EXPOSING DEEP-ROOTED ANGER: A METAPHOR PATTERN ANALYSIS

OF MIXED ANGER METAPHORS

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This project seeks to serve two purposes: first, to investigate various semantic and grammatical aspects of mixed conceptual metaphors in reference to anger; and secondly, to explore the potential of a corpus-based, TARGET DOMAIN-oriented method termed metaphor pattern analysis to the study of mixed metaphor.

This research shows that mixed metaphors do not pattern in a manner consistent with statements made within conceptual metaphor theory. These metaphors prove highly dynamic in their combinability and resist resonance between SOURCE DOMAINS used. Also shown is the viability of metaphor pattern analysis as a methodology to approach mixed metaphor research.
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CHAPTER 1

INTRODUCTION

The present research seeks to serve two purposes: first, to investigate various semantic and grammatical aspects of mixed conceptual metaphors in reference to anger. Mixed conceptual metaphors are defined for the purposes of this study as “two or more conceptual metaphors either alike or differing used in a single utterance and applied to a single concept” as exemplified in (1):

(1) Sally (harbors) a (deep) anger (toward)\(^1\) the wug.

Here, three separate conceptual metaphors are used in reference to anger: ANGER AS AN OBJECT, ANGER AS A CONTAINER and NEGATIVE EMOTIONS HAVE DIRECTION. This research shows that mixed conceptual metaphors do not follow the patterns hypothesized in previous literature and actually resist coherence between the conceptual metaphors invoked.

Conceptual metaphors, specifically and especially those concerning emotion-concepts, have been intensively studied in the past. However, despite the enormous body of work that has arisen on the subject, the study of mixed conceptual metaphors has been vastly underrepresented in previous research, particularly those of the type illustrated in (1).

In order to study these linguistic curiosities, however, one must first have curiosities to study. Much of the previous research concerning conceptual metaphor has used either introspective or eclectic means, with varying degrees of success. While metaphor research, as yet, cannot help but rely somewhat on intuition, corpus-based methods attempt to make this research as empirical and quantifiable as possible. For these reasons, the present study

\(^{1}\) When used in exemplar sentences, parentheses indicate metaphorical content being investigated.
combines the use of a small collected corpus and tests certain generalizations in a larger
general corpus.

One problem confronting a corpus-based metaphor analysis, however, is the lack of
specific lexical items or grammatical patterns associated with any given conceptual metaphor.
To avoid this issue, the present research utilizes a TARGET DOMAIN-oriented approach termed
metaphor pattern analysis. The secondary purpose of this investigation will be to test the
efficacy of this approach with regard to the study of mixed conceptual metaphors. As will be
shown, this method provides a solid foundation for these inquiries.
CHAPTER 2
LITERATURE REVIEW

This section begins with a review of conceptual metaphor theory. Following will be an overview of research on mixed metaphors. This is followed by a description of Corpus Linguistics and its role in metaphor research.

2.1 Conceptual Metaphor Theory

Since the publication of Lakoff and Johnson’s seminal volume *Metaphors We Live By* (1980), conceptual metaphor theory (CMT) has become the dominant approach to metaphor research.² In this work, the authors define metaphor as “understanding and experiencing one kind of thing in terms of another” (p. 5). This definition signaled a shift from previous thinking about metaphorical language, wherein metaphors were regarded as mere linguistic conventions, rather than as concepts and processes integral to both human cognition and language processing (Lakoff, 1993), or to put it metaphorically, from viewing metaphor as “clothing” of language to viewing it as “an organ of reason” (Otabe, 1995).³

Along with the aforementioned definition of metaphor, conceptual metaphor theory takes as its central thesis that metaphors are not extraordinary or aberrant instantiations of language use, but are in fact pervasive throughout language, mostly unconscious, and central to human thought (Lakoff & Johnson, 1980; Lakoff, 1993). They also argue that these metaphors are largely structured, being situated in complex networks of understanding, otherwise known

² Given the vast amount of literature, it is not possible to give a full account of each approach here. See Steen’s 2007 *Finding Metaphor in Grammar and Usage* for an excellent overview of the other approaches within cognitive linguistics.
³ For a more complete treatment of the history of thought on metaphor, see Chapter 1 of Cameron’s 2003 work *Metaphor in Educational Discourse*. 
as CONCEPTS. In Lakoff and Johnson (1980), the authors lay out a system with which to begin to approach this daunting subject. Since, as the authors state, a metaphor is “one thing being understood in terms of another,” we define the concept that we are trying understand as the TARGET DOMAIN (may appear abbreviated TD) and the terms through which it is understood as the SOURCE DOMAIN (may be abbreviated SD). Using this terminology, we can abstract patterns in language by referring to these conceptual systems as TARGET DOMAIN AS SOURCE DOMAIN. Using their examples of the concept ARGUMENT referred to metaphorically, (taken from Lakoff & Johnson, 1980, p. 4)

(2) Your claims are indefensible.
(3) He attacked every weak point in my argument
(4) His criticisms were right on target.
(5) He shot down all my arguments.

we find the CONCEPT of ARGUMENT referred to in terms which one would literally refer to elements of WAR. Given these semantic similarities, we can refer to this pattern as the conceptual metaphor, or mapping, ARGUMENT AS WAR, or alternatively ARGUMENT IS WAR.

There is also evidence that these concepts can be usefully categorized under even higher-level super-ordinate conceptual structures such as VERBAL CONFLICT IS PHYSICAL CONFLICT to account for and categorize variation within and between languages (Lakoff, 1993; Kövecses, 2000; Oster, 2010). Lakoff and Johnson also articulate that conceptual metaphors will almost always map concepts from a concrete SOURCE DOMAIN to an abstract TARGET DOMAIN.

Additionally, Lakoff (1993) states that these conceptual metaphors will follow what is termed the invariance principle. This principle states that “metaphorical mappings preserve the cognitive topology (that is, the image-schema structure) of the source domain, in a way
consistent with the inherent structure of the target domain” (p. 215). That is to say, we can expect to find predominantly metaphors wherein the structure of the TARGET DOMAIN is at some level similar or analogous to that of the SOURCE DOMAIN or otherwise motivated by embodied experience.

Critical to this analysis and, consequently, to the present study, is a distinction between conventional (or primary or dead) metaphor and conceptual (or complex or live) metaphor. Black (1962, 1993) has long made this distinction, arguing that for a metaphor to be considered metaphorical the hearer or reader must recognize that the language in use is not intended to be literal. Lakoff and Johnson (1980, 1989) take the opposite approach, saying that Black’s ‘dead’ metaphors must be considered metaphorical and, as discussed earlier, that these are in fact some of the most foundational to human understanding, calling them ‘cognitively entrenched’ rather than dead. They therefore focus their research on the way these metaphors pattern into larger structures or concepts, a phenomenon one would not expect if these metaphors were cognitively dead as Black had argued. Grady et al. (1996) proposed a somewhat integrated approach, saying that conceptual metaphors, such as RELATIONSHIPS ARE VEHICLES, outlined below, are in fact made up of more conventionalized metaphors.

