that items semantically associated with **physical**, **objective description** are *little, green, long, small, far, great* and *enclosed*. More specific, semantically, are descriptions of **physical proportion or quantity** (*great*, *several, partially, long, small* and *little*). The majority of these (81.11%) occur on the left and modify *cultivated* directly.

With the exception of *fertile* and *richly*, the remaining adjectives/adverbs refer to physical appearance in relation to **location and positioning**, such as *enclosed* and *far*. Together with the aforementioned set related to size, these items comprise 13/20 items, suggesting that the non-metaphoric uses of *cultivated* as an adjective are most often grounded in the physical and concrete world (a trait most strongly claimed by Goatly, 1997). The choice of adjectives and adverbs display this semantic preference.

The most frequent collocation is *well*, most often modifying *cultivated* directly. Being unique to the non-metaphoric data as well as highly frequent (it is the seventh most frequent collocate in the dataset overall[[3]](#endnote-3)), it can be seen as a collocation uniquely associated with *cultivated* when used in a non-metaphoric sense. Thus it is our first point of discussion. It occurs in 37/39 instances to the left of *cultivated*, most often (34 times) in L1 position. Instances are shown in Figure 5.1:

**[INSERT FIGURE 5.1 HERE]**

Figure 5.1. Selection of *well* *cultivated* occurrences in non-metaphoric dataset

As can be seen in the Figure 5.1, the majority of instances 19/37 (51.35%) occur at the end of a clause or sentence, most often marked by a comma or a full stop. This suggests a textual colligation. In terms of semantic association, the collocation expresses a sense of fertile or healthy ground, well farmed and managed. There are three instances of *very* to the left of *cultivated*, as well as *well-peopled* and *well-wooded* which also emphasise this notion. Other semantically related adjectives/adverbs in the clauses shown in the screenshot above include *fertile, green, pretty, beautiful,* as well as items relating to intensification (*extremely* and *extensively)*. Thus the collocation *well cultivated* or *well-cultivated* can be said to be embedded within further semantically associated language, and is unique to non-metaphoric uses of *cultivated*. No instances were found in the BNC (written section) which suggests that the collocation is specific to the nineteenth century period.

Interestingly, many of the superlatives and comparatives in the metaphoric list are reproduced in the non-metaphoric list but with lower frequency (*most, more, highly, very,* and *every*). A brief discussion of the items’ positioning in relation to *cultivated* may serve to highlight distinctions between the items. Table 5.8 presents log likelihood figures for two items featuring in both collocate tables with a significantly higher frequency in one set more than the other. These are *highly* and *most*. *Most* has a log likelihood score over 15.13 and is thus significant to the 99.99th per centile[[4]](#endnote-4). *Highly* is significant to the 99th percentile. Where the frequency for the individual left (L) or right (R) positioning of a collocate has a log likelihood score below 5, it has been omitted, as it is not significant:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | Metaphor |   | Non-met |   |   |
| Collocate | Expected freq. | Observed freq. | Expected freq. | Observed freq. | Log likelihood |
| HIGHLY (total) | 20.99 | 42 | 30.01 | 18 | 9.89 |
| HIGHLY (L) | 29.99 | 42 | 30.01 | 18 | 9.89 |
| MOST (total) | 20 | 32 | 20 | 8 | 15.43 |
| MOST (L) | 16.5 | 26 | 16.5 | 7 | 11.65 |

Table 5.8. Log likelihood scores for *highly* and *most*

The score for *highly* and *most* is in blue, signifying that their frequencies are more significant in the metaphoric data. They are significantly more frequent when occurring to the left of *cultivated*. *More*, *very* and *every* are not significantly more frequent in one dataset than the other and thus are the first items which appear to be associated with both uses of *cultivated*.

*Beautiful* is also found on both lists. Whilst the figures are small for both sets (5 instances in each set) their positions are different: the majority of instances occur on the right (R2) of *cultivated* in the metaphoric data but on the left in the non-metaphoric data as shown in Figures 5.2 and 5.3 respectively:

**[INSERT FIGURE 5.2 HERE]**

Figure 5.2. All instances of *beautiful* collocating with *cultivated* in metaphoric dataset (within 5-item span)

**[INSERT FIGURE 5.3 HERE]**

Figure 5.3. All instances of *beautiful* collocating with *cultivated* in non-metaphoric dataset (within 5-item span)

In the metaphoric data, *beautiful* belongs in 3/5 instances to the subsequent clause: suggesting a less immediate association with *cultivated*. In all five cases, *beautiful* belongs to a separate noun from that belonging to *cultivated*. *Cultivated* refers to *mind,* *intelligence*, *geniuses, tastes* or *people*. Thus *cultivated minds* etc. are associated with other things that are beautiful (*harmony of feeling, woman, things, natures, foundations*). In contrast, in the non-metaphoric data, *beautiful* refers in 4/5 instances directly to the *cultivated* ground or country. Thus *beautiful* is a characteristic associated with *cultivated* in the case of country or land.

To summarise, corpus data have provided further evidence, in the case of adjectives and adverbial collocates of *cultivated* (adj.), that metaphoric and non-metaphoric uses display different characteristics and behaviours. Where there is overlap (*most, more, highly, very*), positioning and frequency differ. Further tests of significance show *most* and *highly* to be more frequent statistically in the metaphoric corpus. Whilst the items associated with the non-metaphors are more physical in reference to appearance, those in the metaphoric set are more often related to perceived qualities (e.g. beauty or refinement). Moreover, the earlier noun collocate analysis has shown uniqueness amongst both sets of data: a strong tendency for at least one semantically related noun to occur with every instance of *cultivated* as a non-metaphor suggests that the semantic associations are distinct enough to permit overlap in adjectives at no cost to one’s understanding of whether the use is metaphoric or non-metaphoric. This is supported by the informants’ agreement on categorisation. The following section will focus on personal pronouns as it is hoped that these will shed light on possible animacy or personification associated with metaphor.

### 5.1.4 Personal pronoun collocates of *cultivated* (adj.)

Table 5.9 shows the frequencies of personal pronouns as collocates in both datasets:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| PronounCollocate | METAPHOR |  |  | NON METAPHOR |  |  |
| R | Freq. ptw | L Freq. | R Freq. | R | Freq. ptw | L Freq. | R Freq. |
| HIS | 1 | 2.14 | 16 | 6 | - | - | - | - |
| HER | 2 | 1.65 | 13 | 4 |  -  | - | - | - |
| THEIR | 3 | 1.46 | 4 | 11 | 2 | 0.87 | 2 | 7 |
| HE | 4 | 1.36 | 1 | 13 | 4 | 0.87 | 5 | 4 |
| THEY | 5 | 0.97 | 4 | 6 | 4 | 0.48 | 1 | 4 |
| SHE | 6 | 0.68 | 3 | 4 | - |  - |  - |  - |
| WHOSE | 7 | 0.58 | 1 | 5 |  - |  - |  - |  - |
| WHOM | 8 | 0.49 | 1 | 4 |  - |  - |  - |  - |
| OUR |  - |  - |  - |  - | 1 | 2.23 | 23 | 4 |
| WE |  - |  - |  - |  - | 3 | 0.87 | 2 | 7 |
| THEM |  - |  - |  - |  - | 5 | 0.48 | 1 | 4 |

Table 5.9. Personal pronoun collocates of *cultivated* in both datasets

Table 5.9 shows a difference between metaphoric and non-metaphoric uses in both the frequencies and types of personal pronouns used. Most clear to the reader is the lower occurrence of personal pronouns generally, within the non-metaphoric dataset. Possessive personal pronouns are characteristic of the metaphoric dataset only (*whose, his* and *her* are unique to this set and *their* is almost twice as frequent as in the non-metaphoric set). Looking at the specific concordance lines, *his* and *her* in the metaphoric data most frequently modify *mind* or *taste/s* (18/22 instances of *his*, 10/17 instances of *her*). Female pronouns are also associated with a metaphoric use of *cultivated*: there are no instances of a female pronoun associated with the non-metaphors. This is evidence of semantic differences between the two uses. In the metaphoric data, *he/his/him* have a combined frequency of 14.95 occurrences per thousand words and *her/she* have a combined frequency of 7.57 occurrences per thousand words. In contrast, in the non-metaphoric dataset *his*, *he* or *him* have a frequency of 4.37 occurrences per thousand words and there are only four instances of *she/her* (0.39 occurrences per thousand words).

Pronouns also have the potential to reveal differences in grammatical structure. The most fixed pronoun in terms of positioning is *he*, occurring in all but one metaphoric instance (94.5%) in right position. Most often, (in 16/18 cases) the item occurs in a new clause as shown in Figure 5.4:

**[INSERT FIGURE 5.4 HERE]**

Figure 5.4. All instances of *he* collocating with *cultivated* in metaphoric dataset (within 5-item span)

This is a signal of textual colligation where *he* is associated with a subsequent process, rather than one occurring before or alongside *cultivated*. A reason for this is that the thing being *cultivated* is most often a person (or their mind or taste, also belonging to them) and thus the choice of pronoun modifying the person or thing is personal: *his/her* *cultivated mind.* Consequently, the use of *he* is a form of textual cohesion linking back to this same person.

A finding specific to the non-metaphoric dataset is that all personal pronouns in the immediate environment of *cultivated* are first and third-person plural. They are possessive (*our, their*) and subject (*we, they*). Indeed, despite the smaller quantity of pronouns in the non-metaphoric data, the item with the highest frequency overall occurs in the non-metaphoric set (*our*), showing a proportionally higher usage than any other pronoun. In the verb analysis, it was suggested that the reason for the use of *we* and *our* may be related to the genres of the sub-folders within the corpus, particularly within gardening handbooks. *Our* in the adjective non-metaphoric set is most often a collective reference (usually to England or Britons), such as *our own country, our farms,* and *our* *gardens,* where the tense of the clause in which they occur is, in almost every instance, present (18/19 instances). *Our* is also most frequently found in L1 position (19/27), as in the extended concordance lines below:

(5.1) “All the plants of tropical climates, the oil and wax palms, the sugar cane, &c., contain only a small quantity of the elements of the blood necessary to the nutrition of animals, as compared with *our cultivated* plants.”

(5.2) “It is perfectly obvious that the atmosphere must furnish to *our cultivated* fields as much carbonic acid, as it does to an equal surface of forest ormeadow…”

(5.3) “Again with regard to the carrot, the Professor says "that the hard-rooted wild carrot is really the parent of *our cultivated* varieties, remarkable as they are for the succulence and tenderness of their roots.”

The individual texts where *our* is found in L1 position are mostly non-fiction: chemistry and biology lectures (6/19), gardening handbooks (5/19), and travel diaries (5/19). In these cases, the *our* refers most often to the plants and species native to Britain, often in comparison with another country’s produce. As in example 5.2, some instances of *our* describe land and crop more generally. The use of *our* in conjunction with *cultivated* in 5.3 implies the stock belongs to humans, as a result of our domesticating/growing it. This is similarly the case for *their*, the second most frequent personal pronoun, which is used to describe the produce of another country or area:

(5.4) “The country gradually unfolded all its charms; the luxuriant growth of the trees, and the picturesque valleys, with their thickets of bread-fruit, orange, and cocoa-trees, *their* *cultivated* fields, and plantations of bananas.”