Lakoff and Johnson (1980) explicitly stated the vital importance of our physical experience of the world in which we live to informing our conceptual structures of abstract concepts. In Lakoff and Johnson (1989), the authors go a step further and explain that the physical and linguistic experiences that become the SOURCE DOMAIN are stored as generic patterns they refer to as “schema” and that these patterns contain “slots” that can be filled or
not to accommodate the speakers intended message about the TARGET DOMAIN. They explain as follows:

We understand and reason using our conceptual system, which includes an inventory of structures, of which schemas and metaphors are established parts. Once we learn a schema, we do not have to learn it again or make it up fresh each time we use it. It becomes conventionalized and as such is used automatically, effortlessly, and even unconsciously. (p. 62)

As previously mentioned Grady et al. (1996) go yet further and state that these schema are actually composed of the more base, more cognitively entrenched metaphors along with culturally dependent norms and information. The conventional metaphors that Grady et al. refer to include orientational metaphors (MORE IS UP), sensory experiences (ACTION IS MOTION), social experiences (HELP IS PHYSICAL SUPPORT), affective experiences (PURPOSES ARE DESIRED OBJECTS) and haptic experience (SEEING IS TOUCHING). In the figure below, the authors visually illustrate this concept in respect to the conceptual metaphor RELATIONSHIPS ARE VEHICLES (i.e. “it’s been a bumpy road”):

![Figure 1. RELATIONSHIPS ARE VEHICLES as adapted Grady et al. (1996, p. 185).](image-url)

Here, Grady et al. (1996) show that these more complex metaphorical concepts may not exist on their own, but may be made up of lower-level conceptual metaphors. The authors show, for instance, that RELATIONSHIPS ARE CONTAINERS is a mid-level CM that comes about
because of the more cognitively entrenched CMs ACTION IS MOTION, INTIMACY IS PROXIMITY, and CONSTRAINTS ARE BOUNDARIES. Similarly, the CM LONG-TERM, PURPOSEFUL ACTIVITIES ARE JOURNEYS comes about because we already have the more cognitively entrenched CMs ACTION IS MOTION and PURPOSES ARE DESTINATIONS. These two mid-level metaphors (RELATIONSHIPS ARE CONTAINERS AND LONG-TERM PURPOSEFUL ACTIVITIES ARE JOURNEYS, respectfully) are then combined or blended and produce the RELATIONSHIPS ARE VEHICLES CM.

This model is important to the present investigation in that it begins to outline how these lower-level conventional metaphors may interact with higher-level conceptual metaphors and highlights the fact that there are metaphorical concepts that are more cognitively entrenched than others and are therefore both ‘less metaphorical’ and more freely combinable with high-level conceptual schema (Hanks, 2007; Svanlund, 2007). Also important to note here are the possible grammatical representations of these more conventional (lower-level, more entrenched) metaphors, particularly CONTAINER, SPACE and LOCATION, metaphors, which can be combined with many different SDs and TDs and, in many cases, are realized simply as prepositions, such as “towards success” for PURPOSES ARE DESTINATIONS.

2.2 Metaphor Identification

Based on the outlines above, the CMT model seems to work well for the categorization of metaphors and their cognitive structures, however, these definitions do little to assist the metaphor researcher in distinguishing the metaphorical from the literal. One could suppose from the definitions and models above that the sentence “Larry is in Dallas” could be construed
as a metaphorical utterance, as Dallas is a conceptual entity that has real, physical boundaries established only by laws and ordinances, which are still other conceptual entities. It is obvious even from this simple example that such a supposition leads one down a slippery slope into saying all language is metaphorical, which cannot be the position of the metaphor researcher. A system must therefore be in place to establish what is metaphorical and what is not. Decorative metaphor theorists, such as Black and Davidson, argue that much of what is described by Lakoff and Johnson (1980, 1999) and Lakoff (1993) as “conventional” metaphors are in fact “dead”, having been in use so long and so routinely, that they have become lexicalized and no longer constitute metaphorical utterances. However, as argued convincingly in Lakoff and Johnson (1980, 1989), Hanks (2004, 2007) and Müller (2008), while the distinction between dead metaphors and unconsciously “live” metaphors, is not always clear-cut, the syntactic, semantic, and lexical variation observed within ‘dead’ metaphors certainly still constitute metaphorical language. Aware of these difficulties, the Pragglejazz Group (2007), among others, has created a method to assist researchers in distinguishing literal from metaphorical languages which is as follows:

(6) a. Read the entire text–discourse to establish a general understanding of the meaning.

b. Determine the lexical units in the text–discourse

c. For each lexical unit in the text, establish its meaning in context, that is, how it applies to an entity, relation, or attribute in the situation evoked by the text (contextual meaning). Take into account what comes before and after the lexical unit.

For each lexical unit, determine if it has a more basic contemporary meaning in other contexts than the one in the given context. For our purposes, basic meanings tend to be —more concrete [what they evoke is easier to imagine, see, hear, feel, smell, and taste];
—related to bodily action;
—more precise (as opposed to vague);
—historically older.

Basic meanings are not necessarily the most frequent meanings of the lexical unit.

d. If the lexical unit has a more basic current—contemporary meaning in other contexts than the given context, decide whether the contextual meaning contrasts with the basic meaning but can be understood in comparison with it.

e. If yes, mark the lexical unit as metaphorical. (Pragglejazz Group, 2007)

While their research shows that there is still some disagreement among coders, data analysts utilizing these guidelines do agree on significantly more instances of metaphorical language than without (Pragglejazz Group, 2007). Consequently, this method has been used to analyze the data in the current study.

2.3 Anger Metaphors

Being one of the basic emotions along with sadness, happiness, and fear, anger is one of the most studied emotion concepts in metaphor research. As such, metaphorical expressions for ‘anger’ including common SOURCE DOMAINS, idiomatic expressions, metonymies, extended metaphors and others have been extensively catalogued in the literature (Bednarek, 2008; Kövecses, 1987; Lakoff & Johnson, 1980; Lakoff & Kövecses, 1987; Stefanowitsch, 2007). It has been nearly, if not equally, as well studied in other in other languages. Many of these studies, however, (excepting Bednarek, 2008 and Stefanowitsch, 2007) utilize intuitive or eclectic means of data collection, as will be further discussed below. Additionally, despite this massive body of
Research, no TARGET-DOMAIN-oriented case studies have yet been conducted concerning patterns of mixed metaphor for this or other emotion-concepts.

2.4 Mixed Metaphors

For the purposes of this study, the term mixed conceptual metaphor is defined as “two or more conceptual metaphors either alike or differing used in a single utterance and applied to a single concept.” Lakoff and Johnson have little to say on the subject of mixed metaphors. They state only that since different conceptual metaphors exist to evoke different aspects of an abstract idea, they can be combined within certain (undesignated) parameters that result in coherence (1980). No precise definition of “coherence” is provided in their literature, however. For the purposes of this study then, a “coherent” mixed conceptual metaphor will be defined as “two or more conceptual metaphors used in reference to a single TARGET DOMAIN which, when taken in a literal reading, can reasonably fit within one another’s’ semantic frame.” An “incoherent” metaphor would then be “two or more conceptual metaphors used in reference to a single TARGET DOMAIN which, when taken in a literal reading, cannot reasonably fit within one another’s semantic frame.” It should be noted, though, that these definitions represent two ends of a “coherence spectrum” and thus we can speak of “more” and “less” coherent mixed metaphors without making a concrete distinction between absolute coherence and absolute incoherence.

Lakoff and Johnson give several examples of such “permissible” or “coherent” mixed metaphors such as “At this point, our argument doesn’t have much content,” (1980, p. 92, emphasis in the original text), arguing that this statement uses the ARGUMENT AS A JOURNEY
and ARGUMENT AS CONTAINER conceptual metaphors. However, while the two emphasized sections certainly do use separate conceptual metaphors, they are not both in direct reference to an ARGUMENT. One could just as easily say “Right now, our argument doesn’t have much content,” and come to the same meaning, highlighting the fact that the conceptual metaphor employed in the statement “at this point” is probably MOVING TIME IS MOVING SPACE or LIFE AS A JOURNEY, which serves the purpose of situating the speakers progress of development in a particular timeframe. So, while this is a type of mixed metaphor, it does not utilize the two conceptual metaphors the authors suggest. Given the latter interpretation though, this example inadvertently draws attention to an important point; the ability not only to mix metaphors to highlight different aspects of a particular TARGET DOMAIN, but the ability to metaphorically situate in time, space or otherwise, one metaphorical utterance within another: a phenomenon that will play a role in the present investigation, as we shall see. They also give several examples of impermissible metaphors such as:

(7) *We can now follow the path of the core of the argument.  
(8) The content of the argument proceeds as follows.  
(9) *The direction of his argument has no substance.  
(10) I am disturbed by the vacuous path of your argument. (p. 95)

These examples do mostly involve mixed SD categories with a single TD reference. I, however, find only the first example impermissible. Because of the placement of the Partitive ‘of’ construction, this statement metaphorically implies that a ‘core’ has a ‘path’, which, in literal usage, a ‘core’ does not have. This is a blatant violation of the invariance principle earlier

\[4 \] ** will here indicate impermissible or “incoherent” statements.
discussed and, again, is a type of mixed metaphor but not mixed in reference to a single TD. A rephrasing of this statement to “We can now follow the path of the argument to the core” uses the same SD categories, but because of the more appropriate syntax, which does not imply that a “core” has a “path”, both SD refer directly to ARGUMENT and result in a coherent metaphor. Example (7) does seem incoherent based on SD categories in usage there, but is still readily understandable; a phenomenon to be examined more closely in the present study.

Lakoff (1993) does little to expound on the subject of mixed metaphors, but does refine the arguments first made in the earlier work, stating that since each mapping is a “fixed correspondence that can be activated” (p. 225), a statement such as “within the coming weeks” (p. 226) only partially utilizes each of the two schematic structures involved (TIME AS A LANDSCAPE and TIME AS A MOVING OBJECT, respectively) to simultaneously evoke two aspects of the TD. While this explanation seems to be generally correct, it lacks the necessary sophistication to accurately characterize the complex interactions of mixed metaphorical instantiations and the grammar of their usage as attested in corpus data.

Other studies have investigated mixed metaphors of different types. Kimmel (2010) examined the mixing of idioms, conventional metaphors and other ‘less metaphorical’ language within discourse, as in the statement “He [British Prime Minister Tony Blair] has had to play his difficult hand with due diplomacy, and not risk finding himself too far in the vanguard. So he was reluctant to say out loud that the British referendum on the constitution was suspended, let alone dead” (Guardian PD 67, from Kimmel, 2010). In this example, a number of conceptual metaphors and idioms are invoked within a limited discourse. However, these mixed metaphors are not occurring in reference to a single TARGET DOMAIN. Rather, they are mixed throughout
the course of the utterance with different referents and differing purposes within the
discourse. The current study, as previously mentioned will focus on mixed conceptual
metaphors with a single referent. Lee and Barnden (2001) came close to the heart of the
present study, examining a possible computational model for mixed conceptual metaphors
within single sentences as in "One part of John hotly resented the verdict." This type of
computational model, though, still relies partially on a literal-interpretation-first approach
(Black, 1962, 1993; Davidson, 1967, 1978; Mac Cormac, 1985, Searle, 1993). These types of
approaches propose that as statements are processed, the hearer first assumes a literal
interpretation and, when this fails tests of truth value, the hearer then de-activates the literal
meaning and then processes the statement for metaphorical content (though difference do
exist between authors and theories). This view contrasts with a literal-congruent or parallel-
processing approach such as in Müller (2008, ch. 5). Here, the author investigated the
‘deadness’ of conventionalized metaphors, finding that even so-called ‘dead’ metaphors display
a high degree of lexical variation and verbal metaphoricity, and that, especially within the realm
of mixed metaphors, the literal-first interpretation does not provide a plausible model for
metaphor production and comprehension. Furthermore, using a variety of evidence and
cognitive models, the authors shows that conventionalized metaphors are both dead and live,
or as the author states, “sleeping and waking.”

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5 From Lee and Barnden (2001).
2.5 Corpus Approaches to Metaphor Research

Given the complex semantic and pragmatic issues outlined above, corpus linguistics does not at first seem an ideal methodology for metaphor research. Unlike corpus-based syntax or semantic prosody, there are no automated tagging systems yet available to assist the corpus-based metaphor researcher, nor any sufficiently large corpora with the necessary semantic annotation, though several of these types of systems are currently in development (Stefanowitsch, 2007). Consequently, the only reliable method to code or annotate data collected for metaphor analysis is through manual means. Given the size of available corpora (many counted in millions of words) the metaphor researcher is faced with a daunting task.

Despite these difficulties, however, a number of different corpus-based methods have emerged, and are increasingly producing profitable results. Of particular import to the current study is a method termed metaphor pattern analysis (henceforth, MPA), first outlined in Stefanowitsch (2004) and later expanded in Stefanowitsch (2007). In this method, the researcher performs a keyword search for lexical items associated with a particular TARGET DOMAIN (i.e. ‘anger’, ‘fear’, or ‘happiness’). Metaphorical usages are then manually separated from literal usages and can then be investigated for metaphorical patterns. The term ‘metaphorical patterns’ is defined as “multi-word expression from a given source domain (SD) into which a specific lexical item from a given target domain (TD) has been inserted” (Stefanowitsch, 2007, p. 68). The author explicitly contrasts this method to SD-oriented approaches (Deignan, 1999; Kövecses, 1998, 2000, 2002), wherein the researcher would perform searches for lexical items associated with the SD of a conceptual metaphor for a
particular emotion obtained through the use of metaphor dictionaries, thesauri, and intuitive means.\textsuperscript{6}

While Stefanowitsch openly acknowledges that MPA will fail to return results that do not include TD lexical items, such as “I’m on cloud nine” for the TARGET DOMAIN “happiness”, it is claimed and subsequently demonstrated that MPA can nevertheless return results at least as rich, if not qualitatively different, as SD-oriented approaches, as well as identifying patterns of SD that are missed by searching initially for SDs (Stefanowitsch, 2007). It is contended “this subset (metaphorical patterns) is particularly interesting, showing how concepts expressed by individual lexical items interact with large-scale mappings between whole conceptual domains” (p. 69). Several other advantages of a TD-approach are further outlined (Stefanowitsch, 2007, p. 53-55):

- The ability to quantify the importance of a particular metaphorical pattern to (sets of) lexical items, and consequently to their conceptual metaphors;
- Metaphorical patterns do not merely instantiate general mappings between two semantic domains.
- In addition, they establish specific paradigmatic relations between lexical items from the target domain and the source domain items that would be expected in their place in a non-metaphorical use;
- Metaphorical patterns may have different degrees of conventionality;
- MPA allows the researcher to directly investigate the combinability of different SDs within different metaphorical patterns.

\textsuperscript{6} Oster (2010) has outlined a method for combining these approaches with very positive results.
The first three claims having been vetted in previous literature (López and Llopis, 2010; Oster, 2010; and Stefanowitsch, 2004, 2007), it is this fourth claim that the present study seeks to both utilize and evaluate. Additionally, this method also proves ideal for combining both small and large corpora, as outlined in Cameron and Deignan (2003). Since, through MPA, one can more precisely analyze both lexical and grammatical content by first collecting a small corpus, evaluating the data through MPA, then testing the generalizations and predictions in a much larger corpus which already have these annotations, one can make the initial data set a manageable size and still maintain quantitative rigor, which is one of the primary motivations behind corpus linguistics as a methodology.
CHAPTER 3
METHODOLOGY

3.1 Introduction

This section begins with an overview of the software used in this research project. This is followed by an account of the processes of collecting, coding, and evaluating the primary data set. Concluding this section is a description of the general corpus employed to test generalizations drawn from these processes.