Thus it can be said from the data and discussion above that personal pronouns also help to distinguish metaphoric uses from non-metaphoric uses, in the case of *cultivated*. The main difference is the lack of female pronouns and first person pronouns in the non-metaphoric dataset. The use of third person *our* and *we* signal a semantic difference between the metaphors and non-metaphors (i.e. the cultivating is referring to groups of people rather than individuals). First/second personal pronouns occur on average 5.83 times per thousand words amongst the metaphors and third person personal pronouns occur only 2.43 times (ptw). In contrast, those figures for the non-metaphoric dataset are 0.87 and 6.67 (ptw) respectively. Thus both types of pronouns are seen to distinguish the use of *cultivated* as a metaphor or a non-metaphor.

### 5.1.5 Summary of semantic associations with *cultivated* (adj.)

To summarise the analysis for *cultivated* thus far, differences have been found amongst each of the nouns, adverbs/adjectives and personal pronouns, which explain how metaphoric uses of *cultivated* as an adjective are distinguished from non-metaphoric uses. These differences largely concern the semantic associations, highlighting that semantically, *cultivated* can be seen as a different item when used in a metaphoric sense compared to a non-metaphoric sense.

First, the keyword analysis showed differences in the semantic associations surrounding both adjectives: as a metaphor, *cultivated* was more associated with abstract concepts specifically relating to **human perception** such as *taste* and *mind*. The presence of *the* in the non-metaphoric keyword list suggested a prevalence of physical, concrete and specific references to *cultivated* things. The semantic associations of the non-metaphors were always physical, relating to the external natural environment (**cultivated items** and **places of cultivation**). These semantic sets were much larger than the metaphoric counterparts, suggesting a more fixed range of repeated collocates. The analysis of personal pronoun collocates also revealed stark differences in the types of pronouns associated with each dataset: the majority in the metaphoric set being first and second person, and the majority in the non-metaphoric set being third person. The small number of second person pronouns amongst the non-metaphors were always male. Moreover, textual and pragmatic associations have also been found to be specific to either metaphoric or non-metaphoric instances of *cultivated*. So far, the above analysis has shown that corpus evidence successfully reveals differences in terms of a range of lexis and grammar relations amongst metaphoric and non-metaphoric instances of *cultivated*. These findings in turn provide support for the idea that we as language users are primed both to use and to understand or recognise metaphors, based on a set of distinctive features which separate them from their non-metaphoric counterparts.

## 5.2 Study 2: Semantic associations with *flame*

### 5.2.1 Keyword analysis

The second study will follow the same structure as before. Firstly, keywords in the metaphoric set are presented in Table 5.10:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | METAPHOR |   |   |   |   |
| R | Key word | Freq. | % of corpus | RC. Freq. | RC. % | Keyness |
| 1 | MY | 69 | 0.53 | 26 | 0.20 | 39.27 |
| 2 | LOVE | 24 | 0.18 | 2 | 0.02 | 30.90 |
| **-** | THE | 551 | 4.24 | 1099 | 8.45 | -43.01 |

Table 5.10. Keywords in metaphoric dataset

Only two items are revealed as ‘positively key’ in the metaphoric data (positively meaning they are statistically more frequent in the corpus under investigation. Negatively key implies the item is more frequent in the comparator corpus). These are *my* and *love*. Although *love* only occurs twice in the non-metaphoric dataset and thus is more specific to the metaphors, *my* is more key, or significantly more frequent, based on the statistical testing. *My* occurs as a collocate (within a five-word window) 1.51 times per thousand words in the metaphoric data, compared to 0.41 times per thousand words in the non-metaphoric data. *The* has a minus keyness figure, which means it is significantly less frequent when compared to the non-metaphoric data. It appears almost half as often and has a frequency of only 15.15 times per thousand words in the metaphor data compared to a frequency of 27.67 times per thousand words in the non-metaphor data. The statistical test performed by WordSmith does not indicate if this means a higher use amongst the non-metaphors or a lower use in the metaphors (they can only be compared to one another). Table 5.11 below shows each dataset compared against the full nineteenth century corpus.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   | R | Key word | Freq. | % | RC. Freq. | Keyness |
| MET | 1 | THE | 551 | 6.13 | 782 | 7676.928223 |
| NON-MET | 1 | THE | 1098 | 8.45 | 782 | 15564.88184 |

Table 5.11. Keyness of *the* when both datasets are compared to the full nineteenth century corpus

As can be seen, *the* is used significantly frequent in both datasets: it is ranked as the most key item amongst both the metaphors and the non-metaphors when compared against the full nineteenth century corpus. This may be due to the fact that the corpora (metaphoric and non-metaphoric) comprise a collection of concordance lines rather than a complete and thus more ‘natural’ text. *The* does have a higher keyness amongst the non-metaphors though, and thus it will be discussed in more detail in the ten most frequent collocate analysis shortly.

Below is the keyword list for the non-metaphoric data:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | NON-METAPHOR |   |   |   |   |
| R | Key word | Freq. | % of corpus | RC. Freq. | RC. % | Keyness |
| 1 | CANDLE | 43 | 0.33 | 0 | - | 45.36 |
| 2 | THE | 1099 | 8.45 | 551 | 6.11 | 43.01 |
| 3 | LAMP | 37 | 0.28 | 1 | 0.01 | 31.56 |
| 4 | SMOKE | 31 | 0.24 | 1 | 0.01 | 25.57 |
| - | MY | 26 | 0.20 | 69 | 0.77 | -39.27 |

Table 5.12. Keywords in non-metaphoric dataset

*My* is similarly shown to have a minus keyness figure, which highlights a significant lower use in this dataset compared to the metaphoric corpus. This supports the high keyness score it is given in Table 5.10. Also expected from the metaphoric table, *the* is positively key in this dataset (compared to its minus keyness score within the metaphor corpus). *Candle, lamp* and *smoke* are also identified as keywords. *Lamp* and *smoke* occur only once within the metaphor corpus and *candle* is unique to this dataset. All three can be said to be characteristic of a non-metaphoric use, which is unsurprising given the semantic association shared between them and *flame* in its non-metaphoric sense. Also, given the partial dependency on candles and lamps for light in the nineteenth century, their presence in the keyword table could be expected when used alongside *flame*.

### 5.2.2 Noun collocates

Again, collocates are specified throughout the analysis as items with a minimum frequency of 5 and a collocate horizon of 5 on either side of the node. Frequency is measured as both a total figure and frequency per thousand words (freq. ptw):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | METAPHOR |   |  |  |
| R | Collocate | Freq. | Freq. ptw. | Left freq. | Right freq. |
| 1 | EYES | 14 | 0.92 | 8 | 6 |
| 2 | LOVE | 11 | 0.72 | 4 | 7 |
| 3 | FIRE | 9 | 0.59 | 3 | 6 |
| 4 | FACE | 8 | 0.52 | 8 |  - |
| 4 | PASSION | 8 | 0.52 | 4 | 4 |
| 5 | BREAST | 7 | 0.41 | 2 | 5 |
| 6 | HOPE | 6 | 0.35 | 1 | 5 |
| 7 | CHEEKS | 5 | 0.33 | 1 | 4 |
| 7 | BOSOM | 5 | 0.33 | 3 | 2 |
| 7 | LIFE | 5 | 0.33 | 4 | 1 |
| 7 | HEART | 5 | 0.33 | 3 | 2 |

Table 5.13. Noun collocates in metaphoric dataset (minimum frequency of 5)

On first glance, the items can be divided into two semantic groups: the first relating to **body parts** (*eyes, face, breast, cheeks, bosom* and *heart*), and the second referring to **emotions/abstract concepts** (*love, passion, hope*). *Life* is too general for this category but can also be described as abstract. *Fire* stands out because of its concrete, physical, non-human reference, as well as semantically related to a real, physical flame. A look at the individual concordance lines shows that the nouns in the first set most often depict the location of the *flame* (37 out of 44 occurrences). Furthermore, 30 of these 37 instances (81.08%) reflect a physical expression (metaphorically) of emotion or feeling. Thus flames in one’s *breast* or *cheeks* or *bosom* most often conveys feelings of anger, passion, or hate (etc.). The body part is metaphorically depicted as the **physical location** of and thus semantically associated with a feeling or passion. The exception to this is *eyes* where half of the instances refer to an external *flame* (i.e. from a lamp or a candle) which is reflected in the eyes (or also on the cheeks in some instances), such as *and the fever flame glitters in her* *eyes.* Overall, there is fairly even distribution (both right and left) of body part collocates occurring with *flame*, with the exception of *face*, which appears only on the left. Amongst the left positions (L1-L5) there is no single fixed position however. Prepositions would be expected to precede the body part collocates as the location of the emotion. In fact, there are only three instances of *flame in his/her eyes* and one instance of *flame that burns in his heart,* though all the instances of *breast* collocating with *flame* are associated with a prepositional phrase. These are shown in Figure 5.5:

**[INSERT FIGURE 5.5 HERE]**

Figure 5.5. All instances of *breast* + prepositional phrase + *flame* in metaphoric dataset

In each instance, the *flame* is always present in the breast of the character. The *flame* is depicted as *holy* (twice), as *Christian*, and as a *flame of love.* Thus, *breast* can be said to collocate with *flame* and is preceded by a prepositional phrase, whilst other body parts do not share the preference. *Face* and *flame* are most often joined by a prepositional phrase or a verb phrase, which will be discussed in the colligation analysis. This could be a finding more generally amongst these body part collocates as a consequence of them depicting the physical location of an emotion.

Focusing on the prevalence of abstract nouns in the metaphoric dataset, Table 5.14 gives an exhaustive list of all abstract nouns occurring more than once within the five-word window of *flame*. Here a stronger intimation of the semantic associations related to *flame* in a metaphoric sense can be gained:

|  |  |
| --- | --- |
| METAPHORS |  |
| R | Collocate | Frequency |
| 1 | LOVE'S | 4 |
| 1 | REBELLION | 4 |
| 1 | SOUL | 4 |
| 2 | FAITH | 3 |
| 2 | HEAVEN | 3 |
| 3 | REVOLUTION | 2 |
| 3 | SEDITION | 2 |
| 3 | WAR | 2 |
| 3 | TEMPER | 2 |
| 3 | DEVOTION | 2 |
| 3 | EXTINCTION | 2 |
| 3 | HATE | 2 |
| 3 | FREEDOM'S | 2 |
| 3 | ANGER | 2 |
| 3 | MOMENT | 2 |
| 3 | PATRIOTISM | 2 |
| 3 | JOY | 2 |

Table 5.14. Abstract nouns in metaphoric dataset (occurring twice or more)

Whilst the majority of items do not occur frequently enough to be identified as collocates, the table appears to show *flame* in a metaphoric context to be associated with a range of abstract concepts and emotions. There is a semantic divide between **positive nouns** (*joy, heaven, freedom, faith, devotion, patriotism, revolution* and *love),* and **negative nouns** (*extinction, war, anger, hate, temper, rebellion* and *sedition.* It is perhaps more interesting that there are no neutral nouns on the list at all. *Flame* when used metaphorically, is mostly describing the inciting of an emotion or passion, whether good or bad, but never neutral. The majority of occurrences (52.38%) of these nouns are in positions R2 (14/42) or R3 8/42). Examples of each are listed below:

(5.5) “…graceful pillars of modesty; but, far from despising them, if the pure *flame of patriotism* have reached their bosoms…”

 (5.6) “…and all their vast resources, would not raise the very slightest *flame of sedition* or of insurrectionary movement in England …”

(5.7) “"Lilian! Lilian!" I murmured to myself that name; the *flame of my hate* was fed by my jealousy. "Ay!" said I, sternly…”

The first and second most frequent structure involving *flame* in the metaphoric dataset is *flame of* + abstract noun or *flame of* + pronoun + abstract noun, again suggesting a colligation, which will be explored further in the next chapter.

Noun collocates in the non-metaphoric dataset can be compared to the metaphoric set, in Table 5.15 below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | NON METAPHOR |   |  |  |
| R | Collocate | Freq. | Freq. ptw. | Left freq. | Right freq. |
| 1 | FIRE | 26 | 1.51 | 15 | 11 |
| 2 | CANDLE | 23 | 1.33 | 6 | 17 |
| 3 | SMOKE | 23 | 1.33 | 16 | 7 |
| 4 | LAMP | 20 | 1.16 | 3 | 17 |
| 5 | LIGHT | 19 | 1.1 | 14 | 5 |
| 6 | WOOD | 9 | 0.52 | 6 | 3 |
| 7 | AIR | 8 | 0.46 | 8 |  - |
| 7 | FACE | 8 | 0.46 | 3 | 5 |
| 7 | MATCH | 8 | 0.46 | 3 | 5 |
| 7 | HAND | 8 | 0.46 | 4 | 4 |
| 8 | SPIRIT | 7 | 0.41 | 4 | 3 |
| 8 | EYES | 7 | 0.41 | 1 | 6 |
| 9 | HANDS | 6 | 0.35 | 4 | 2 |
| 10 | MOMENT | 5 | 0.29 | 4 | 1 |

Table 5.15. Noun collocates in non-metaphoric dataset (minimum frequency of 5)

As is shown, there is a stark difference between the types of nouns associated with the groups of metaphors and non-metaphors. As would be expected, the overwhelming majority of nouns in the table above semantically relate to a physical flame. This includes **fire-burning materials**, such as *wood*, **fire-burning appliances** such as *lamp* or *torch*, or **part of a fire,** such as *smoke*. *Spirit* refers to fuel and is thus concrete. The only abstract noun on the list is *moment*, which in each of the five instances refers to time and is shared with the metaphoric uses as shown in Figure 5.6:

**[INSERT FIGURE 5.6 HERE]**

Figure 5.6 All instances of *moment* collocating with *flame* in the non-metaphoric dataset

It is worthwhile to note here that despite light often being a measure of time in the nineteenth century, the instances of *moment* above reflect an instantaneous event - something sudden and unrelated to the *flame*.

Whilst the collocates relating to the semantic group **parts of fire**, such as *fire, smoke* and *light,* occur mostly on the left of *flame*, (e.g. *fire of the flame; light of the flame; smoke of the flame*), the large majority of instances of appliances, such as *candle* (17/23) and *lamp* (17/20), occur on the right of *flame* (e.g. *flame of the candle; flame of the lamp*). This is a semantic association coupled with colligation.

There are some collocates shared with the metaphoric set of noun collocates. These are the body parts *face, hand/s* and *eyes* and the abstract noun *moment. Hands* are most often warmed over the fire (5/6) and *hand* is most often (5/8 instances) held out to the *flame* or holding a torch or candle. *Face* and *eyes* are most often illuminated by the light of a flame. In reference to non-metaphoric situations the body part is most often described in its position in relation to a physical, nearby *flame*. Body part collocates also appear to play a different role colligationally, as well as semantically. Body parts appear to colligate with prepositional phrases in the non-metaphoric data, whether it is on the left of *flame* (*the flame passed over his face*), or on the right (*raising her face from the flame*). Here the *flame* has a physical presence, often providing reference to location or light, and thus is descriptive. This is not the case in the metaphoric data: there is more variety in the relationship between *flame* and the body part collocate: the face may belong to the *flame*, such as *the face of* *angry heaven’s flame* or the *flame* may form a description of how the face appeared, such as *she saw Hilary’s face, all flame and fire.*

To summarise then, the analysis of noun collocates has hinted at key differences in semantic associations with either sense of *flame*. Whilst abstract nouns are most clearly associated with metaphoric instances of *flame*, the majority of nouns in the non-metaphor corpus are more concretely and physically associated a *flame* (mostly as the source of the flame). The few overlapping collocates (*face, hand/s eyes,* and *moment*) are distinguished in terms of either semantic associations or colligations, or both.

### 5.2.3 Lexical verb collocates

Moving on to verb collocates, those associated with *flame* in a metaphoric context are presented first. Only lexical verbs are discussed in this section, as the focus remains on semantic differences. Differences if any in the use of modal verbs and passive/active aspects for instance will be discussed in the following chapter which explores colligation in more depth. Table 5.16 shows verb collocates for the metaphoric data:

|  |  |  |  |
| --- | --- | --- | --- |
| METAPHOR |   |  |  |
| R | Collocate | Freq. | Freq. ptw. | Left freq. | Right freq. |
| 1 | KINDLED | 9 | 0.52 | 6 | 3 |
| 1 | FANNED | 9 | 0.52 | 8 | 1 |
| 2 | BURST | 5 | 0.29 | 4 | 1 |
| 2 | FAN | 5 | 0.29 | 5 | 0 |

Table 5.16. Lexical verb collocates in metaphoric dataset (minimum frequency of 5)

*Kindled* and *fanned* are the most frequent items, each occurring 0.52 times per thousand words. Firstly, instances of *kindled* within the concordance lines are given in Figure 5.7 below:

**[INSERT FIGURE 5.7 HERE]**

Figure 5.7. All instances of *kindled* collocating with *flame* in metaphoric dataset

Three of the concordance lines refer to breast or bosoms as the location of the kindling. This activates the metaphoric sense by invoking the meaning of emotion or feeling. There are nine instances of kindling a *flame*, and one of kindling incense. There are four instances displaying negative semantic preference (with reference to the larger co-text), but there is not enough data to claim any semantic prosody or larger pragmatic associations. Perhaps of more interest are *fan* and *fanned*. Below in Figure 5.8 are the concordance lines for the lemma *fan*\* as a collocate of *flame*:

**[INSERT FIGURE 5.8 HERE]**

Figure 5.8. All instances of *fan*\* collocating with *flame* in non-metaphoric dataset

Disregarding *fancied* the majority of instances show a preference for the verb to precede *flame* (13 out of 15 instances). There are six instances of *fan*\* *the flame* and four instances of *fanned into flame*. *fan*\* *the flame of* + abstract noun occurs in four out of the six instances of *fan*\* *the flame*. There is also one instance of *the flame of* + abstract noun *was fanned by*. There is a semantic prosody involved with the majority of instances: not only does *fan*\* *the flame* imply an exacerbation or a stirring up of emotion in most cases, but the association is always negative. Even in the case of love or other positively associated abstract nouns, the larger co-text always implies a negative prosody:

(5.8) “the vain fears and fond jealousies, the winds which *fan the flame* of love, when judiciously or artfully tempered, are both incompatible with the tender confidence and sincere respect of friendship”.

There is no way to eliminate other *fan*\* verbs whilst retaining both the collocates *fan* and *fanned*. Thus it can be said that when *fan*\* collocates with *flame*, there is evidence of a semantic, colligational and semantic prosody, all associated with a metaphoric sense. Other verbs associated with the same colligation (verb + *the flame*) are shown in Figure 5.9:

**[INSERT FIGURE 5.9 HERE]**

Figure. 5.9. Verb + *the* *flame* in metaphoric dataset

The verbs are divided semantically between those **suppressing the flame** (*blew, blows, extinguished* and *choked*) and the remaining items, which are **promoting or increasing the flame** (*caught, fed, feeds, flieth, increased, spread* and *tend)*. Lexicalverb collocates in the non-metaphoric dataset can be compared and contrasted with theabove, in Table 5.17:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| NON-METAPHOR |   |   |  |  |
| R | Collocate | Freq. | Freq. ptw. | Left freq. | Right freq. |
| 1 | BURST | 12 | 0.70 | 9 | 3 |
| 2 | SEEMED | 7 | 0.46 | 4 | 3 |
| 3 | BURNS | 6 | 0.39 | 5 | 1 |
| 3 | SAW | 6 | 0.39 | 6 |  - |
| 3 | BURNED | 6 | 0.39 | 3 | 3 |
| 3 | SPREAD | 6 | 0.39 |  - | 6 |
| 4 | BURN | 5 | 0.33 | 3 | 2 |
| 4 | COME | 5 | 0.33 | 3 | 2 |
| 4 | LOOKED | 5 | 0.33 | 2 | 3 |

Table 5.17. Lexical verb collocates in non-metaphoric dataset (minimum frequency of 5)

The first distinction is the greater number of verbs (both tokens and types) in the above table compared to those in the metaphoric dataset. This suggests a greater variety in how the *flame* is described (i.e. what the flame is doing). *Burst* is the only item occurring on both lists and will thus be compared first in Figures 5.10 and 5.11:

**[INSERT FIGURE 5.10 HERE]**

Figure 5.10. All instances of *burst* collocating with *flame* in metaphoric dataset

**[INSERT FIGURE 5.11 HERE]**

Figure 5.11. All instances of *burst* collocating with *flame* in non-metaphoric dataset

*Burst into a flame* and *burst into flame* are present in both datasets. More often than not, the *flame* following *into* or *into a* in the non-metaphoric data is qualified with a modifier (*momentary* *flame*; *a frightful flame; a fearful flame*). This is not the case amongst the metaphors. Instead, the *flame* is born from an emotion in each case: *sedition, revenge,* *jealousy, monomania,* and *fury*. In these metaphors, the emotional energy is depicted as the metaphorical fuel for creating a fire (the outward or full expression of the emotion itself). In the non-metaphoric instances, the *flame* is either born from something physical (e.g. *unburned coal*; *Carousel*), or is described in relation to something physical, often with a prepositional phrase (e.g. *before his eyes; from the interior of these stones; through the* *gates*). Other verb collocates associated with *a flame* are given in Table 5.18:

|  |  |
| --- | --- |
|   | NON-METAPHOR |
| R | FLAME cluster with verb | Freq. |
| 1 | BURSTS INTO A | 3 |
| 1 | BURNS WITH A | 3 |
| 1 | BURST INTO A | 3 |
| 1 | BURNING WITH A | 3 |

Table 5.18. *Flame* clusters with a verb in non-metaphoric dataset

*Bursts* (as opposed to *burst*) and *burns* are both unique to the non-metaphoric dataset. It is of interest that none of the clusters above contain *flame* as an item, despite occurring in the *flame* dataset. This is because of a large variety of intervening adjectives that premodify *flame* (*burst into a great/huge/blue flame),* as was also the case with *burst into* above. This may be a distinguishing feature between the two uses generally, and will be explored in more detail in the following sub-section.

Finally, of interest amongst the non-metaphoric verb collocates are *seemed* and *looked*. Both verbs are semantically related to **perception** and it could be predicted, would be more likely to be associated with metaphoric instances, as was the case with *cultivated* in the previous study. Looking at the concordance data, the majority of instances of *seemed* occur in a separate clause from *flame*, most often referring to the light or visibility from a candle or lamp (e.g. *in which dimly burned a flashlight, whose* *flickering flame scarcely seemed to render visible the scanty furniture the room).* This is also the case for *looked*, where **perception** is related to the light of the flame (e.g. *I* *struck a match and by its flame looked at my watch*).