3.2 Microsoft Word and Excel

The Microsoft programs Word and Excel were used extensively in this research. As working knowledge of these programs is assumed, a full explanation of these programs will not be offered here. However, a description of relevant features will be provided as needed.

3.3 AntConc

AntConc is a general concordance software which allows the user to load text files and generate concordances lines from the data contained therein. This software was employed as a tool for cross-checking data to avoid errors arising from the researcher’s oversight. The “Batch Search” tool was utilized for this purpose, which allows the user to specify multiple search terms simultaneously. See Section 3.6 below for explanation of how this function was applied.
3.4 Collecting the Primary Data Set

For the purposes of this study, a concordance was generated using ten American newspapers. These papers were chosen based on three criteria: geographic diversity, size of in-print distribution, and online availability. While selecting newspapers is somewhat limiting compared to taking a random selection of a more generalized corpus, they are a significant part of public discourse and will therefore be widely representative of the public’s characterization of emotion concepts. Also motivating this selection was the author’s familiarity with American English, so American papers were chosen to hopefully avoid confusion from expressions the author is unfamiliar with in British, Australian, or other varieties of English.

3.5 Accessing the Data

Once the sources were selected, data was then accessed and collected using the web-based linguistic search engine WebCorp (webcorp.org.uk). This resource allows the researcher to create a concordance using “the web as a corpus,” either searching the internet as a whole, or through user-specified domain names only. Utilizing the “Advanced Search” features, the following parameters were defined.

<table>
<thead>
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<th>Parameter</th>
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<td>Number of pages to retrieve</td>
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</table>

*Figure 2. Specific options selected to retrieve the primary data set.*

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7 See Appendix A for a list of these sources.
In order to retrieve the desired results in line with the MPA method described in Section 2.5 above, a keyword of ‘anger’ was specified for each search. The domain name of each newspaper was then entered and searched separately using the “Site Domain/Country” filter and the parameters defined above.

3.6 Processing the Data

The results retrieved from each newspaper were copied from the concordance generated by WebCorp and saved in a separate Microsoft Word Document. These documents were then combined into a single document in Word. This data set was then transferred to Microsoft Excel for processing and coding. Duplicate lines were automatically removed using the “Remove Duplicates” feature of Excel. A copy of this data set was then output back to Word and saved as a .txt file for uses to be explained shortly.

Using the data file saved in Excel, each concordance line in which a metaphor occurred in reference to ‘anger’ was then manually separated onto a new sheet. In unclear cases, judgments were made in accordance with the metaphor identification process outlined in Section 2.5 above. Once this process was complete, the full data set was then loaded into the concordance software AntConc. “Batch Searches” were performed using SOURCE DOMAIN keywords from the literature (Kövecses 1987; Stefanowitsch, 2007) and the authors own list of metaphorical patterns occurring in the data. This was done to as a cross-checking procedure to ensure that no metaphorical usages were missed in the process of sorting the data.
This data was then sorted manually a second time, selecting lines wherein more than one metaphor was in use. Difficult cases were again decided utilizing the same process of metaphor identification as the first round of separation.

3.6.1 Exclusions

Two exclusions were made during the course of sorting out the metaphorical usages from non-metaphorical that merit explanation. These exclusions are possessive pronouns (i.e. his, her, their) and noun adjuncts (grass-roots, voter, public). While these two categories are extremely prevalent and productive, as well as indicative of the EMOTION AS A POSSESSION conceptual metaphor, they are not specific to ‘anger’ nor do they inflect any semantic value onto their TARGET DOMAIN besides the obvious function of indicating ownership.

3.7 Coding the Data

Using the spreadsheet created in Excel, the data was coded for a number of variables as shown in the Figure 3 below.
<table>
<thead>
<tr>
<th>Column Header</th>
<th>Description of Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>POSPT2</td>
<td>part of speech of metaphor in second position before the TARGET DOMAIN</td>
</tr>
<tr>
<td>SDPT2</td>
<td>SOURCE DOMAIN of metaphor in second position before the TARGET DOMAIN</td>
</tr>
<tr>
<td>LEXPT2</td>
<td>metaphorical lexeme in second position before the TARGET DOMAIN</td>
</tr>
<tr>
<td>POSPT1</td>
<td>part of speech of metaphor in first position before the TARGET DOMAIN</td>
</tr>
<tr>
<td>SDPT1</td>
<td>SOURCE DOMAIN of metaphor in first position before the TARGET DOMAIN</td>
</tr>
<tr>
<td>LEXPT1</td>
<td>lexeme of the metaphor in first position before the TARGET DOMAIN</td>
</tr>
<tr>
<td>POSAT1</td>
<td>part of speech of metaphor in first position after the TARGET DOMAIN</td>
</tr>
<tr>
<td>SDAT1</td>
<td>SOURCE DOMAIN of metaphor in first position after the TARGET DOMAIN</td>
</tr>
<tr>
<td>LEXAT1</td>
<td>lexeme of metaphor in first position after the TARGET DOMAIN</td>
</tr>
<tr>
<td>POSAT2</td>
<td>part of speech of metaphor in second position after the TARGET DOMAIN</td>
</tr>
<tr>
<td>SDAT2</td>
<td>SOURCE DOMAIN of metaphor in second position after the TARGET DOMAIN</td>
</tr>
<tr>
<td>LEXAT2</td>
<td>lexeme of metaphor in the second position after the TARGET DOMAIN</td>
</tr>
<tr>
<td>PP?</td>
<td>‘1’ or ‘2’ if preposition(s) were explicitly used in regard to the TARGET DOMAIN</td>
</tr>
<tr>
<td>PP</td>
<td>actual preposition used, if applicable</td>
</tr>
</tbody>
</table>

*Figure 3*: Variables coded for analysis.

This coding system allowed for two metaphor SOURCE DOMAINS to occur before and after the TARGET DOMAIN, creating metaphor ‘slots’ generically represented as:

(11) \((\text{Pre-Target slot})_{\text{PT}2} (\text{Pre-target slot})_{\text{PT}1} \text{ anger}(\text{After Target slot})_{\text{AT}1} (\text{After Target slot})_{\text{AT}2}\)

This allows the researcher to separately code and consider data points as represented by the following example:

(12) Protesters nationwide (vented)_{\text{PT}1} their anger (over)_{\text{AT}1} a new Arizona law

---

8 Subscripts indicate the ordering of these ‘slots’
Due to the nature of the data, most results did not fill each of these slots. For these cases, the data point for each empty slot was coded with ‘0’. Of the observed cases, only 3 did not occur in a pattern that could be coded using this format, as they used more than two metaphors before the TARGET DOMAIN. These instances were eliminated from the data set both because of their infrequency and the judgment that their inclusion would not lend fruitful insight.

Also represented in the data was the occurrence of multiple TARGET DOMAIN lexemes coordinated with ‘anger’ as exemplified in the line “instead of allowing feelings of anger and frustration to overwhelm…” 9 These cases were marked in the process of data coding, but were not considered for the purposes of this research.

This coding system does have a distinct disadvantage, however, in that it fails to accurately identify and therefore quantify broad-level grammatical constructions such as the Partitive ‘Of’ construction as represented in the line “fanned the flames of anger.” While some of these constructions can be inferred by the coding system here espoused, further research will be required to fully investigate whether this approach might yield valuable results.