To summarise then, whilst the majority of lexical verb collocates remain unique to each dataset, there is overlap with *burst*. However, both semantically and colligationally the instances in either set can be distinguished from each other (if not in the concordance line then with more co-text given). *Kindled, fan* and *fanned,* frequent in the metaphoric set, always refer to emotion. There is also evidence of negative semantic prosody with the lemma *fan*\* + *flame*. In the non-metaphoric set there is both more variety and higher frequency amongst items. Semantically, the verbs are related to **movement** (*burst,* *spread, burn*) **or** **perception** (*saw, seemed, looked*), the reason for this latter group being that *flame* is referring to light and thus visibility. Thus whilst physicality is still a characteristic of non-metaphoric instances (locative prepositions, concrete nouns, verbs depicting physical action), levels of abstraction, mostly referring to emotion, are characteristic amongst the metaphoric instances of *flame*.

### 5.2.4 Adjective collocates

Below the adjectives collocating with *flame* in a metaphoric context are presented in Table 5.19:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| METAPHOR |  |  |  |  |
| R | Collocate | Freq. | Freq. ptw. | Left freq. | Right freq. |
| 1 | OLD | 13 | 0.85 | 13 | - |
| 2 | SACRED | 9 | 0.59 | 7 | 2 |
| 3 | PURE | 6 | 0.39 | 5 | 1 |
| 3 | HOLY | 6 | 0.39 | 6 | - |
| 4 | LIVING | 5 | 0.33 | 3 | 2 |
| 4 | LITTLE | 5 | 0.33 | 5 | - |
| 4 | FIRST | 5 | 0.33 | 4 | 1 |
| 4 | STEADY | 5 | 0.33 | 5 | - |
| 4 | STILL | 5 | 0.33 | 3 | 2 |
| 4 | NEW | 5 | 0.33 | 1 | 4 |

Table 5.19. Adjective collocates in metaphoric dataset (minimum frequency of 5)

The most frequent adjective in the table above is *old*, occurring 0.85 times per thousand words. Also of importance is the item’s preference for left positioning only. *Old* occurs in 12 out of 13 instances in L1 position, signifying a strong collocation. The concordance data further reveal a particular meaning associated with the collocation: that of a human subject, most often female, and usually a lover from the past (*old* is used in relation to time rather than the age of the subject):

**[INSERT FIGURE 5.12 HERE]**

Figure 5.12. All occurrences of *old* *flame* in metaphoric dataset

The large majority of people (aside from the *old flame* itself) within the lines are male (e.g. *Lieutenant Osborne, Mr Ebenezer, John, Carlyle*), whilst old *flame* itself refers to a female character. This is reflected in the greater number of male possessive pronouns on the left of the headword, and more female pronouns on the right (e.g. *the queer little apartment* *in which he found his old flame. One of her gowns hung over the bed…*). The use of *flame* is concrete (referring to a person rather than an emotion or concept) and thus stands in contrast to all other metaphoric instances of *flame*. Many metaphor researchers agree that there is usually some form of abstraction (vehicle or tenor) within a metaphoric transferral of meaning (c.f. Goatly, 1997). *Old flame* stands apart for being concrete in both vehicle (*flame*) and tenor (human subject). One reason for this concrete-to-concrete mapping may be the high frequency of the phrase, which signals a single lexical item.

*Old* is the fourth most frequent word in position L1, exceeded only by the function words *the,* *a* and *of*. Similarly, it is ranked as the most frequent adjective in the collocate list. Thus *old* *flame*, as a single item, exhibits conventionalised behaviour as a metaphor. In contrast, there is not a single instance of *old flame* in any non-metaphoric concordance lines within the data.

A few of the adjectives in the table can be used to modify a real *flame* and retain a non-metaphoric meaning of the phrase. These are *great, little still* and *steady*. Mostly however, they are abstract or metaphoric in their meaning when used in combination with *flame* (e.g. *living, fair* – a non-metaphoric flame is not living nor can it be *fair*)*.* The adjectives *sacred, pure* and *holy* are particularly interesting. A non-metaphoric physical candle flame in a church or religious setting could be described as *sacred, pure* or *holy* and still retain its literality (the flame is still real in the sense that it is there, in the church). However, the co-text given in the lines below suggest a more abstract meaning, with no reference to a concrete, physical flame:

(5.9) “All are but ministers of Love, And feed his *sacred* *flame*. Oft in my waking dreams do I Live o'er again that happy hour.”

(5.10) “…often put out not only the parlour fire, but that more *sacred flame*, the fire of domestic love. It is the greatest possible misery.”

(5.11) “…they awaken holy devotion: they teach how to ask: they kindle a *holy flame*.... 'Singing is the natural effect of joy in the heart...”

*Holy devotion* is a human behaviour and suggests a level of abstraction (i.e. *devotion*), allowing for an abstract interpretation of *holy flame* in 5.11. Interestingly, example 5.10 makes reference to a non-metaphoric fire (*parlour fire*) before the use of *sacred flame* which is then used in contrast to the parlour fire. *Flame* here refers to *the fire of domestic* *love.* As expected there is an abstract noun to which the abstract/metaphoric *flame* belongs.

In order to form a comparison of metaphoric and non-metaphoric modifiers, the adjective collocates for the non-metaphoric instances of *flame* are given below as well as their distribution frequencies:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| NON-METAPHOR |  |  |  |  |
| R | Collocate | Freq. | Freq. ptw. | Left freq. | Right freq. |
| 1 | BLUE | 17 | 0.98 | 16 | 1 |
| 1 | BRIGHT | 17 | 0.98 | 14 | 3 |
| 2 | FLICKERING | 12 | 0.70 | 10 | 2 |
| 3 | RED | 11 | 0.64 | 5 | 6 |
| 3 | WHITE | 11 | 0.64 | 9 | 2 |
| 4 | COLOURED | 9 | 0.52 |  - | 9 |
| 4 | ROUND | 9 | 0.52 | 5 | 4 |
| 4 | CLEAR | 9 | 0.52 | 9 |  - |
| 5 | BROAD | 6 | 0.35 | 5 | 1 |
| 5 | YELLOW | 6 | 0.35 | 6 |  - |
| 5 | GREAT | 6 | 0.35 | 4 | 2 |
| 6 | DEEP | 5 | 0.29 | 1 | 4 |
| 6 | HIGH | 5 | 0.29 | 2 | 3 |
| 6 | SMALL | 5 | 0.29 | 3 | 2 |
| 6 | SILK | 5 | 0.29 |  - | 5 |

Table 5.20 Adjective collocates in non-metaphoric dataset (minimum frequency of 5)

There are 50% more adjectives in the non-metaphoric dataset. The large majority of these relate to the visual aspect of a physical *flame*. These include **colours** (*blue, white, yellow,* *red, bluish, ruddy*), **light-related** adjectives (*brilliant, bright, clear, flickering lurid,* *lambent*) and or **size-related** adjectives (*broad, small, great, strong)*. None of these are found as collocates in the metaphoric set. The presence of colour related adjectives in the non-metaphoric concordance lines refers to a notion of perception on the part of the character or reader or both. In addition, most of the instances of *blue flame* (9/13) relate to a *weak* or *pale* or *flickering* flame. *clear* and *bright* similarly refer to visual aspects of perception. This was a semantic grouping also apparent amongst the verb collocates.

### 5.2.5 Pronoun collocates

It was found in the *cultivated* analyses that pronouns played a key role in distinguishing semantically between metaphoric and non-metaphoric senses of the item. The most striking finding was that personal pronouns were much more characteristic of the metaphors (particularly possessive pronouns), which also reflected the human aspect relating to *cultivated* as a metaphor (cultivating a feeling or a friendship, most often). Here we are concerned to discover whether the same is true of *flame*. Pronouns collocating with *flame* in both datasets are presented in Table 5.21 below:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | METAPHOR |   |   | NON-METAPHOR |   |
| Collocate | R | Freq. ptw. | L freq. | R freq. | R | Freq. ptw. | L freq. | R Freq. |
| HIS | 1 | 2.36 | 20 | 16 | 1 | 1.62 | 13 | 15 |
| HER | 2 | 1.84 | 18 | 10 | 2 | 1.27 | 9 | 13 |
| MY | 3 | 1.51 | 17 | 6 |  - |  - |  - |  - |
| SHE | 4 | 1.05 | 7 | 9 | 7 | 0.46 | 3 | 5 |
| I | 5 | 0.85 | 4 | 9 | 4 | 0.98 | 6 | 11 |
| THEIR | 6 | 0.59 | 4 | 5 | 8 | 0.35 | 3 | 3 |
| THEY | 7 | 0.53 | 5 | 3 | 6 | 0.52 | 2 | 7 |
| HE | 7 | 0.53 | 4 | 4 | 3 | 1.23 | 10 | 11 |
| YOUR | 7 | 0.53 | 7 | 1 |  - |  - |  - |  - |
| ME | 7 | 0.53 | 5 | 3 |  - |  - |  - |  - |
| OUR | 8 | 0.46 | 2 | 5 |  - |  - |  - |  - |
| HIM | 8 | 0.46 | 5 | 2 |  - |  - | - |  - |
| YOU | 9 | 0.39 | 3 | 3 |  - |  - |  - |  - |
| THEM |  - |  - |  - |  - | 5 | 0.64 | 7 | 4 |

Table 5.21 Personal pronoun collocates in both datasets (minimum frequency of 5)

As would be expected based on the *cultivated* study, there are more pronouns (both tokens and types) collocating in a metaphoric context. The possessive pronouns *his* and *her* are the most frequent in both datasets. These are fairly equally spread to the left and right of *flame* in both cases. First and second person pronouns are characteristic of the metaphoric set only (with the exception of I which occurs more frequently in the non-metaphoric data). Those unique to the metaphors are *my, me, you* and *your*. As was the case with *cultivated*, first person pronouns are more often associated with fiction and thus may reflect the finding that there are more metaphors amongst the fiction texts of the main corpus. A frequency count of *my* in both the fiction and non-fiction subsections of the corpus reveals a higher frequency in the fiction subsection than the non-fiction subsection (5.79‰ and 2.28‰ respectively). This is also the case for the other collocates only found on the metaphoric list: *me, you* and *your.*

Another difference between both groups is the high presence of pronouns in left position overall in the metaphoric instances. In non-metaphoric concordance lines, the most frequent owner of the *flame* is the candle, and secondly, the lamp. In contrast, the *flame* often belongs to a person when in a metaphoric context. This is supported by the use of personal pronouns occurring in conjunction with *flame* (as well as the high frequency of abstract nouns associated with human emotion in the metaphoric data).

Another reason for the high frequency of pronouns in left position is the conventionalized phrase *old flame*. Here, the *flame* itself is in reference to a person or a lover. Thus a lover is often referred to in relation to his/her partner (e.g. *Clive’s old flame, his old flame*). The table for the metaphoric dataset is replicated below, with the personal pronoun collocates associated with *old flame* removed:

|  |  |  |  |
| --- | --- | --- | --- |
|  | METAPHOR |   |   |
| Collocate | R | Freq. ptw. | L freq. | R freq. |
| HIS | 1 | 2.09 | 16 | 16 |
| HER | 2 | 1.64 | 17 | 8 |
| MY | 3 | 1.38 | 16 | 5 |
| SHE | 4 | 0.92 | 6 | 8 |
| I | 5 | 0.79 | 4 | 8 |
| YOUR | 6 | 0.46 | 6 | 1 |
| HE | 7 | 0.39 | 4 | 2 |

Table 5.22. Pronoun collocates with a change in frequency once *old flame* collocates are removed

The table shows that once *old flame* concordance lines are removed, instances of his, her and he become less frequent. However, the items are still more frequent than in the non-metaphoric set.