3.8 SOURCE DOMAIN Categorization

Due to the relatively small size of the data set, SOURCE DOMAINS were categorized under the most general semantic properties possible as allowed by the data and context. For example, the metaphorical lexemes ‘wave’, ‘erupt’, and ‘torrent’ were all (among others) coded under the SOURCE DOMAIN ‘ANGER AS A NATURAL FORCE.’ While each of these could certainly

9 From the collected data set
be subdivided into more specific mappings, the most general was chosen in order to make the
most useful generalizations. It should be also noted that this system of categorization is still
largely subjective. Thus, differences in results can arise through these sorts of discrepancies.
Great care was taken in the present study to categorize these SOURCE DOMAINS as
homogeneously as possible to avoid these errors; however there may be some disagreement as
to their ultimate arrangement.

In cases that were found difficult to categorize, other sources (Kövecses, 1987;
Stefanowitsch, 2007) were consulted to examine their classifications. These classifications were
sometimes adopted, other times modified, and in still other cases not applicable as they did not
account for metaphors attested in the current data set. In the latter case the data was re-
examined to establish whether or not the cases in question could be considered part of a
currently existing SD category or if a new SD category should be created. “Growing,” for
example, could be construed as HIGH/LOW INTENSITY or, more generally, MORE IS UP.
However, available literature categorized this as ANGER AS A PLANT (Stefanowitsch, 2007) and,
upon further investigation of the primary data set, we also find “anger has grown” and “deep-
rooted anger.” It was thereby determined that conflating “growing” with either the SD
HIGH/LOW INTENSITY or MORE IS UP lost a critical sense of the schema inherent in the SD
ANGER AS A PLANT and was categorized accordingly.

With the exception of prepositions (to be discussed in section 3.9), care was also taken
not to abstract the categories beyond a scope that could be considered specific to emotion
concepts. For example, cases of “rising” were categorized under HIGH/LOW INTENSITY (in line
with Stefanowitsch, 2007), rather than MORE IS UP, to maintain a more mid-level
categorization system: not so general as MORE IS UP and not so complex as ANGER IS A
CONTAINER coordinated with MORE IS UP, (though this type coordinated system will be
discussed further in Section 4.2.1). As stated above, though, this system is still very much
intuitive and subjective and certainly open to debate.¹⁰

3.9 Metaphorical Prepositions and Their Difficulties

Prepositions were included in this project as indicators of particular conceptual
metaphors termed by Lakoff (1993) event-structure metaphors. This is a class of metaphors
that structures the TARGET DOMAIN as a place to be moved into or out of as in the statement
“reacted in anger” or an object that is moving as in “focused the anger at him.” This posed a
problem, though, as prepositions are, by definition, function rather than content words and as
such, do not provide specific semantic content from which to establish a more general SOURCE
DOMAIN. To reflect this distinction, prepositions deemed metaphorical were categorized under
one of three headings: location (amid, in, over), relationship (with), or direction (at, toward,
from). Each instance was considered individually to determine the category reflected by its use.
Also, as is evident in Figure 3 above, prepositions were coded in two levels separately from the
other data, allowing for these to be more easily quantified and tested as separate data point.
Phrasal verbs elsewhere attested such as “ratchet up” were considered accordingly.

¹⁰See Appendix B for a sample of each SD recorded and a sample line of data.
3.10 Quantification

Again using Excel, Pivot Tables were then created to summarize and visualize the distribution of the data. A Pivot Table is a tool within Excel in which the user specifies two or more data points as rows or columns which are then cross-tabulated either through total occurrences or other statistical methods. Due to the nature of the data and coding system, only simple totals were calculated for the various tables created. Any percentages referenced were manually calculated.

3.11 Testing in a Larger Corpus

Some generalizations extracted from the data were suitable to be tested in a much larger corpus. The Corpus of Contemporary American English (COCA) was chosen for this task. COCA is a generalized corpus consisting of 425 million words from a variety of registers and genres.\(^{11}\) Given the size and scope of this corpus, as well as its availability online and simple user interface, it is ideally suited for these informal searches. As is evident in its title, it is also an American corpus, which aligned itself with the above-mentioned selection of American newspapers.

\(^{11}\) COCA is constantly updated, so the word count and results from any replication may be somewhat altered at a later time.
CHAPTER 4

RESULTS
This section contains the results from various aspects of the data evaluation. As is shown therein, the data reveals a number of unexpected characteristics of metaphors in mixed usage.

4.1 Primary Data Set

The total results of the concordance for the keyword ‘anger’ retrieved from WebCorp numbered 5538 after duplicates were removed. Of these, 915 were determined to have at least one metaphor in use (16.52%). From these, 400 were deemed to contain at least two metaphors occurring in reference to ‘anger’ (7.22% of total instances, 43.71% of metaphorical instances). When applicable, examples from the data will be provided using the format (here repeated from (11)) and the accompanying notation as necessary.

(13) (Pre-Target slot)\textsubscript{PT2}(Pre-target slot)\textsubscript{PT1} anger(After Target slot)\textsubscript{AT1}(After Target slot)\textsubscript{AT2}

4.2 SOURCE DOMAIN Coherence

The data described above was summarized in Excel using a Pivot Table, first for the Pre-Target\textsubscript{2} and Pre-Target\textsubscript{1} metaphor slots. 183 instances (45.75% of total mixed metaphors counted) were shown to have two metaphors occurring before the TARGET DOMAIN ‘anger.’ Given the close proximity of these metaphors and the assumed goal of creating a coherent\textsuperscript{12} mixed metaphor, one would expect very clear correspondences between either a single SOURCE DOMAIN, creating an extended metaphor, such as (ANGER AS HEAT)\textsubscript{PT2} (ANGER AS

\textsuperscript{12} Defined in Section 2.4 above as “two or more conceptual metaphors used in reference to a single TARGET DOMAIN which, when taken in a literal reading, can reasonably fit within one another’s’ semantic frame”.

26
HEAT)_{PT1} or a pairing with a SOURCE DOMIAN that might serve as a specifier to the first such as a pairing of (ANGER AS HEAT)_{PT2} (ANGER AS A QUANTIFIABLE ENTITY)_{PT1}. This is evidently not the case, however. The graph below reflects SD Pairings in these positions.\footnote{SDs that co-occurred fewer than four times were grouped together in the categories “Other Pre-Target₂” and “Other Pre-Target₁,” respectively due to the wide distribution of this data.}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{source_domain_pairings.png}
\caption{SOURCE DOMAIN pairings in the (Pre-Target) 2 and (Pre-Target) 1 positions.}
\end{figure}

As is evident from these results, the vast majority of the SD Pairings in this position display an extremely dynamic combinability, even taking into account the smallness of the data set and the very general categorization system used in the data coding.

4.2.1 SOURCE DOMIAN “Incoherence”

The most frequent SD Pairings as shown in Figure 4 are presented below, accompanied by a sample concordance line:

\begin{equation}
(14) \quad (\text{ANGER AS AN OBJECT})_{PT2}(\text{HIGH/LOW INTENSITY})_{PT1} \quad (7 \text{ instances})
\end{equation}

“senses" a (free-floating)_{PT2} but (rising)_{PT1} anger" in the city"
(15) (ANGER AS AN OBJECT)_{PT2}(ANGER AS A PLANT)_{PT1} (6 instances)

“Moscow has (exposed)_{PT2} (growing)_{PT1} public anger (at)_{AT1} officials who seem to”

(16) (ANGER AS A SUBSTANCE)_{PT2}(ANGER AS A PLANT)_{PT1} (4 instances)

“can help (diffuse)_{PT2} (growing)_{PT1} anger and resentments.”