Also of relevance here is the reoccurrence of the use of the possessive in L1 position in the metaphoric data. These are not classed as collocates (minimum frequency of 5) but still reflect both semantic association and colligation associated with metaphoric instances of *flame*. They are presented in a separate table (5.23) below:

|  |  |  |
| --- | --- | --- |
|  METAPHOR |  |  |
| N | Possessive | Freq. |  |
| 1 | LOVE'S | 4 |  |
| 2 | PASSION'S | 1 |  |
| 3 | EXTINCTION'S | 1 |  |
| 4 | MUSE'S | 1 |  + (modifier) FLAME |
| 5 | FREEDOM'S | 2 |  |
| 6 | ANGRY HEAVEN'S | 1 |  |
| 7 | CLIVE'S | 2 |  |
| 8 | AFFECTION'S | 1 |  |

Table 5.23. Possessive + *flame* in metaphoric dataset

The table shows *flame* to belong to a number of abstract concepts, with the exception of *Clive’s*. The flame in each of the other cases refers most often to a feeling or expression of a feeling. In the example, *Beware the counterfeit: in passion's flame hearts melt, but melt* *like ice, soon harder froze*, passion’s *flame* refers to its effect (passion’s) on the heart. In each of the above cases, metaphoricity is signalled by the use of an abstract noun as possessive. In contrast, there are no instances of the possessive structure (noun’s + *flame*) in the non-metaphoric data. Instead of the possessive, the non-metaphoric use of *flame* shows a strong colligation for *flame of the* (concrete noun referring to fire-making/ sustaining device). This will be discussed in the following chapter.

### 5.2.6 Summary of semantic associations with *flame*

Semantic association has played a key role in the above analysis in determining between metaphoric and non-metaphoric instances.It has been noted above that the non-metaphoric instances of *flame* are surrounded by lexical items (nouns, verbs and adjectives) related to **fire** or **fire-making devices,** or to the **heat/light** elements of fire. Items relating to **perception** such as *looked* and *seemed* are also frequently present. These relate to the properties of the flame (heat and light). Some of the collocates such as *burst* were not exclusive to the non-metaphoric group. Others such as *kindled* are, surprisingly, found only in the metaphoric set. Below are two tables (5.24 and 5.25) summarising the semantic associations relating firstly to **fire,** for both the non-metaphoric and metaphoric instances. All items are included, not only collocates:

|  |
| --- |
| NON-METAPHORS |
| Semantic Associations | Items |
| **Fire making/sustaining devices** | Candle; lamp; light; match; candles; torch; furnace |
| **Fire material** | Fire; smoke; wood; match; spirit; gas; embers; hydrogen; wax; coal; brimstone; carbon; incense; kindling |
| **Heat** | Heat; heated; intense; blaze |
| **Light** | Light; bright; blue; white; red; clear; coloured; flashes; yellow; colour; ruddy; lurid; flash; lambent; purple; illuminated; brighter; brilliant; bluish; green; intense; tinge; reflected; shrank; violet; blaze; black-blazed; orange; glowing; flashed |
| **Movement** | Burst; flickering; burning; spread; burn; blown; extinguished; bursts; fanned fan; flicker; quivering; blows; blaze; blow; blew; flickered; kindled |

Table 5.24. Semantic associations of *flame* in non-metaphoric dataset

|  |
| --- |
| METAPHORS |
| Semantic Associations | Items |
| **Fire**  | Fire; incense; kindling |
| **Light from fire** | Sparkled; flashed; flashing; radiant; illuminated; light; ray; red |
| **Movement/action** | Kindled; fanned; lighted; spread; consumed; feed; fed; extinguished; flickering; burning; burned; kindle; spreads; blown; blew; burns; melt |

Table 5.25. Semantic associations of *flame* in metaphoric dataset

As the analysis thus far has shown, there is much more imagery associated with FIRE within the non-metaphoric data. There is also much more technical lexis, particularly in relation to the category **fire material**. The majority of semantic associations in the non-metaphoric data are contained in the **light** category. This includes lexical items expressing the visual perception of flames (e.g. *bright, white, blazed*). Within the metaphoric data there is a lack of colour-related words (with the exception of *red*, used in association with cheeks or bosom and referring to anger or excitement), as well as fewer light related items in general. Instead, the largest metaphoric category is that of **movement/action** of fire. This includes typically associated verbs that describe the behaviour of a flame (e.g. *flicker, bursts, consumed*). Some of these have a metaphorical meaning when used alongside *flame*, whilst some retain a non-metaphoric meaning and the metaphoricity lies elsewhere (e.g. *the flicker of the flame danced across the wallpaper*, where only *danced* and *flame* express the metaphoricity). Within the metaphoric data, there are also no instances of specific **fire-related devices** such as a *lamp* or *candle*. These are fully characteristic of a non-metaphoric sense only (based on the data).

Although there are fewer semantic associations relating to fire within the metaphoric data, as would be expected, there are other associations present. One group previously mentioned is that of **body parts.** Items comprising this group are also present in the non-metaphoric data but to a lesser extent as shown in Table 5.26:

|  |
| --- |
| METAPHORS |
| **Body parts** | Eyes; face; breast; eye; heart; blood; tongues; breasts; hearts |
| **Human emotion** | Love; passion; hope; rebellion; faith; revolution; sedition; scorn; tempter; devotion; hate; anger; patriotism |
| **Animacy** | living; alive; striving; communicated; feed; fed; quenched; leaped; licked; lives |
| NON-METAPHORS |
| **Body parts** | cheek; eye; feet; hands; hair; head; heads |
| **Human emotion** | suffered |
| **Animacy** | threw; suffered; communicated; breathing; grew |

Table 5.26. A comparison of semantic associations reflected through collocates of *flame* in both datasets

Also, not shown here is the fact that many of the body parts in the non-metaphoric data (*cheek, feet, hands*), relate to the **reflection/heat** of the *flame* upon the body. Thus the phrase retains a non-metaphoric, more physical meaning, despite a similarity in semantic association. In contrast, the descriptions are more abstract in the metaphoric data. An example is the reoccurring image of a *flame* in a person’s breast or bosom (usually a *flame* of *love* or other emotion). Similarly, there are more nouns relating to **human emotion** (13 in the metaphors and only a single instance in the non-metaphors). Finally, the metaphoric data also presents a larger group of personified verbs, used to describe the behaviour or a characteristic of a *flame* (e.g. *feed, leaped*). Commonly, it is the personified verb which makes the concordance line metaphoric, as was also found in the middle group analysis (Section 5.1). The boundary between properties being exclusively associated with animate things and not being so associated is not clear-cut. Thus instances of flames alongside *communicated* have been identified by informants as both metaphoric (*by the action of the heat, or from matter communicated from the flame of the lamp, or from the air itself*) and non-metaphoric (i.e. *with a view to recover the lantern which suddenly stove in, and the spirits communicated with the flame, the whole place was instantly in a blaze*).

In terms of collocation, differences were found amongst all word classes. Many of the collocates formed semantic associations which were seen to reoccur through all remaining analyses sections. The notion of abstraction together with **human emotion** signalled metaphoricity in most cases. The collocation *old* *flame* was also found to be highly frequent and unique to the metaphoric dataset. It has a specific metaphoric meaning, and can be labelled as a lexical item, with a high degree of fixedness. The noun collocate analysis revealed that **body parts** was a semantic association common amongst both datasets, but whilst the majority in the non-metaphoric set form part of a prepositional phrase detailing the location of the flame, or its effect on a person (*the flame glinted in her eyes*), with the exception of *bosom* this was not the case in the metaphoric set. The nouns were found in more creative structures, *such as the face of angry heaven’s flame*. The use of the possessive, as in the last example, is also a common feature and specific to the metaphoric dataset. This, along with a greater use of possessive pronouns, suggests the flame is a more abstract concept, referring to emotion (often in a person), or being the expression of an emotion (belonging to rage, anger, love, or even freedom).

The discussion of verb collocates revealed some similarities between the datasets, particularly in relation to *burst* and other semantically shared lexis. The metaphoric uses often display a negative semantic preference, particularly with relation to *burst into* and *fan*\* *the* *flame* *of*. Often, the abstract emotion or concept is the only thing to distinguish the two instances and thus signals the metaphoricity. Finally, differences were found in the use of prepositional phrases: *flame* forms a part of a prepositional phrase within the non-metaphoric data more often. Together with the findings from cultivated, it can be argued thus far that both semantic and pragmatic associations do play a role in distinguishing between metaphoric and non-metaphoric senses. This suggests that we come to expect a particular set of semantic and pragmatic associations when we come across a metaphoric use of a particular item. And this, in turn, explains one of the ways we recognise a metaphor and dictates the ways in which we go on to use it in our own language.

## 5.3 Study 3: Semantic associations with *grew*

### 5.3.1 Keywords

This following section will focus on the noun collocates for the final item, *grew*. Table 5.27 displays the keywords associated with *grew* in its metaphoric context:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | METAPHOR |    |   |   |   |
| R | Key word | Freq. | % of corpus | RC. Freq. | RC. % | Keyness |
| 1 | HER | 826 | 0.77 | 87 | 0.40 | 40.91 |
| 2 | MORE | 630 | 0.58 | 62 | 0.28 | 36.43 |
| 3 | PALE | 112 | 0.10 | 2 |   | 28.45 |

Table 5.27. List of metaphoric keywords (when compared to non-metaphoric corpus)

The three items *her, more* and *pale* are shown to be key because of their unusual frequency in the metaphoric corpus, when compared to the non-metaphoric corpus. While *her* and *more* occur also in the non-metaphoric corpus, *pale* is more specific to the metaphors, occurring only twice in the non-metaphoric corpus and making up just 0.10% of that corpus. The three items predict there will be some similarities with the analysis of *cultivated* in Chapter 4: namely that pronoun use may be more common in the metaphoric data, and also that comparatives may play a role in distinguishing between the metaphoric/non-metaphoric senses. More can be shown from the non-metaphoric keyword list:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | NON-METAPHOR |  |  |  |  |
| **R** | Key word | Freq. | % of corpus | RC. Freq. | RC. % | Keyness |
| 1 | THE | 1546 | 7.05 | 4759 | 4.41 | 249.06 |
| 2 | UP | 208 | 0.95 | 201 | 0.19 | 248.28 |
| 3 | TREE | 78 | 0.36 | 6 |  | 236.60 |
| 4 | TREES | 84 | 0.38 | 12 | 0.01 | 231.08 |
| 5 | WHERE | 86 | 0.39 | 46 | 0.04 | 152.41 |
| 6 | WHICH | 212 | 0.97 | 340 | 0.32 | 145.27 |
| 7 | IN | 437 | 1.99 | 1071 | 0.99 | 136.83 |
| 8 | A | 514 | 2.35 | 1384 | 1.28 | 125.16 |
| 9 | GRASS | 40 | 0.18 | 4 |  | 116.98 |
| 10 | OF | 705 | 3.22 | 2183 | 2.03 | 107.66 |
| 11 | FLOWERS | 26 | 0.12 | 4 |  | 70.41 |
| 12 | THEY | 162 | 0.74 | 361 | 0.33 | 62.66 |
| 13 | ON | 184 | 0.84 | 457 | 0.42 | 55.27 |
| 14 | BOY | 28 | 0.13 | 12 | 0.01 | 55.17 |
| 15 | LEAVES | 20 | 0.09 | 3 |  | 54.44 |
| 16 | FRUIT | 15 | 0.07 | 0 |  | 53.35 |
| 17 | SPOT | 20 | 0.09 | 4 |  | 50.99 |
| 18 | GREEN | 24 | 0.11 | 9 |  | 50.03 |
| 19 | WOOD | 25 | 0.11 | 12 | 0.01 | 46.74 |
| 20 | OAK | 15 | 0.07 | 1 |  | 46.24 |
| 22 | BANKS | 16 | 0.07 | 3 |  | 41.44 |
| 23 | THERE | 82 | 0.37 | 170 | 0.16 | 36.66 |
| 24 | TWO | 41 | 0.19 | 54 | 0.05 | 35.91 |
| 25 | BRANCHES | 15 | 0.07 | 4 |  | 35.27 |
| 26 | WERE | 107 | 0.49 | 263 | 0.24 | 32.92 |
| 27 | CORN | 15 | 0.07 | 5 |  | 32.71 |
| 28 | FOREST | 11 | 0.05 | 1 |  | 32.61 |
| 29 | SHRUBS | 9 | 0.04 | 0 |  | 32.01 |
| 29 | ROSES | 9 | 0.04 | 0 |  | 32.01 |
| 30 | FROM | 111 | 0.51 | 280 | 0.26 | 31.96 |
| 31 | SOME | 59 | 0.27 | 111 | 0.10 | 31.45 |
| 32 | WILD | 25 | 0.11 | 23 | 0.02 | 30.98 |
| 33 | THAT | 252 | 1.15 | 824 | 0.76 | 30.10 |
| 34 | LARGE | 26 | 0.12 | 26 | 0.02 | 30.01 |
| 35 | TALL | 12 | 0.05 | 3 |  | 28.78 |
| 36 | CHILD | 23 | 0.10 | 21 | 0.02 | 28.67 |
| 37 | IS | 65 | 0.30 | 136 | 0.13 | 28.53 |
| 38 | FORESTS | 8 | 0.04 | 0 |  | 28.45 |
| 39 | GROW | 15 | 0.07 | 7 |  | 28.42 |
| 40 | FLOWER | 12 | 0.05 | 4 |  | 26.17 |
| 41 | BUSHES | 9 | 0.04 | 1 |  | 25.88 |
| 41 | HEIGHT | 9 | 0.04 | 1 |  | 25.88 |
| 42 | PLANTS | 9 | 0.04 | 1 |  | 25.88 |
| 43 | BEAUTIFUL | 15 | 0.07 | 9 |  | 24.93 |
| 44 | YEW | 7 | 0.03 | 0 |  | 24.90 |
| 44 | FIR | 7 | 0.03 | 0 |  | 24.90 |
| 44 | MEADOW | 7 | 0.03 | 0 |  | 24.90 |
| 44 | PINES | 7 | 0.03 | 0 |  | 24.90 |
| 44 | PLANTED | 7 | 0.03 | 0 |  | 24.90 |
| 45 | WAS | 268 | 1.22 | 926 | 0.86 | 24.48 |
| 46 | HIGH | 18 | 0.08 | 15 | 0.01 | 24.10 |
| 47 | THOSE | 29 | 0.13 | 40 | 0.04 | 24.06 |

Table 5.28. List of non-metaphoric keywords (when compared to metaphoric corpus)

The list of keywords in the non-metaphoric corpus is over seventeen times larger, and shows a keyness value of between 24.06 and 249.06. This is intriguing, given the much higher frequency (over 75%) of metaphors compared with non-metaphors, and potentially signals that *grew* as a metaphor is more tightly restricted in its uses and lexical behaviour. The majority of lexical items are semantically associated with **plant life.** This includes nouns such as *plants, meadows, pines, flower, forest, branches, corn, leaves,* *roses* and *shrub.* There are also the verbs *planted* and *grow*, and modifying nouns such as *fir, yew, oak*. There are references to **height** (*high, weight, tall, large*), which describe characteristics associated with the non-metaphoric sense of *grew* as well as descriptive adjectives such as *beautiful* and *wild*. In terms of other semantic groups, there are also *child* and *boy* referring to **human growth.** Many of these lexical items are not present at all in the metaphoric dataset, and all have a low corpus percentage of less than 0.09% in that corpus. There are also a number of functional keywords shown in the table above. The majority of these are found higher up the table, signifying higher levels of keyness. These are *the, up, where, which, in, a, of* and *on*. The prepositions suggest a greater use of prepositional phrases associated with the non-metaphoric uses of *grew*. This is another finding mirrored in both the *cultivated* and *flame* studies. *The* suggests a definite use of nouns (i.e. *the plants, the trees*). It also occurs nearly twice as frequently as in the metaphoric dataset. As a highly frequent item, this stark difference in frequency suggests major differences between both datasets. This will be explored in more depth in the colligation analysis in the following chapter. Furthermore, the presence of both *a* and *the* as keywords suggests a greater presence of countable nouns, as opposed to more abstract nouns, which may be characteristic of the metaphoric uses. A full collocation analysis will look at these items and their associations with *grew* in more detail.

### 5.3.2 Noun collocates

For the collocation analysis of *grew*, only those collocates frequent enough to make up 0.5‰ or more of each corpus are considered relevant to discuss and compare. This is a frequency of 17 or higher for the metaphors and 9 for the non-metaphors. This decision is due to the much larger size of the data (3670 instances) compared to the previous items (748 and 991 instances for *cultivated* and *flame* respectively). Moreover, there is a much larger difference between the sizes of the metaphoric and non-metaphoric datasets (75.1% clear metaphoric and 27.17% clear non-metaphoric), when compared to *cultivated* (48.39% and 48.13%) and *flame* (34.09% and 48.50%). These figures exclude the remaining ‘unsure’ instances which make up the remaining percentages in each case.

Firstly, it can be seen that there are clear semantic differences in the types of nouns found in each list, as shown in Tables 5.29 and 5.30:

|  |  |  |  |
| --- | --- | --- | --- |
|   | METAPHOR |   |   |
| R | Collocate | Freq. | Freq. ptw. |
| 1 | FACE | 101 | 3.44 |
| 2 | EYES | 72 | 2.45 |
| 3 | DAY | 68 | 2.31 |
| 4 | HEART | 53 | 1.80 |
| 5 | VOICE | 45 | 1.53 |
| 6 | TIME | 38 | 1.29 |
| 7 | THOUGHT | 32 | 1.09 |
| 8 | LIGHT | 30 | 1.02 |
| 9 | HEART | 53 | 1.80 |
| 10 | MIND | 27 | 0.92 |
| 10 | LIFE | 27 | 0.92 |
| 11 | NIGHT | 26 | 0.88 |
| 12 | MAN | 25 | 0.85 |
| 13 | WIND | 21 | 0.71 |
| 14 | YEARS | 20 | 0.68 |
| 15 | CHEEK | 19 | 0.65 |
| 15 | DEGREES | 19 | 0.65 |
| 16 | LADY | 18 | 0.61 |
| 17 | SEA | 17 | 0.57 |
| 17 | HANDS | 17 | 0.57 |
| 17 | LOVE | 17 | 0.57 |

Table 5.29. Noun collocates for metaphoric dataset (minimum freq. 0.5‰)

|  |  |
| --- | --- |
|   | NON-METAPHOR |
| R | Collocate | Freq. | Freq. ptw. |
| 1 | TREES | 63 | 3.99 |
| 2 | TREE | 56 | 3.55 |
| 3 | GRASS | 31 | 1.97 |
| 4 | FLOWERS | 22 | 1.40 |
| 5 | WOOD | 16 | 1.01 |
| 6 | BOY | 13 | 0.82 |
| 7 | CHILDREN | 12 | 0.76 |
| 7 | CHILD | 12 | 0.76 |
| 8 | MAN | 11 | 0.70 |
| 8 | HAIR | 11 | 0.70 |
| 9 | BUSHES | 9 | 0.57 |
| 9 | BANKS | 9 | 0.57 |
| 9 | CORN | 9 | 0.57 |

Table 5.30. Noun collocates for non-metaphoric dataset (minimum freq. 0.5‰)

Again, there is no overlap between nouns in either dataset: each collocate is unique to either the metaphoric or the non-metaphoric use of *grew*. It is also clear immediately that the list for the metaphoric noun collocates is larger than that for the non-metaphoric nouns. This may or may not show a smaller degree of fixedness. Totalling the token frequencies of all collocates with *grew* within each group (with a minimum frequency of 0.5 ‰) reveals the percentage made up of noun collocates in comparison to other collocate types. In the metaphoric data nouns make up 3.08% of all collocates and in the non-metaphoric data, they make up double this figure (6.35%). Alternatively, the type frequency for individual nouns in the metaphoric data is 12.35% of all collocates and in the non-metaphoric data is 12.04% of all collocates. This shows that despite the higher frequency of noun tokens in the metaphoric data, the nouns make up a similar percentage of each corpus compared to other word classes. This also means that there is more variety amongst the nouns in the metaphoric dataset, suggesting a level of fixedness amongst the nouns in the non-metaphoric set. This is consistent with the findings from *cultivated* and *flame*.

With regards to the metaphors, there are four principal semantic fields: those relating to **body parts** (*face, eyes, heart, mind, voice, hands, cheek,* **people***(man* and *lady),* those relating to abstract concepts of **time or** **measurement** (*day, time, moment,* *years),* and those associated with **natural phenomena** (*light, day, night, wind* and *sea*). There are also the more general abstract concepts *life, love, degrees* and *thought.*

*Face* and *eyes* appear to be more fixed in their use than the others, appearing sixth and eighth in rank of total collocate frequency in L1 position (82.60% of all *face* as collocate and 83.05% of all *eyes* as collocate). Examples are shown in Figures 5.13 and 5.14:

**[INSERT FIGURE 5.13 HERE]**

Figure 5.13. Selection of *face grew* occurrences in metaphoric dataset

**[INSERT FIGURE 5.14 HERE]**

Figure 5.14. Selection of *eyes* *grew* occurrences in metaphoric dataset

Interestingly, in all cases but two in Concordance 5.13 (Lines 8 and 9) and in all cases in Concordance 5.14, there is a colligation with *face/eyes* + *grew* + complement. Although they (and the majority of the collocates) relate to humans or physical features of humans, the reference to growing is not a literal one. Each of these nouns when used in association with *grew* suggest a notion of the gradual transformation of a particular characteristic. Often this is in relation to colour, sound or light. They are also very often preceded by a possessive personal pronoun. It should be noted here that there are also instances of eyes growing bigger (not shown in the screenshot). With relation to body parts, particularly eyes, there appears to be a distinct usage of *grew* as a metaphor. *Eyes* *grew* occurs repeatedly amongst the data, mostly in relation to an increase in emotion or a change in temper. To an onlooker, eyes may appear to grow in such a sense, physically enlarging simultaneous to a change in emotion. In this sense, (eyes widening or brightening), the use of *grew* is reflective of a physical growth (an enlarging sense). This use of *grew* is related to one of perception: in particular, whether a person perceives a change in character or emotion, through physical characteristics. The answer to whether this use is metaphoric is in no way definitive, and relies on individual perception, or even conceptual world-view. It is a use of grew that will be discussed in more detail in relation to the problematic cases in Chapter 7. Suffice to say, there is an uncertainty in the degree to which such a use of *grew* (to describe a widening of eyes) is non-metaphoric or metaphoric.