Examples (14) through (16) above seem to fit the expected pattern based on SD categorization. However, each of these SD-patterns (14-16) occurred no more than 7 times, amounting to 17 instances (4.25% of mixed metaphorical occurrences, 9.28% of cases in these slots). It is also important to note that each occurrence of these pairings appear remarkably similar. For instance, for Pairing (14) above, the seven occurrences are:

(17) months he has (faced)_{PT2} (increasing)_{PT1} anger at home from members of
(18) Meanwhile, they (face)_{PT2} (mounting)_{PT1} customer anger. Having reneged on promises to
(19) administration (faced)_{PT2} (mounting)_{PT1} frustration and anger Thursday as lawmakers and Gulf
(20) Israel but (face)_{PT2} (mounting)_{PT1} public anger over their close ties with
(21) senses "a (free-floating)_{PT2} but (rising)_{PT1} anger" in the city, fueled by
(22) Globe, Empty Bellies (Bring)_{PT2} (Rising)_{PT1} Anger Tyler Hicks/The New York
(23) Across globe, hunger (brings)_{PT2} (rising)_{PT1} anger By Marc Lacey Published: Friday

This is an interesting phenomenon, as one would expect the pattern “face rising anger” to occur, as ‘rising’ is a near-synonym that fulfills essentially the same function as ‘increasing’ and ‘mounting’. However, this pattern was not attested in the primary data set. An informal search of COCA (described in Section 3.11 above) also retrieved no instances of this pattern in
reference to ‘anger’. Though also infrequent, the top collocates\textsuperscript{14} for this pattern found in COCA were ‘competition,’ ‘costs,’ and ‘opposition.’ Similarly, no instances of the patterns “bring increasing anger” or “bring mounting anger” occur.

Each of the above pairings of SDs follows similar patterns lexical limitations. This seems to indicate that there are other lexical or semantic constraints on the way mixed conceptual metaphors can combine, rather than constraints defined by the structures of metaphorical concepts.

Far more frequently occurring were metaphors that would likely be considered “incoherent” by the Lakoff-Johnson definition. Two of the more extreme\textsuperscript{15} cases of such incoherence is seen in examples (24) and (25).\textsuperscript{16}

(24) \text{(ANGER IS HEAT)}_{PT2} \cdot \text{(DEPTH)}_{PT1} \cdot \text{ANGER}  
  “Muhammad that (stoked)\textsubscript{PT2} (deep)\textsubscript{PT1} Muslim anger this year. But unlike with”

(25) \text{(MOTION)}_{PT2} \cdot \text{(ANGER AS HEAT)}_{PT1} \cdot \text{ANGER}  
  “Holler convey this same molten anger. Given the intensity of black”

Analyzing (24), ANGER is first described in terms of being a fire (“stoked”). It is then given the characteristic of being “deep.” This mixed metaphor is easily understandable, but based an analysis based on the conceptual metaphors here invoked, seems incoherent. Both

\textsuperscript{14} ‘Collocate’ being defined as a lexeme that co-occurs with another lexeme or lexemes in natural texts.

\textsuperscript{15} As previously mentioned, metaphors are ‘gradable’ on a number of levels. These examples represent cases that the researcher deemed to fall on the ‘strongly metaphorical’ and ‘strongly incoherent’ sides. Many mixed metaphorical patterns fell in a more median range of these categories. These examples were chosen as a representation of the type of incoherence that is possible.

\textsuperscript{16} Due to the nature of the data it is not possible to provide, an exhaustive list of co-occurrences and null results.
SDs are certainly acting to evoke different aspects of TARGET DOMAIN, as stated by Lakoff (1993), but there is little coherence between them.

This coherence is often flaunted further in instances where “anger” is given a target by a preposition in the After-Target₁ position, which is the case in 88 instances in the primary data set, and as seen in (26) and (27).

(26)  \((\text{ANGER AS AN OBJECT})_{\text{PT2}}(\text{OBJECT})_{\text{PT1}} \text{ANGER (DIRECTIONAL)}_{\text{AT1}}\)

“as police officers, (harbored)₁ (deep-seated)₂ anger (toward)₁ federal” authorities”

(27)  \((\text{ANGER AS A WEAPON})_{\text{PT2}}(\text{ANGER AS A PLANT})_{\text{PT1}} \text{ANGER (LOCATION)}_{\text{AT1}}\)

“Wednesday tried to (defuse)₂ (growing)₁ anger (over)₁ remarks by the pope's”

Deconstructing (26), ANGER is characterized as an object that has ‘docked’ at or in metaphorical ‘harbor’ (the body). ANGER is then further described as being ‘deep-seated’, which reflects the BODY AS A CONTAINER conceptual metaphor and that ANGER AS AN OBJECT can be situated either shallowly or deeply within it. Taking just these first two together, they already display a strong degree of incoherence. Taken literally, one cannot ‘harbor’ a ‘deep’ anything (*to harbor a deep ship), let alone a ‘deep-seated’ something (*to harbor a deep-seated ship). The metaphor is then made more ‘incoherent’ by the appearance of “toward” in the After-Target₁ position. ANGER is thereby given a direction. A literal ‘harbor’ being a place where sea-going vessels are stored, one does not literally ‘harbor’ anything ‘toward’ anything else (*harbor a ship toward a destination). This pattern of (harbor)₂ or (PT₁) ANGER occurs only 3 times in the data set, each time with a directional preposition (“at” and “towards”). A search of COCA reveals only 25 occurrences “harbor” collocated with “anger”, five of these with a
directional preposition (of 8601 total occurrences in an unrestricted search for the lemma of [harbor]).

Due to the variability of grammatical instances observed in the COCA search, what is likely shown here is a metaphorical sense of the verb “harbor” that allows for these directional specifiers (but does not require them).

Even taking this extra metaphorical sense into account, mixed metaphors such as Examples (26) and (27) push the bounds of “preserv(ing) the cognitive typology of the SOURCE DOMAIN” as stated in the invariance principle discussed in Section 2.1 (Lakoff, 1993)

What we do see in this example, however, are strongly metaphorical concepts (BODY AS A HARBOR and EMOTIONS AS OBJECTS) and one highly entrenched metaphor (NEGATIVE EMOTIONS HAVE DIRECTION), each nested within one other. This was observed, as earlier noted, by Grady et al. (1996), albeit in regards to a single conceptual metaphor. Using a similar analysis, a mixed conceptual metaphor such as in (26) could be visually represented (in a very simplified form) as follows:

Figure 5. This diagram outlines the Conceptual Constituency of “harbors a deep-seated anger towards”


---

17 A ‘lemma’ being defined as the base, uninflected form of a word. A search for a lemma of ‘harbor’ retrieves ‘harbor,” “harbors,” “harboring,” “harbored,” etc.

18 Unlike other verbs attested in the data set such as ‘vent,’ no dictionary consulted contained a definition for this metaphorical sense of ‘harbor.’
While visually similar, the analysis here is somewhat different than Grady et al.’s (1996) evaluation of RELATIONSHIPS ARE VEHICLES in Section 2.1. While that analysis represented a constituency structure and each base metaphor was necessary for the formation of the next largest conceptual structure, the analysis here is representative of optional elements (indicated by “+”, but could be omitted as a type of feature with “−”) that are contained within the grammatically super-ordinate verbal metaphor “harbors.” Also reflected here is a more comprehensive account of the aspects of “anger” evoked by the SDs in usage. As previously mentioned, the adjective “deep-seated” seems to imply both the ANGER AS AN OBJECT and the BODY AS A CONTAINER CMs. In Figure 5, both senses are represented.