The noun collocates *voice, heart* and *day* are also fairly fixed in position: they are ranked 12th, 13th and 15th out of all collocates again in L1 position 40, with the large majority of all instances conveying the same colligation of noun + *grew* + complement. They are shown in Concordances 5.15 to 5.17.

**[INSERT FIGURE 5.15 HERE]**

Figure 5.15. Selection of *voice grew* occurrences in metaphoric dataset

**[INSERT FIGURE 5.16 HERE]**

Figure 5.16. Selection of *heart grew* occurrences in metaphoric dataset

**[INSERT FIGURE 5.17 HERE]**

Figure 5.17. Selection of *day grew* occurrences in metaphoric dataset

The colligational structure of noun collocates will be discussed in more detail in the following chapter. The remaining noun collocates are more scattered in their positions in relation to *grew* (within the 5-item window on either side). Within the non-metaphoric list of noun collocates, there are two clearly defined semantic groups: one refers to **non-human living entities** which contains the majority of items (*tree, trees, grass, flowers, wood, banks* and *corn)*, and one refers to **human entities** (*boy, children, child, man*). In total, all nouns can be said to refer (part or whole) to organic beings.

In terms of positioning, the first group of collocates are much freer in their position in relation to *grew* and fall fairly evenly on the left or right of *grew*, showing no colligational preference. The only exception here is *bushes*, which always occurs on the left (either in L1 or L2 position). Similarly, the human noun collocates are all more frequent on the left of *grew*. The only exception here is *man*. In total, over 80% of all instances of *boy, children* and *child* occur before *grew* in the concordance line. Interestingly, *man* is marginally more common on the right of *grew* (54.55%). This is often in reference to a child or boy described as growing into a man.

In summary then, noun collocate data shows key differences between metaphoric and non-metaphoric uses of *grew* in respect of their semantic associations. In keeping with the other study findings in sections 5.2 and 5.3 of this chapter, the metaphoric noun collocates are often more abstract and relate to human thought or feeling. Despite the level of tangibility in the concrete body parts, these are distinct from the tangible collocates, semantically, in the non-metaphoric set which more often relate to plant life or people. Furthermore, the analysis has shown evidence of colligational differences which will need to be explored further through more detailed corpus analysis.

### 5.3.3 Adjectival collocates

Adjectival collocates are the most common type of collocate in each dataset. These items most often modify the thing doing the growing. They also function as complements at times, particularly in relation to the *became* sense of *grew* (*it grew dark*; *the noise grew* *fainter*). The items also convey the manner in which the thing may be growing (*worse,* *weary, strong* etc.). This group has the potential to show the most differences between each dataset, because of both its variety and size:

|  |  |  |
| --- | --- | --- |
|   | METAPHOR |   |
| R | Collocate | Freq. | Freq. ptw. |
| 1 | PALE | 100 | 3.4 |
| 2 | DARK | 83 | 2.82 |
| 3 | WORSE | 57 | 1.94 |
| 3 | TIRED | 57 | 1.94 |
| 4 | WEARY | 46 | 1.56 |
| 5 | LITTLE | 44 | 1.5 |
| 6 | RED | 36 | 1.22 |
| 7 | ANGRY | 35 | 1.19 |
| 8 | HOT | 34 | 1.16 |
| 8 | COLD | 34 | 1.16 |
| 9 | OLD | 33 | 1.12 |
| 10 | LIGHT | 30 | 1.02 |
| 11 | WHITE | 29 | 0.99 |
| 12 | BLACK | 28 | 0.95 |
| 12 | IMPATIENT | 28 | 0.95 |
| 12 | DIM | 28 | 0.95 |
| 12 | SICK | 28 | 0.95 |
| 13 | FAINT | 26 | 0.88 |
| 14 | WARM | 24 | 0.82 |
| 15 | LONG | 23 | 0.78 |
| 16 | GREAT | 21 | 0.71 |
| 17 | RESTLESS | 20 | 0.68 |
| 17 | SILENT | 20 | 0.68 |
| 17 | CALM | 20 | 0.68 |
| 17 | BRIGHT | 20 | 0.68 |
| 18 | STRONG | 19 | 0.65 |
| 19 | RICH | 18 | 0.61 |
| 19 | SAD | 18 | 0.61 |
| 20 | DISTINCT | 17 | 0.57 |

Table 5.31. Adjectival collocates in metaphoric dataset (minimum freq. 0.5‰)

|  |  |  |
| --- | --- | --- |
|   | NON-METAPHOR |   |
| R | Collocate | Freq. | Freq. ptw. |
| 1 | OLD | 18 | 1.14 |
| 2 | WILD | 17 | 1.08 |
| 3 | GREAT | 15 | 0.95 |
| 4 | LITTLE | 13 | 0.82 |
| 4 | LONG | 13 | 0.82 |
| 5 | LARGE | 12 | 0.76 |
| 6 | YOUNG | 11 | 0.70 |
| 6 | GREEN | 11 | 0.70 |
| 6 | OAK | 11 | 0.70 |
| 7 | HIGH | 10 | 0.63 |
| 7 | TALL | 10 | 0.63 |
| 8 | WHITE | 9 | 0.57 |

Table 5.32. Adjectival collocates in non-metaphoric dataset (minimum freq. 0.5‰)

The first comparison between the tables is the difference in frequency between the adjectives higher up the table. *Pale* and *dark* in the metaphoric dataset occur twice as often as does the most frequent adjective in the non-metaphoric data *old*. The total token frequency for adjective collocates (minus the comparatives discussed earlier) make up 5.75% of the token frequency of all collocates in the metaphoric dataset (with a minimum frequency of 0.5‰) and the type frequency is 16.48%. In contrast, in the non-metaphoric data the token frequency for adjectives is 3.48% of the total token frequency of collocates and the type frequency is 11.11%. This means that the metaphoric dataset has a higher number of adjectives collocating with *grew*, both in terms of type and token.

Looking generally at the two tables (5.4.3 and 5.4.4), there is a difference in the level of physicality of the collocates. Within the metaphoric data, the majority of collocates are abstract and more specifically related to **perception,** usually **heat or light** (*bright, dim, pale, dark, hot, cold, light).* There are also references to **colour** (*red,* *white, black)* **emotion**(*angry, restless, sad*) and physical state **of** **decay** (*tired, weary,* *old, sick*). These four semantic sets accommodate the vast majority of collocates, suggesting *grew* is used to describe a change in brightness, temperature, colour, emotion or decay. Moreover, all of the collocates relating to decay and emotion convey a sense of negative semantic preference: the transitioned state described by the *grew* is a negative one. *Worse* also supports this.

In contrast, the collocates on the non-metaphoric list tend to refer to physical traits. Many of these refer to size (*great, little, large, tall,* and *high)*. Similarly, there are references to age (*old* and *young*) and there are colours (*green* and *white*). Concordance data support the assumption that *green* is semantically associated with organic growth (plants, trees etc.). *White* appears on both lists, but has distinct uses. In the non-metaphoric data, the things described as *white* are all concrete objects, semantically associated with non-metaphoric growth, with the exception of *dress,* which occurs in a separate clause. Other items are *white roses, flowers, beard, hair* and *thorn*. In contrast, *white* in the metaphoric data describes the outward expression or effect of an emotional state: *The poor dear grew white as death, and shook and shivered; Barbara’s cheeks grew* *white and her heart sickened;* and *her blowing cheeks grew white and hollow.* The use of *black* alongside *grew* in a metaphoric sense also creates an exaggeration of mood: *Hareton grew black as a thundercloud; his brow grew black as midnight;* and *Frank’s brow* *again grew black*. In each case, the mood is one of despair, worry or anger. There are also instances of the light growing black.

The collocate *red* in the metaphoric set also deserves discussion. A selection of concordance lines with the collocate *red* are shown in Figure 5.18:

**[INSERT FIGURE 5.18 HERE]**

Figure 5.18. Selection of *red* collocating with *grew* in metaphoric dataset (within 5-item span)

The colour red is shown to depict a range of emotions such as passion, anger, embarrassment, laughter, irritation and excitement. In each case above the adjective is describing a human emotion, mostly belonging to a male, and mostly described within the physical context of a face. 47.22% of all instances occur in R1 and 19.44% in R2 position. The above examples show *slightly, very* and *hot and* to fill the cluster when *red* is in R2 or R3 position. As with *black* and *white*, the colour *red* is associated in the majority of cases with emotion, manifest in a physical change of appearance within the face (often the cheeks, or brow). This stands in contrast to the physical and non-metaphoric uses of *green* and *white* in the metaphoric data, which do not appear to reflect or emphasise an abstract state of mind or emotion in any way.

Also of note amongst the adjectival collocates are those which are largely fixed to the left or right of *grew*, specifically those fixed to a single position. The majority of the collocates with a high degree of fixedness (90% falling on one side of *grew*) are in the metaphoric data. All instances in both datasets are shown in Tables 5.33 and 5.34:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| METAPHOR |   |   |   |   |   |
| Collocate | Left Freq. | Left % | Right Freq. | Right % | Most freq. position | % of instances in R1 |
| PALE | 6 | 6.00 | 94 | 94.00 | R1 | 56.00 |
| WORSE | 3 | 5.26 | 54 | 94.74 | R1 | 63.16 |
| TIRED | 2 | 3.51 | 55 | 96.49 | R1 | 89.47 |
| WEARY | 4 | 8.70 | 42 | 91.30 | R1 | 80.43 |
| HOT | 1 | 2.94 | 33 | 97.06 | R1 | 41.18 |

Table 5.33. Adjectival collocates in metaphoric dataset with a fixedness over 90% or higher

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| NON-METAPHOR |   |   |   |   |
| Collocate | Left Freq. |  Left % | Right Freq. | Right % | Most freq. position | % of instances in L2 |
| YOUNG | 10 | 90.91 | 1 | 9.09 | L2 | 90.91 |

Table 5.34. Adjectival collocates in non-metaphoric dataset with a fixedness of 90% or higher

Whilst the majority of the complement collocates in the metaphoric table (5.33) above occur on the right of *grew*, *young* is the only collocate in the non-metaphoric table and in contrast it occurs on the left of *grew*. Eight of these are in L2 position, such as *Young* *Wilkes grew up a man of pleasure;* and *The young Albert grew up a handsome,* *intellectual lad*. The majority of each of the metaphoric collocates fall in position R1, meaning that they are complements of *grew*. Instances include *she faltered and again* *grew pale*; *she moaned, and pined, and wept, as the man's breath grew fainter and* *fainter*; *though the pains in her chest grew worse*; and *my mother's cry grew louder and* *wilder*. This shows that there are different structures being used in metaphoric/non-metaphoric contexts, in relation to complement collocates. There is a similar degree of negativity attached to the complements (*pale, worse, tired, weary*). With the exception of two neutral instances, *grew hot* is also always negative, as shown in Figure 5.19 below:

**[INSERT FIGURE 5.19 HERE]**

Figure 5.19. All instances of *grew* *hot* in metaphoric dataset

An important consideration for focusing on adjectival collocates (aside from their high frequency in both datasets compared to any other word class), is that they are much more prevalent than adverbs, despite the keyword of this investigation being *grew* as a verb. It would be expected that adverbs would frequently modify *grew* directly in R1 position but this is not the case. A reason for this may be due to the fact that in many cases *grew* can be replaced with *became*. A structure like *grew* + adverb would not be able to be replaced with *became*. When *grew* is substituted for *became* (e.g. *poor* *Charley sickened and grew/became worse;* and *I presume you grew/became weary of the* *amusement and dropped it, didn't you?),* an adjective functioning as a complement always follows the use of *grew*. Exceptions to the *became* meaning include those where *grew* is part of a lexical item with a distinct meaning e.g. *grew from*, *grew to* or *grew up* (e.g. *the* *only solution of it, Tynn grew to/\*became think…).* In such cases, although grammatically *grew* cannot be replaced with *became*, the full lexical item acquires a *became* meaning, and can be replaced: *a few of its tenants, seated generation after generation on its* *manors, grew into/became knightly and noble families;* and *in her eyes, as they met his,* *trouble grew to/became a calm joy*.