Though somewhat speculative at this point, analyzing the structure of mixed conceptual metaphors through this type of nested hierarchy could, with further refinement and sophistication, potentially provide a constructive base from which to analyze these combinations. This will be further discussed in Section 5.3 below.

Corresponding analyses were performed for the metaphorical pattern (Pre-Target)ANGER (After-Target) as well as the pattern (Pre-Target)ANGER(After-Target)(After-Target). Partial results for the former pattern will be examined in Section 4.3 below. Due to grammatical limitations, however (namely that the TARGET DOMAIN “anger” occurs exclusively as a noun for the purposes of this study and in English most description of the noun comes before it) the results for the latter pattern were highly restricted, occurring in less than 10% of cases. For this

19 Neither an adjectival (“deep-seated” here) nor a directional (“toward”) modifier are required by the conceptual metaphor BODY AS A HARBOR
reason, those results will not be reported in detail here. Suffice it to say, no clearer correspondences were found during the course of that process.

4.3 Patterns of SOURCE DOMAINS and Prepositions

Investigation of the relationships between the Pre-Target$_1$ and After-Target$_1$ metaphor slots served primarily to examine whether or not particular SOURCE DOMAINS in the (Pre-Target)$_1$ slot co-occurred more frequently with one type of preposition (either DIRECTIONAL or LOCATION). A sample of the results reflected in the Pivot Table created is shown in Figure 6.

<table>
<thead>
<tr>
<th>SOURCE DOMAIN of (Pre-Target)$_1$</th>
<th>SOURCE DOMAIN of (After-Target)$_1$</th>
<th>LOCATION</th>
<th>DIRECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEAT (simmering)$_{PT1}$</td>
<td>public anger (over)$_{AT1}$</td>
<td>5</td>
<td>(fuel)$<em>{PT1}$ anger (at)$</em>{AT1}$</td>
</tr>
<tr>
<td>NATURAL FORCE (wave)$_{PT1}$</td>
<td>of voter anger (over)$_{AT1}$</td>
<td>5</td>
<td>(wave)$<em>{PT1}$ of anger (across)$</em>{AT1}$</td>
</tr>
<tr>
<td>PLANT (growing)$_{PT1}$</td>
<td>anger (over)$_{AT1}$</td>
<td>8</td>
<td>(growing)$<em>{PT1}$ public anger (at)$</em>{AT1}$</td>
</tr>
<tr>
<td>CONTAINER (venting)$_{PT1}$</td>
<td>anger (over)$_{AT1}$</td>
<td>8</td>
<td>(vented)$<em>{PT1}$ anger (at)$</em>{AT1}$</td>
</tr>
<tr>
<td>HIGH/LOW INTENSITY (fuel)$_{PT1}$</td>
<td>anger (among)$_{AT1}$</td>
<td>5</td>
<td>(rising)$<em>{PT1}$ anger (at)$</em>{AT1}$</td>
</tr>
</tbody>
</table>

*Figure 6.* This table shows co-occurring SOURCE DOMAINS in (Pre-Target)$_1$ and (After-Target)$_1$ Slots and their frequencies.

Overall, these correspondences were mostly proportional to the overall occurrences of the respective prepositions and SDs, again reflecting their high degree of combinability and cognitive entrenchment. LOCATION prepositions, though, accounted for a significant percentage of these results, totaling 103 instances, whereas DIRECTIONAL totaled only 66. Looking at the sample concordances Figure 6, many of these occur not only with the same TD, but also with the same lexemes. This seems to indicate that the choice of DIRECTIONAL or
LOCATIONAL depends largely on recipient of the ANGER, again, rather than the conceptual metaphor in use. Due to the restrictions imposed on the concordance span in the collection of the primary data set, however, this was not a variable that this study was able to properly investigate. A preliminary glance also suggests that preceding verb tense may also play a role in the selection of DIRECTIONAL or LOCATIONS, but again, that is a variable that falls outside the scope of this study.

4.4 Grammatical Relationships to SOURCE DOMAINS

Pivot Tables were created quantifying each SOURCE DOMAIN in each metaphorical slot as realized by particular parts-of-speech. Continuing with the theme of “incoherence,” only three SDs (excluding prepositions for these purposes, given, as previously mentioned, their ubiquity, lack of semantic content, and extremely strong preference for the (After-Target)_1 slot).

4.4.1 ANGER AS A PLANT

First of these is the SD ANGER AS A PLANT, as we see in (28):

(28) the (focus)_{PT2} of (growing)_{PT1} anger (across)_{AT1} the Gulf Coast and

This SD occurs 32 times throughout the primary data set. 29 of these manifest in the (Pre-Target)_1 slot. All but one of these are adjectival, with the lexeme ‘growing’ accounting for nearly all of these cases.
4.4.2 ANGER AS A NATURAL FORCE

The next to examine is ANGER AS A NATURAL FORCE as exemplified in (28):

(29) \((\text{set off})_{PT2} \ a \ (\text{torrent})_{PT1} \ \text{of anger} \ (\text{over})_{AT1} \ \text{his involvement in an}\)

In the (Pre-Target)\textsubscript{1} position, the above mentioned SD occurred a total of 37 times. Of these 30 were nouns occurring in the Partitive ‘Of’ construction. Some of these were coherent idioms such as (30):

(30) \((\text{rode})_{PT2} \ a \ (\text{wave})_{PT1} \ \text{of voter anger} \ (\text{over})_{AT1} \ \text{New Jersey's battered economy}\)

Many examples, however, like (29) above, were not coherent metaphors. Regardless of coherence, however, this indicates a strong preference for this particular SD to appear in this Partitive ‘Of’ construction.

4.4.3 EXTENSION

The last seemingly grammatically structured SD was that of EXTENSION, as seen in (31):

(31) \(\text{aggressive inquiry} \ (\text{reflects})_{PT2} \ (\text{widespread})_{PT1} \ \text{anger} \ (\text{at})_{AT1} \ \text{the Fed.} \ "I \ don't}\)

This occurred 15 times in the data set, all of these in the (Pre-Target)\textsubscript{1} position and all but one of these as an adjective.
The above examples show that some of these SDs are strongly confined to a particular metaphorical slot, not by coherence with co-occurring metaphors but by grammatical relationships. In combination with the results in Section 4.2.1, these results again indicate that mixed metaphors do not structure strictly according to SD-based categorization or coherence.
5.1 Theoretical Findings

As is shown in the results above, particularly in Figure 4, mixed metaphors do not exhibit explicit patterns in relation to SOURCE DOMAIN concepts. Rather, what we see attested in the data is a resistance to extended metaphors using the same SD in reference to a single TARGET DOMAIN, such as (32):

(32) \((\text{ANGER AS HEAT})_{\text{PT2}} (\text{ANGER AS HEAT})_{\text{PT1}} \text{ANGER (LOC)}_{\text{AT1}}\)

While these patterns certainly do occur, highly preferred seem to be mixed metaphors that do, as predicted by Lakoff and Johnson (1980), equally activate the partially schematic structures they evoke with regard to the TD, but maintain little resonance between themselves. Also attested are these seemingly “incoherent” SDs nesting within a single complex metaphorical concept, which once again seems contrary to “preserv(ing) the cognitive topology of the source domain, in a way consistent with the inherent structure of the target domain” (Lakoff, 1993).

We can also observe very dynamic and productive SDs strongly constrained within certain metaphorical slots and within grammatical categories: a phenomenon not at all addressed in previous literature.