It is also the case in many of the non-metaphoric instances, that *grew* can be replaced with *became* (e.g. *It amused them through all the winter and spring, til* *Cairnforth woods grew/became green again; and we came to scattered bushes which* *grew/became more and more frequent*). It should be noted that these instances could be argued to be metaphoric but informants agreed on their identity as clear non-metaphors. This is only the case where there is double meaning in evidence in the senses of *grew*. Growing frequent, or growing green, have non-metaphoric senses, because the objects themselves (woods and bushes) are organic and have the ability to grow, but the *became* sense more aptly describes a transformation in their colour, or thickness (often collectively, as with woods or bushes). The majority of instances of non-metaphoric *grew* are less easily exchanged with *became*, most often those without any kind of metaphoric extension, and interestingly, most often relating to plants rather than people (e.g. *Then we cut two large clubs off a* *species of very hard tree which grew/\*became near at hand*).

The above discussion has added support to the noun collocate analysis and found further distinctions, semantically, between the two datasets. These include the prominence of colour imagery relating to emotion, found more frequently in the metaphoric set. Adjectives in general are much more prevalent in the metaphoric dataset (both type and token). As a consequence, more colligations have also been highlighted, again amongst the metaphoric instances. These will be explored further in the following chapter of the book. Finally, within this chapter, a discussion of personal pronouns may highlight further differences based on human subject collocates and body part imagery, both more prominent amongst the metaphors, and therefore we turn to these next.

### 5.3.4 Personal pronoun collocates

The final set of collocates to be discussed are personal pronouns. The *cultivated* and *flame* studies showed significant differences in the use of personal pronouns between the metaphors and non-metaphors. Most notably, there were significantly more personal and possessive pronouns used overall in the metaphors. These emphasised the idea that metaphoric instances of both items were often chosen to describe emotion, feelings, or relationships, which are all associated with human subjects. It is therefore worthwhile to explore the extent to which these same collocates reflect pronounced differences in the senses of *grew* also. Tables 5.35 and 5.3.10 show all the pronoun collocates found in each dataset:

|  |  |  |
| --- | --- | --- |
| METAPHOR |   |   |
| R | Collocate | Freq. | Freq. ptw. |
| 1 | HIS | 412 | 14.01 |
| 2 | HE | 405 | 13.78 |
| 3 | HER | 308 | 10.48 |
| 4 | SHE | 243 | 8.27 |
| 5 | I | 242 | 8.23 |
| 6 | THEY | 168 | 5.71 |
| 7 | MY | 130 | 4.42 |
| 8 | THEIR | 96 | 3.27 |
| 9 | HIM | 86 | 2.93 |
| 10 | ME | 62 | 2.11 |
| 11 | THEM | 56 | 1.91 |
| 12 | WE | 55 | 1.87 |
| 13 | OUR | 30 | 1.02 |

Table 5.35 Personal pronoun collocates in metaphoric dataset

|  |  |  |
| --- | --- | --- |
| NON-MET |   |   |
| R | Collocate | Freq. | Freq. ptw. |
| 1 | HE | 113 | 7.16 |
| 2 | THEY | 92 | 5.83 |
| 3 | I | 52 | 3.30 |
| 4 | HIS | 41 | 2.60 |
| 4 | SHE | 41 | 2.60 |
| 5 | THEIR | 27 | 1.71 |
| 6 | HER | 19 | 1.20 |
| 7 | THEM | 18 | 1.14 |
| 8 | MY | 12 | 0.76 |

Table 5.36. Personal pronoun collocates in non-metaphoric dataset

The tables show that there is generally a higher frequency of personal pronouns within the metaphoric dataset. *His* and *her* in particular, show the greatest difference in use: his occurs 5.39 times more frequently in the metaphoric dataset and *her* occurs 8.73 times more frequently. *I, she* and *my* also occur twice as often or more in the metaphoric set. The tables also show that there is more variety within the metaphoric dataset. Unique to this set are *me, we, who* and *our*. There is also a range of subject, object and possessive pronouns found in the metaphoric dataset. Whilst there are examples of each three types in the non-metaphoric set, the most frequent are all subjective (*he, they, I*). This possibly reflects the specific use of *grew* non-metaphorically in relation to humans (i.e. physical growth, such as *he grew, I grew*, *they grew*).

In contrast, there are more possessive pronouns with high frequency in the metaphoric data. This is supported by the highly frequent body part nouns (*his eyes grew; her heart grew*). There are also more objective pronouns (*grew fond of him; grew jealous of her*). These are supported by the association of metaphoric growth with abstract emotions, which are described as occurring physically *within* the body (*Heaven’s rich instincts in him grew as effortless as woodland; The resolve* *grew stronger in him every day*).

In terms of positioning of the pronoun collocates, the majority of metaphoric pronouns all fall on the left of *grew*, in either L1 or L2 position. 52.35% of all cases of *he* occur in L1, making it the most fixed pronoun collocate, followed closely by *she* in L1 (51.02%). HIS and *her* occur in L2 position 41.51% and 36.36% of the time respectively. In contrast, there is a lower degree of fixedness in the non-metaphoric data. *They* occurs in L1 position in 68.48% of all instances and I in L1 51.92% of the time, but the items with a lower frequency (2‰ of the total corpus) occur on the right and left with no preference for position.

A contrast can also be drawn within this section of the analysis, between the use of nominal and pronominal subjects in the datasets. The table below stands to highlight the starker difference between the use of pronominal subjects in each dataset, in comparison to nominal subjects (when the structure is within a 5-word window of *grew*):

|  |  |  |
| --- | --- | --- |
|   | METAPHOR | NON-METAPHOR |
| Nominal + noun | Freq. | Freq. ptw. | Freq. | Freq. ptw. |
| A | 354 | 12.04 | 170 | 10.78 |
| THE | 1718 | 58.43 | 572 | 36.26 |
| Total nominal | 2072 | 70.47 | 742 | 47.03 |
| Pronominal + noun | Freq. | Freq. ptw. | Freq. | Freq. ptw. |
| HER | 272 | 9.25 | 12 | 0.76 |
| HIS | 432 | 14.69 | 31 | 1.97 |
| MY | 137 | 4.66 | 13 | 0.82 |
| YOUR | 6 | 0.2 | 1 | 0.06 |
| THEIR | 99 | 3.37 | 23 | 1.46 |
| OUR | 34 | 1.16 | 2 | 0.13 |
| ITS | 44 | 1.5 | 9 | 0.57 |
| Total pronominal | 1024 | 34.83 | 91 | 5.77 |

Table 5.37. List of nominal/pronominal subjects in each dataset (within 5-word window of *grew*)

Whilst there is a 23.44‰ difference in the use of nominal subjects, with the greater use being in the metaphoric dataset, there is a 29.06‰ difference in the use of pronominal subjects, again in the metaphoric dataset. Based on the frequencies of pronouns discussed above, a greater use of pronominal subjects in the metaphoric data is to be expected. There is also a per thousand words (ptw) difference of 41.26‰ between the use of nominal and pronominal subjects in the non-metaphoric dataset, compared to only 35.64‰ in the metaphoric dataset. Put simply, for every instance of a pronominal subject occurring per thousand words in the non-metaphoric data, there are 8.15 instances of *a* or *the* + subject. In comparison, for every pronominal subject occurring per thousand words in the metaphoric data, there are only 2.02 instances of a nominal subject. Thus *plants, tree, grass, flower, wood* (etc.) colligate with *a* or *the* more fixedly than with *face,* *eyes, day* or *thought.* This, in turn, means that *face, eyes, day, thought* and the other frequent nouns in the metaphoric dataset, are all associated with human ownership (or belonging generally, in the case of *its*) more often than are *plants, tree, grass, flower,* *wood* and the other frequent nouns in the non-metaphoric dataset.

### 5.3.5 Summary of semantic associations with *grew*

To conclude, the previous four subsections have demonstrated differences amongst the semantic associations attached to lexical collocates within both datasets. The noun collocates are unique to each dataset: generally, they are abstract in form in the metaphoric set (*time, day, moment, thought),* but there is also reference to body parts. The reoccurrence of body part imagery within the metaphoric set emphasizes the notion of growing in an abstract sense – the concrete body part is most often part of a physical reflection of a perceived change in temper or mood. The prominence of possessive pronouns amongst the metaphors also supported this finding (e.g. *his eyes; her cheeks*). Interestingly the use of colour in the adjectival analysis (namely, *black, white* and *red)* also reflect or emphasise a human emotion or temperament. Artistic license in phrases such as *black as a thunder cloud* and *white as death* occur frequently within the data. In contrast, whilst colours are also frequent in the non-metaphoric data, there is no secondary meaning associated with their use. *White* and *green* both referred to things that grow non-metaphorically.

## 5.4 Chapter summary

A range of lexical and semantic features have been found to be uniquely identified with metaphoric uses of the items c*ultivated, flame* and *grew* in nineteenth century writing. Thus the study has contributed to the main aims of this book by providing evidence for semantic primings in nineteenth century writing. By focusing largely on lexical collocates, semantic differences, including prosody, preference and association have been found. More importantly these patterns of use differ amongst metaphoric and non-metaphoric instances of a given item, and thus provide a way of helping the language user distinguish between metaphoric and more congruent instances of an item in text.

These results directly support part of the drinking problem hypothesis, which states that different senses of a word will avoid one another’s lexico-grammatical features in order to avoid ambiguity. As a consequence, as readers we become primed to associate these features with one sense or the other (metaphoric or non-metaphoric), which subsequently strengthens the differences between them. These conclusions will be strengthened in the following chapter, which completes the quantitative analysis, and allows us to account for the other aspects of the drinking problem hypothesis. Hanks (2010) claims that “syntagmatic as well as semantic relations are of the greatest importance in the study of metaphor”. Moreover, multiple studies have found syntactic constraints often characterise the metaphoric uses of an item in comparison to its literal counterpart (see the reference to *mouth* form Cruse, 1986 outlined in Chapter 2). A prediction can be made that the drinking problem hypothesis will indeed hold true for structural or syntagmatic patterns. Together with lexical, semantic and pragmatic associations, these primings help us to identify metaphoric language in contrast to literal language.

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1. www.lexically.net/downloads/version5/HTML/index.html?keywords\_info.htm [↑](#endnote-ref-1)
2. <http://ucrel.lancs.ac.uk/llwizard.html>. Accessed 9/11/2016 [↑](#endnote-ref-2)
3. According to WordSmith’s Collocation ranking. [↑](#endnote-ref-3)
4. <http://ucrel.lancs.ac.uk/llwizard.html>. Accessed on 4/11/2016 [↑](#endnote-ref-4)