We need to bear in mind that due to the size of the primary data set and the monotypic genre and registers, only limited generalizations concerning mixed metaphors as a whole can
be made. What can be said, however, is the simplistic statements made in previous literature concerning mixed conceptual metaphors are inadequate to accurately characterize the complex behavior of mixed conceptual metaphors, and that these interactions are well deserving of further study.

5.2 Methodological Findings

Metaphor pattern analysis as a method has proven a near ideal structure through which to study mixed conceptual metaphors. The TARGET DOMAIN-oriented approach does, indeed, yield a very rich data set, as well as providing a number of clear lexical and grammatical data points the researcher can utilize to combine both large and small corpora and more lexically oriented approach, particularly evident in Section 4.2.1. Though the current study is of a very limited scale, this approach has already provided a number of useful directions for future research.

5.3 Directions for Further Research

Several paths of future study are directly evident from the present investigation. The first would certainly be to apply MPA to mixed metaphors from a much larger data set and with a much more detailed coding system: one that is able to specifically address large scale grammatical patterns. Given the grammatical constraints observed in Section 4.4, this may well provide enormous insight into mixed metaphorical patterns if this can be combined with appropriate semantic annotation. This should also be applied to various genres, registers, and languages.
If a study of the above type does, indeed produce significant results, this might be applied either to or through the hierarchical or nested system devised by Grady et al. (1996) shown in Figures 1 and 5 as a more efficient and representative system of categorization and prediction of mixed metaphor usage.

MPA could also be used in conjunction with experimental methods. If one were to hypothesize from the above results that mixed metaphors exhibit a type of inverse semantic correlation, wherein each SOURCE DOMAIN acts equally to evoke aspects of the TARGET DOMAIN, but resist resonance between themselves, and thereby effectively increase the expressiveness of the utterance, one could then test human subjects for the effects of SD “coherence” and “incoherence” on degrees of metaphorical expressiveness.

Whatever direction may be taken, mixed metaphors are certainly worthy of future investigation.
APPENDIX A

DATA SOURCES AND URLs FOR THE PRIMARY DATA SET
<table>
<thead>
<tr>
<th>Newspaper Data Sources</th>
<th>URL Used for Retrieval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona Republic</td>
<td>azcentral.com/arizonarepublic/</td>
</tr>
<tr>
<td>Boston Globe</td>
<td>bostonglobe.com/bostonglobe/</td>
</tr>
<tr>
<td>Houston Chronicle</td>
<td>chron.com</td>
</tr>
<tr>
<td>L.A. Times</td>
<td>latimes.com</td>
</tr>
<tr>
<td>Newsday</td>
<td>newsday.com</td>
</tr>
<tr>
<td>New York Times</td>
<td>nytimes.com</td>
</tr>
<tr>
<td>San Francisco Guardian</td>
<td>sfbayguardian.com</td>
</tr>
<tr>
<td>Sun Sentinel</td>
<td>sun-sentinal.com</td>
</tr>
<tr>
<td>USA Today</td>
<td>usatoday.com</td>
</tr>
<tr>
<td>Washington Post</td>
<td>washingtonpost.com</td>
</tr>
</tbody>
</table>
APPENDIX B

CONCEPTUAL METAPHOR INSTANTIATIONS RECORDED WITH SAMPLE CONCORDANCES
<table>
<thead>
<tr>
<th>CONCEPTUAL METAPHOR</th>
<th>OVERALL FREQUENCY</th>
<th>SAMPLE CONCORDANCE FROM THE DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCATION (PP)</td>
<td>139</td>
<td>anger (over) illegal</td>
</tr>
<tr>
<td>DIRECTION (PP)</td>
<td>77</td>
<td>whose anger (toward)</td>
</tr>
<tr>
<td>ANGER AS AN OBJECT</td>
<td>69</td>
<td>(deep-seated) anger that</td>
</tr>
<tr>
<td>ANGER AS A NATURAL FORCE</td>
<td>60</td>
<td>That (flood) of anger</td>
</tr>
<tr>
<td>ANGER AS HEAT</td>
<td>57</td>
<td>(stoked) anger among</td>
</tr>
<tr>
<td>ANGER AS A RESOURCE</td>
<td>39</td>
<td>(fueled by) anger</td>
</tr>
<tr>
<td>HIGH/LOW INTENSITY</td>
<td>39</td>
<td>(rising) anger helps</td>
</tr>
<tr>
<td>ANGER AS A WEAPON</td>
<td>37</td>
<td>anger finally has a (target)</td>
</tr>
<tr>
<td>ANGER AS A FLUID IN A CONTAINER</td>
<td>33</td>
<td>(vented) anger at</td>
</tr>
<tr>
<td>ANGER AS A PLANT</td>
<td>32</td>
<td>(growing) anger over</td>
</tr>
<tr>
<td>ANGER AS A CAUSE</td>
<td>31</td>
<td>(respond to) lay anger over</td>
</tr>
<tr>
<td>ANGER AS A LIQUID</td>
<td>30</td>
<td>(outpouring) of anger</td>
</tr>
<tr>
<td>ANGER AS A SUBSTANCE</td>
<td>28</td>
<td>and (raw) anger at</td>
</tr>
<tr>
<td>ANGER AS LIGHT</td>
<td>26</td>
<td>(flashes) of anger all</td>
</tr>
<tr>
<td>ANGER AS AN ANIMAL</td>
<td>25</td>
<td>have provoked anger</td>
</tr>
<tr>
<td>ANGER AS A STRUGGLE</td>
<td>22</td>
<td>his 'anger' to (overcome)</td>
</tr>
<tr>
<td>ANGER AS AN AGENT</td>
<td>20</td>
<td>(allowing) his 'anger'</td>
</tr>
<tr>
<td>MOTION</td>
<td>19</td>
<td>anger toward the IRS... (led)</td>
</tr>
<tr>
<td>DEPTH</td>
<td>17</td>
<td>how (deep) anger</td>
</tr>
<tr>
<td>EXTENSION</td>
<td>15</td>
<td>the (spreading) anger</td>
</tr>
<tr>
<td>ANGER AS AN ILLNESS</td>
<td>13</td>
<td>anger that continues (to plague)</td>
</tr>
<tr>
<td>RELATIONAL (PP)</td>
<td>12</td>
<td>deep anger (with)</td>
</tr>
<tr>
<td>DURATION</td>
<td>9</td>
<td>Workers (Lingering) Anger</td>
</tr>
<tr>
<td>ANGER AS SOUND</td>
<td>9</td>
<td>(unspoken) anger and</td>
</tr>
<tr>
<td>ANGER AS A QUANTIFIABLE ENTITY</td>
<td>8</td>
<td>(amount) of... anger</td>
</tr>
<tr>
<td>ANGER AS GORGE</td>
<td>5</td>
<td>the (bitter) anger</td>
</tr>
<tr>
<td>QUALITY</td>
<td>5</td>
<td>faced (real) anger</td>
</tr>
<tr>
<td>ANGER AS A PERSON</td>
<td>4</td>
<td>anger is both (blind)</td>
</tr>
<tr>
<td>NEGOTIATION</td>
<td>4</td>
<td>(deal with) bottled-up anger</td>
</tr>
<tr>
<td>DISTANCE</td>
<td>3</td>
<td>(further) stoking his anger</td>
</tr>
<tr>
<td>ANGER AS A CONCEPT</td>
<td>3</td>
<td>(understand)... the public's anger</td>
</tr>
<tr>
<td>ANGER AS A PROBLEM</td>
<td>1</td>
<td>(solved) her anger</td>
</tr>
</tbody>
</table>
REFERENCES


